

E X T E N D E D M E M O R Y C P U

ZA-3897
F/N: 217079
REV: NC



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COMMON ELECTRONIC W/TERM	1	SC-3105
REGISTER SELECTOR, C.S.	-	SC-3695 H/W

B. I/O CAGE (CONT.)

CAGE POSITION

DOCUMENT #

TERMINATOR	-	SC-2009
I/F CABLE	-	SC-3086

C. MEMORY CAGE

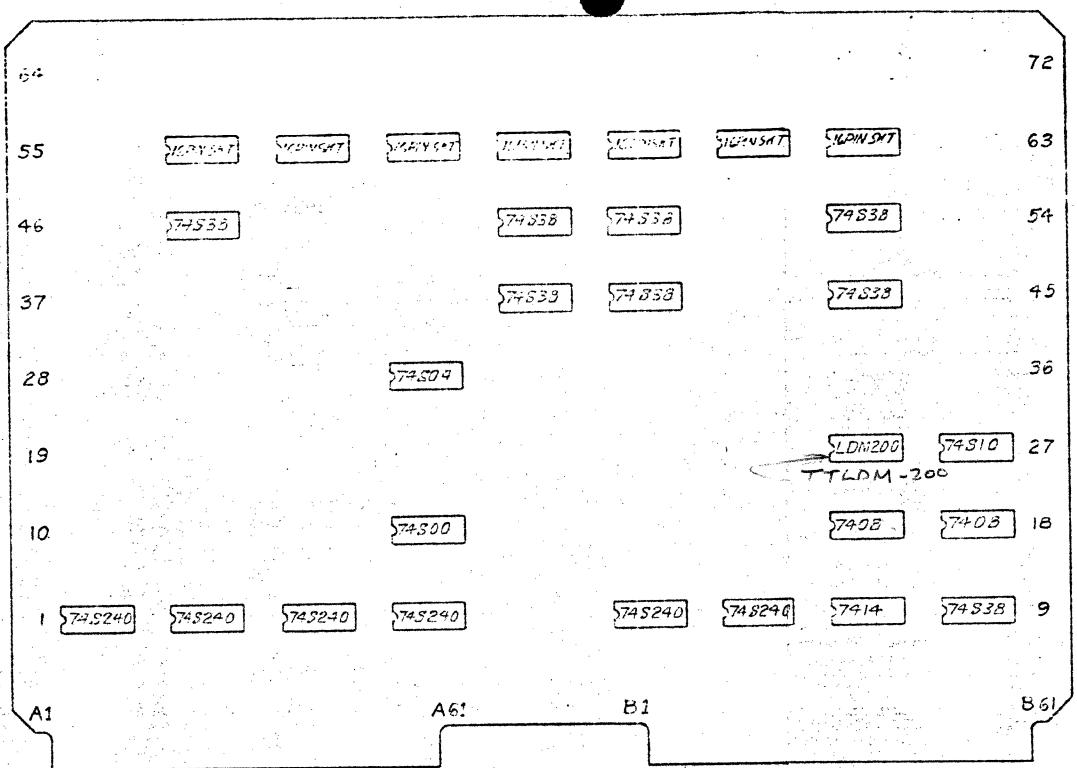
MEMORY, CABLE RECEIVER	1 (A/R)	SC-3870 H/W
MEMORY MODULE ADD DECODE	1 (A/R)	SC-3871 H/W
MEMORY, 64K	2-21 A/R	SC-3597
MEMORY, 64K	2-21 A/R	SC-3881

D. POWER DISTRIBUTION & WIRING

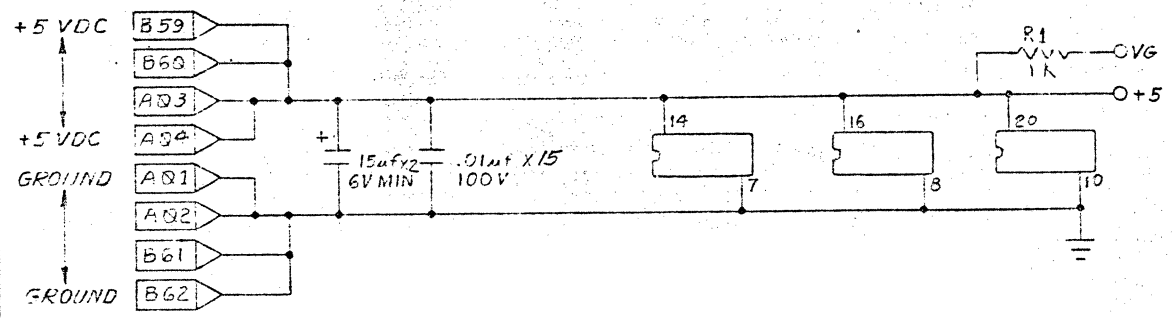
AC & DC INTERCON. TOP ASSY.	-	AD-3872 SHT. 8
AC DISTRIB. 1 PHASE	-	SC-3003
AC DISTRIB. 3 PHASE	-	SC-3003
DC PWR. CPU	-	(REF. 3872)
DC PWR. I/O	-	(REF. 3872)
DC PWR. MEMORY	-	(REF. 3872)
DC PWR. 1442 (OPTIONAL)	-	SC-2277
+3V REGULATOR	-	SA-3070
+6V SUPPLY (COMMERCIAL)	-	SA-3295
+6V SUPPLY (COMMERCIAL)	-	SA-3071 SUB
-3V SUPPLY (COMMERCIAL)	-	SA-3298
-3V SUPPLY (COMMERCIAL)	-	SC-1432 SUB
+5V SUPPLY (COMMERCIAL)	-	SA-2340
+12V SUPPLY (COMMERCIAL)	-	SA-2235
+12V SUPPLY (COMMERCIAL)	-	SA-1826



D. <u>POWER DISTRIBUTION & WIRING CONT.</u>	<u>CAGE POSITION</u>	<u>DOCUMENT #</u>
+15V SUPPLY (COMMERCIAL)	-	SA-2163
-12VDC SPS 120-12	-	
+5VDC SPS 120-5.	-	
E. <u>FRONT PANEL</u>		
FRONT PANEL ASSY.	-	SC-2111
SIGNAL LIST I/O MOTHER BOARD	-	SX-2192

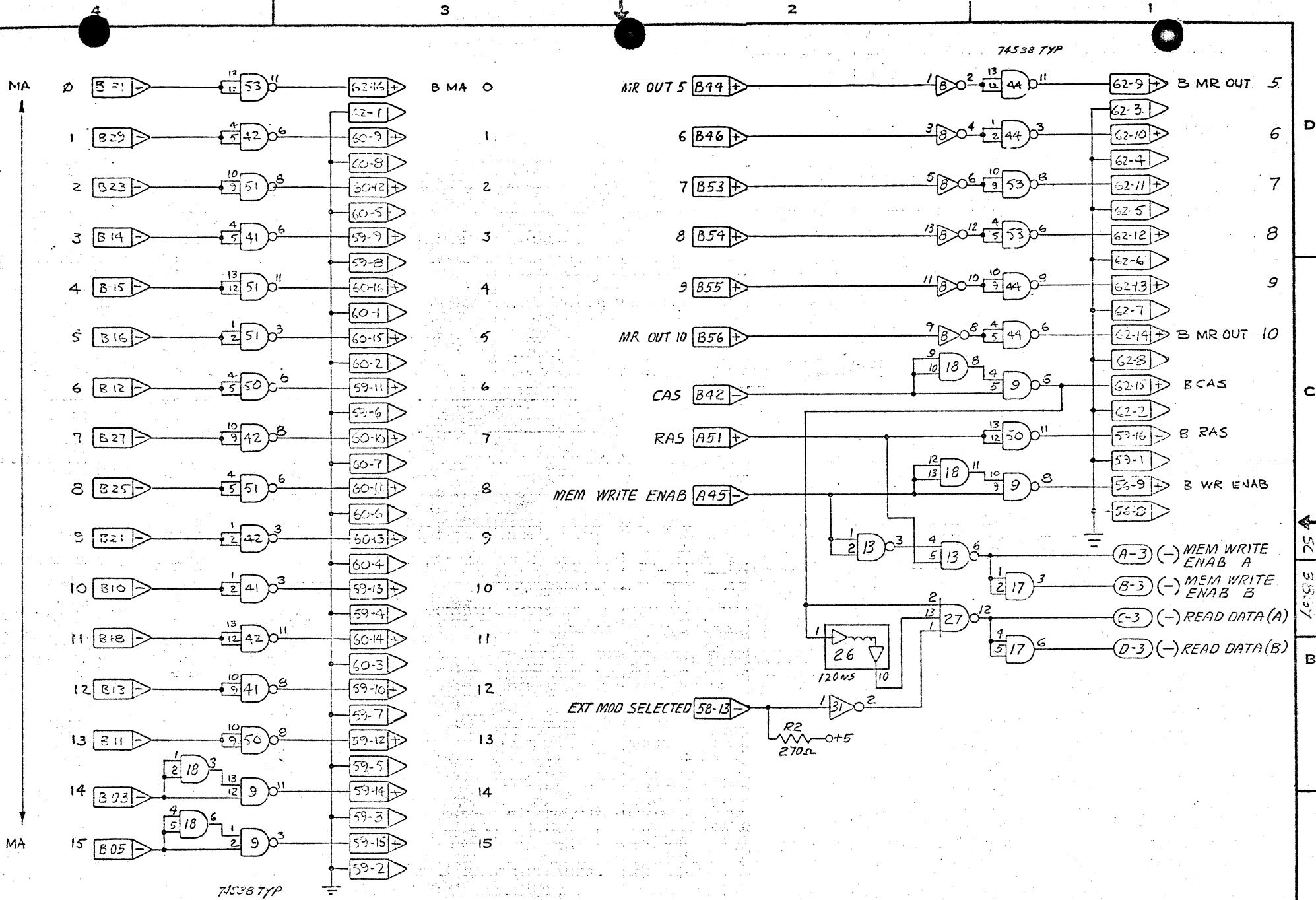


REV	DESCRIPTION	EFFECT



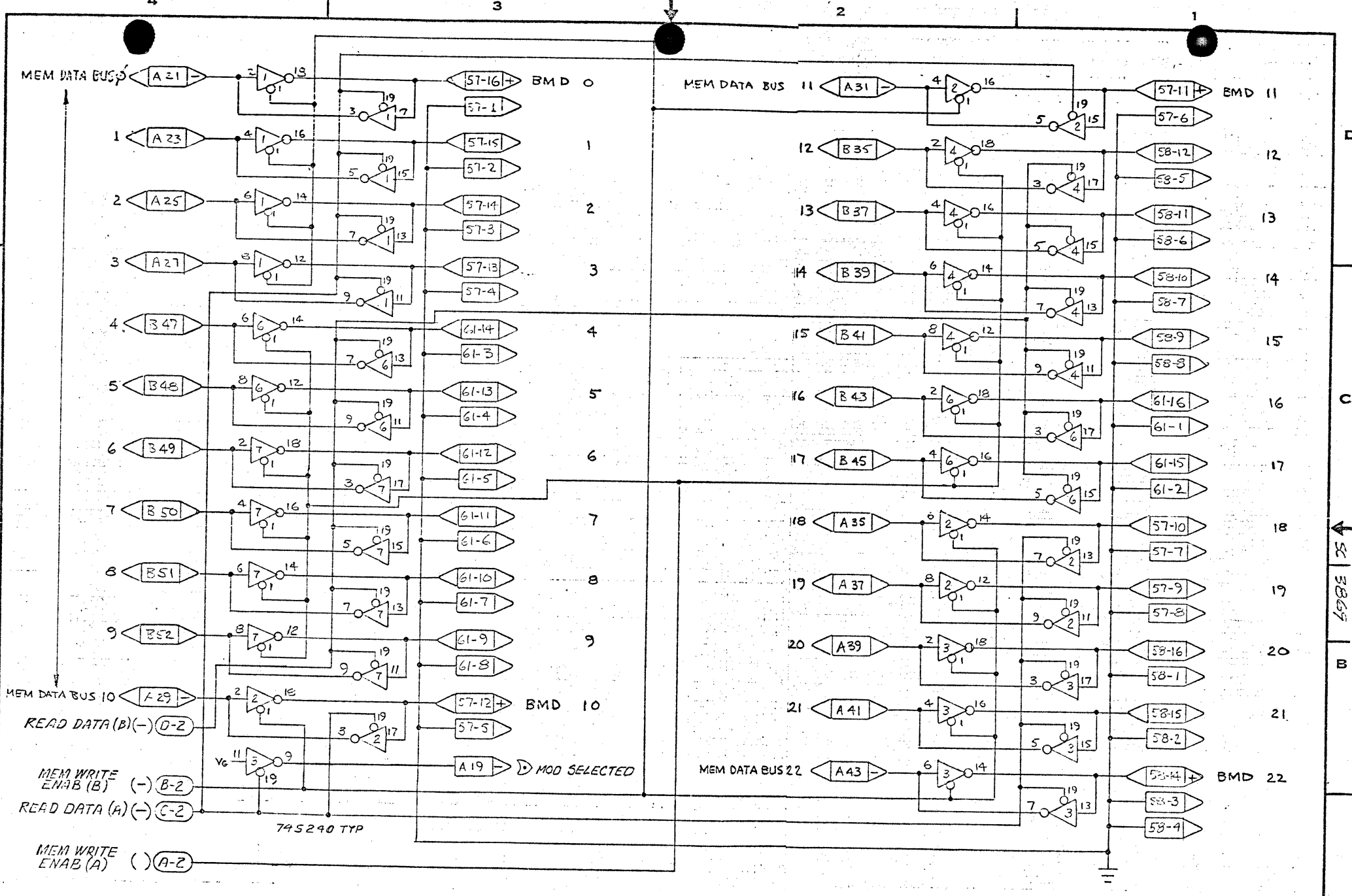
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LAST USED IN: CODE D		REF DES: R2	FILE NUMBER: -1' 217090		
CIT		DRAWING TITLE: MEMORY CABLE DRIVER - EXT. MEMP 4/77			
DRAWN: [Signature]				CHECKED: [Signature]	DATE: 1.5.77
SC		3869		A	

SC 3869



MEM CABLE DRIVER

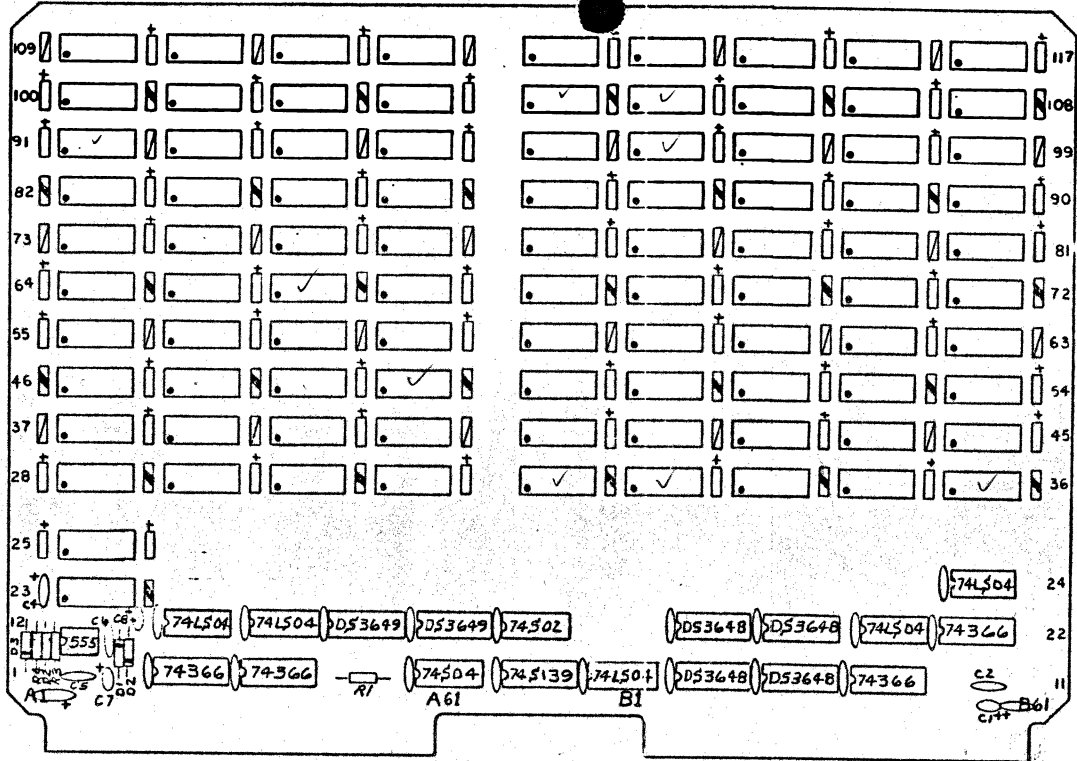
X COMPUTER HARDWARE INC			
TYPE SIZE	DWG NO	REV	LET
SC	3869		A
SHEET		2	OF 5



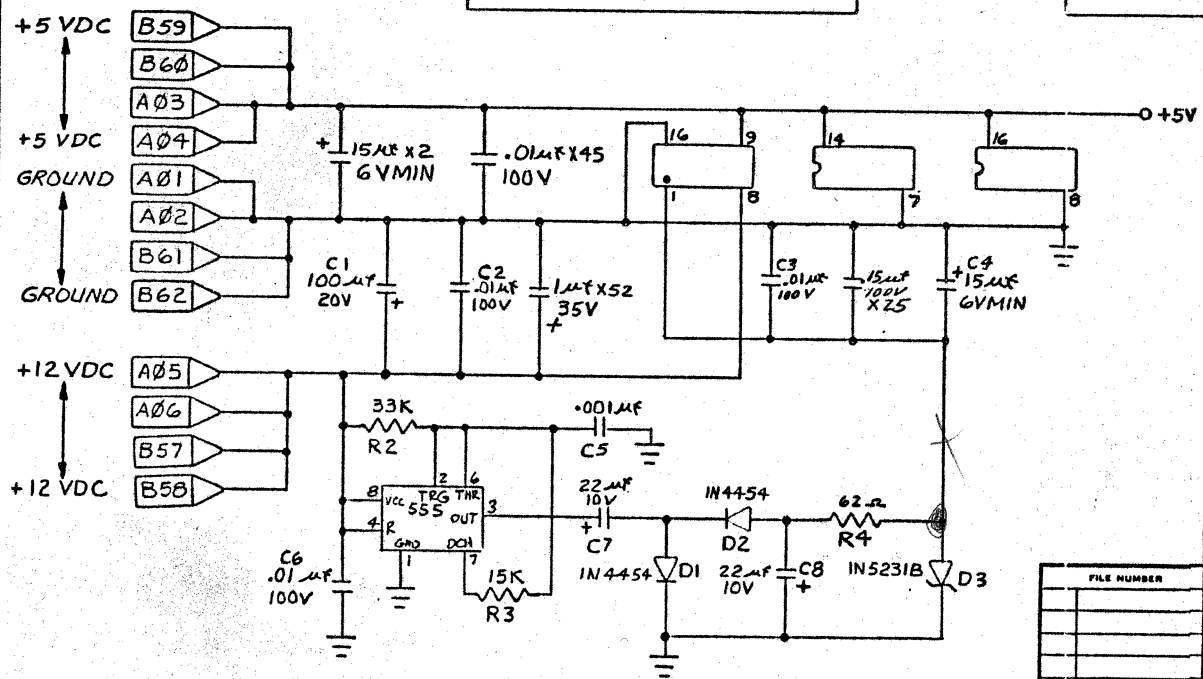
MEM CABLE DRIVER

X COMPUTER HARDWARE INC			
TYPE SIZE	DWG NO	REV	LET
SC	3869		A
SHEET 3 OF 5			

REV LTR	DESCRIPTION	EFFECT

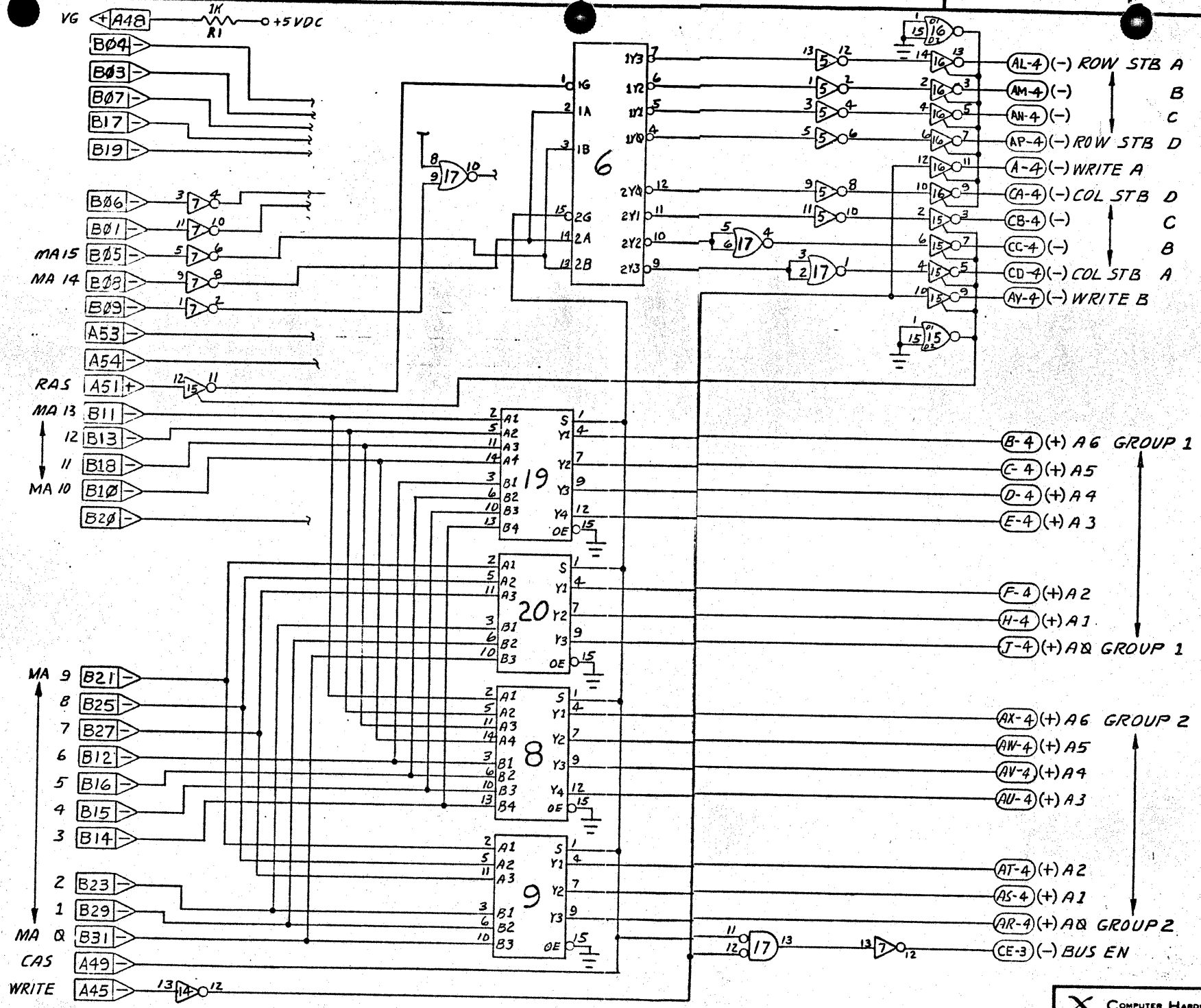


- .01μF X 47 (+5) VCC BYPASS
- ▤ .15μF X 25 (-5) VBB BYPASS
- 1μF X 52 (+12) VDD BYPASS



FILE NUMBER	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR DISCLOSURE TO OTHERS, IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DIMENSION TOLERANCES: ANGULAR DIMENSION ± 1/2° DECIMAL 2 PLACE ± .020 DECIMAL 3 PLACE ± .010	TITLE MEMORY, DYNAMIC SEMI-CONDUCTOR 65IC
			X COMPUTER HARDWARE INC.
			DRAWN SANDERS CHECKED
			DESIGN ELR TYPE-SIZE REV NO 3597 REV LET-NO.
			SCALE SHEET 1 OF 7 NC

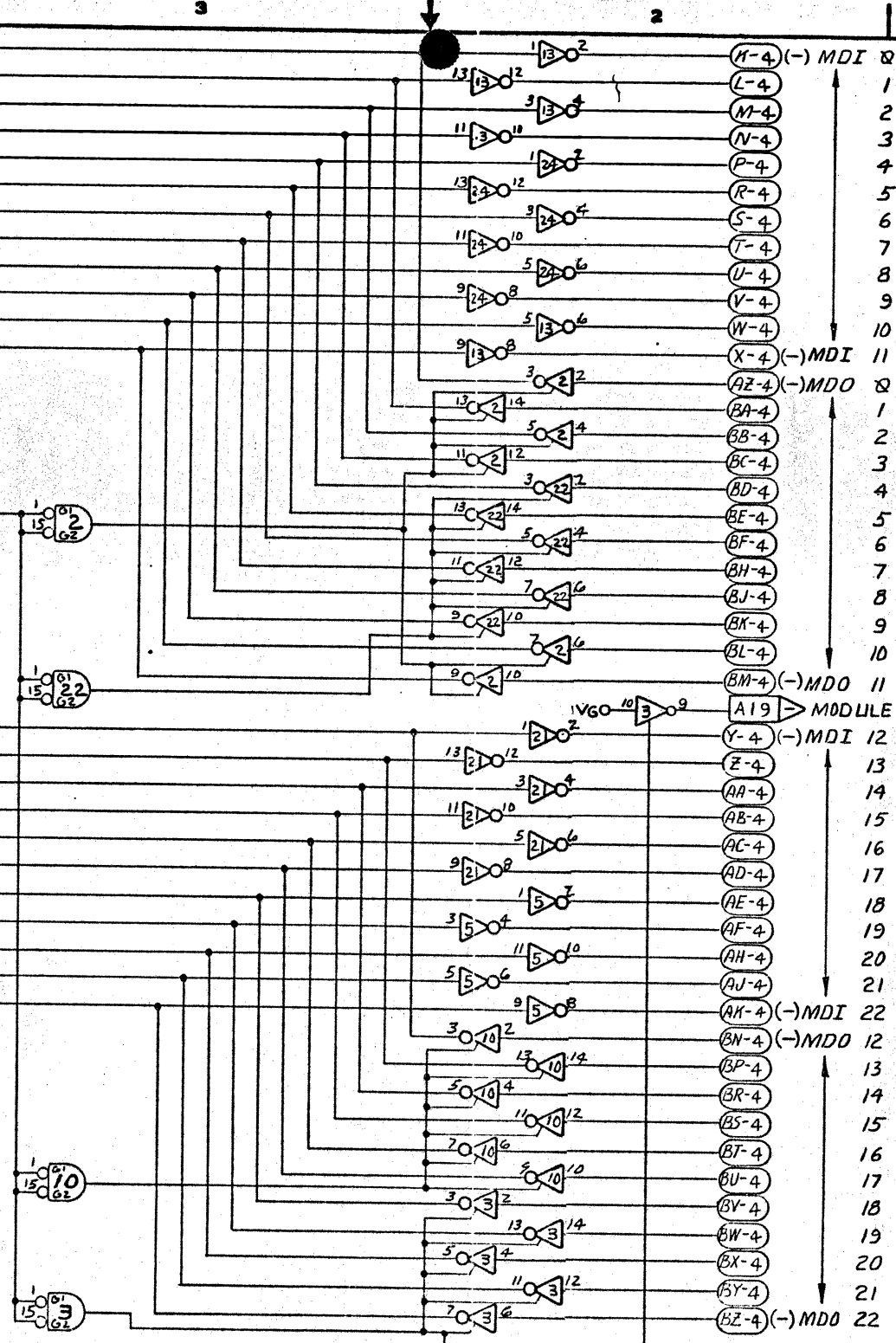
15C 3597



DATA BUS 8
 1 +A21
 2 +A23
 3 +A25
 4 +A27
 5 +B47
 6 +B49
 7 +B50
 8 +B51
 9 +B52
 10 +A29
 DATA BUS 11
 +A31

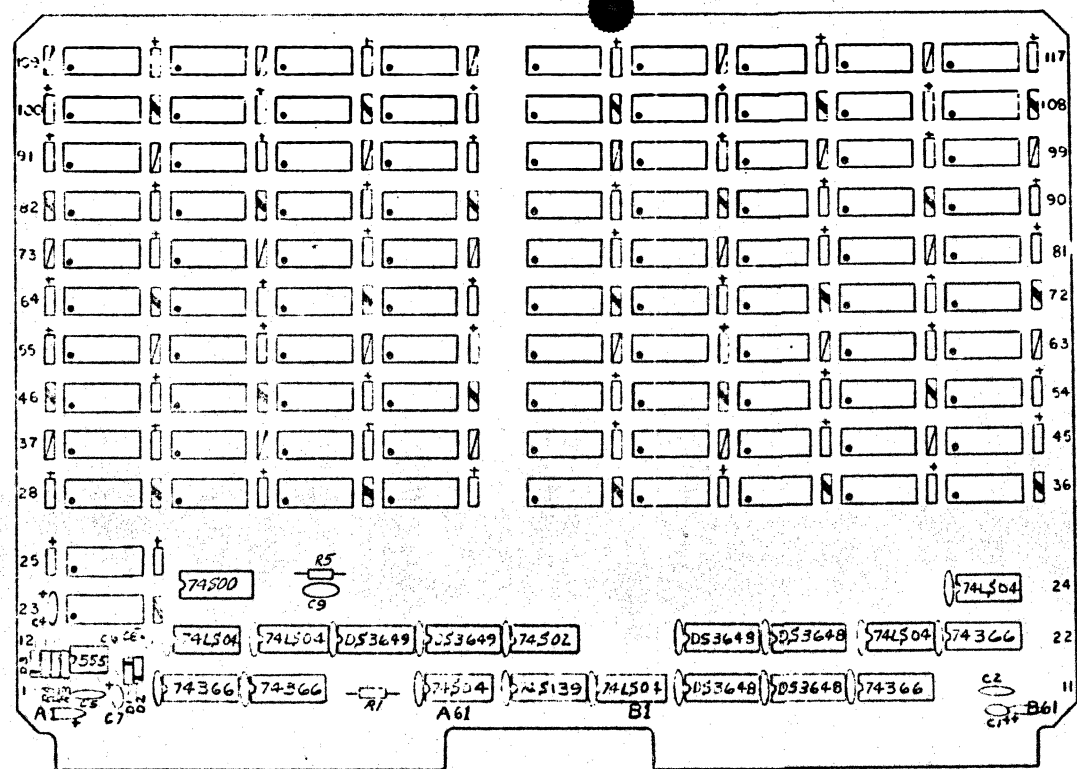
BUSEN (-) (E-2)

DATA BUS 12
 13 +B35
 14 +B37
 15 +B39
 16 +B43
 17 +B45
 18 +A35
 19 +A37
 20 +A39
 21 +A41
 DATA BUS 22
 +A43

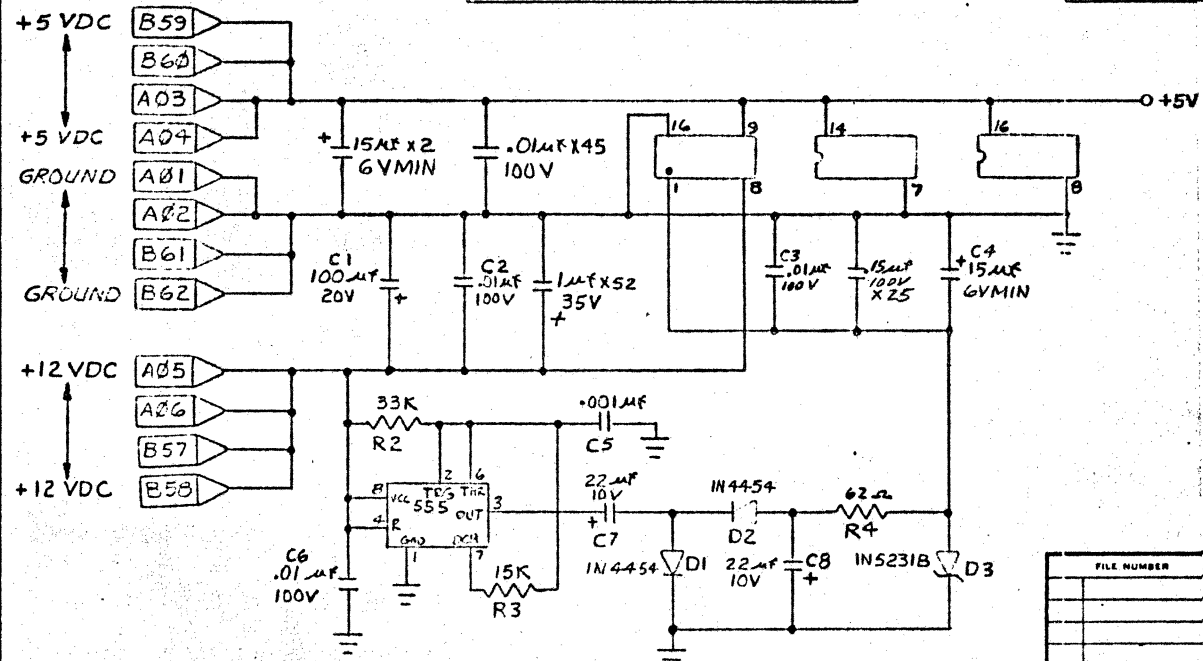


M-4 (-)MDI 0
 L-4 1
 M-4 2
 N-4 3
 P-4 4
 R-4 5
 S-4 6
 T-4 7
 U-4 8
 V-4 9
 W-4 10
 X-4 (-)MDI 11
 AZ-4 (-)MDO 0
 BA-4 1
 BB-4 2
 BC-4 3
 BD-4 4
 BE-4 5
 BF-4 6
 BH-4 7
 BJ-4 8
 BK-4 9
 BL-4 10
 BM-4 (-)MDO 11
 A19 MODULE SELECTED 12
 Y-4 (-)MDI 12
 Z-4 13
 AA-4 14
 AB-4 15
 AC-4 16
 AD-4 17
 AE-4 18
 AF-4 19
 AH-4 20
 AJ-4 21
 AK-4 (-)MDI 22
 AN-4 (-)MDO 12
 AP-4 13
 AR-4 14
 AS-4 15
 AT-4 16
 AU-4 17
 BV-4 18
 BW-4 19
 BX-4 20
 BY-4 21
 BZ-4 (-)MDO 22

ASSEMBLY REVISION DATA (REF)		
REV LTR	DESCRIPTION	EFFECT



- \cap $.01\mu\text{F} \times 47 (+5) \text{VCC BYPASS}$
- \cap $.15\mu\text{F} \times 25 (-5) \text{VBB BYPASS}$
- \cap $1\mu\text{F} \times 52 (+12) \text{VDD BYPASS}$



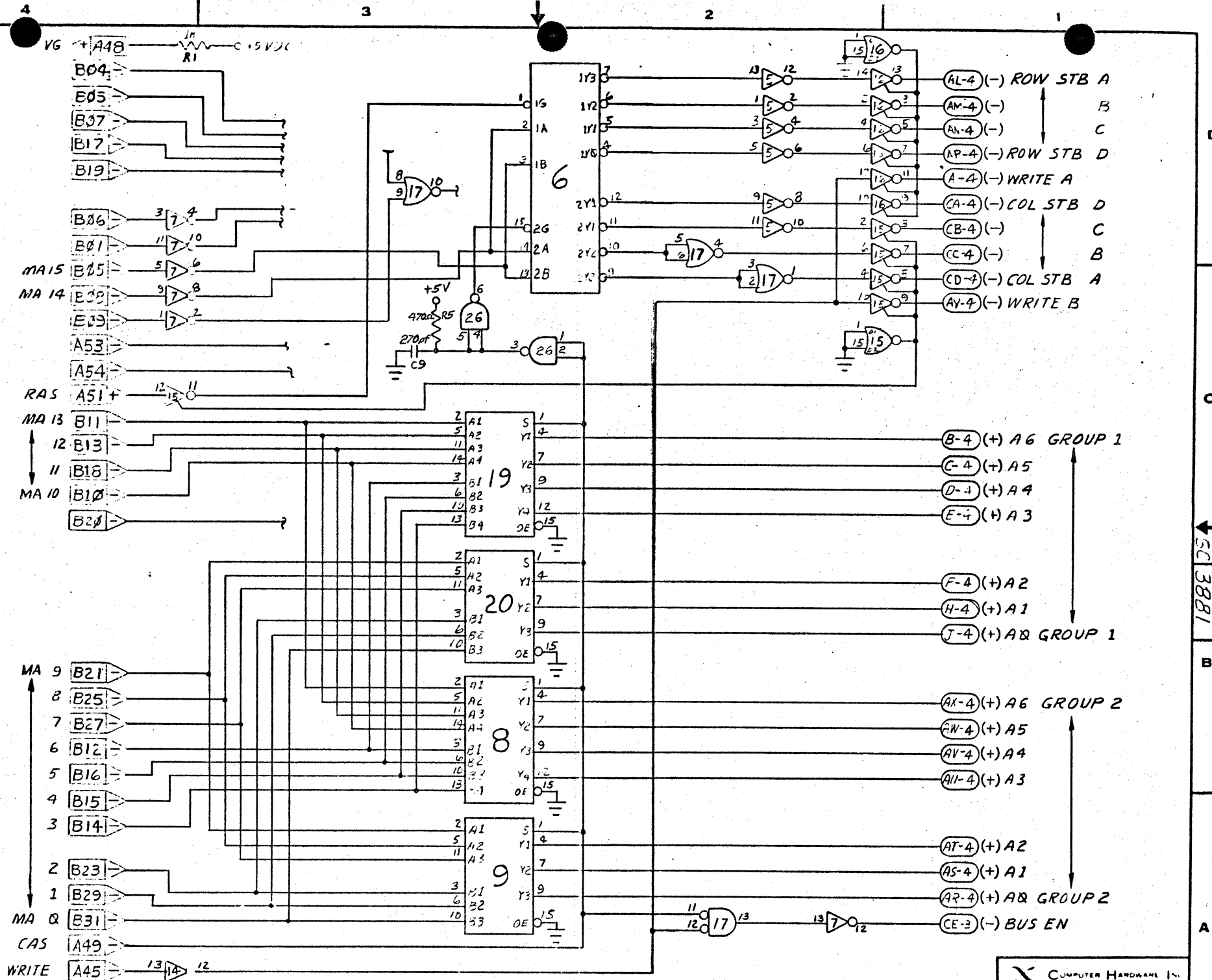
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FILE NUMBER	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN. EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DIMENSION TOLERANCES ANGULAR DIMENSION: ALL ° DECIMAL 2 PLACE DECIMAL 3 PLACE	TITLE MEMORY, DYNAMIC SEMI-CONDUCTOR GSK (NECZA)

DRWNS	DATE	CHKD	DATE

DRWNS	DATE	CHKD	DATE

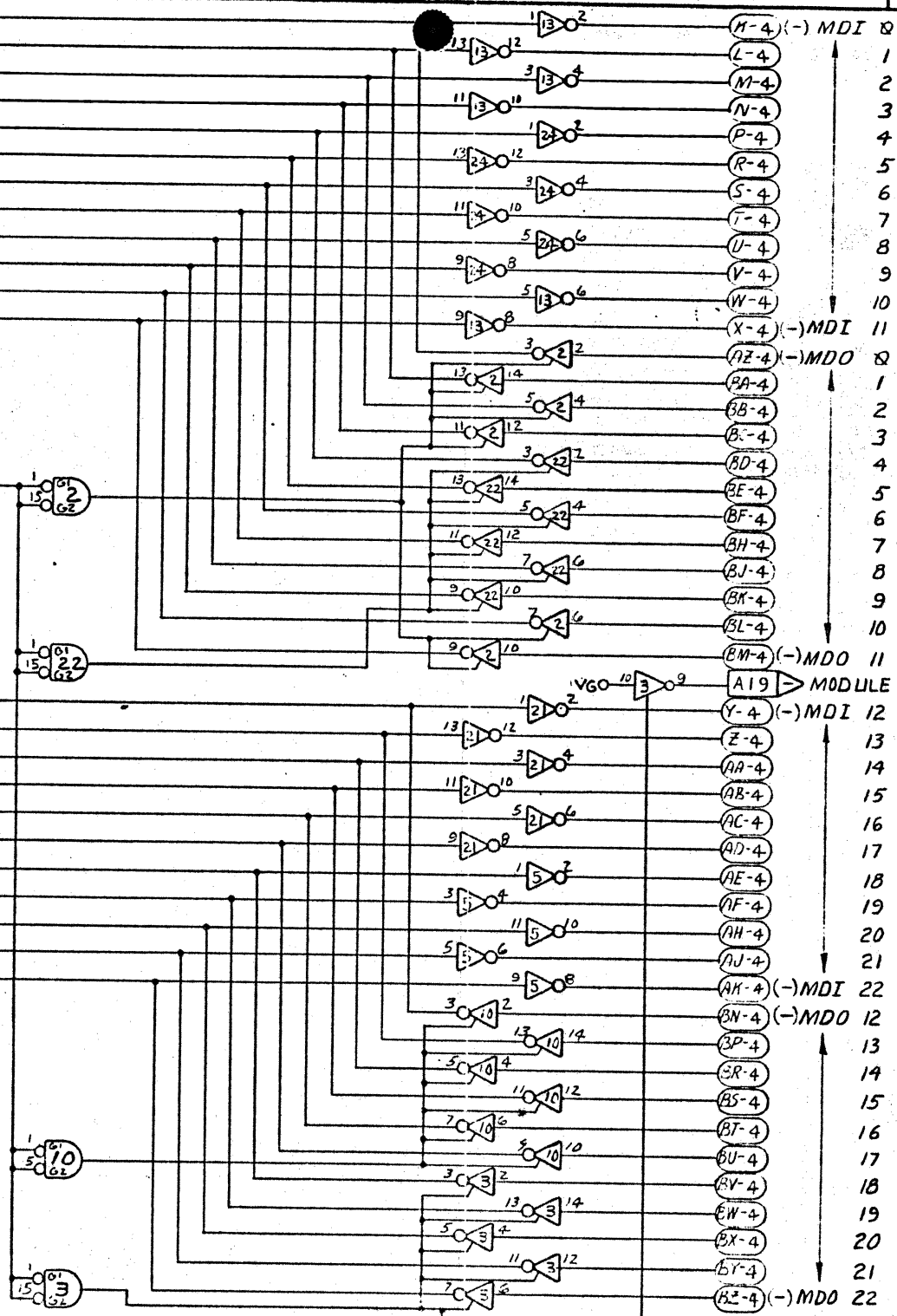
SC 3881



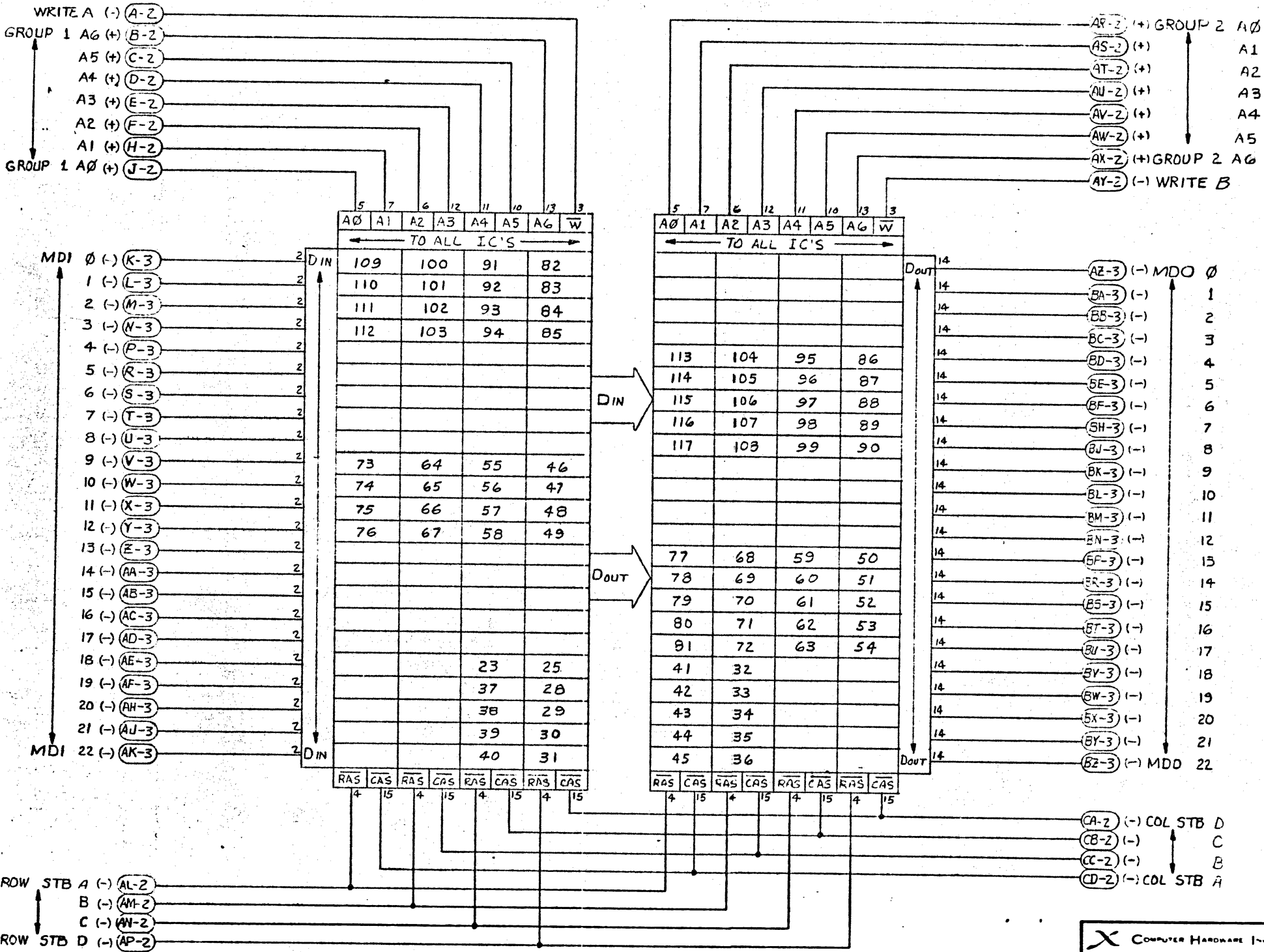
DATA BUS 0 + A21
 1 + A25
 2 + A25
 3 + A27
 4 + B47
 5 + B48
 6 + B49
 7 + B50
 8 + B51
 9 + B52
 10 + A29
 DATA BUS 11 + A31

BUSEN (-) CE-2

DATA BUS 12 + B35
 13 + B37
 14 + B39
 15 + B41
 16 + B43
 17 + B45
 18 + A35
 19 + A37
 20 + A39
 21 + A41
 DATA BUS 22 + A43



M-4 (-) MDI 0
 L-4 1
 M-4 2
 N-4 3
 P-4 4
 R-4 5
 S-4 6
 T-4 7
 U-4 8
 V-4 9
 W-4 10
 X-4 (-) MDI 11
 YZ-4 (-) MDO 0
 PA-4 1
 PB-4 2
 PC-4 3
 PD-4 4
 PE-4 5
 PF-4 6
 PG-4 7
 PH-4 8
 PJ-4 9
 PK-4 10
 PL-4 11
 PM-4 (-) MDO 11
 A19 MODULE SELECTED 12
 Y-4 (-) MDI 12
 Z-4 13
 AA-4 14
 AB-4 15
 AC-4 16
 AD-4 17
 AE-4 18
 AF-4 19
 AH-4 20
 AU-4 21
 AM-4 (-) MDI 22
 AN-4 (-) MDO 12
 AP-4 13
 AR-4 14
 AS-4 15
 AT-4 16
 BU-4 17
 BV-4 18
 BW-4 19
 BX-4 20
 BY-4 21
 BZ-4 (-) MDO 22



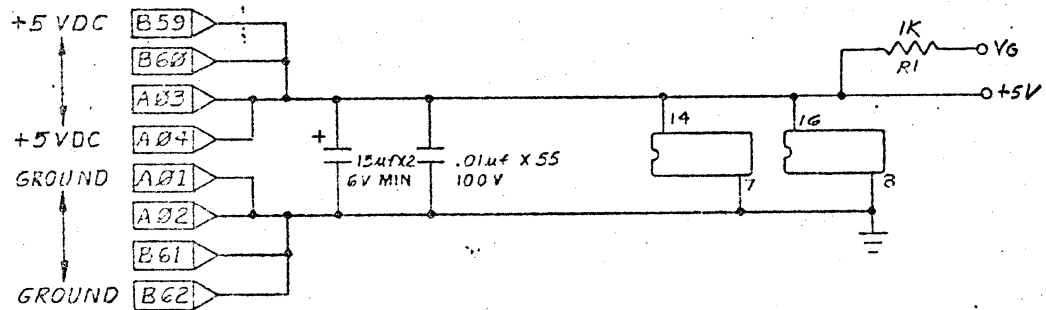
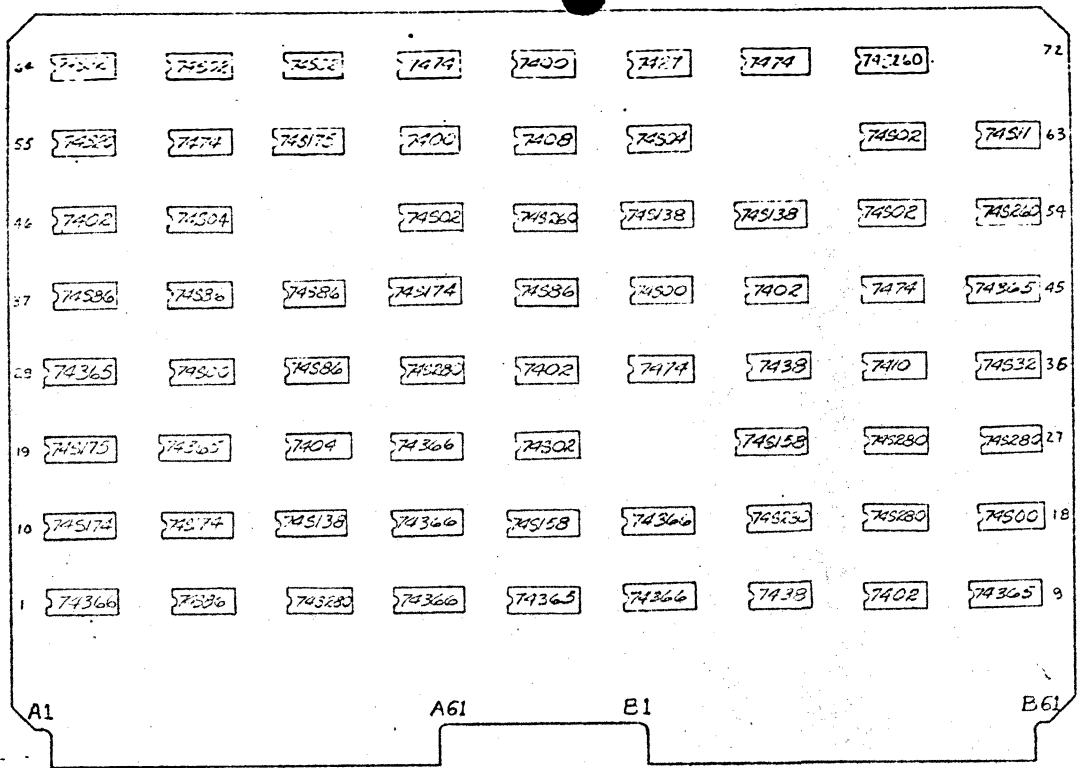
67 67 67 67 67 67 67 67

X COMPUTER HARDWARE INC.

MINI 3881 NC

SC 4-7

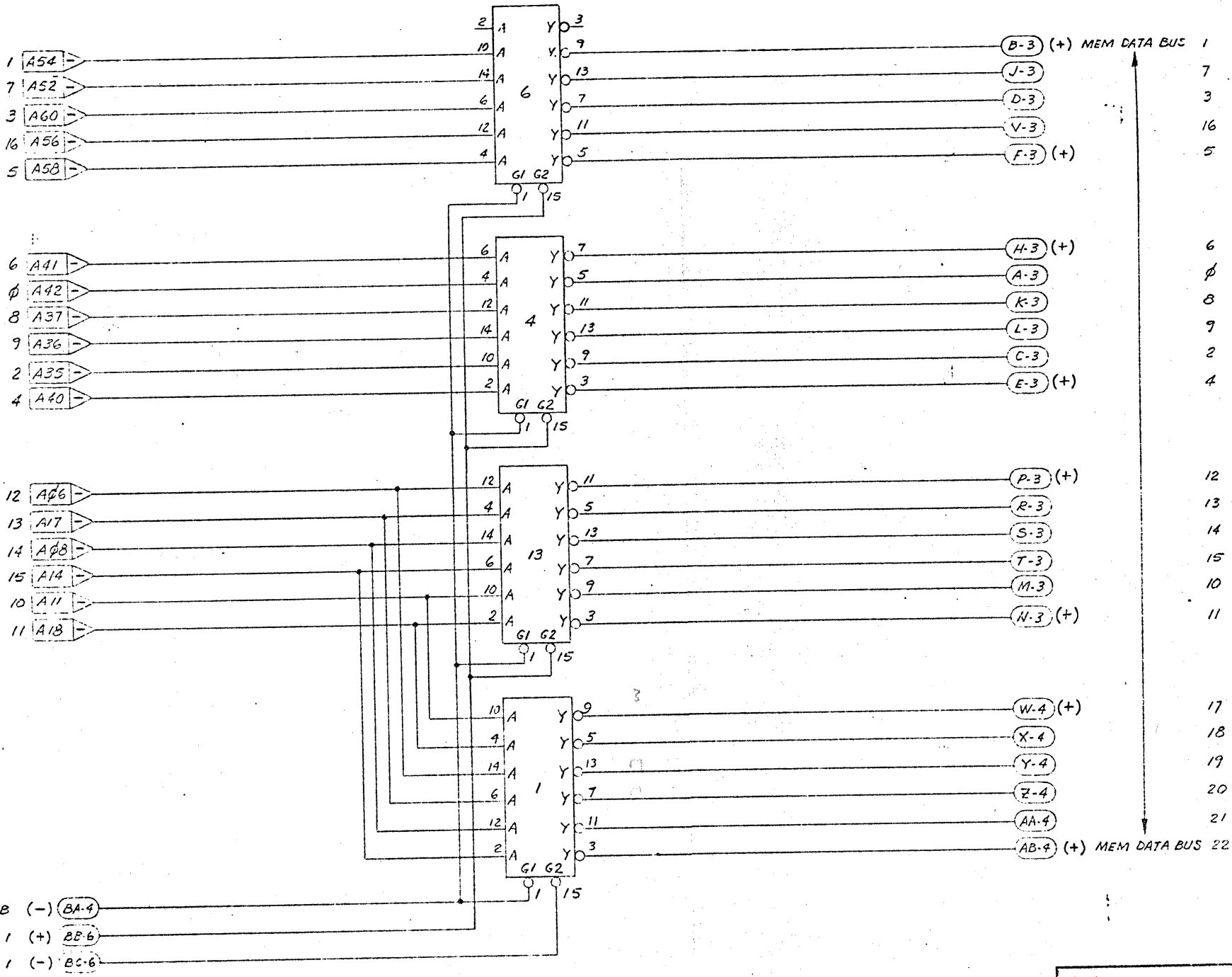
3881



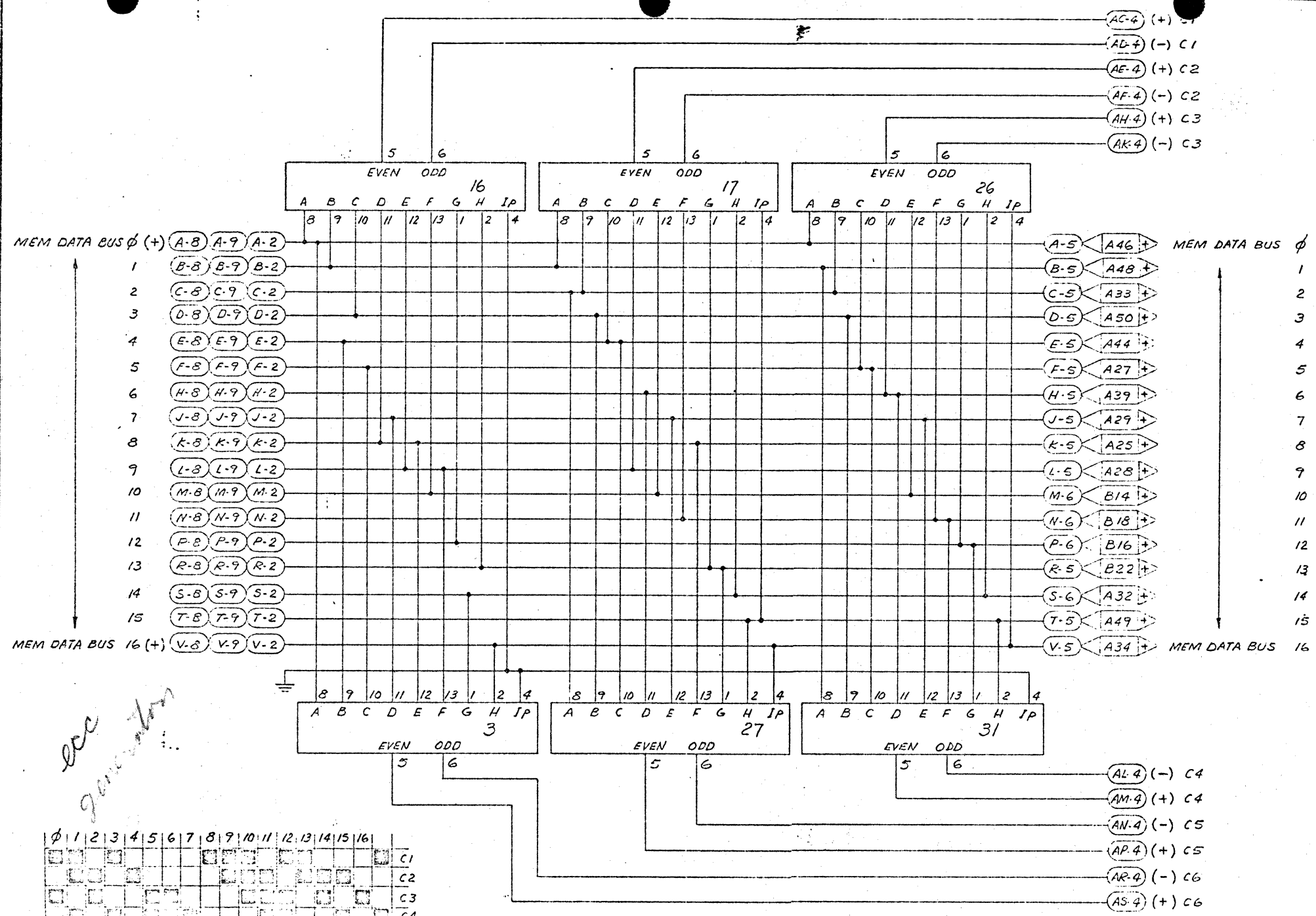
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CODE	REF DES		TITLE		
PA	RL		DRIVER, 23 BIT MEMORY HW		
			X COMPUTER HARDWARE INC		
A 157 11/12/77			REVISED	DATE	
CHANGE RECORD NO 3684			SC	12	A

