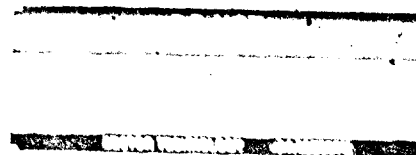


AD-A224 609



①

Final Report on the Project
for Development of New
Protocol Hardware and Software
for LSI-11 to Accommodate
AUTODIN II ADCCP-HDLC, and X.25

Appendix D

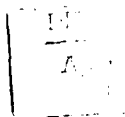
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Defense Advanced Research Projects Agency (DOD)
Order No. 4024
Under Contract No.: MDA903-81-C-0038
Issued by Dept. of Army, Defense Supply Service
Washington, Washington, D.C. 20310

Submitted to: Defense Advanced Research Projects Agency
Information Processing Techniques Office
1400 Wilson Boulevard, Arlington, VA 22209

Submitted by: Associated Computer Consultants
720 Santa Barbara Street, Santa Barbara, CA 93101
(805)963-9431

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February 1983

MAINTENANCE MANUAL

A-1

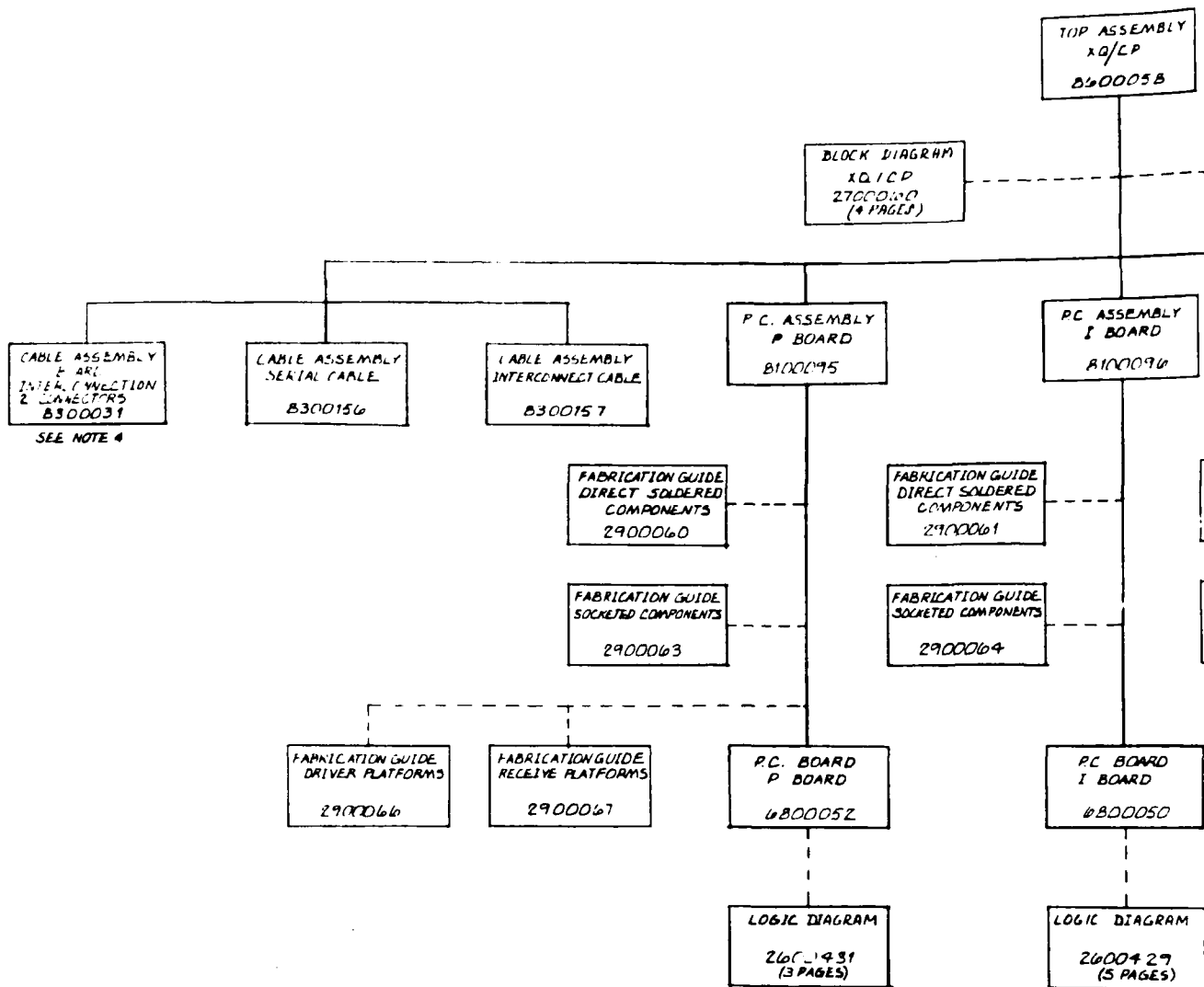


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B.0 DRAWING, DIAGRAMS AND SCHEMATICS

<u>Drawing Number</u>	<u>Revision Level</u>	<u>Date</u>	<u>Drawing Title</u>
3500020	C	9/82	Drawing Directory, XQ/CP
2700060 sheet 1	A	11/81	Block Diagram, XQ/CP
2700060 sheet 2	-	-	Block Diagram, XQ/CP, P Board
2700060 sheet 3	-	-	Block Diagram, XQ/CP, M Board
2700060 sheet 4	A	11/81	Block Diagram, XQ/CP, I Board
8100095 2 sheets	B	11/82	P.C. Assembly, XQ/CP, P Board
8100096 2 sheets	B-1	1/83	P.C. Assembly, XQ/CP, I Board
8100097 2 sheets	B-1	1/83	P.C. Assembly, XQ/CP, M Board
2600429 5 sheets	C	8/82	Logic Diagram, XQ/CP, I Board
2600430 2 sheets	C	8/82	Logic Diagram, XQ/CP, M Board
2600431 3 sheets	C-1	12/82	Logic Diagram, XQ/CP, P Board
2500027	A	9/82	Schematic, XQ/CP, RS-232, Dual Channel Only
2500028	A	9/82	Schematic, XQ/CP, RS-422, Dual Channel Only

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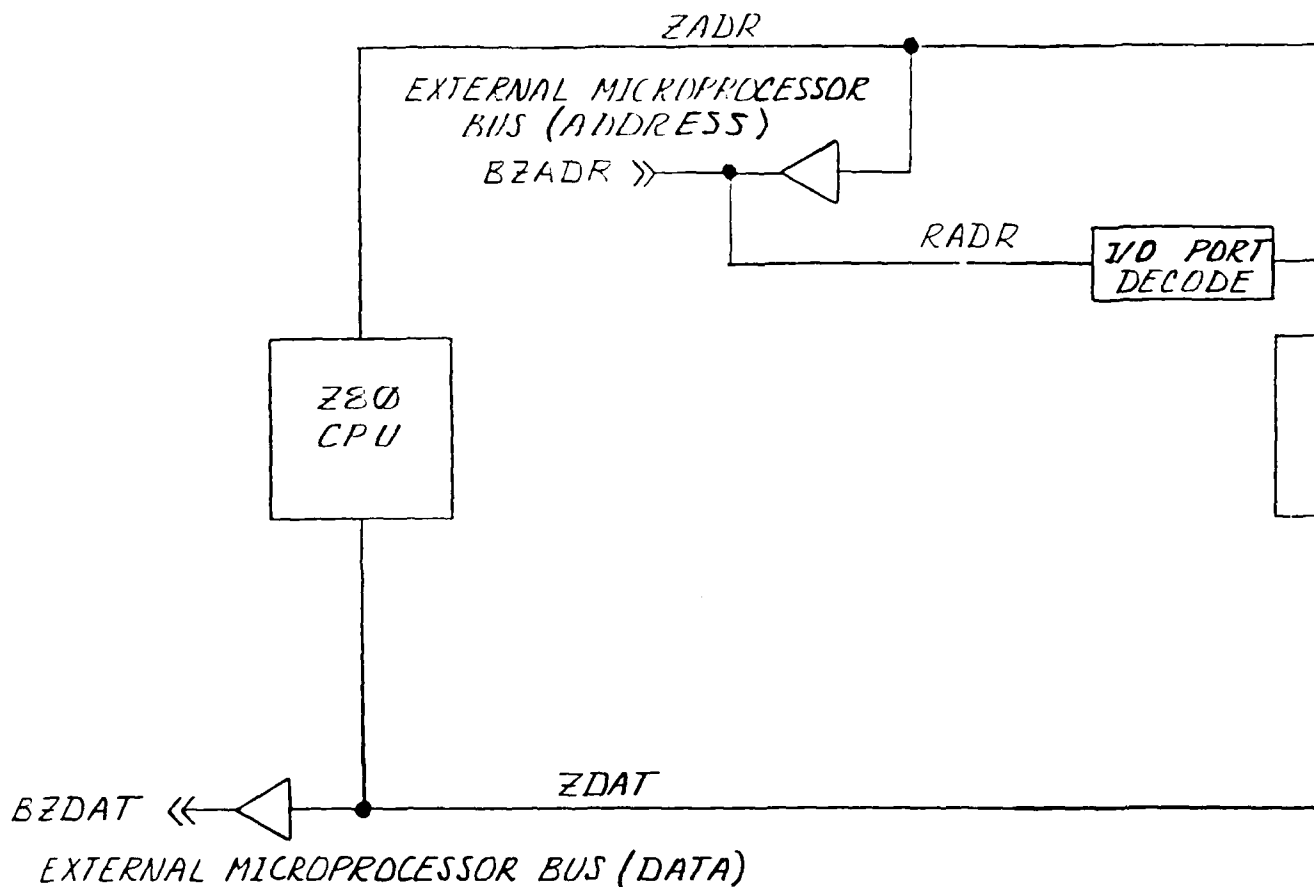


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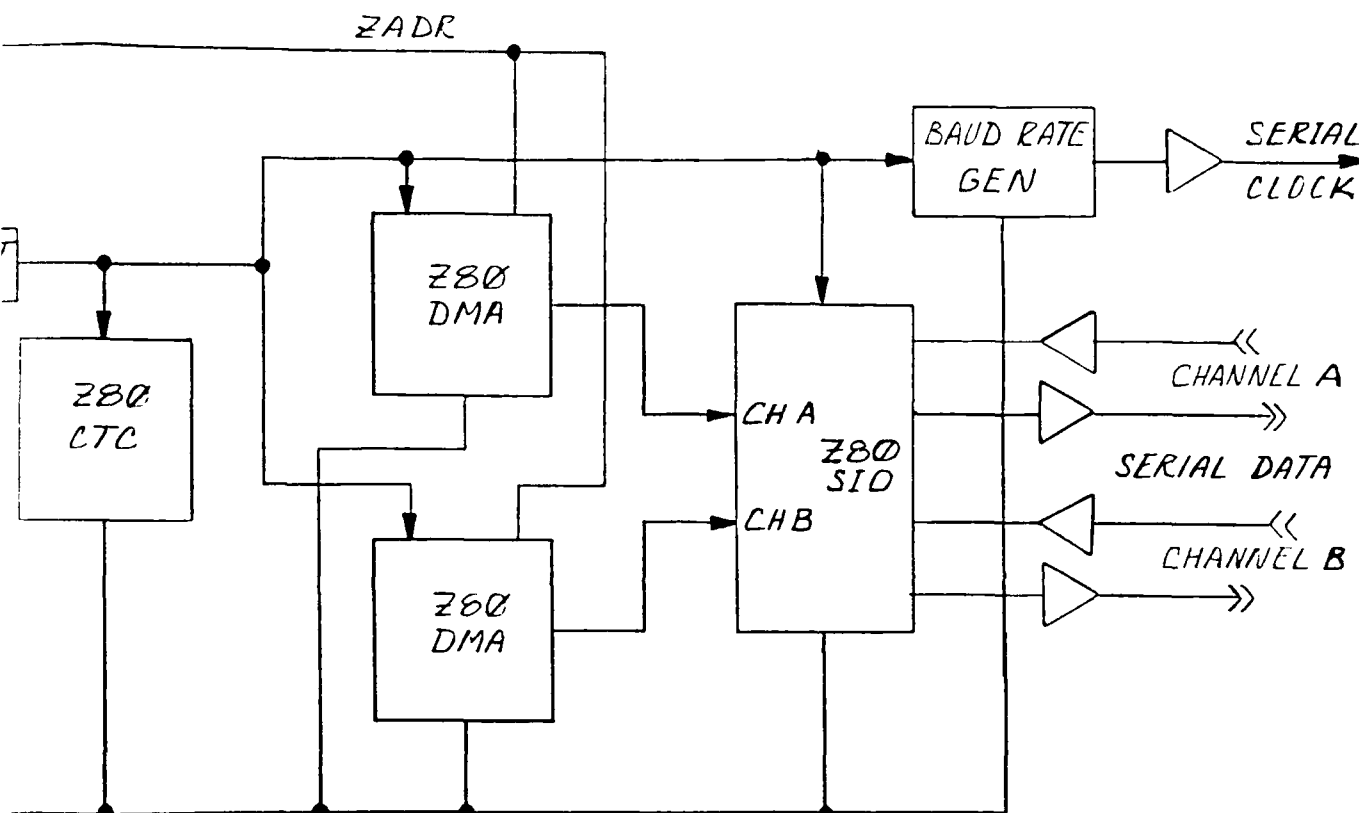
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2. DOTTED BOXES INDICATE DRAWING DOES NOT EXIST.
3. DRAWING NUMBERS ARE SAME AS PART NUMBERS UNLESS OTHERWISE INDICATED.
4. USE APPROPRIATE MDMA BOARD INTERCONNECT CABLES:
8300032
8300033
8300034

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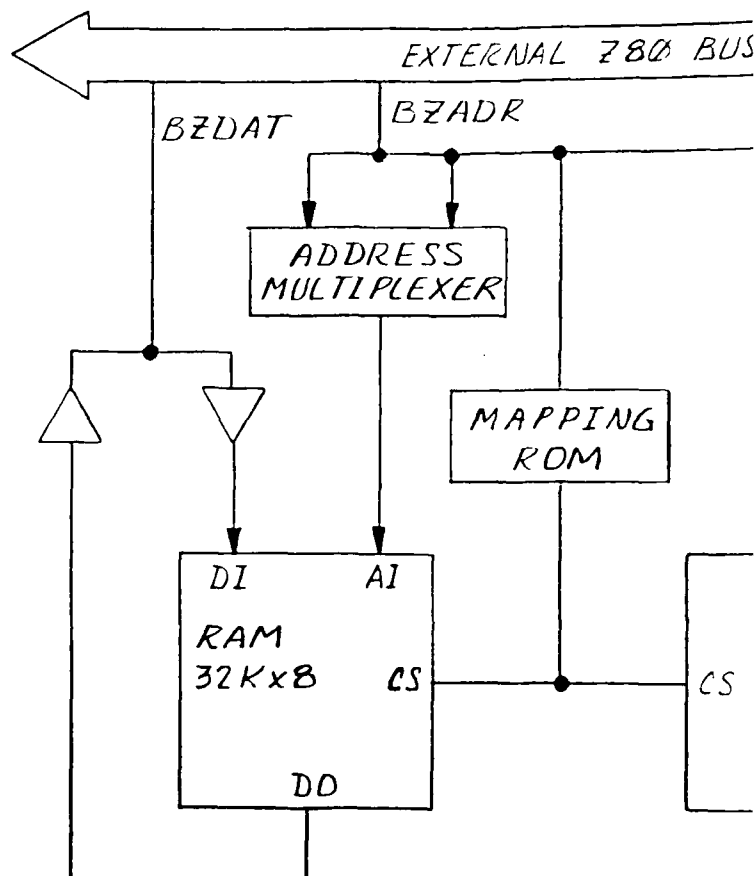
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		APPROVALS	DATE			
		DRAWN <i>WEDDELL</i>	<i>1-10-81</i>			
		CHECKED <i>R. R. [Signature]</i>	<i>8 SEP 81</i>			
AL		ISSUED <i>D. E. [Signature]</i>	<i>10.19.81</i>	SIZE B	FSCM NO.	DWG. NO. <i>27000060</i>
DO NOT SCALE DRAWING				SCALE		SHEET <i>2 of 4</i>

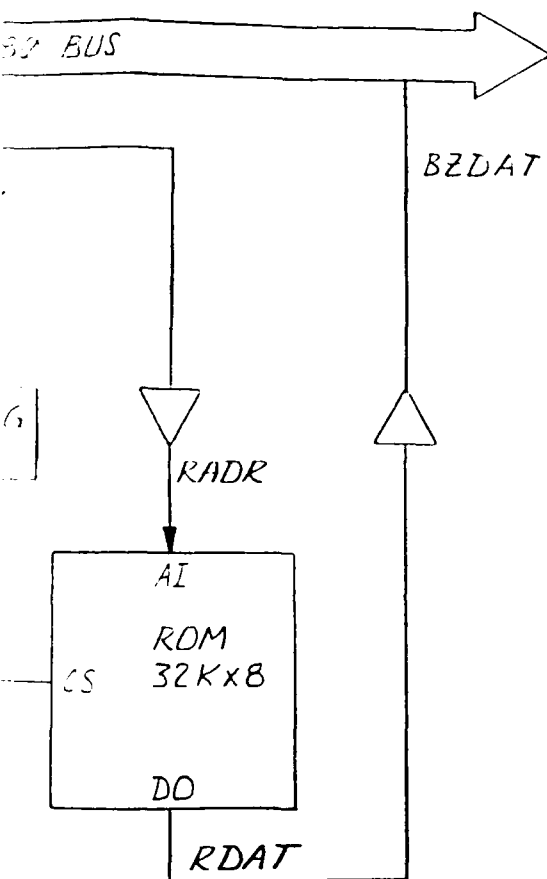
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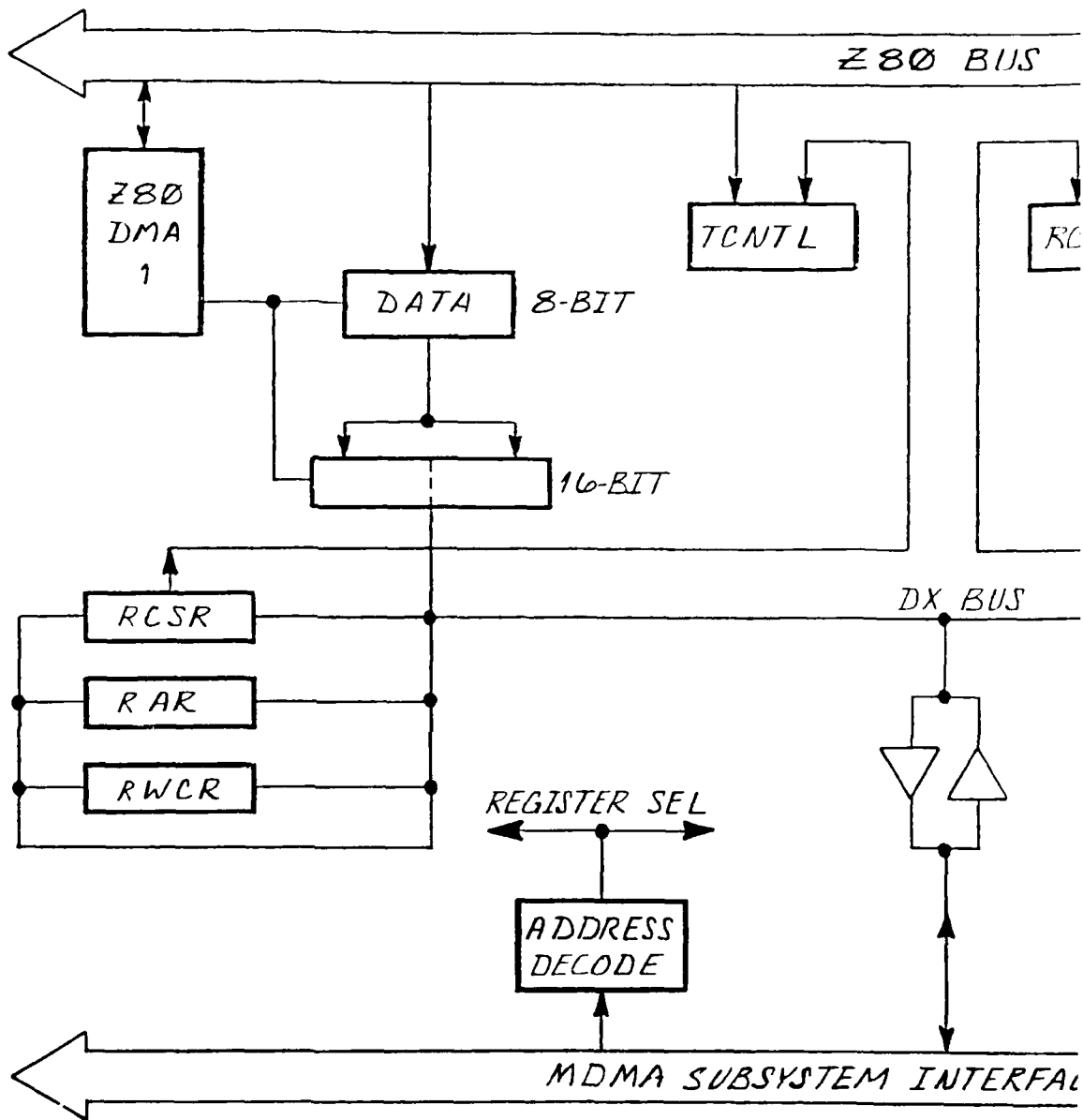
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	CHECKED R. Russ	8 SEP 81			
ISSUED J. E. Hunter	10-19-81	SIZE B	FSCM NO.	DWG. NO. 2700060	REV.
DO NOT SCALE DRAWING		SCALE		SHEET 3 of 4	

2700060

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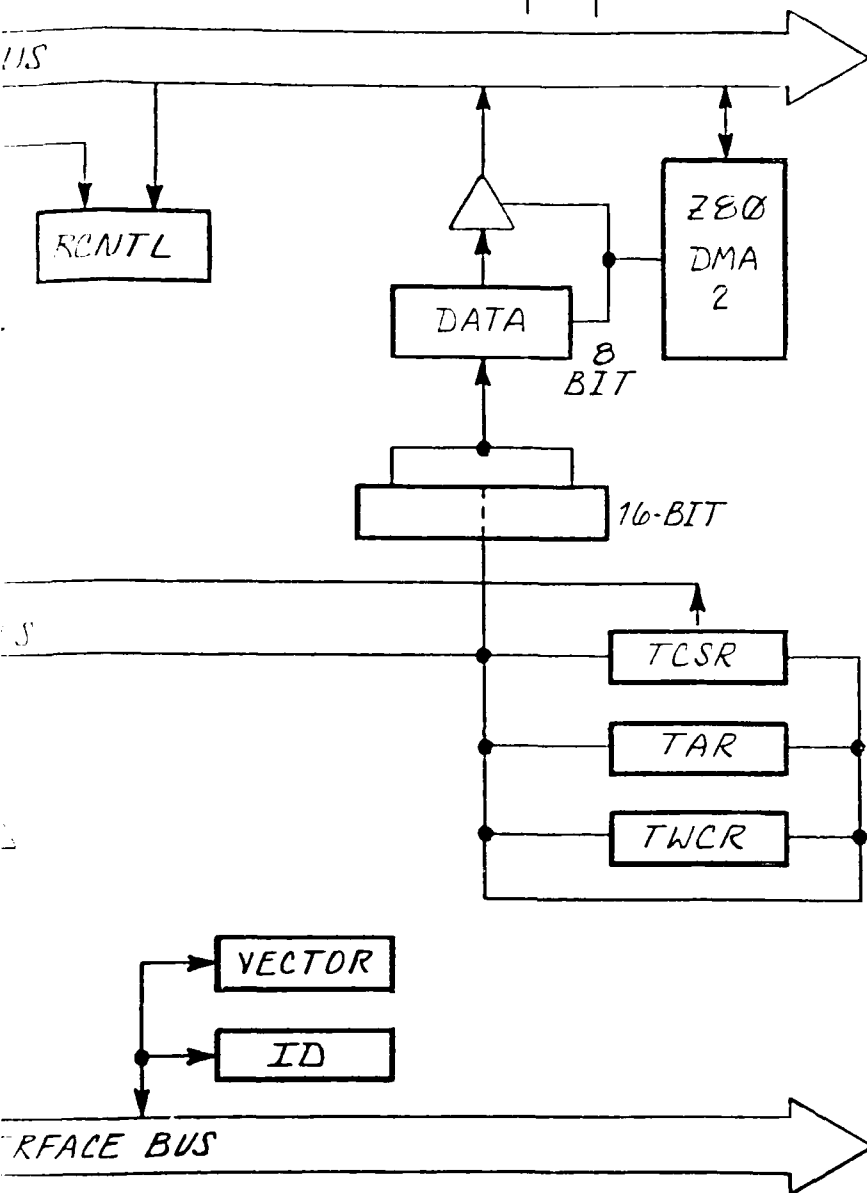
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DWG NO 2700060 SM 4 REV A

REVISIONS

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A	ADD "DMA" TO INTERFACE BUS	11.18.81	SR



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	APPROVALS		DATE	
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	CHECKED P. Russ		8SEP81	
ISSUED J. E. Louison		10.19.81		SIZE B FSCM NO. DWG. NO. 2700060 REV. A
DO NOT SCALE DRAWING		SCALE		SHEET 4 of 4

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2700060

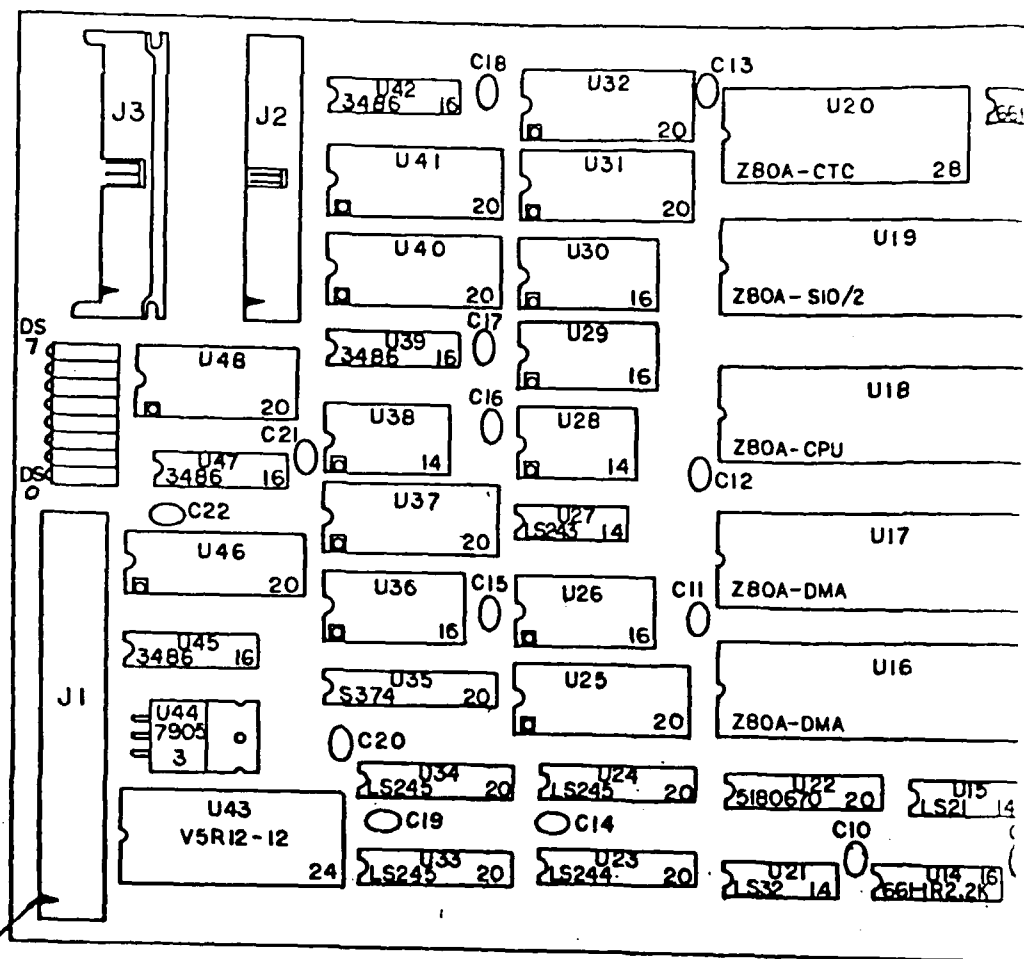
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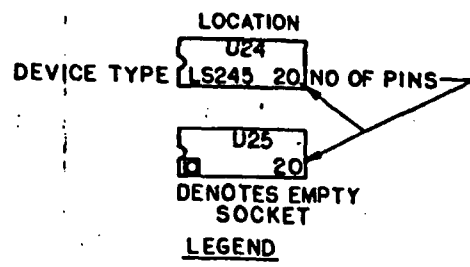
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(TYP)



COMPONENT SET	SEE INT. OP.
5400012	RS.
5400013	RS.
5400014	RS.
5400015	188 UNBAL
5400013	188 BAL

2. SEE 2600431 FOR LOGIC DIAGRAMS.

1. C3 THRU 22 ARE 0.01 μ F

NOTES: UNLESS OTHERWISE SPECIFIED

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8100095 18

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1. The first step in the process is to identify the problem or issue that needs to be addressed. This involves gathering information and understanding the context of the situation.

2. Once the problem is identified, the next step is to define the objectives and goals of the project. This helps to clarify what needs to be achieved and provides a clear direction for the work.

3. The third step is to develop a plan or strategy to address the problem. This involves breaking down the problem into smaller, manageable tasks and determining the resources and timeline needed to complete them.

4. The fourth step is to implement the plan. This involves putting the strategy into action and monitoring progress regularly to ensure that the project is on track.

5. The final step is to evaluate the results of the project. This involves comparing the actual outcomes against the objectives and goals to determine the effectiveness of the intervention.

6. Finally, it is important to reflect on the process and learn from the experience. This can help to improve future projects and ensure that the same mistakes are not repeated.

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

40	1	0200036	CONV. DC +5V IN DUAL+/-12V OUT	U43
39	1	5180670	PROM 280 I/O PORT DECODE	U22
38	1	0400065	2.2 K OHM RESISTOR PACK	U14
37	1	0700050	RES 56 K OHM 1/4W 5%	R1
36	1	0300164	CONN, 90 DEG 26P, 3M/BERG	J3
35	2	0700104	CAP TANT AX 6.8uF 35V 10%	C1, 2
34	20	0700098	CAP CER RAD. 0.1uF 100V GEN PUR	C3-22
33	1	0700124	CAP MICA RAD 680PF 300WV 5%	C23
32	1	0500014	SWITCH, DIP 8 POS	U10
31	1	0500001	LED, INDICATOR, RED PL MT HORIZONTAL	DSQ THRU7
30	1	0400025	CLOCK DRIVER HH3006A	U6
29	1	0400024	BAUD RATE GEN K1135A	U8
28	1	0400014	XTAL OSC 8.000MHZ K1100A	U1
27	1	0400030	DIP 15 RES 4.7K OHM 2% 16P	U13
26	1	0100024	VOLT REG, -5V 7905	U44
25	1	0100226	Z80AS1072 SERIAL I/O CONTROLLER	U14
24	1	0100228	Z80ACPU CENTRAL PROCESSING UNIT	U18
23	1	0100229	Z80ACTC COUNTER/TIMER CRT	U20
22	2	0100227	Z80ADMA DIR MEM ACCESS CONT	U16, 17
21	4	0100217	D39486 QUAD RS-422/423 LN REVR	U31, 42, 45, 47
20	1	0100045	74LS374 OCTAL D FF 3-ST OUT	U35
19	3	0100151	74LS245 OCT BUS TRNVR NONINV	U24, 33, 34
18	1	0100150	74LS244 OCT BUFF DRV NONINV	U23
17	1	0100149	74LS243 QUAD BUS TRNVR NONINV	U27
16	1	0100147	74LS240 OCTAL BUFF/2 DRV-REVR	U4
15	1	0100128	74LS123 DUAL RETRIG MONO MULTIV	U5
14	1	0100117	74LS14 DUAL D EDGE TRIG F-F	U2
13	2	0100112	74LS32 QUAD 2-AN OR GATE	U3, 21
12	1	0100104	74LS21 DUAL 4-IN NAND GATE	U15
11	1	0100102	74LS04 HEX INV	U4
10	1	0100100	74LS02 QUAD 2-AN NOR GATE	U12
9	1	0100098	74LS00 QUAD 2-IN NAND GATE	U11
8	4	0300079	DIP SOCKET 30P	
7	1	0300078	DIP SOCKET 28P	
6	15	0300075	DIP SOCKET 20P	
5	12	0300073	DIP SOCKET 16P	
4	10	0300072	DIP SOCKET 14P	
3	1	0300054	CONN 90 DEG 26P, ANSLEY	J2
2	1	0300053	CONN 90 DEG 40P, AMP	J1
1	1	6800052	PC BD, XQ/CP PROCESSOR	

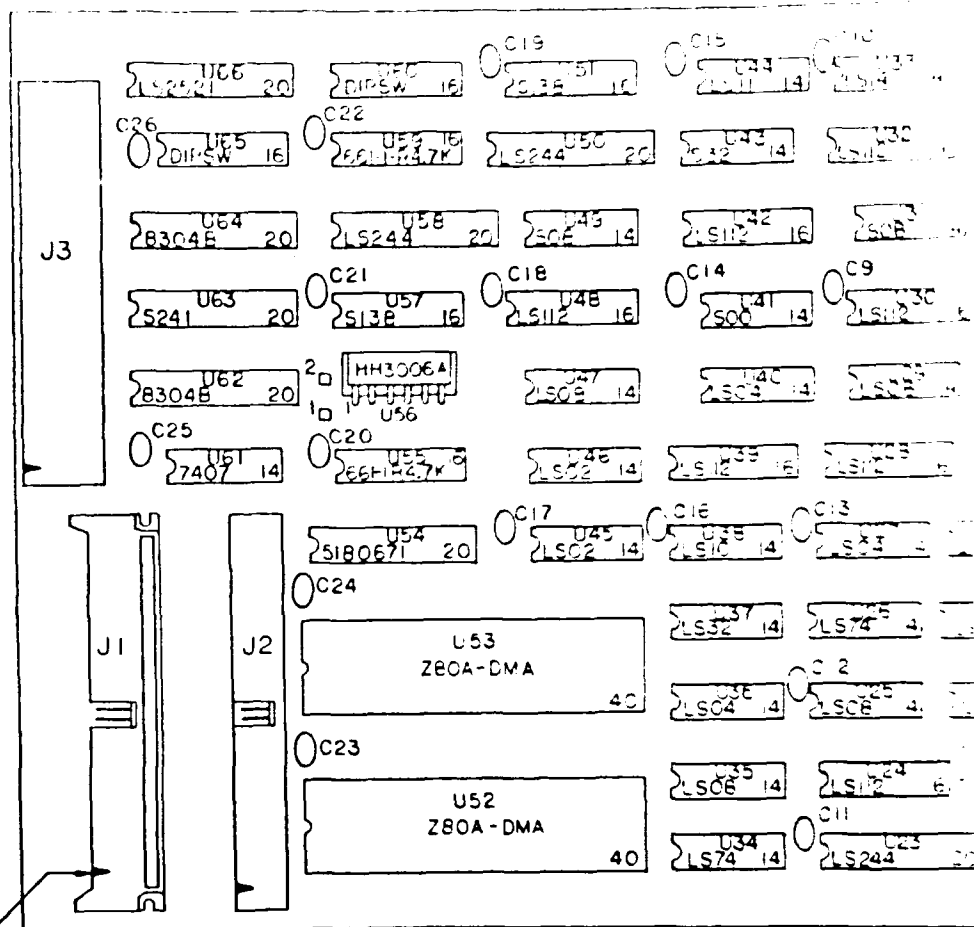
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(TYP)

LOCATION
U25
DEVICE TYPE LS08 14 NO OF PINS
LEGEND

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1. C3 THRU 26 ARE 0.01μF

NOTES: UNLESS OTHERWISE SPECIFIED

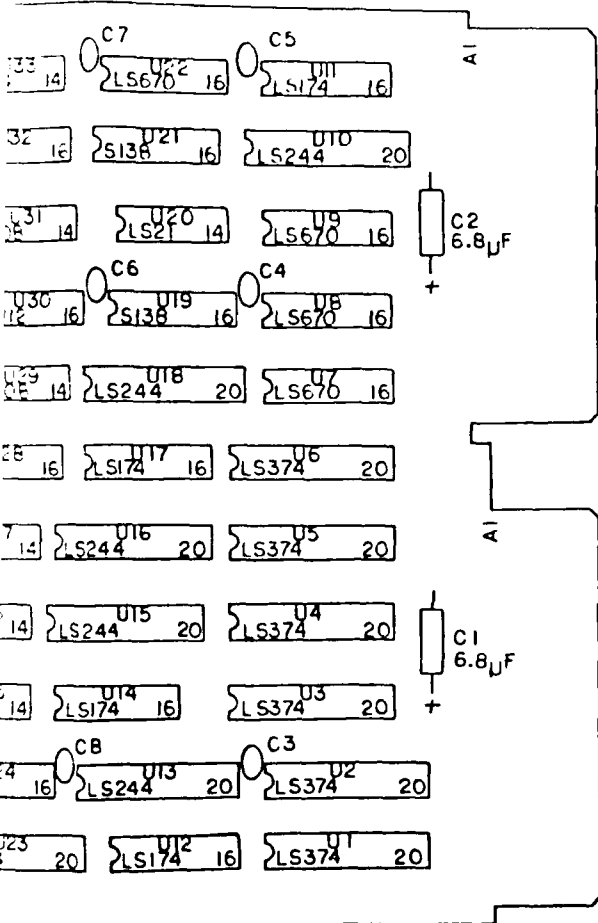
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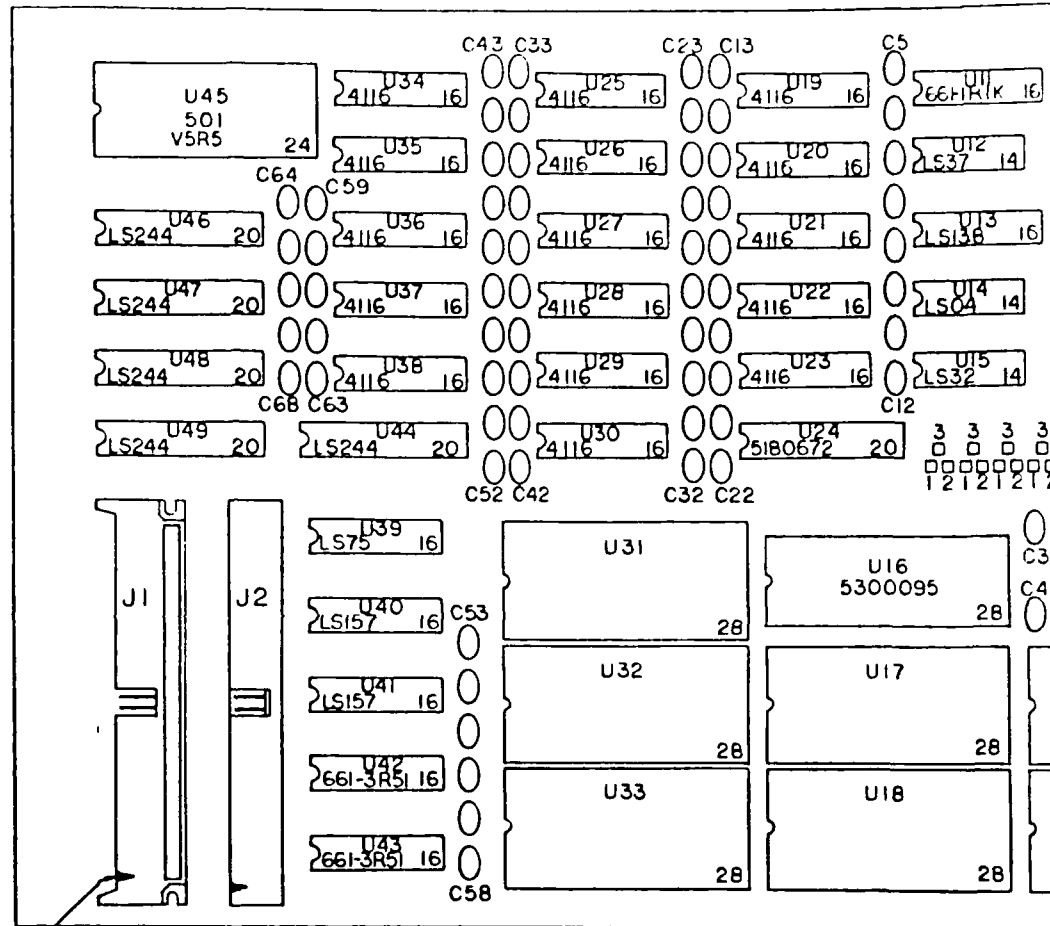
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PIN 1
(TYP)