CD BIT

CD BIT

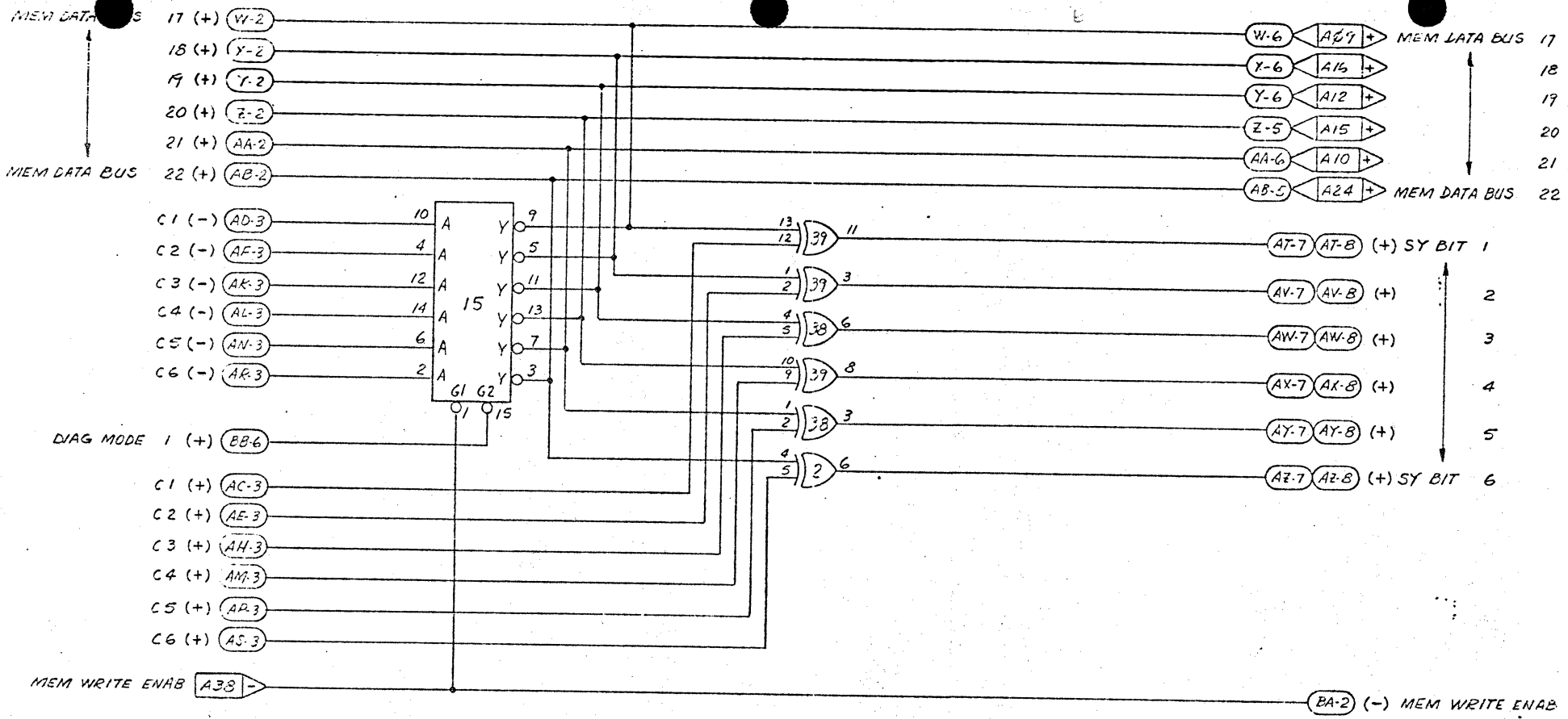


MEM WRITE ENAB (-) BA-4
 DIAG MOD 1 (+) BB-6
 DIAG MOD 1 (-) BC-6



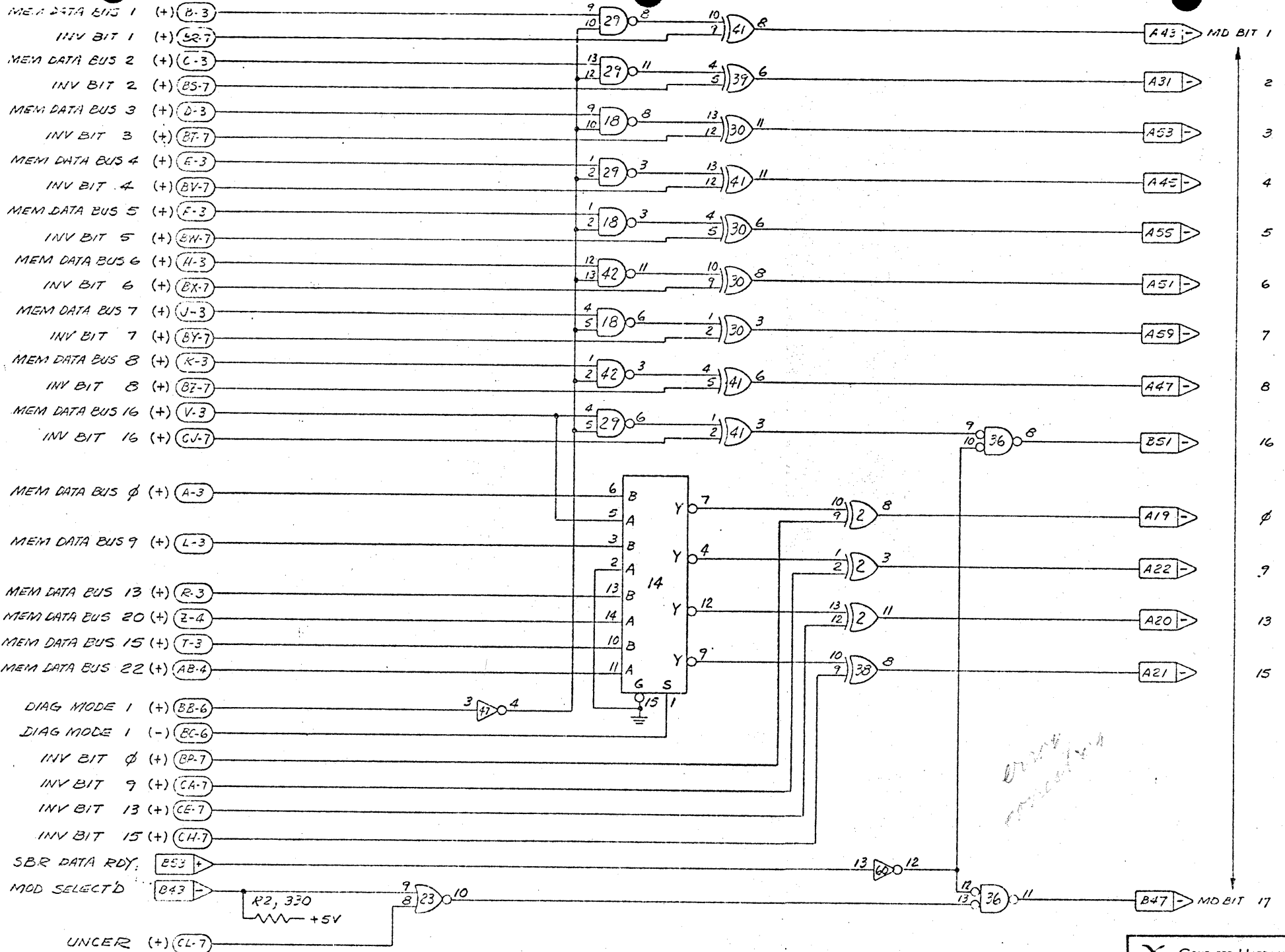
loc generation

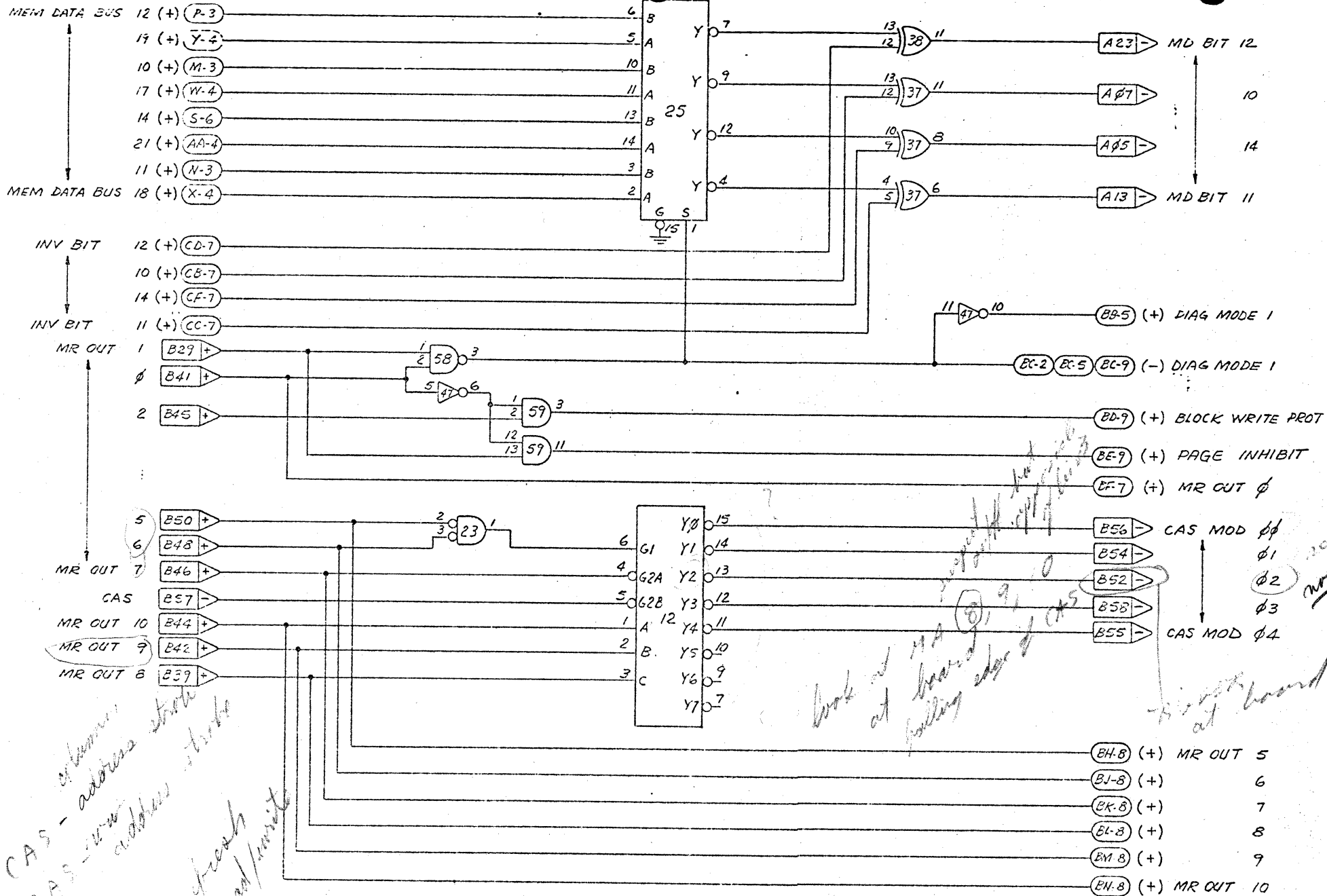
φ	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
																	C1
																	C2
																	C3
																	C4
																	C5
																	C6



17-22 ECC

8-13





INHIBIT ERROR CORRECT (+) (DB-9)

(DIAG MODE) MR OUT φ (+) (BF-6)

SY BIT 1 (+) (AT-4)

2 (AV-4)

3 (AW-4)

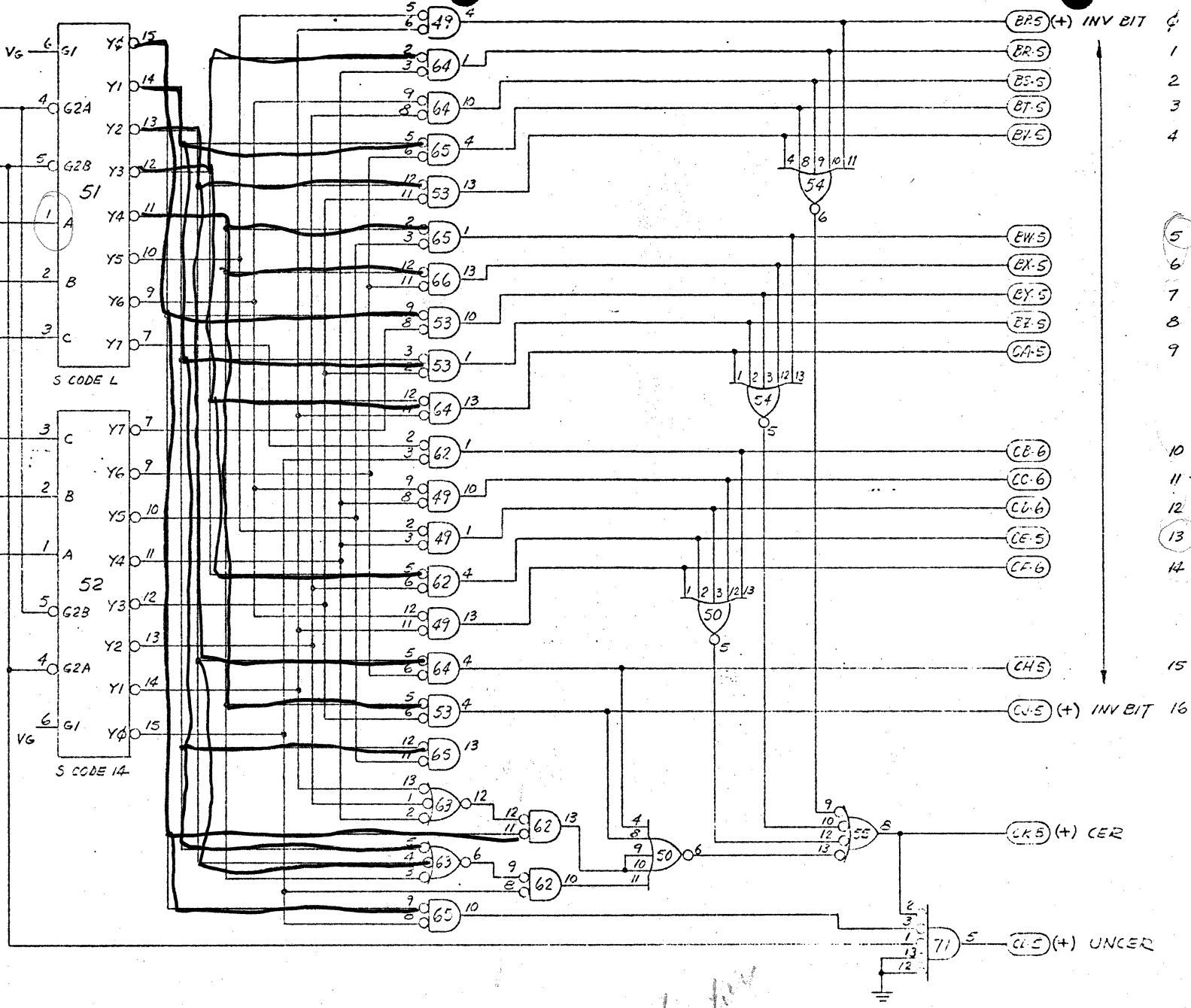
4 (AX-4)

5 (AY-4)

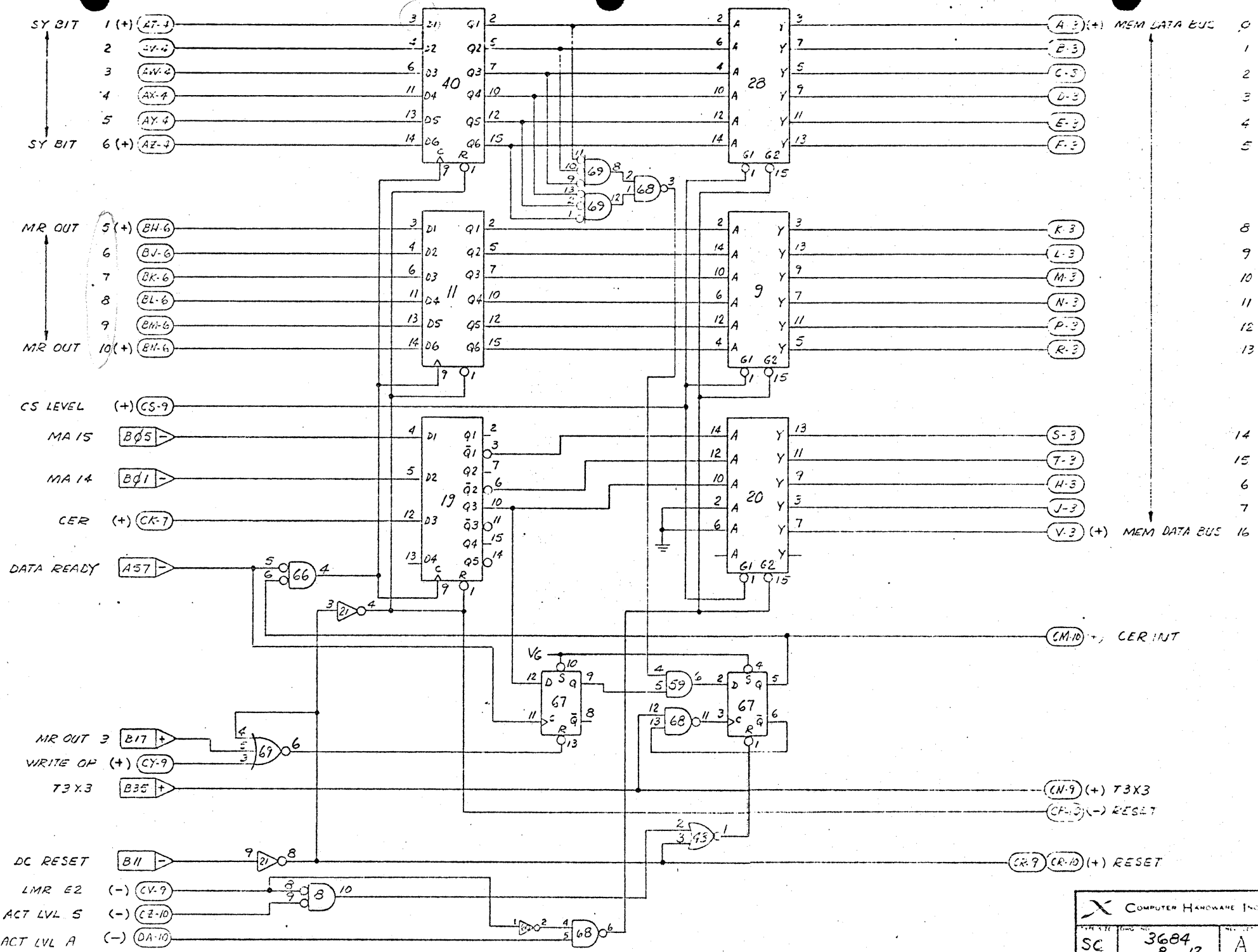
SY BIT 6 (+) (AZ-4)

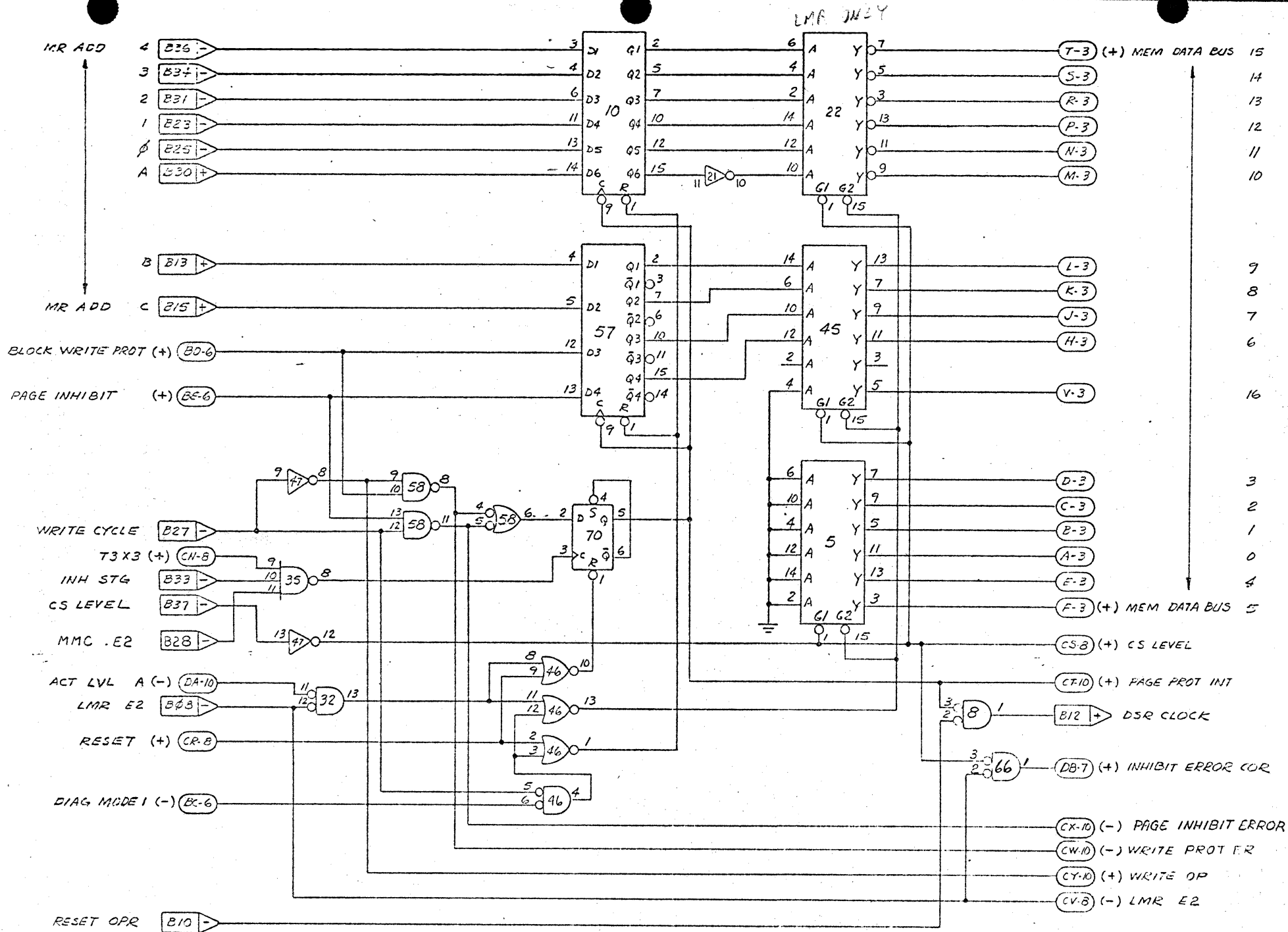
BIT	S CODE	S CODE
	H	L
0	1	5
1	4	3
2	2	6
3	6	1
4	3	2
5	5	4
6	6	4
7	7	0
8	3	1
9	1	3
10	0	7
11	4	6
12	4	5
13	2	3
14	1	6
15	6	2
17	3	4

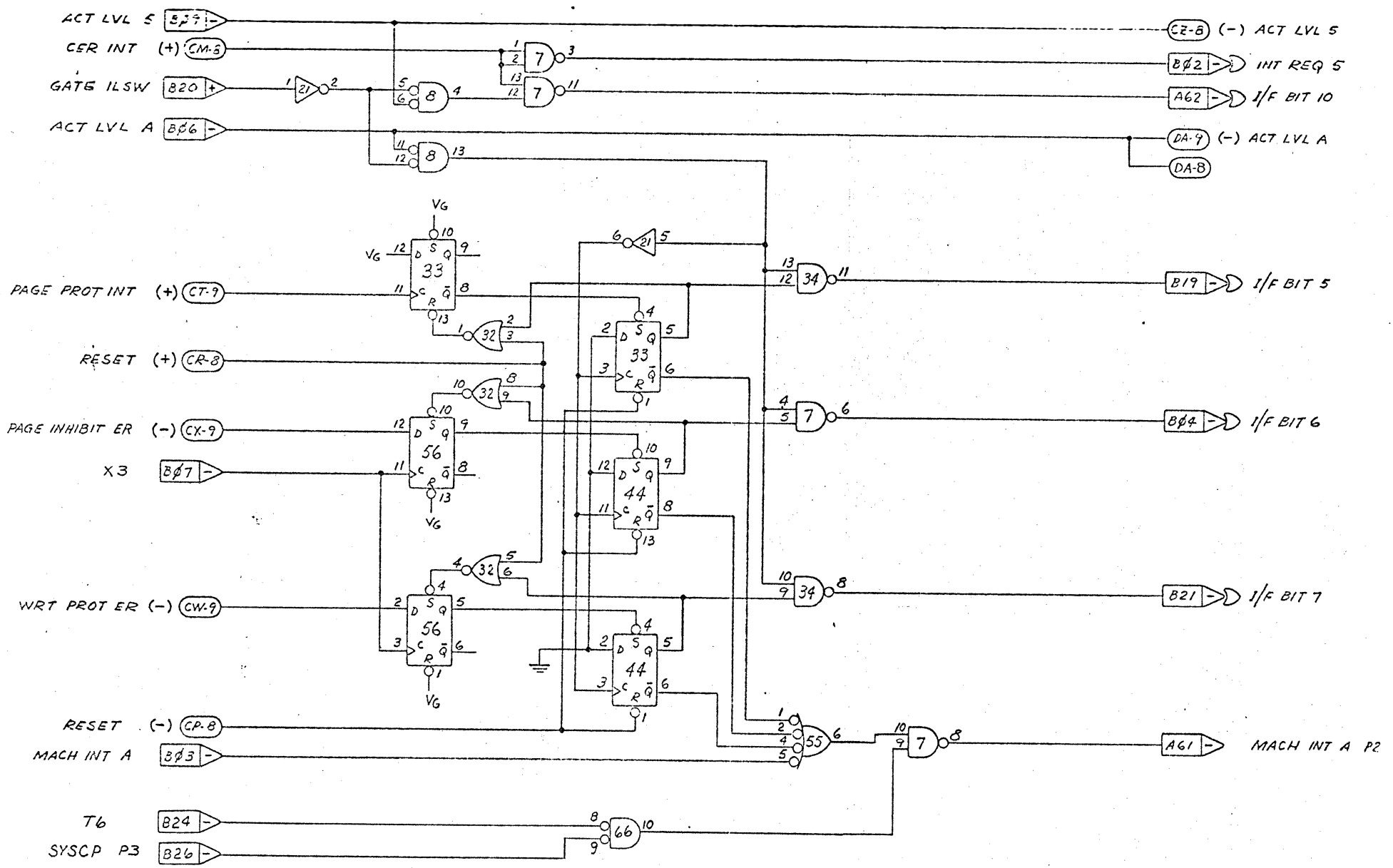
ECB		
1	0	1
2	0	2
3	0	4
4	4	0
5	2	0
6	1	0
SPARE	5	1
NO ERROR	0	0

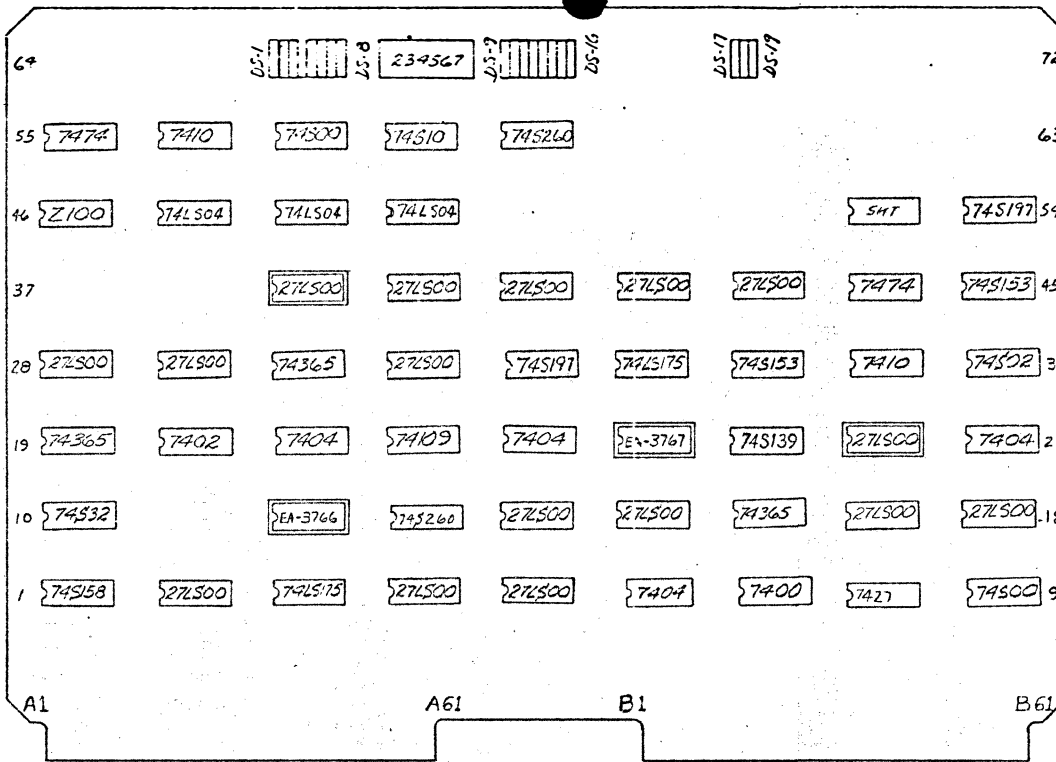


Handwritten note: 2nd correction

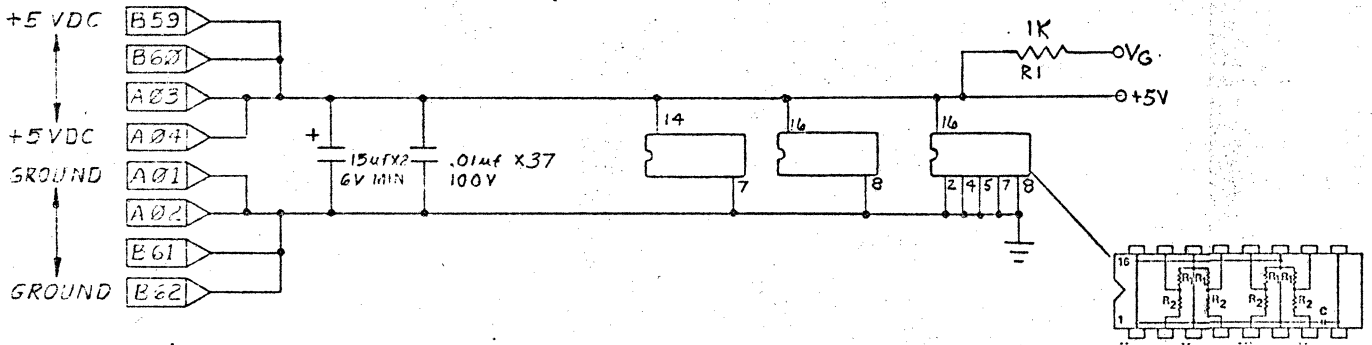






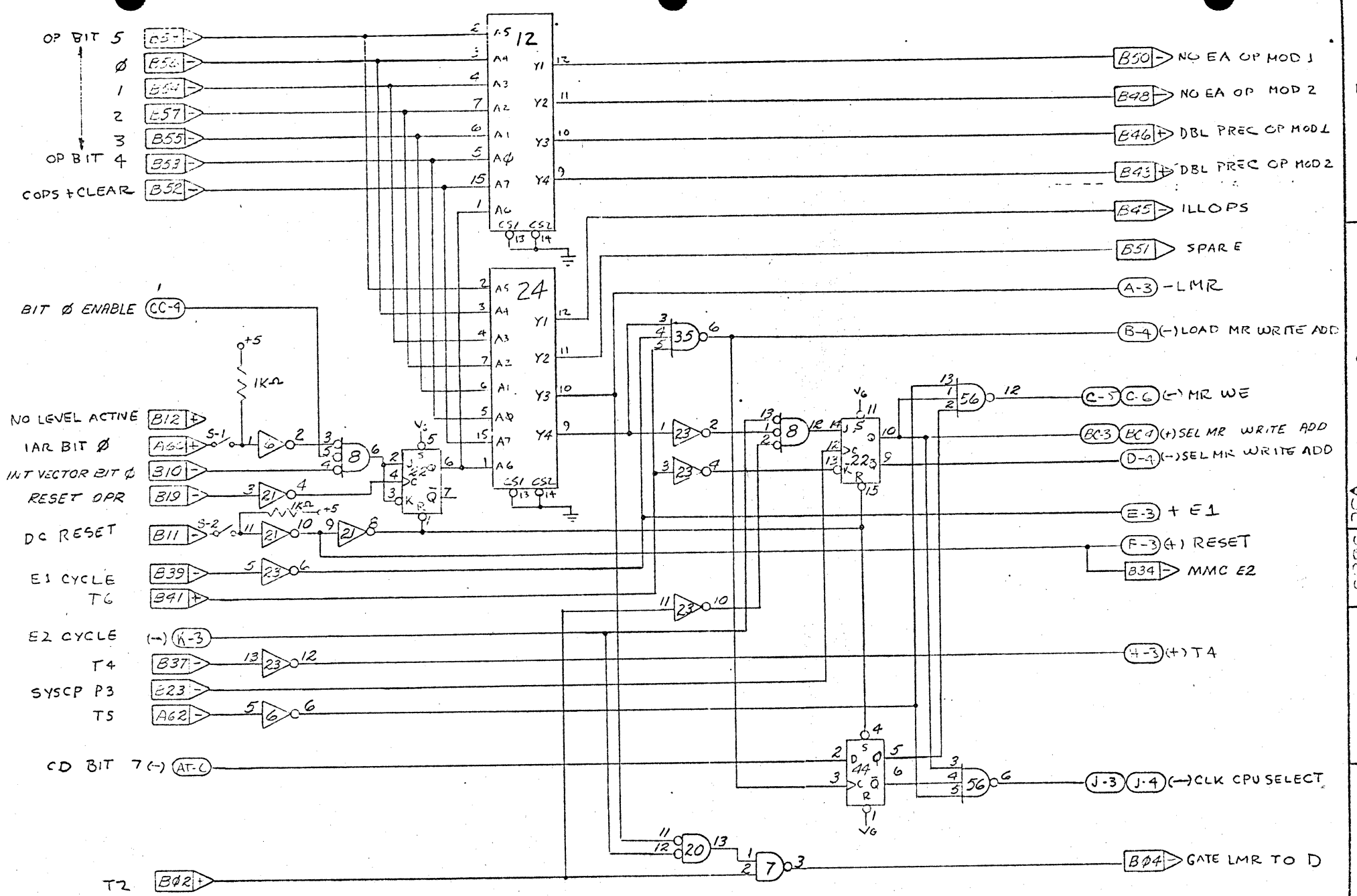


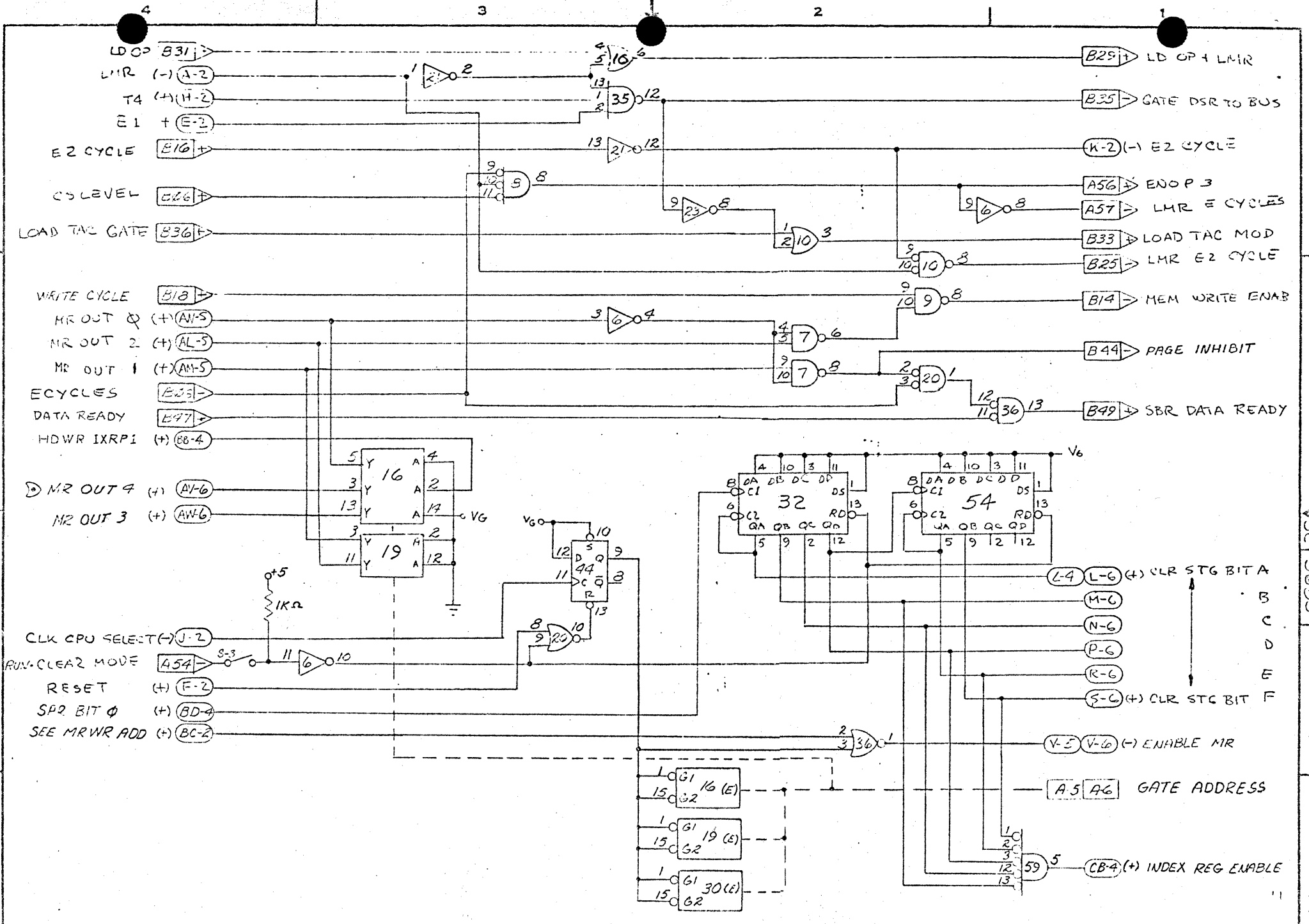
NOTE:
 1) REMOVE IC 27LS00 FROM POSITIONS 26 & 39 IF 8K INCREMENTS.
 2) REMOVE IC 27LS00 FROM POSITION 26 IF 4K INCREMENTS
 3) IC 25 AND ASSOCIATED CIRCUITRY NOT REQUIRED FOR 65 K EXT. MEMORY CPU.

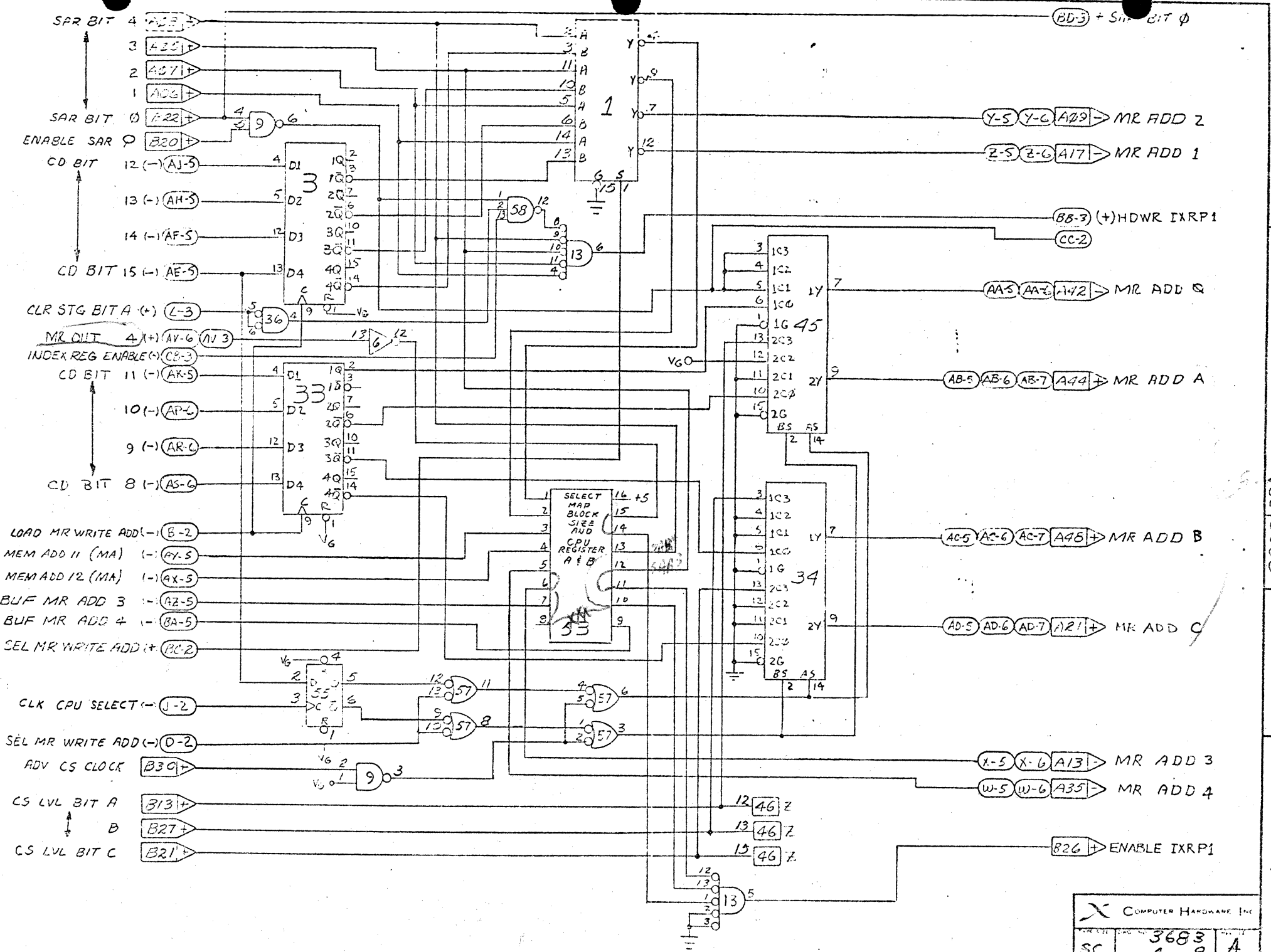


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CODE	REF. DLS								

TITLE		DATE	
REGISTER, MEMORY MAP	H/W		
X COMPUTER HARDWARE INC.			
DESIGNER	T.W.	CHECKED	T.W.
DRAWN	T.W.	DATE	7/2/77
SCALE	SC	REV.	3683
			9
			A







(BD-3) + S... BIT φ

Y-5 Y-6 A17 → MR ADD 2

Z-5 Z-6 A17 → MR ADD 1

(BB-3) (+)HDWR IXRP1
CC-2

AA-5 AA-6 A42 → MR ADD 2

AB-5 AB-6 AB-7 A44 → MR ADD A

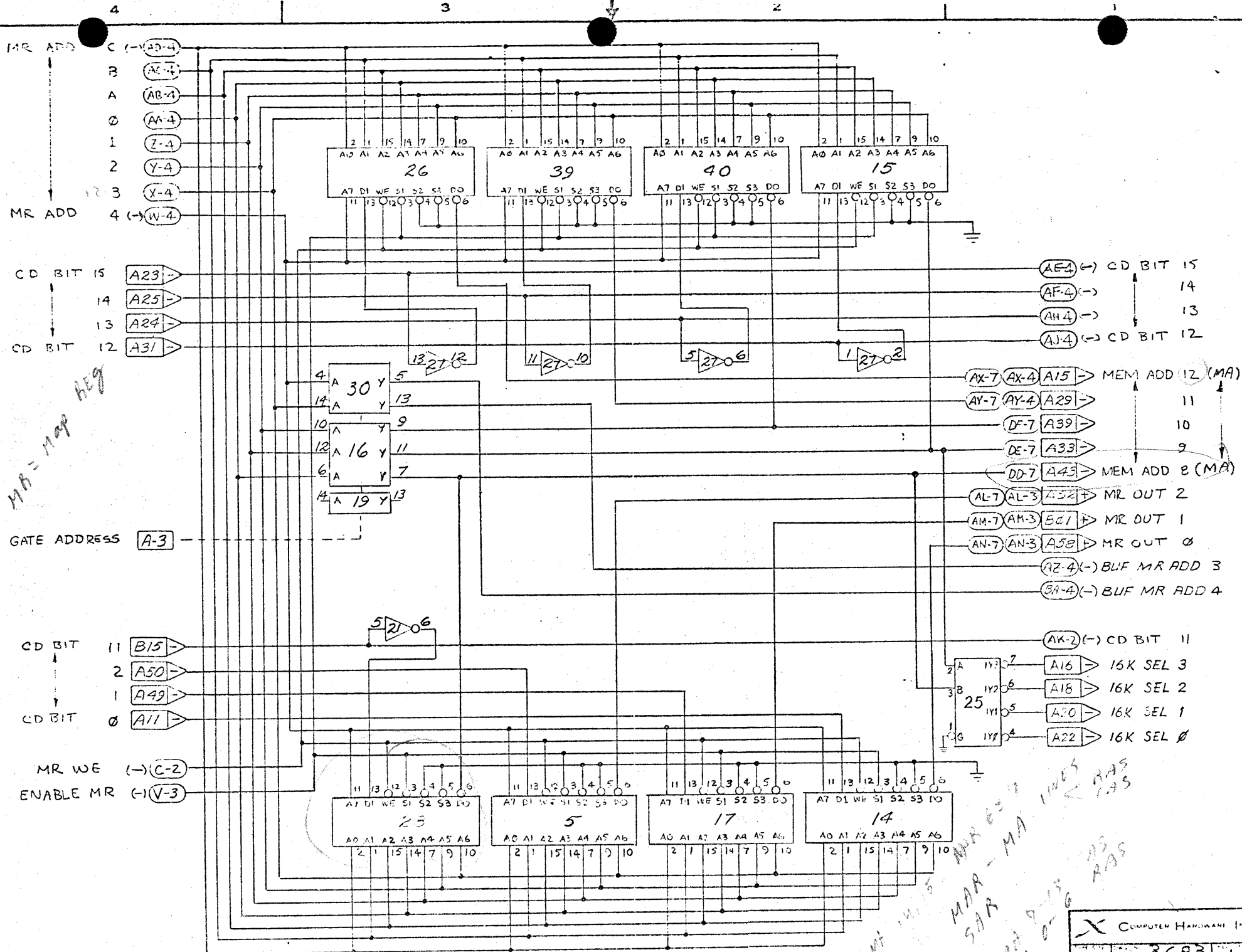
AC-5 AC-6 AC-7 A46 → MR ADD B

AD-5 AD-6 AD-7 A21 → MR ADD C

X-5 X-6 A13 → MR ADD 3

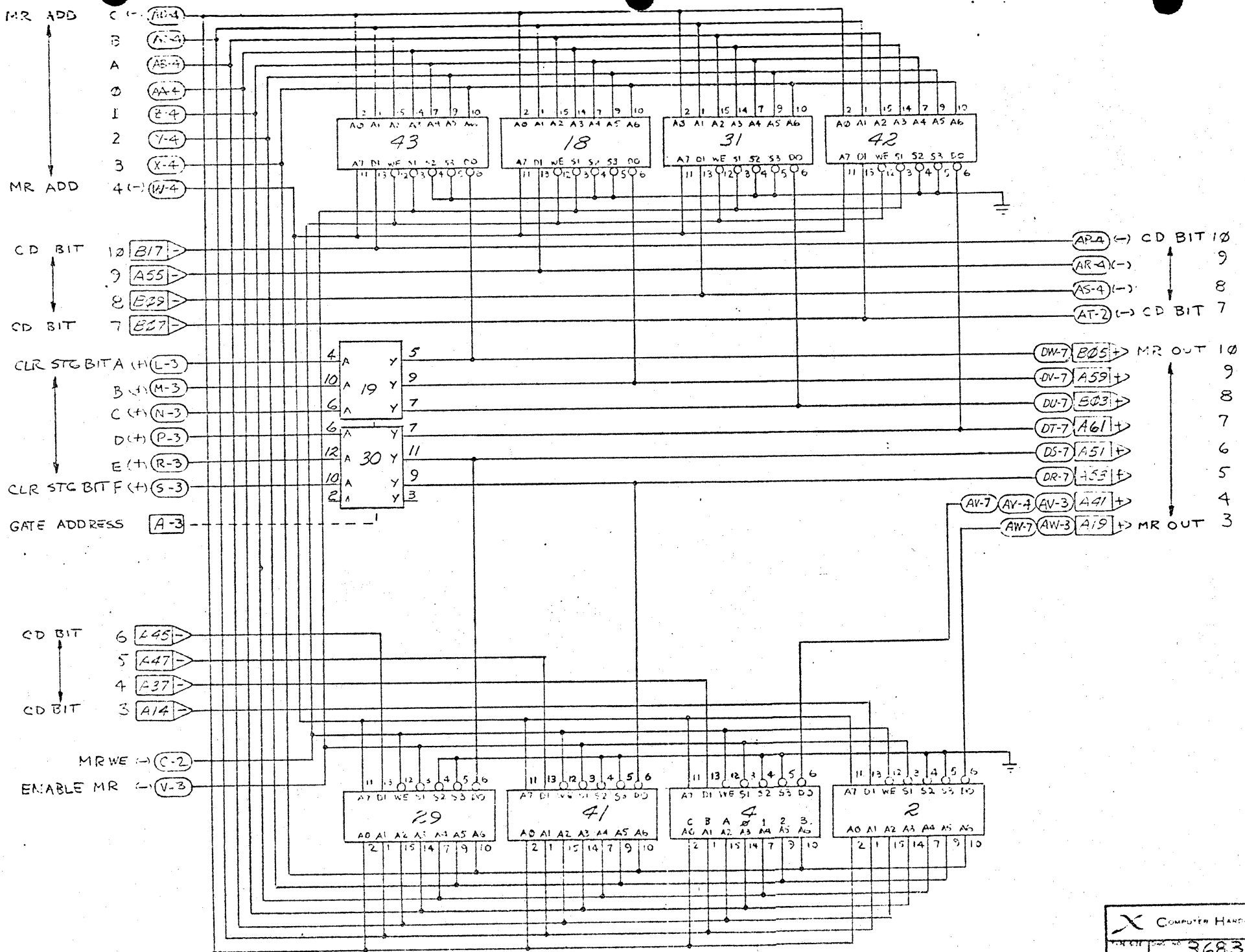
W-5 W-6 A35 → MR ADD 4

B26 → ENABLE IXRP1



MR = 1100 1101 1100 1101

MAR - MA 1100 1101 1100 1101
MAR - MA 1100 1101 1100 1101
MAR - MA 1100 1101 1100 1101



MR ADD C (-) (A-4)

B (A-3)

A (A5-4)

0 (AA-4)

1 (2-4)

2 (Y-4)

3 (X-4)

4 (-) (W-4)

MR ADD

CD BIT 12 (B17-)

9 (A55-)

8 (B29-)

7 (B27-)

CLR STC BIT A (+) (L-3)

B (-) (M-3)

C (+) (N-3)

D (+) (P-3)

E (+) (R-3)

CLR STC BIT F (+) (S-3)

GATE ADDRESS (A-3)

CD BIT 6 (L45-)

5 (L47-)

4 (L37-)

3 (L14-)

MR WE (-) (C-2)

ENABLE MR (-) (V-3)

(AP-4) (-) CD BIT 10

(AR-4) (-) 9

(AS-4) (-) 8

(AT-2) (-) CD BIT 7

(DW-7) (B05+) MR OUT 10

(DV-7) (A59+) 9

(DU-7) (E03+) 8

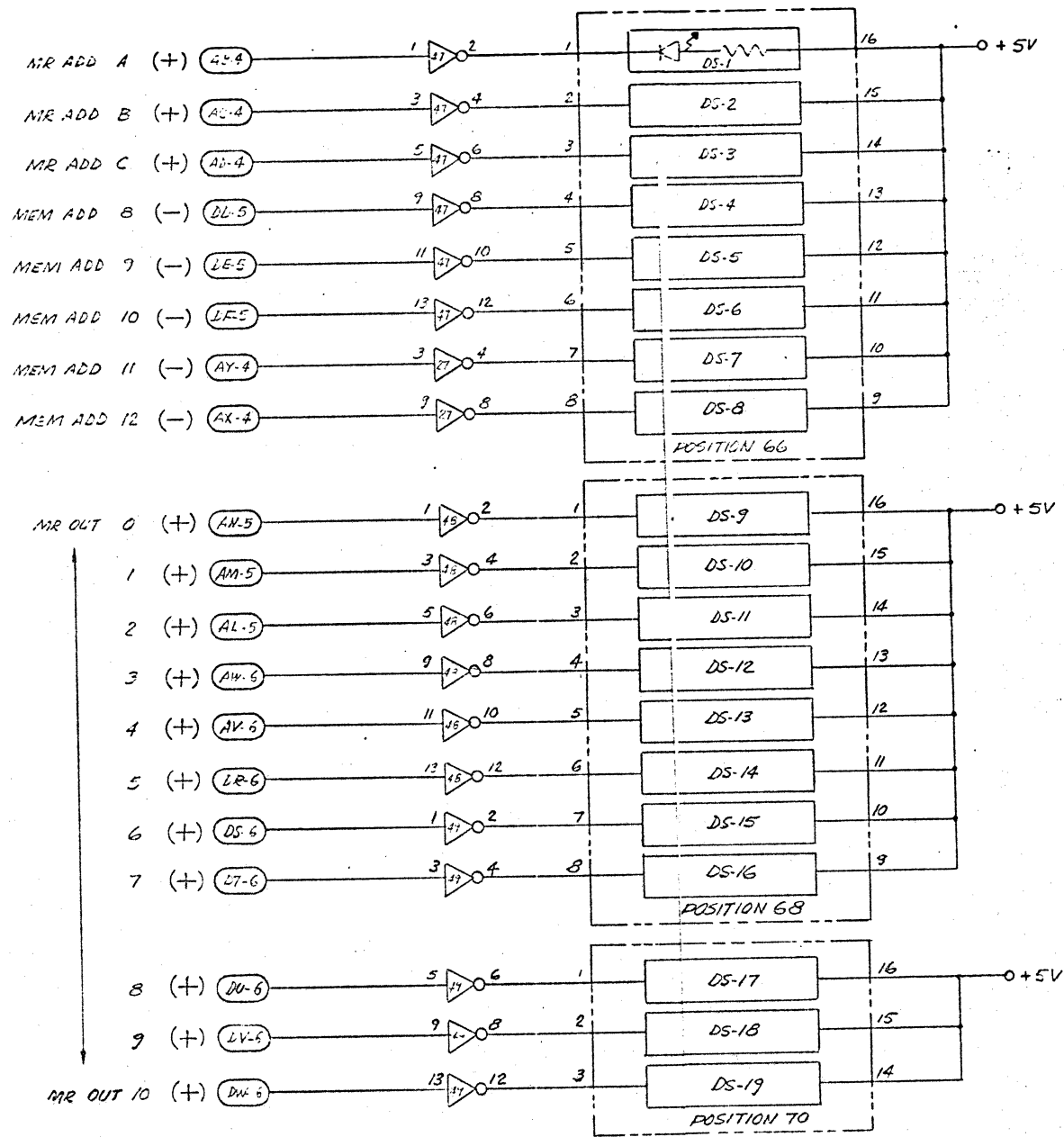
(DT-7) (A61+) 7

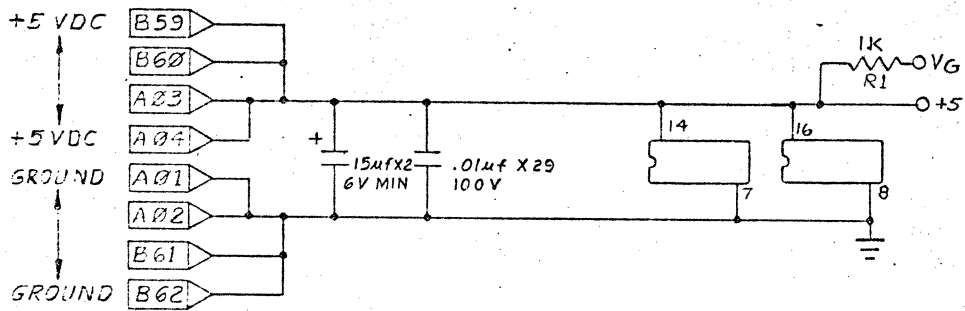
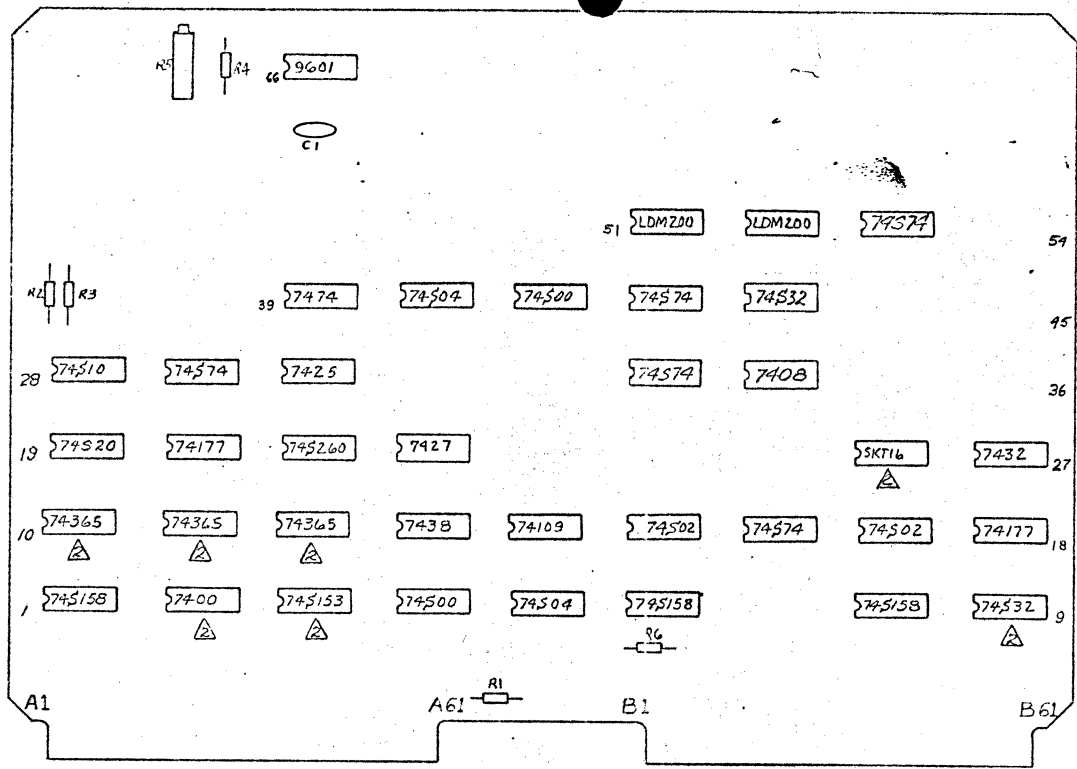
(DS-7) (A51+) 6

(DR-7) (A53+) 5

(AV-7) (AV-4) (AV-3) (A41+) 4

(AW-7) (AW-3) (A19+) MR OUT 3





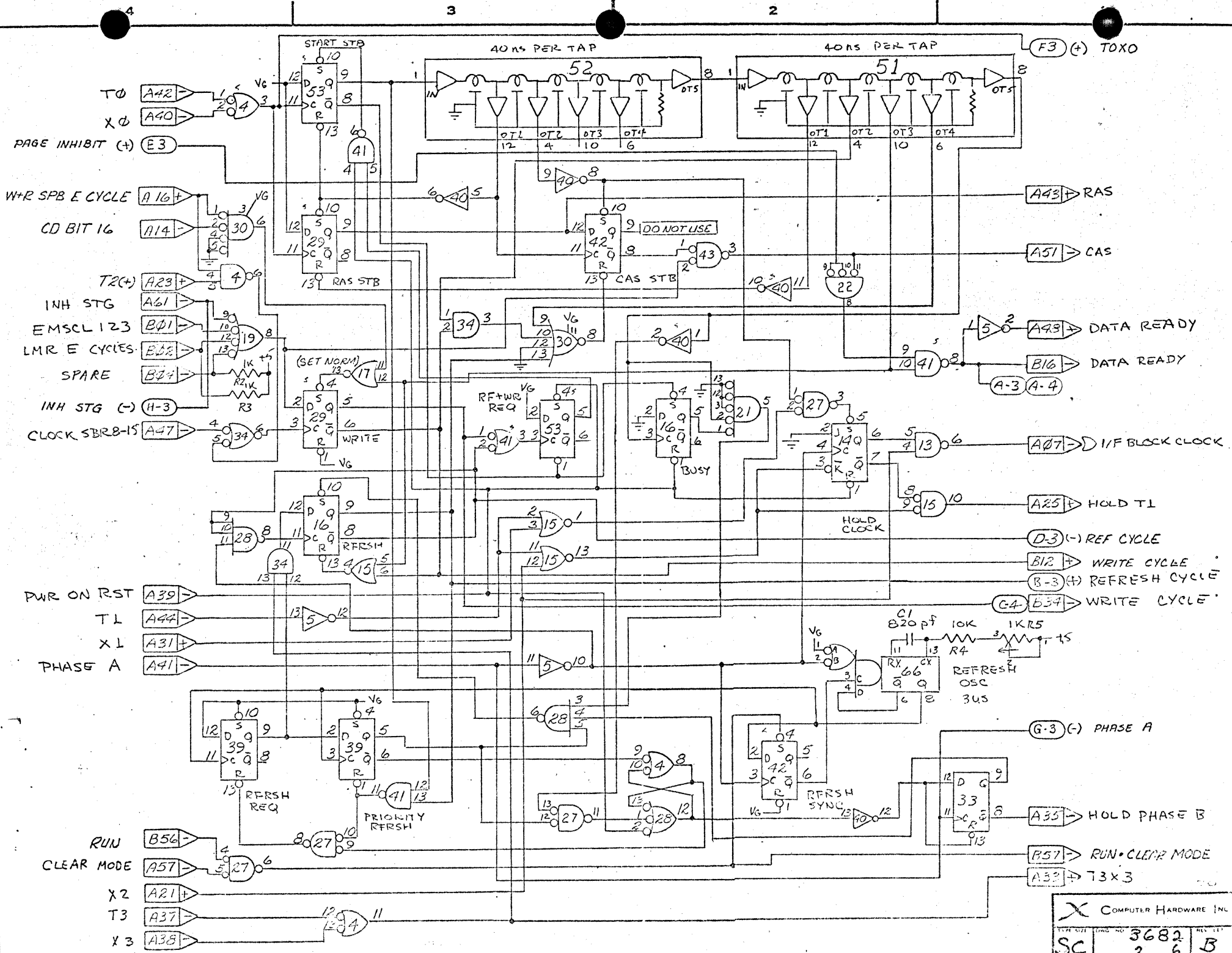
NOTE:

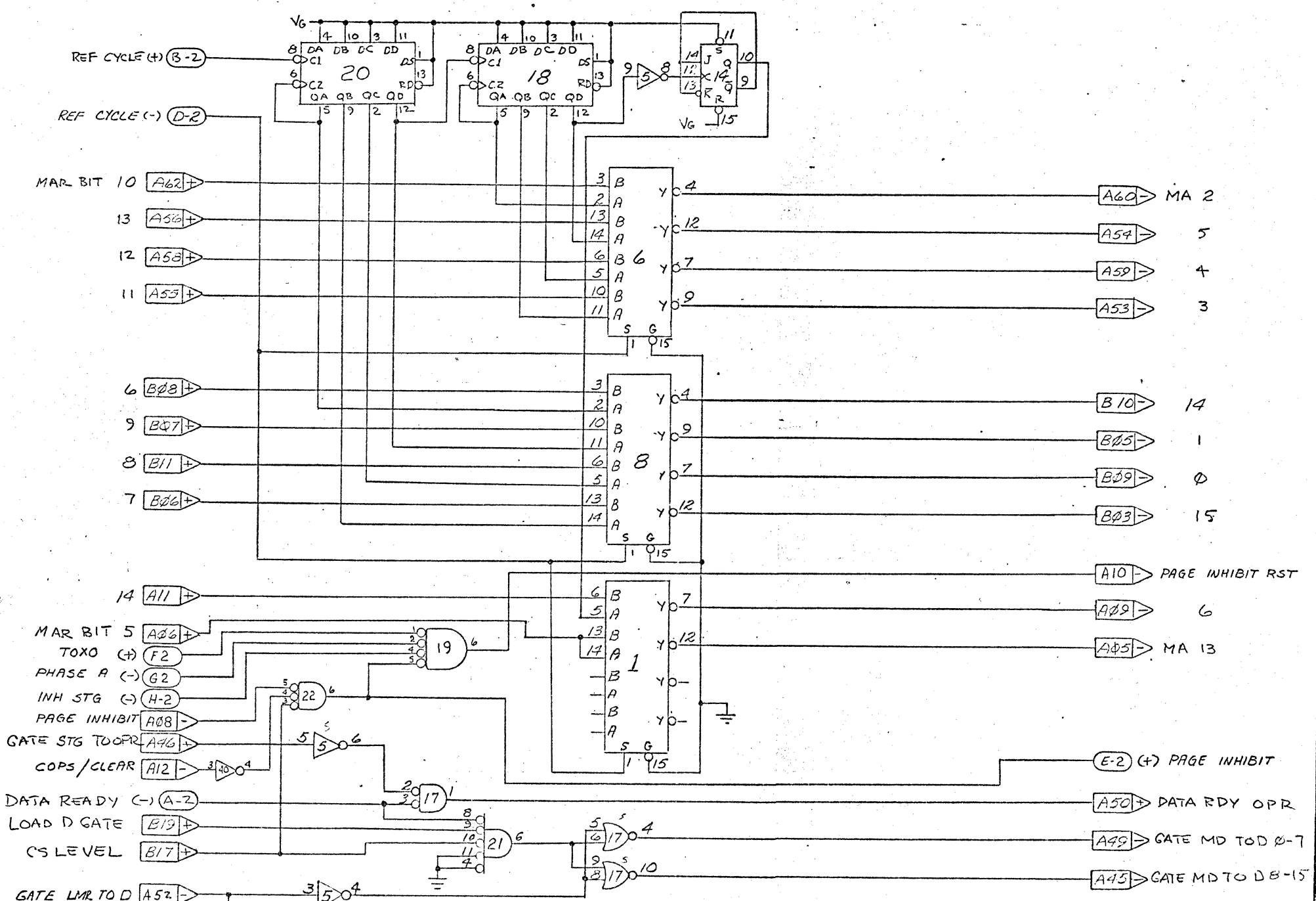
- 1 CIRCUITRY ON SHEET 4 NOT USED ON MAPPED MEMORY.
- △ IC'S 2,3,9,10,11,12, 26 NOT USED ON MAPPED MEMORY.

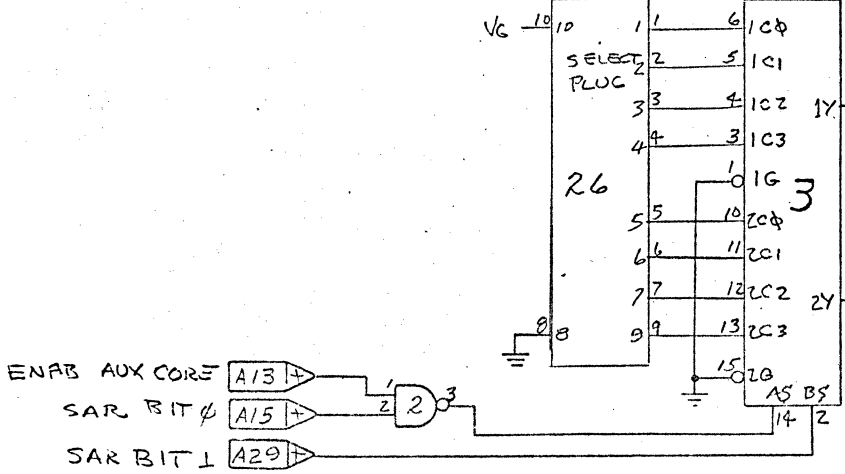
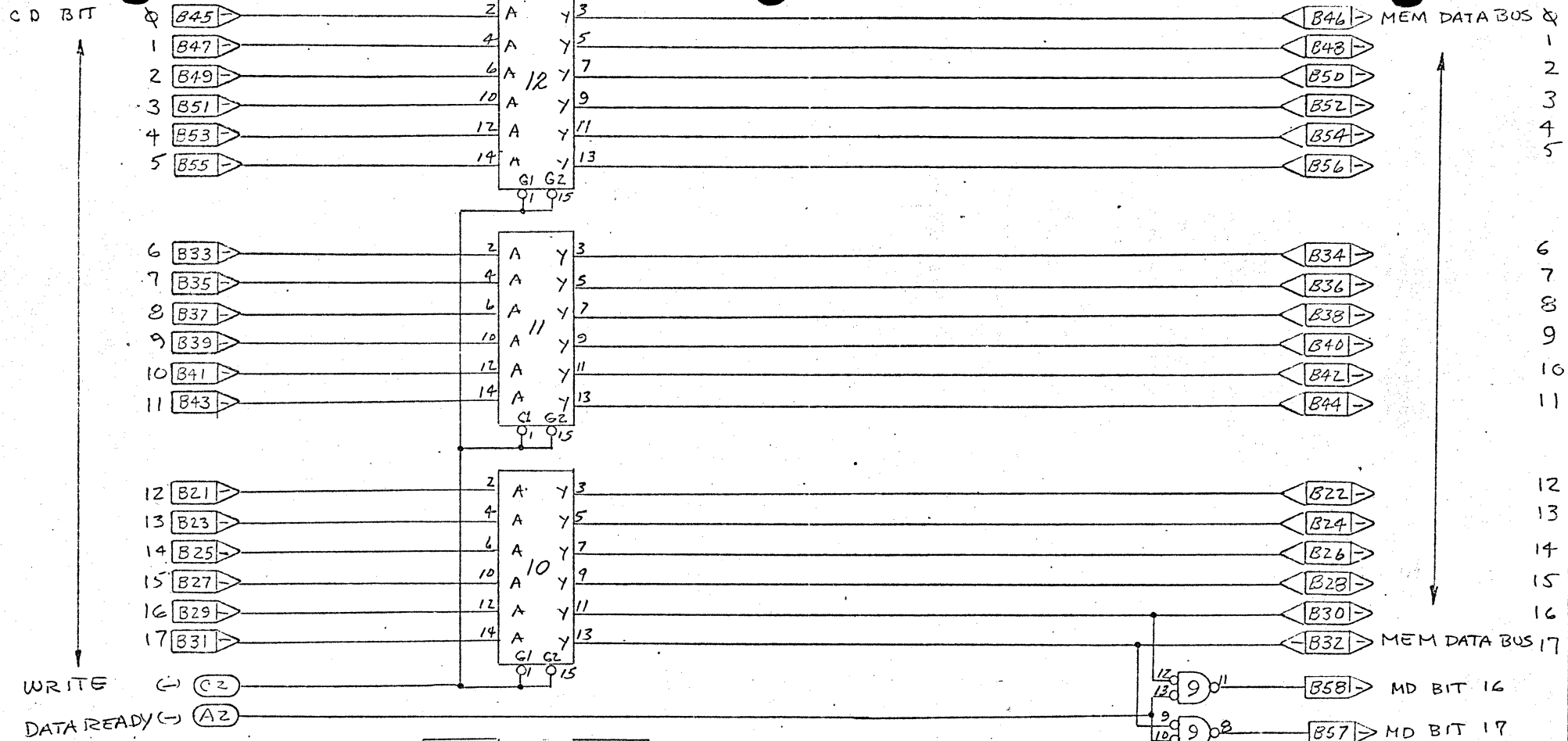
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CODE	REF. DLS	
H	R6	
	C1	

QTY.	PRICE	DATE

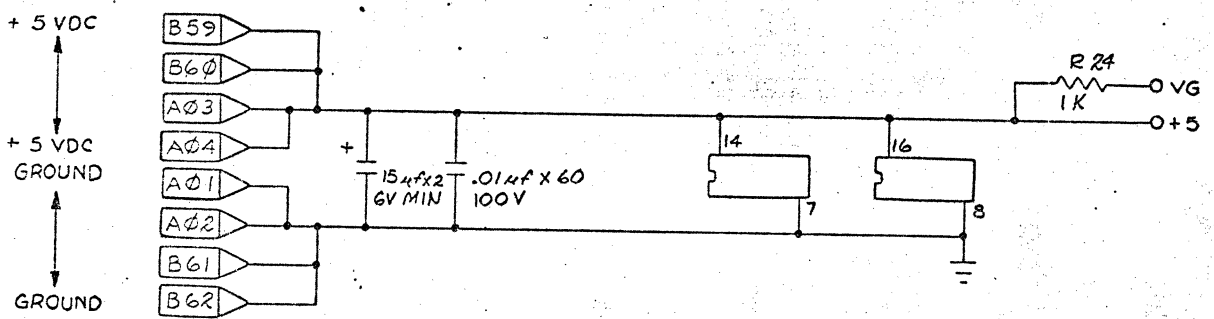
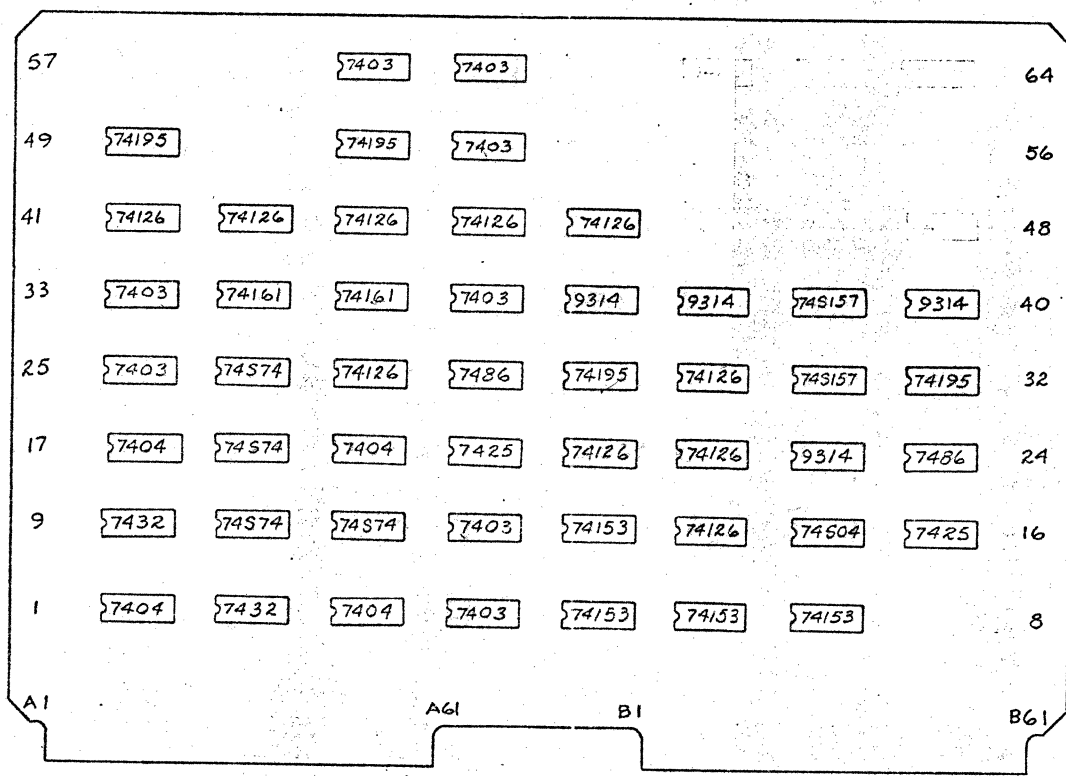
PART OR FILE NUMBER		NOMENCLATURE	MFG. PART NO. OR MATERIAL	MFG. NAME OR SPECIFICATION	DATE
DRIVER, MEMORY STROBE & REFRESH H/W					
X COMPUTER HARDWARE INC.					
DESIGNED BY: T.W.		CHECKED: [Signature]	DATE: 8-12-73		
DRAWN: T.W.		SCALE: 1" = 1"			
APP'D: [Signature]		SCALE: 1" = 1"			
CHECKED: [Signature]		SCALE: 1" = 1"			
DATE: 8-12-73		SCALE: 1" = 1"			
PROJECT: 3682		SCALE: 1" = 1"			
SHEET: 1		SCALE: 1" = 1"			
TOTAL SHEETS: 6		SCALE: 1" = 1"			
DRAWING NO. SC		SCALE: 1" = 1"			
DATE: 8-12-73		SCALE: 1" = 1"			
SCALE: 1" = 1"		SCALE: 1" = 1"			







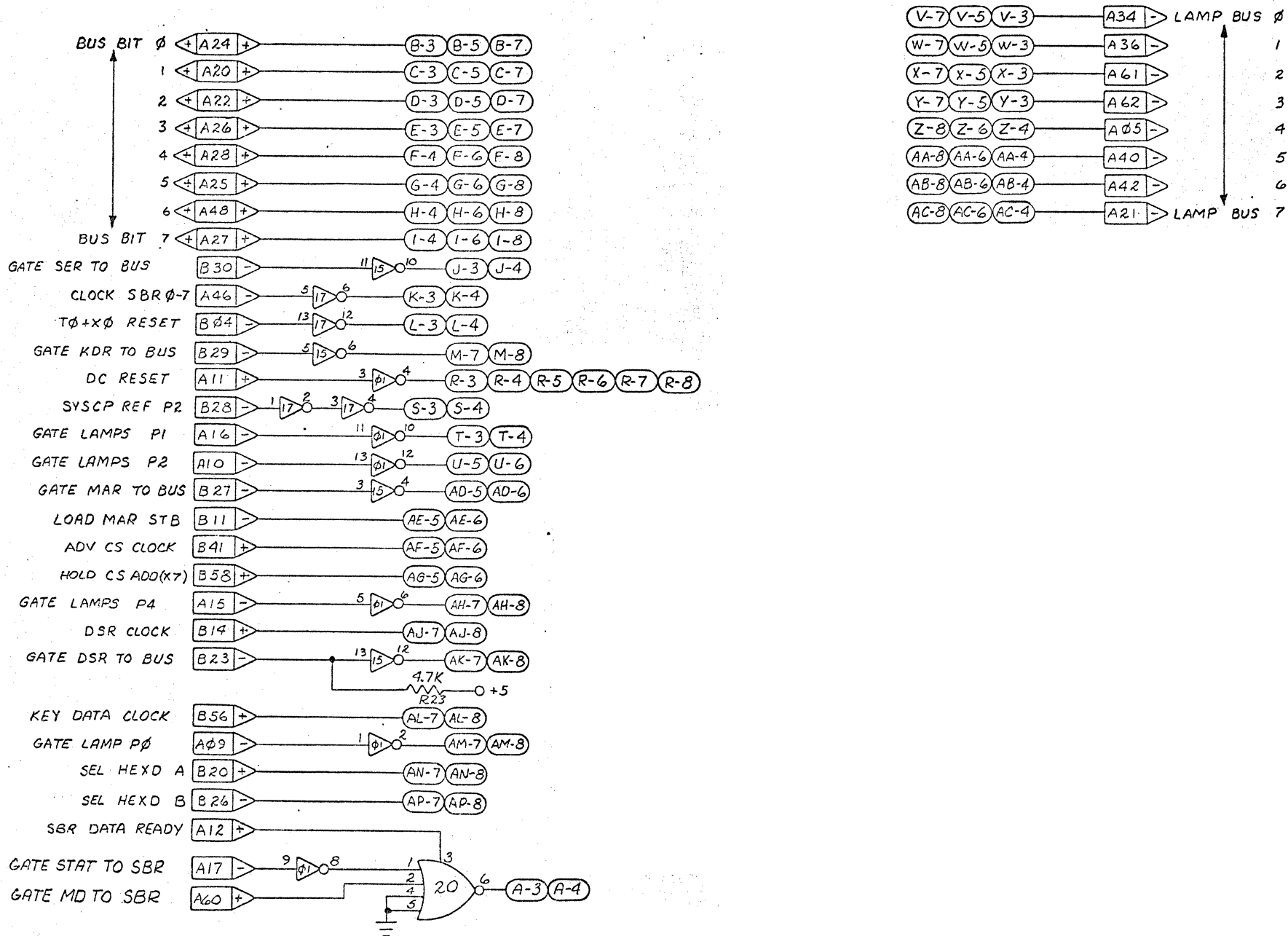
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REV.	DESCRIPTION	REASON
LTR.		

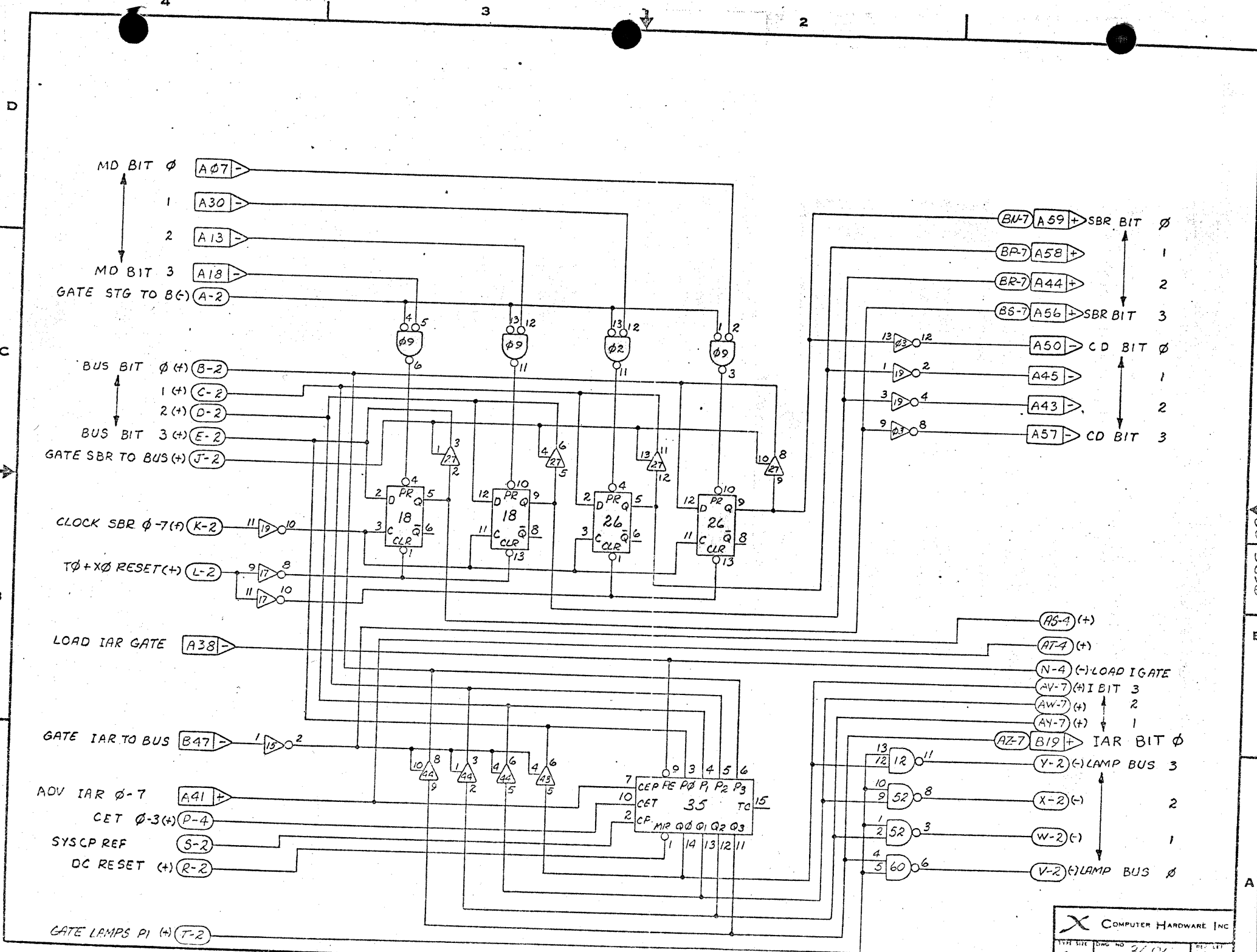


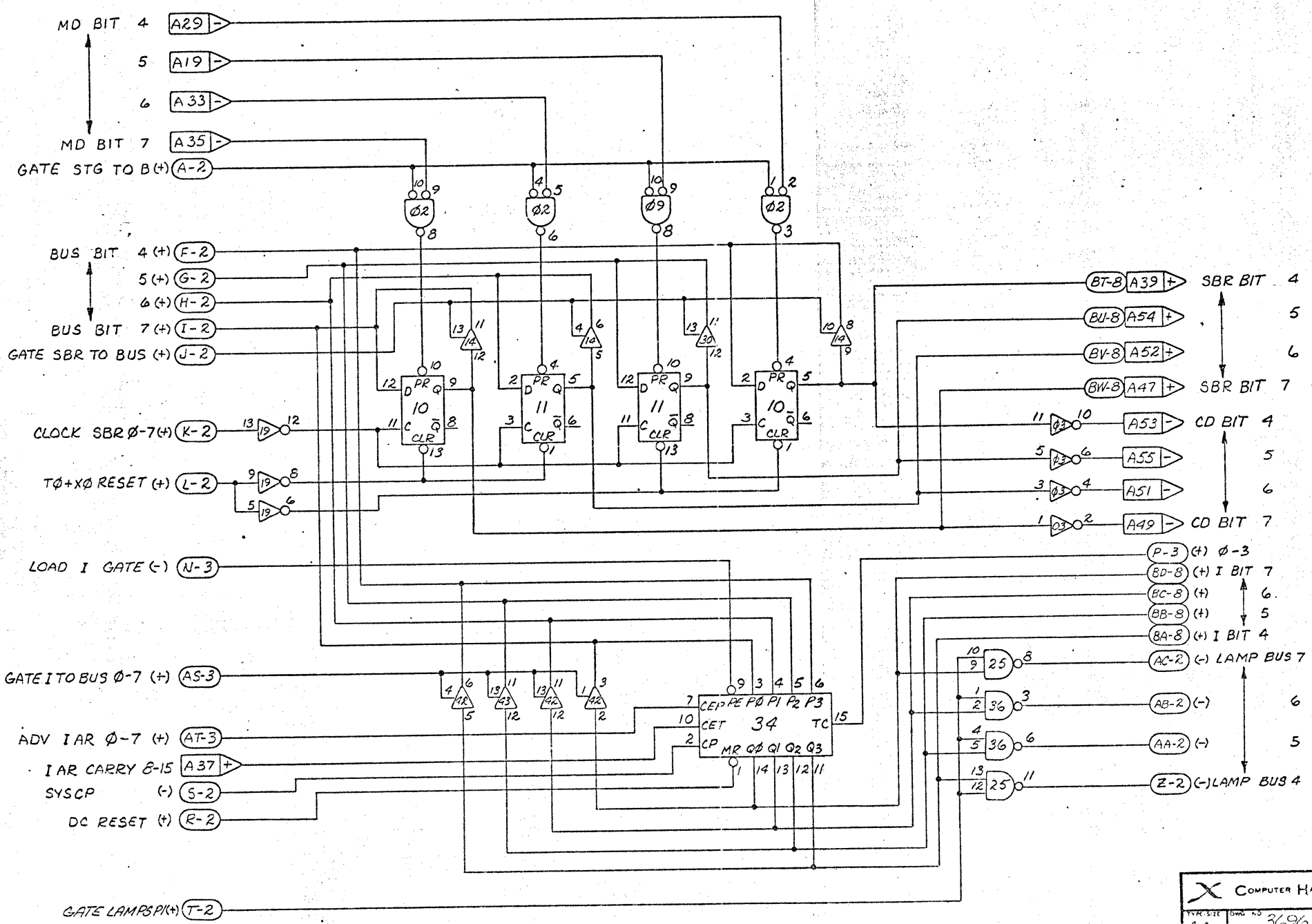
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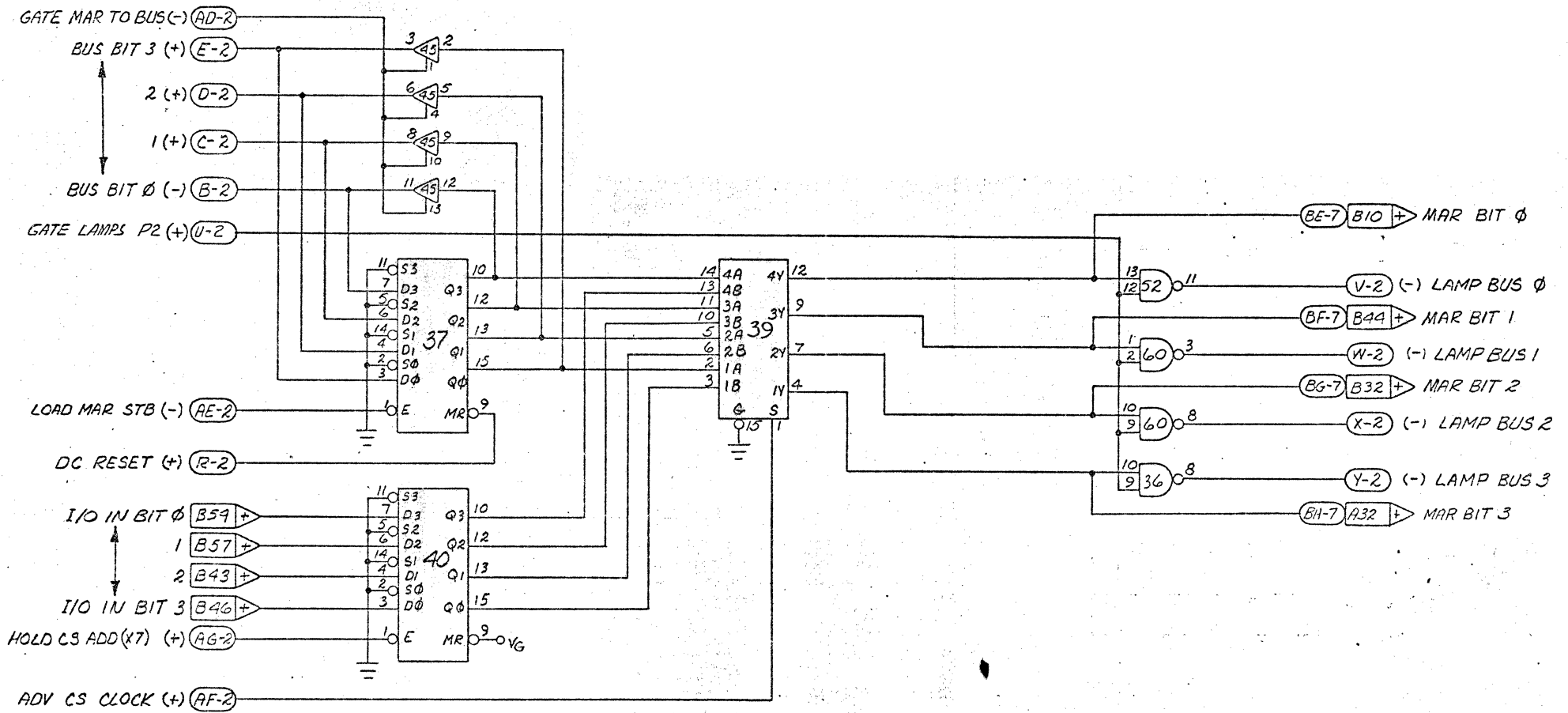
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LIST OF MATERIALS					
THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE THEREFROM, FOR DISCLOSURE TO OTHERS, IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.			UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DIMENSION TOLERANCES ANGULAR DIMENSION ± 1/4° DECIMAL 2 PLACE ± .020 DECIMAL 3 PLACE ± .010		
DRAWN <i>SMITH</i> 3/19/75			TITLE REGISTERS 0-7, EXT MEMORY		
CHECKED <i>T.W.</i>			X COMPUTER HARDWARE INC.		
DATE <i>3/19/75</i>			SCALE		
CHANGE RECORD NO. <i>3696</i>			NO. <i>3696</i>		

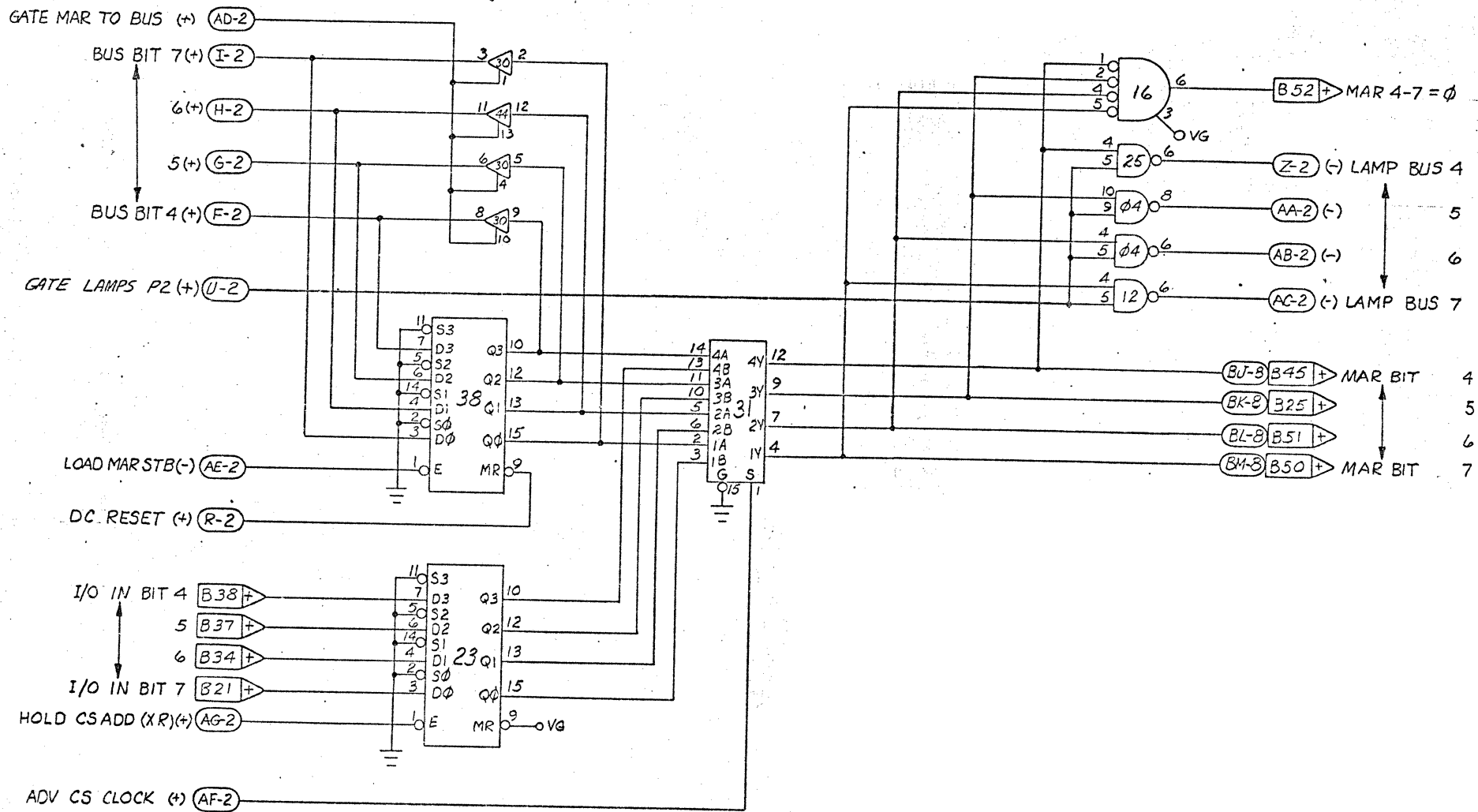
9509C 70A

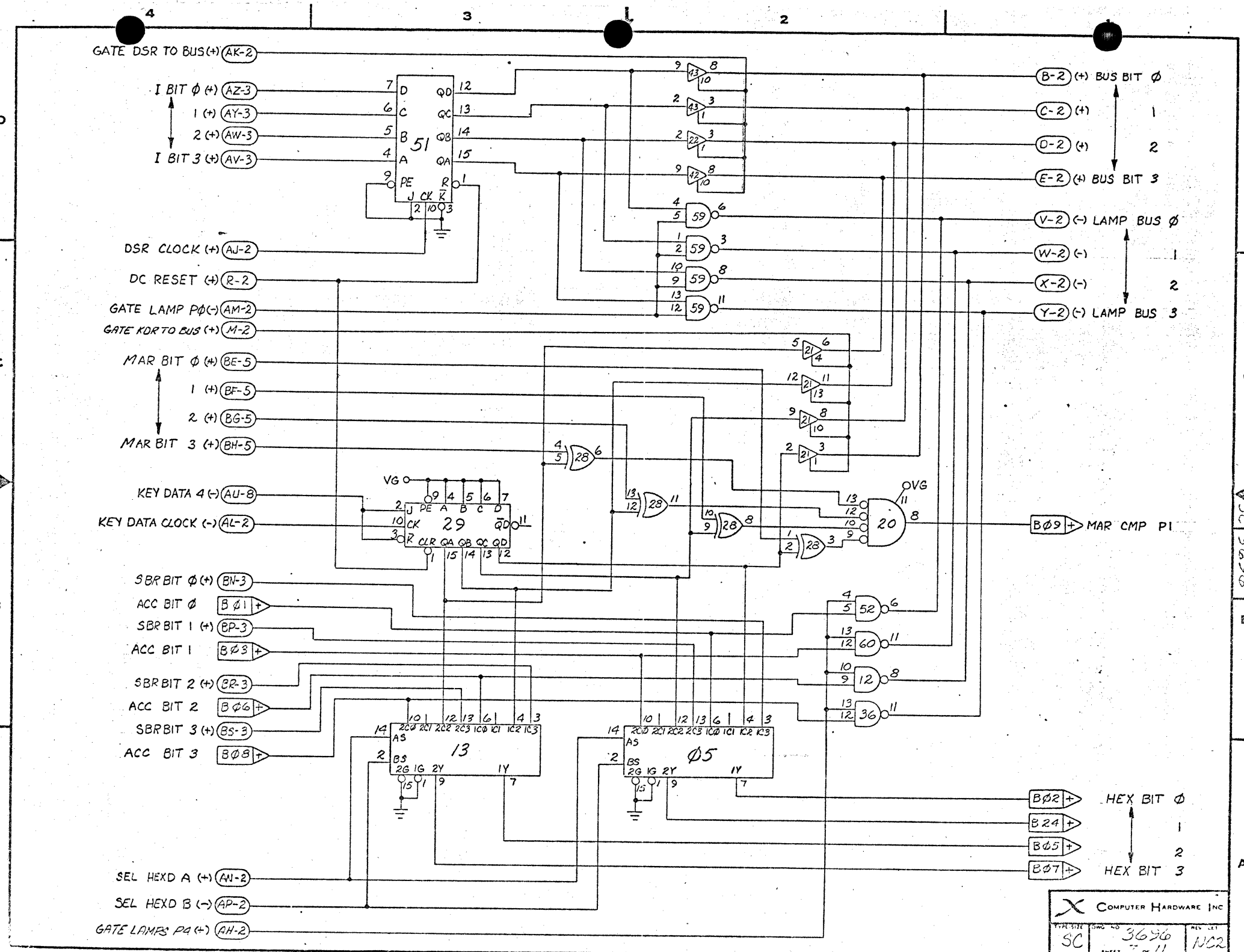












GATE DSR TO BUS (+) (AK-2)

I BIT 0 (+) (AZ-3)

1 (+) (AY-3)

2 (+) (AW-3)

I BIT 3 (+) (AV-3)

DSR CLOCK (+) (AJ-2)

DC RESET (+) (R-2)

GATE LAMP P0 (-) (AM-2)

GATE KDR TO BUS (+) (M-2)

MAR BIT 0 (+) (BE-5)

1 (+) (BF-5)

2 (+) (BG-5)

MAR BIT 3 (+) (BH-5)

KEY DATA 4 (-) (AU-B)

KEY DATA CLOCK (-) (AL-2)

SBR BIT 0 (+) (BN-3)

ACC BIT 0 (B01) (+)

SBR BIT 1 (+) (BP-3)

ACC BIT 1 (B03) (+)

SBR BIT 2 (+) (BR-3)

ACC BIT 2 (B06) (+)

SBR BIT 3 (+) (BS-3)

ACC BIT 3 (B08) (+)

SEL HEXD A (+) (AN-2)

SEL HEXD B (-) (AP-2)

GATE LAMP P4 (+) (AH-2)

(B-2) (+) BUS BIT 0

(C-2) (+) 1

(D-2) (+) 2

(E-2) (+) BUS BIT 3

(V-2) (-) LAMP BUS 0

(W-2) (-) 1

(X-2) (-) 2

(Y-2) (-) LAMP BUS 3

(B09) (+) MAR CMP PI

(B02) (+) HEX BIT 0

(B24) (+) 1

(B05) (+) 2

(B07) (+) HEX BIT 3

GATE DSR TO BUS (-) AK-2

I BIT 4 (-) BA-4

5 (-) BB-4

6 (-) BC-4

I BIT 7 (-) BD-4

DSR CLOCK (+) AJ-2

DC RESET (+) R-2

GATE LAMP P0 (-) AM-2

GATE KOP TO BUS (-) M-2

MAR BIT 4 (-) BJ-6

5 (-) BK-6

6 (-) BL-6

MAR BIT 7 (-) BM-6

KEY DATA 8 B48

KEY DATA CLOCK (-) AL-2

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ACC BIT 4 B31

SBR BIT 5 (+) BU-4

ACC BIT 5 B36

SBR BIT 6 (+) BV-4

ACC BIT 6 B13

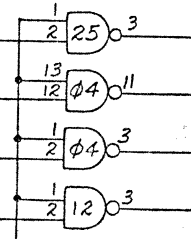
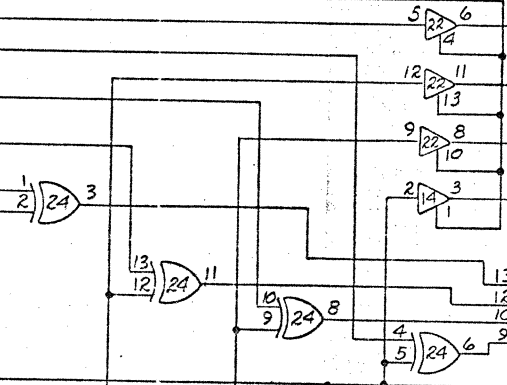
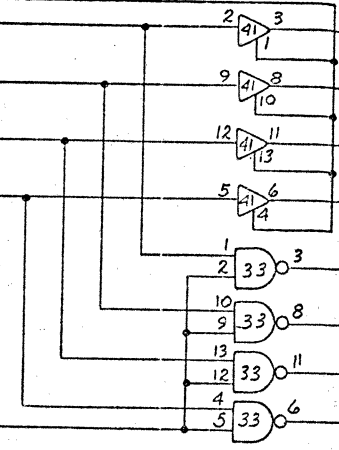
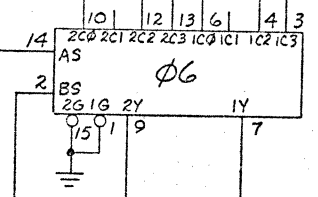
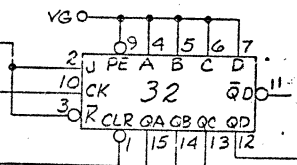
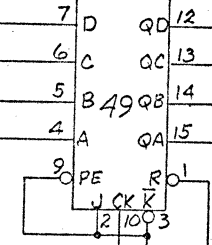
SBR BIT 7 (+) BW-4

ACC BIT 7 B16

SEL HEXD A (+) AN-2

SEL HEXD B (-) AP-2

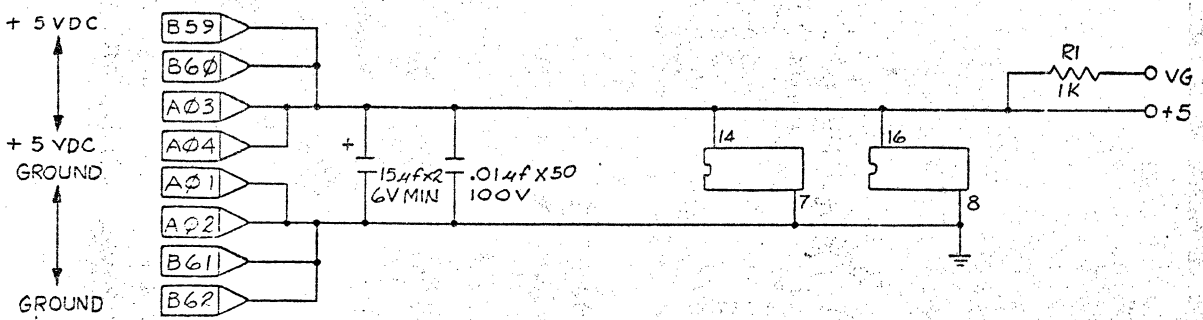
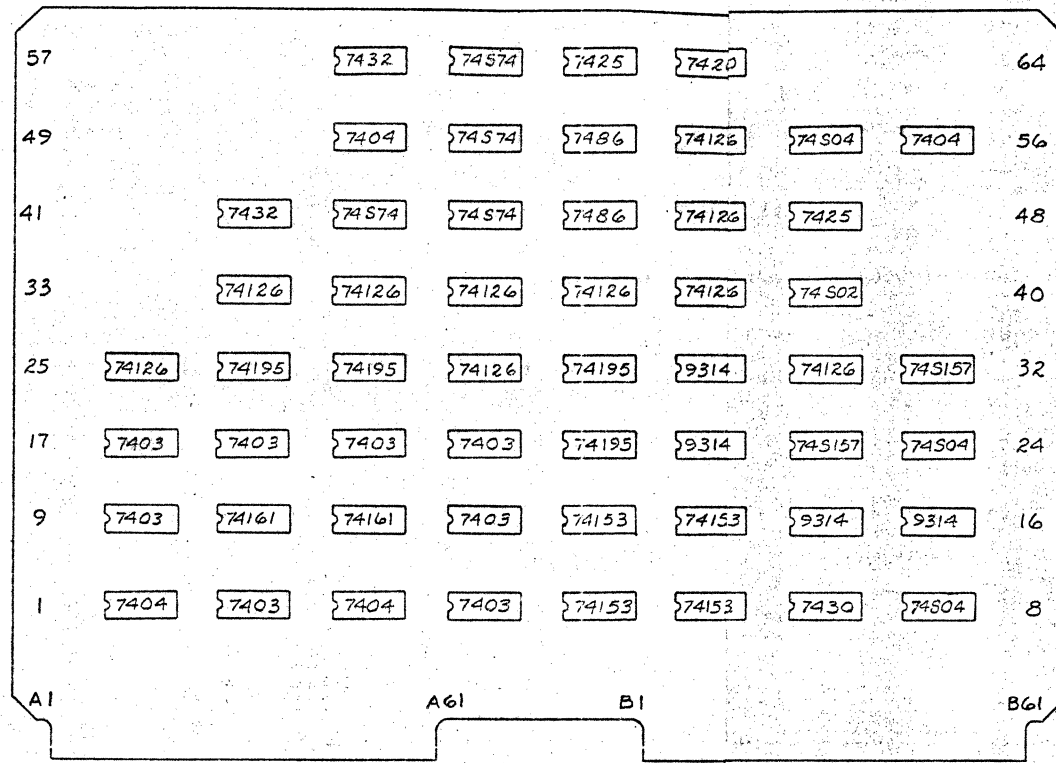
GATE LAMP P4 (-) AH-2



F-2 (+) BUS BIT 4
 G-2 (+) 5
 H-2 (+) 6
 I-2 (+) BUS BIT 7
 Z-2 (-) LAMP BUS 4
 AA-2 (-) 5
 AB-2 (-) 6
 AC-2 (-) LAMP BUS 7

B55 > MAR CMP P2
 AU-7 (-) KEY DATA 4

B33 > HEX BIT 4
 B35 > 5
 B15 > 6
 B17 > HEX BIT 7

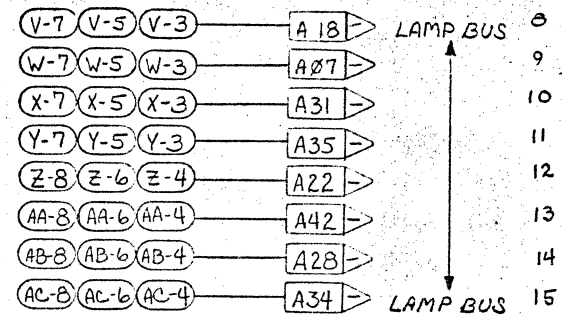
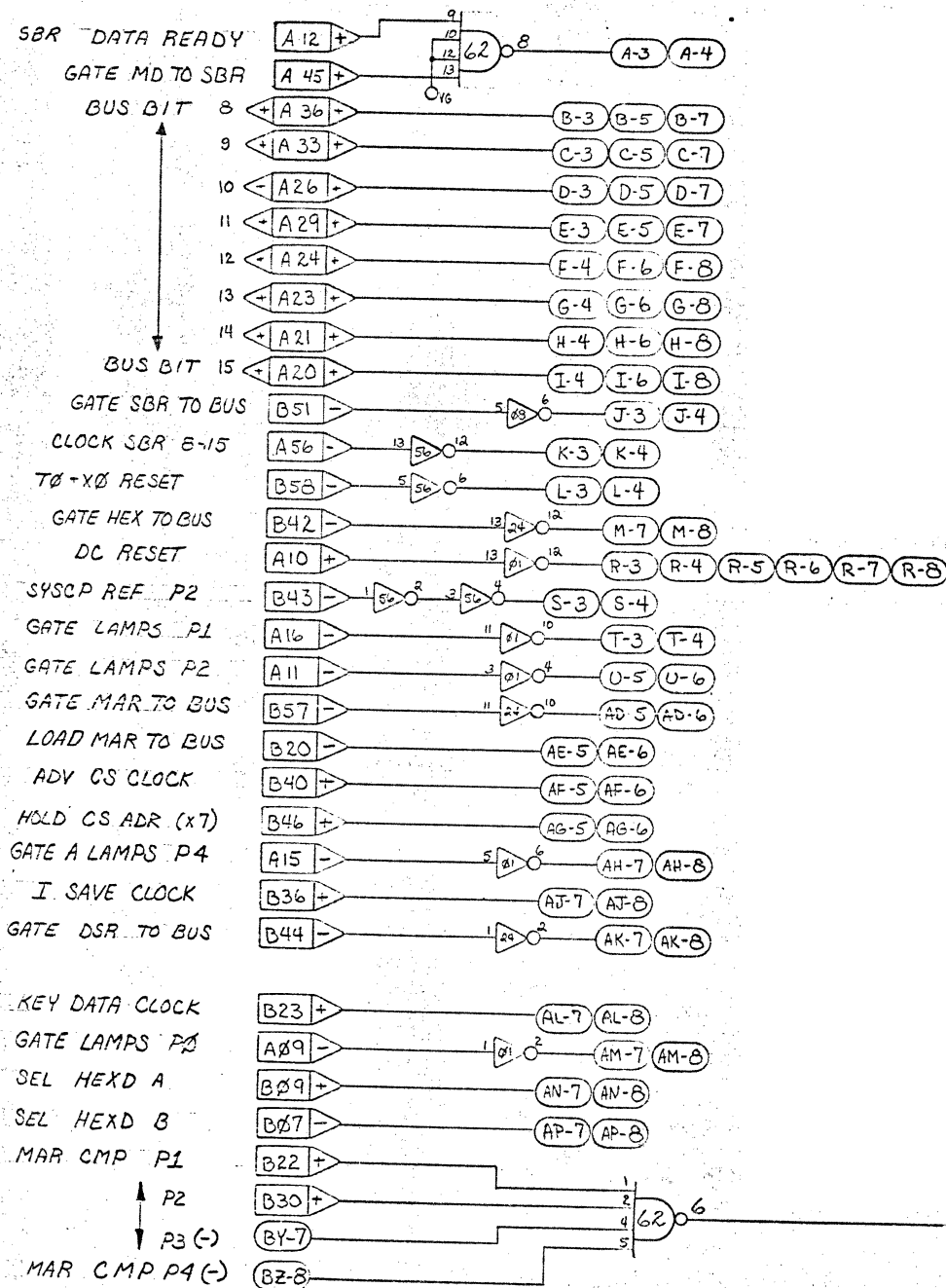


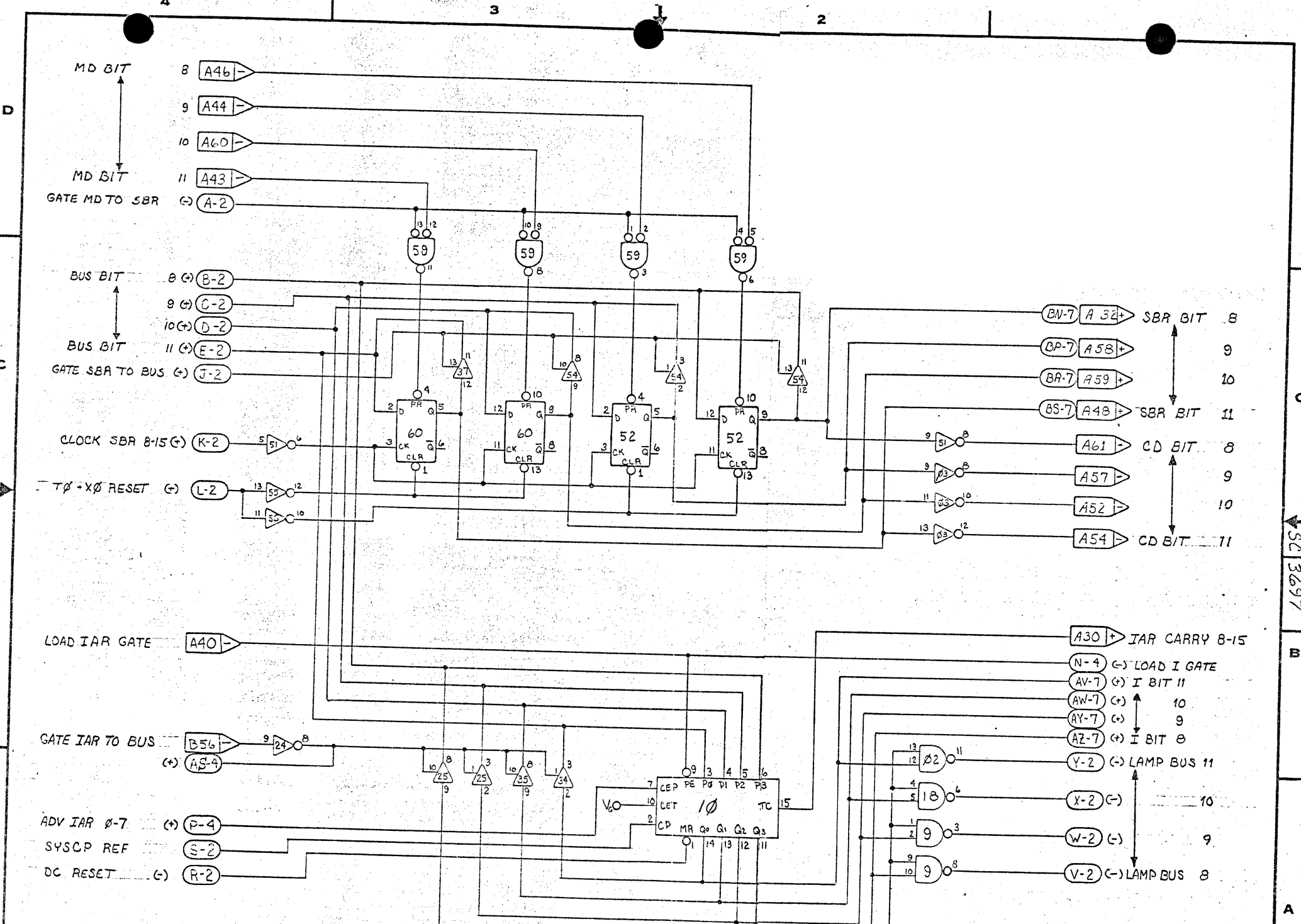
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SC-3697	NC								
AC-3697	NC								

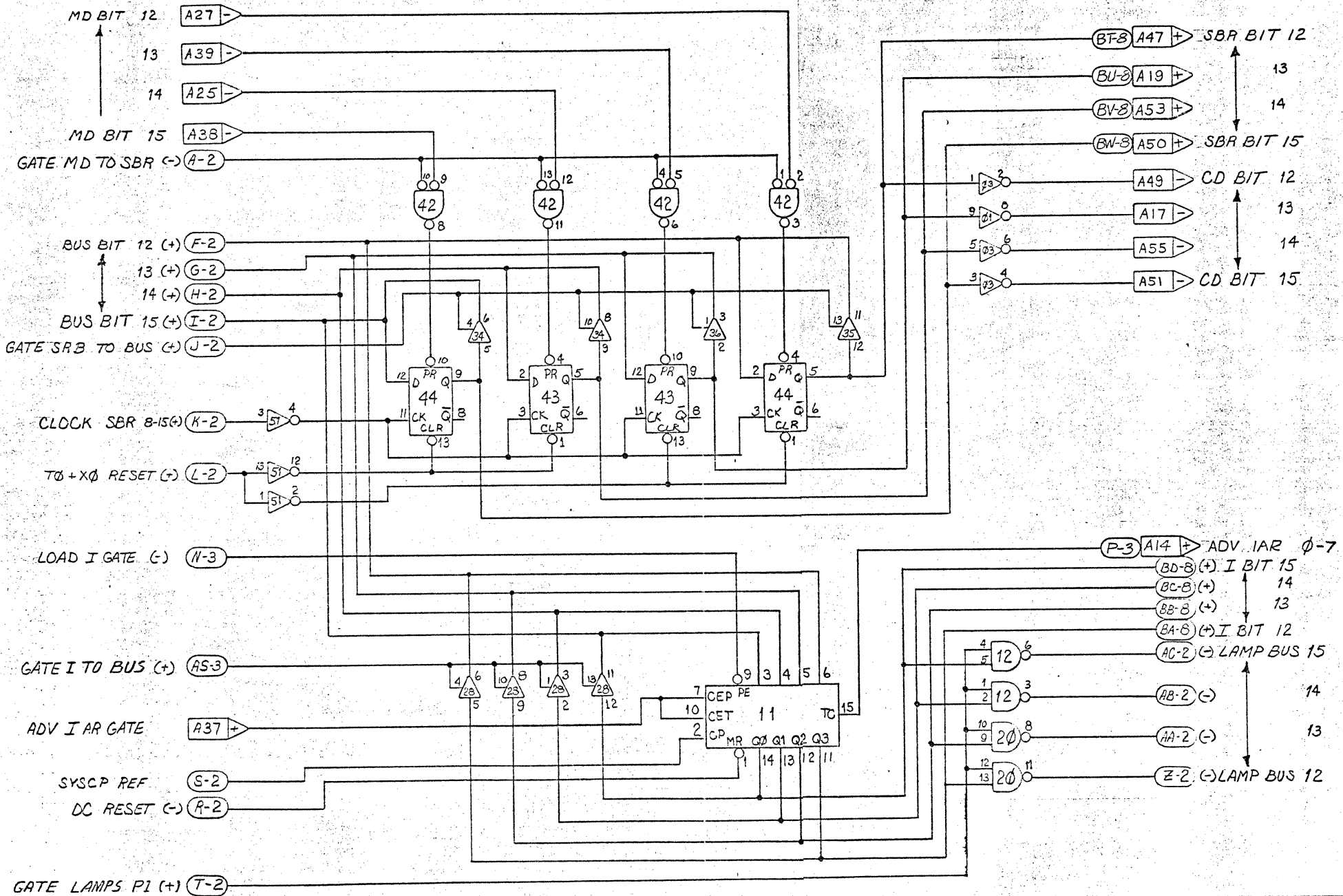
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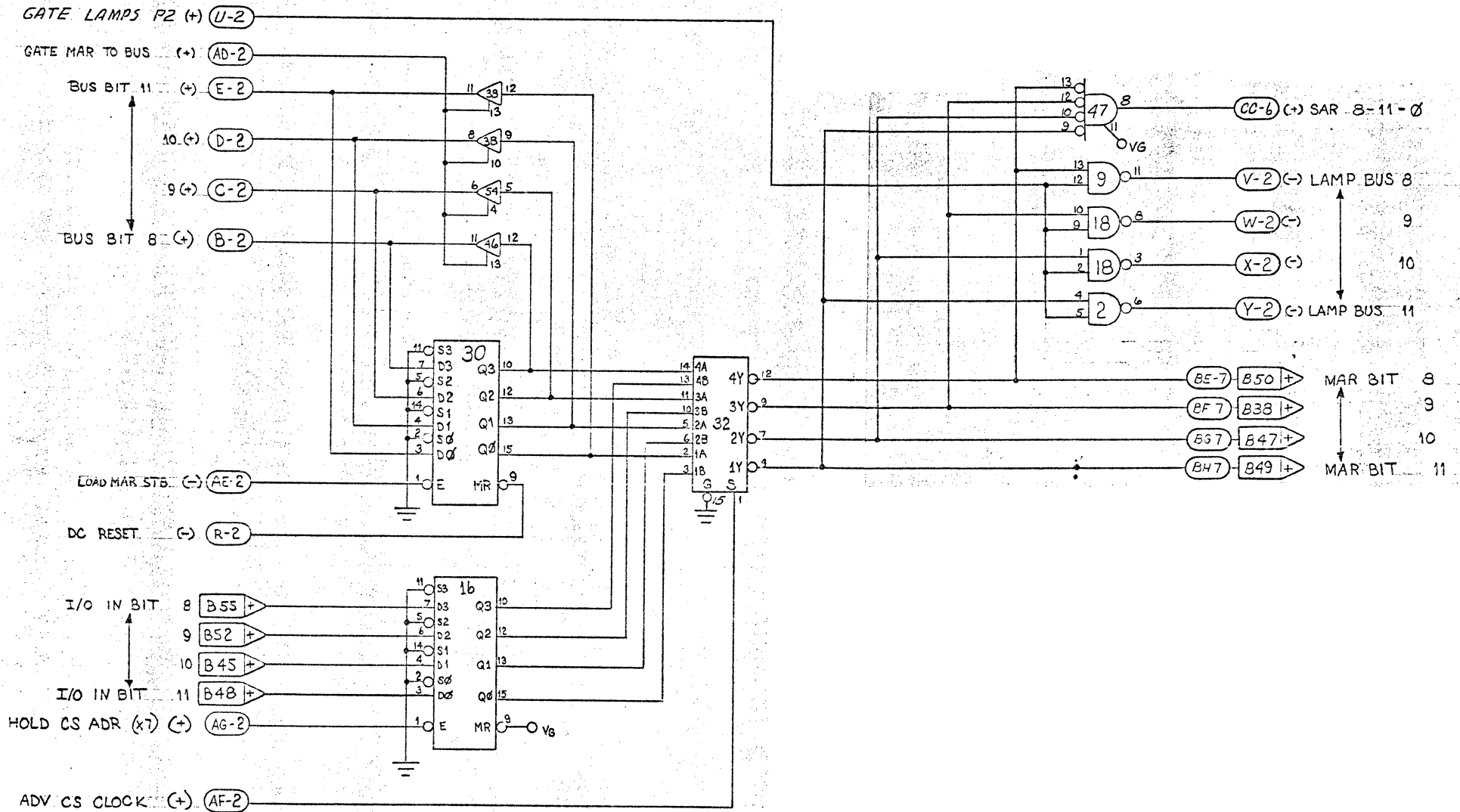
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LIST OF MATERIALS						
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BREAK SHARP EDGES INSIDE CORNERS		MAX	MAX	COMPUTER HARDWARE INC.		
ALL MACHINE SURFACES		✓		DRAWN	SMITH 5-K-77	CHECKED
CHAMFER ALL THREADS 45° X 1/16" FULL THREAD (INT/EXT)				DESIGN	TW	
CHANGE RECORD NO.				SCALE		
				TITLE SIZE	3697	ITEM NO.
				SCALE	SC	NCI
				SHEET 1 OF 11		

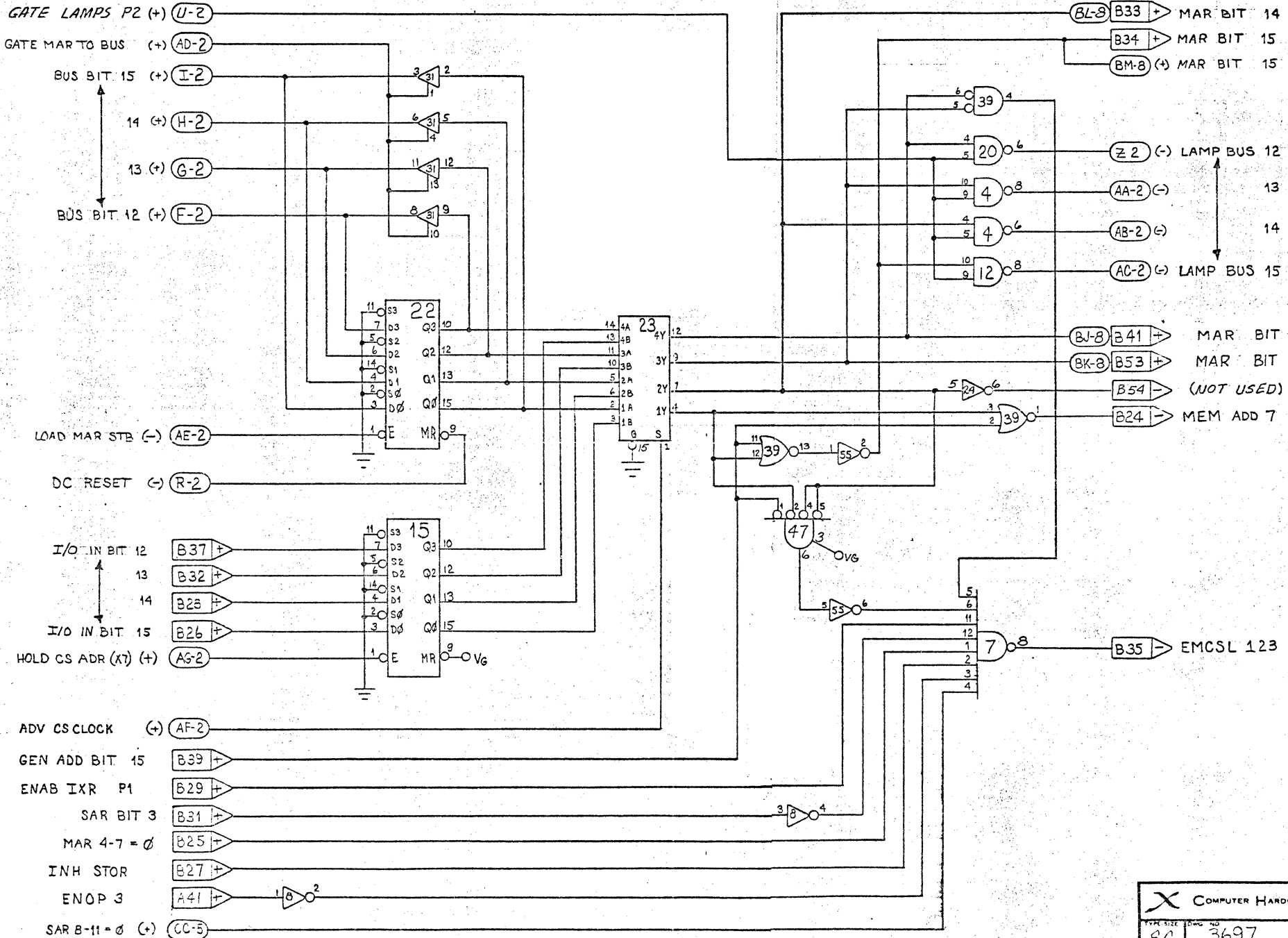




SC 3697







5013697

B

A

GATE DSR TO BUS (F) (AK-2)

I BIT 8 (+) (AZ-3)

9 (+) (AY-3)

10 (+) (AW-3)

I BIT 11 (+) (AV-3)

I SAVE CLOCK (+) (AJ-2)

DC RESET (-) (R-2)

GATE LAMPS P4 (+) (AM-2)

GATE HEX TO BUS (+) (M-2)

MAR BIT 8 (+) (BE-5)

9 (+) (BF-5)

10 (+) (BS-5)

MAR BIT 11 (+) (BH-5)

KEY DATA 12 (+) (BX-8)

KEY DATA CLOCK (-) (AL-2)

SBR BIT 8 (+) (BN-3)

ACC BIT 8 (B19 +)

SBR BIT 9 (+) (BP-3)

ACC BIT 9 (B14 +)

SBR BIT 10 (+) (BR-3)

ACC BIT 10 (B03 +)

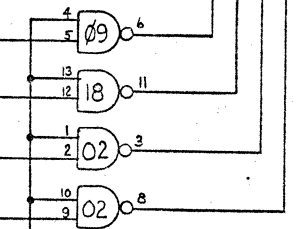
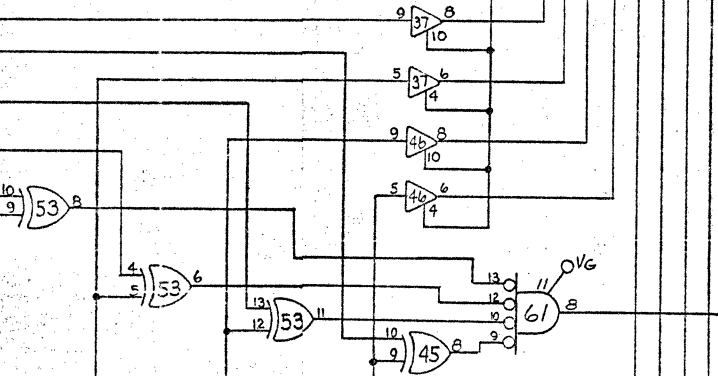
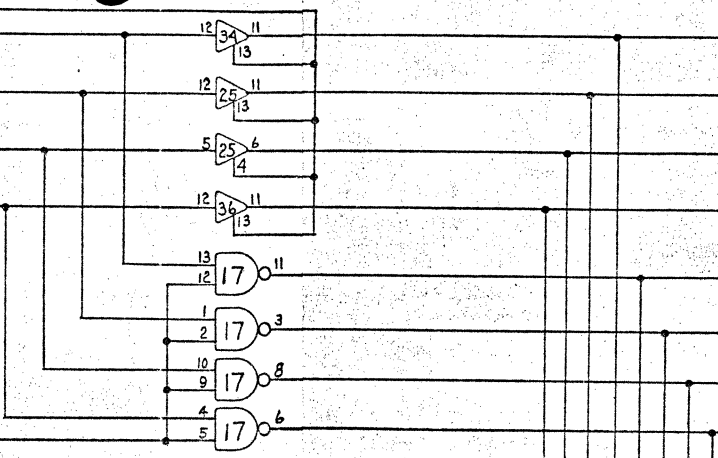
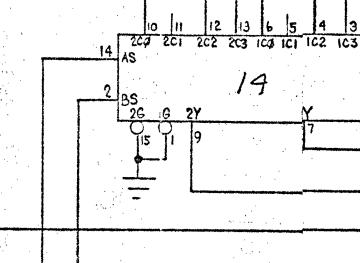
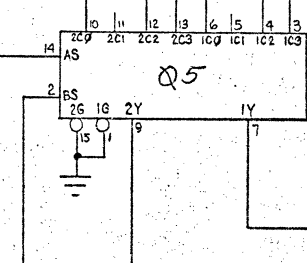
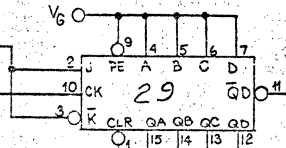
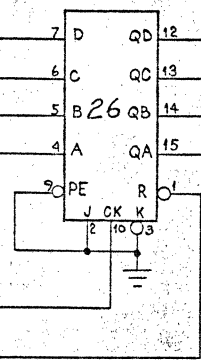
SBR BIT 11 (+) (BS-3)