LOCATION
U23
DEVICE TYPE 4116 16
LEGEND

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1. C3 THRU 68 ARE 0.01 μ F

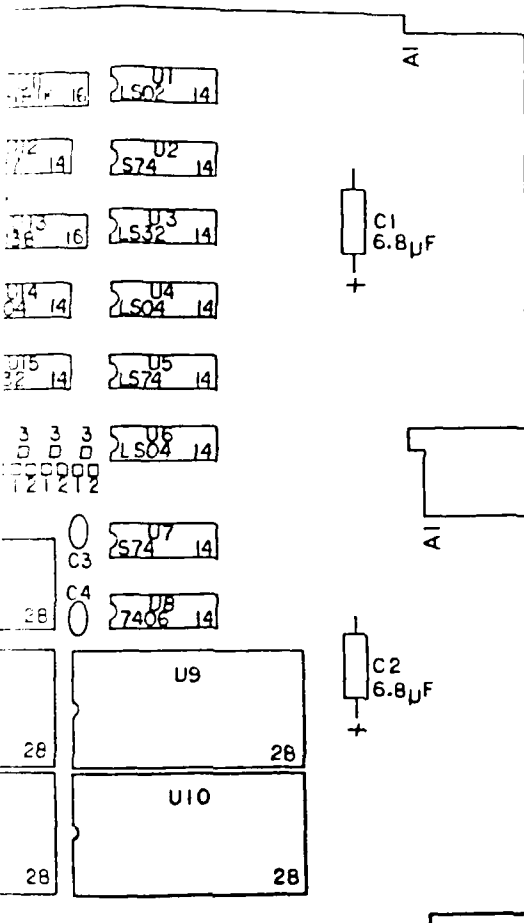
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LOCATION
U23
16 16 NO OF PINS
LEGEND

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE FRACTIONS DECIMALS ANGLES				CONTRACT NO.		
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USED ON				ISSUED <i>J. Paul</i> 12/5/82		
APPLICATION				DO NOT SCALE DRAWING		
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ACC ASSOCIATED COMPUTER CONSULTANTS
San Diego, California 92161

PC ASSY
XQ/CP M BD

SIZE PSC# NO. 8100097
D 61550

SHEET 1 OF 2

8100097

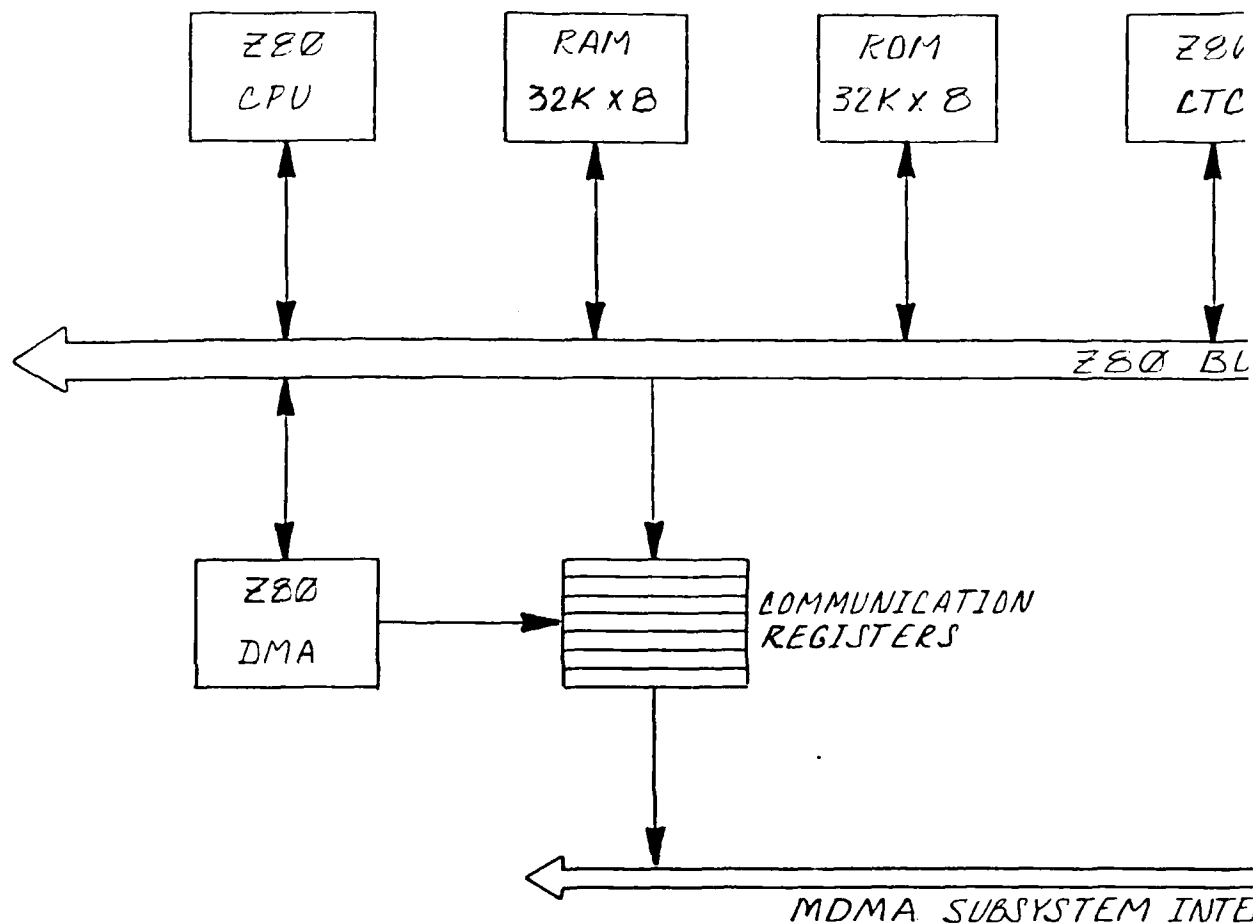
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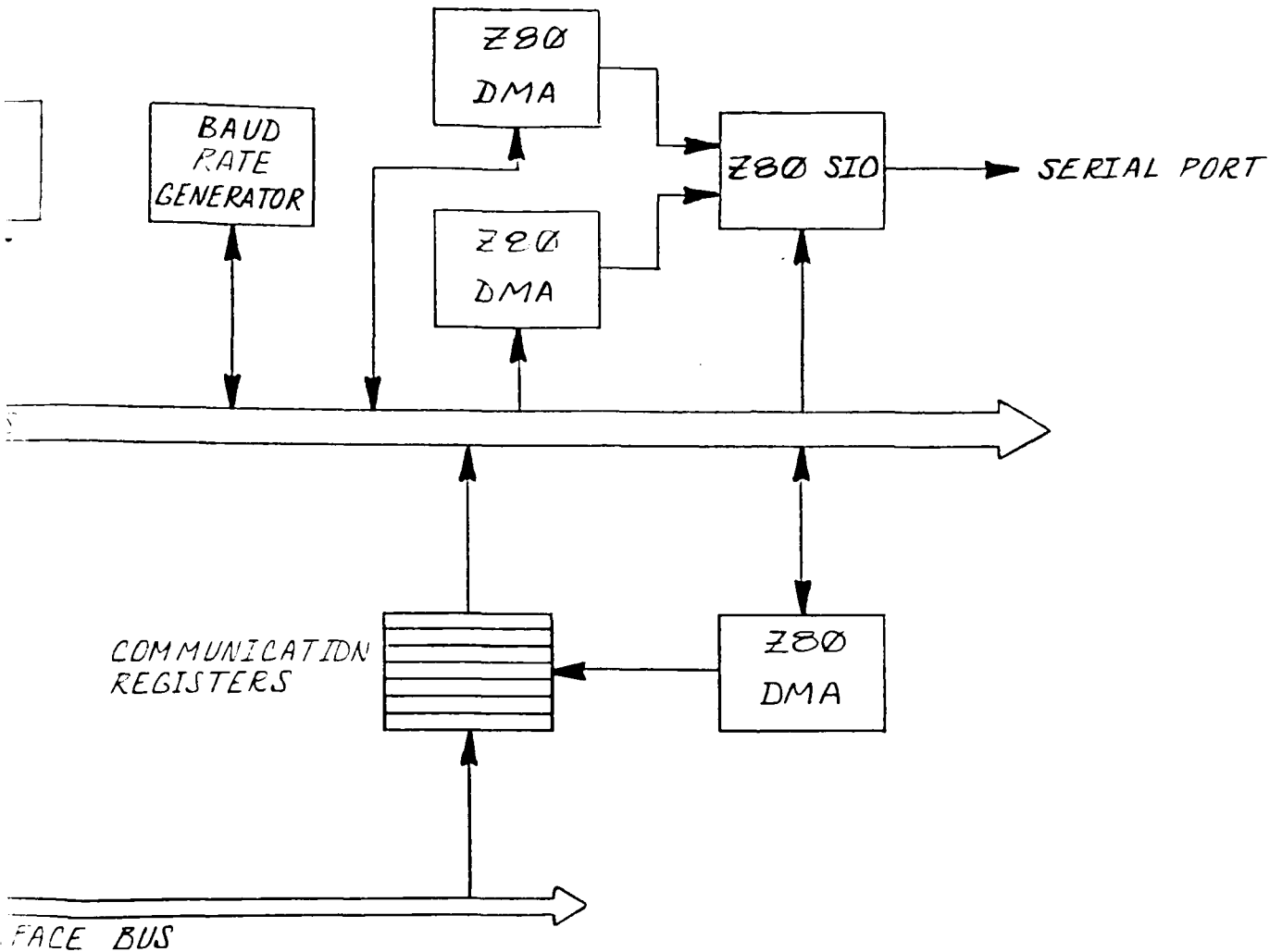
DWG. NO. 2700060

SM 1

REV A

REVISIONS

REV	DESCRIPTION	DATE	APPROVED
A	ADD "MDMA" TO INTERFACE BUS. <i>SR</i>	11.18.81	<i>CW</i>



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2700060

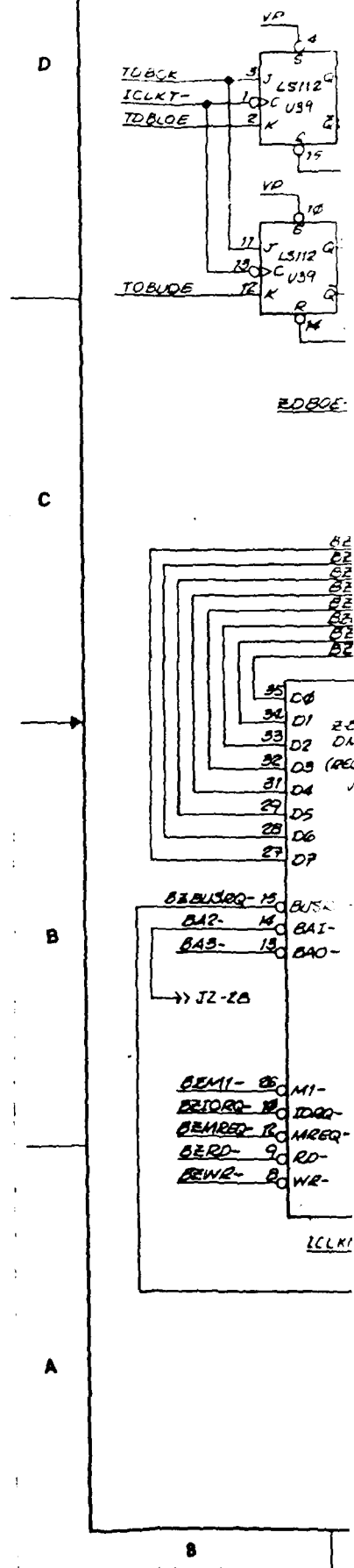
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			ASSOCIATED COMPUTER CONSULTANTS Santa Barbara, California 93101	
			BLOCK DIAGRAM <i>XQ/CP</i>	
NOT SCALE DRAWING			SIZE B SCALE	FSCM NO. DWG. NO. 2700060 SHEET 1 of 4
				REV. A

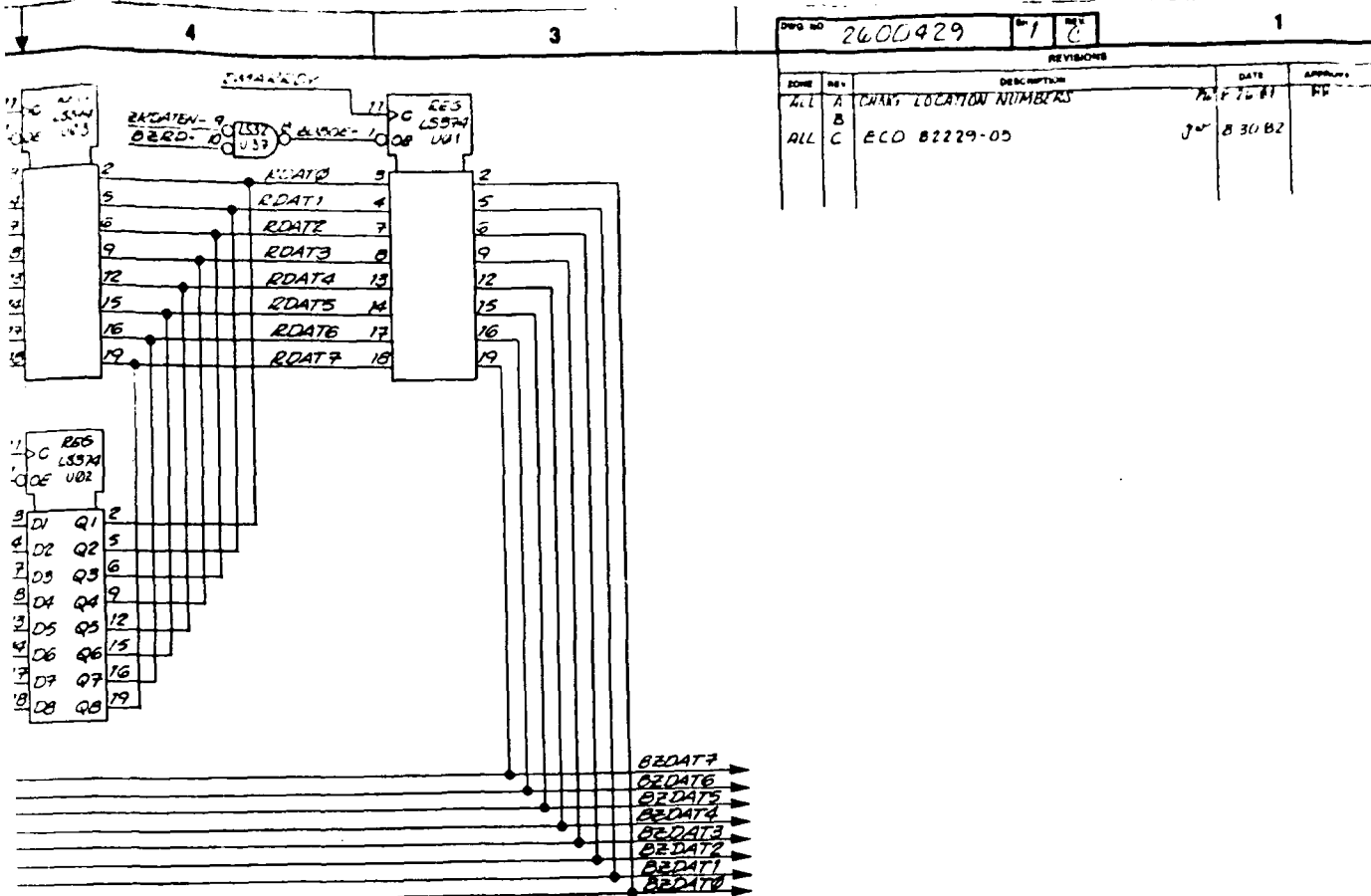
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2-86 ALT PAGES

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FIVE ONE FIVE THREE EIGHT NINE
FOUR FIVE ONE TWO THREE FOUR
THREE TWO ONE ZERO SEVEN
TWO ONE ZERO SEVEN EIGHT
ONE ZERO SEVEN EIGHT NINE

END OF PAGE





DWG NO 2600429		REV 1	REV 2	1
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REV	BY	DESCRIPTION	DATE	APPROVED
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ALL	C	ECO 82229-05	8-30-82	