ACC BIT 11 (B05 +)

SEL HEXD A (+) (AN-2)

SEL HEXD B (-) (AP-2)

GATE LAMPS P4 (-) (AH-2)



B-2 (+) BUS BIT 8
 C-2 (+)
 D-2 (+)
 E-2 (+) BUS BIT 11
 V-2 (-) LAMP BUS 8
 W-2 (-)
 X-2 (-)
 Y-2 (-) LAMP BUS 11

BY-2 (+) MAR CMP P3
 B10 (+) KEY DATA 8

B11 (+) HEX BIT 8
 B13 (+)
 B02 (+)
 B04 (+) HEX BIT 11

4

3

2

GATE DSR TO BUS (+) AK-2

I BIT 12 (+) BA-4

I BIT 13 (+) BB-4

I BIT 14 (+) BC-4

I BIT 15 (+) BD-4

I SAVE CLOCK (+) AJ-2

DC. RESET (-) R-2

GATE LAMPS PØ (-) AM-2

GATE HEX TO BUS (+) M-2

MAR BIT 12 (+) BJ-6

MAR BIT 13 (+) BK-6

MAR BIT 14 (+) BL-6

MAR BIT 15 (+) BM-6

KEY REG DATA B21 +

KEY DATA CLOCK (-) AL-2

SBR BIT 12 (+) BF-4

ACC BIT 12 B13 +

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ACC BIT 13 B16 +

SBR BIT 14 (+) BV-4

ACC BIT 14 BØ1 +

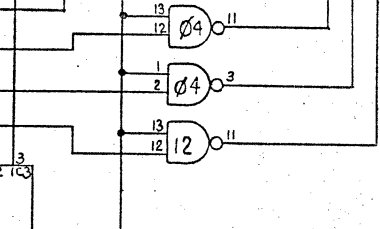
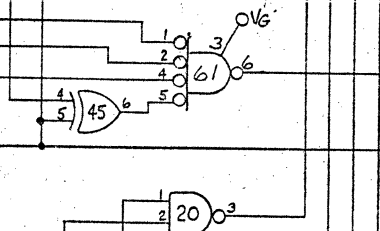
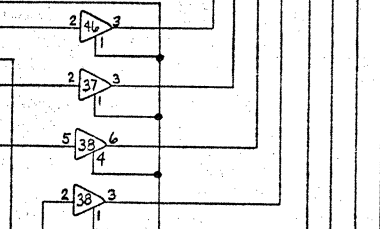
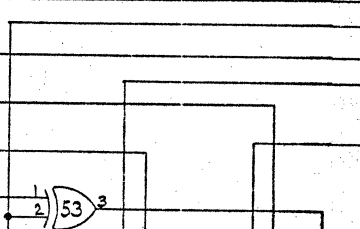
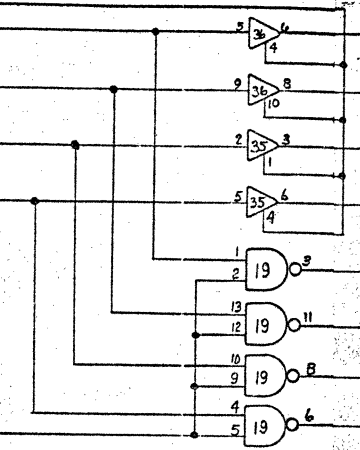
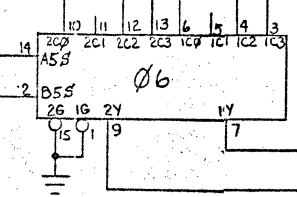
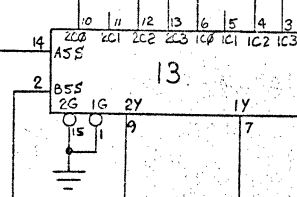
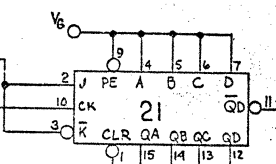
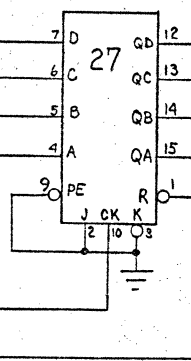
SBR BIT 15 (+) BW-4

ACC BIT 15 B12 +

SEL HEXD A (+) AN-2

SEL HEXD B (-) AP-2

GATE LAMP P4 (-) AH-2



F-2 (+) BUS BIT 12

G-2 (+) 13

H-2 (+) 14

I-2 (+) BUS BIT 15

Z-2 (-) LAMP BUS 12

AA-2 (-) 13

AB-2 (-) 14

AC-2 (-) LAMP BUS 15

BZ-2 (+) MAR CMP P4

BX-7 (+) KEY DATA

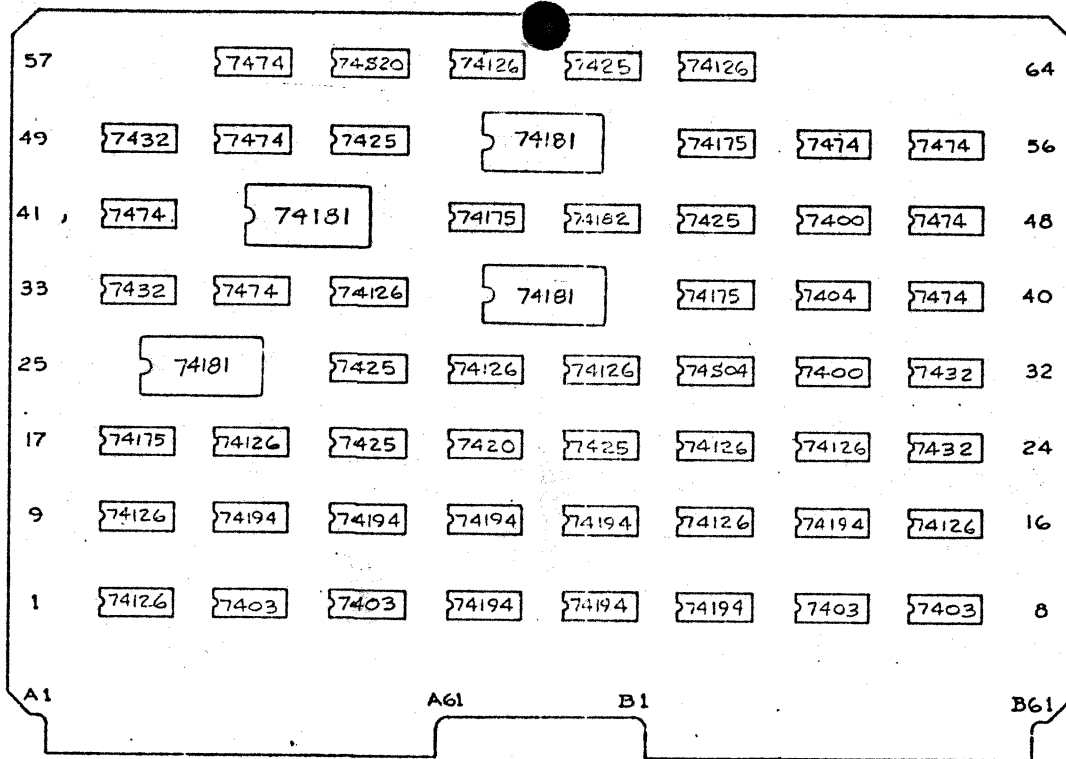
B15 + HEX BIT 12

B17 + 13

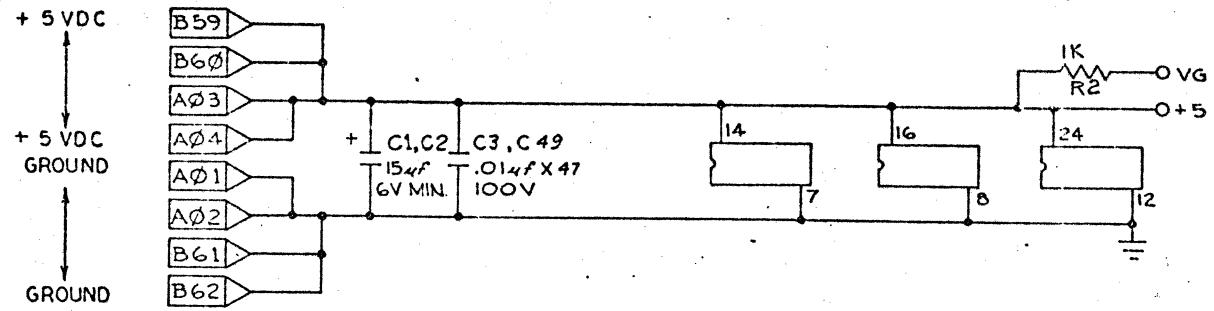
BØ6 + 14

BØØ + HEX BIT 15

NOTES:
 1- THIS DRAWING USED IN CONJUNCTION WITH PART NO. AC-2125



ASSEMBLY REVISION DATA (REF)		
REV.	DESCRIPTION	EFFECT



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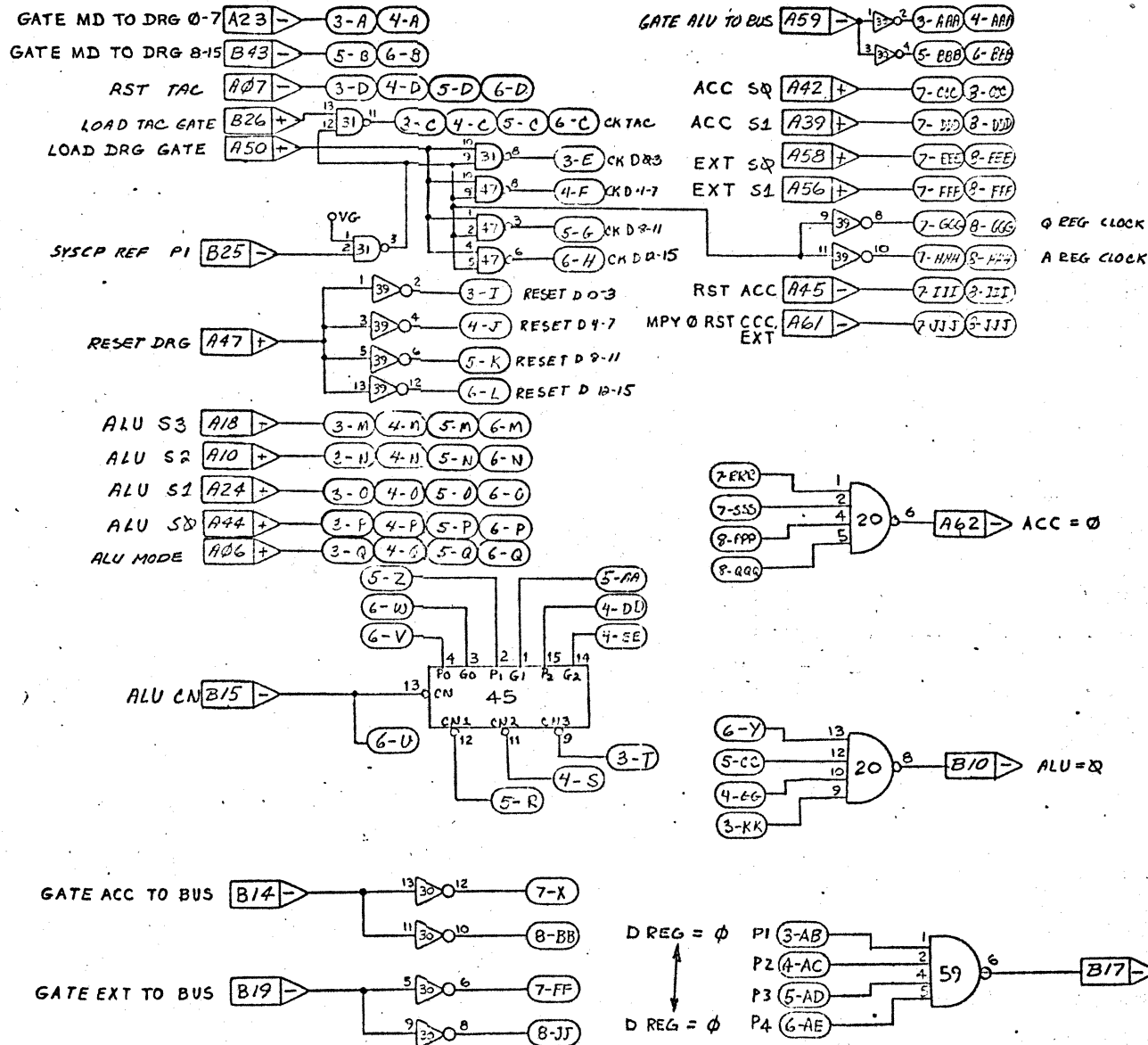
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	R2

FILE NUMBER	

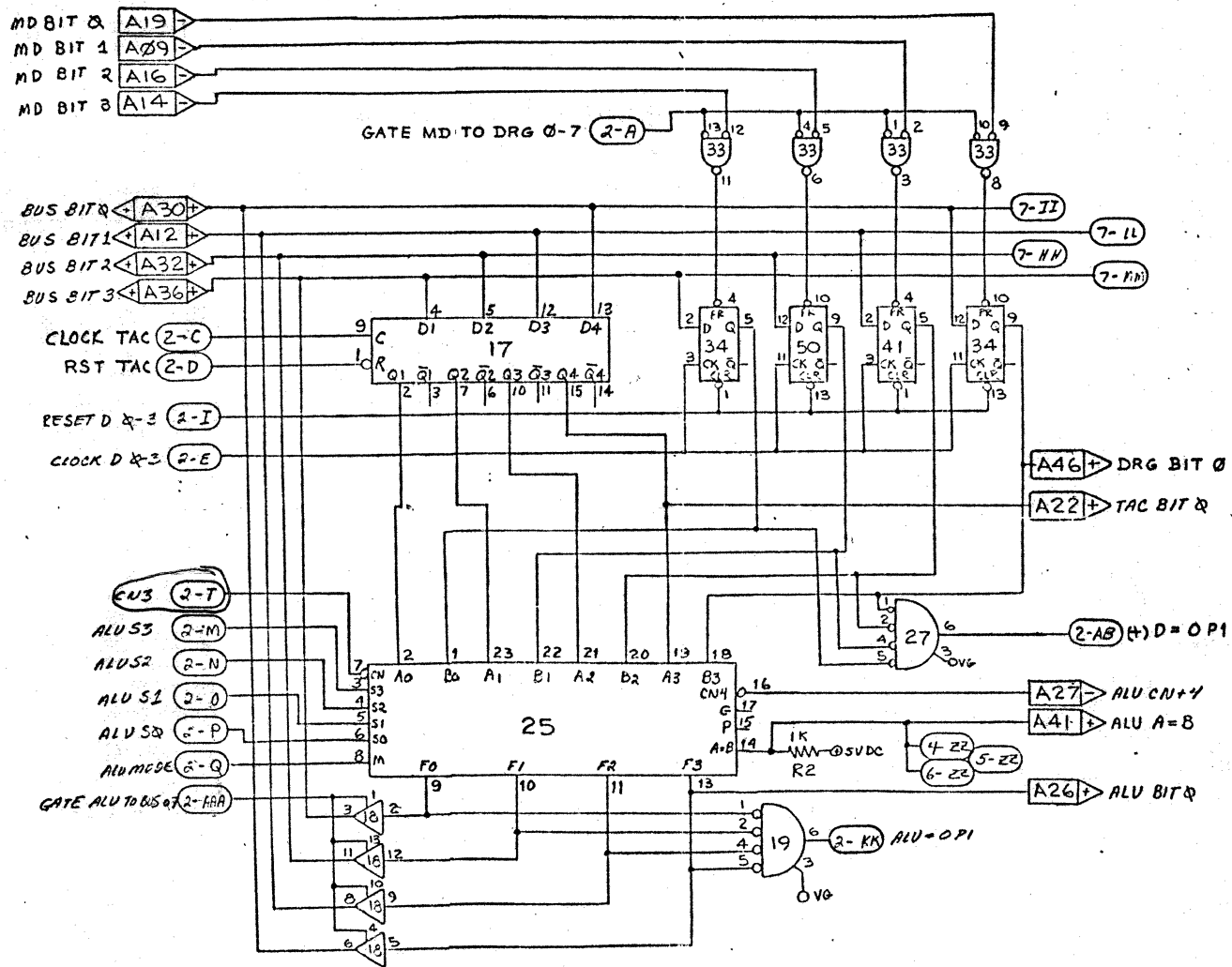
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LIST OF MATERIALS	

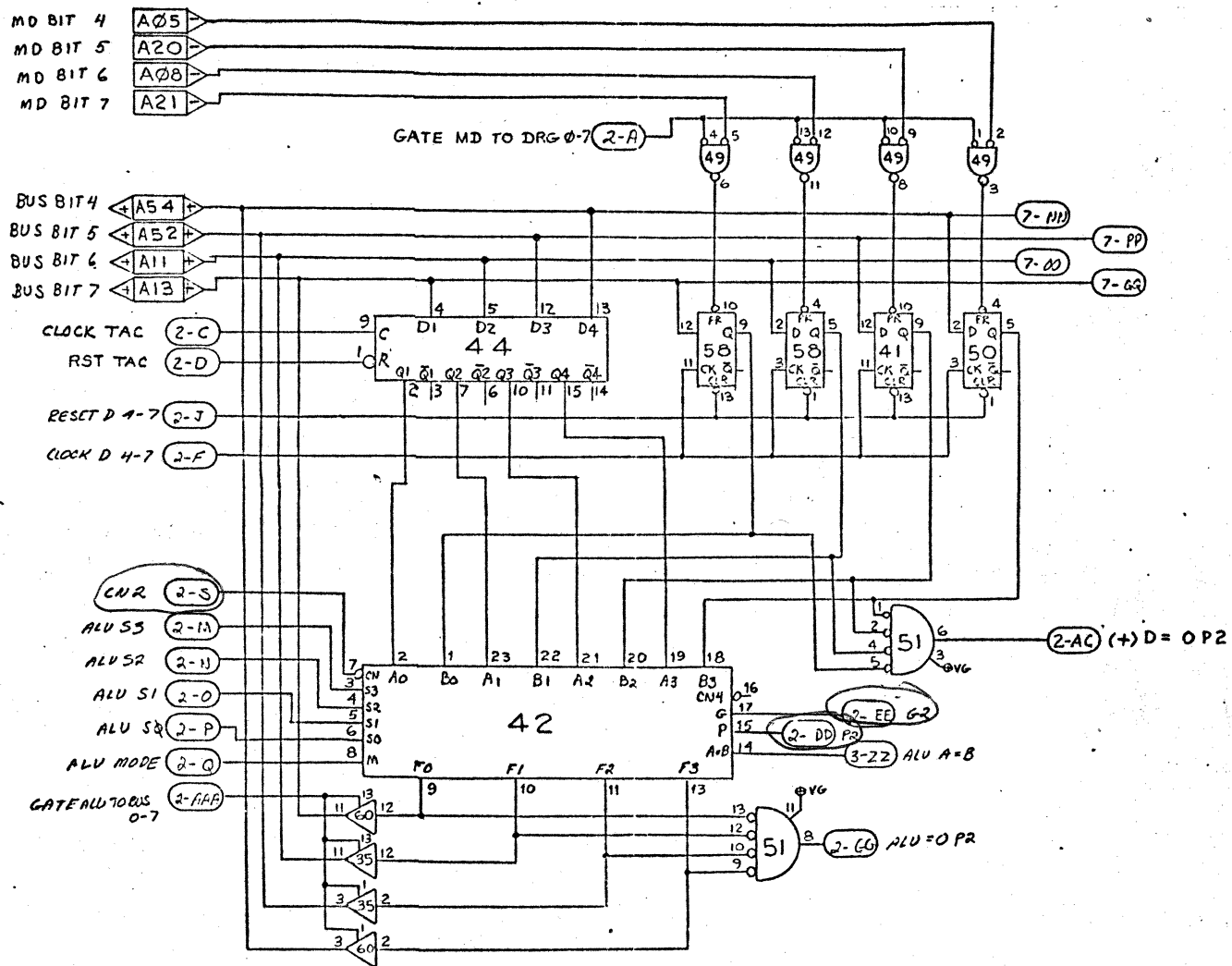
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BREAK SHARP EDGES MAX IN THE CORNER	ALL MACHINE SURFACES	DRAWN [Signature] 08-07-74	CHECKED [Signature]
CHAMFER ALL THROAT 1/16" RADIUS UNLESS OTHERWISE SPECIFIED	ORIGIN T.H. JEFFE	SCALE SC	DATE 8/23/74
CHANGE RECORD NO 2123	DO NOT SCALE THIS PRINT	SCALE	SHEET 1 OF 2

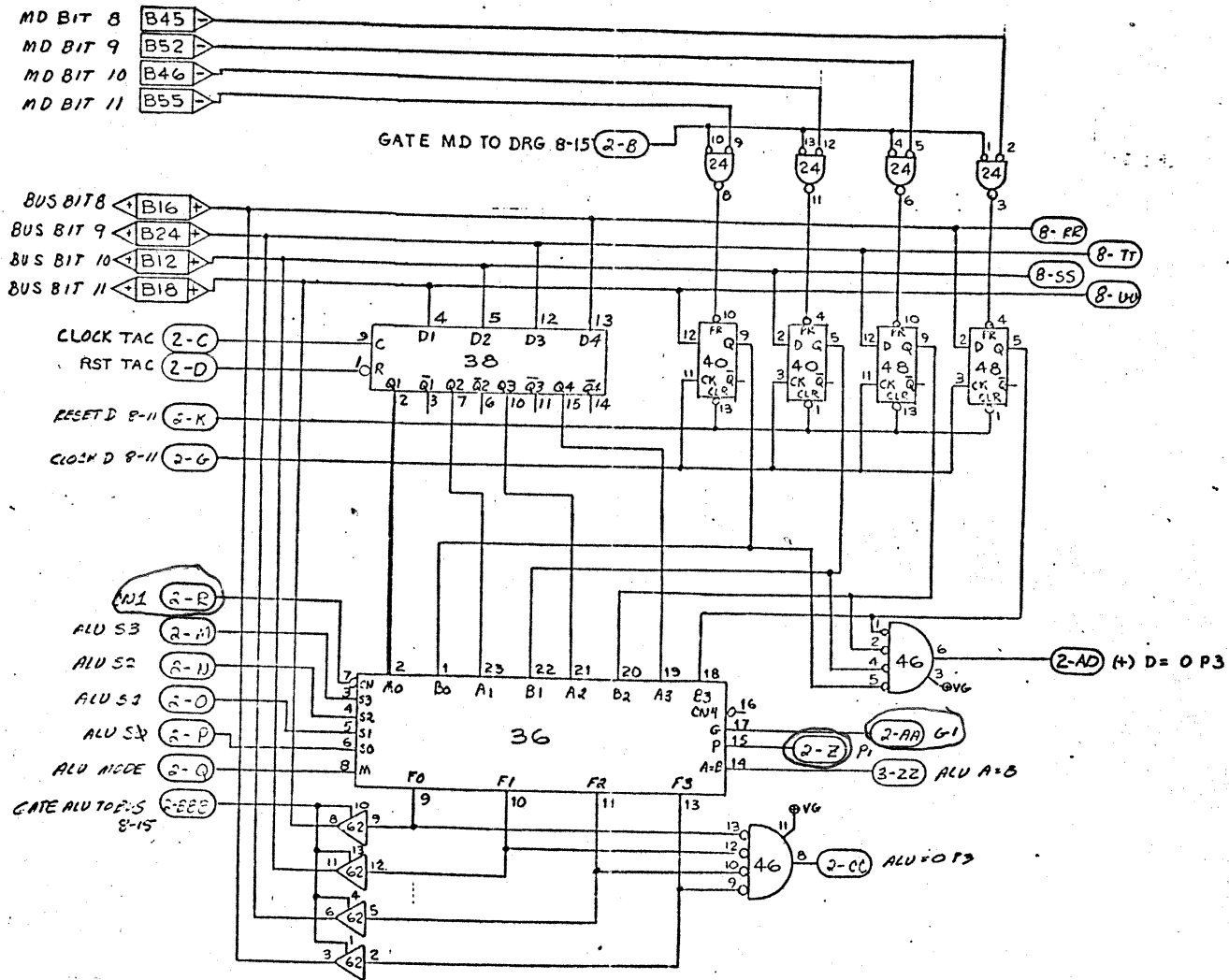


SC 2123



21 076
 12 11-1
 4
 11

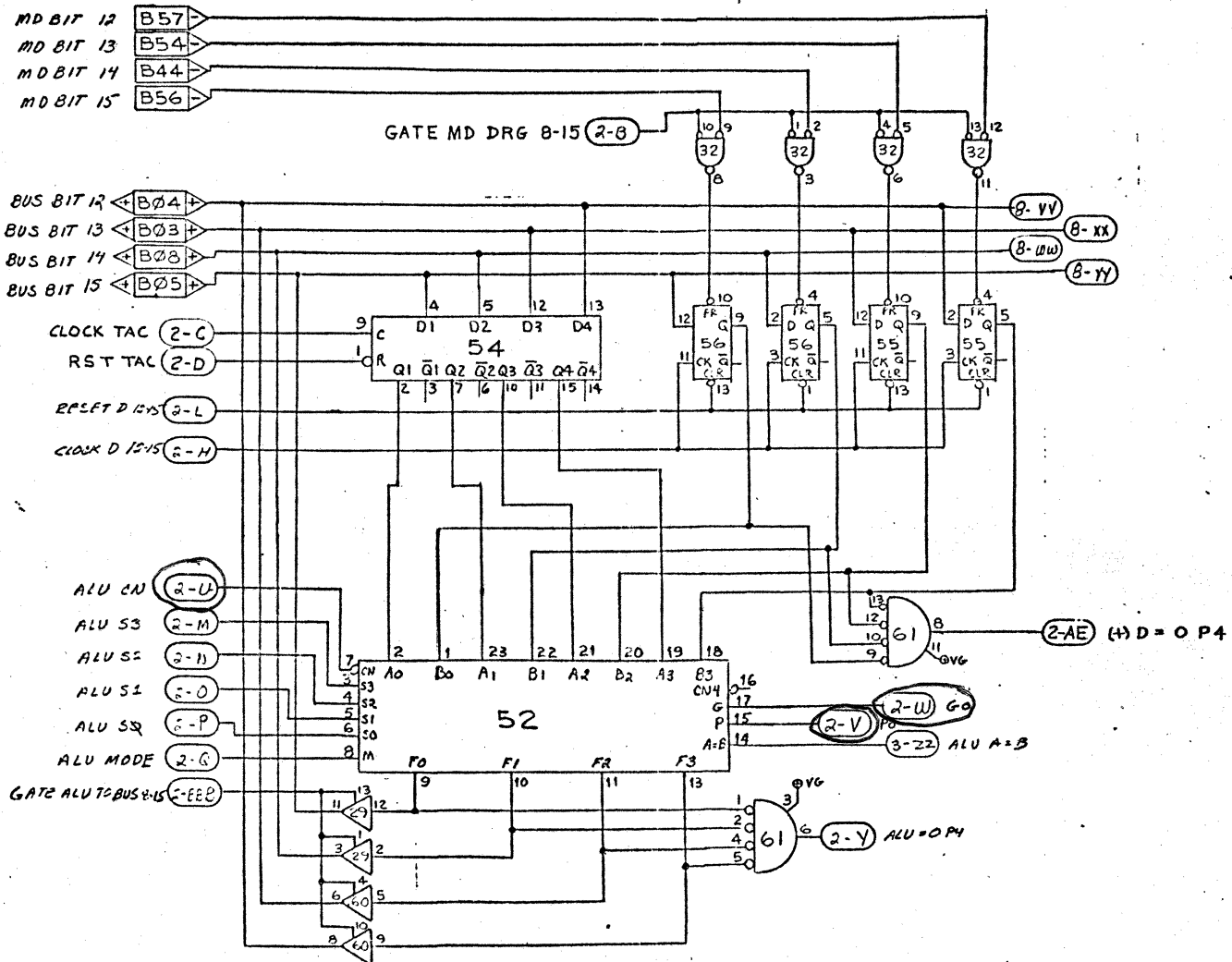


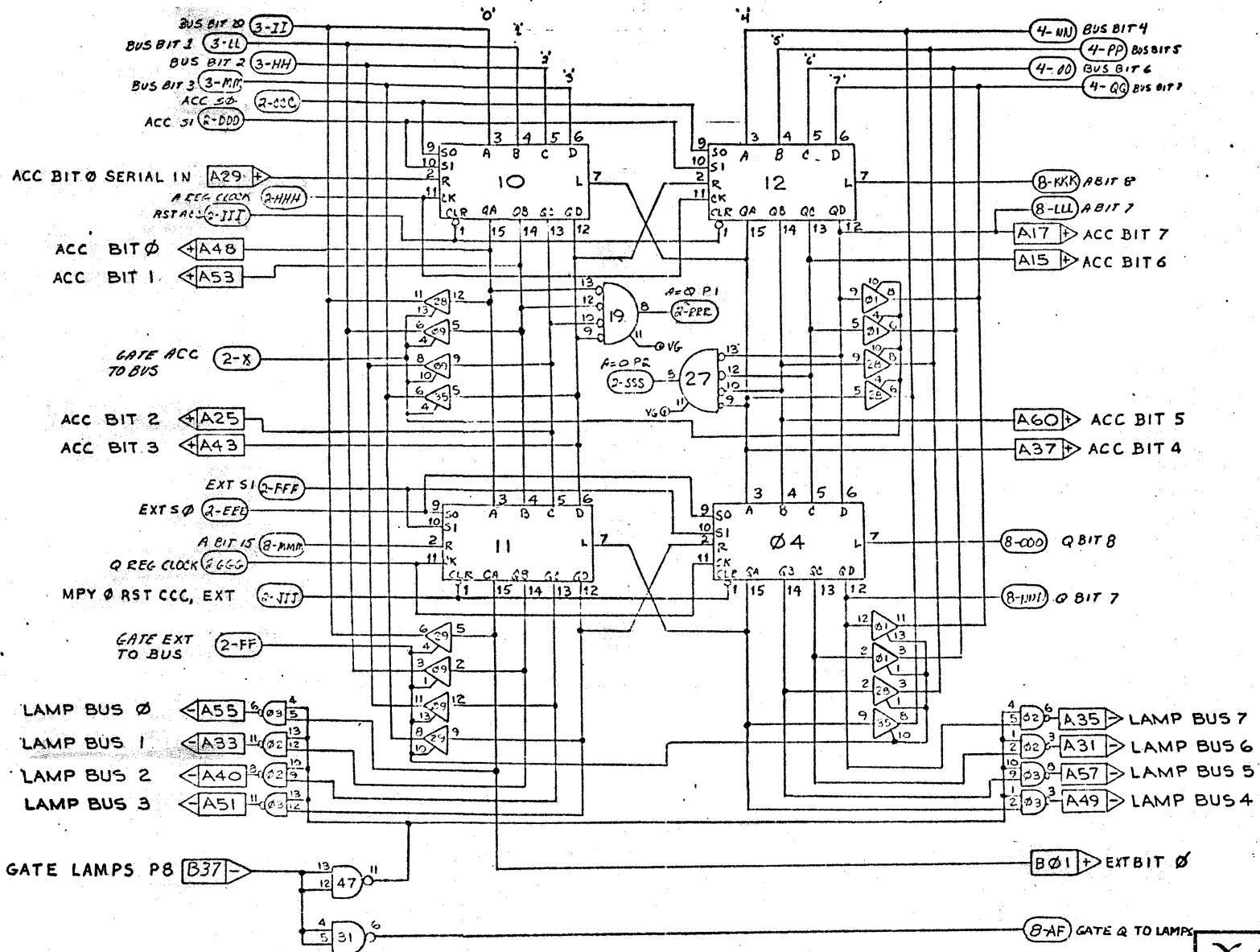


SC 2123

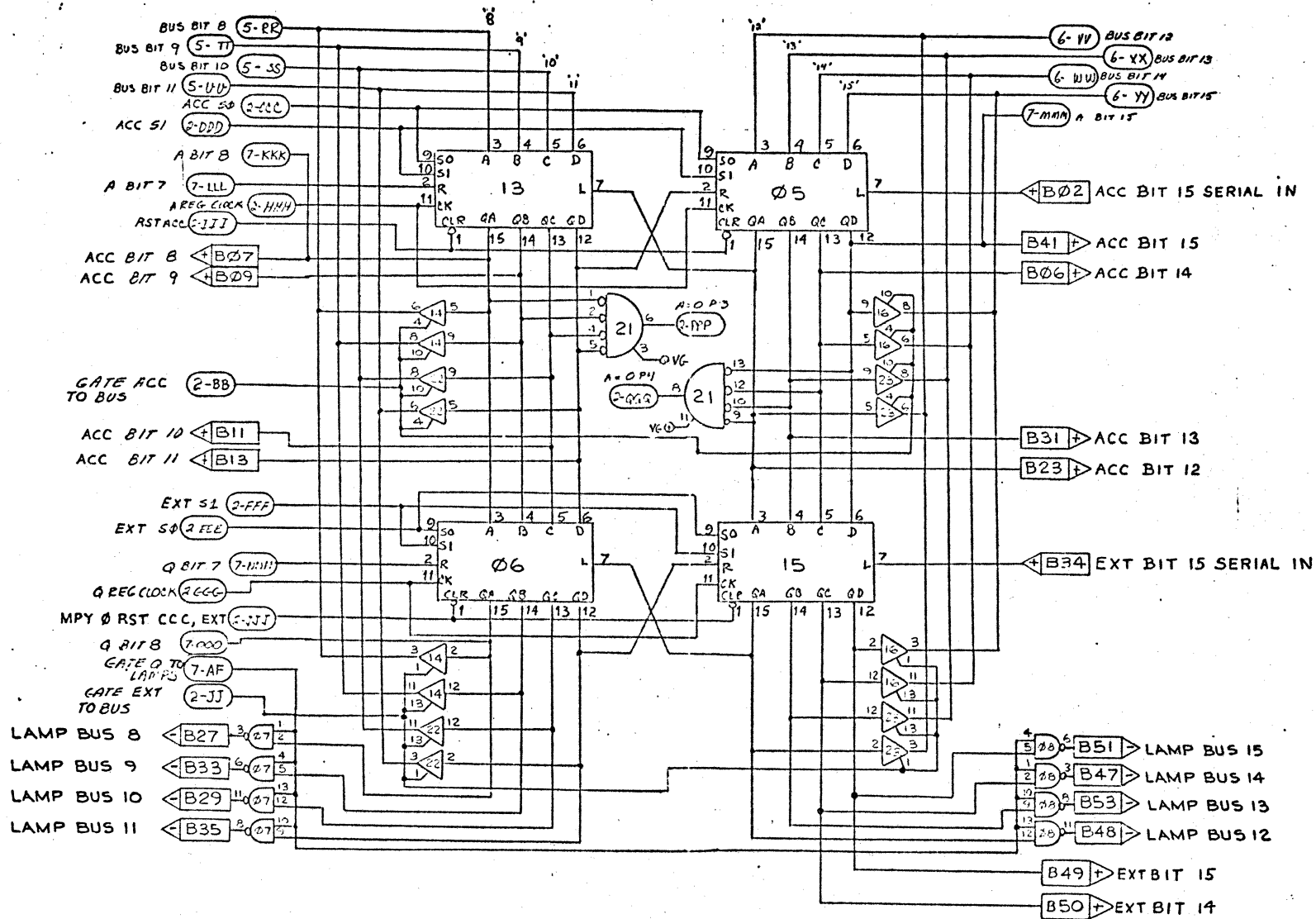
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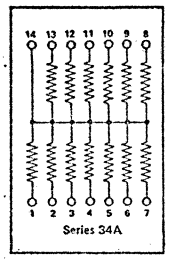
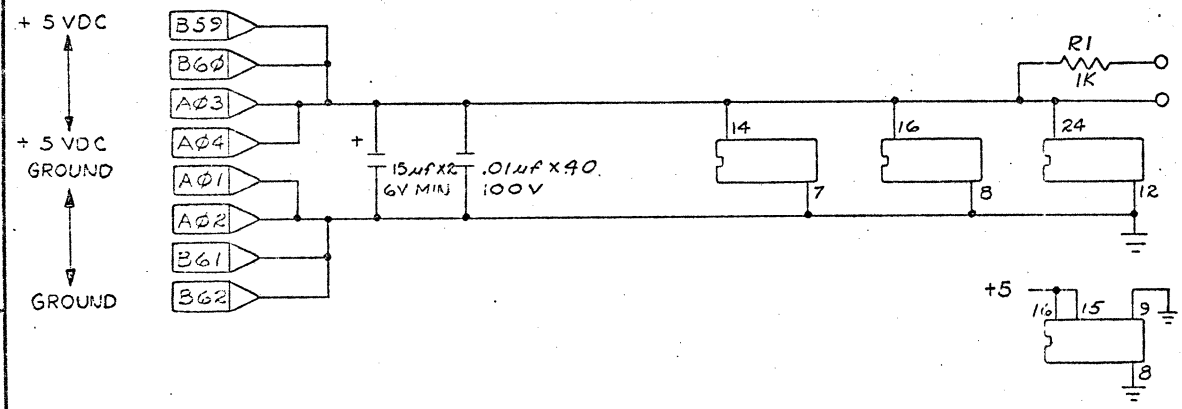
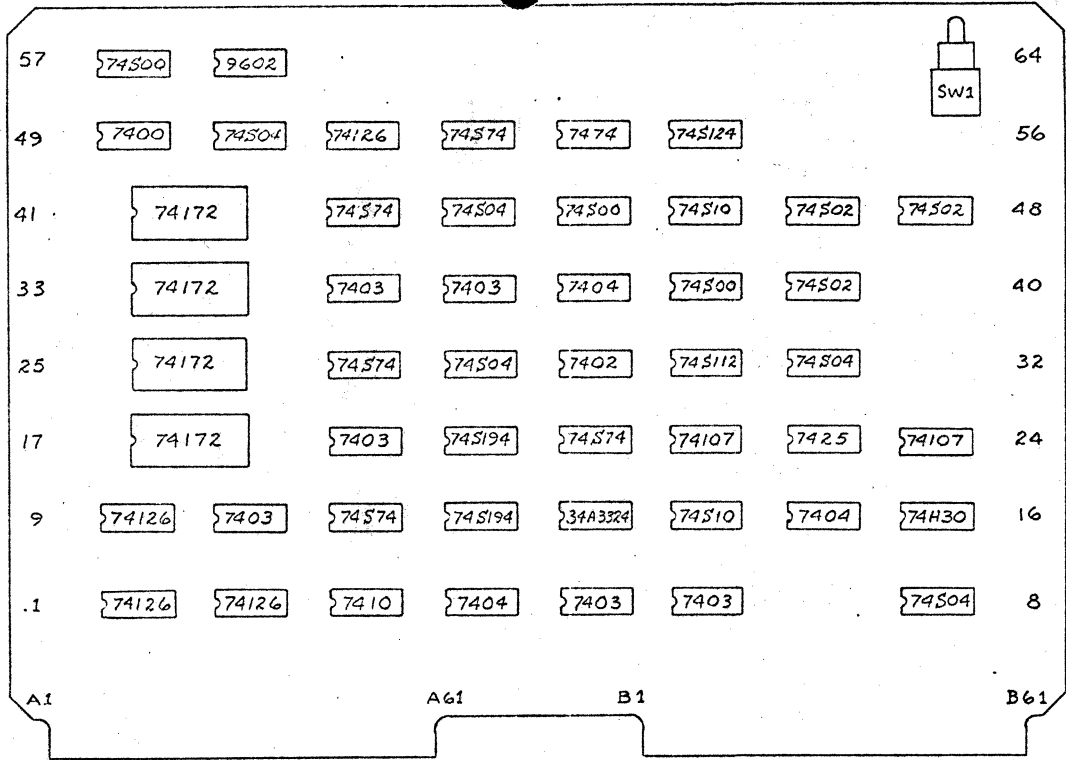
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2 BITS
X 1XR



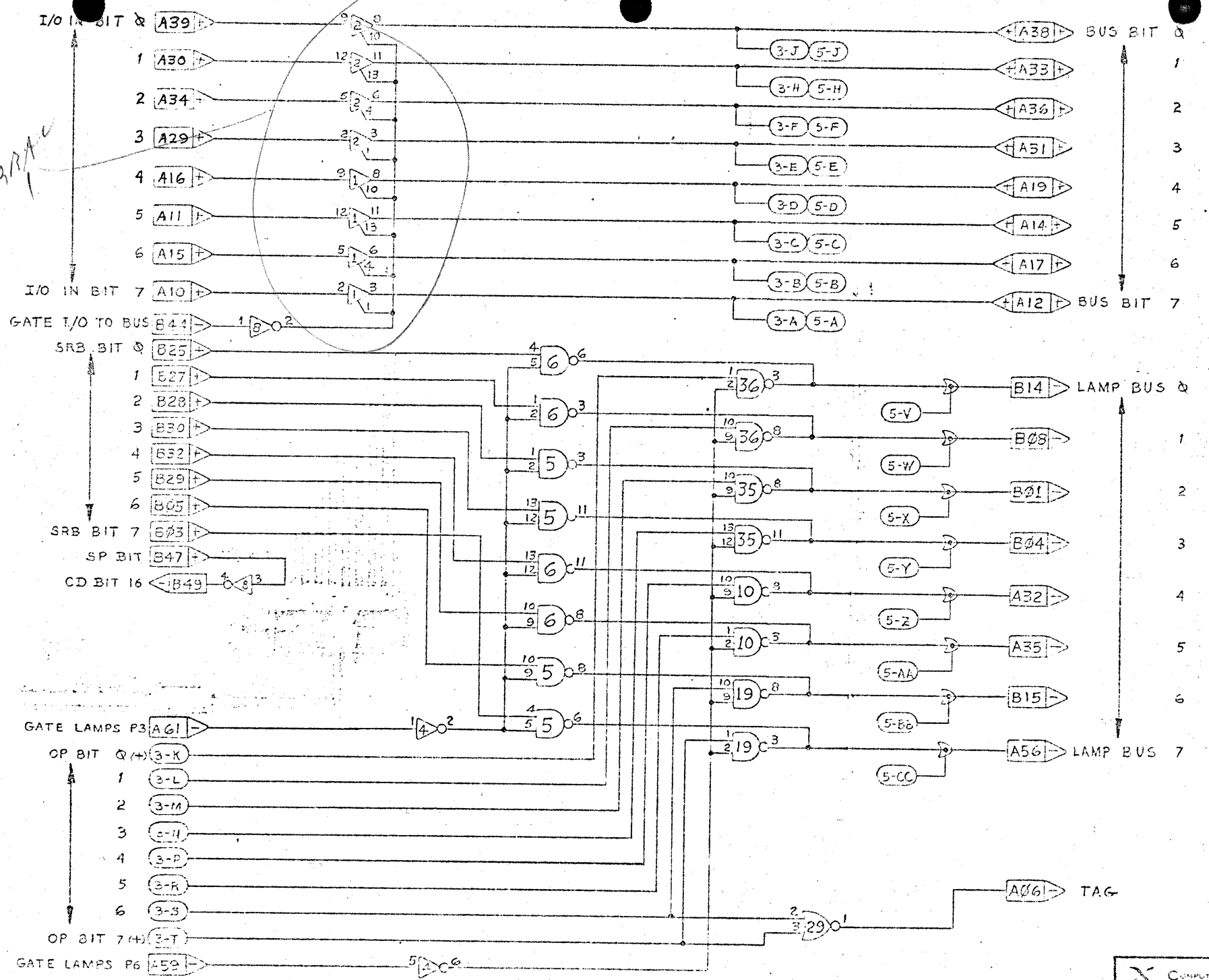


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PC-2152	A A

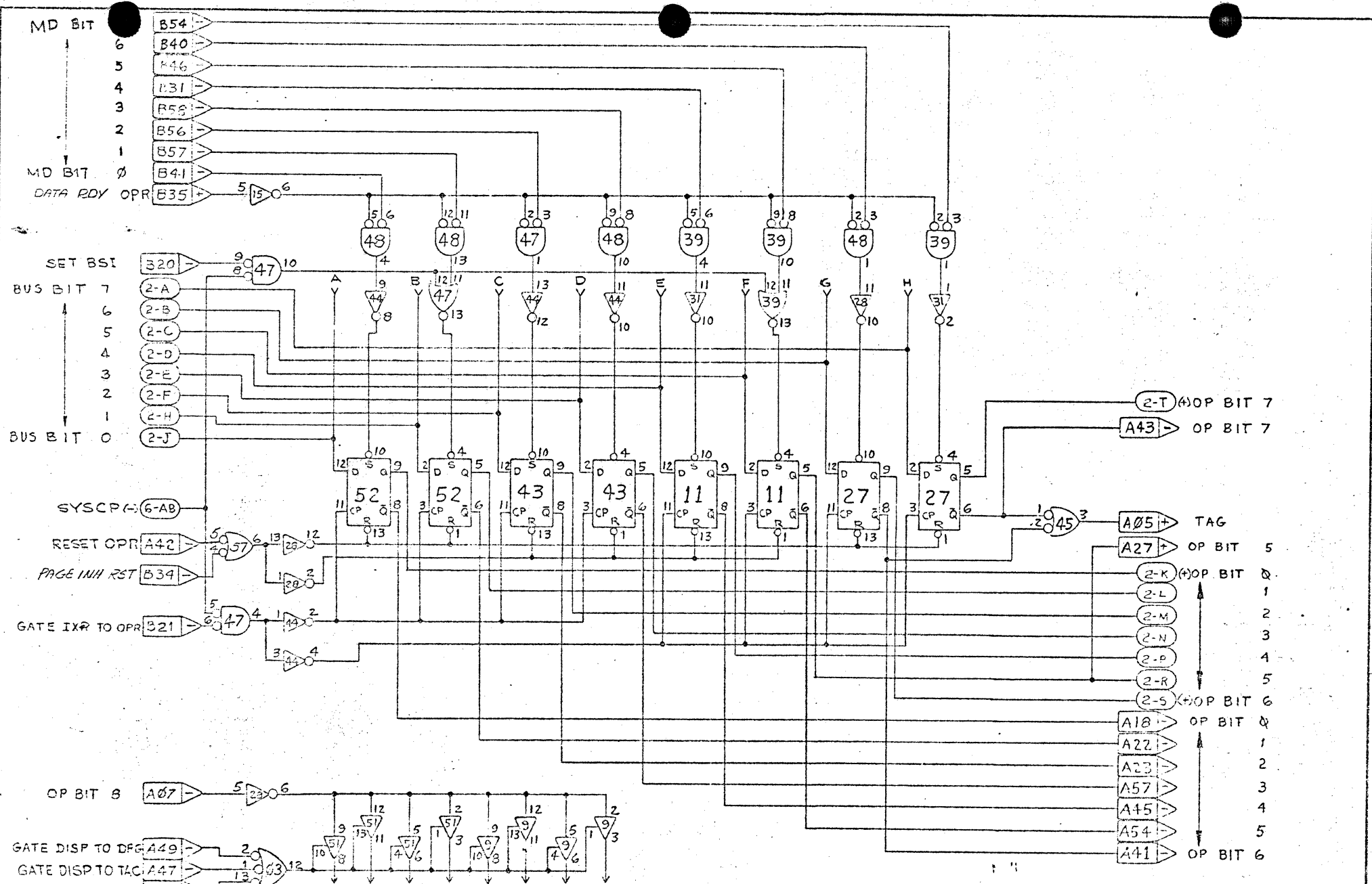
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	D4	
	POT 2	

QTY	PLCD	PART OR FILE NUMBER	NOMENCLATURE	MFG. PART NO OR MATERIAL	MFG. NAME OR SPECIFICATION	ITEM NO
LIST OF MATERIALS						
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TITLE			REGISTER, OP INDEX φ-7, EXT MEM			
DRAWN			SMITH 11/1/77			
DESIGN			TW			
SCALE			SC			
DATE			7/13/77			
SHEET			1 OF 13			
NO. NO			3360			
REV. NO			A			

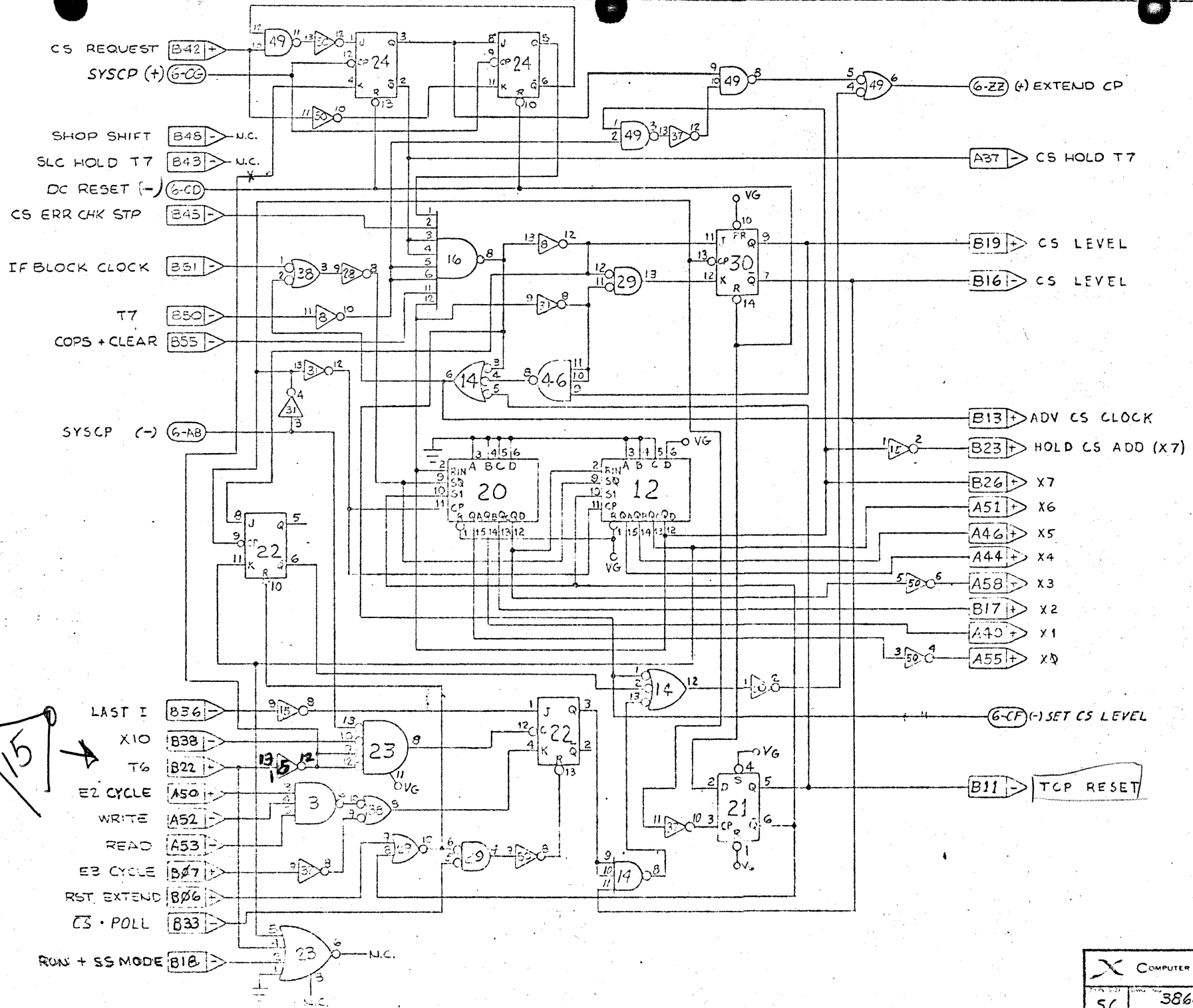
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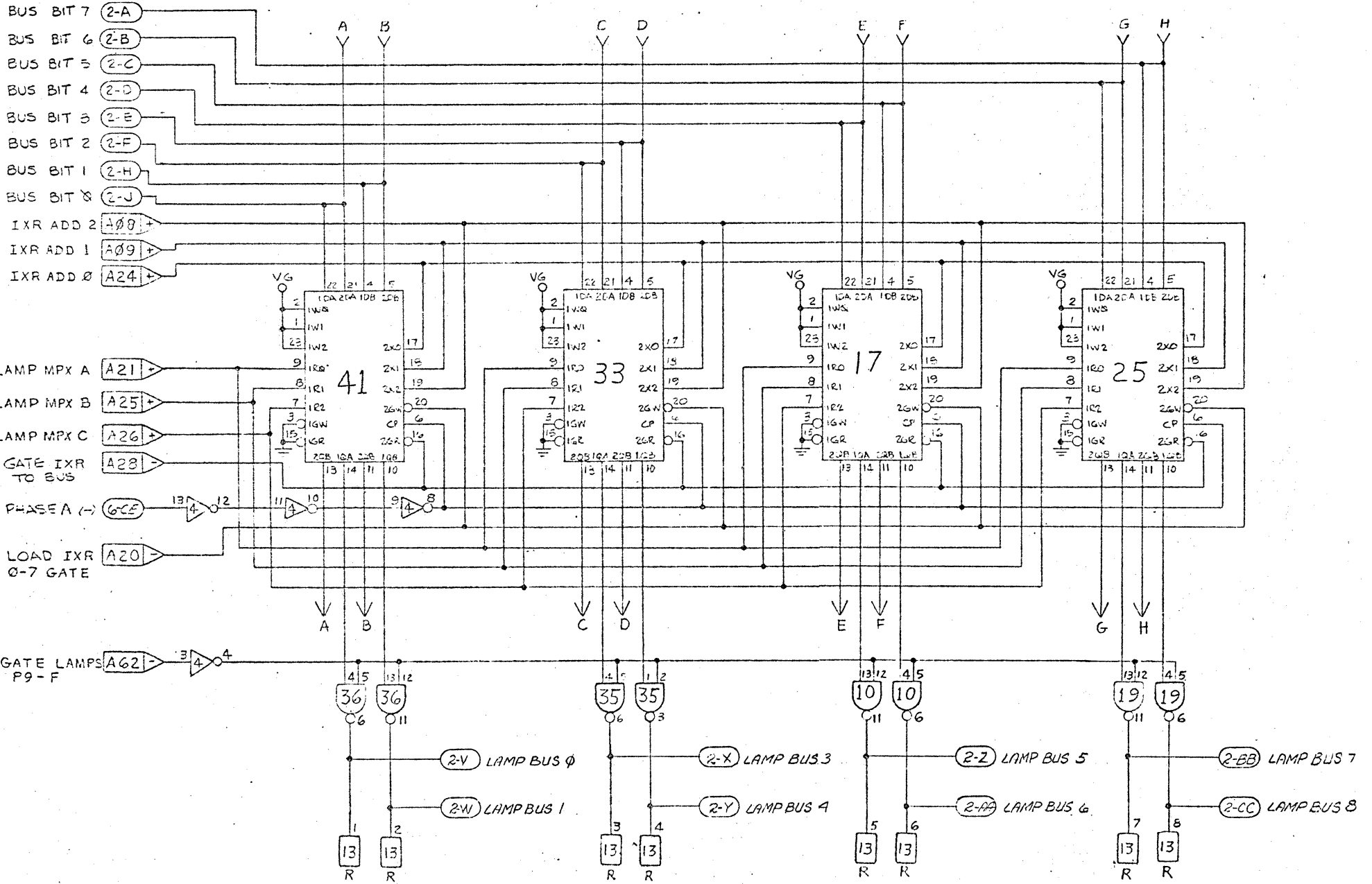


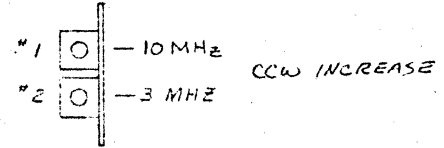
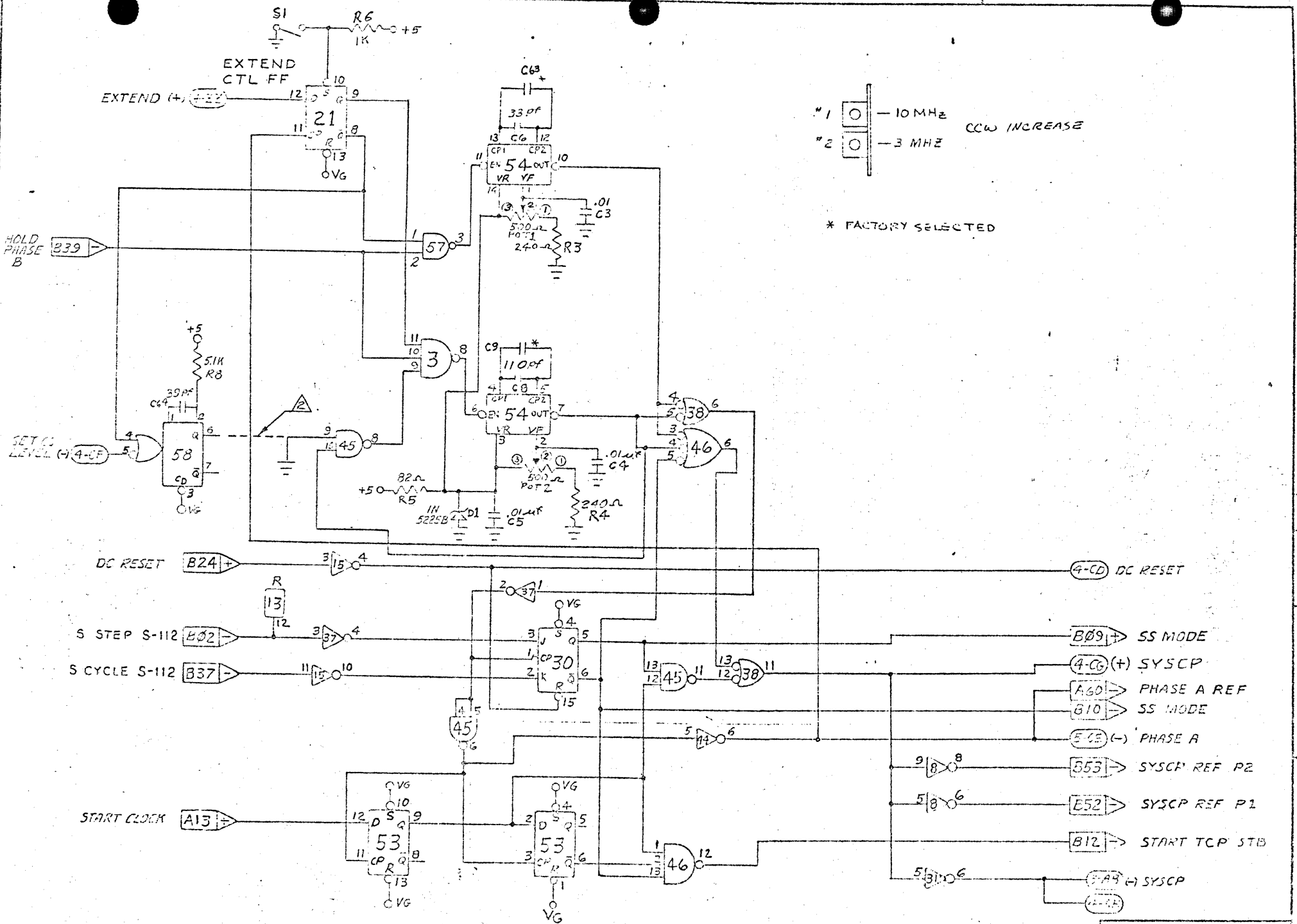
X COMPUTER HARDWARE INC.		
SC	3860 2-13	A



FILE NUMBER	PART OR FILE NUMBER	NOMENCLATURE	MFG PART NO OR MATERIAL	MFG NAME OR SPECIFICATION	ITEM NO
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<small>THIS PRINT CONTAINS THE PART INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN IS PROHIBITED FOR ANY AND ALL PURPOSES WITHOUT THE EXPRESS WRITTEN PERMISSION FROM COMPUTER HARDWARE, INC.</small>		<small>ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. DATE 11/13/01 BY 60322 UCBAW/STP</small>			
<small>ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. DATE 11/13/01 BY 60322 UCBAW/STP</small>		COMPUTER HARDWARE INC			
DATE	REV	DATE	BY	CHKD	
			ELN		
			SC		
					3860
					3 B A

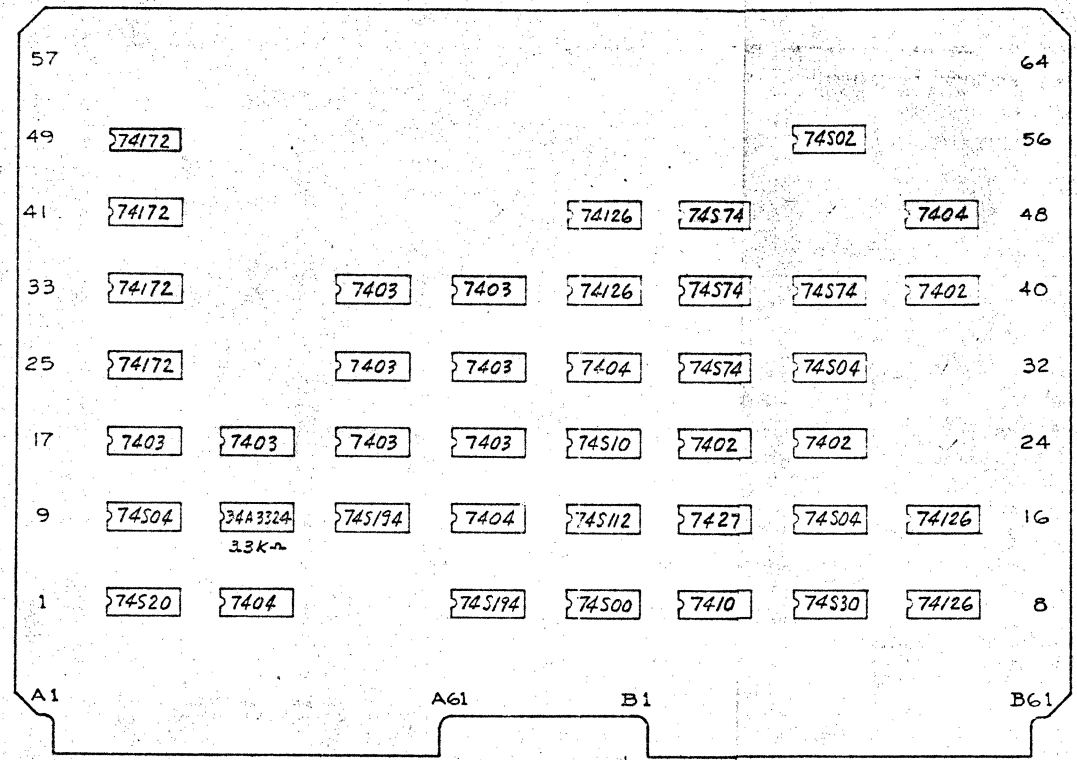




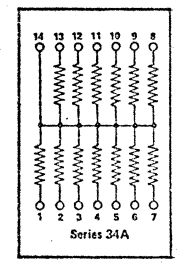
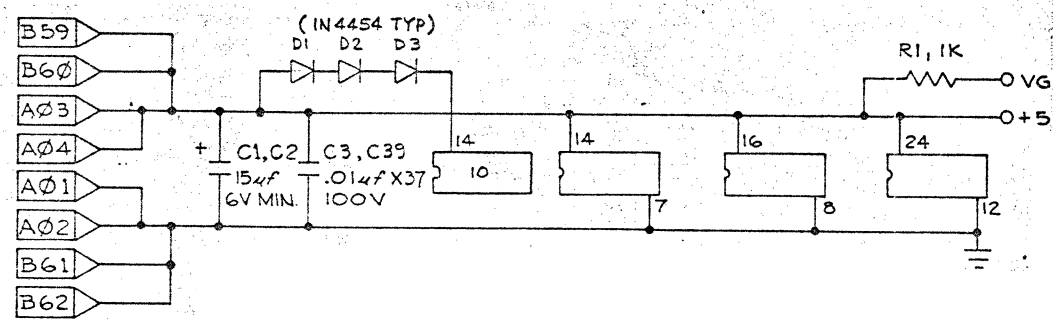