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MATERIAL		APPROVALS		DATE	
FINISH		J. Moore		4-4-81	
NEXT REV		D. E. L...		8-30-82	
USED ON		D. E. L...		8-30-82	
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AB3	C3	04*	
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DX01	B6* C2*		
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XBCNT1	B7*	04	
XBCNT2	B7*	04	
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XBDA01	B7*		
XBDA02	B7*		
XBDA03	B7*		
XBDA04	B7*		
XBDA05	B7*		
XBDA06	B7*		
XBDA07	B7*		
XBDA08	C7*		
XBDA09	C7*		
XBDA10	C7*		
XBDA11	C7*		
XBDA12	C7*		
XBDA13	D7*		
XBDA14	D7*		
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XBRDY-	B7*		
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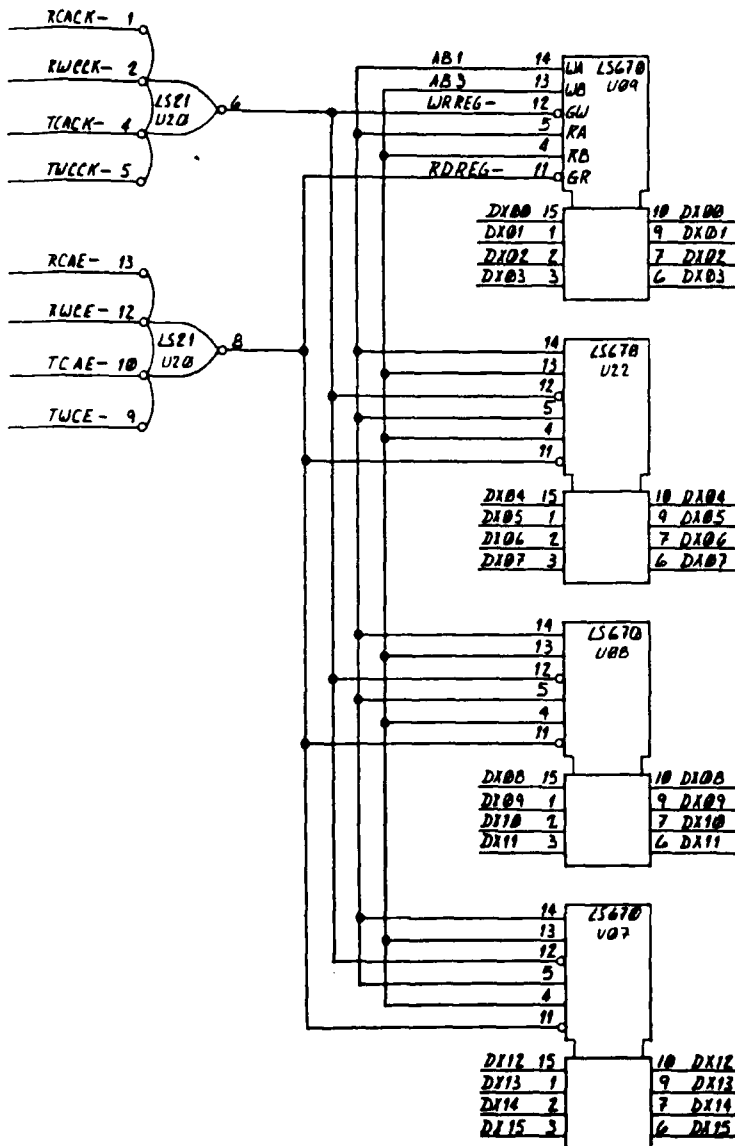
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C

B

A

DPO NO 2600429		REV 2	REV 2	1
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
ALL	A	CHANG LOCATION NUMBERS	12/1/61	KK
	B			
	C	ECD B2229-05	12/30/62	



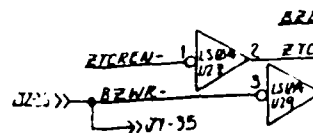
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DESIGNED A. S. R.		5-29-61		APPROVED A. S. R.		5-29-61	
APPLICATION		NEXT ADV		USED ON		DATE	
2600429		7N084		2600429		2	
SHEET 2 OF 5		DRAWN NAME		SHEET 2 OF 5			

1. NAME
 2. ADDRESS
 3. DATE
 4. PAGE

NAME	ADDRESS	DATE	PAGE	NAME	ADDRESS	DATE	PAGE
BA3-	A6*	01	14	IE41	A7*	01	
BAC-	A6*	01		IE40	A6*		
BZACR00	B7*			IEO	A7*	01*	
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BZACR03	B7*	01*		RCSE-	D5		
BZACR04	B7*	01*		RDBE	C4 C5	04* 05	
BZACR05	A7*	01*		REBE-	B2 B3		
BZACR06	A7*	01*		RDBF	C3 C3*		
BZACR07	A7*	01*		RDBF-	C7 D2*		
BZACR08	A7*	01*		RDBFA	C3*		
BZACR09	A7*	01*		RGO	C6 D3		
BZACR10	A7*	01*		RLFULL	B2 C5*		
BZACR11	A7*				D3		
BZACR12	A7*	01*		RLFULL-	C5* C6		
BZACR13	A7*	01*		RLFULLJ	C5*		
BZACR14	A7*	01*		RRESET-	C4 C5		
BZACR15	A7*	01*			C6 C7		
BZAR02	B7*	01*			D6 D7		
BZBUSRQ-	A6*			RSETSIG	D5*		
BZCAT0	B4 B6*	01		RSIGEN	D6* D7		
	C3* C4			RSIGEN-	D6 D7*		
BZCAT1	B4 B6*			RSIGENS	D6*		
	C3* C4			RSIGJ	D5*		
BZCAT2	B4 B6*			RSIGNAL	D4* D6		
	C3* C4			RSIGSET	D6*		
BZCAT3	B4 B6*			RUFULL	B3 C3*	04	
	C3* C4			RUFULL-	C3* C5		
BZCAT4	B4 B6*			RUFULLJ	C4*		
	C3* C5*			RUFULLJ-	C4*		
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	C3* C5*			TDAT1	B3 B4*		
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	C3* C5*			TDAT3	B3 B4*		
	D7			TDAT4	B3 B4*		
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	B3* B5*			TDAT6	A4* B3		
BZHALT-	A6*			TDAT7	A4* B3		
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BZIOKQ-	A6* B8	01*		VP	C4 D5		
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BZM1-	A6* B8			ZACREN-	B7*		
BZMRQ-	A6*			ZRDATEN-	B7*	01 05	
BZRD-	A6* C3	01*		ZS0	C4*	01	
BZRFSH-	A6*			ZS1	C4*	05	
BZWR-	A6* C5			ZS2	C4*	05	
	C6 D8			ZS3	C4*	05	
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DMATRDY	A6 B3			ZTCREN-	B7* C3		
	C5*				C5 D8		
DX00	B2*			ZTCROE-	C3*		
DX01	B2*	01 02*		ZTCYL	D6*		
		04* 05		ZTDATEN-	B7* D8		
DX02	B2*	01 02*		ZTDATWR	C7*		
		04* 05*		ZTDATWR-	B4 D7*		
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		04* 05		ZTFULL	C5 C7		
DX04	B2*	01 02*					
		04* 05*		ZTFULL-	C6*		
DX05	B2*	01 02*		ZTFULLK	C6*		
		04* 05*		ZWAIT-	A6*		
DX06	B2*	01 02*		ZWR	D7*		
		04* 05*					
DX07	B2*	01 02*					
		04* 05*					
DX08	B3*	01 02*					
		04 05*					
DX09	B3*	01 02*					
		05					
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		05					
DX11	B3*	01 02*					
		05					
DX12	B3*	01 02*					
		05					
DX13	A3*	01 02*					
		05					
DX14	A3*	01 02*					
		05					
DX15	A3*	01 02*					
		05					
GND	B4 C3	01 02*					
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	D5 D6						
	D7						

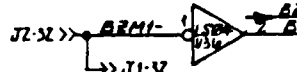
1. NAME
 2. ADDRESS
 3. DATE
 4. PAGE

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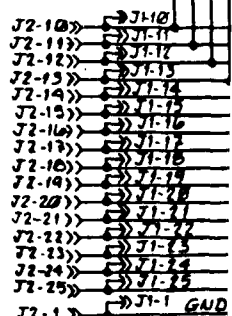


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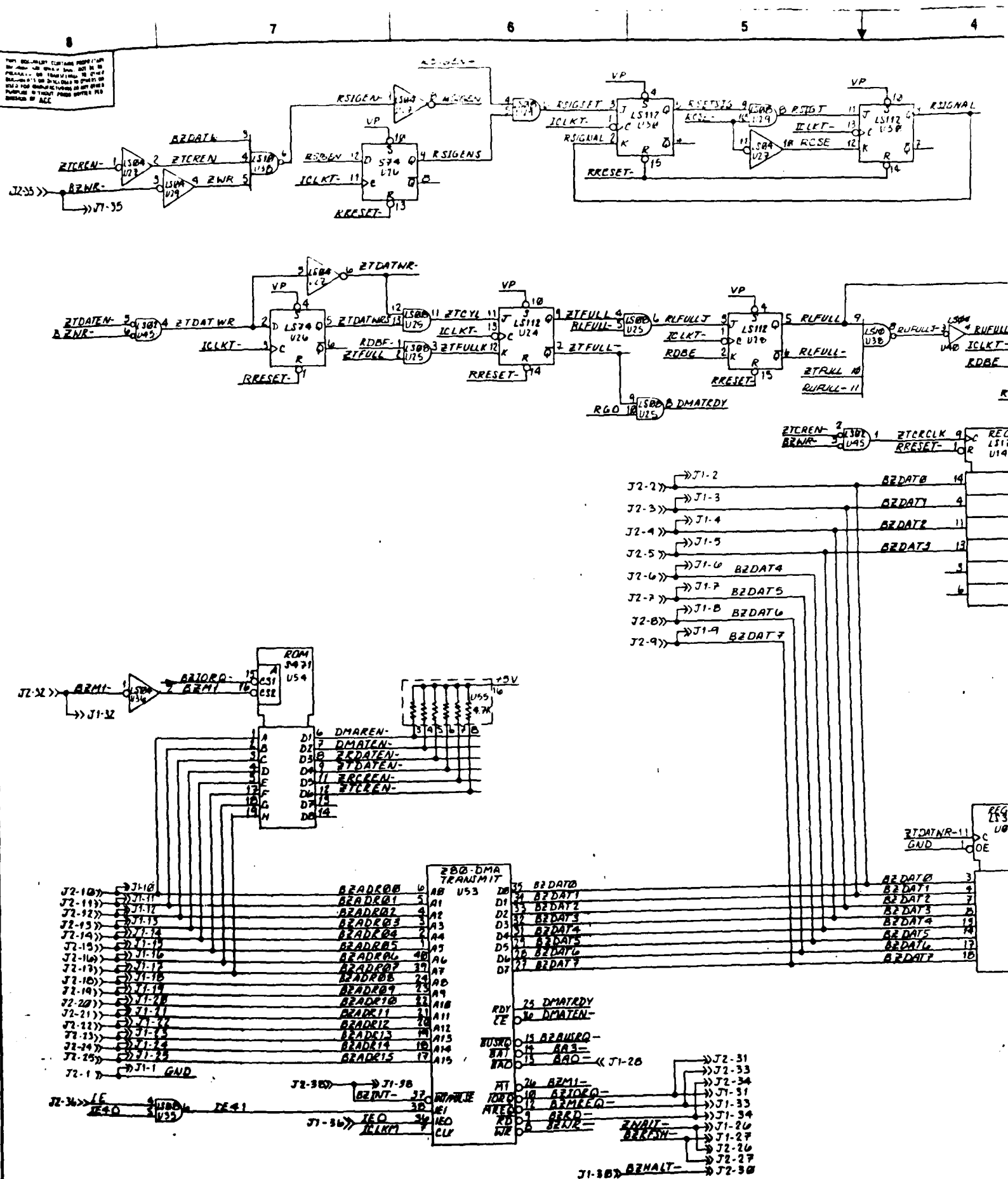


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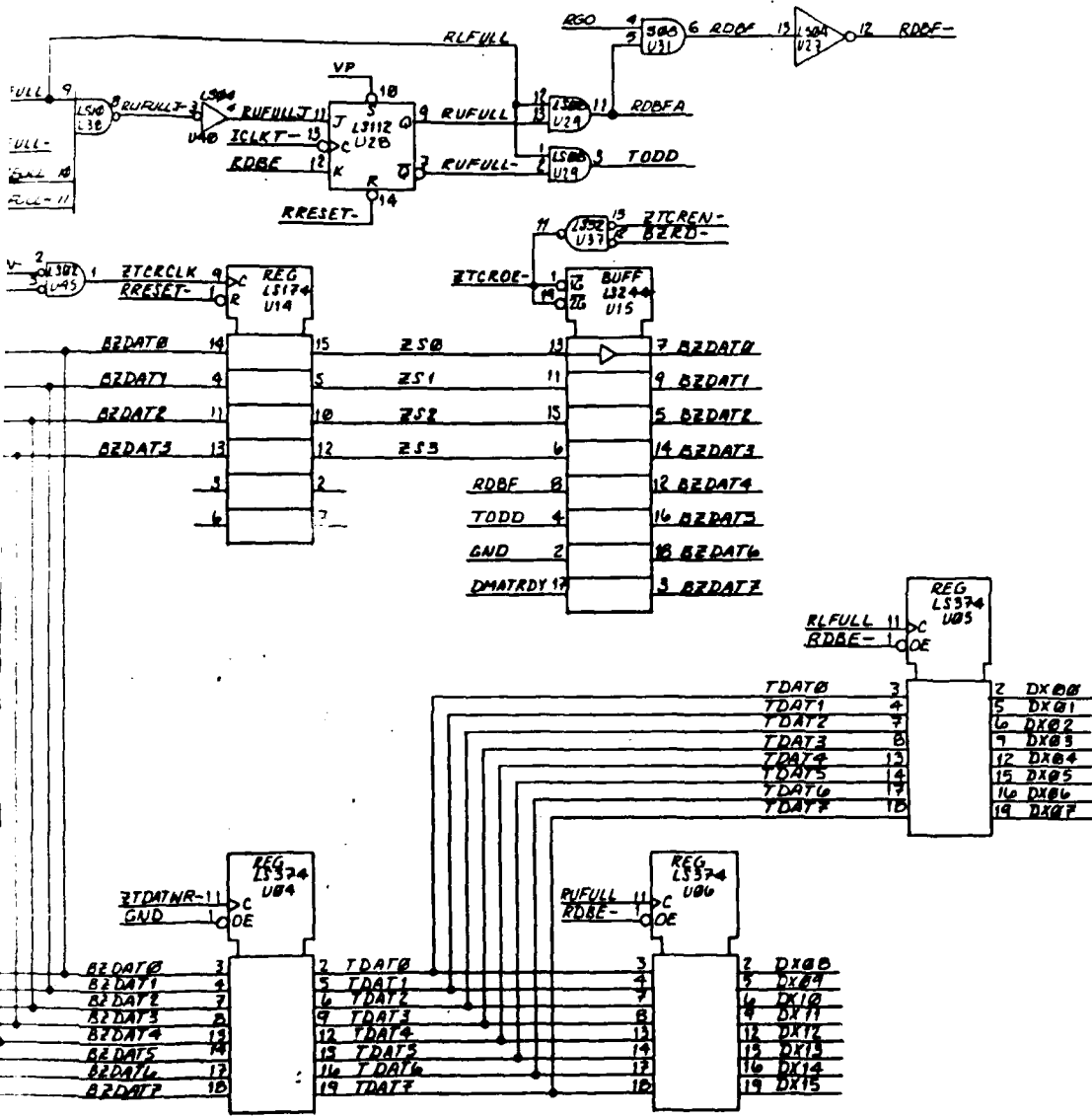
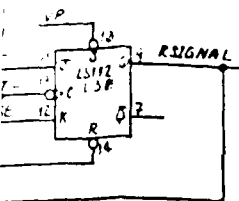


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REV. NO.		REV.	DATE	BY	APP.
1600429		3	2		
REV. NO.		REV.	DATE	BY	APP.
ALL		A	CHANG LOCATION NUMBERS	PAF 7/21	RE
		B	ECO 02229.05	IN 03082	
		C			



CONTRACT NO.		DATE		APPROVALS	
1600429		12-18-80		RT MEDDELL	
DESIGNED BY		DATE		CHECKED BY	
D. J. [Signature]		8 Jun 81		[Signature]	
DRAWN BY		DATE		CHECKED BY	
D. J. [Signature]		8 Jun 81		[Signature]	
SCALE		SHEET		OF	
1:1		D		7ND04	
PROJECT NO.		SHEET NO.		SHEET	
2600429		2600429		3 OF 5	

ASSOCIATED COMPUTER CONSULTANTS
 Santa Barbara, California 93101
LOGIC DIAGRAM
 XQ/CPC I BOARD
 TRANSMIT DMA, RSIGNAL
 2600429
 3 OF 5

ALTERNATE NAME LIST FOR DRAWING 100-419
PAGE 04 OF 04

* * * * * LISTED AT THE BOTTOM OF EACH PAGE

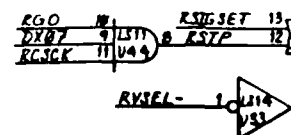
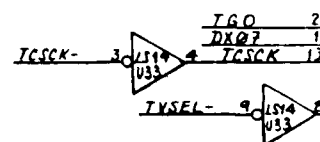
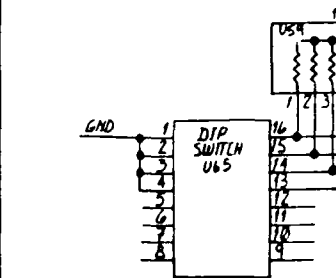
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AB1	B6* D5	01 03	VCT07	B3*		
AB2	B6* D5		VECTFN-	A5* D5		
AB3	C6* D5		VECTA-	B3 D4*		
AJ4	C7*		VP	A7 B5		
AJ5	C7*			B7* C5		
AJ6	C7*			C7 D5		
AJ7	C7*		WRTFN-	A5* B5		
BCKB-	B5 C4		XBAD01	B7		
BCLK-	C4*		XBAD02	B7	02*	
DX00	B2*		XBAD03	C7	02*	
DX01	B2* D4	01 02*	XBAD04	C7	02*	
		03* 05	XBAD05	C7	02*	
DX02	B2*		XBAD06	C7	02*	
DX03	B2* D4	01 02*	XBAD07	D7	02*	
		03* 05	XBCLK	C7	02*	
DX04	B2*		XBCNT0	B7	02*	
DX05	B2*	01 02*	XBCNT1	B7	02*	
		03* 05*	XBCNT2	B7	02*	
DX06	B2*	01 02*	XBRDY-	B2*	02*	
		03* 05*	XBRST	D4	02*	
DX07	A8 B2*	01 02*	ZRES-	D3*	02*	
	B8	03* 05*	ZRES1	D4*		
FNB0	B5 B6*					
FNB1	B5 B6*					
FNB2	B5 B6*					
GND	B3 B4					
	B5 C7					
	C8					
ICLKM	C3*					
ICLKT-	A7 B7	01 03				
	C3*					
ID01	B3*					
ID02	B3*					
ID03	B3*					
RCACK-	B5*					
RCAE-	C5*	02				
RCSCK	A8 B4*	02				
	D4					
RCSCK-	B5*					
RCSE-	C5*	05				
RDBE	C4*	03 05				
RDBE-	C5*	03				
READFN-	A5* C5	03				
RESETA-	D4*					
RESETB-	D4*					
RESETC-	D4*					
RCO	A8					
RIEN	A7	03 05*				
RIRDY-	A4 A7*	05*				
RIRDYG-	A3*					
RRESET-	D3*					
REIGSET	A8	03 05				
RSTOP	A7*	03*				
RSTP	A8*					
RSVC-	B3 C5*					
RVSEL	A7*					
RVSEL-	A4 A8					
	B3 D5*					
RWCKK-	B5*					
RWCE-	C5*	02				
SEL-	B5 D7*	02				
SVCR-	C3 C4*					
TCACK-	B5*					
TCAE-	C5*	02				
TCSCK	B8* D4	02				
TCSCK-	B5* B8					
TCSE-	C5*					
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TDBCK-	B5*	01				
TGO	B8	01				
TIEN	B7	05*				
TIRDY-	A4 B7*	05*				
TIRDYG-	A3*					
TRESET-	D3*					
TSTOP	B7*	01 05				
TSVC-	C5*					
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TVSEL-	A4 B8					
	C5*					
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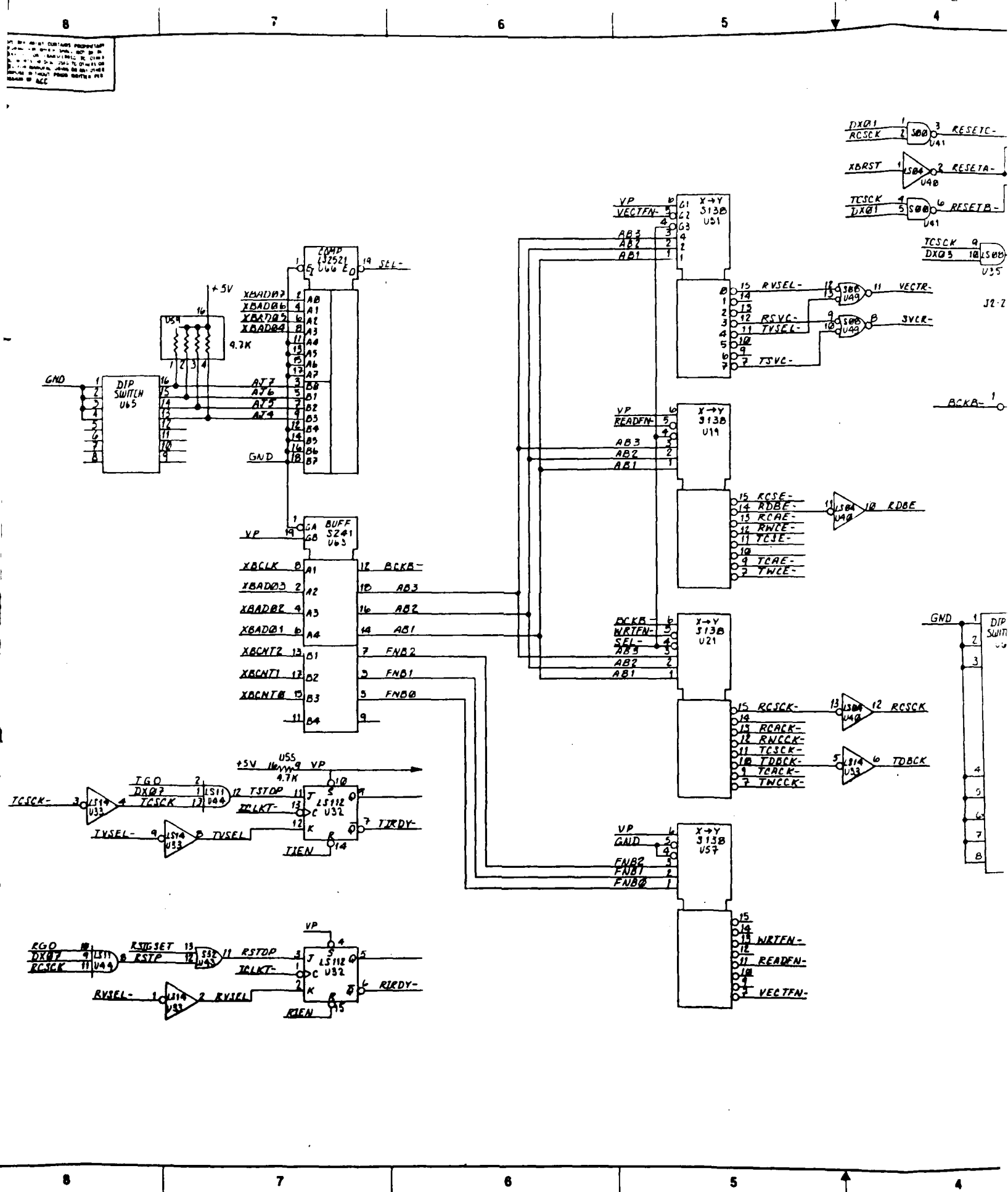
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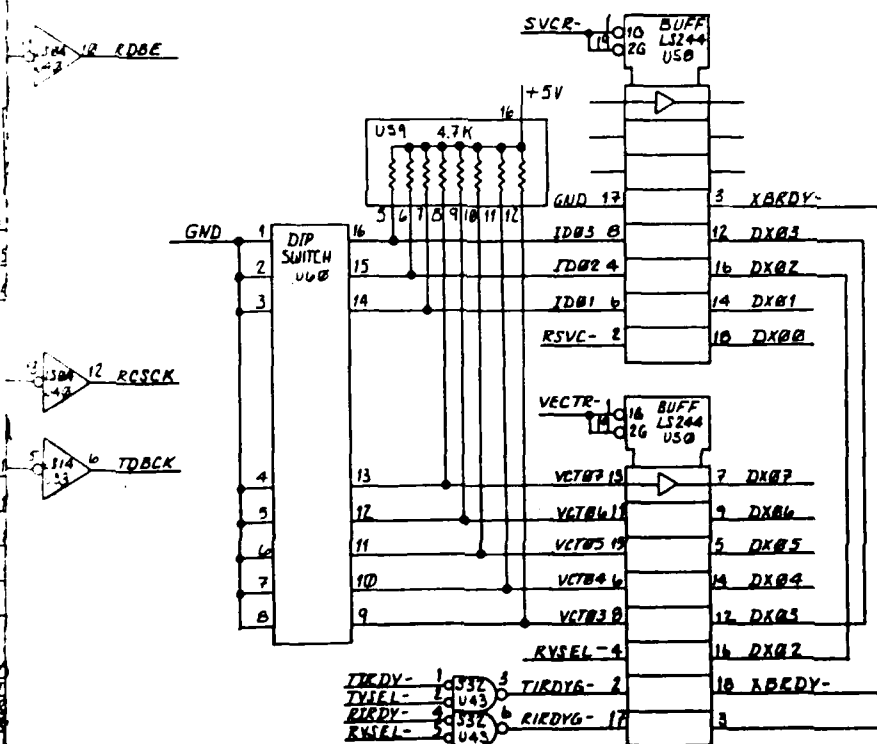
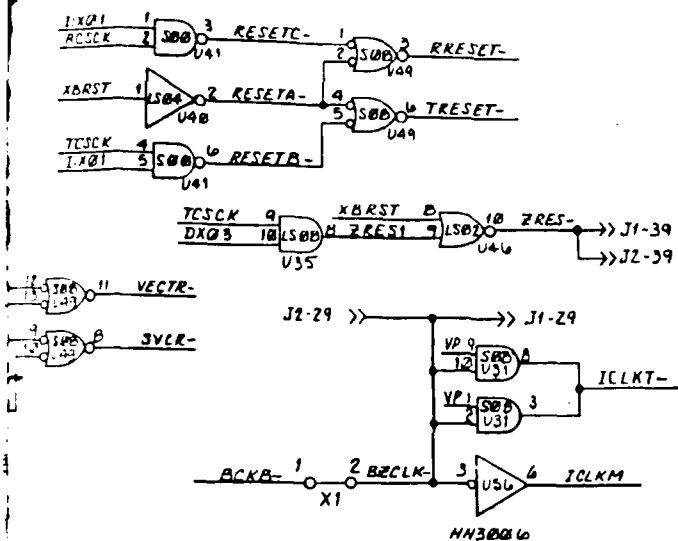
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8



2600429		4	1
REVISIONS			
TIME	REV	DESCRIPTION	DATE
211	A	INITIAL LOCATION AT PERS	10/20/81
B-2	B	CHANGE VOLT TO 4.5V AT USS	10/20/81
	C	ECO 02229-05	10/20/82



8100096	USED ON
NEXT ARMY	USED ON
APPLICATION	

CONTRACT NO.	
APPROVALS	DATE
DESIGNER PJ MEDDELL	12/19/80
CHECKED RQ	8/2/81
APP'D H. J. L...	8/2/81

ASSOCIATED COMPUTER CONSULTANTS Santa Barbara, California 93101	
LOGIC DIAGRAM XQ/CP I BOARD VECTOR, ID, SELECT, CLK	
DESIGN NO. 77084	REV. NO. 2600429
SCALE / NAME	SHEET 4 OF 5

TOTAL NAME LENGTH = 2 THREE LETTERS
TOTAL OF 6

• - FULL OF INFORMATION - FIFTEEN PAGES

THIS SUBJECT'S CAR WAS STOPPED AND
SEARCHED ON 10-10-68 BY SA
PERALTA OF SAN JUAN. THE CAR
BEARING'S OF SUBJECTS IN CHARGE, OR
USED FOR SUBJECTS ACTING ON ANY OTHER
PURPOSE WITHOUT PRIOR WRITTEN PER-
MISSION OF ACP.

DX 42

1.81416

1144
1145

DA 49

ॐ नमो भगवते वासुदेवाय

0x02

DXB

DXCP

NAME	CODE	AL7 PAGE	NAME	CODE	AL7 PAGE
BLKCK-	C2*		ZS0	C3	
BIHALT-	A5*	B4	ZS1	B4	03*
BZRD-	C3		ZS2	B4	03*
CLRTSIG	C1	C2*	ZS3	B4	03*
EX00	C4	C7			
	D3*	D5*			
	D6				
EX01	D3*	D5*			
	D6				
EX02	C3	D3*			
	D5*	D6			
EX03	D3*	D5			
	D6				
EX04	C3*	C5			
	C7	D5*			
	D6				
EX05	C3*	C5			
	C7	D5*			
	D6				
EX06	C3*	C5			
	C7	D5*			
	D6				
EX07	C3*	C4			
	C7	D5*			
	D6				
EX08	B4	B5*			
	B6				
EX09	B4	B5*			
	B7	B8			
EX10	B4	B5*			
	B7	B8			
EX11	B4	B5*			
	B7	B8			
EX12	B4	B5*			
	B7	B8			
EX13	B4	B5*			
	B7	B8			
EX14	A4	A7			
	B5*	B6			
	D5				
EX15	A4	B5*			
	B6				
GND	D4	D6			
ICLK-	B2	C1			
	C2				
PS0	B6*				
PS1	B6*	C1			
PS2	B6*	C1			
PS3	B6*	C1			
RCSCK	C5	C1			
RCSCK-	D5	C4			
RCSE-	B4	D4	04*		
RCSR03	D4*				
RDBF	B4				
RDZRCR	B2*	C2	03		
FDZRCR-	C3*				
RDZRCRS	B2*	C2			
REM16	C4*				
REM17	C4*				
RGO	C4*				
RGC-	C4*		03	04	
RIEN	C4*				
RMERR	A4	D4*	04		
RRESET-	C4	D5			
RSIGNAL	D4				
SETTSIG	C2*		03*		
TCSCK	C3	C7			
TCSCK-	B7	D7			
TCSE-	B6	D6			
TCSR09	B6*				
TDBE	B6	C5*			
TDBFULL-	C6				
TEM16	C6*		01*		
TEM17	C6*				
TGO	C6*				
TGO-	C6*		04		
TIEN	C6*				
TMERR	A6*		04		
TRESET-	B2	B7			
	C1	C2			
	C7	D7			
TSETA	C2*				
TSIGJ	C1*				
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DX 12

DX14

DX13

0x12

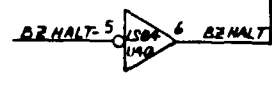
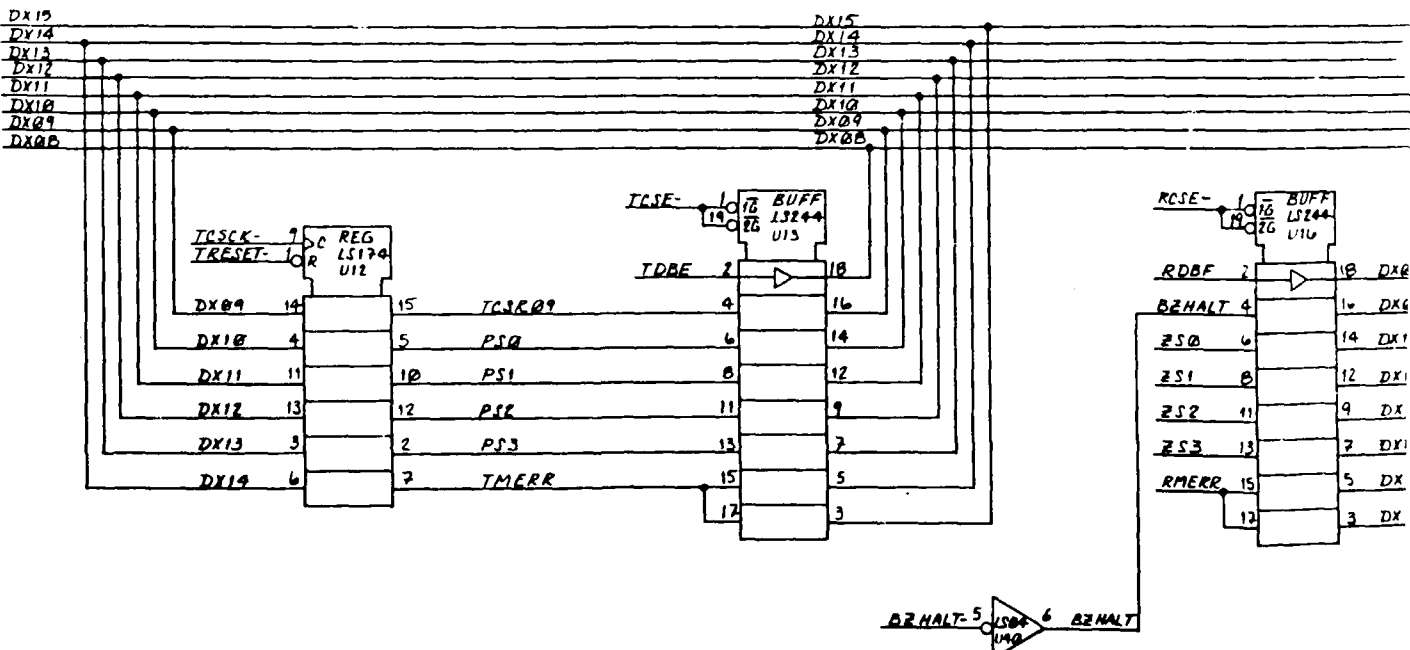
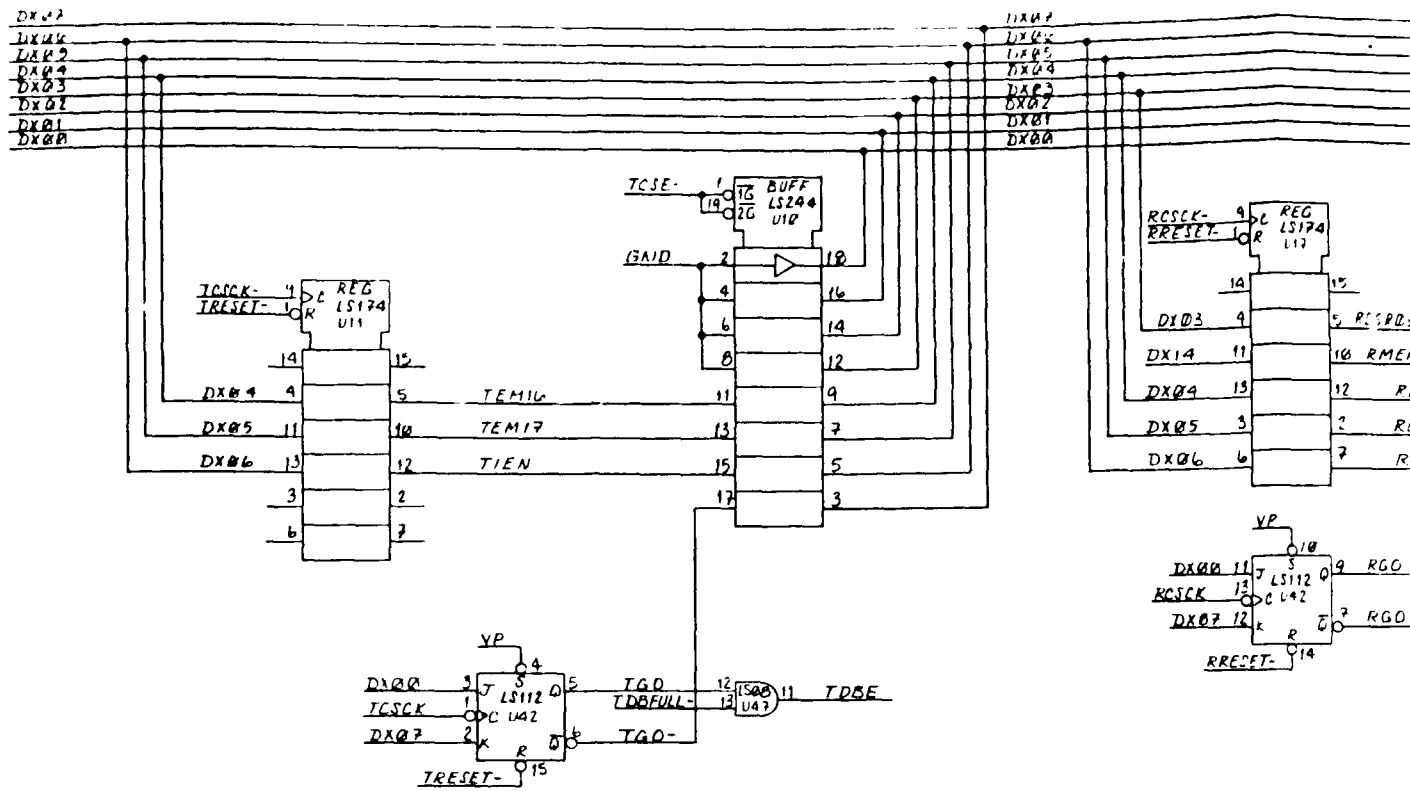
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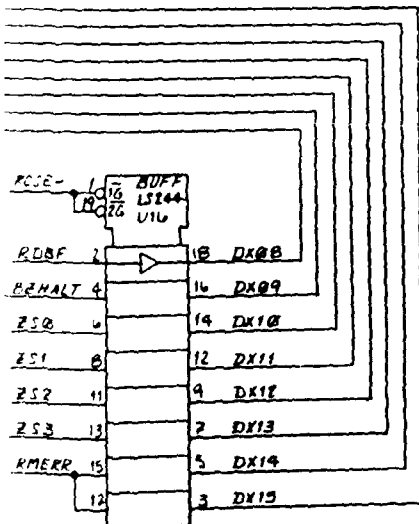
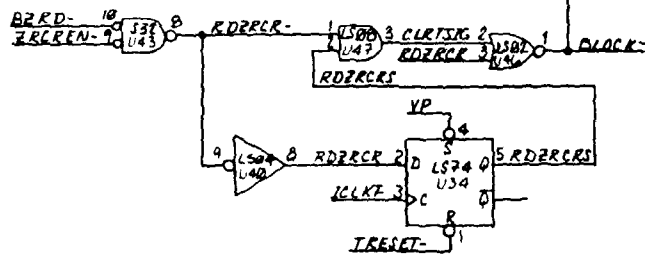
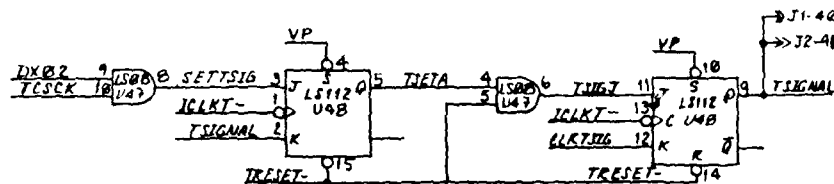
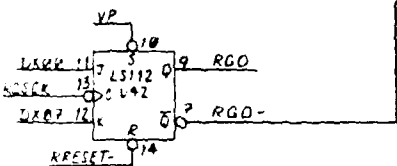
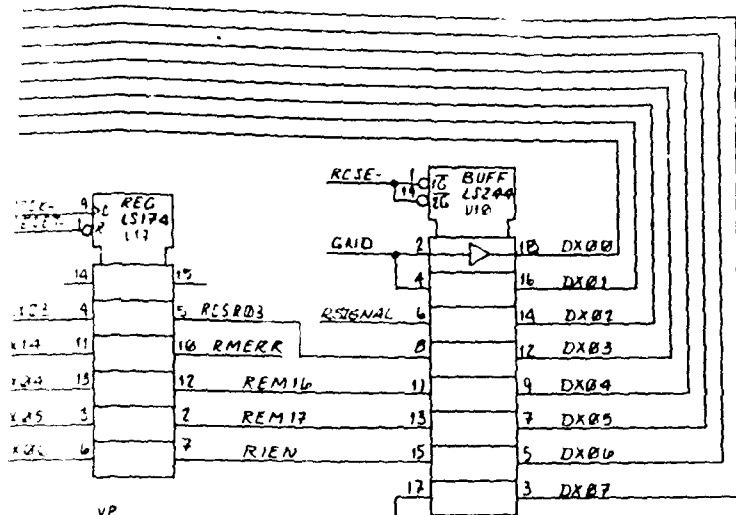
DX09