* FACTORY SELECTED

ASSEMBLY REVISION (REF)		
REV.	DESCRIPTION	EFFECT
1R		



+ 5 VDC
 + 5 VDC GROUND
 GROUND



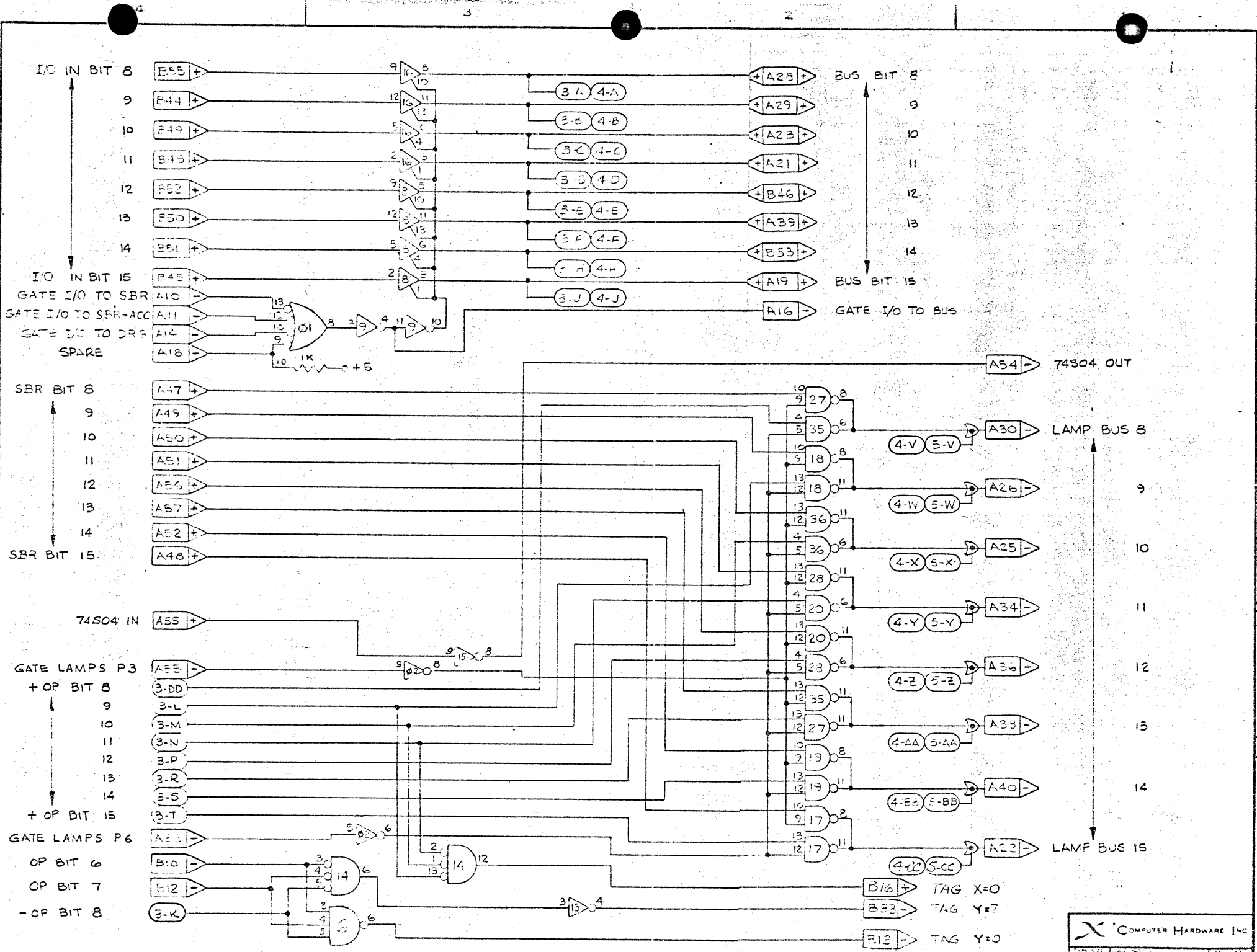
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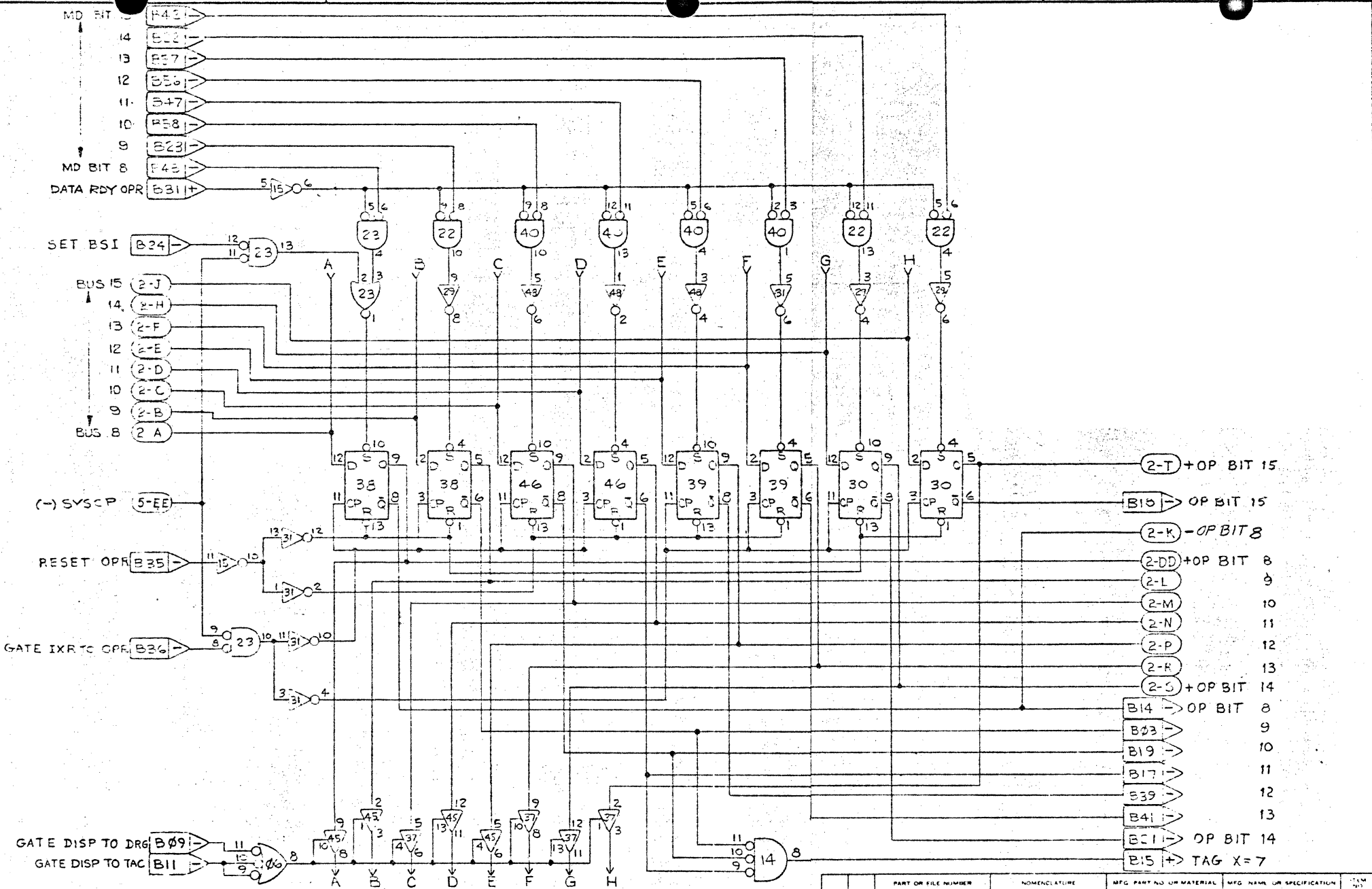
REF. DES.	QTY.	UNIT	DESCRIPTION
SC-3861	NC		
PC-2149	A		
AC-3861	NC		

CODE	REF. DES.	FILE NUMBER
EE	C52	
	D3	
	R1	

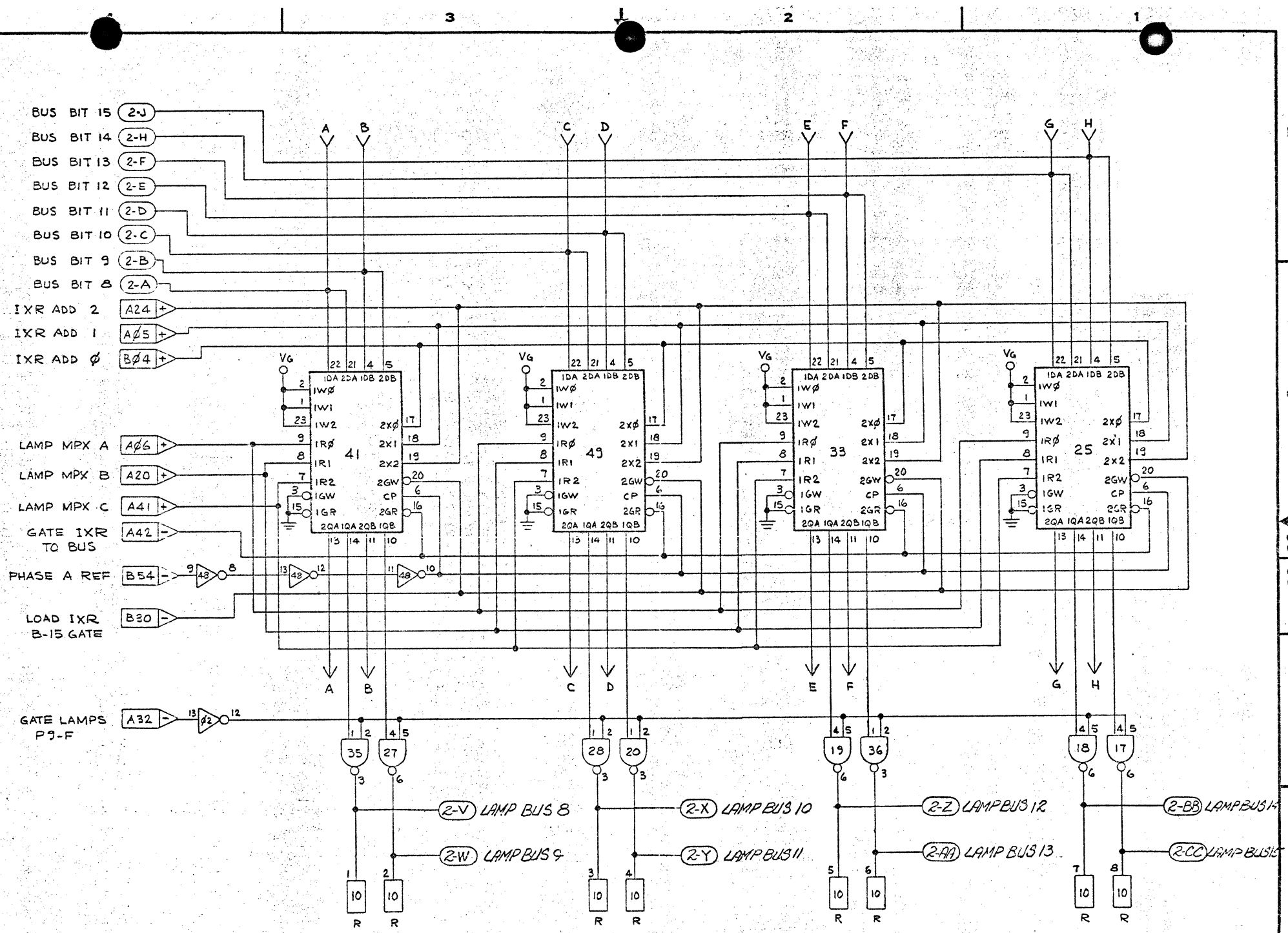
QTY.	REF. DES.	DESCRIPTION	UNIT	REMARKS
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		COMPUTER HARDWARE INC		
		SMU 15NSV17		
		MM		
		SC		

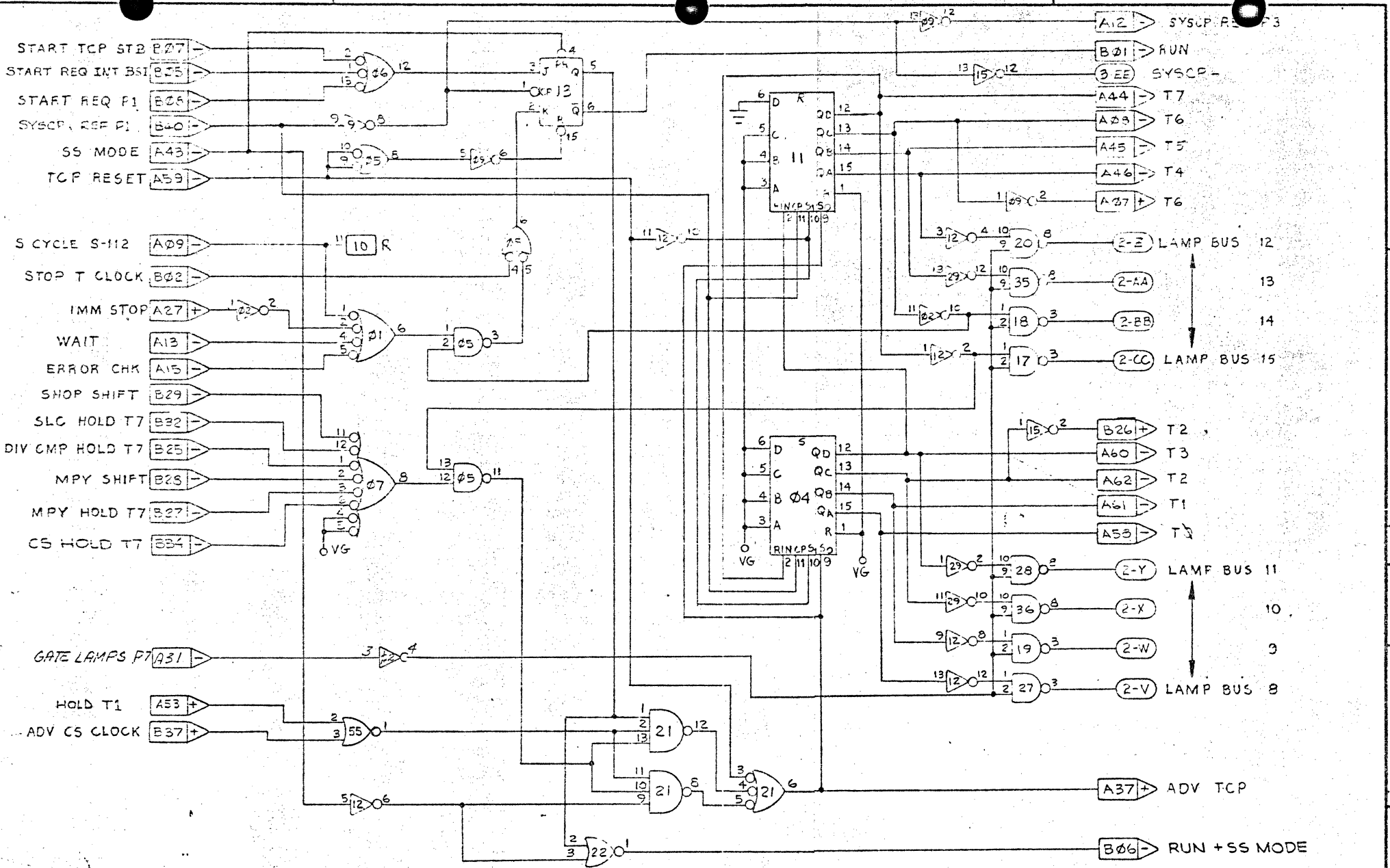
1981 05A
 2096



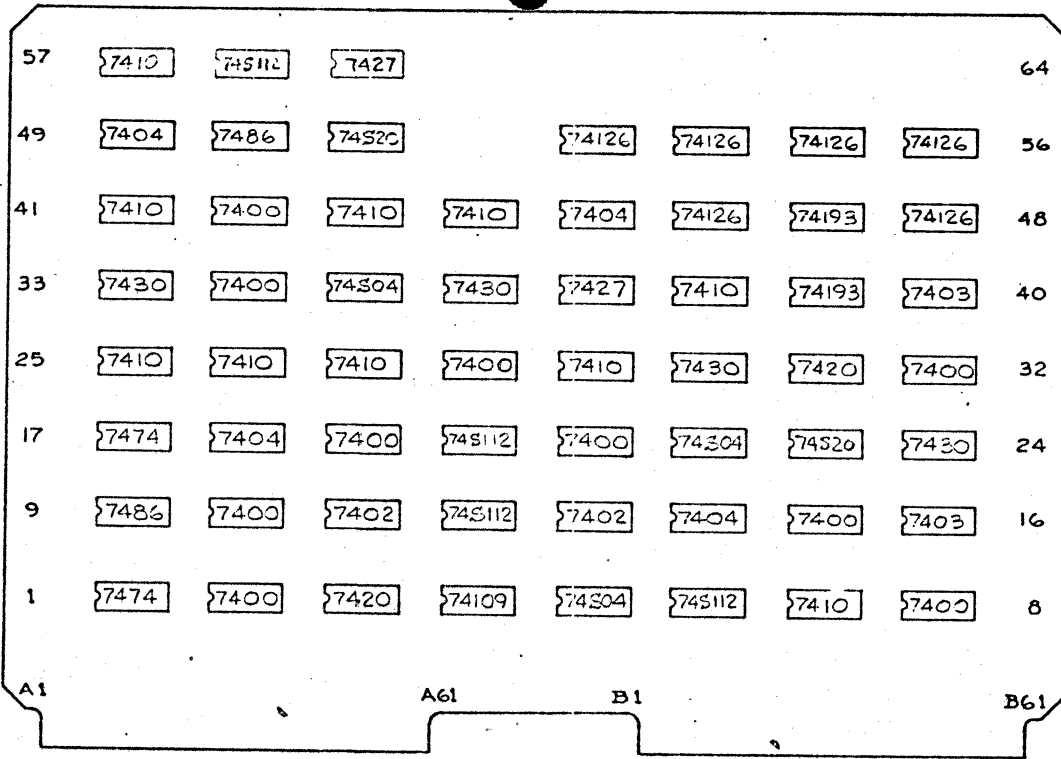


PART OR FILE NUMBER		NOMENCLATURE		MFG PART NO OR MATERIAL		MFG NAME OR SPECIFICATION		ITEM NO													
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FILE NUMBER	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE IN HEREIN FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	ANGLE	AS SHOWN	DECIMAL PLACES	3	COMPUTER HARDWARE INC DRAWN: _____ CHECKED: _____ DATE: _____	3861 3 x 3 101													
	LETTER		SPIN	DATE	SCALE																

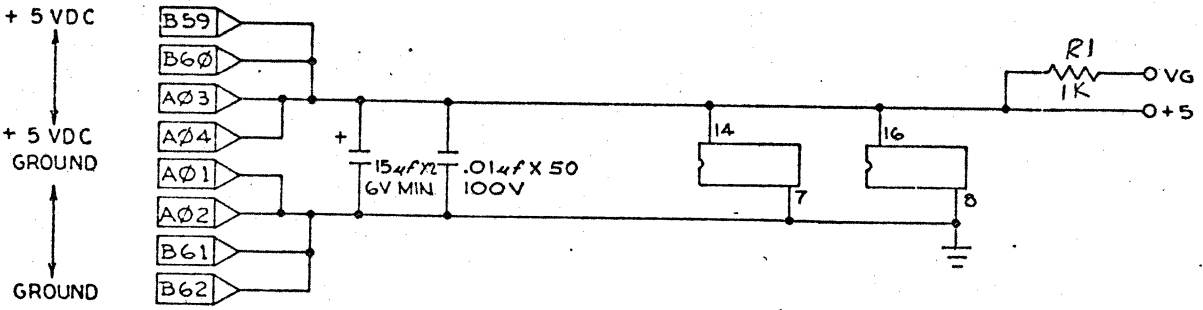




NOTES:
1- DELETED.



ASSEMBLY REVISION A (REF)		
REV. LTR.	DESCRIPTION	REASON
A	IC POS 23 74520 WAS 7420	DESIGN CHANGE
C	REMOVED 8 EQUIVALENT IC'S FROM IMPLEMENT USE OF REV A PC CARD	INCREASED MULTIPLE BOARD
D	CORRECT LAYOUT ERRORS ON REV A PC CARD	
E	IMPLEMENT USE OF REV B PC CARD.	
F	ADD SHEET 30-3 TO SHOW ADDITIONAL CIRCUIT AT POSITION 29	
G	CORRECT DRAWING ERROR, IC AT POS 59 WAS 7410	
H	ADDED IC IN POS 58	SO END OP MAY BE PROPERLY DETECTED
J	ADDED WIRE OMITTED ON H CHG	
K	REVISED AND ADDED ADDITIONAL CIRCUIT AT POS 59 TO CORRECT ERROR IN RESET OF CARRY INDICATOR DURING SHIFT LEFT AND COUNT OPERATION.	
L	REVISED AND ADDED ADDITIONAL CIRCUITRY AT POS 58 TO ADD EXTRA T7 TO DIVIDE E1 CYCLE TO CORRECT MARGINAL SAR LOAD AFTER ABORTED DIVIDE OP.	



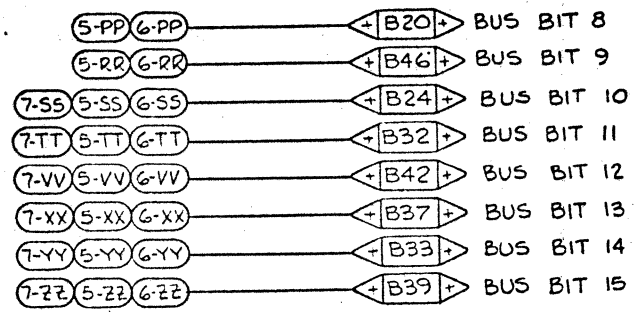
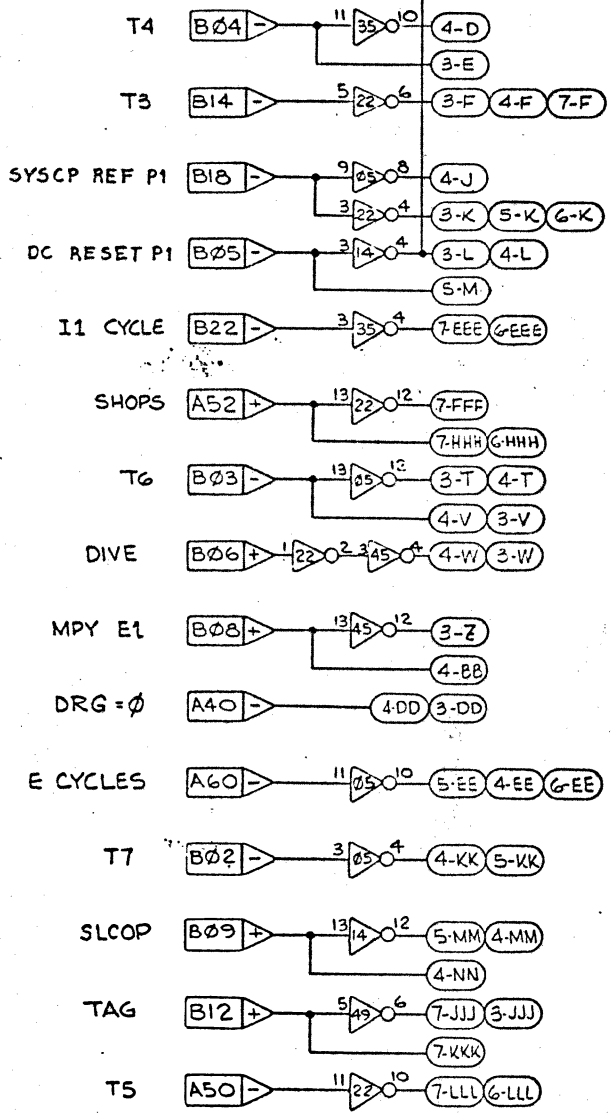
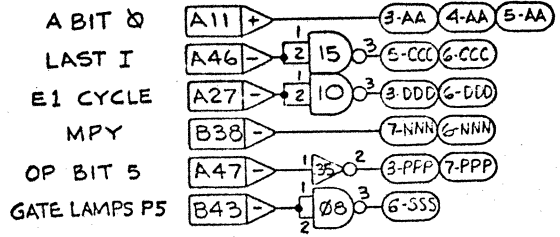
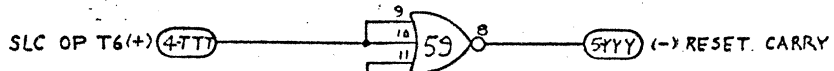
CONFIGURATION TABLE			
REV.	NO.	REV.	NO.
SC-2129	PC-2130	AC-2131	
F	B	H	
G	B	K	
H	B	L	

CONFIGURATION TABLE				
SCHEMATIC	REV	PC	REV	ASSY
SC-2129	A	PC-2130	NC	AC-2131
SC-2129	B	PC-2130	NC	AC-2131
SC-2129	C	PC-2130	NC	AC-2131
SC-2129	D	PC-2130	NC	AC-2131
SC-2129	E	PC-2130	NC	AC-2131
SC-2129	F	PC-2130	NC	AC-2131

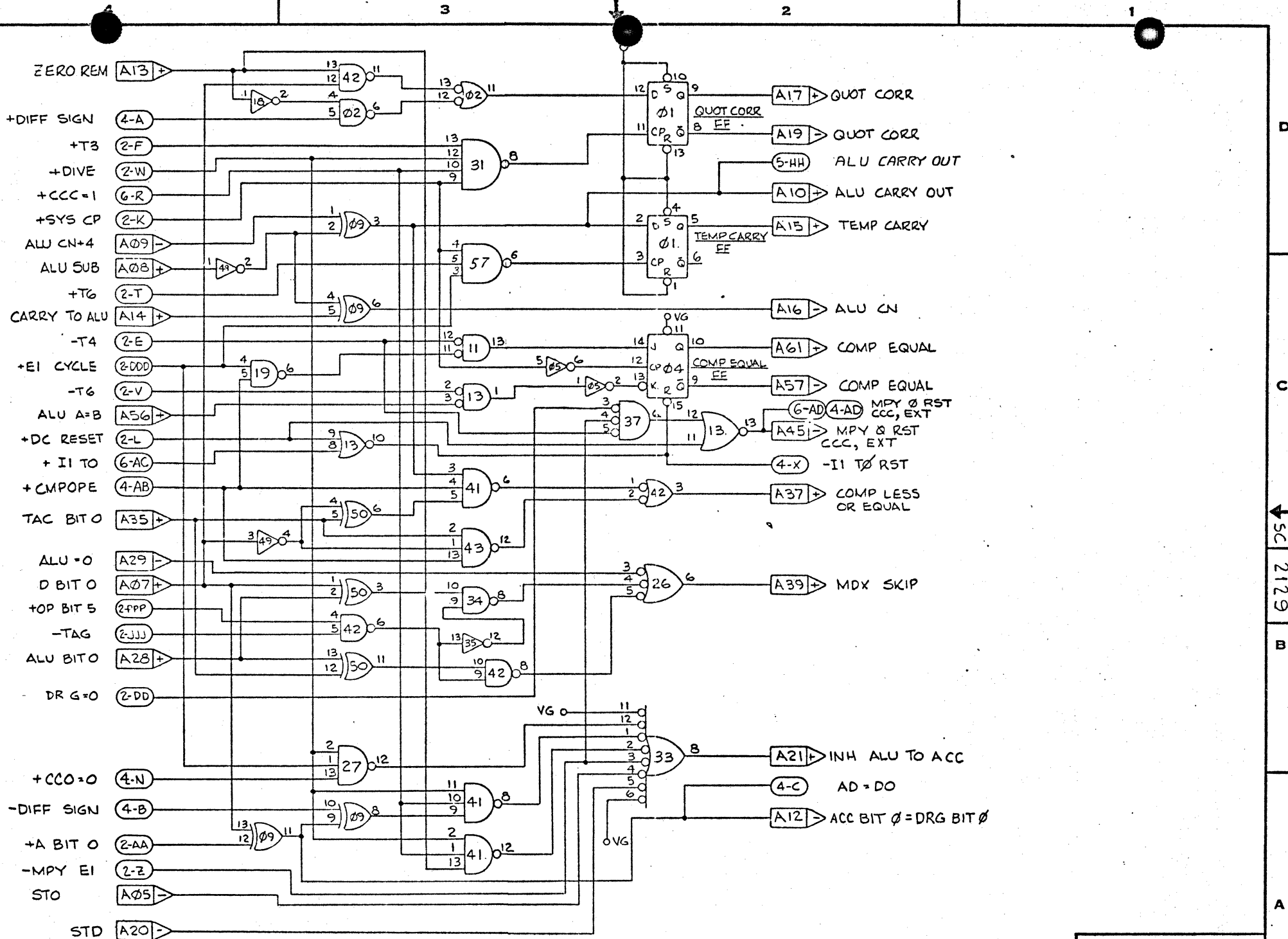
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CODE	REF DES.	
	K2	
	C52	

PART OR FILE NUMBER		NOMENCLATURE	MFG PART NO OR MATERIAL	MFG NAME OR SPECIFICATION	ITEM NO
QTY REQD		LIST OF MATERIALS			
THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DIMENSION TOLERANCES ANGULAR DIMENSION DECIMAL 2 PLACE ± .030 DECIMAL 3 PLACE ± .010			
DRAWN: [Signature]		TITLE: CONTROL, GENERAL ARITH -2131 3231			
CHECKED: [Signature]		X COMPUTER HARDWARE INC			
DATE: [Date]		SHEET 1 OF 7			
CHANGE RECORD (REV)		REV: SC 2129 H			

SC 2129 B MC 2096



D
C
B
A



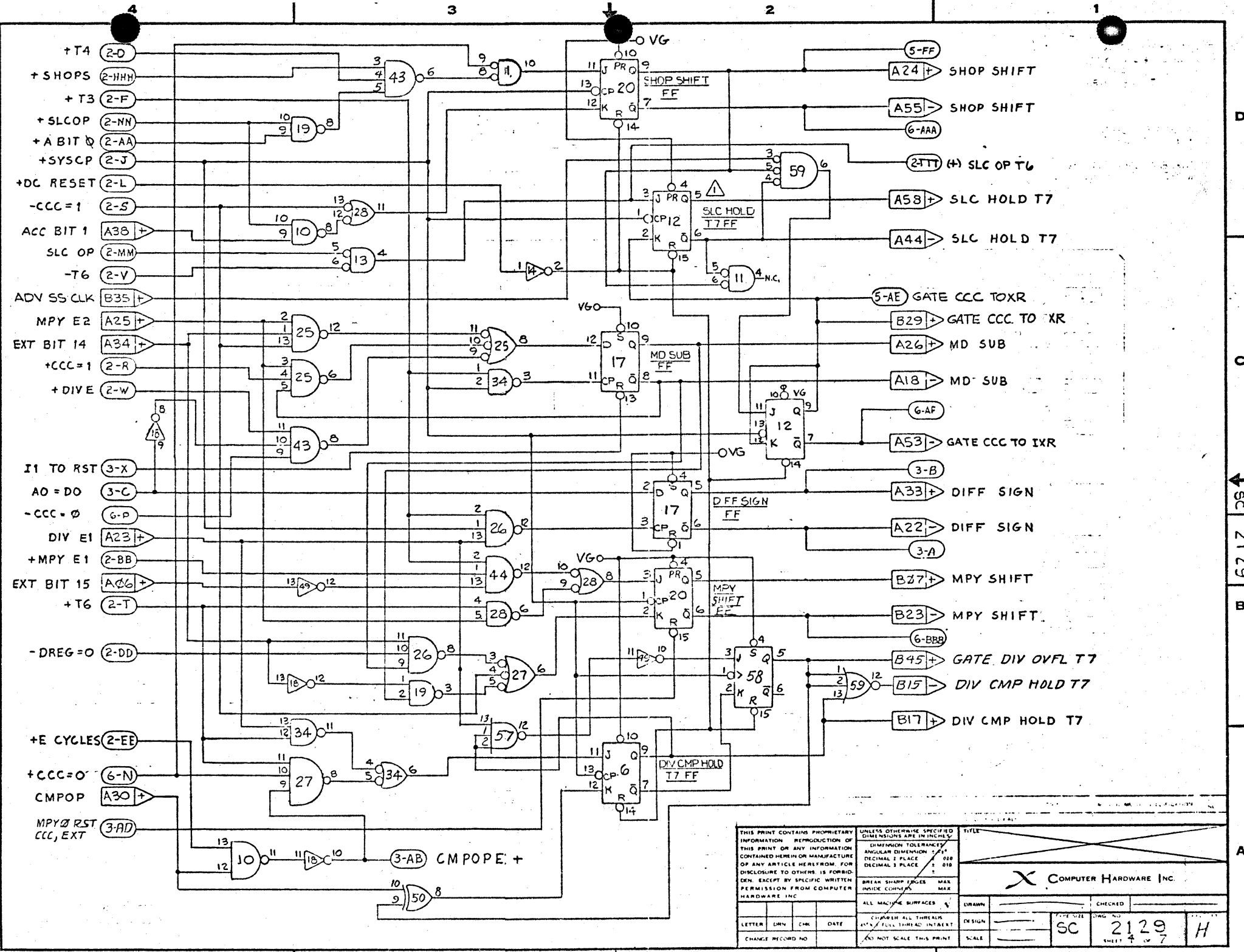
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C

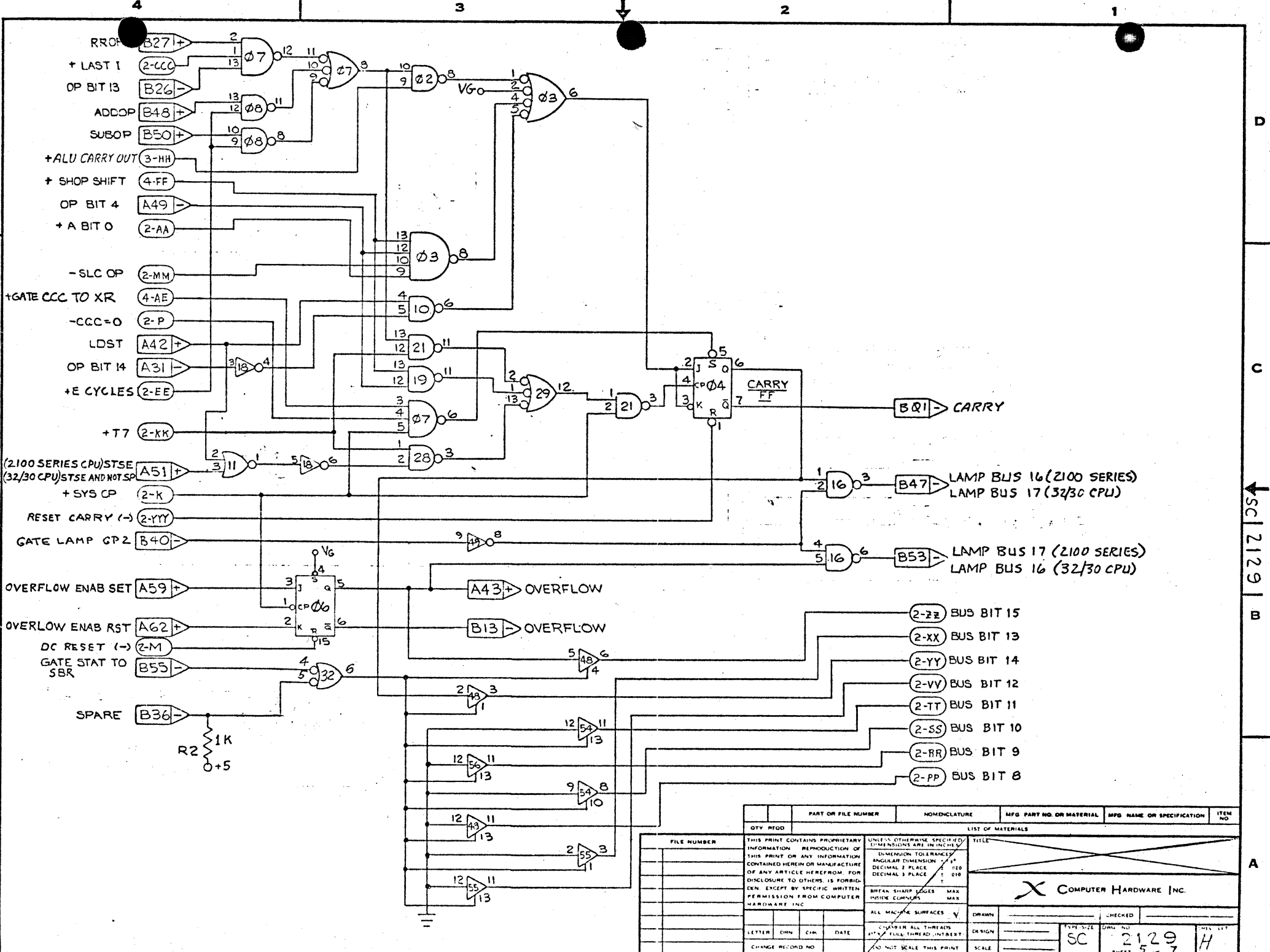
B

A

SC 2129

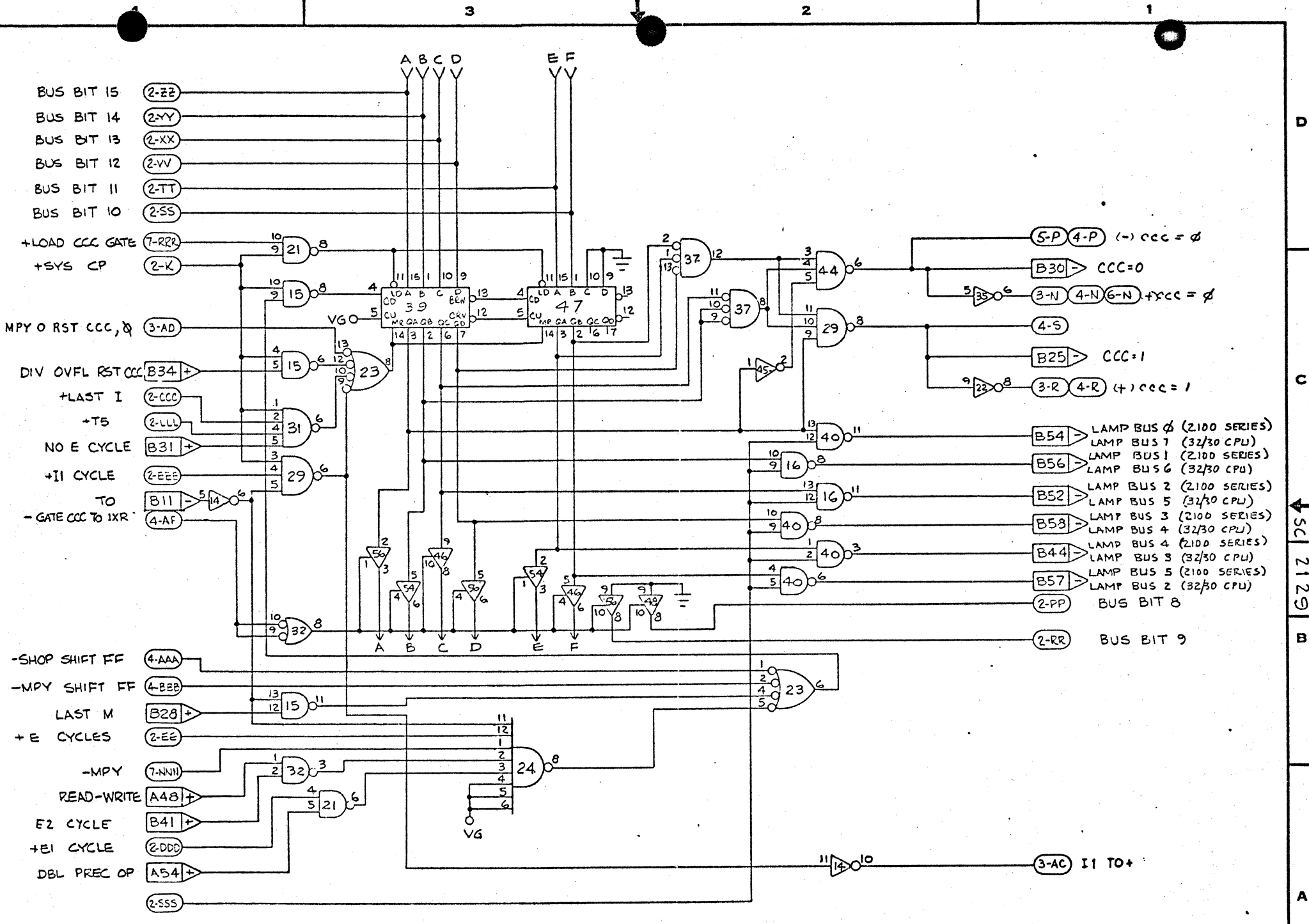


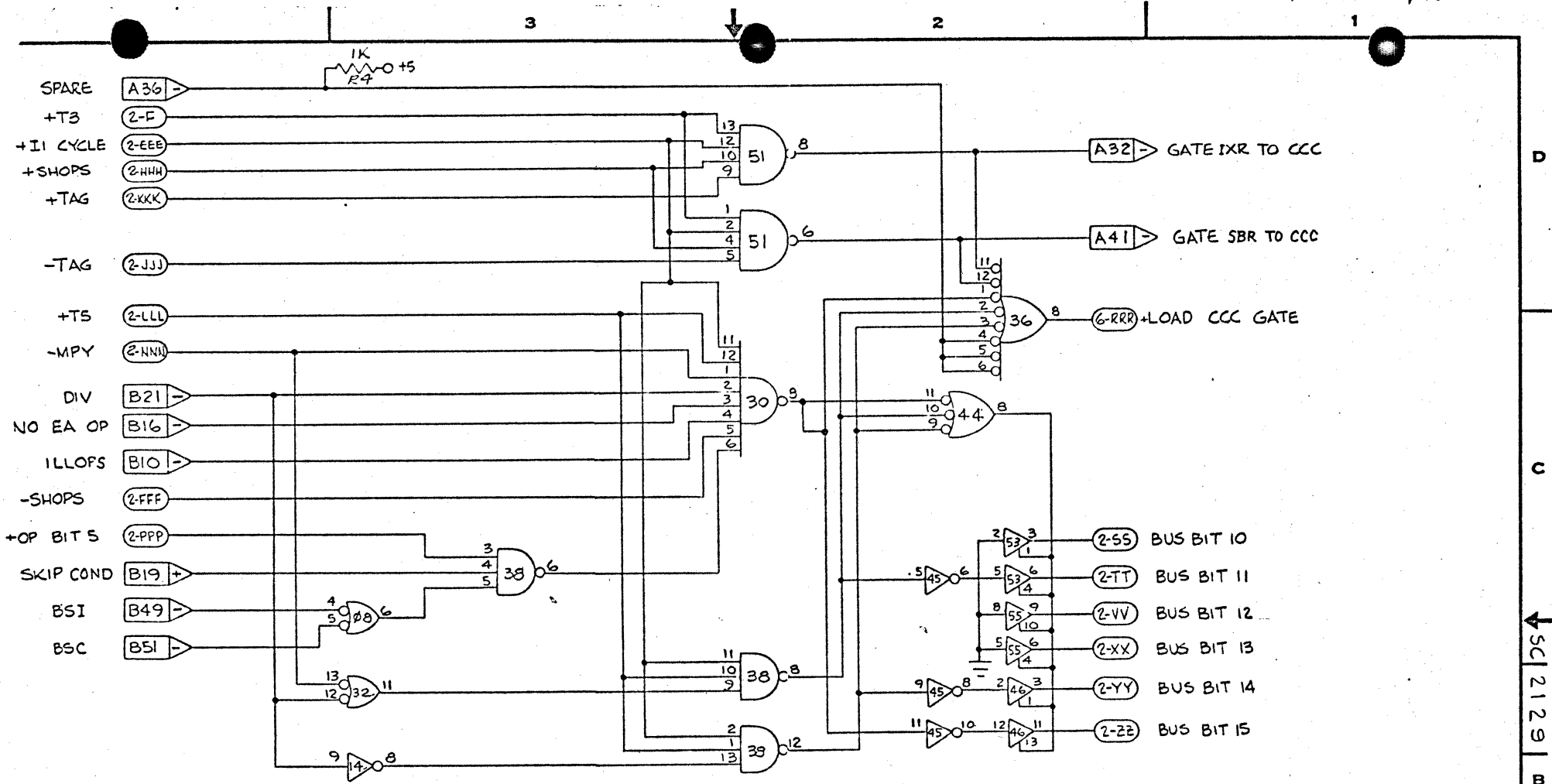
THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.			UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES: DIMENSION TOLERANCES: ANGULAR DIMENSION ± 0.10 DECIMAL 3 PLACE ± 0.010			TITLE		
BREAK SHARP EDGES MAX INSIDE CORNER			ALL MACHINER SURFACES			DRAWN		
CHECKER			DATE			DESIGN		
LETTER			DATE			SCALE		
CHANGE RECORD NO.			NO NOT SCALE THIS PRINT			SCALE		
X COMPUTER HARDWARE INC.			SC 2129 H			SHEET 4 OF 7		



QTY	REQD	PART OR FILE NUMBER	NOMENCLATURE	MFG PART NO. OR MATERIAL	MFG NAME OR SPECIFICATION	ITEM NO.
LIST OF MATERIALS						
FILE NUMBER	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE THEREFROM, FOR DISCLOSURE TO OTHERS, IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.		UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES: ANGULAR DIMENSION DECIMAL 2 PLACE ± .010 DECIMAL 3 PLACE ± .005	TITLE		
	BIFK SHARP EDGES MAX INSIDE CORNERS		ALL MACHINE SURFACES	X COMPUTER HARDWARE INC.		
LETTER	OWN	CHK	DATE	DRAWN	CHECKED	
DESIGN	SCALE		TYPE/SIZE	QTY/NO		
CHANGE RECORD NO.	DO NOT SCALE THIS PRINT			SC	2129	H
					SHEET 5	7

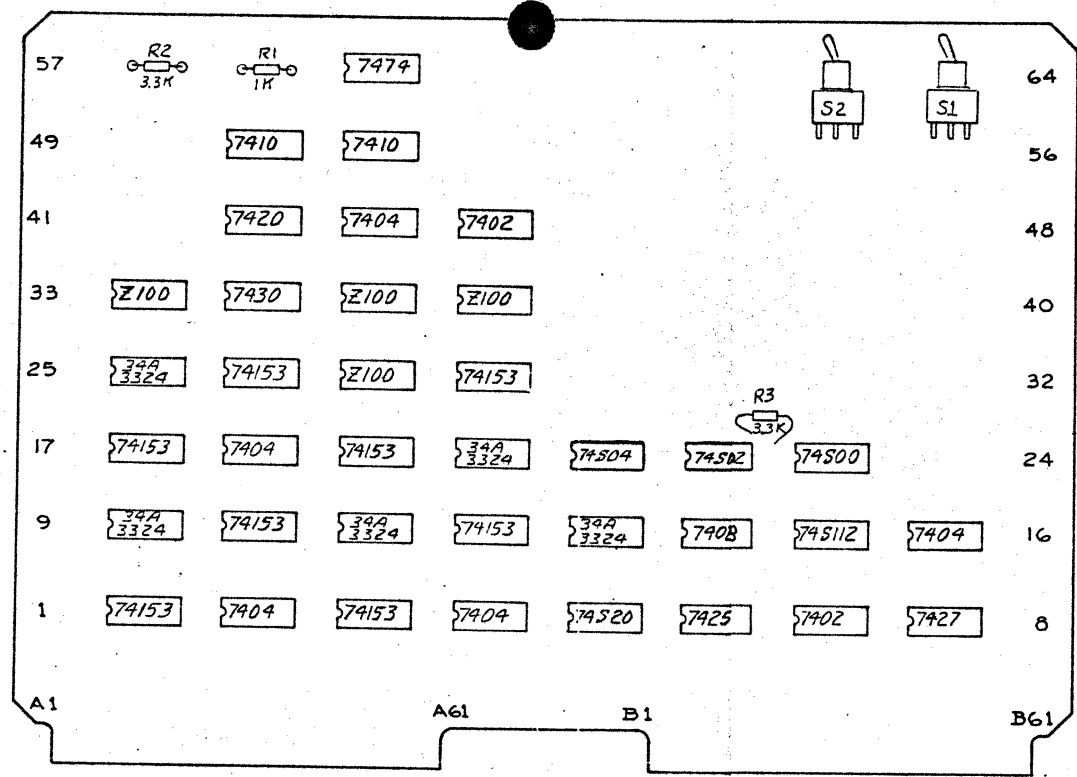
D
 C
 B
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 SC 2129



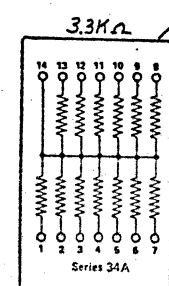
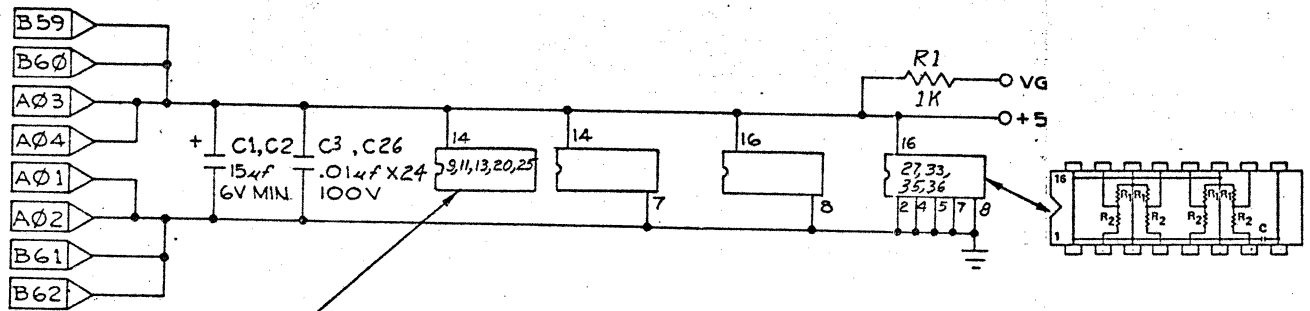


14

ASSEMBLY REVISION DATA (REF)		
REV. LTR.	DESCRIPTION	EFFECT.



+ 5 VDC
 + 5 VDC GROUND
 GROUND

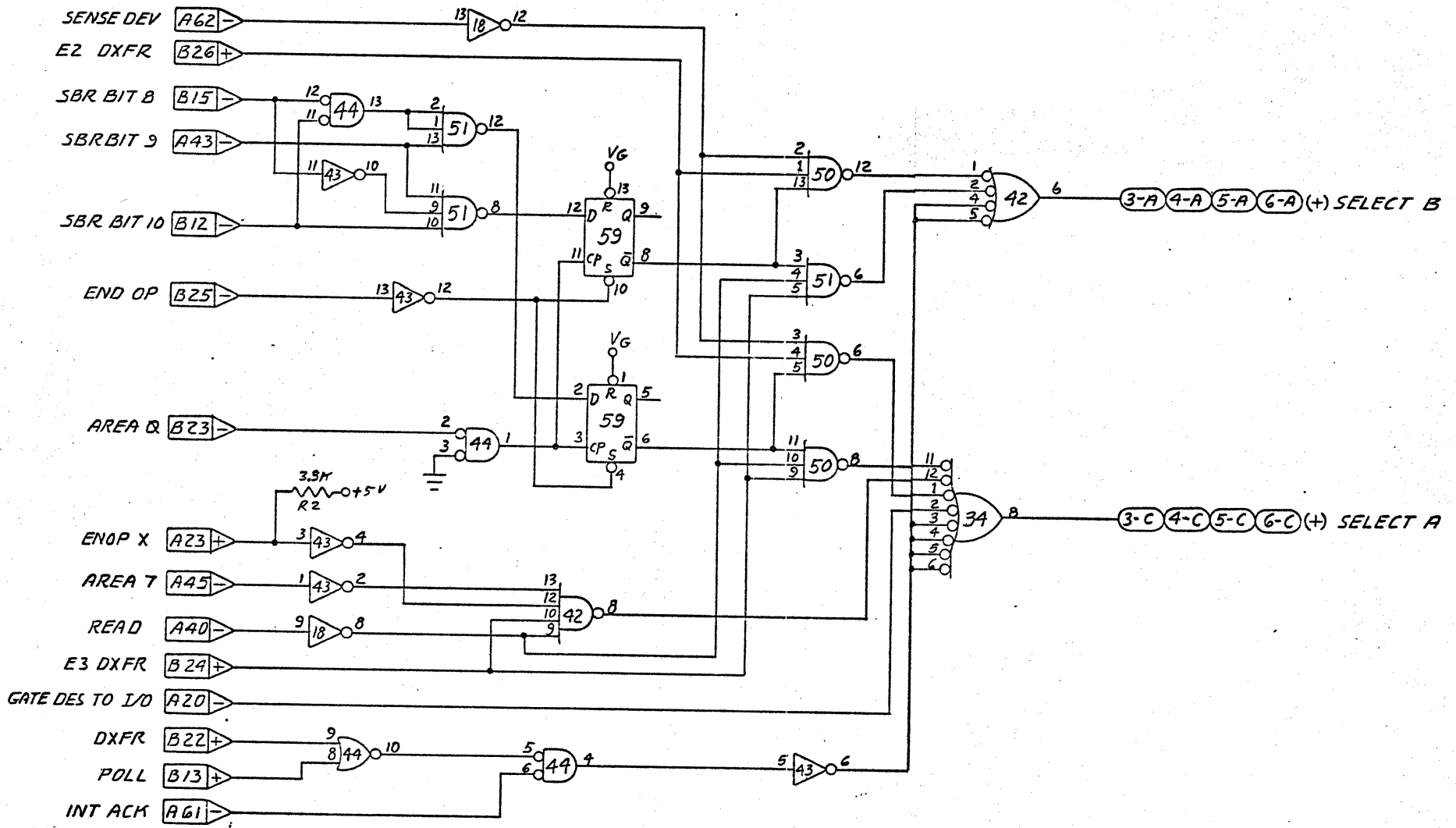


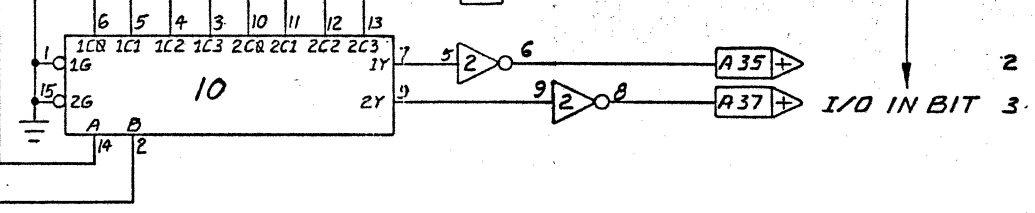
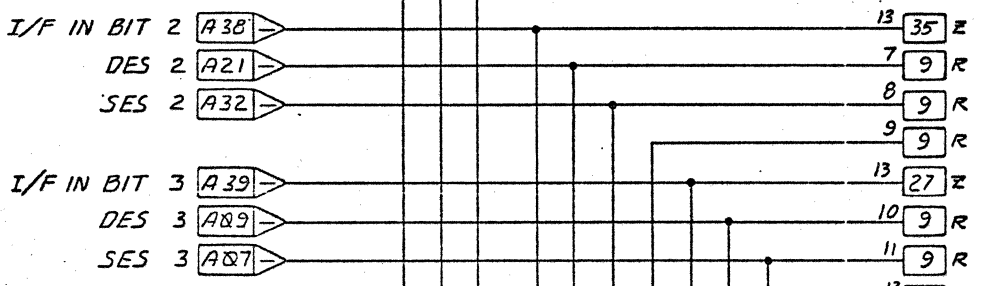
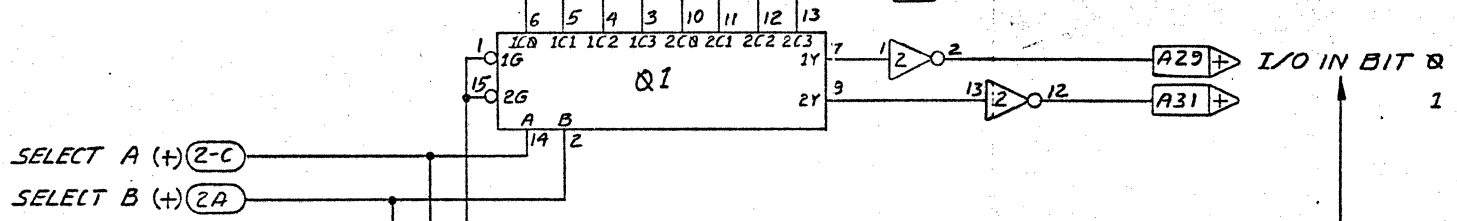
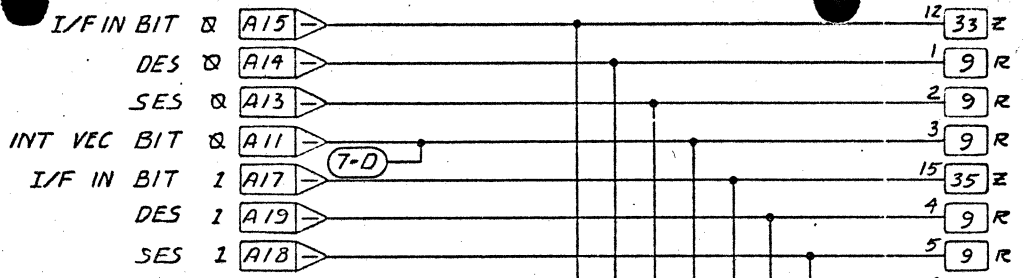
Part No	Code	Ref
SC-3197	NC	A
PC-2137	A	A
AC-3198	NC	A

CODE	REF DES	FILE NUMBER
D	R3	
	C28	

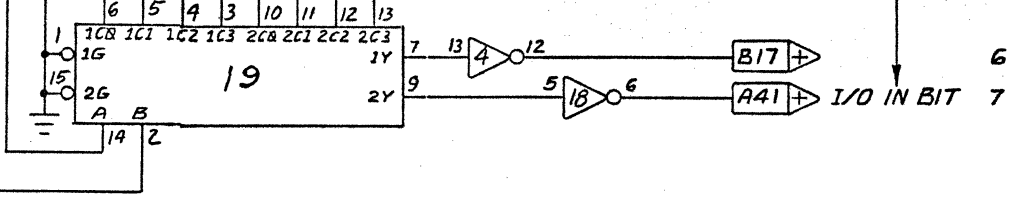
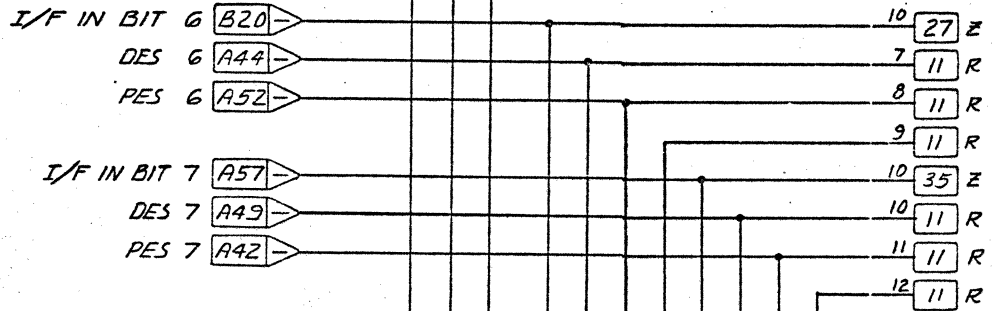
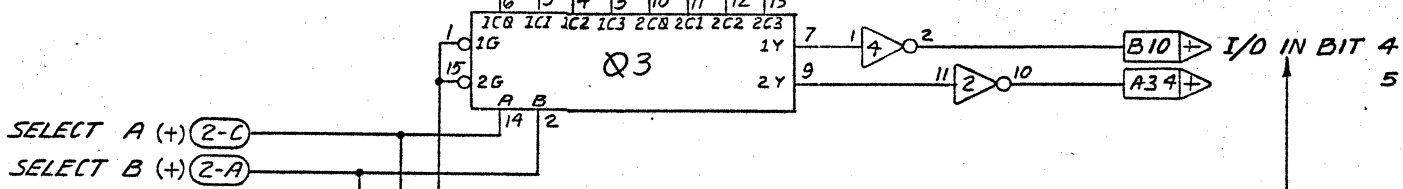
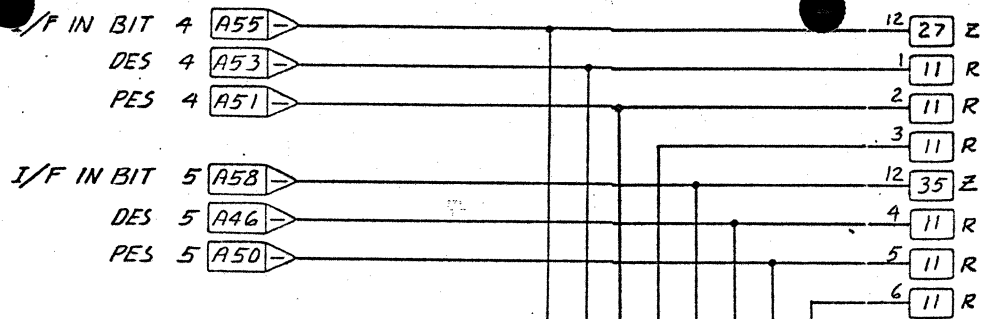
QTY	REV. LTR.	PART OR FILE NUMBER	NOMENCLATURE	MFG PART NO OR MATERIAL	MFG NAME OR SPECIFICATION	ITEM NO
LIST OF MATERIALS						
RECEIVER, INTERFACE-SSSM CPU						
X COMPUTER HARDWARE INC						
A	SC	3197				A