DXAS

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DRAWING NO.		REV	DATE	APP'D
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2		2	10/1/70	10/1/70
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CONTRACT NO.		APPROVALS		DATE	
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APPLICATION		DRAWN		8-20-70	
		SCALE		D 7NDB4	
		PROJECT NO.		2600429	
		SHEET		5 OF 5	

2600429

SIGNAL NAME LOCATIONS - DRAWING 26J0430
PAGE 01 of 02

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BZADR02	C7*	02	RADR12	D7* A7 A8 D7*	
BZADR03	C7*	02	RADR13	A8 D7*	
BZADR04	C7*	02	RADR14	A8 D7*	
BZADR05	C7*	02	RADR15	D7*	
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BZRD-	B3		RADR36	D6 A4 A6 B4 B6 C4 C6 C7* D4	
CS0-	A7* D6	02*	RADR37	D6 A4 A6 B4 B6 C4 C6 C7* D4	
CS1-	A7* C6		RADR38	D6 A4 A6 B4 B6 C4 C6 C7* D4	
CS2-	A7* C6		RADR39	D6 A4 A6 B4 B6 C4 C6 C7* D4	
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CS7-	A7* B4		RADR44	D6 A4 A6 B4 B6 C4 C6 C7* D4	
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IE	B7*		RADR46	D6 A4 A6 B4 B6 C4 C6 C7* D4	
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RADR02	A4 A6 B4 B6 C4 C6 C7* D4 D6		RADR49	D6 A4 A6 B4 B6 C4 C6 C7* D4	
RADR03	A4 A6 B4 B6 C4 C6 C7* D4 D6		RADR50	D6 A4 A6 B4 B6 C4 C6 C7* D4	
RADR04	A4 A6 B4 B6 C4 C6 C7* D4 D6		RADR51	D6 A4 A6 B4 B6 C4 C6 C7* D4	
RADR05	A4 A6 B4 B6 C4 C6 C7* D4 D6		RADR52	D6 A4 A6 B4 B6 C4 C6 C7* D4	
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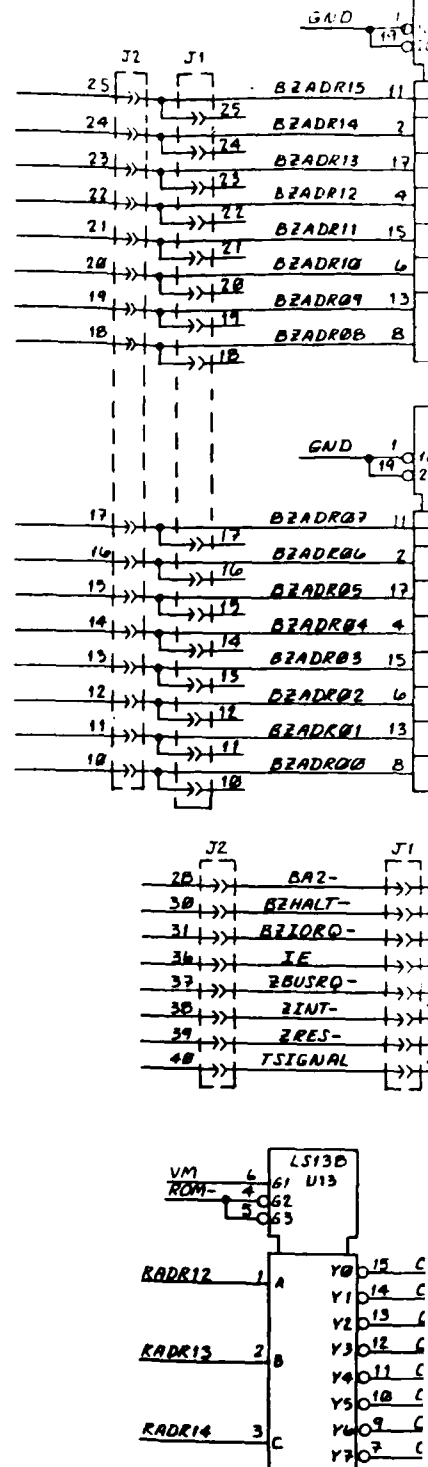
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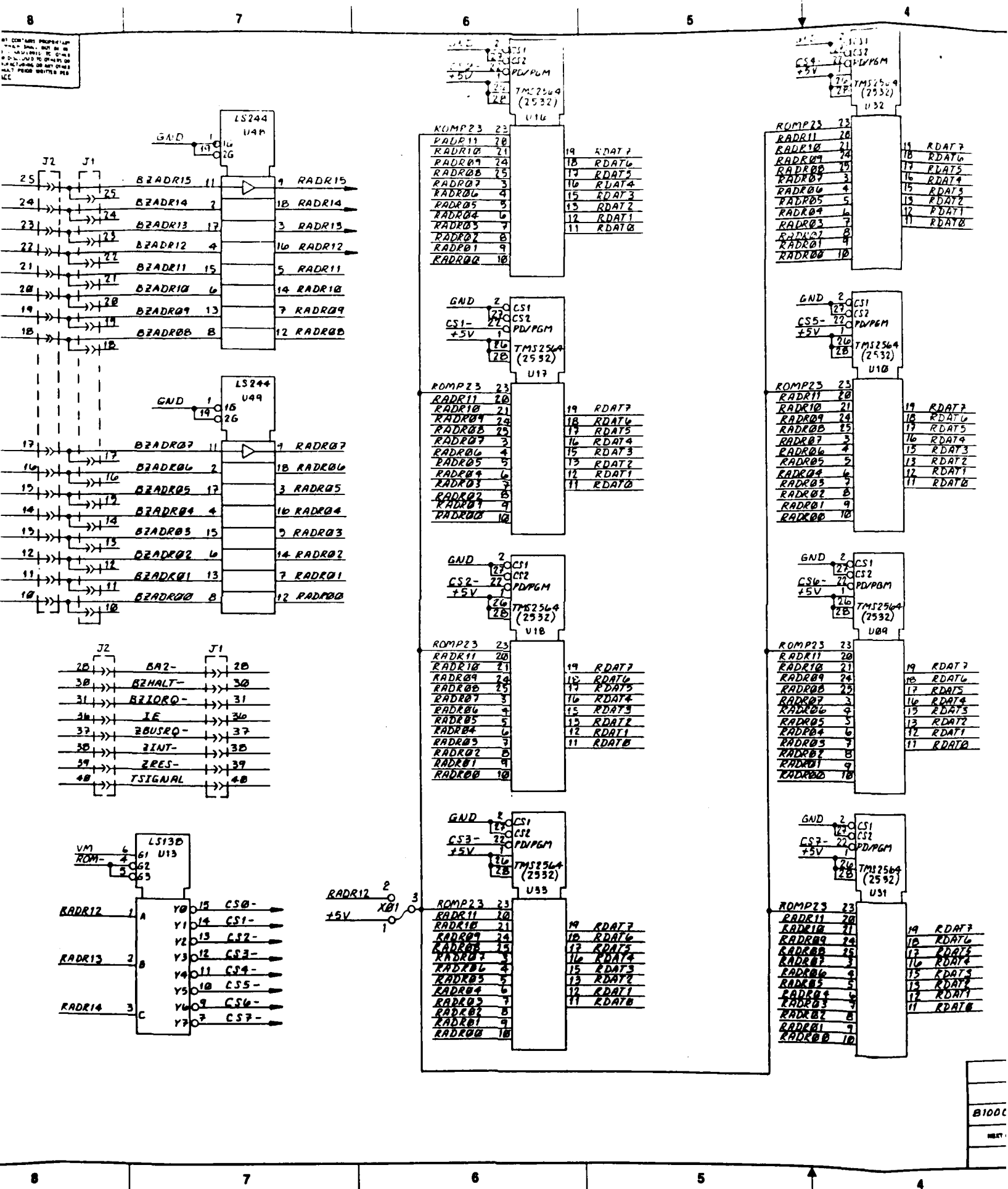
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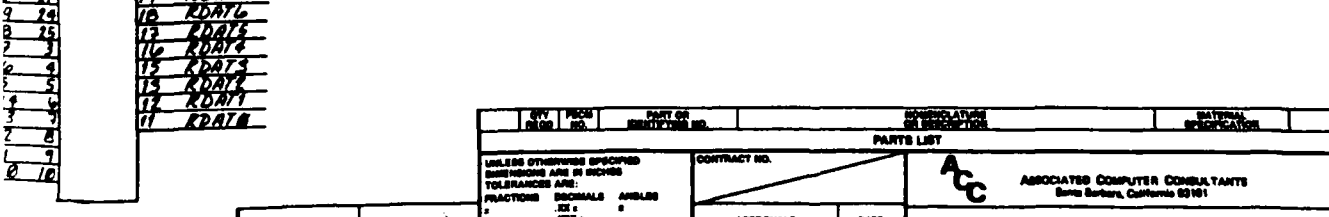
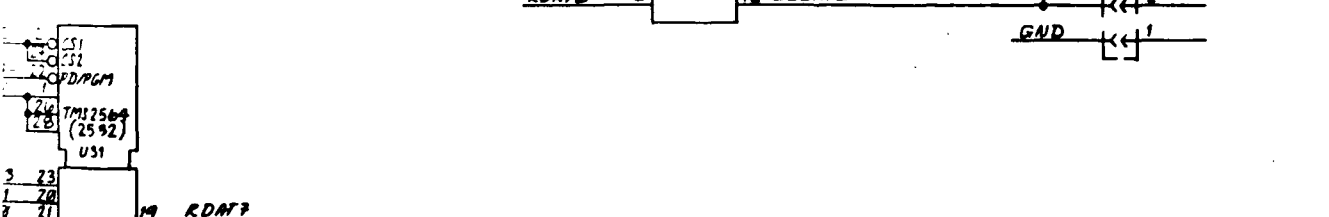
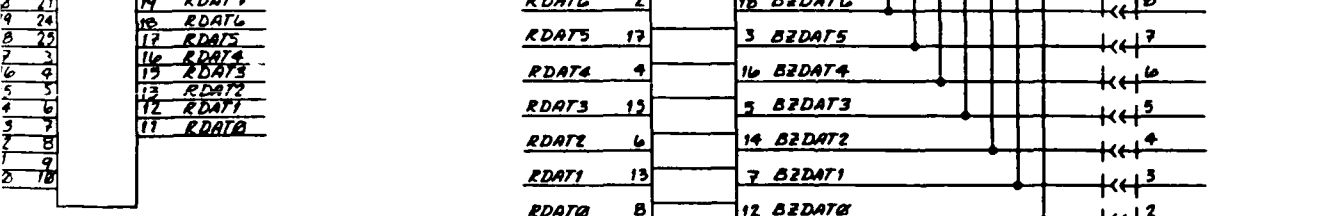
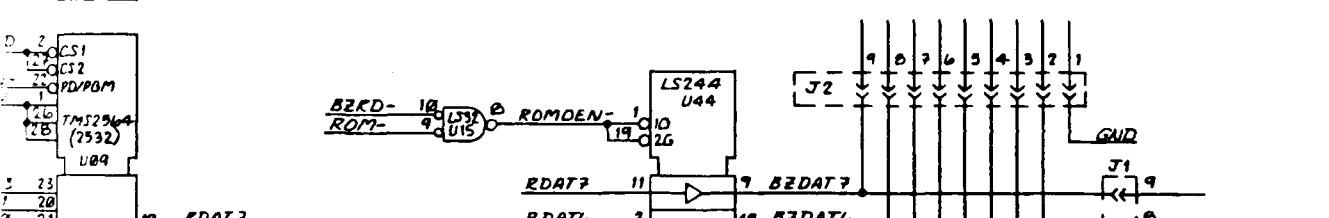
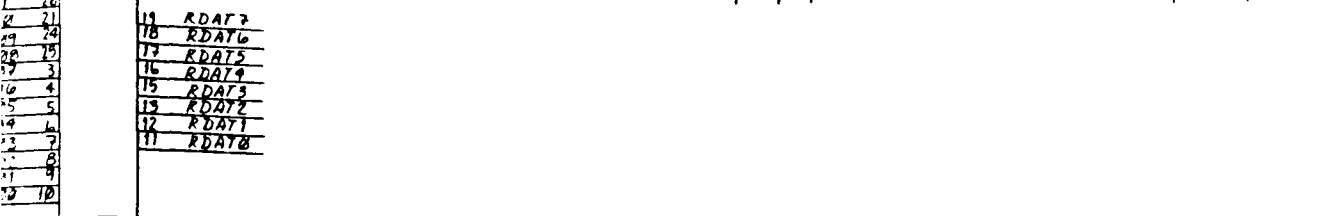
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4	3	2600430	1
REV. NO.		REV. 1	REV. 2
LINE	REV.	DESCRIPTION	DATE
ALL	1	ENH. LOCATION NUMBERS	10/10/81
	2	ECO B2229 D5	03/08/82



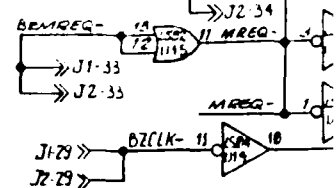
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES X.XX ± .005 X.X ± .005 X ± .005		CONTRACT NO.		PARTS LIST	
MATERIAL		APPROVALS		DATE	
B100097		WEDDELL		5/15/81	
PUSH		CHECKED		1/11/82	
NEXT ASSY		DRAWN		5/15/81	
USED ON		DESIGNED		5/15/81	
APPLICATION		DO NOT SCALE DRAWING		SCALE AS SHOWN	
		ASSOCIATED COMPUTER CONSULTANTS Santa Barbara, California 93101		LOGIC DIAGRAM XQ/CP M BOARD	
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		SHEET 1 OF 2			

SIGNAL NAME LOCATIONS - DRAWING 262243J
PAGE 22 of 22

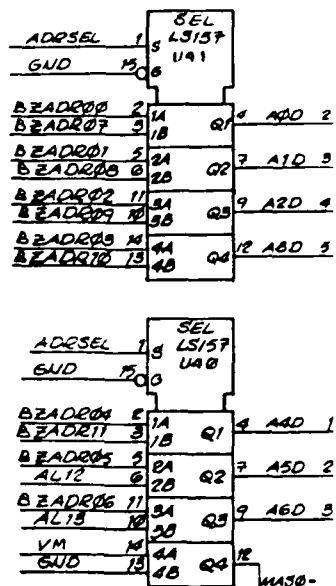
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	D5			MCLKT	B2 D6		
-5V	D5				D7*		
-V	A6			MEMWAIT	B2*		
A8	C7* D5			MREQ	C6 D6		
A8D	C7*				D7*		
A1	C7* D5			MREQ-	B7 B8		
A1D	C7*				D8		
A2	C7* D5			PCQ1	D6*		
A2D	C7*			PCQ2-	C6		
A3	C7* D5			RAM0-	B3 B6*		
A3D	C7*				D7		
A4	C7* D5			RAME	B2*		
A4D	C7*			RAMEN	B3*		
A5	C7* D5			RAMOEN-	C4 D4		
A5D	C7*				D7*		
A6	C7* D5			RAS-	B5 C5*		
A6D	C7*			RASD-	C6*		
ADRSEL	C8 D7*			RCAS0	C6*		
	D8			RCAS0-	B6* C7		
AL12	B7 C8			RCAS1	C6*		
AL13	B7 C8			RCAS1-	B6* C7		
AL14	B7			RDQ-	B3 D7*		
AL15	B7			ROM-	B6*		
BDMG-	A5*			ROME	B2*		01
BIAK-	A5*			ROMEN	B3*		
BMZ1	D7*			ROMOEN-	B3		01*
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BZADR02	C8	01*			D6* D7		
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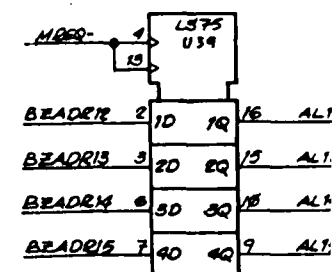
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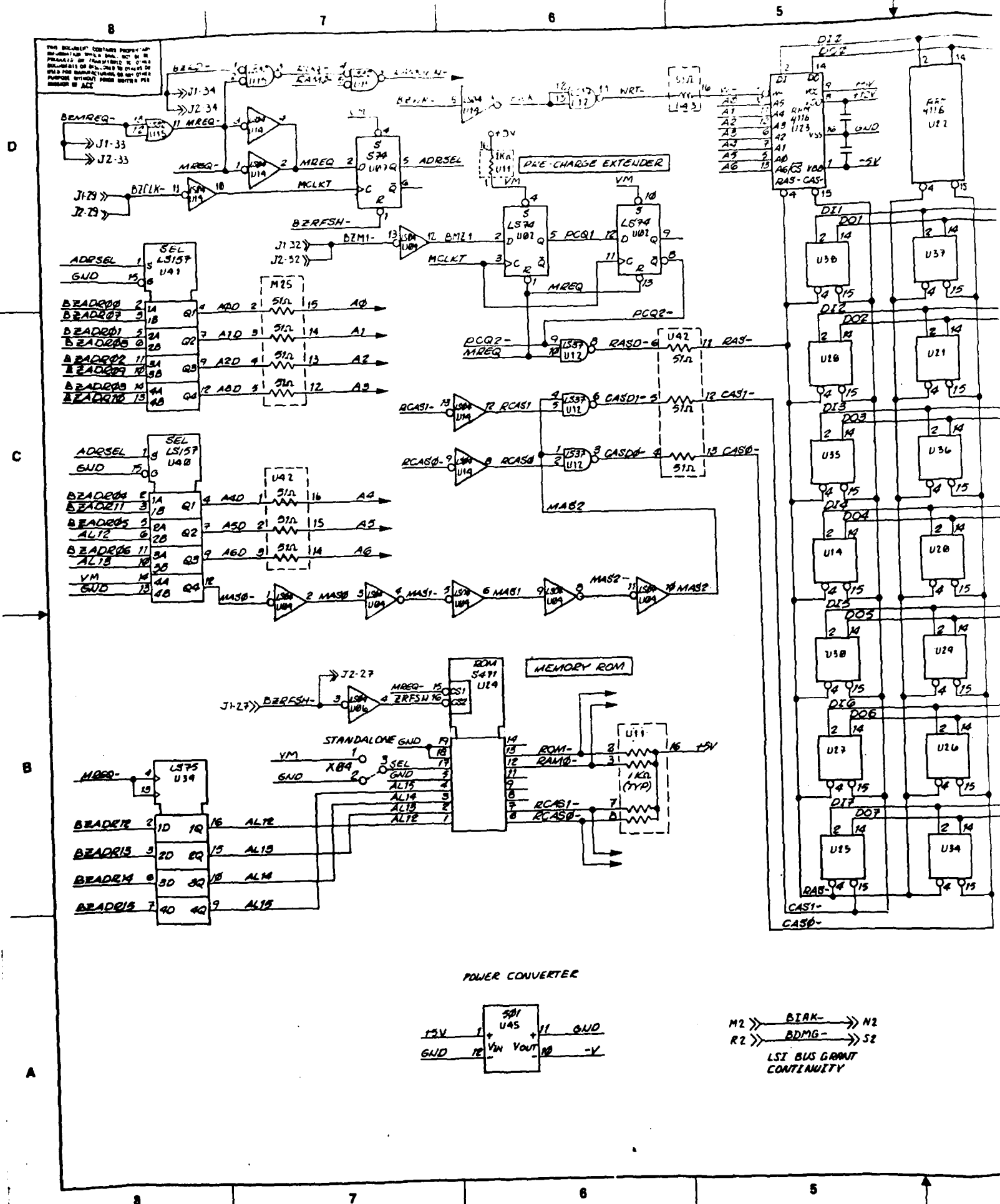
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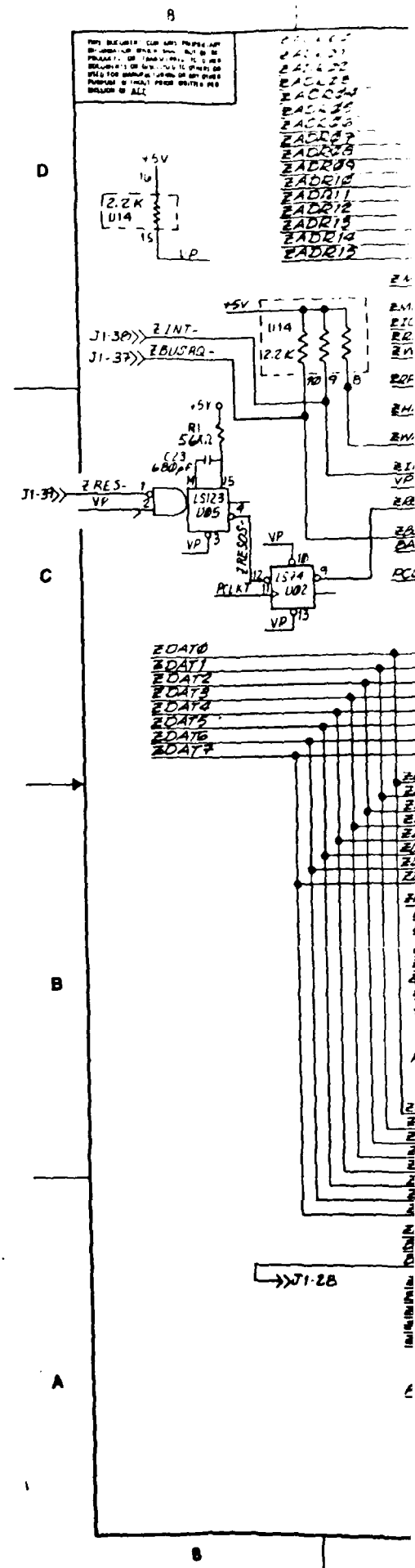
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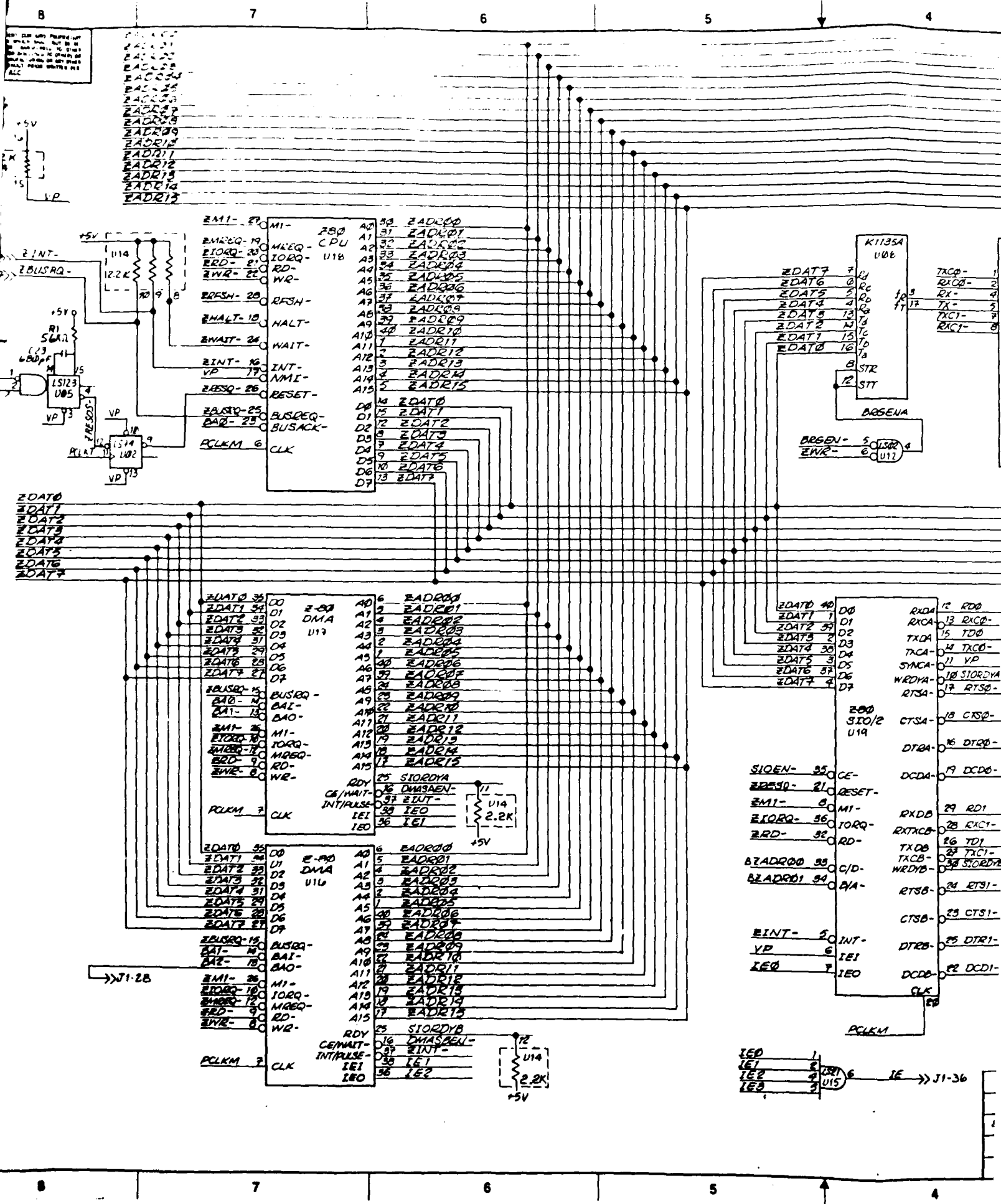


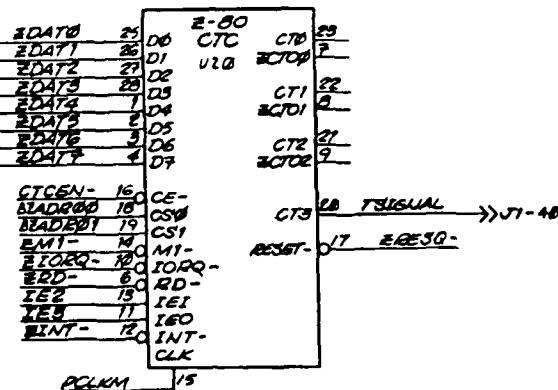
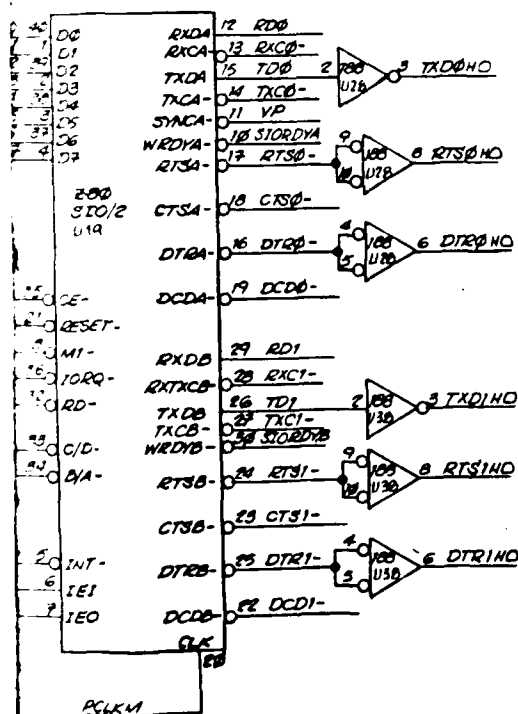
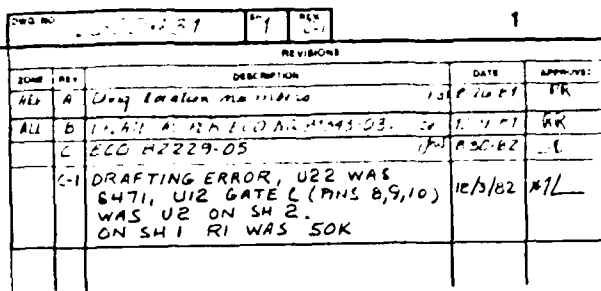
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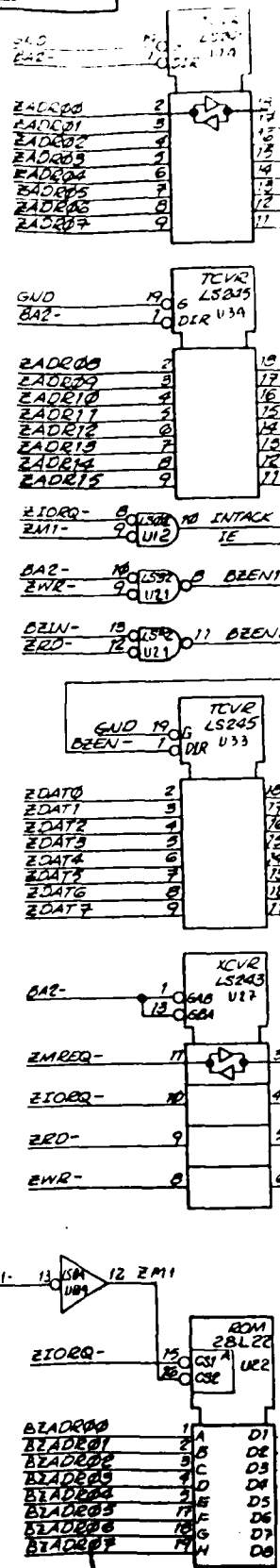
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ZRESQ- . . .	B2* B5 C7		
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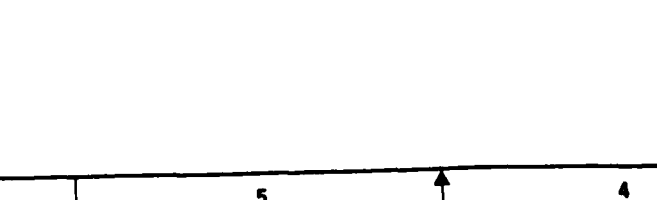
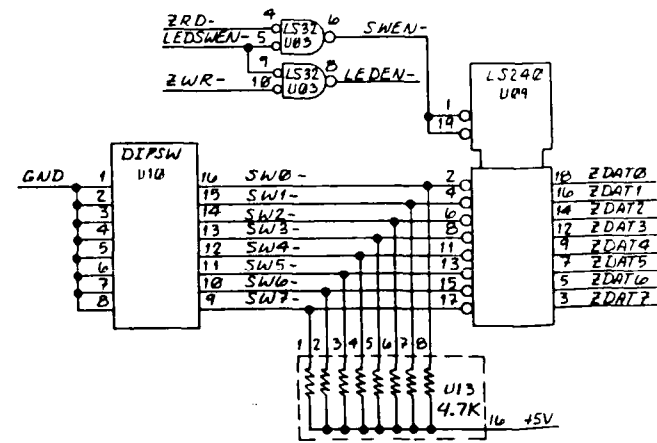
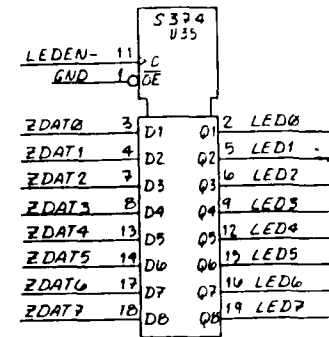
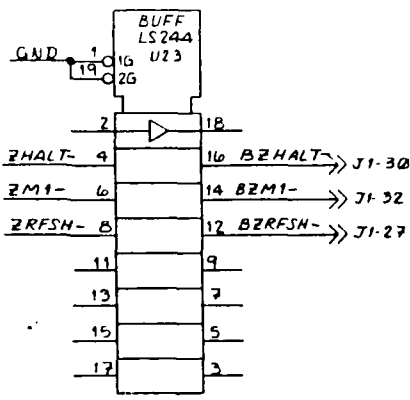
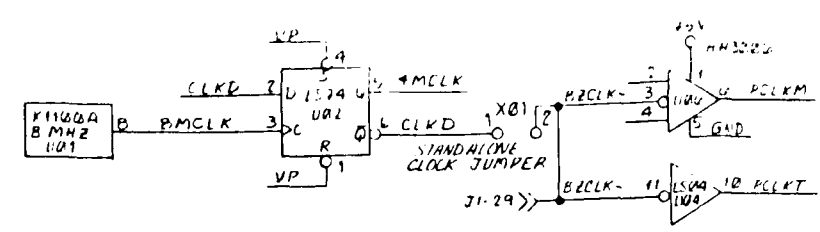
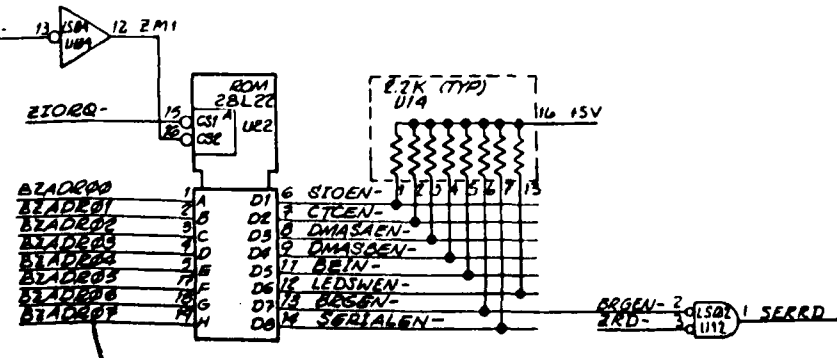
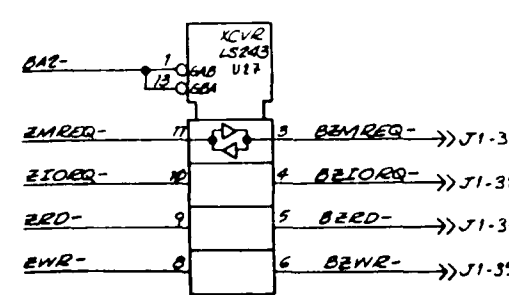
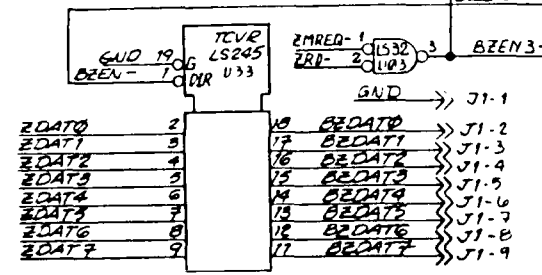
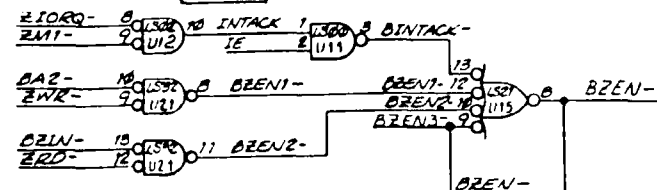
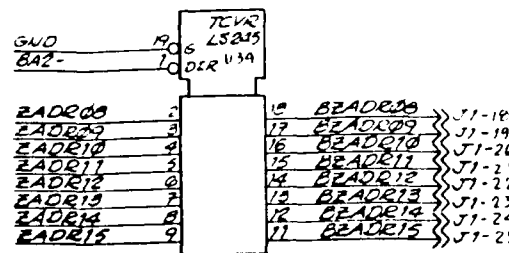
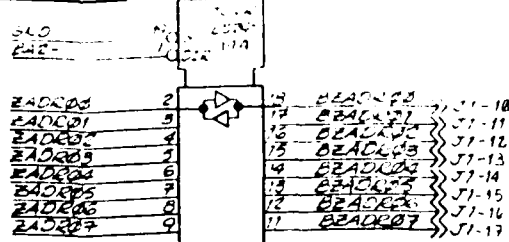


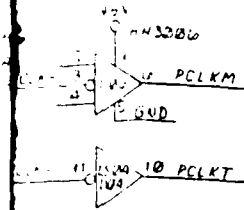


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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES 1 .001 1 .002 1 .003				CONTRACT NO.		 ASSOCIATED COMPUTER CONSULTANTS Santa Barbara, California 93101			
MATERIAL FINISH				APPROVALS		DATE		<u>LOGIC DIAGRAM</u> XQ/CP P BOARD	
				DRAWN J. Moore		4-6-81			
8100093 NEXT ADPT USED ON				CHECKED R. R. Smith		19 MAR 81		DES. PROJ. NO. D 61550 DWT. NO. 2600431 SHEET 1 OF 3	
				DESIGNED D. S. J. [Signature]		5-19-81			
APPLICATION				DO NOT SCALE DRAWING		SCALE NAME			

[illegible]

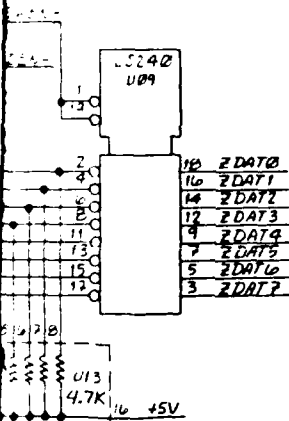
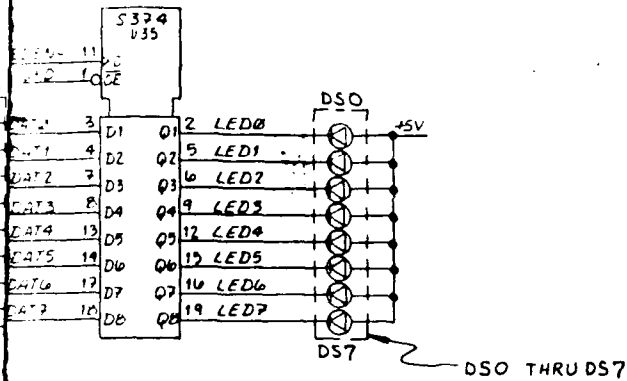
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AM1 >> BIAK- >> A1.2
 AR2 >> BDMG- >> AS2