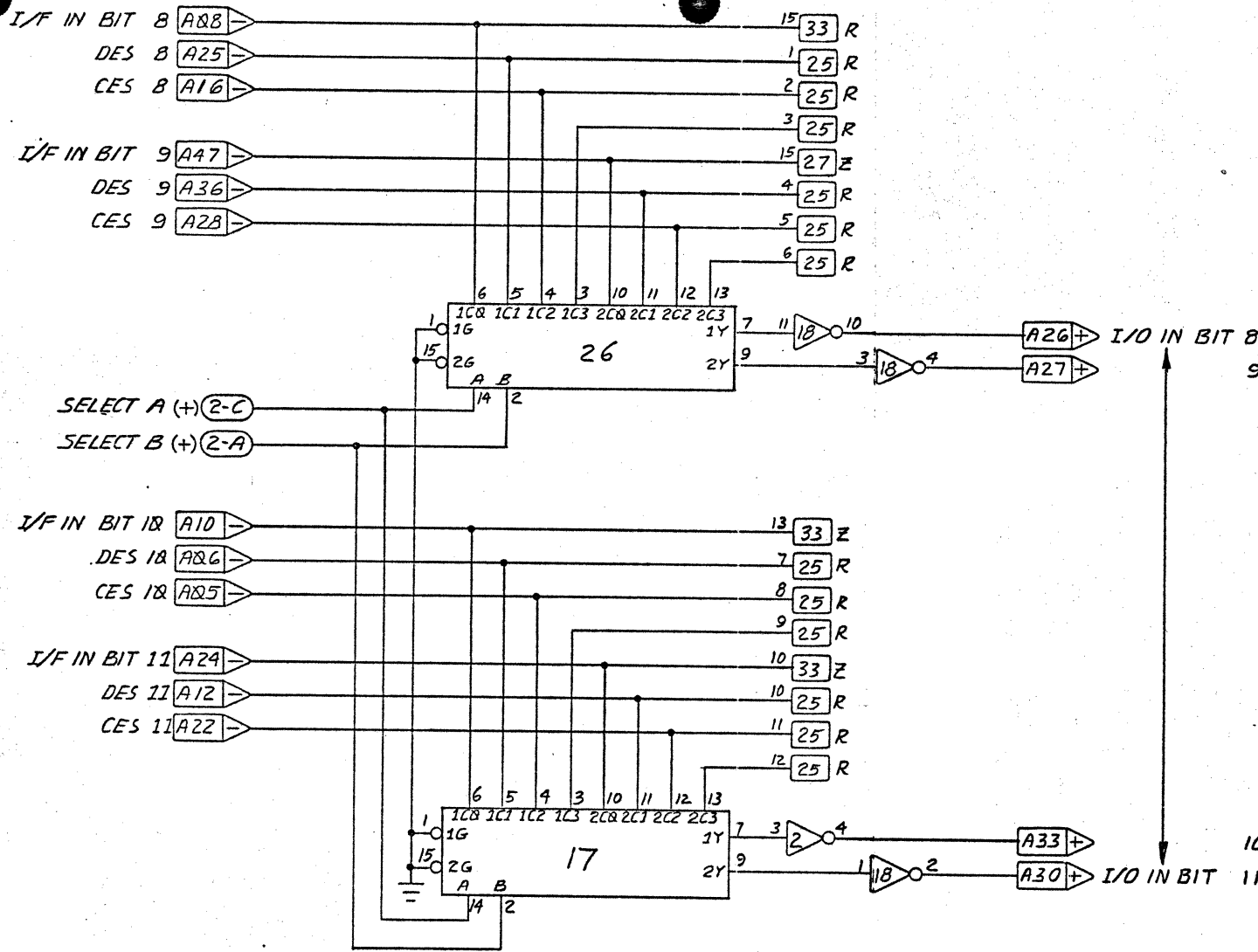
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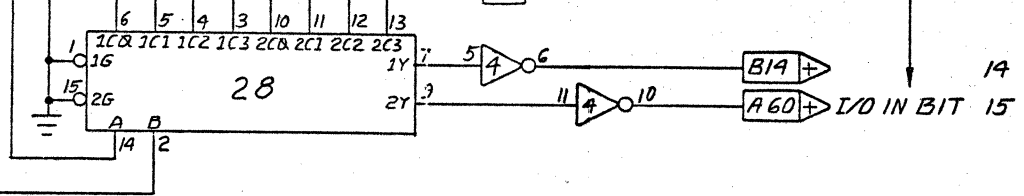
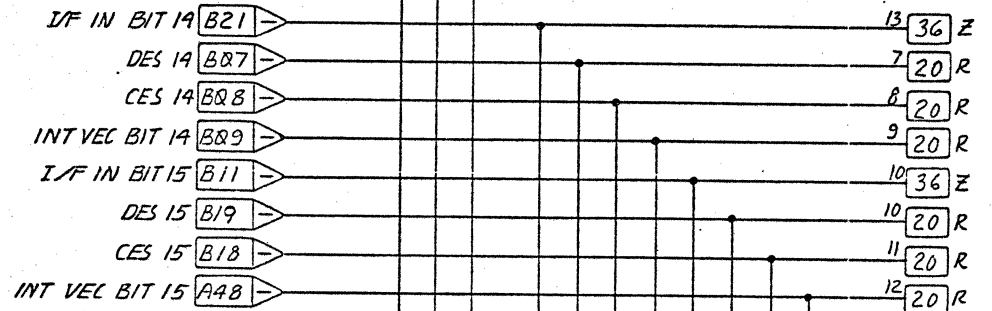
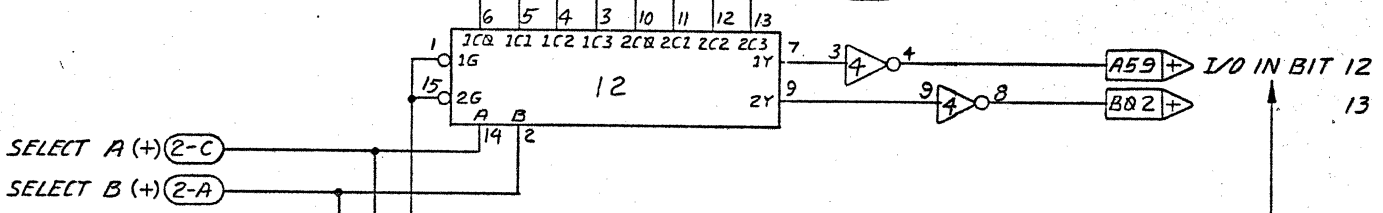
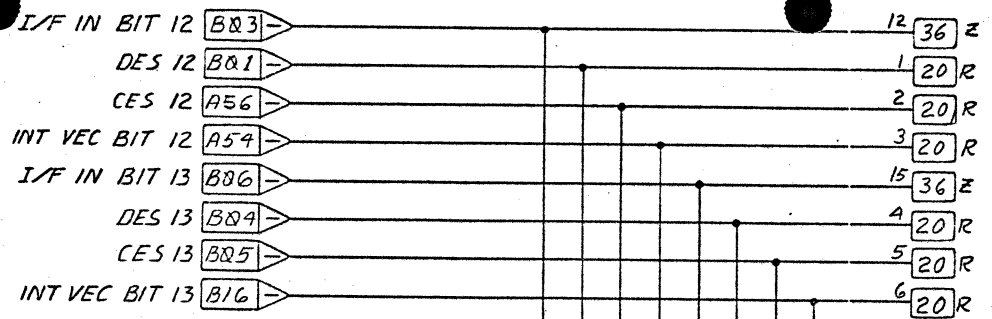


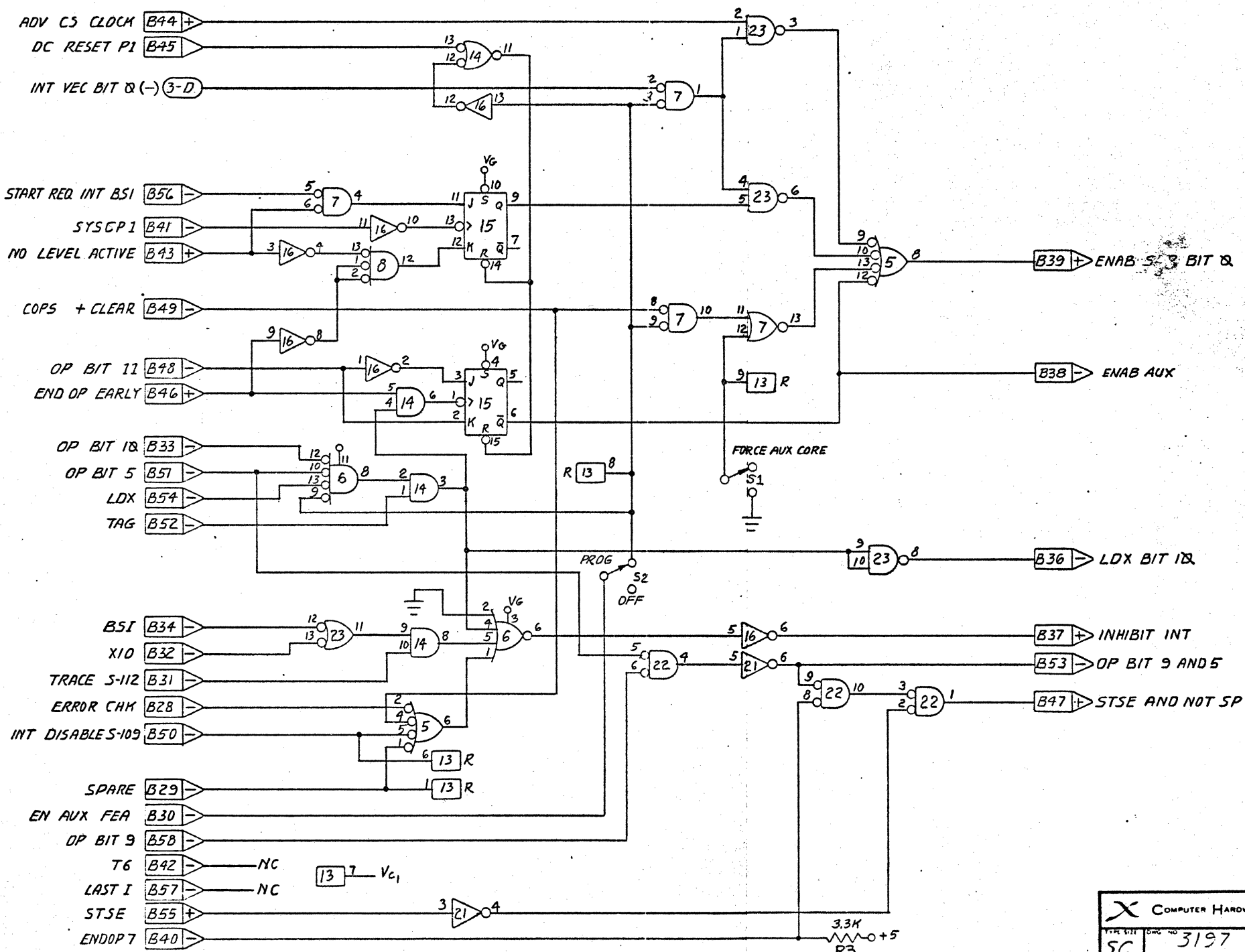


5013197

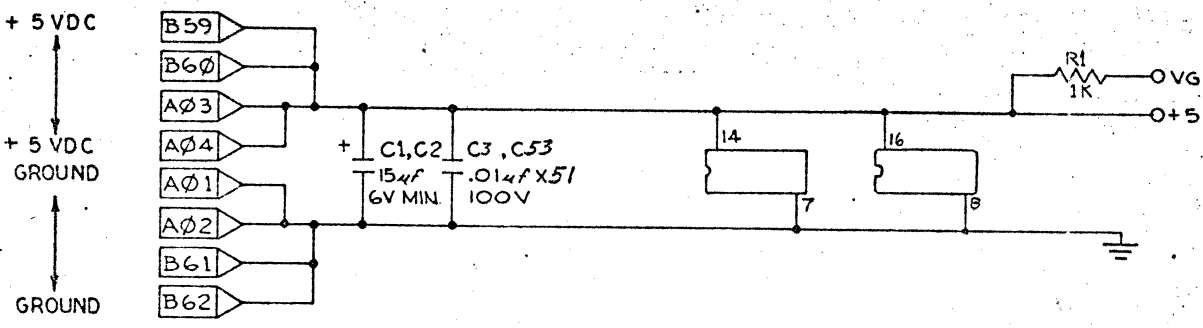
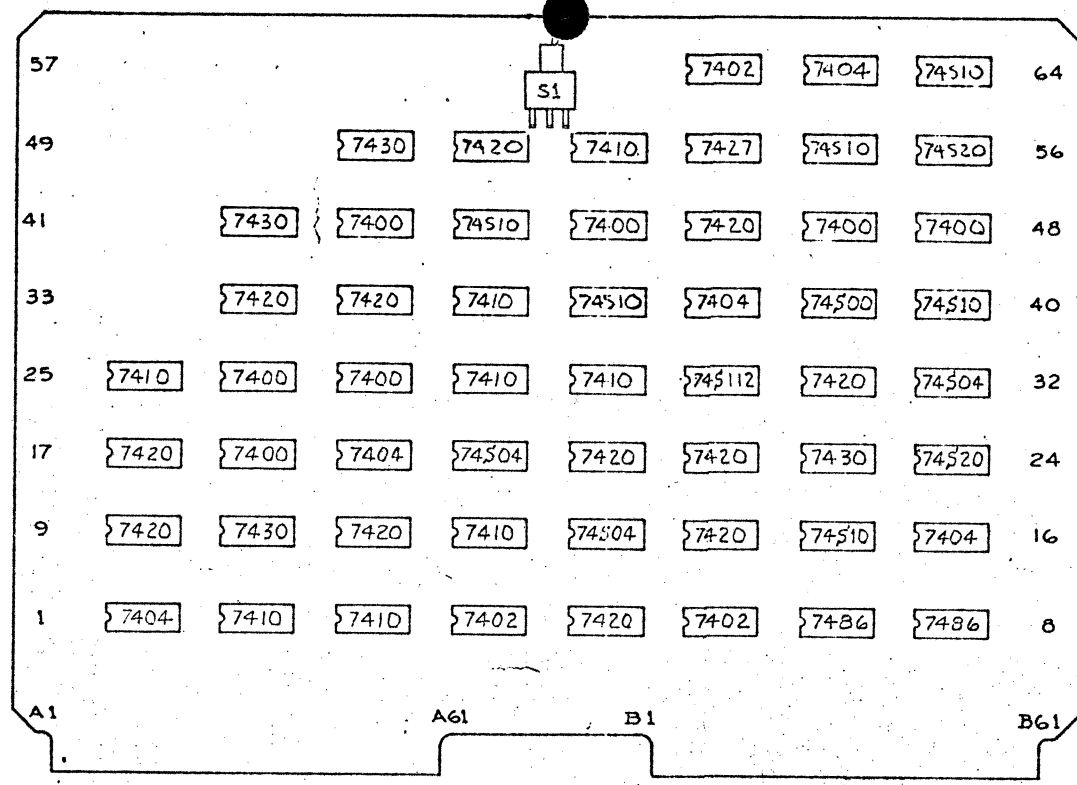








ASSEMBLY REVISION DATA (REF)		
REV. LTR.	DESCRIPTION	EFFECT.



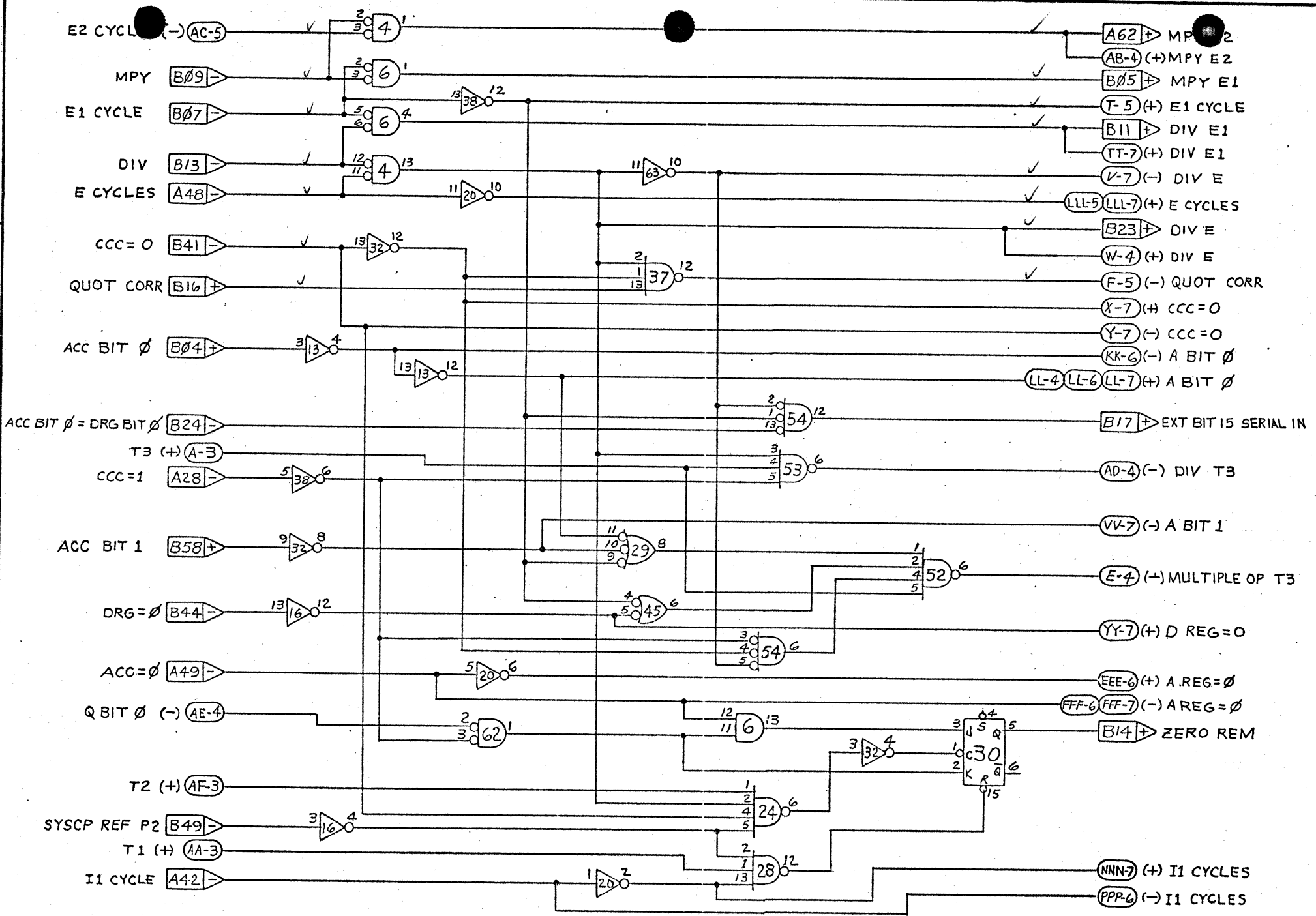
CONFIGURATION TABLE	
SC-3199	NC
PC-2139	A
AC-3200	NC

LAST USED TABLE		FILE NUMBER
CODE	REF DES.	
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	C53	

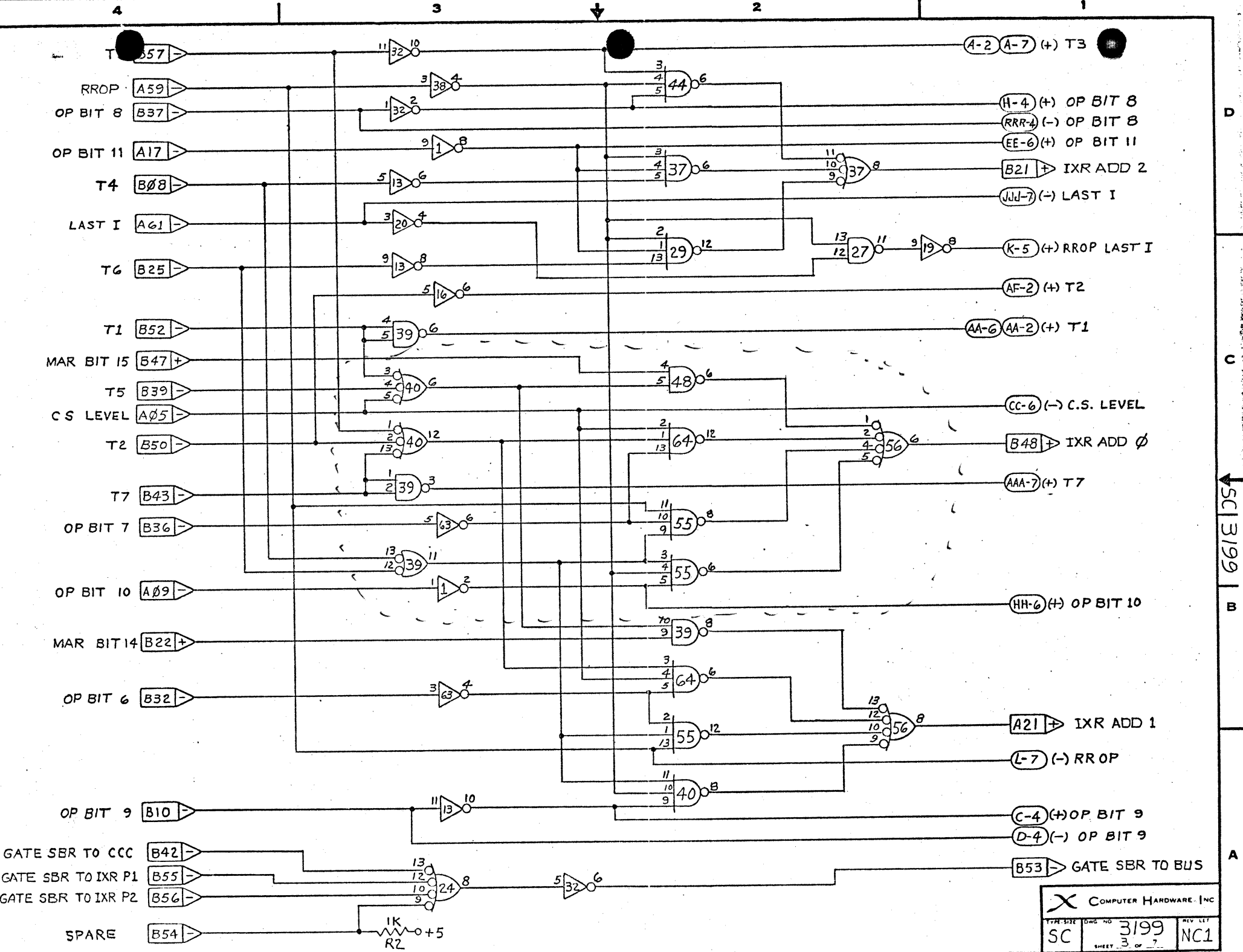
PART OR FILE NUMBER		NOMENCLATURE	MFG PART NO OR MATERIAL	MFG NAME OR SPECIFICATION	ITEM NO
QTY REQD		LIST OF MATERIALS			
THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR UNAUTHORIZED OTHERS IS PROHIBITED EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			
NCL B. 11.5.2/17/7		TITLE CONTROL, ARITH & REGISTER - 555M CPU			
DRAWN: KLF		DATE: 6-7-76			
DESIGN: ST		SHEET: 1 OF 7			
CHANGE RECORD NO: 2100		SCALE: —			
		DRAWN: KLF			
		DATE: 6-7-76			
		SHEET: 1 OF 7			
		SCALE: —			

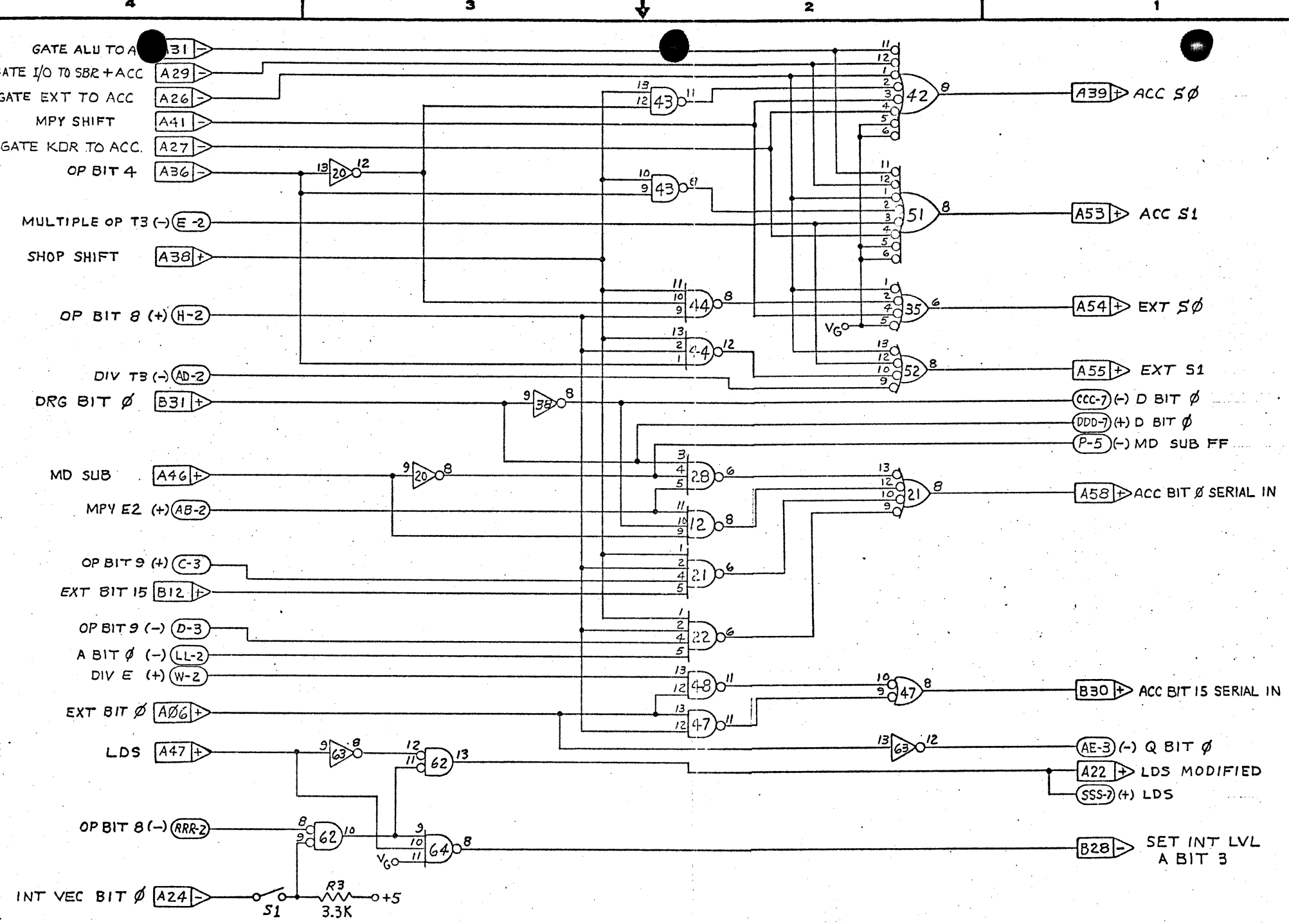
A 16

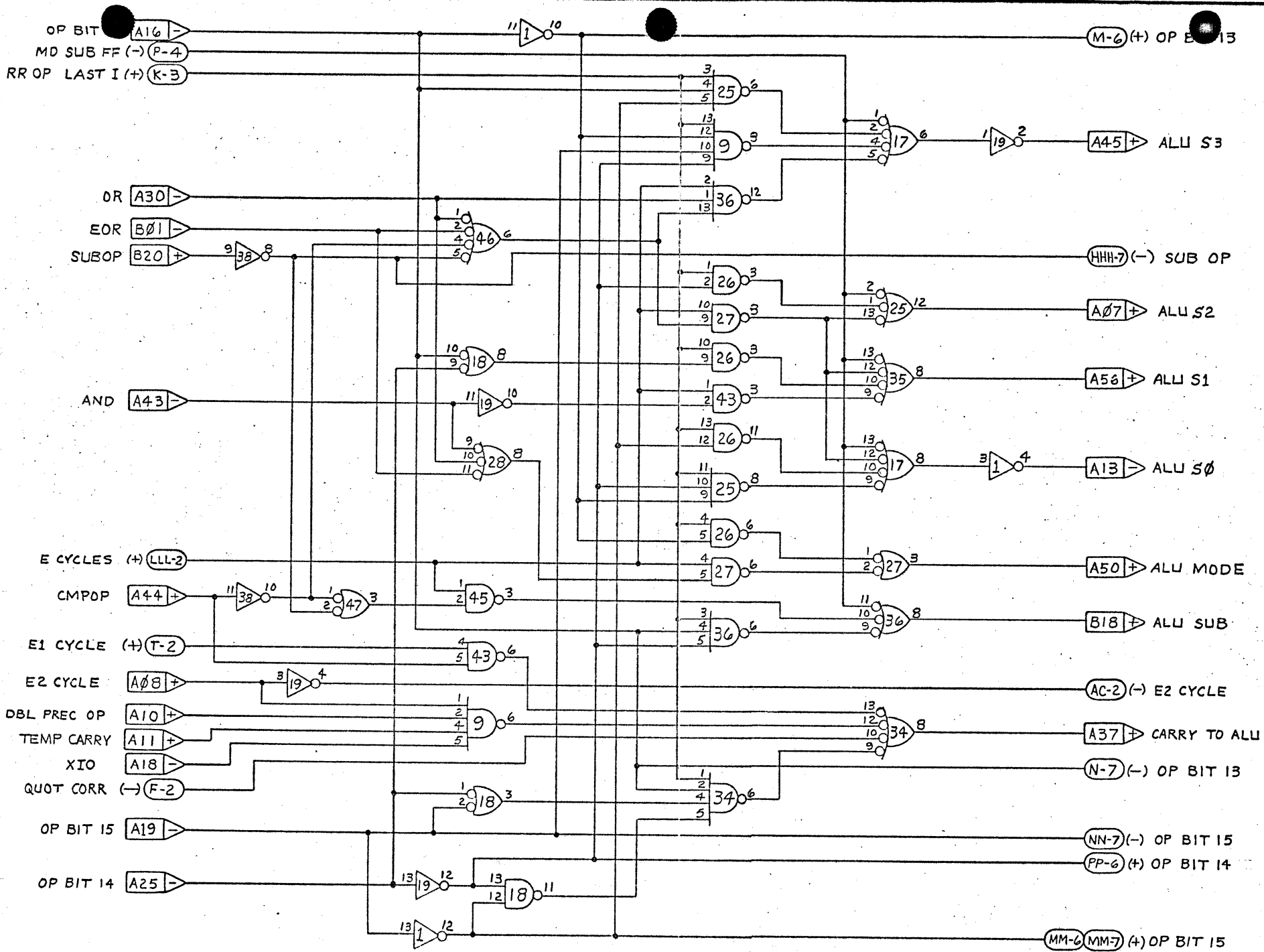
SC 3199 | B | A 9607



D
 C
 B
 A
 1661E1DS↑

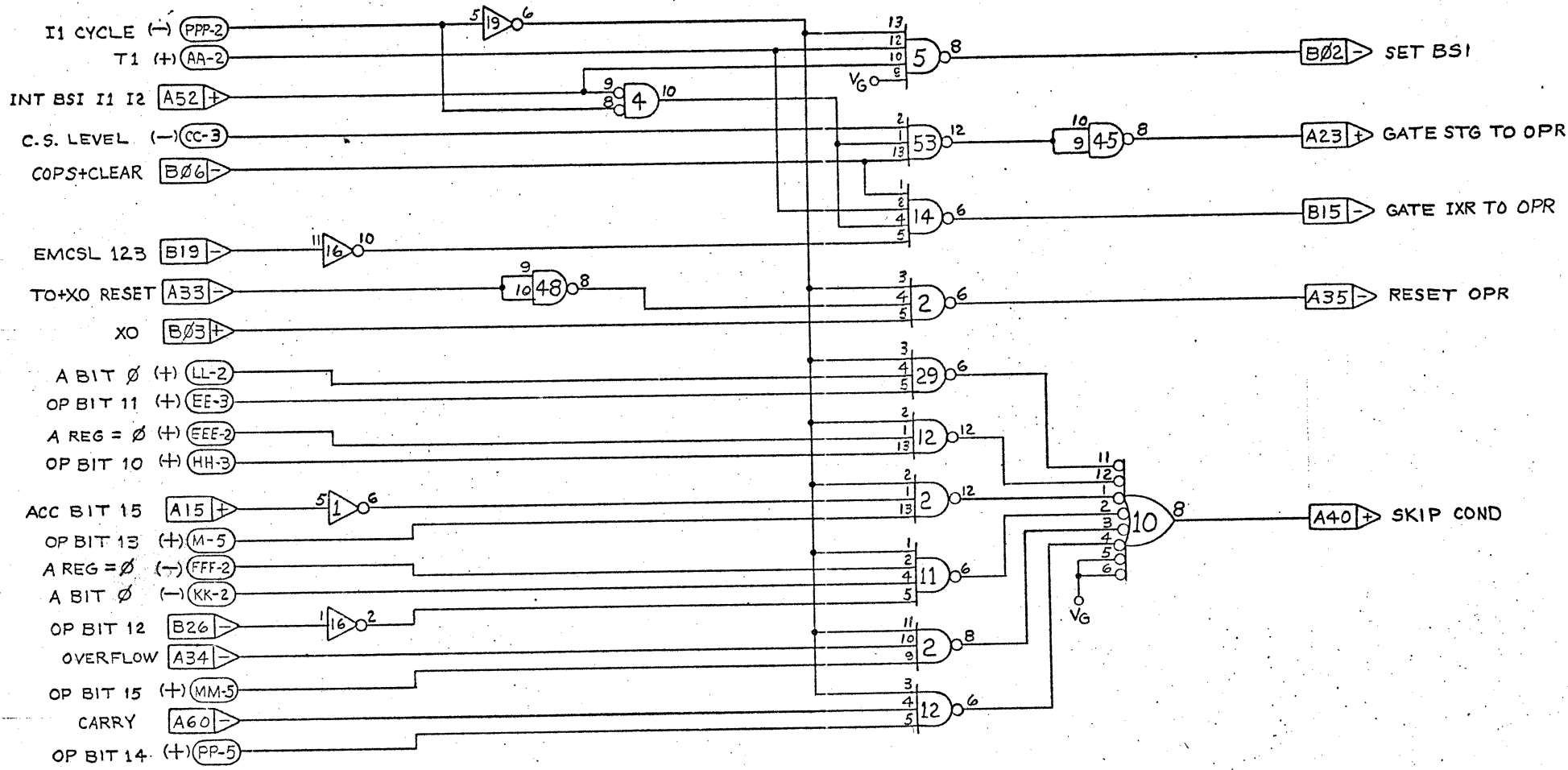






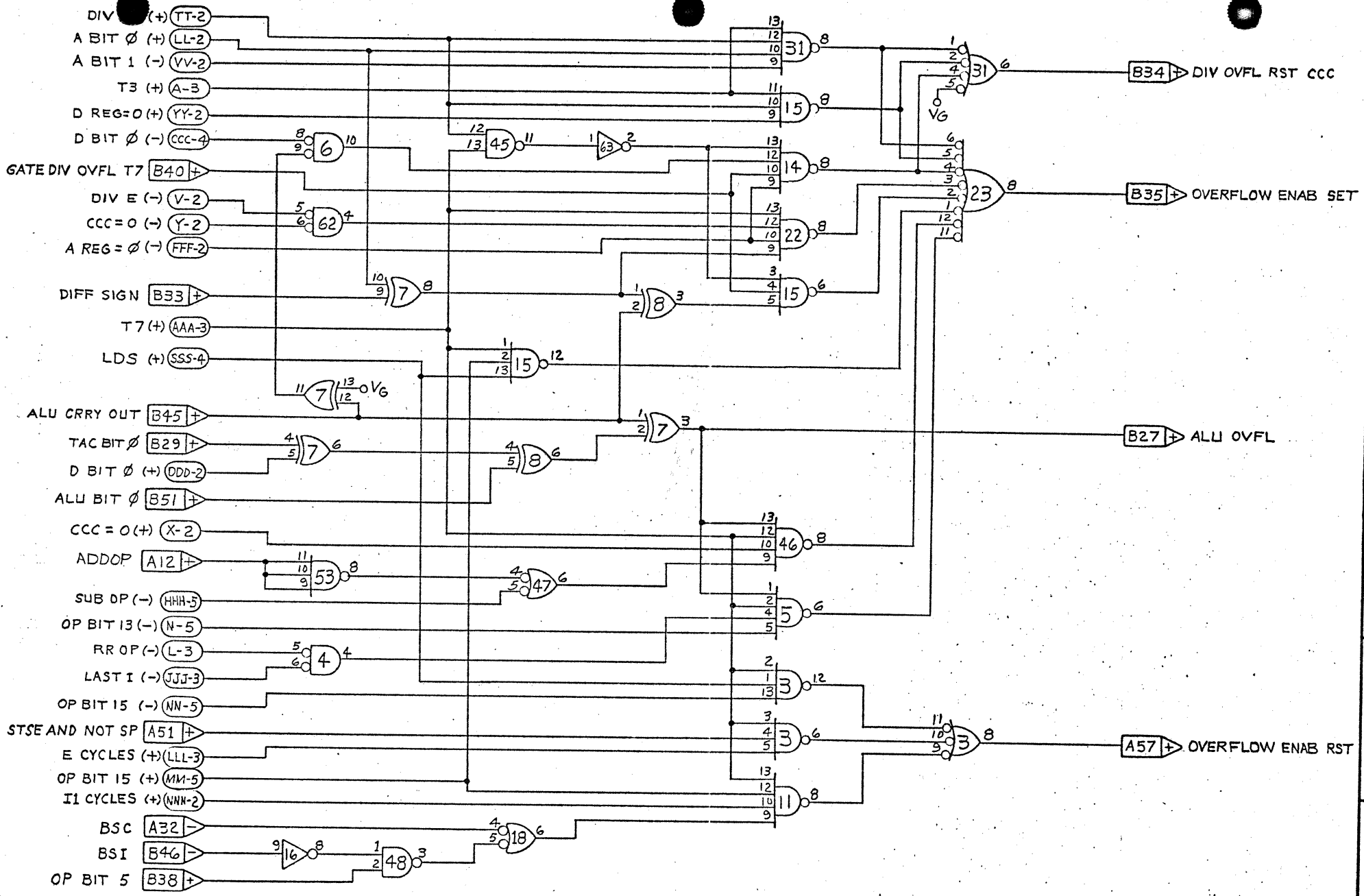
D
 C
 B
 A

SC 3199



D
 C
 B
 A

SC 3199 | B



D

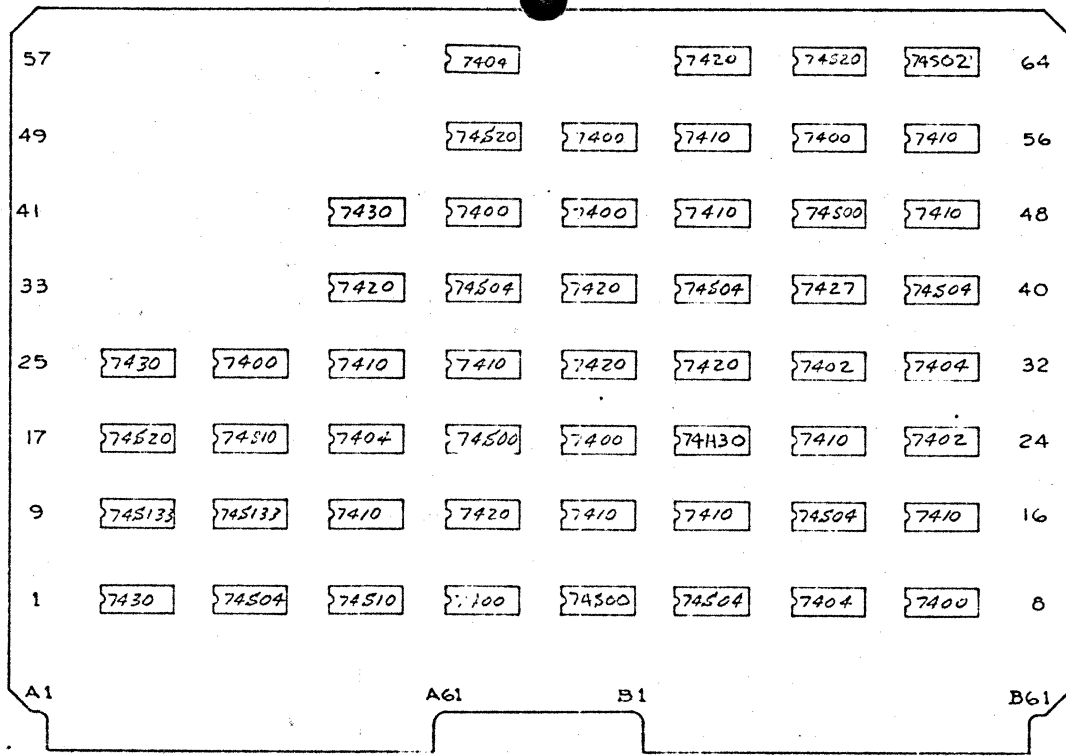
C

SC3199

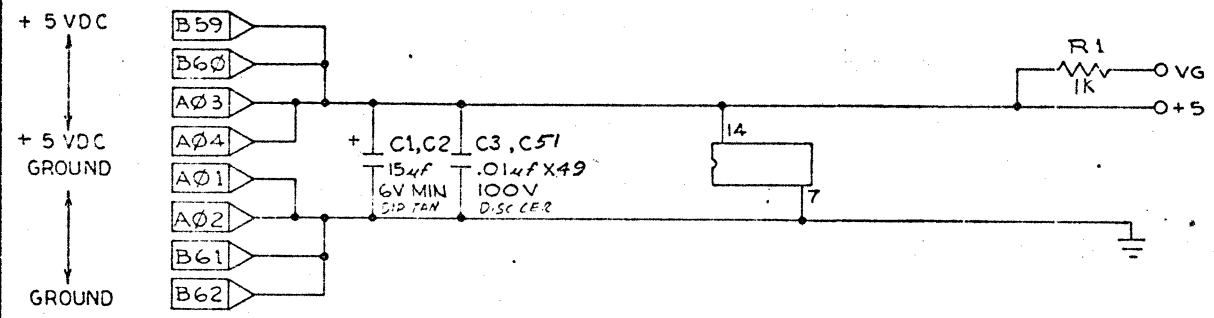
B

A

NOTES:
1-DELETED.



REV.	DESCRIPTION	REASON
C	CONTACT B34 TO PIN 210 IC 7400 POS 8 TO PIN 4 IC 74500 POS 5. ADDED CONFIGURATION TABLE	DESIGN CHANGE
D	ADDED IC 7404 POSITION 60	ESTAB. CONTROL TO TEST DATA COND. WRS. DATA IN CASE TO PREVENT FUTURE INSERT PROBLEMS AS TO 50M
E	CIRCUIT ADDED TO 28 PIN 1 TO IC 7400 PIN 2 TO CONTACT A17. CIRCUIT CUT BETWEEN IC 611 CONTACT A17	ELIMINATE NOISE ON LINE 10 DATA
F	CIRCUIT ADDED TO 33 PIN 1 TO IC 7400 PIN 2 TO CONTACT A19. CIRCUIT CUT BETWEEN IC 60 PIN 1 AND IC PIN 8 BETWEEN IC 60 PIN 1 AND CONTACT A19	SPEED UP LOAD CAP.
J	CIRCUIT ADDED TO 33 PIN 1 TO IC 7400 PIN 2 TO CONTACT A19. CIRCUIT CUT BETWEEN IC 28 PIN 2 AND IC 18 PIN 11, IC 29 PIN 2 AND IC 26 PIN 10.	DELAY CATCHING UP FOR TO BUS TOING THE LOAD.

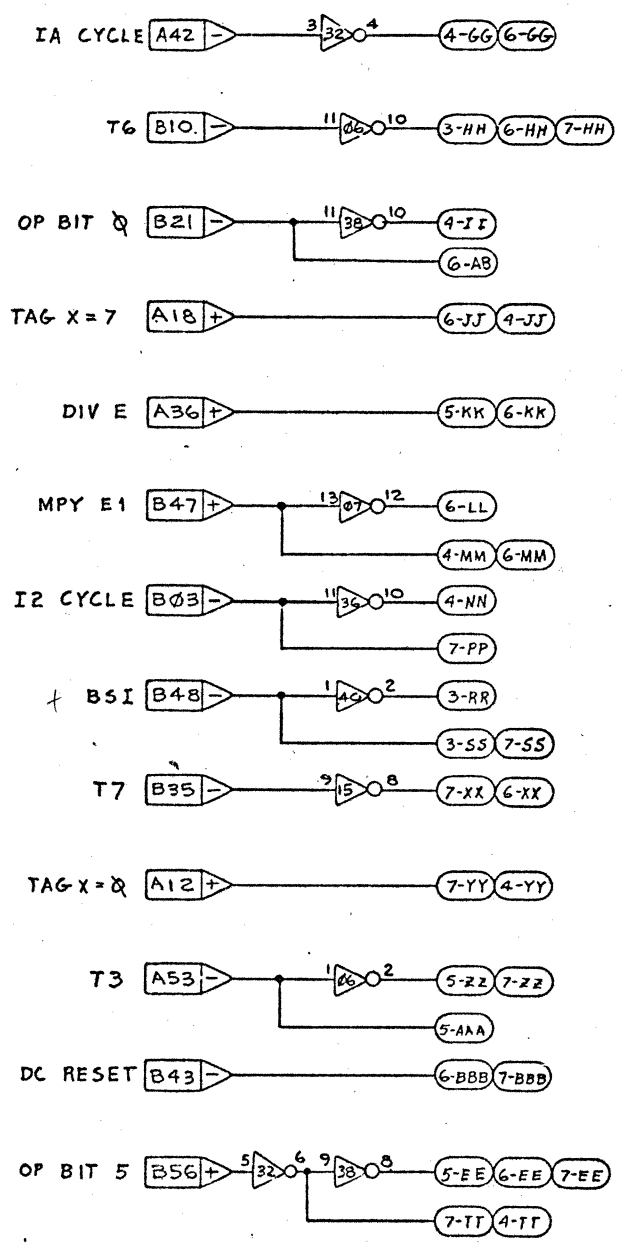
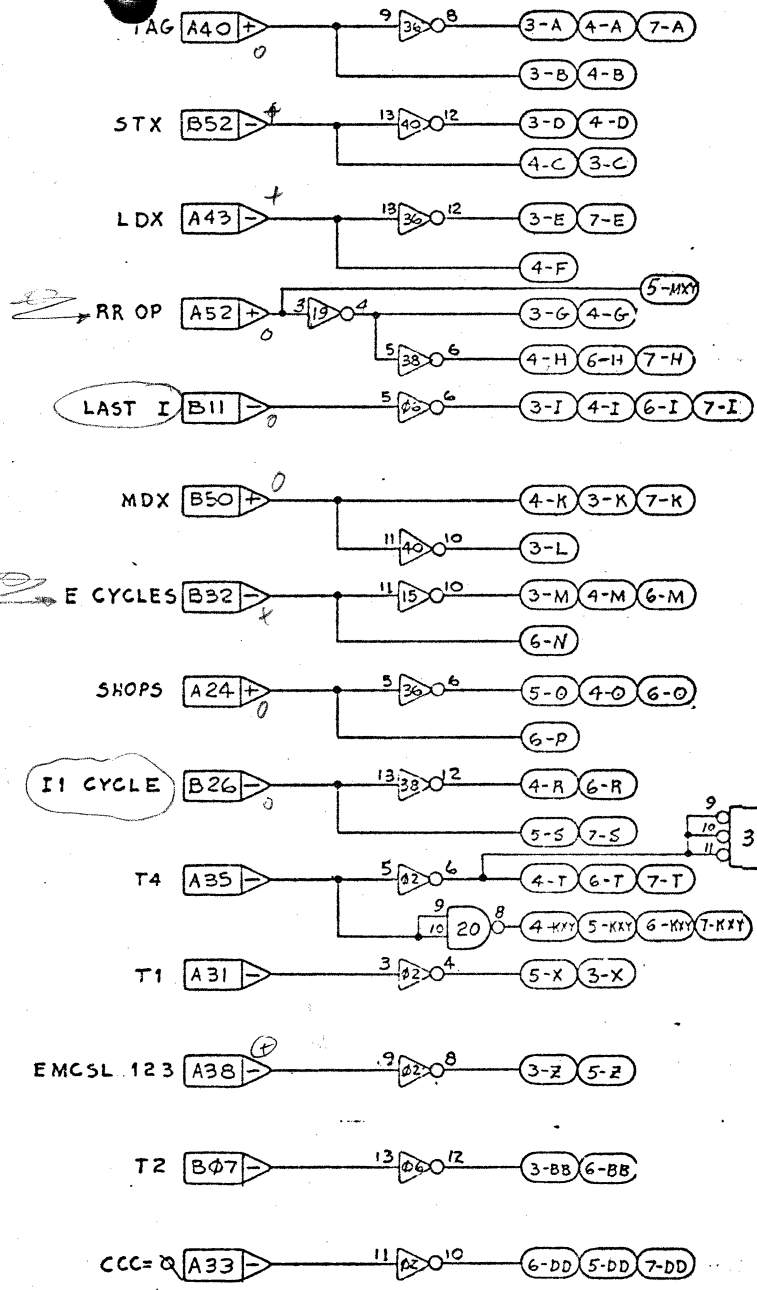


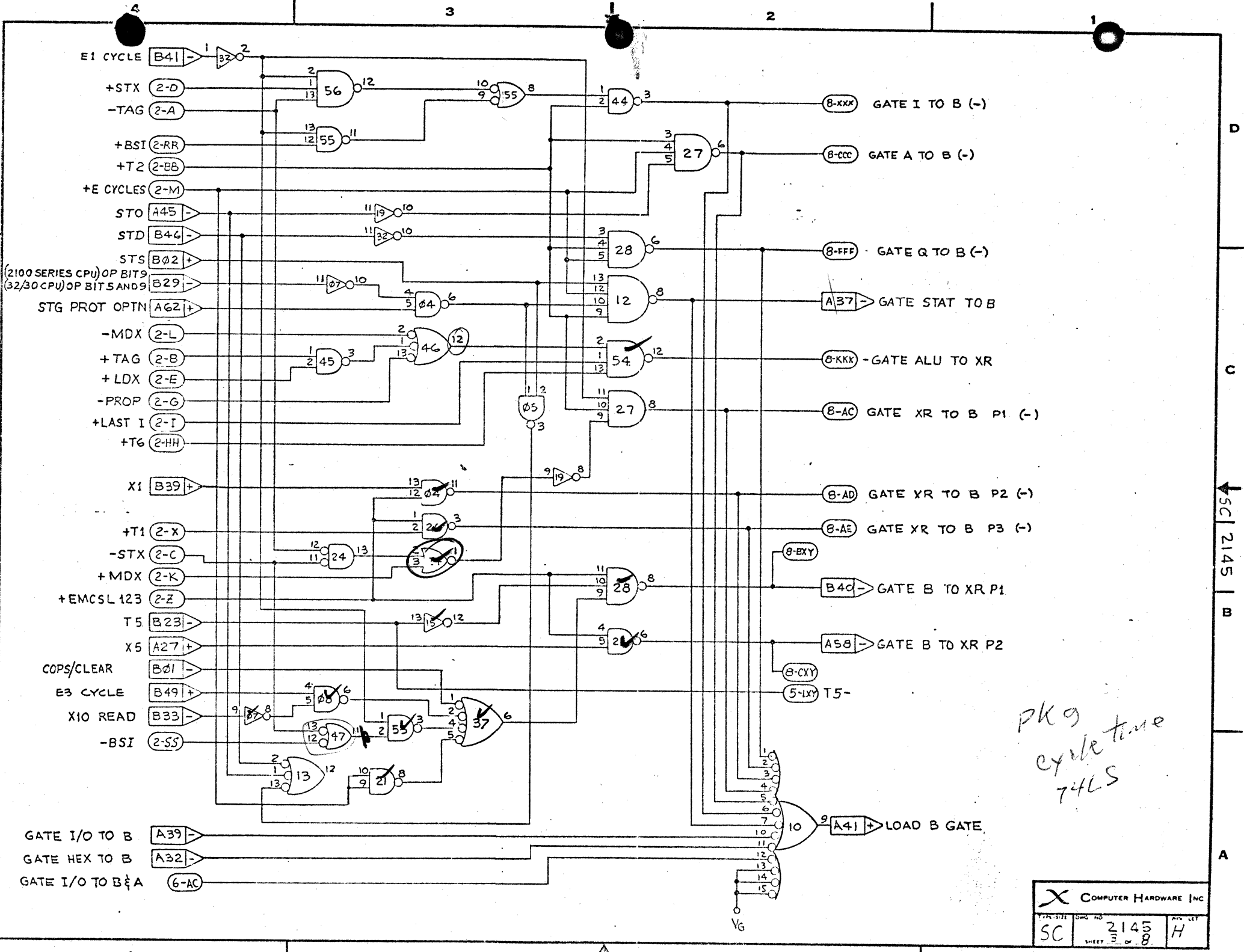
CONFIGURATION TABLE			
SCHEMATIC	REV	PC	REV
SC-2145	NC	PC-2146	NC
SC-2145	NC	PC-2146	NC
SC-2145	A	PC-2146	NC
SC-2145	B	PC-2146	NC
SC-2145	C	PC-2146	NC
SC-2145	D	PC-2146	NC
SC-2145	E	PC-2146	NC
SC-2145	F	PC-2146	NC
SC-2145	G	PC-2146	NC
SC-2145	H	PC-2146	NC

LAST USED TABLE	
CODE	REF DES.
MX Y	C51
	R8

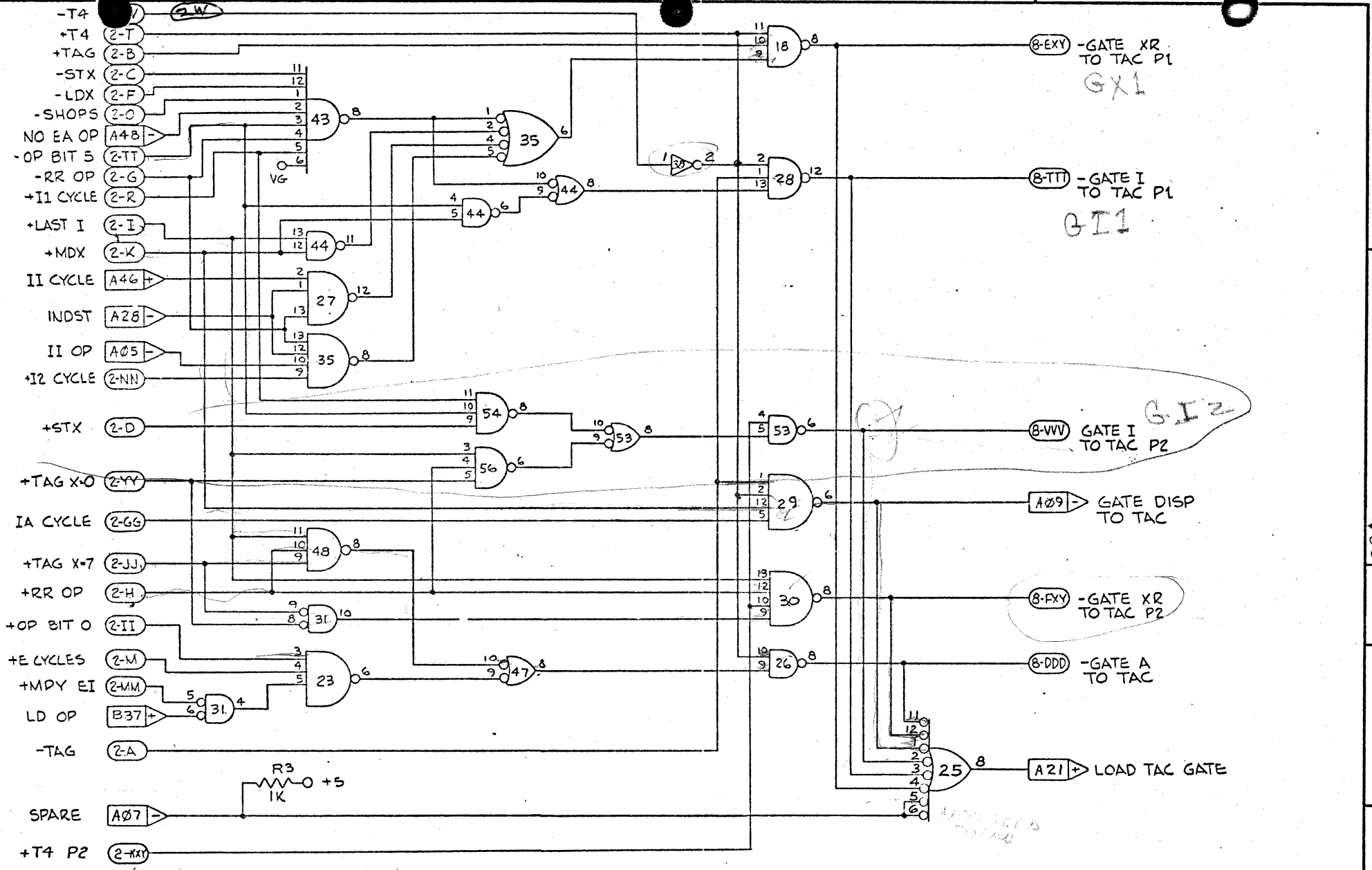
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X		COMPUTER HARDWARE INC			
SC		2145			