LSI BUS
 GRANT CONTINUITY



ZONE	REV	DESCRIPTION	DATE	APPROVED
A	1	Initial Design	10/1/81	JK
B	1	ECU R2229-05	10/1/81	JK
C	1	SEE SH1		

QTY REQD		PCEM NO.		PART OR IDENTIFIER NO.		NOMENCLATURE OR DESCRIPTION		MATERIAL SPECIFICATION	
PARTS LIST									
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES 1/16 1/32 1/64 1/8 1/4 1/2 3/4 1 1 1/2 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 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495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 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1796 1797 1798 1799 1800 1801 1802 1803 1804 1805 1806 1807 1808 1809 1810 1811 1812 1813 1814 1815 1816 1817 1818 1819 1820 1821 1822 1823 1824 1825 1826 1827 1828 1829 1830 1831 1832 1833 1834 1835 1836 1837 1838 1839 1840 1841 1842 1843 1844 1845 1846 1847 1848 1849 1850 1851 1852 1853 1854 1855 1856 1857 1858 1859 1860 1861 1862 1863 1864 1865 1866 1867 1868 1869 1870 1871 1872 1873 1874 1875 1876 1877 1878 1879 1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 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2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511 2512 2513 2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527 2528 2529 2530 253									

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NAME	COORD	ALT PAGES	NAME	COORD	ALT PAGES
+SV	B8 C8		RXC0H	C7	
CTS0-	D6*		RXC0HI	C8*	
CTS0H	D7	01	RXC0L	C7	
CTS0HI	D8*		RXC0LI	C8*	
CTS0L	D7		RXC1H	B7	
CTS0LI	D8*		RXC1HI	B8*	
CTS1-	C6*		RXC1L	B7	
CTS1H	C7	01	RXC1LI	B8*	
CTS1HI	C8*		RXD0H	D7	
CTS1L	C7		RXD0HI	D8*	
CTS1LI	C8*		RXD0L	D7	
DCD0-	C6*		RXD0LI	D8*	
DCD0H	C7	01	RXD1H	C7	
DCD0HI	C8*		RXD1HI	C8*	
DCD0L	C7		RXD1L	C7	
DCD0LI	C8*		RXD1LI	C8*	
DCD1-	B6*		SERRD	C7 D7	
DCD1H	B7	01	TCM0-	D6*	
DCD1HI	B8*		TCM0H	D7*	
DCD1L	B7		TCM0HI	D8*	
DCD1LI	B8*		TCM0L	C7*	
DSR0H	D7		TCMBLI	C8*	
DSR0HI	D8*		TCM1-	B6*	
DSR0L	D7		TCM1H	B7*	
DSR0LI	D8*		TCM1HI	B8*	
DSR1H	C7		TCM1L	B7*	
DSR1HI	C8*		TCM1LI	B8*	
DSR1L	C7		TCT0H	C4*	
DSR1LI	C8*		TCT0HO	C3*	
DTR0-	C5		TCT0L	C4*	01*
DTR0H	C4*	01*	TCT0LO	C3*	
DTR0HI	C3*		TCT1H	B4*	
DTR0L	C4*	01*	TCT1HO	B3*	
DTR0LO	C3*		TCT1L	B4*	
DTR1-	B5		TCT1LO	B3*	
DTR1H	B4*	01*	TDB	D5	
DTR1HI	B3*		TD1	C5	01*
DTR1L	B4*	01*	TT0-	C5	01*
DTR1LO	B3*		TT1-	B5	01*
GND	B3 B4		TXD0H	D4*	01*
	B5 B8		TXD0HO	D3*	
	C3 C4		TXD0L	D4*	01*
	C5 C8		TXD0LO	D3*	
	D4 D5		TXD1H	C4*	
	D8		TXD1HO	C3*	
			TXD1L	B4*	01*
			TXD1LO	B3*	
			VP	B4 B7	
				C4 C7	
				D4 D7	
MDBC	B3* C5		ZDAT0	D6*	
MDBD	B3* B5		ZDAT1	C6*	01* 02*
MDCA	D3* D5		ZDAT2	D6*	01* 02*
MDCB	C3* C5		ZDAT3	C6*	
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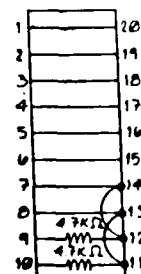
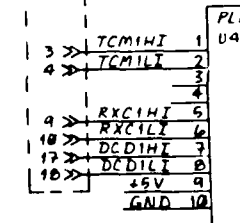
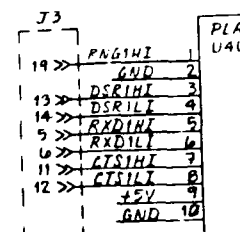
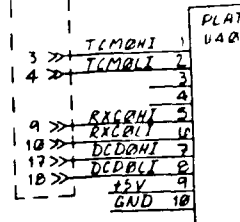
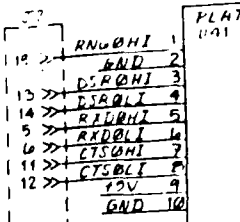
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B

A

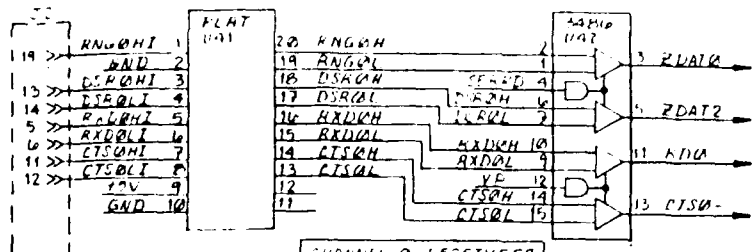
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8

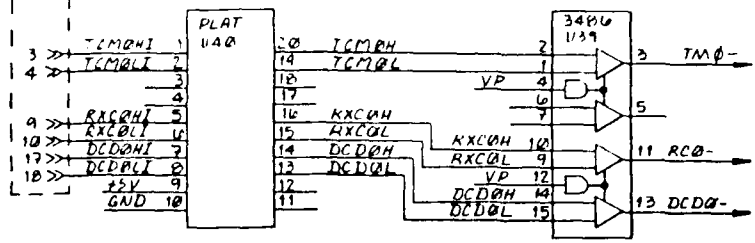


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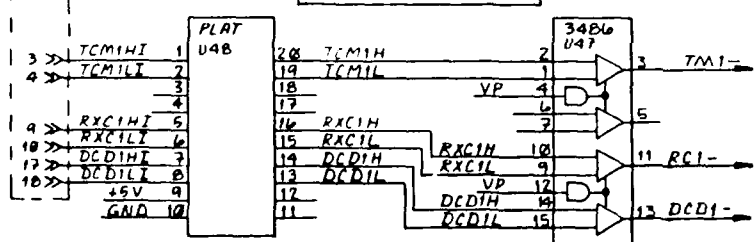
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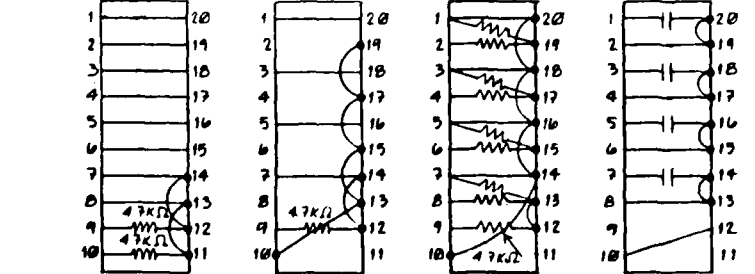
CHANNEL 0 RECEIVERS



CHANNEL 1 RECEIVERS



CHANNEL 1 RECEIVERS



RS-422
RECEIVE
PLATFORM
ACC PART NO.
5000139

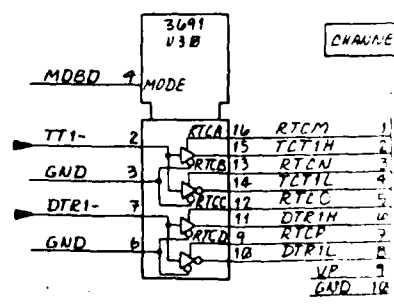
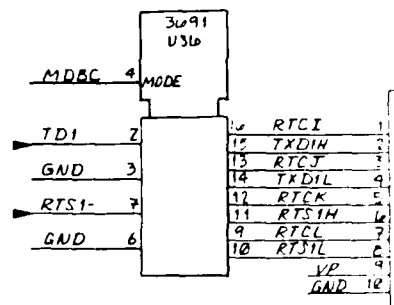
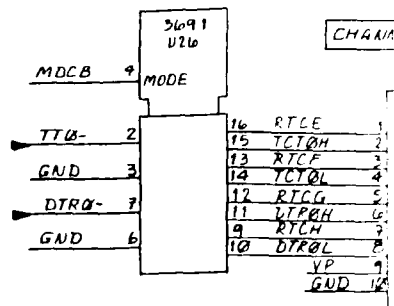
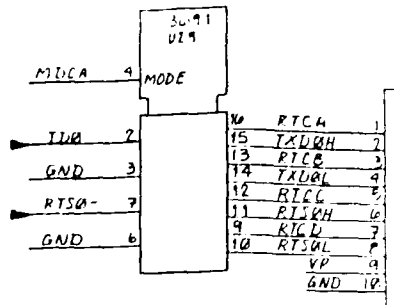
RS-423
RECEIVE
PLATFORM
ACC PART NO.
5000140

RS-232
RECEIVE
PLATFORM
ACC PART NO.
5000141

RS-422
DRIVER
PLATFORM
ACC PART NO.
5000142

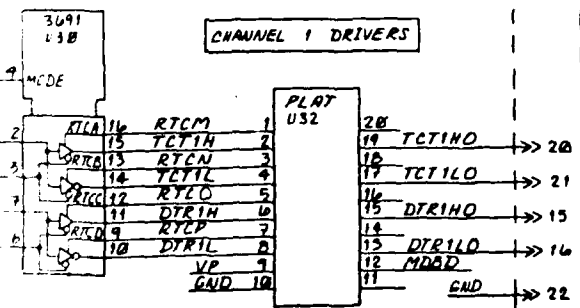
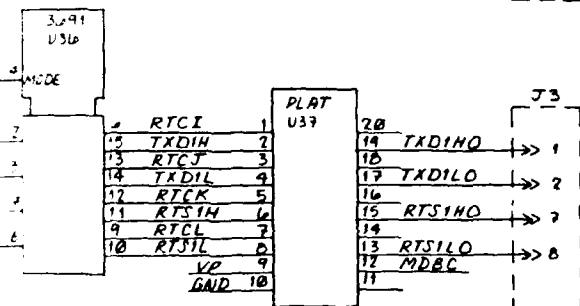
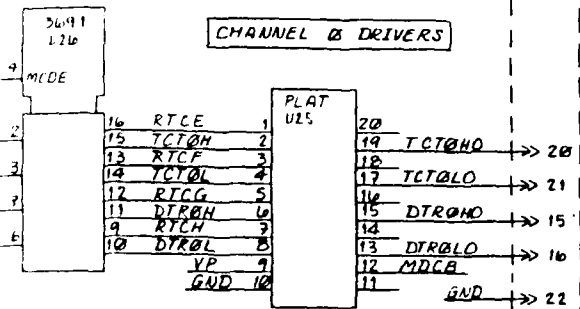
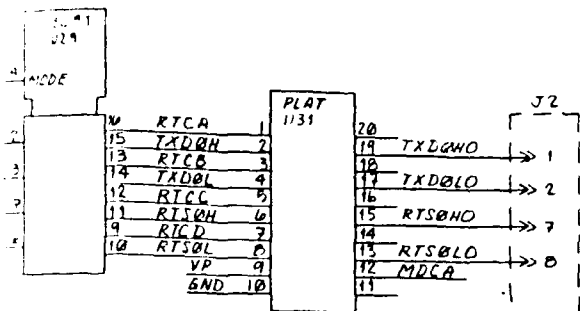
RS-423
DRIVER
PLATFORM
ACC PART NO.
5000143

MIL-STD 188/114
DRIVER
PLATFORM
ACC PART NO.
5000144



NOTES
① CAPACITORS SHOWN FOR REFERENCE
MAY BE FIELD INSTALLED BY CUS

DWG NO: 2600431
 REV: 3
 DATE: 5/14/81
 DESCRIPTION: XQ/CP P BOARD
 SEE SH 1



J2-J3		DB-37		DB-25	
PIN	SIGNAL	PIN	SIGNAL	PIN	SIGNAL
1	TXDHO	22	SD-C	2	BA
2	TXDLO	4	SD-A		
3	TCMHI	23	ST-B'		
4	TCMLI	5	ST-A'	15	DB
5	RKDHI	24	RD-B'		
6	RKDLI	6	RD-A'	3	BB
7	RTSHO	25	RS-C	4	CA
8	RTSLO	7	RS-A		
9	RACHI	26	RT-B'		
10	RACLI	8	RT-A'	17	DD
11	CTSHI	27	CS-B'		
12	CTSLI	9	CS-A'	5	CB
13	DSRHI	28	DM-B'		
14	DSRLI	11	DM-A'	6	CC
15	DTRHO	30	TR-C	20	CD
16	DTRL	12	TR-A		
17	DCDHI	31	RR-B'		
18	DCDLI	13	RR-A'	8	CF
19	RNGHI	15	IC-A'	22	CE
20	TCTHO	35	TT-C	24	DA
21	TCTLO	17	TT-A		
22	GND	19	SG	7	AB
		20	RC		
		37	SC		

SIGNAL TRANSLATION CHART

15
 FACTORS SHOWN FOR REFERENCE ONLY.
 16 BE FIELD INSTALLED BY CUSTOMER.

QTY	PCB	PART OR IDENTIFYING NO.	CONTRACT NO.	DATE	APPROVALS	DATE
1	1					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES 1/16 0.001 1/16 1/16 1/16			CONTRACT NO. 2600431 DATE 5/14/81 APPROVALS MEDDELL CHECKED R. V. 19 MAY 81 DRAWN D. J. 5/14/81			
MATERIAL			ASSOCIATED COMPUTER CONSULTANTS Santa Barbara, California 93101 LOGIC DIAGRAM XQ/CP P BOARD			
FINISH			Dwg. No. 2600431 Rev. C-1 Scale: NONE Sheet 3 OF 3			
APPLICATION			DO NOT SCALE DRAWING			

THIS DOCUMENT CONTAINS PROPRIETARY
INFORMATION WHICH SHALL NOT BE RE-
PRODUCED OR TRANSFERRED TO OTHER
DOCUMENTS OR DISCLOSED TO OTHERS OF
USED FOR MANUFACTURING OR ANY OTHER
PURPOSE WITHOUT PRIOR WRITTEN PER-
MISSION OF ACC

CHANNEL A

PM2	1	ATXD	2	JA
>	6	ARXD	3	>
>	17	ARTS	4	>
>	12	ACTS	5	>
>	14	ADSR	6	>
>	122	SIG GND	7	>
>	18	ADCD	8	>
>	4	ATCM	15	>
>	10	ARXC	17	>
>	15	ADTR	20	>
>	19	ARNG	22	>
>	20	ATCT	24	>

QTY	RECD	FS
UNLESS OTHERWISE DIMENSIONS ARE IN TOLERANCES ARE:		
FRACTIONS	DEC	
±	.XX	.XXX
MATERIAL		
FINISH		
DO NOT S		

	6800064
NEXT ASSY	USED ON
APPLICATION	

DWG NO 2500027

REV

REVISIONS

REV	DESCRIPTION	DATE	APPROVED
A	FIG. ECD # 82229-05	13-SEP-81	(signature)

CHANNEL B

PM1	1	BTXD	2	JB
>	6	BRXD	3	>
>	7	BRTS	4	>
>	12	BCTS	5	>
>	14	BDSR	6	>
>	22	SIG GND	7	>
>	18	BDOD	8	>
>	4	BTCLM	15	>
>	10	BRXC	17	>
>	15	BDTR	20	>
>	19	BRNG	22	>
>	20	BTCT	24	>

2500027
A

QTY REQD	FSCM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION		MATERIAL SPECIFICATION	
PARTS LIST						
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS $\pm$ DECIMALS $\pm$ ANGLES $\pm$.XX $\pm$.XXX $\pm$			CONTRACT NO.		 ASSOCIATED COMPUTER CONSULTANTS Santa Barbara, California 93101	
MATERIAL			APPROVALS	DATE	SCHEMATIC XQ/CP RS-232 DUAL CHANNEL ONLY	
FINISH			DRAWN RODENWALD	10-26-81	SIZE B FSCM NO. DWG. NO. 2500027 REV. A	
DO NOT SCALE DRAWING			CHECKED RRuss	30 OCT 81	SCALE SHEET	
			ISSUED (signature)	10-30-81		

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PRODUCED OR TRANSFERRED TO OTHER
DOCUMENTS OR DISCLOSED TO OTHERS OR
USED FOR MANUFACTURING OF ANY OTHER
PURPOSE WITHOUT PRIOR WRITTEN PER-
MISSION OF ACC

CHANNEL A

PM1	2	ASD-A	4	JA
>	4	AST-A	5	>
>	6	ARD-A	6	>
>	8	ARS-A	7	>
>	10	ART-A	8	>
>	12	ACS-A	9	>
>	14	ADM-A	11	>
>	16	ATR-A	12	>
>	18	ARR-A	13	>
>	19	AIC-A	15	>
>	21	ATT-A	17	>
>	22	ASG	19	>
>	1	ASD-B	22	>
>	3	AST-C	23	>
>	5	ARD-C	24	>
>	7	ARS-B	25	>
>	9	ART-C	26	>
>	11	ACS-C	27	>
>	13	ADM-C	29	>
>	15	ATR-B	30	>
>	17	ARR-C	31	>
>	20	ATT-B	35	>

CHANNEL E

		QTY REQD
		UNLESS OTHER DIMENSIONS AP- TOLERANCES A FRACTIONS 0 ± .1
		MATERIAL
		FINISH
NEXT ASSY	USED ON	
APPLICATION		DO NOT

DWG NO.

REVISED

SH

REV

REVISIONS

REV

DESCRIPTION

DATE

APPROVED

4

REF ECD # 82229-05

13-SEP-82

WHEL B

PM2	2	BSD-A	4	JB
>	4	BST-A	5	>
>	6	BRD-A	6	>
>	8	BRS-A	7	>
>	10	BRT-A	8	>
>	12	BCS-A	9	>
>	14	BDM-A	11	>
>	16	BTR-A	12	>
>	18	BRR-A	13	>
>	19	BIC-A	15	>
>	21	BTT-A	17	>
>	22	BSG	19	>
>	1	BSD-B	22	>
>	3	BST-C	23	>
>	5	BRD-C	24	>
>	7	BRS-B	25	>
>	9	BRT-C	26	>
>	11	BCS-C	27	>
>	13	BDM-C	29	>
>	15	BTR-B	30	>
>	17	BRR-C	31	>
>	20	BTT-B	35	>

2500028

QTY REQD	FSCM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES ± .XX ± ±		CONTRACT NO.		
MATERIAL		APPROVALS DATE		
FINISH		DRAWN RODENWALD 10-27-81		
DO NOT SCALE DRAWING		CHECKED R Russ 30 Oct 81		
		ISSUED (W) 10-30-81		
		SIZE B	FSCM NO.	DWG. NO. 2500028
		SCALE	REV. A	
		SHEET		

ACC

ASSOCIATED COMPUTER CONSULTANTS
Santa Barbara, California 93101

SCHEMATIC
XQ/CP

RS-422 DUAL CHANNEL ONLY