JSC 2145 B 960215W

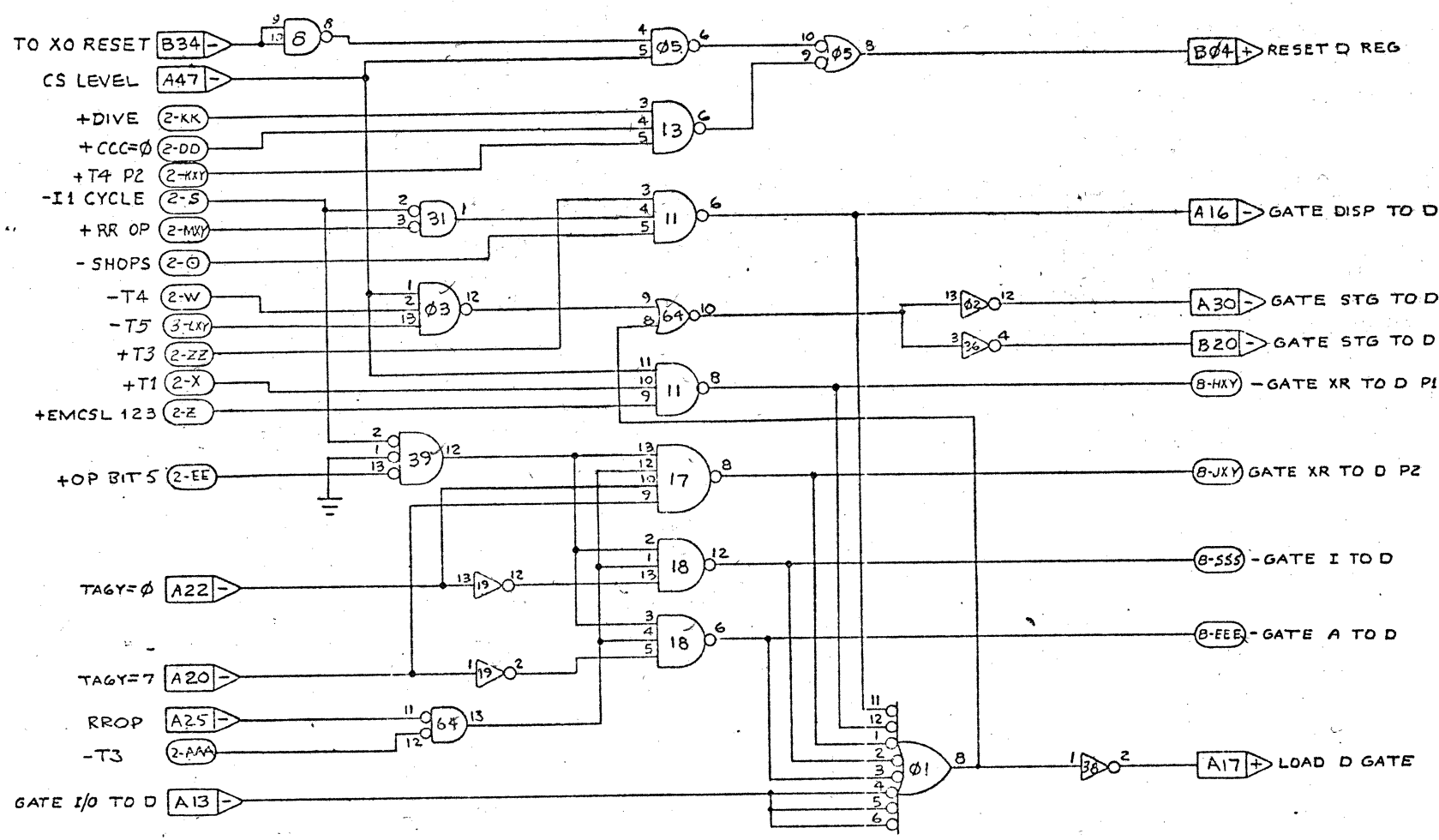


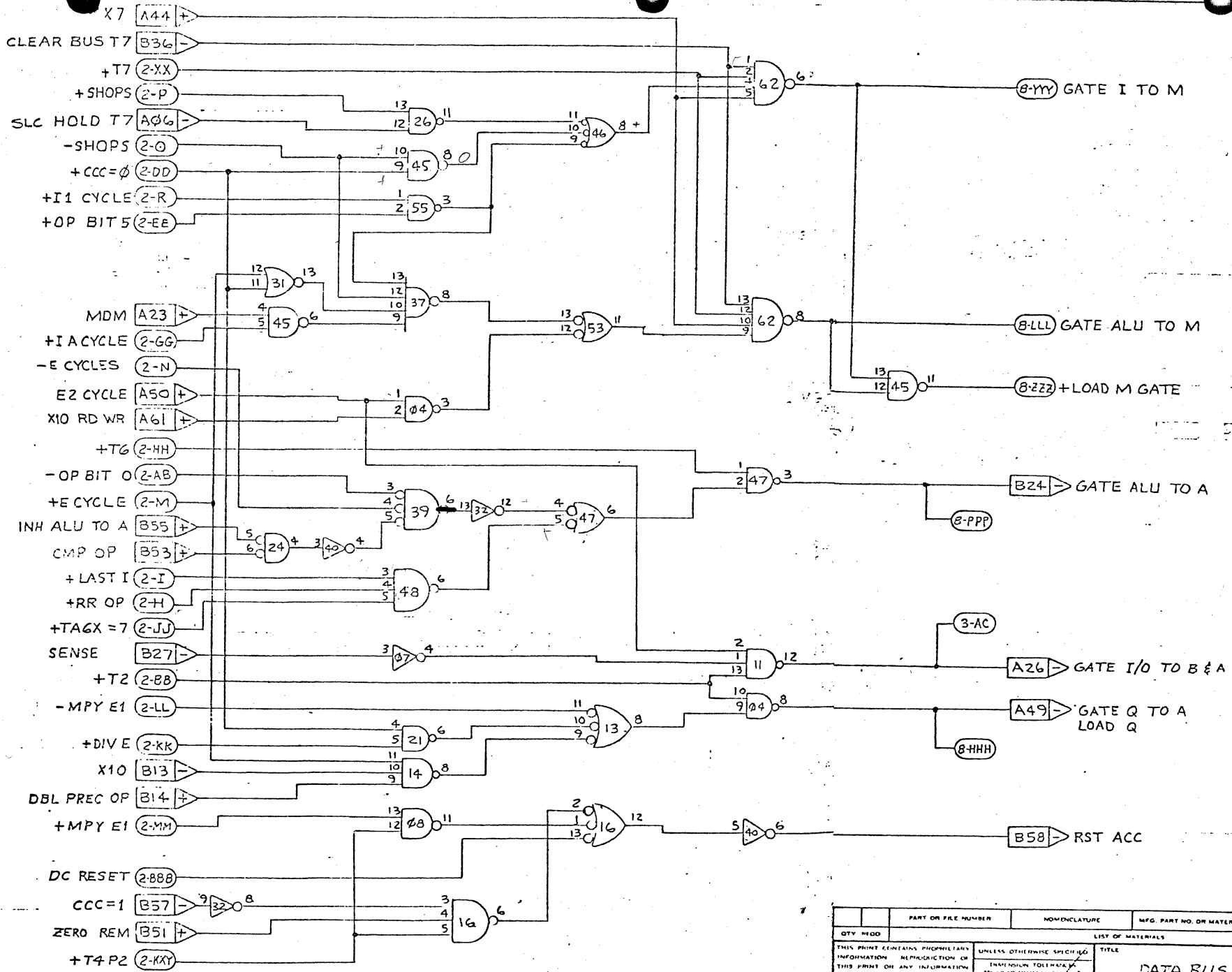


PK 9
cycle time
74LS

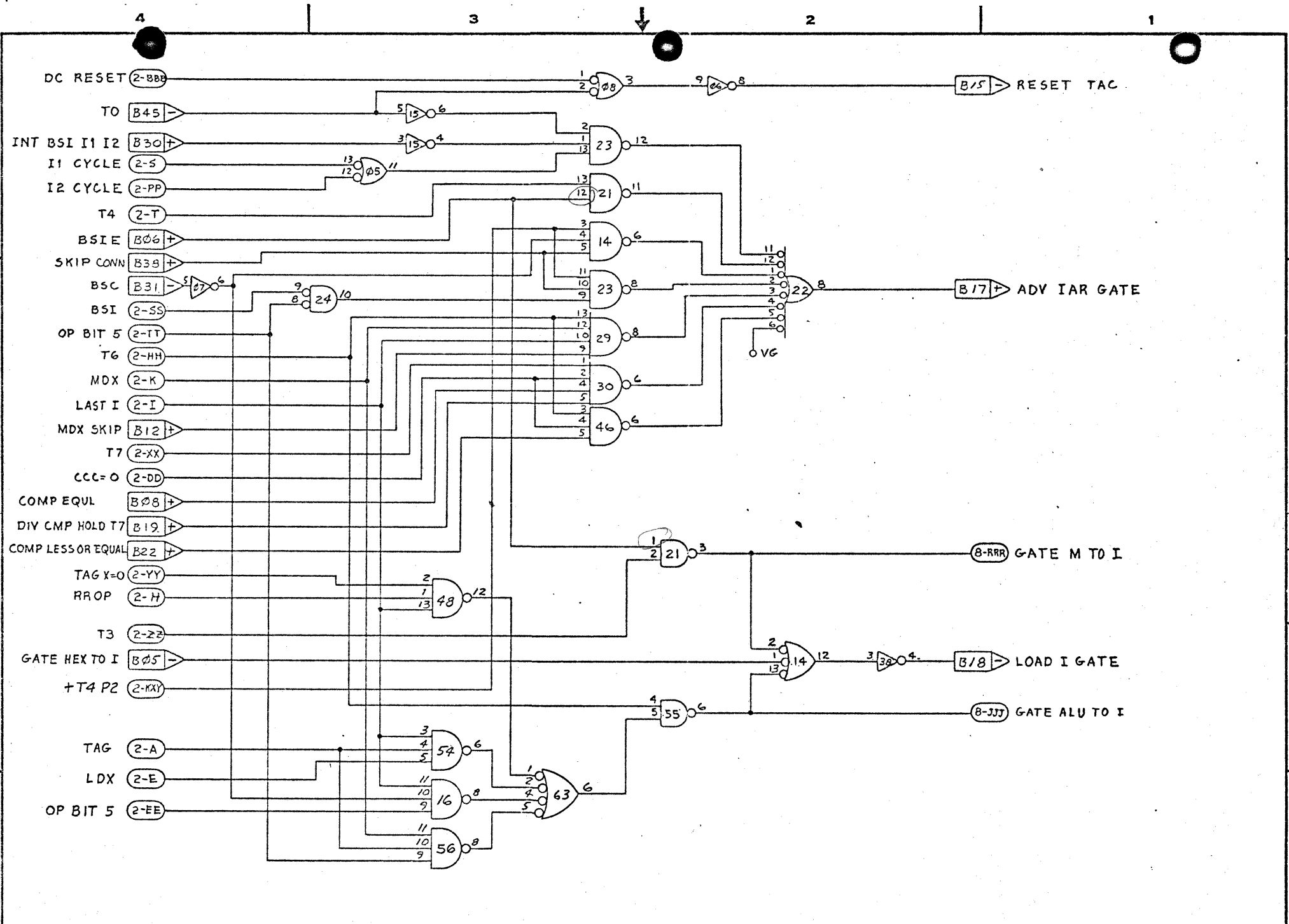


95



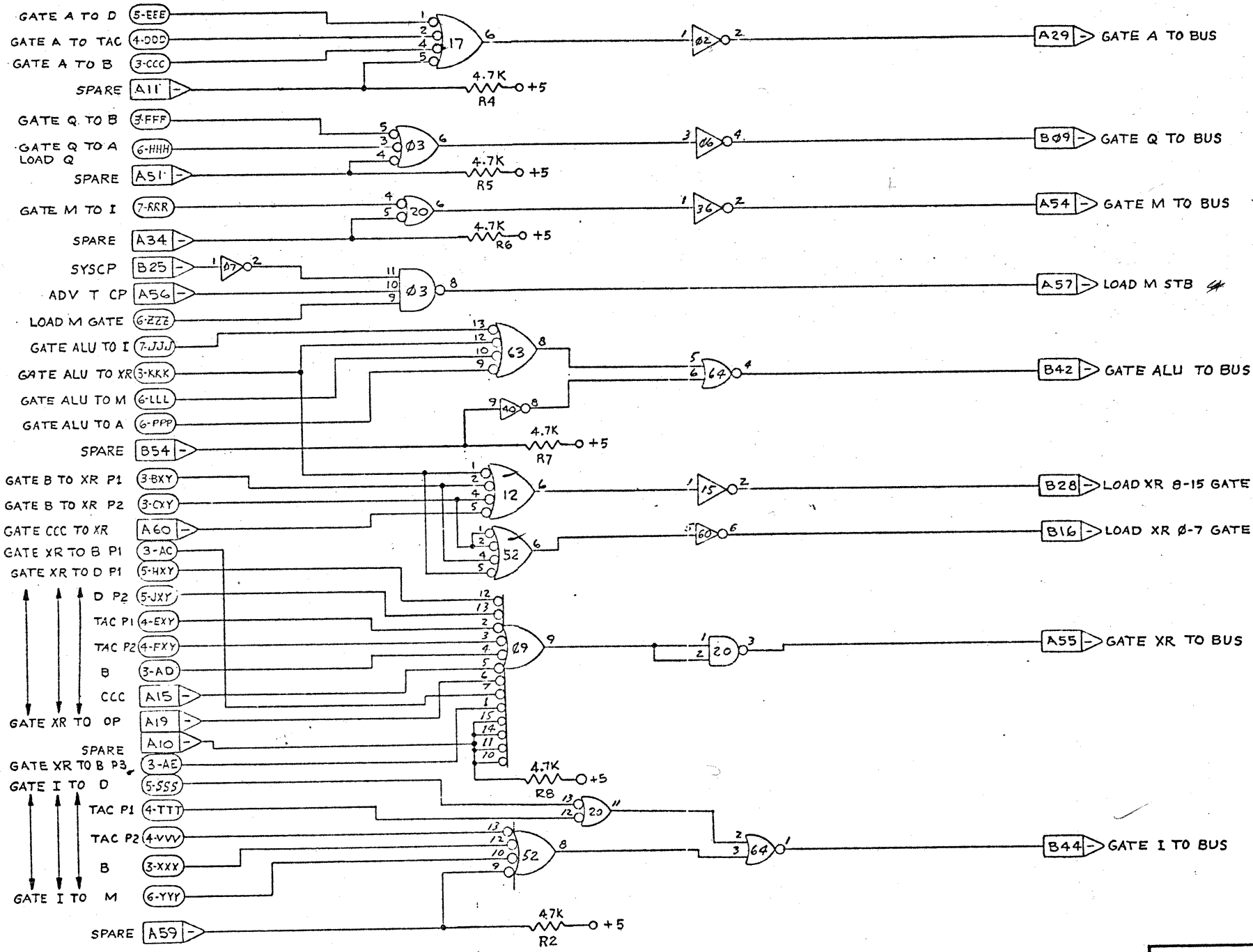


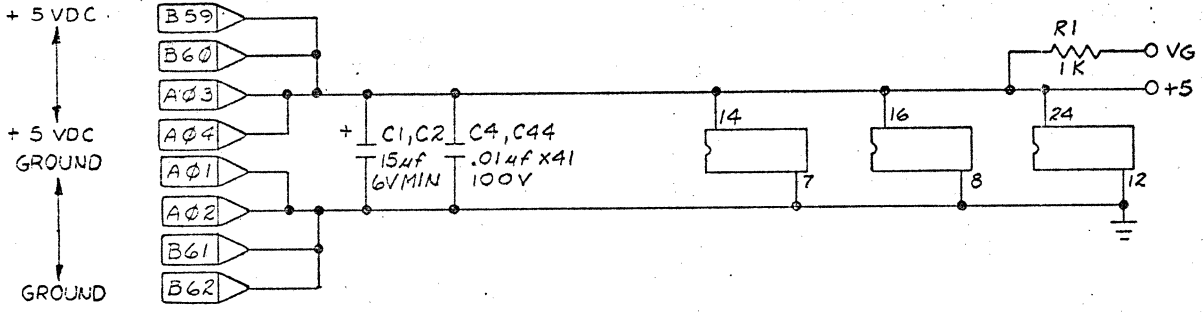
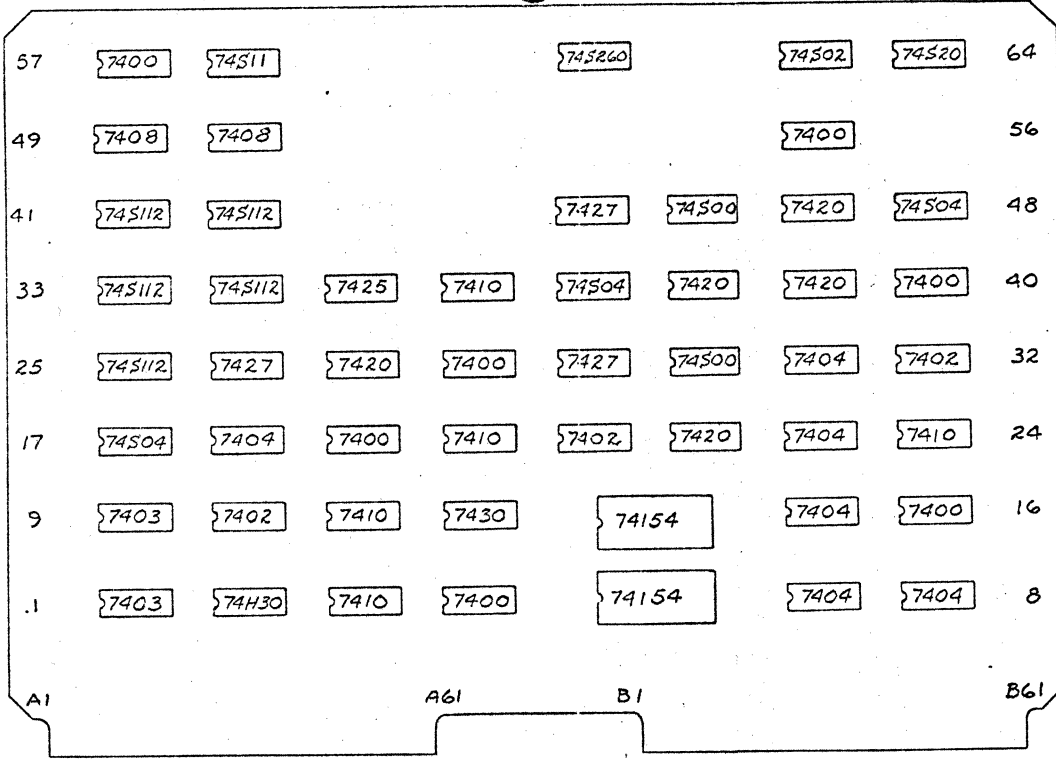
QTY REQD		PART OR FILE NUMBER	NOMENCLATURE	MFG. PART NO. OR MATERIAL	MFG. NAME OR SPECIFICATION
THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.		UNLESS OTHERWISE SPECIFIED: DIMENSIONS TO LEAST FINEST LINE DIMENSIONAL TOLERANCES: DECIMAL 2 PLACE ± .010 DIMENSIONAL 3 PLACE ± .005 FRACTURAL ± .015		TITLE DATA BUS CONTROL X COMPUTER HARDWARE INC.	
LETTER	EMIN	CHK	DATE	DESIGN	CHECKED
				ELR	SC
EXAMPLE REQUIRED			DO NOT SCALE THIS PRINT	2145	16



D
C
B
A

SC 2145





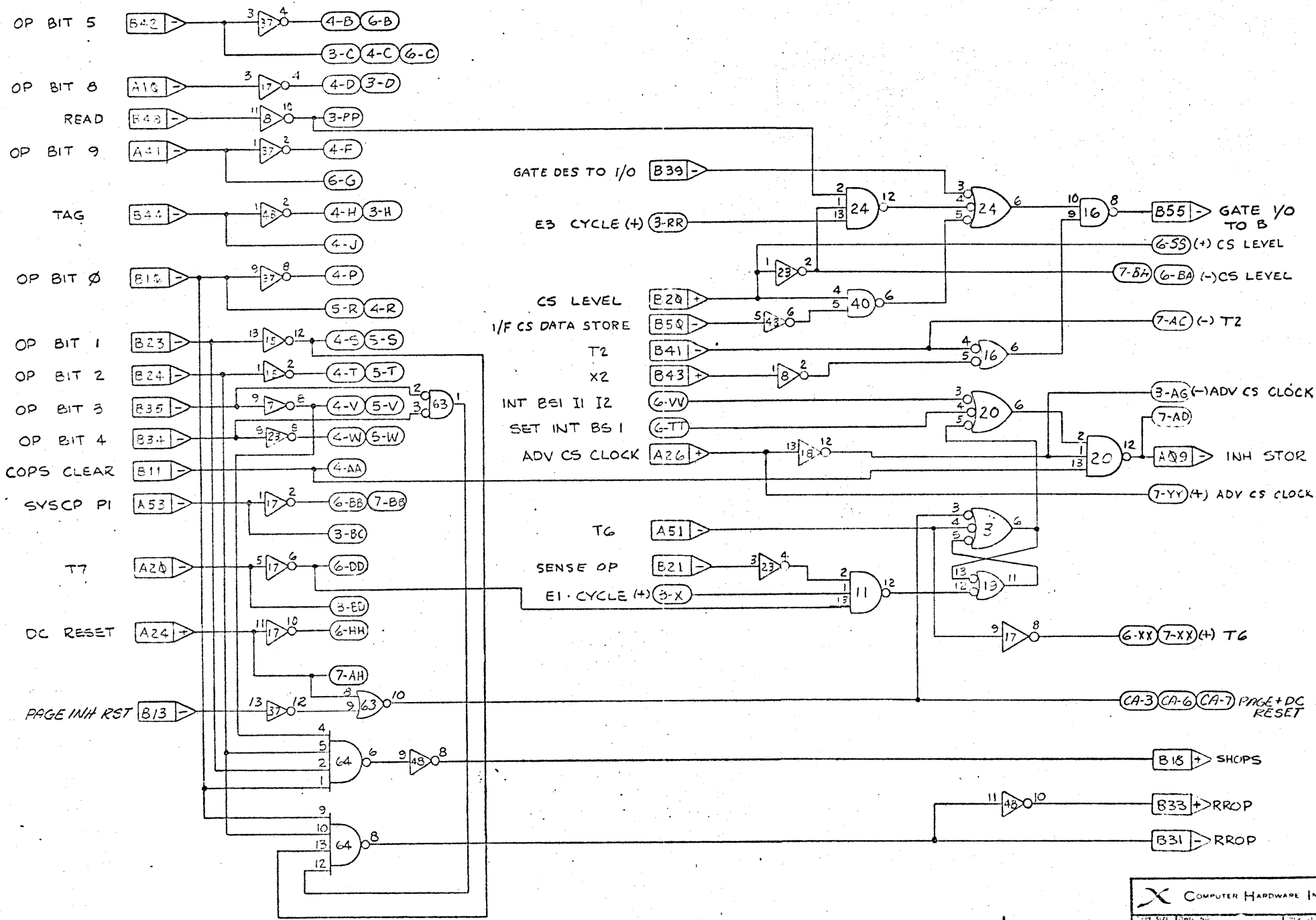
CONFIGURATION TABLE			
SC-3862	NC	A	
PC-2143	A	A	

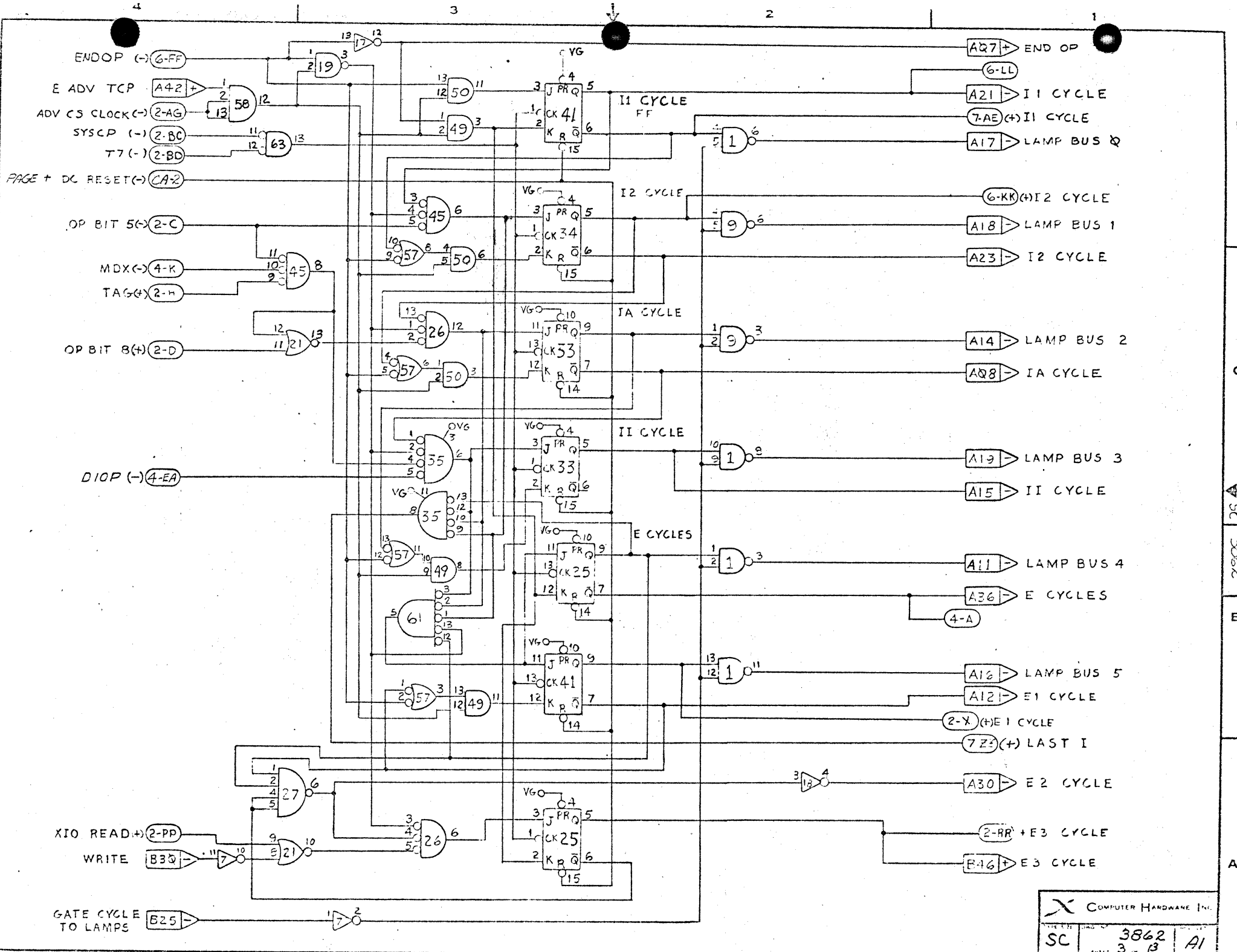
FILE NUMBER			
A1G5	REV	7-17-78	
LETTER	ENH	CHG	DATE
CHANGE RECORD NO			

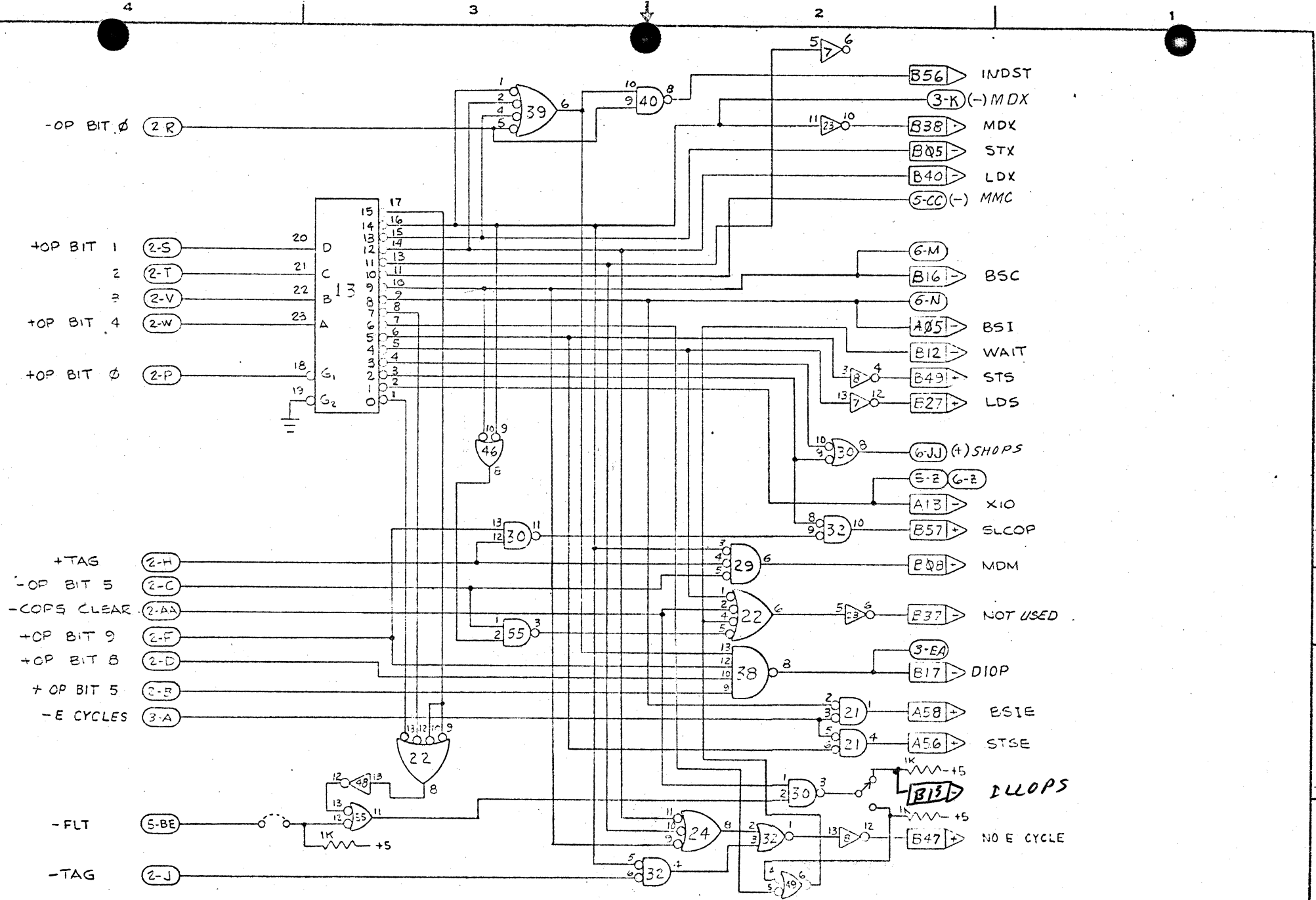
QTY	REQD	PART OR FILE NUMBER	NOMENCLATURE	MFG. PART NO OR MATERIAL	MFG. NAME OR SPECIFICATION	ITEM NO
LIST OF MATERIALS						
THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR DISCLOSURE TO OTHERS, IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.			UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DIMENSIONAL TOLERANCES ANGULAR DIMENSION 1/2° DECIMAL 2 PLACE ± .020 DECIMAL 3 PLACE ± .010			
TITLE CONTROL, MACHINE & OP DECODE - EXT MEM			DRAWN SMITH 11/15/77 CHECKED [Signature]			
X COMPUTER HARDWARE INC.			DESIGN MEM SCALE SC TYPE SIZE NO 3862 REV. LIST NO 1 of 13 ITEM NO AI			
BREAK SHARP EDGES MAX. INSIDE CORNERS MAX.			ALL MACHINE SURFACES ✓ CHAMFER ALL THREADS Ø X 1 FULL THREAD-INTENT. DO NOT SCALE THIS PRINT			

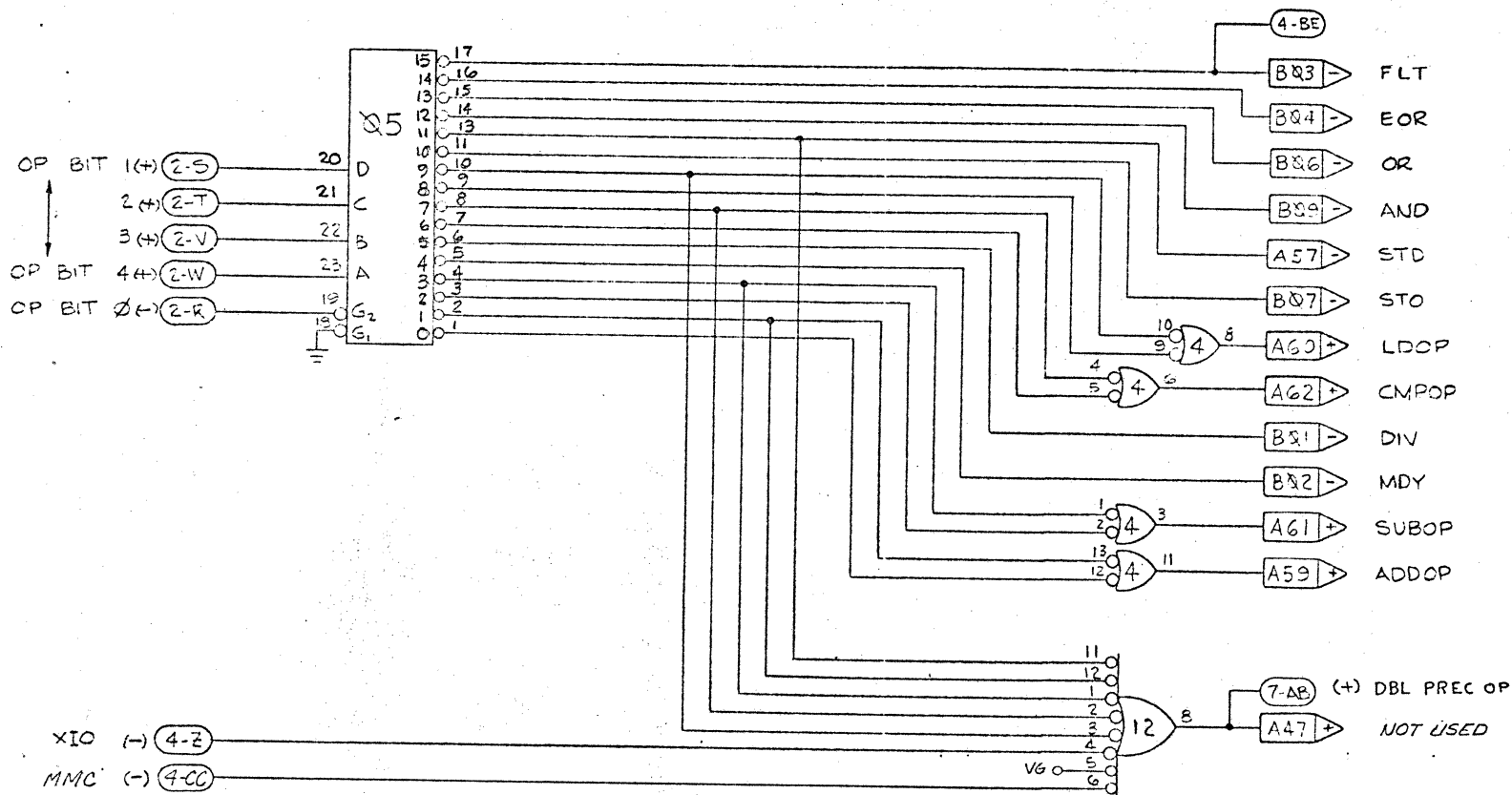
SC 3862

A









PAGE+DC RESET (-) CA-2

CCC = 1 A34-

MPY SHIFT A38-

SYSCP (+) 2-BE

DC RESET (-) 2-HH

T7 (+) 2-DE

SHOP SHIFT A29-

SLC HOLD T7 A31-

DIV CMP HOLD T7 A33-

CCC = 0 E15-

SHOPS (+) 4-JJ

XIO (-) 4-Z

BSI (-) 4-N

INH INTERRUPT

A46-

I/O INT REQ

A39-

T6 (+) 2-XX

I2' CYCLE (+) 3-KK

C.S. LEVEL (+) 2-SS

RUN A48-

SS MODE A43-

T3 A45-

BSC (-) 4-M

I1 CYCLE (-) 3-LL

OP BIT 9 (-) 2-G

T5 B54-

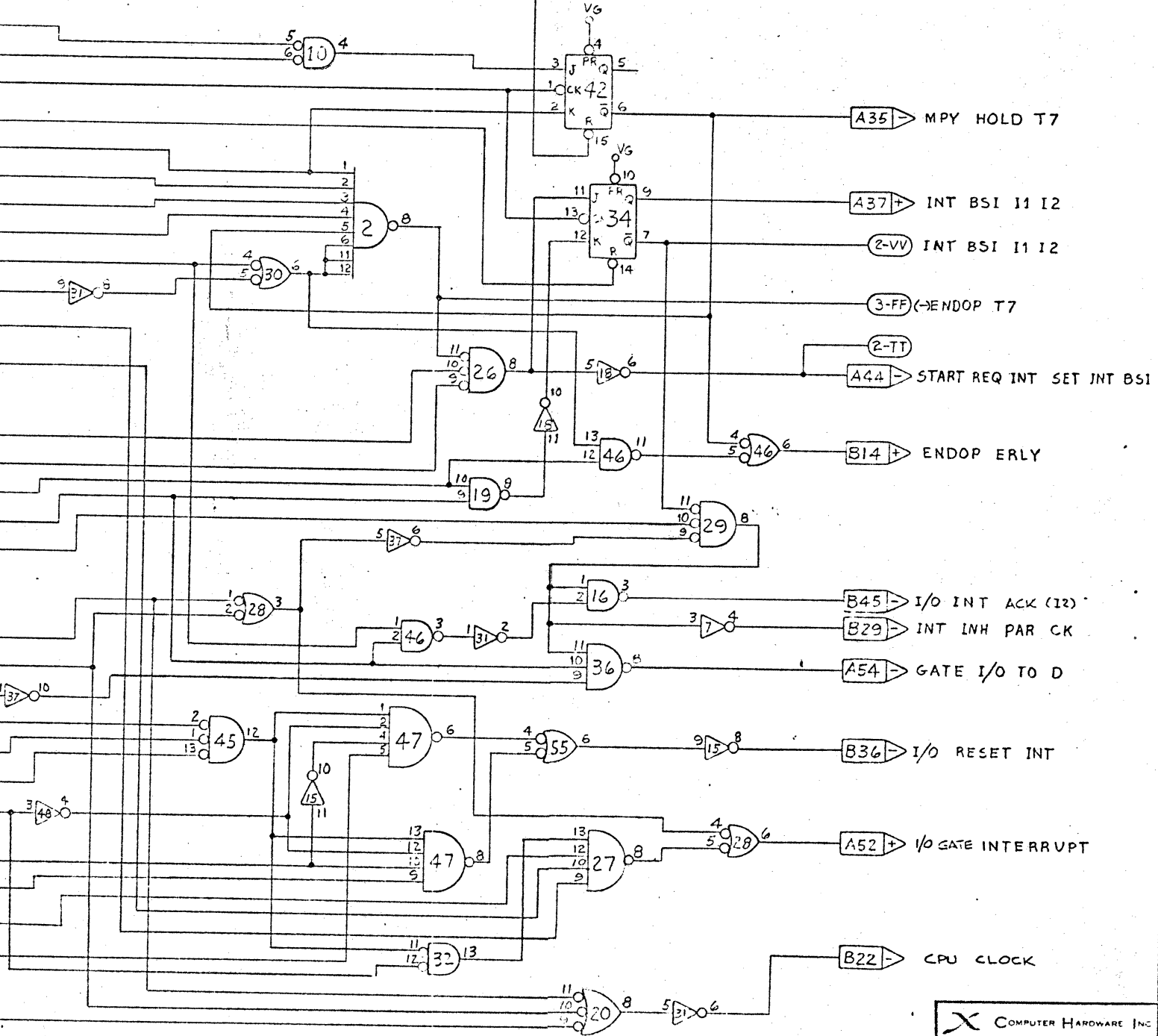
SKIP COND B32+

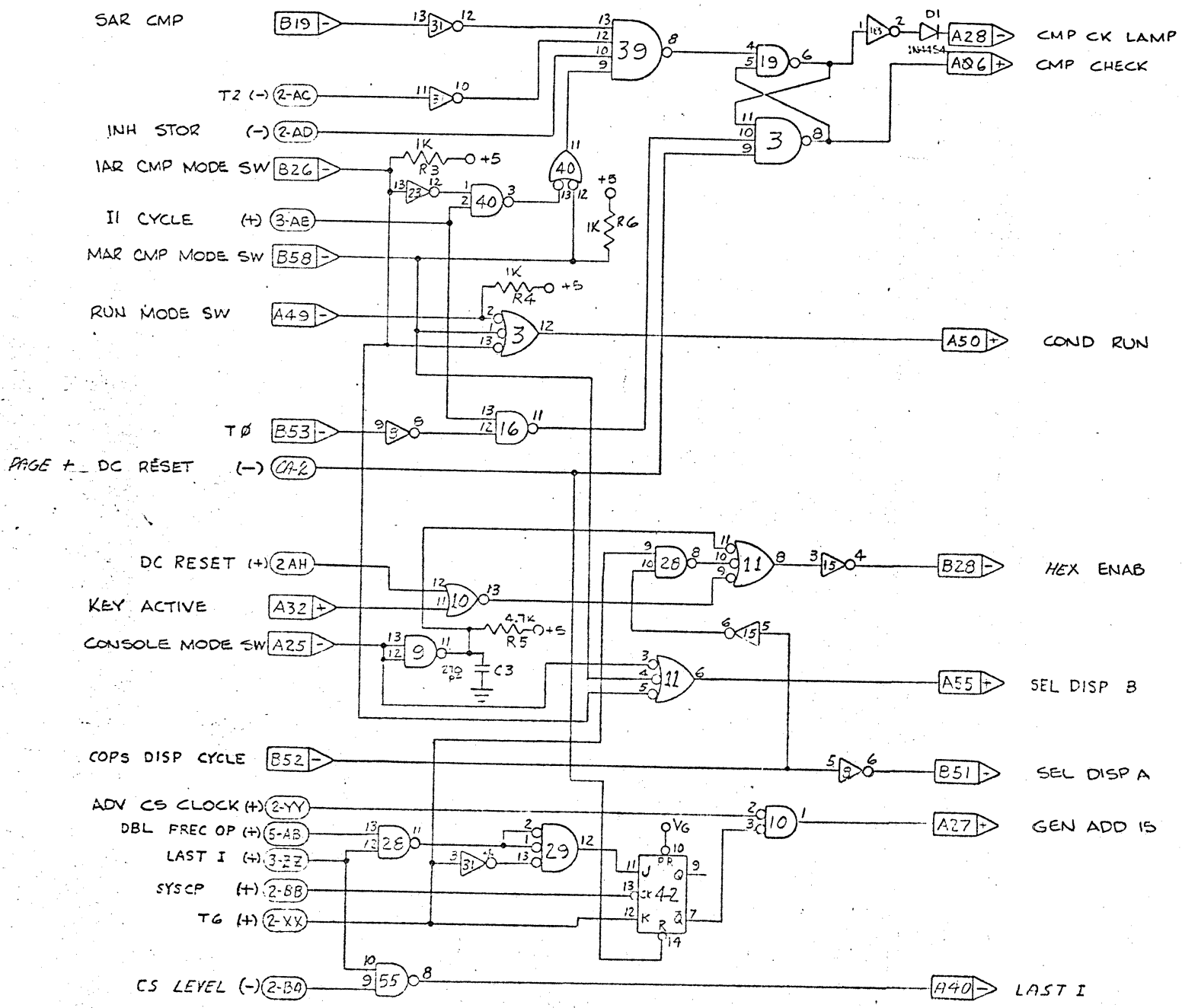
OP BIT 5 (-) 2-C

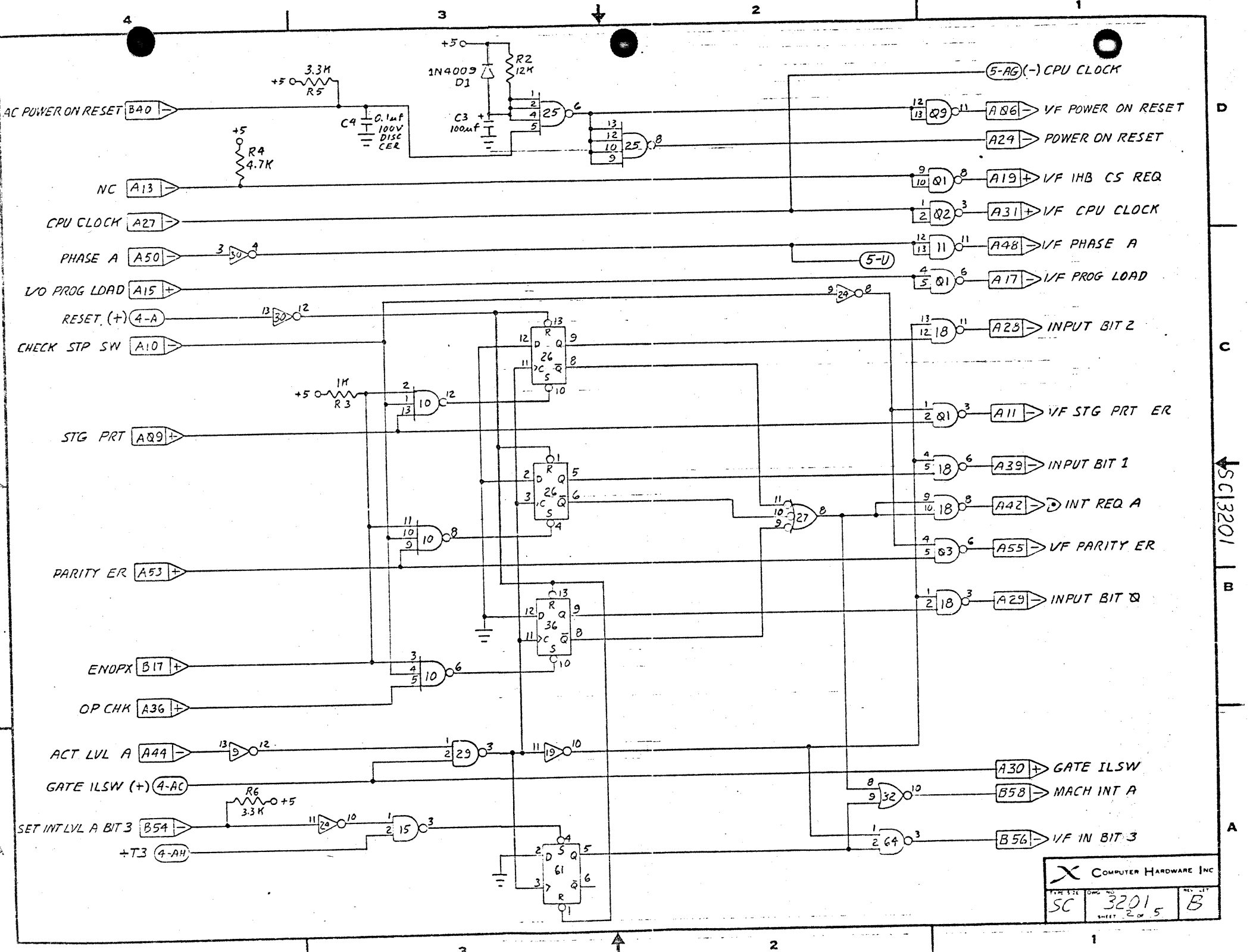
LDX OP BIT 10 A22-

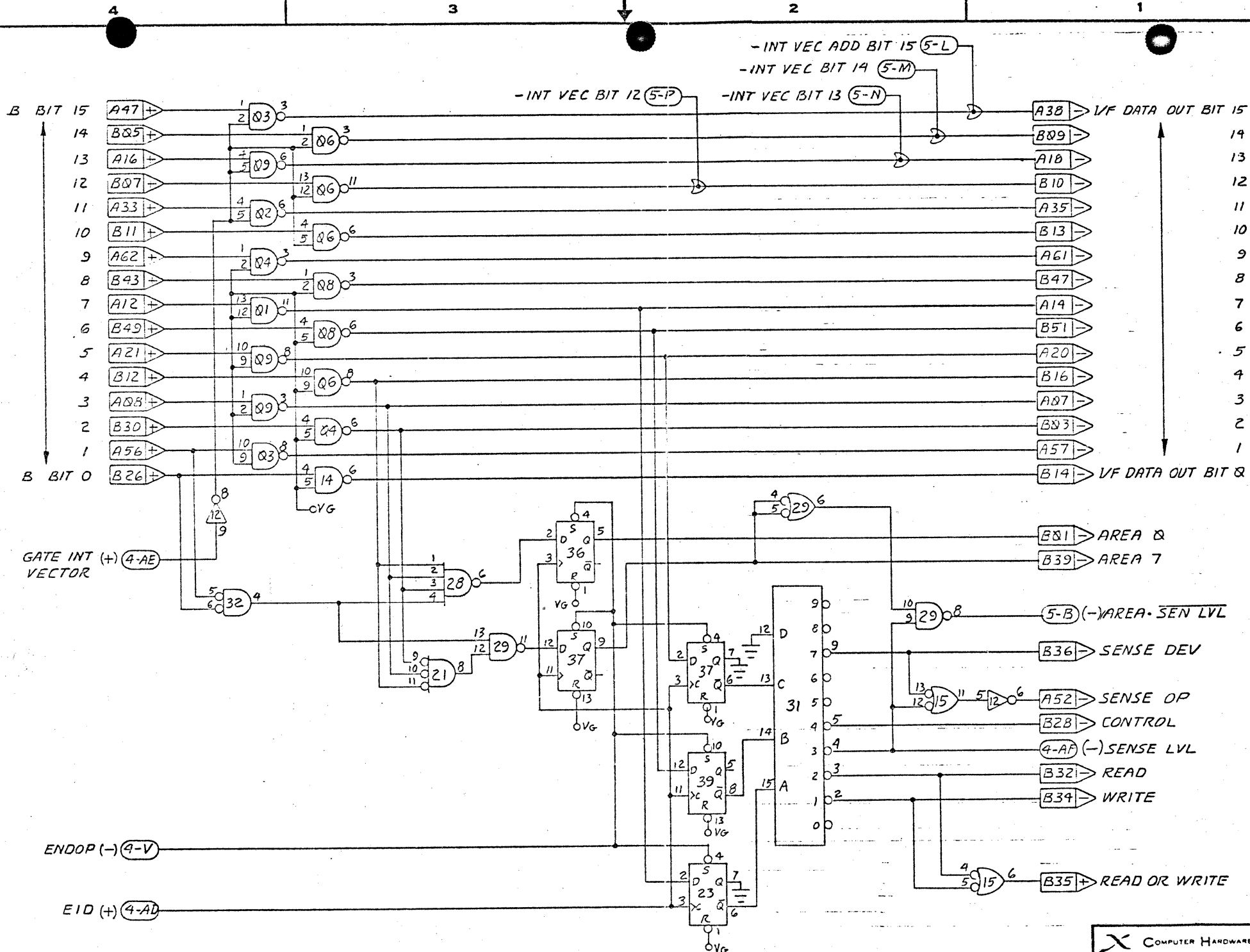
OP BIT 5 (+) 2-B

CS LEVEL (-) 2-BA









-INT VEC ADD BIT 15 (5-L)
 -INT VEC BIT 14 (5-M)
 -INT VEC BIT 13 (5-N)
 -INT VEC BIT 12 (5-P)

GATE INT (+) (4-AE)
 VECTOR

ENDOP (-) (4-V)

EID (+) (4-AD)

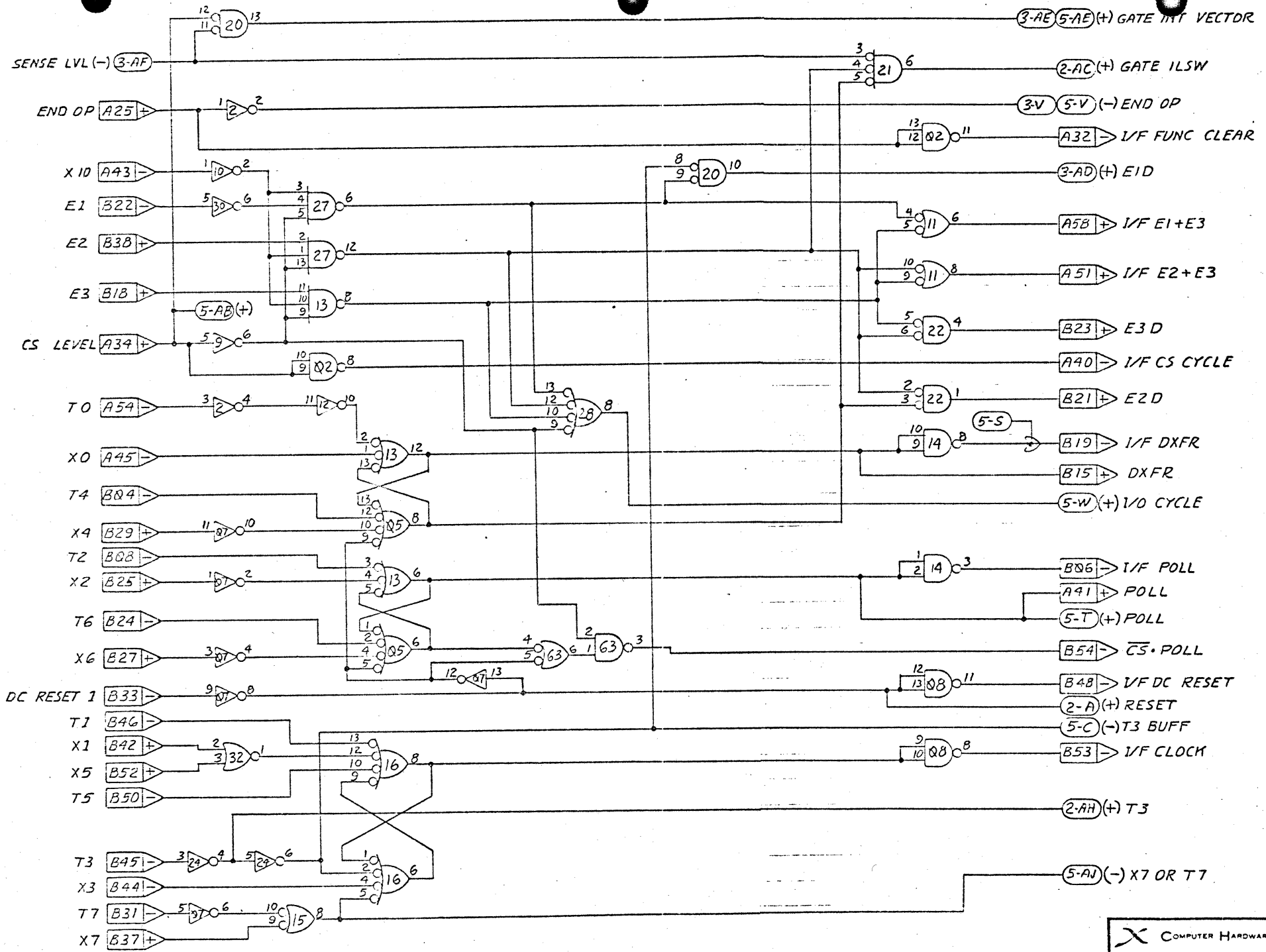
SC 3201

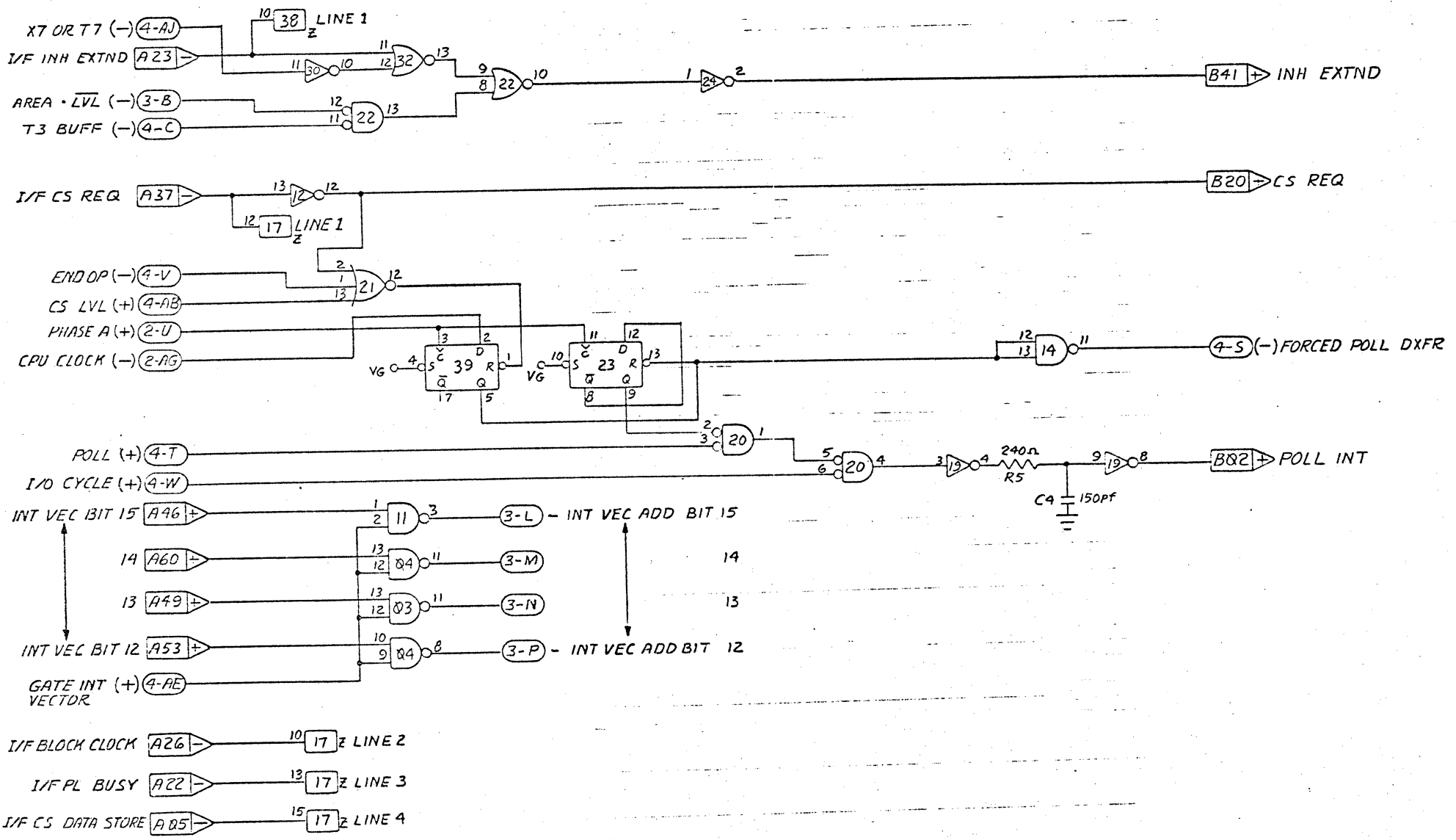
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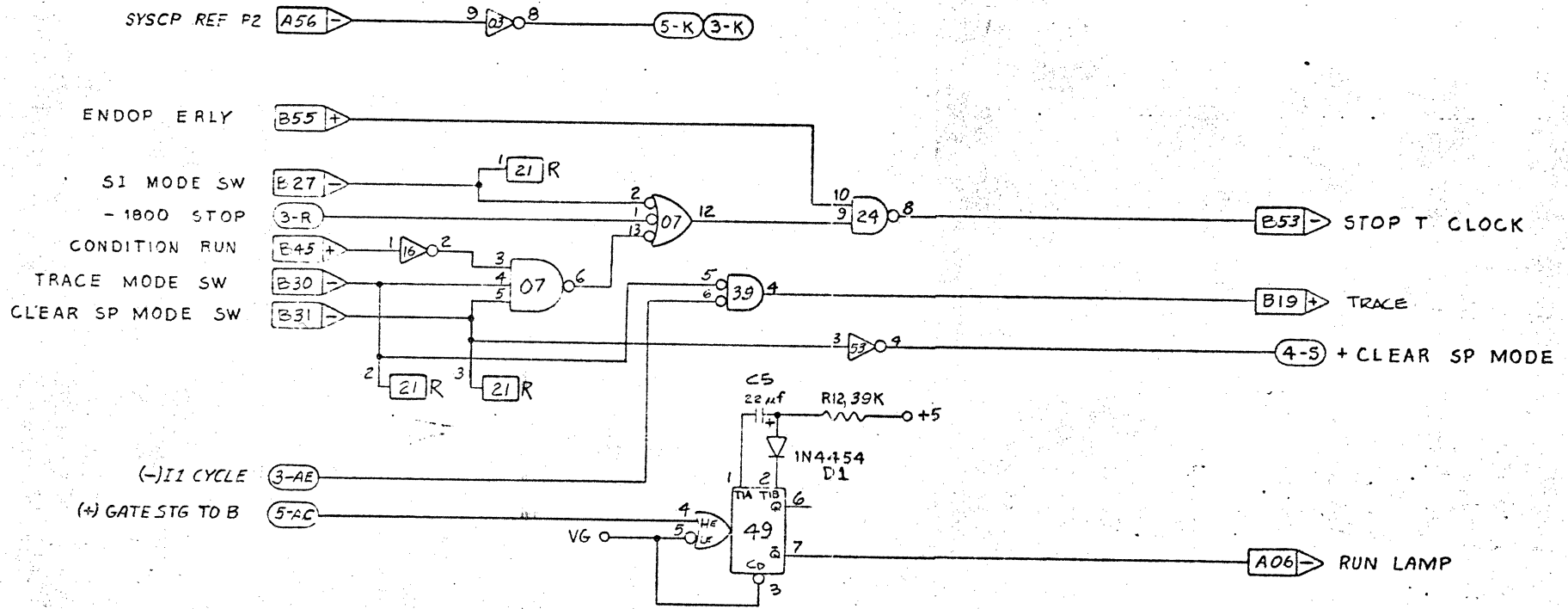
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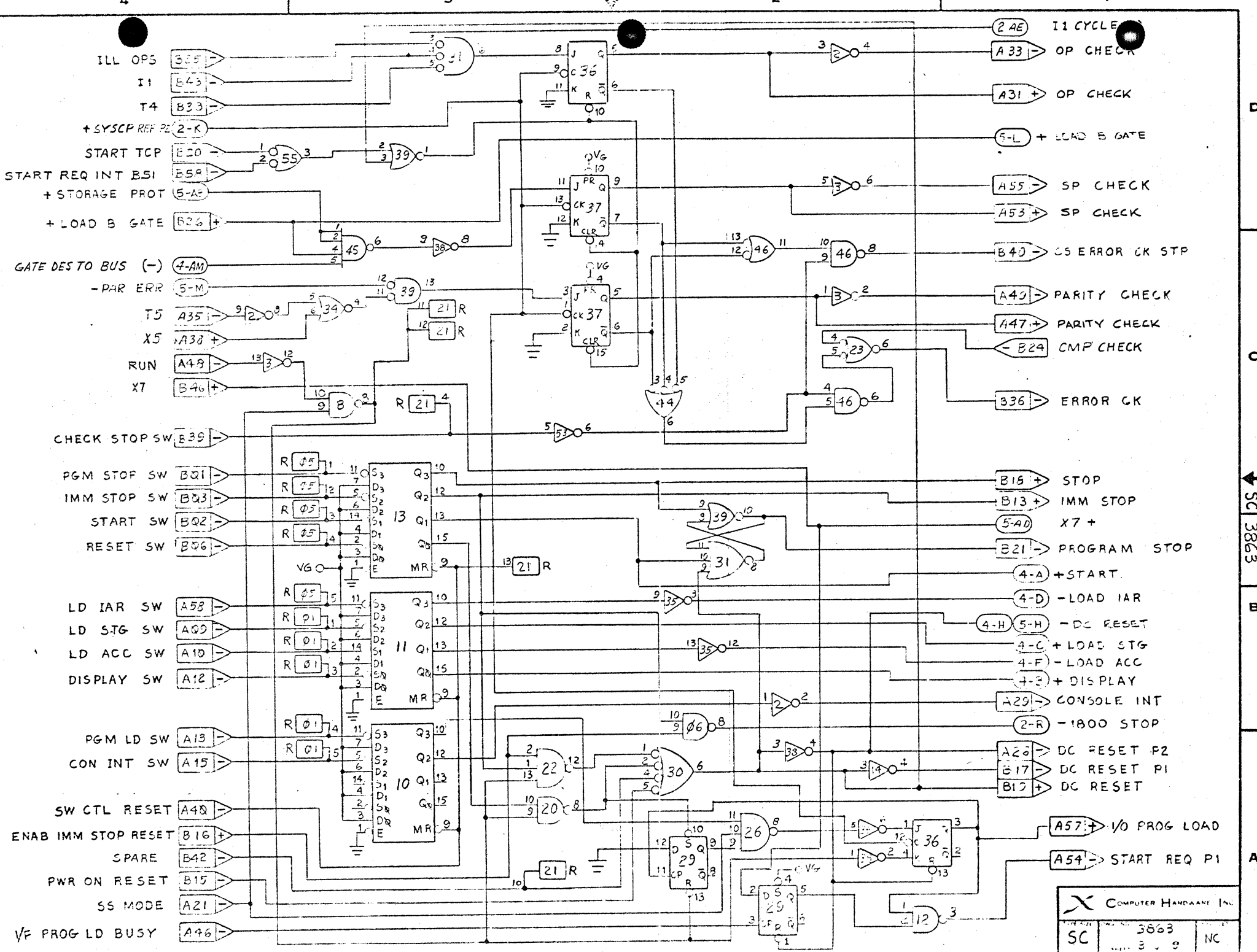
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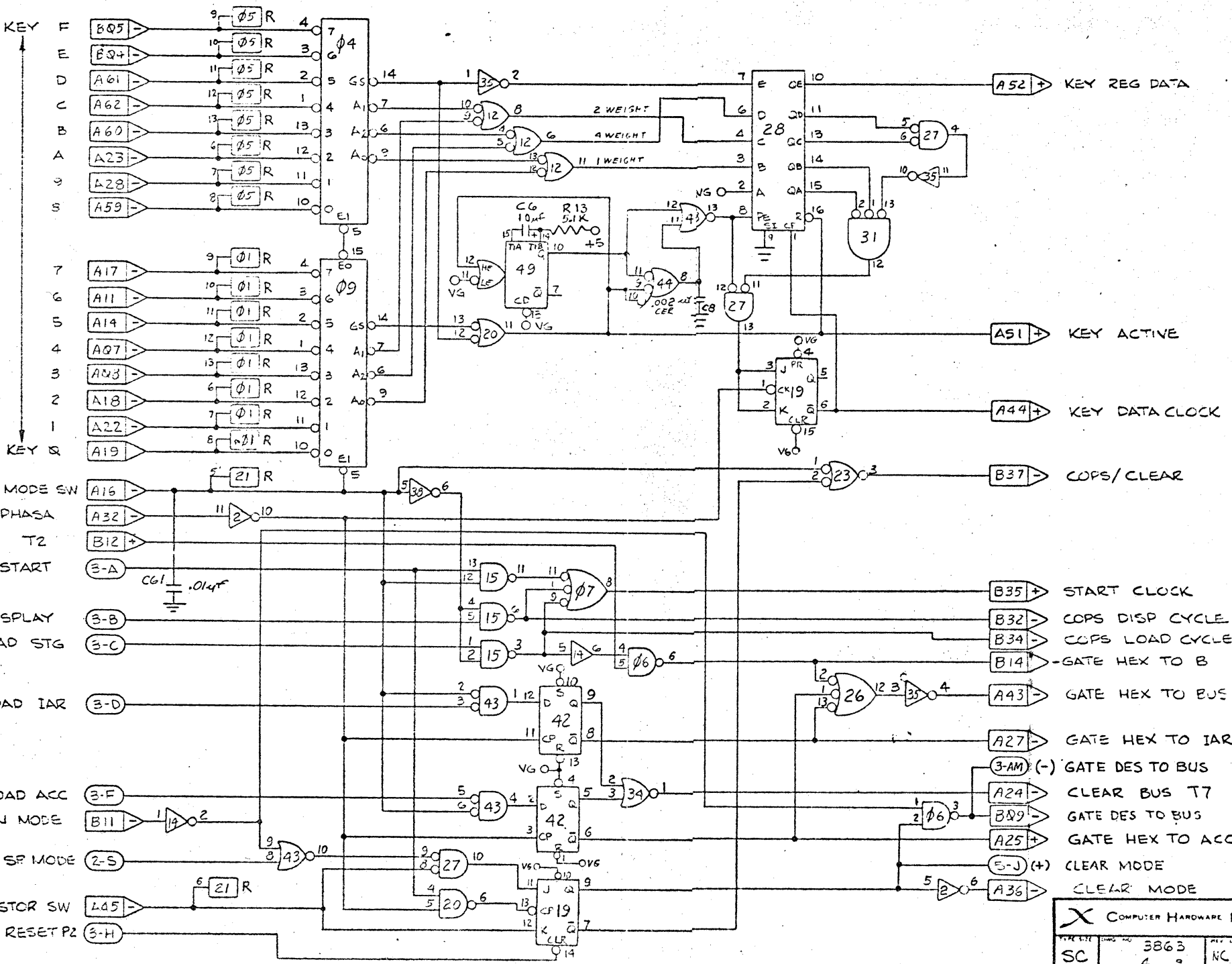
A





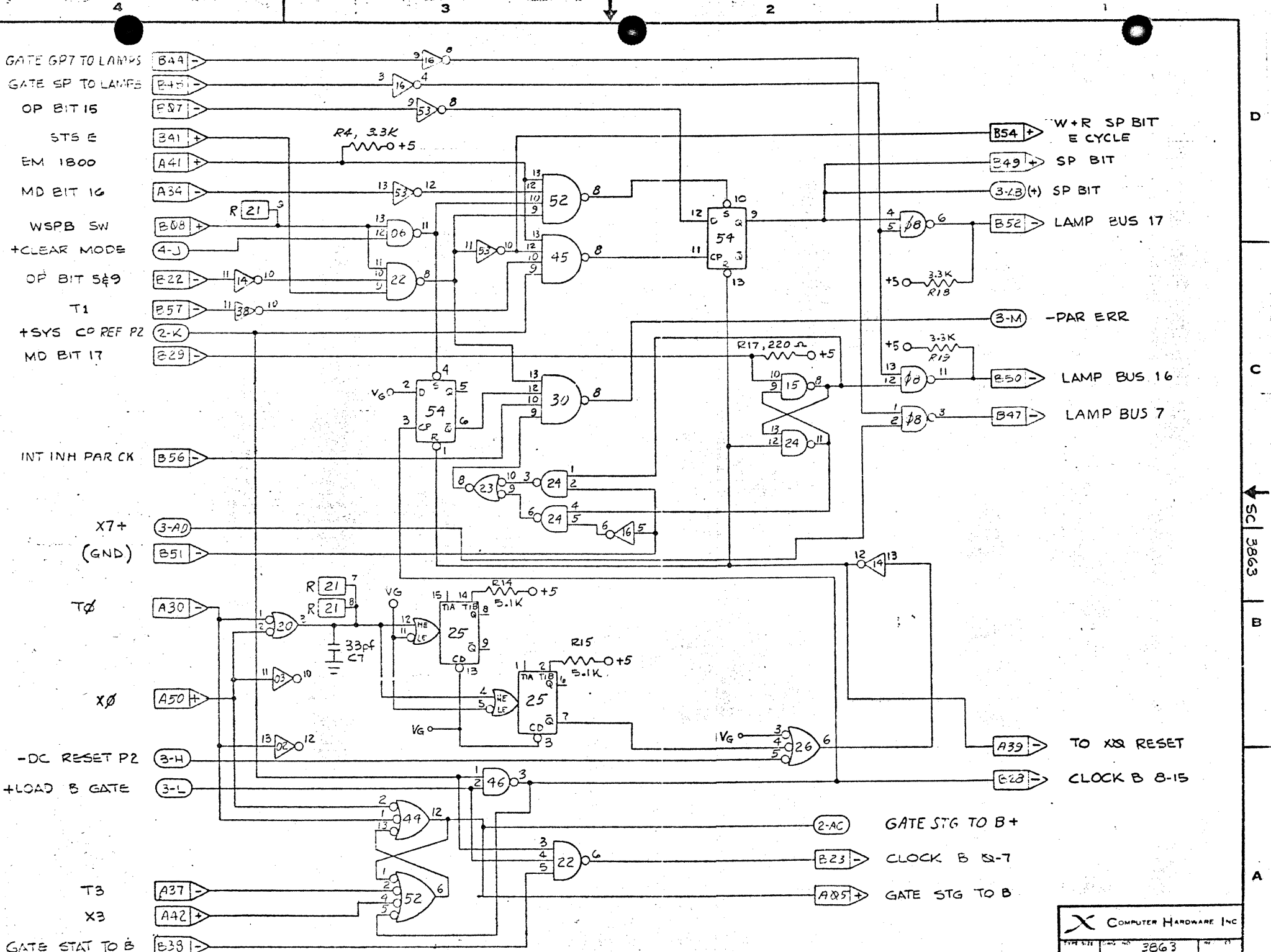




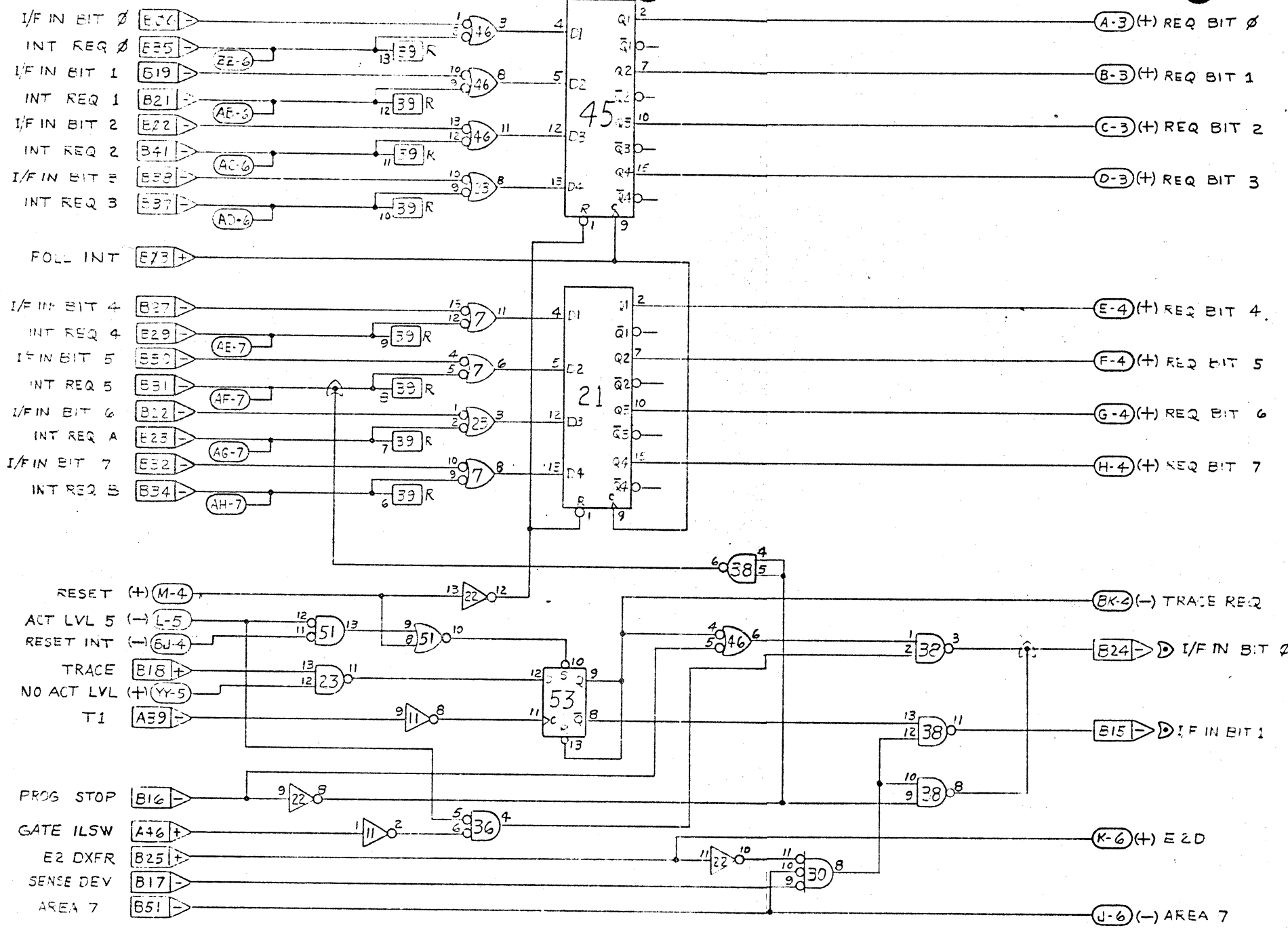


D
C
B
A

SC 3863



D
 C
 SC 3863
 B
 A

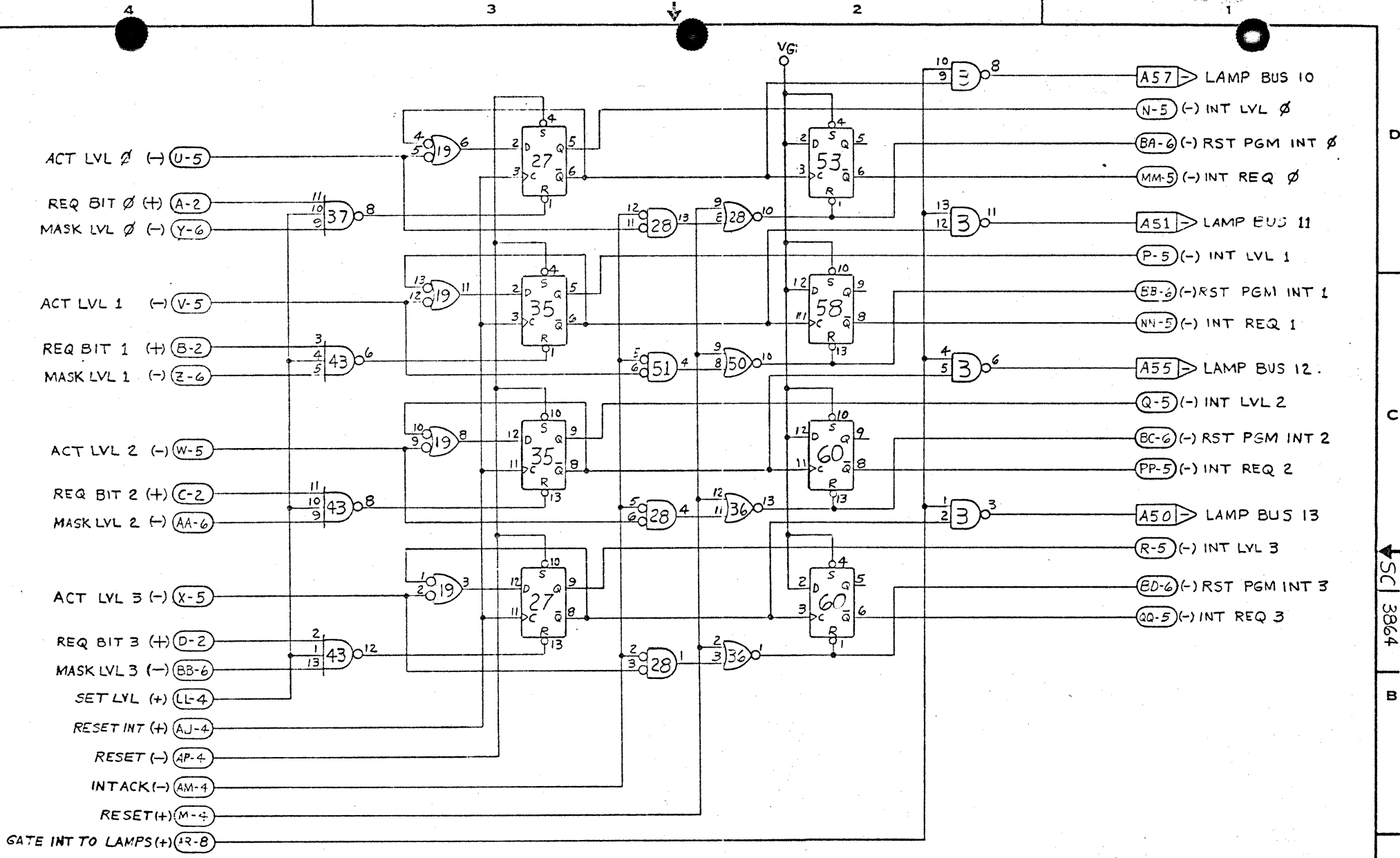


INTERRUPT CONTROL

COMPUTER HARDWARE INC		
SC	3864	NC
	2 12	

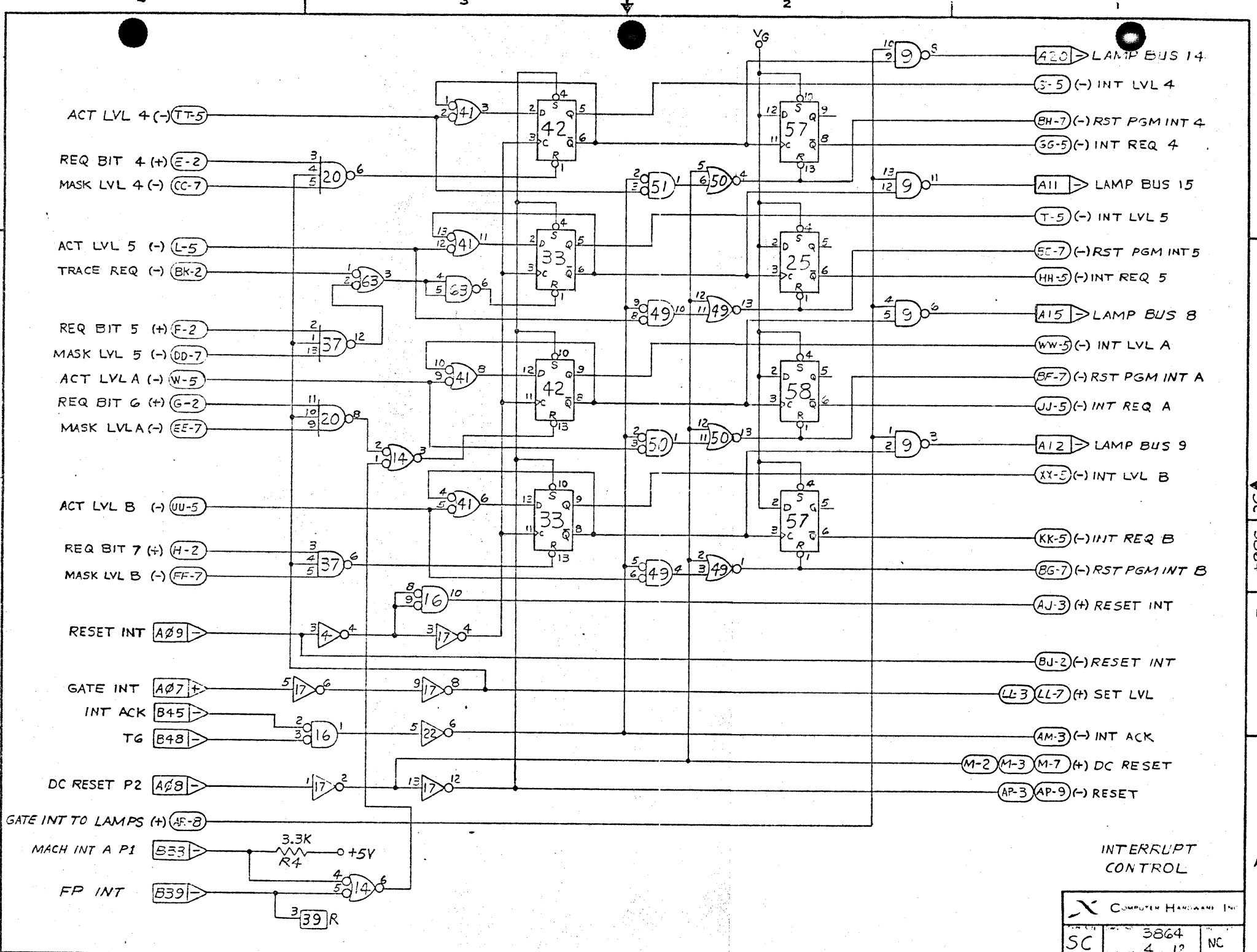
SC 3864

A



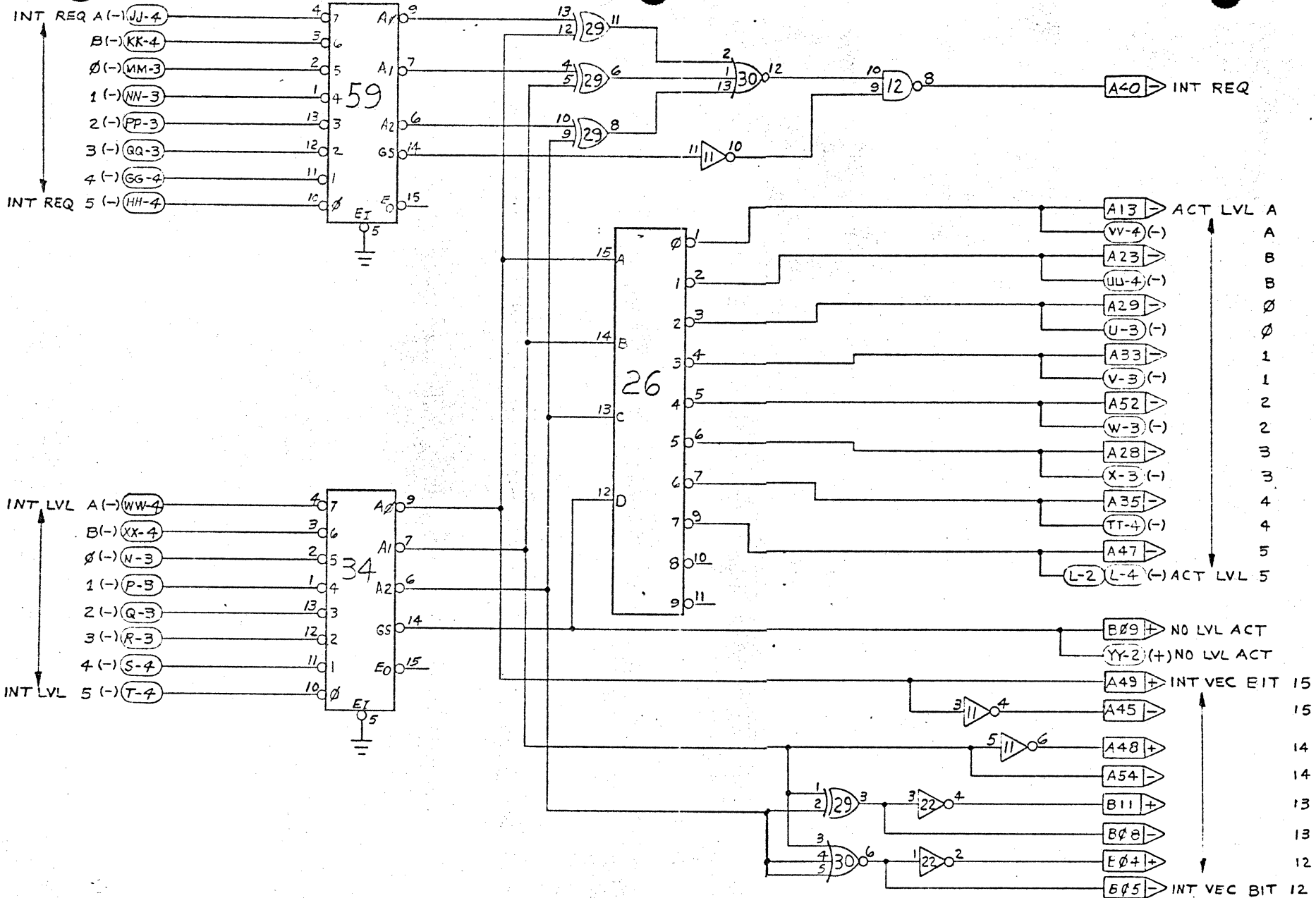
INTERRUPT CONTROL

X COMPUTER HARDWARE INC.		
SC	3864	NC
	3-12	



INTERRUPT CONTROL

COMPUTER HARDWARE INC.		
SC	3864	NC
	4.12	



INTERRUPT CONTROL

COMPUTER HARDWARE, INC.

SC	3864	NC
	5	12

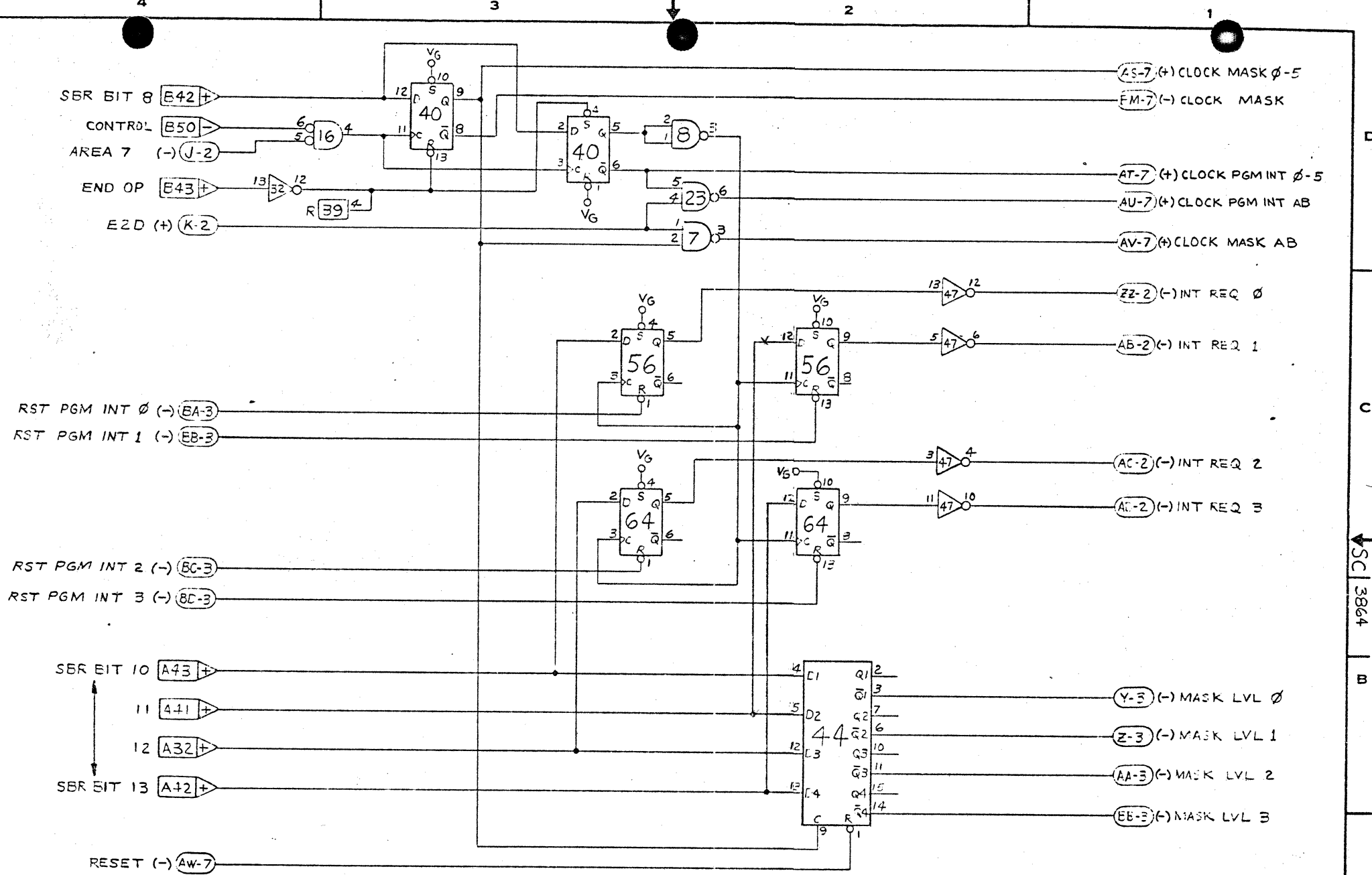
D

C

B

A

SC 3864

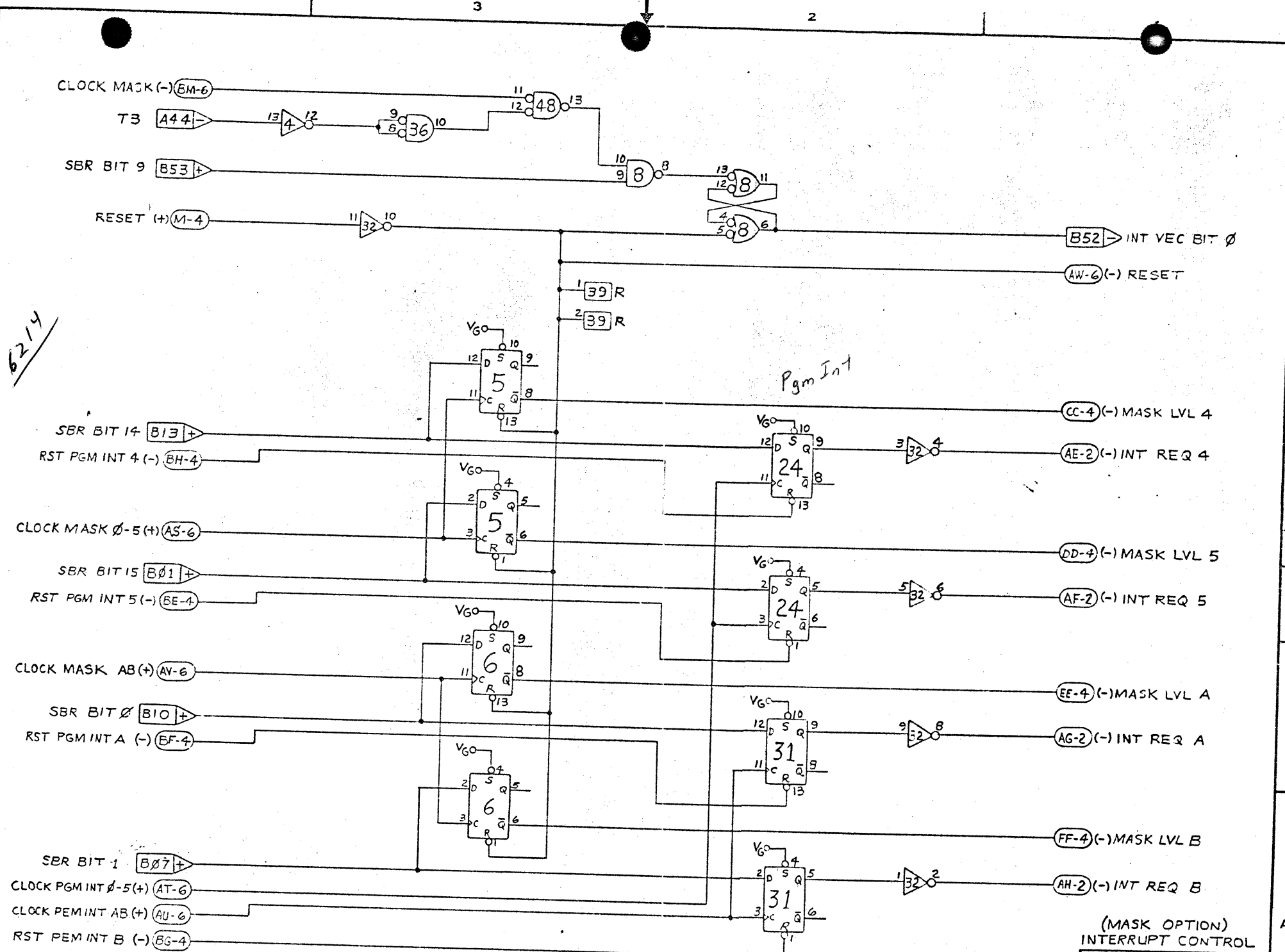


(MASK OPTION)
INTERRUPT CONTROL

COMPUTER HARDWARE INC.		
SC	3864 6.12	NC

D
C
B
A

SC 3864

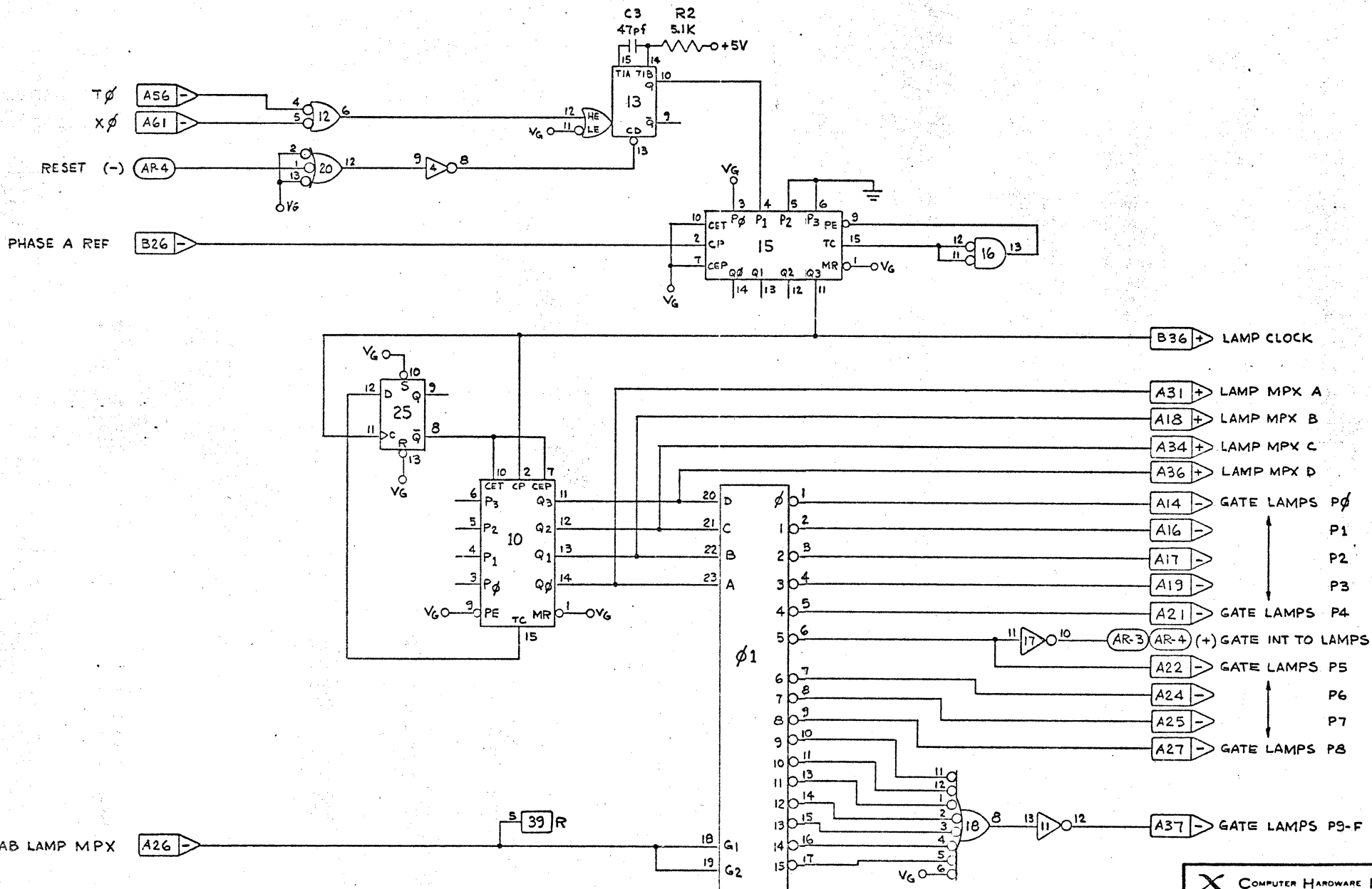


(MASK OPTION)
INTERRUPT CONTROL

X COMPUTER HARDWARE INC.		
SC	3864	NC
	7	12

SC 3864

A



	SIGNAL		CONNECTIONS
3	AC PWR ON RESET	XX -	B19-40,
4	ACC = 0	11 -	A11-62, A16-49,
5	ACC BIT 0	11 +	A11-43, A14-11, B09-1, B16-4,
6	ACC BIT 0 SERIAL IN	16 +	A11-29, A16-58,
7	ACC BIT 1	11 +	A11-53, A14-38, B09-3, B16-58,
8	ACC BIT 2	11 +	A11-25, B09-6,
7	ACC BIT 3	11 +	A11-43, B09-8,
10	ACC BIT 4	11 +	A11-37, B09-31,
11	ACC BIT 5	11 +	A11-60, B09-36,
12	ACC BIT 6	11 +	A11-15, B09-13,
13	ACC BIT 7	11 +	A11-17, B09-16,
14	ACC BIT 8	11 +	B10-19, B11-7,
15	ACC BIT 9	11 +	B10-14, B11-9,
16	ACC BIT 0 = ORG BIT 0	14 -	A14-12, B16-24,
17	ACC BIT 10	11 +	B10-3, B11-11,
18	ACC BIT 11	11 +	B10-5, B11-13,
19	ACC BIT 12	11 +	B10-13, B11-23,
20	ACC BIT 13	11 +	B10-16, B11-31,
21	ACC BIT 14	11 +	B10-1, B11-6,
22	ACC BIT 15	11 +	A16-15, B10-12, B11-41,
23	ACC BIT 15 SERIAL IN	16 +	B11-2, B16-30,
24	ACC S0	16 +	A11-42, A16-39,
25	ACC S1	16 +	A11-39, A16-53,
26	ACT LVL A	21 -	A19-44, A21-13, B06-6,
29	ACT LVL B	21 -	A21-23,

DATE	FILE NUMBER	DRAWN <i>MM</i> 12-22-77	CHECKED <i>MM</i> 7-24-78	DO NOT SCALE THIS PRINT	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE THEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	COMPUTER HARDWARE INC.
TITLE	EXT. MEMORY CPU			70 OF 167	SA	LWS NO 3879 A

SHEETS 3-69 FILED AS "AA" SHEETS 1 & 2 FILED AS "AC"

SIGNAL

CONNECTIONS

28	ACT LVL 0	21 -	A21-29,
29	ACT LVL 1	21 -	A21-33,
30	ACT LVL 2	21 -	A21-52,
31	ACT LVL 3	21 -	A21-28,
32	ACT LVL 4	21 -	A21-35,
33	ACT LVL 5	21 -	A21-47, B06-9,
34	ADDCOP	18 +	A16-12, A18-59, B14-48,
35	ADV CS CLOCK	12 +	A18-26, B07-30, B09-41, B10-40, B12-13, B13-37, B14-35, B15-44,
36	ADV IAR GATE	17 +	A10-37, B17-17,
37	ADV IAR 0-7	10 +	A09-41, A10-14,
38	ADV ICP	13 +	A13-37, A17-56, A18-42,
39	ALU = 0	11 -	A14-29, B11-10,
40	ALU A=B	11 +	A11-41, A14-56,
41	ALU BIT 0	11 +	A11-26, A14-28, B16-51,
42	ALU CARRY OUT	14 +	A14-10, B16-45,
43	ALU CN	14 -	A14-16, B11-15,
44	ALU CN+4	11 -	A11-27, A14-9,
45	ALU MODE	16 +	A11-6, A16-50,
46	ALU OVFL	16 +	B16-27,
47	ALU SUB	16 +	A14-8, B16-18,
48	ALU S0	16 +	A11-44, A16-13,
49	ALU S1	16 +	A11-24, A16-56,
50	ALU S2	16 +	A11-10, A16-7,
51	ALU S3	16 +	A11-18, A16-45,
52	AND	18 -	A16-43, B18-9,

DRAWN		CHECKED	DO NOT SCALE THIS PRINT		<small>THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS PROHIBITED EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>	COMPUTER HARDWARE INC.
DESIGN		SCALE				
DASH	FILE NUMBER	TITLE		SHEET 71/767 SA	DWG. NO. 3879	REV. A

SIGNAL		CONNECTIONS
53 AREA 0	19 -	B15-23, B19-1,
54 AREA 7	19 -	A15-45, B19-39, B21-51,
55 BSC	18 -	A16-32, B14-51, B17-31, B18-16,
58 BSI	18 -	A18-5, B14-49, B15-34, B16-46, B17-48,
57 BSIE	18 +	A18-58, B17-6,
58 BUS BIT 0	+	A09-24, A11-30, A12-38,
59 BUS BIT 1	+	A09-20, A11-12, A12-33,
60 BUS BIT 2	+	A09-22, A11-32, A12-36,
61 BUS BIT 3	+	A09-26, A11-36, A12-31,
62 BUS BIT 4	+	A09-28, A11-54, A12-19,
63 BUS BIT 5	+	A09-25, A11-52, A12-14,
64 BUS BIT 6	+	A09-48, A11-11, A12-17,
65 BUS BIT 7	+	A09-27, A11-13, A12-12,
66 BUS BIT 8	+	A10-36, A13-28, B11-16, B14-20,
67 BUS BIT 9	+	A10-33, A13-29, B11-24, B14-46,
68 BUS BIT 10	+	A10-25, A13-23, B11-12, B14-24,
69 BUS BIT 11	+	A10-29, A13-21, B11-18, B14-32,
70 BUS BIT 12	+	A10-24, B11-4, B13-46, B14-42,
71 BUS BIT 13	+	A10-23, A13-39, B11-3, B14-37,
72 BUS BIT 14	+	A10-21, B11-8, B13-53, B14-33,
73 BUS BIT 15	+	A10-20, A13-19, B11-5, B14-39,
74 CARRY	14 -	A15-60, B14-1,
75 CARRY TO ALU	16 +	A14-14, A16-37,
76 CAS COL ADD STROBE	8 -	A08-51, B01-42, B06-57,
77 CAS MODULE 0	6 -	A05-49, B06-56,

		DRAWN	CHECKED	DO NOT SCALE THIS PRINT	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS PROHIBITED, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE, INC.	COMPUTER HARDWARE INC.
DASH	FILE NUMBER	DESIGN	SCALE			
TITLE					SHEET 72	TYPE SIZE 167 SA
					DWG NO. 3879	REV. A

SIGNAL

CONNECTIONS

78	CAS MODULE 1	6 -	A04-49, B06-54,
79	CAS MODULE 2	6 -	A03-49, B06-52,
80	CAS MODULE 3	6 -	A02-49, B06-53,
81	CAS MODULE 4	6 -	A01-49, B06-55,
82	CCC = 0	14 -	A17-33, B14-30, B16-41, B18-15,
83	CCC = 1	14 -	A16-28, A18-34, B14-25, B17-57,
84	CD BIT 5	9 -	A06-58, A07-47, A09-55,
84	CD BIT 0	9 -	A06-42, A07-11, A09-50,
85	CD BIT 1	9 -	A06-54, A07-49, A09-45,
86	CD BIT 2	9 -	A06-35, A07-50, A09-43,
87	CD BIT 3	9 -	A06-60, A07-14, A09-57,
88	CD BIT 4	9 -	A06-40, A07-37, A09-53,
89	CD BIT 6	9 -	A06-41, A07-45, A09-51,
90	CD BIT 7	9 -	A06-52, A09-49, B07-7,
91	CD BIT 8	10 -	A06-37, A10-61, B07-9,
92	CD BIT 9	10 -	A06-36, A07-55, A10-57,
93	CD BIT 10	10 -	A06-11, A10-52, B07-17,
94	CD BIT 11	10 -	A06-18, A10-54, B07-15,
95	CD BIT 12	10 -	A06-6, A07-31, A10-49,
96	CD BIT 13	10 -	A06-17, A07-24, A10-17,
97	CD BIT 14	10 -	A06-8, A07-25, A10-55,
98	CD BIT 15	10 -	A06-14, A07-23, A10-51,
99	CD BIT 16	12 -	A06-56, A08-14, B12-49,
100	CES 8	XX -	A15-16,
101	CES 9	XX -	A15-28,

DRAWN		CHECKED		DO NOT SCALE THIS PRINT		THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.		COMPUTER HARDWARE INC.	
DESIGN		SCALE							
DASH	FILE NUMBER								
TITLE						SHEET	SIZE	DWG. NO.	REV.
						73 of 167	SA	3879	A

SIGNAL

CONNECTIONS

103	CES 10	XX -	A15-5,
104	CES 11	XX -	A15-22,
105	CES 12	XX -	A15-56,
106	CES 13	XX -	B15-5,
107	CES 14	XX -	B15-8,
108	CES 15	XX -	B15-13,
109	CHECK STOP S-111	22 -	A19-10, A22-43, B20-39,
110	CLEAR BUS T7	20 -	A20-24, B17-36,
111	CLEAR MODE	20 -	A08-57, A20-36,
112	CLEAR SIG S-304	22 -	A20-45, B22-23,
113	CLOCK SBR 0- 7	20 -	A09-46, B20-23,
114	CLOCK SBR 8-15	20 -	A08-47, A10-56, B20-28,
115	CMP CHK	18 -	A18-6, B20-24,
116	CMP CHK IND	18 -	A18-28, B22-49,
117	CMPOP	18 +	A14-30, A16-44, A18-62, B17-53,
118	COMP EQUAL	14 +	A14-61, B17-8,
119	COMP EQUAL	14 -	A14-57,
120	COMP LESS OR EQUAL	14 +	A14-37, B17-22,
121	COND RUN	18 +	A18-50, B20-45,
122	CONS INT S-310	22 -	A20-15, B22-34,
123	CONSOLE INT	20 -	A20-29,
124	CONSOLE S-112	22 -	A18-25, A20-16, B22-15,
125	CONTROL	19 -	B19-28, B21-50,
126	COPS DISP CYCLE	20 -	B18-52, B20-32,
127	COPS LOAD CYCLE	20 -	B20-34,

DRAWN		CHECKED		DO NOT SCALE THIS PRINT		<small>THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>		COMPUTER HARDWARE INC.	
DASH	FILE NUMBER	DESIGN	SCALE						
TITLE						PLOT 74 167 SA	TYPE SIZE 3879	DAG NO. 3879	PLV A

SIGNAL

CONNECTIONS

128	COPS+CLEAR	20 -	A08-12, B07-52, B12-55, B15-49, B16-6, B17-1, B18-11, B20-37,
129	CPU CLOCK	18 -	A19-27, B18-22,
130	CS ERR CHK STP	20 -	B12-45, B20-40,
131	CS HOLD T7	12 -	A12-37, B13-34,
132	CS LEVEL	12 +	A19-34, B07-6, B08-17, B12-19, B18-20,
133	CS LEVEL	12 -	A16-5, A17-47, B06-37, B12-16,
134	CS REQUEST	19 +	B12-42, B19-20,
135	CSTG ADD BIT 3	9 -	B09-49,
136	DATA RDY OPR	8 +	A08-50, B12-35, B13-31,
137	DATA READY	8 +	A08-48,
138	DATA READY	8 -	A06-57, B07-47, B08-16,
139	DBL PREC OP MOD 2	7 +	A16-10, B07-43, B17-14,
140	DBL PREC OP MOD1	7 +	A14-54, B07-46,
141	DC RESET	20 +	A09-11, A10-10, A13-24, B12-24, B20-10,
142	DC RESET P1	20 -	B06-11, B07-11, B14-5, B15-45, B17-43, B20-17,
143	DC RESET P2	20 -	A20-26, A21-8, B19-33,
144	DES 0	22 -	A15-14, B22-24,
145	DES 1	22 -	A15-19, B22-26,
146	DES 2	22 -	A15-21, A22-26,
147	DES 3	22 -	A15-9, A22-28,
148	DES 4	22 -	A15-53, A22-30,
149	DES 5	22 -	A15-46, A22-32,
150	DES 6	22 -	A15-44, A22-34,
151	DES 7	22 -	A15-49, A22-36,

DASH		FILE NUMBER	DRAWN	CHECKED	DO NOT SCALE THIS PRINT	<small>THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS PROHIBITED UNLESS BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>	COMPUTER HARDWARE INC.
TITLE			DESIGN	SCALE			
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SIGNAL

CONNECTIONS

752	DES 8	22 -	A15-25, A22-38,
153	DES 9	22 -	A15-36, A22-40,
154	DES 10	22 -	A15-6, A22-42,
155	DES 11	22 -	A15-12, A22-44,
156	DES 12	22 -	B15-1, B22-3,
157	DES 13	22 -	B15-4, B22-1,
158	DES 14	22 -	B15-7, B22-2,
159	DES 15	22 -	B15-19, B22-4,
160	DIFF SIGN	14 +	A14-33, B16-33,
161	DIFF SIGN	14 -	A14-22,
162	DIOP	18 -	A17-5, B18-17,
163	DISP STG S-303	22 -	A20-12, B22-31,
164	DISP/SP S-112	22 -	A22-51, B20-31,
165	DIV	18 -	B14-21, B16-13, B18-1,
166	DIV CMP HOLD T7	14 +	B14-17, B17-19,
167	DIV CMP HOLD T7	14 -	A18-33, B13-25, B14-15,
168	DIV E	16 +	A17-36, B14-6, B16-23,
169	DIV E1	16 +	A14-23, B16-11,
170	DIV OVFL RST CCC	16 +	B14-34, B16-34,
171	DO NOT USE	1	A01-48, A01-53, A01-54, B01-1, B01-2, B01-3, B01-4, B01-6, B01-7, B01-9, B01-17, B01-19, B01-20,
172	DO NOT USE	2	A02-48, A02-53, A02-54, B02-1, B02-2, B02-3, B02-4, B02-6, B02-7, B02-9, B02-17, B02-19, B02-20,
	DO NOT USE	3	A03-48, A03-53, A03-54, B03-1, B03-2, B03-3, B03-4, B03-6, B03-7, B03-9, B03-17, B03-19, B03-20,

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CONNECTIONS

DO NOT USE	4	A04-43, A04-53, A04-54, B04-1, B04-2, B04-3, B04-4, B04-6, B04-7, B04-9, B04-17, B04-19, B04-20,
DO NOT USE	5	A05-48, A05-53, A05-54, B05-1, B05-2, B05-3, B05-4, B05-6, B05-7, B05-9, B05-17, B05-19, B05-20,
DO NOT USE	8	A08-13, A08-15, A08-17, A08-18, A08-19, B08-13, B08-14, B08-15, B08-18, B08-20, B08-21, B08-22, B08-23, B08-24, B08-25, B08-26, B08-27, B08-28, B08-29, B08-30, B08-31, B08-32, B08-33, B08-35, B08-36, B08-37, B08-38, B08-39, B08-40, B08-41, B08-42, B08-43, B08-44, B08-45, B08-46, B08-47, B08-48, B08-50, B08-51, B08-52, B08-53, B08-54, B08-55,
DO NOT USE	17	A17-30, B17-20,
DO NOT USE	18	A18-47, B18-37,
171 DRG = 0	11 -	A14-40, B11-17, B16-44,
172 DRG BIT 0	11 +	A11-46, A14-7, B16-31,
173 BSR CLOCK	6 +	B06-12, B09-14, B10-36,
174 DXFR	19 +	B15-22, B19-15,
175 F CYCLES	18 -	A14-60, A16-48, A18-36, B07-8, B17-32,
176 EMCSL 123	10 -	A17-38, B08-1, B10-35, B16-19,
177 ENAB IXR P2	9 +	B09-53, <i>POS 21</i>
178 ENAB LAMP MPX	XX -	A21-2, A21-26, <i>A2 A26</i>
179 ENAB SAR BIT 0	15 +	B07-20, B15-39,
180 ENABLE IXRP1	7 -	B07-26, B10-29,
181 END OP	18 +	A18-7, A19-25, B15-25, B21-43,
182 ENDOF EARLY	18 +	B15-46, B18-14, B20-55,
183 ENOP 1 (SP CHECK)	XX +	A20-41,
184 ENOP 2 (INI A ISO)	XX +	B19-17,

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SIGNAL

CONNECTIONS

185	NOP 3	7 +	A07-56, A10-41,
186	NOP 4 (1800 SWITS)	XX +	A15-2, A15-23,
187	NOP 5 (IMM STP RST)	XX +	B20-16, B20-62,
188	NOP 6 (AUX FEA)	XX -	B15-30, B15-62,
189	NOP 7 (SET/RESET SP)	XX -	B15-40, B15-61,
190	EOR	18 -	B16-1, B18-4,
191	ERROR CHK	20 -	A13-15, B15-28, B20-36,
192	EXT BIT 0	11 +	A16-6, B11-1,
193	EXT BIT 14	11 +	A14-34, B11-50,
194	EXT BIT 15	11 +	A14-6, B11-49, B16-12,
195	EXT BIT 15 SERIAL IN	16 +	B11-34, B16-17,
196	EXT S0	16 +	A11-58, A16-54,
197	EXT S1	16 +	A11-56, A16-55,
198	E1 CYCLE	18 -	A14-27, A18-12, B07-39, B16-7, B17-41, B19-22,
199	E2 CYCLE	18 +	A12-50, A16-8, A17-50, A18-30, B07-16, B14-41, B19-38,
200	E2 DXFR	19 +	B15-26, B19-21, B21-25,
201	E3 CYCLE	18 +	B12-7, B17-49, B18-46, B19-18,
202	E3 DXFR	19 +	B15-24, B19-23,
203	FLT	18 -	B18-3,
204	FP INT	XX -	B21-39,
205	GATE ACC IO BUS	17 -	A17-29, B11-14,
206	GATE ALU IO ACC	17 -	A16-31, B17-24,
207	GATE ALU IO BUS	17 -	A11-59, B17-42,
208	GATE CCC IO IXR	14 +	B14-29,

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		DESIGN	SCALE			
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CONNECTIONS

209	GATE CCC IO IXR	14 -	A14-53, A17-60,
210	GATE DES IO I/O	20 -	A15-20, B18-39, B20-9,
211	GATE DISP TO DRG	17 -	A12-49, A17-16, B13-9,
212	GATE DISP TO IAC	17 -	A12-47, A17-9, B13-11,
213	GATE DIV OVFL T7	14 +	B14-45, B16-40,
214	GATE DSR IO BUS	7 -	B07-35, B09-23, B10-44,
215	GATE EXT IO ACC	17 -	A16-26, A17-49,
216	GATE EXT IO BUS	17 -	B11-19, B17-9,
217	GATE I/O IO BUS	13 -	A13-16, B12-44,
218	GATE I/O IO DRG	18 -	A13-14, A17-13, A18-54,
219	GATE I/O TO SBR	18 -	A13-10, A17-39, B18-55,
220	GATE I/O TO SBR + ACC	17 -	A13-11, A16-29, A17-26,
221	GATE IAR IO BUS	17 -	B09-47, B10-56, B17-44,
222	GATE ILSW	19 +	A19-30, A21-46, B06-20,
223	GATE INT	18 +	A18-52, A21-7,
224	GATE IXR IO BUS	17 -	A12-28, A13-42, A17-55,
225	GATE IXR IO CCC	14 -	A14-32, A17-15,
226	GATE IXR IO OPR	16 -	A17-19, B12-21, B13-36, B16-15,
227	GATE KDR IO ACC	20 +	A16-27, A20-25,
228	GATE KDR IO BUS	20 -	A20-43, B09-29, B10-42,
229	GATE KDR IO IAR	20 -	A20-27, B17-5,
230	GATE KDR IO SBR	20 -	A17-32, B20-14,
231	GATE LAMPS P0	21 -	A09-9, A10-9, A21-14,
232	GATE LAMPS P1	21 -	A09-16, A10-16, A21-16, B20-48,
233	GATE LAMPS P2	21 -	A09-10, A10-11, A21-17, B14-40,

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CONNECTIONS

234	GATE LAMPS P3	21 -	A12-61, A13-35, A21-19,
235	GATE LAMPS P4	21 -	A09-15, A10-15, A21-21,
236	GATE LAMPS P5	21 -	A21-22, B14-43,
237	GATE LAMPS P6	21 -	A12-59, A13-33, A21-24,
238	GATE LAMPS P7	21 -	A13-31, A21-25, B18-25, P20-44,
239	GATE LAMPS P8	21 -	A21-27, B11-37,
240	GATE LAMPS P9-F	21 -	A12-62, A13-32, A21-37,
241	GATE LMR TO D	7 -	A08-52, B07-4,
242	GATE MAR TO BUS	17 -	A17-54, B09-27, B10-57,
243	GATE MD TO DRG 0-7	8 -	A08-49, A11-23,
244	GATE MD TO DRG 8-15	8 -	A08-45, B11-43,
245	GATE MD TO SBR	20 +	A09-60, A10-45, A20-5,
246	GATE SBR TO BUS	16 -	B09-30, B10-51, B16-53,
247	GATE SBR TO CCC	14 -	A14-41, B16-42,
248	GATE SBR TO IXR P1	17 -	B16-55, B17-40,
249	GATE SBR TO IXR P2	17 -	A17-53, B16-56,
250	GATE STAT TO SBR	17 -	A09-17, A17-37, B14-55, B20-38,
251	GATE STG TO OPR	16 +	A08-46, A16-23,
252	GEN ADD BIT 15	18 +	A18-27, B10-39,
253	GROUND PAR ODD	20 -	B20-51, B20-61,
254	HEX BIT 0	9 +	A22-5, B09-2,
255	HEX BIT 1	9 +	A22-17, B09-24,
256	HEX BIT 2	9 +	A22-7, B09-5,
257	HEX BIT 3	9 +	A22-15, B09-7,
258	HEX BIT 4	9 +	B09-33, B22-57,

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SIGNAL		CONNECTIONS	
259	HEX BIT 5	9 +	A22-21, B09-35,
260	HEX BIT 6	9 +	B09-15, B22-58,
261	HEX BIT 7	9 +	A22-9, B09-17,
262	HEX BIT 8	10 +	A22-25, B10-11,
263	HEX BIT 9	10 +	B10-18, B22-55,
264	HEX BIT 10	10 +	A22-23, B10-2,
265	HEX BIT 11	10 +	A22-13, B10-4,
266	HEX BIT 12	10 +	B10-15, B22-51,
267	HEX BIT 13	10 +	A22-27, B10-17,
268	HEX BIT 14	10 +	B10-6, B22-53,
269	HEX BIT 15	10 +	A22-11, B10-8,
270	HEXD ENAB	18 -	A22-19, B18-28,
271	HOLD CS ADD (X7)	12 +	B09-59, B10-46, B12-23,
272	HOLD PHASE B	8 +	A08-35, B12-39,
273	HOLD T1	7 +	A08-25, A13-53,
274	I/F BLOCK CLOCK	-	A08-7, A19-26, B12-51, B24-7,
275	I/F CLOCK	19 -	B19-53, B24-17,
276	I/F CPU CLOCK	19 +	A19-31, B24-18,
277	I/F CS CYCLE	19 -	A19-40, B24-21,
278	I/F CS DATA STORE	24 -	A19-5, B18-50, B24-26,
279	I/F CS REQ	24 -	A19-37, B24-8,
280	I/F DC RESET	19 -	B19-48, B24-4,
281	I/F DXFR	19 -	B19-19, B24-42,
282	I/F E1+E3	19 +	A19-58, B24-19,
283	I/F E2+E3	19 +	A19-51, B24-16,

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PAGE	FILE NUMBER								
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CONNECTIONS

284	I/F FUNC CLEAR	19 -	A19-32, B24-36,
285	I/F IN BIT 0	-	A15-15, A19-29, B21-6, B21-24, B24-12,
286	I/F IN BIT 1	-	A15-17, A19-39, B21-15, B21-19, B24-2,
287	I/F IN BIT 2	-	A15-38, A19-28, B21-2, B24-9,
288	I/F IN BIT 3	-	A15-39, B19-56, B21-38, B24-13,
289	I/F IN BIT 4	-	A15-55, B21-27, B24-15,
290	I/F IN BIT 5	-	A15-56, B06-19, B21-30, B24-5,
291	I/F IN BIT 6	-	B06-4, B15-20, B21-22, B24-11,
292	I/F IN BIT 7	-	A15-57, B06-21, B21-32, B24-49,
293	I/F IN BIT 8	-	A15-8, B24-48,
294	I/F IN BIT 9	-	A15-47, B24-27,
295	I/F IN BIT 10	-	A06-62, A15-10, B24-33,
296	I/F IN BIT 11	-	A15-24, B24-35,
297	I/F IN BIT 12	-	B15-3, B24-53,
298	I/F IN BIT 13	-	B15-6, B24-51,
299	I/F IN BIT 14	-	B15-21, B24-47,
300	I/F IN BIT 15	-	B15-11, B24-29,
301	I/F INH CS REQ	19 +	A19-19, B24-24,
302	I/F OUT BIT 0	19 -	B19-14, B24-22,
303	I/F OUT BIT 1	19 -	A19-57, B24-1,
304	I/F OUT BIT 2	19 -	B19-3, B24-55,
305	I/F OUT BIT 3	19 -	A19-7, B24-32,
306	I/F OUT BIT 4	19 -	B19-16, B24-28,
307	I/F OUT BIT 5	19 -	A19-20, B24-34,
308	I/F OUT BIT 6	19 -	B19-51, B24-40,

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DESIGN		SCALE							
DASH	FILE NUMBER	TITLE		<small>DATE</small> 82 1/27	<small>SIZE</small> SA	<small>DWG NO</small> 3879	<small>REV</small> A		

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CONNECTIONS

30	9	I/E OUT BIT 7	19 -	A19-14, B24-38,
31	0	I/F OUT BIT 8	19 -	B19-47, B24-25,
31	2	I/F OUT BIT 9	19 -	A19-61, B24-20,
31	3	I/F OUT BIT 10	19 -	B19-13, B24-31,
31	4	I/F OUT BIT 11	19 -	A19-35, B24-23,
31	5	I/F OUT BIT 12	19 -	B19-10, B24-41,
31	6	I/F OUT BIT 13	19 -	A19-18, B24-56,
31	7	I/F OUT BIT 14	19 -	B19-9, B24-44,
31	8	I/F OUT BIT 15	19 -	A19-38, B24-45,
31	9	I/E PARITY ERR	19 -	A19-55, B24-37,
32	0	I/F PHASE A	19 -	A19-48, B24-43,
32	1	I/F POLL	19 -	B19-6, B24-30,
32	2	I/F PROG LOAD	19 -	A19-17, B24-46,
32	3	I/F PROG LOAD BUSY	24 -	A19-22, A20-46, B24-6,
32	4	I/F PWR ON RST	19 -	A19-6, B24-14,
32	5	I/E RESET EXTEND	24 -	A19-23, B24-10,
32	6	I/F STG PRT ERR	19 -	A19-11, B24-57,
32	7	I/O IN BIT 0	15 +	A12-39, A15-29, B09-54,
32	8	I/O IN BIT 1	15 +	A12-30, A15-31, B09-57,
32	9	I/O IN BIT 2	15 +	A12-34, A15-35, B09-43,
33	0	I/O IN BIT 3	15 +	A12-29, A15-37, B09-46,
33	1	I/O IN BIT 4	15 +	A12-16, B09-38, B15-10,
33	2	I/O IN BIT 5	15 +	A12-11, A15-34, B09-37,
33	3	I/O IN BIT 6	15 +	A12-15, B09-34, B15-17,
33	4	I/O IN BIT 7	15 +	A12-10, A15-41, B09-21,

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DASH	FILE NUMBER	DESIGN	SCALE				
TITLE					<small>SHEET</small> 83/171 SA	<small>DWG. NO.</small> 3879	<small>REV.</small> A

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CONNECTIONS

335	I/O IN BIT 8	15 +	A15-26, B10-55, B13-55,
336	I/O IN BIT 9	15 +	A15-27, B10-52, B13-44,
337	I/O IN BIT 10	15 +	A15-33, B10-45, B13-49,
338	I/O IN BIT 11	15 +	A15-30, B10-48, B13-48,
339	I/O IN BIT 12	15 +	A15-59, B10-37, B13-52,
340	I/O IN BIT 13	15 +	B10-32, B13-50, B15-2,
341	I/O IN BIT 14	15 +	B10-28, B13-51, B15-14,
342	I/O IN BIT 15	15 +	A15-60, B10-26, B13-45,
343	IA CYCLE	18 -	A17-42, A18-8,
344	IAR BIT 0	9 +	A07-60, B09-19,
345	IAR CARRY 8-15	10 +	A09-37, A10-30,
346	IAR CMP S-112	22 -	B18-26, B22-13,
347	II CYCLE	18 -	A17-46, A18-15,
348	ILLOPS	7 -	B07-45, B14-10, B20-25,
349	IMM STOP	20 +	A13-27, B20-13,
350	IMM STOP S-305	22 -	B20-3, B22-19,
351	INDST	18 -	A17-28, B18-56,
352	INH ALU TO ACC	14 +	A14-21, B17-55,
353	INH CS REQ	XX -	A19-13,
354	INH INTERRUPT	15 +	A18-46, B15-37,
355	INH PAR CHK ON INT	18 -	B18-29, B20-56,
356	INH STOR	18 -	A08-61, A18-9, B06-33, B10-27,
357	INT ACK	18 -	A15-61, B18-45, B21-45,
358	INT BSI I1 I2	18 +	A16-52, A18-37, B17-30,
359	INT DISABLE S-109	22 -	A22-24, B15-50,

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DASH	FILE NUMBER	DESIGN	SCALE					
TITLE					<small>DATE</small> 84 167	<small>FILE NO</small> SA	<small>DWG. NO</small> 3879	<small>REV</small> A

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CONNECTIONS

360	INT REQ	21 -	A18-39, A21-40,
361	INT REQ A	-	A19-42, B21-23,
362	INT REQ B	-	B21-34,
363	INT REQ 0	-	B21-35,
364	INT REQ 1	-	B21-21,
365	INT REQ 2	-	B21-41,
366	INT REQ 3	-	B21-37,
367	INT REQ 4	-	B21-29,
368	INT REQ 5	-	B06-2, B21-31,
369	INT VEC BIT 0	21 -	A15-11, A16-24, B07-10, B21-52,
370	INT VEC BIT 12	21 +	A19-59, B21-4,
371	INT VEC BIT 12	21 -	A15-54, B21-5,
372	INT VEC BIT 13	21 +	A19-49, B21-11,
373	INT VEC BIT 13	21 -	B15-16, B21-8,
374	INT VEC BIT 14	21 +	A19-60, A21-48,
375	INT VEC BIT 14	21 -	A21-54, B15-9,
376	INT VEC BIT 15	21 +	A19-46, A21-49,
377	INT VEC BIT 15	21 -	A15-48, A21-45,
378	IXR ADD 0	16 +	A12-24, B13-4, B16-48,
379	IXR ADD 1	16 +	A12-9, A13-5, A16-21,
380	IXR ADD 2	16 +	A12-8, A13-24, B16-21,
381	I1 CYCLE	18 -	A16-42, A18-21, B14-22, B17-26, B20-43,
382	I2 CYCLE	18 -	A18-23, B17-3,
383	KEY A	22 -	A20-23, B22-45,
384	KEY ACTIVE	20 +	A18-32, A20-51,

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DATE		FILE NUMBER		TITLE		PLOT SIZE		DWG NO	
						85 or 167 5A		3879 A	

SIGNAL	CONNECTIONS
385 KEY B	22 - A20-60, B22-47,
386 KEY C	22 - A20-62, B22-48,
387 KEY D	22 - A20-61, B22-46,
388 KEY DATA 8	10 + B09-48, B10-10,
389 KEY DATA CLOCK	20 + A20-44, B09-56, B10-23,
390 KEY E	22 - B20-4, B22-50,
391 KEY F	22 - B20-5, B22-52,
392 KEY REG DATA	20 + A20-52, B10-21,
393 KEY 0	22 - A20-19, A22-29,
394 KEY 1	22 - A20-22, A22-31,
395 KEY 2	22 - A20-18, B22-33,
396 KEY 3	22 - A20-8, B22-35,
397 KEY 4	22 - A20-7, B22-37,
398 KEY 5	22 - A20-14, B22-39,
399 KEY 6	22 - A20-11, B22-41,
400 KEY 7	22 - A20-17, B22-43,
401 KEY 8	22 - A20-59, B22-54,
402 KEY 9	22 - A20-28, B22-56,
403 LAMP BUS 0	- A09-34, A11-55, A18-17, A22-53, B12-14, B14-54,
404 LAMP BUS 1	- A09-36, A11-33, A18-18, A22-48, B12-8, B14-56,
405 LAMP BUS 2	- A09-61, A11-40, A18-14, A22-55, B12-1, B14-52,
406 LAMP BUS 3	- A09-62, A11-51, A18-19, A22-54, B12-4, B14-58,
407 LAMP BUS 4	- A09-5, A11-49, A12-32, A18-11, A22-56,

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CONNECTIONS

40 8	LAMP BUS 4	-	B14-44.
40 7	LAMP BUS 5	-	A09-40, A11-57, A12-35, A18-16, A22-46, B14-57.
4 10	LAMP BUS 6	-	A09-42, A11-31, B12-15, B22-8.
41 1	LAMP BUS 7	-	A09-21, A11-35, A12-56, A22-62, B20-47.
41 2	LAMP BUS 8	-	A10-18, A13-30, A21-15, A22-58, B11-27.
41 3	LAMP BUS 9	-	A10-7, A13-26, A21-12, B11-33, B22-18.
41 4	LAMP BUS 10	-	A10-31, A13-25, A21-57, B11-29, B22-16.
41 5	LAMP BUS 11	-	A10-35, A13-34, A21-51, B11-35, B22-12.
41 6	LAMP BUS 12	-	A10-22, A13-36, A21-55, B11-48, B22-6.
41 7	LAMP BUS 13	-	A10-42, A13-38, A21-50, B11-53, B22-10.
41 8	LAMP BUS 14	-	A10-28, A13-40, A21-20, B11-47, B22-14.
41 9	LAMP BUS 15	-	A10-34, A13-22, A21-11, A22-52, B11-51.
42 0	LAMP BUS 16	-	A22-50, B14-47, B20-50.
42 1	LAMP BUS 17	-	A22-60, B14-53, B20-52.
42 2	LAMP CLOCK	21 +	B21-36, B22-5.
42 3	LAMP MPX A	21 +	A12-21, A13-6, A21-31, B22-7.
42 4	LAMP MPX B	21 +	A12-25, A13-20, A21-18, B22-22.
42 5	LAMP MPX C	21 +	A12-26, A13-41, A21-34, B22-27.
42 6	LAMP MPX D	21 +	A21-36, B22-25.
42 7	LAST I	18 -	A14-46, A16-61, A18-40, B12-36, B15-57, B17-11.
42 8	LAST M	XX +	B14-28, B14-62.
42 9	LD OP + LMR	7 +	B07-29, B17-37.
43 0	LDOP	18 +	A18-60, B07-31.
43 1	LDS	18 +	A16-47, B18-27.

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		DESIGN	SCALE			
DASH	FILE NUMBER	TITLE			<small>SHEET</small> 87	<small>TITLE</small> SA
					<small>DWG NO</small> 3879	<small>REV</small> A

SIGNAL

CONNECTIONS

432	LDS MODIFIED	16 +	A14-42, A16-22,
433	LOX	18 -	A17-43, B15-54, B18-40,
434	LDX OP BIT 10	15 -	A18-22, B15-36,
435	LMR E CYCLES	7 -	A07-57, B08-2,
436	LMR E2 CYCLE	7 -	B06-8, B07-25,
437	LOAD ACC S-309	22 -	A20-10, B22-28,
438	LOAD DRG GATE	17 +	A11-50, A17-17, B08-19,
439	LOAD IAR GATE	17 -	A09-38, A10-40, B17-18,
440	LOAD IAR S-300	22 -	A20-58, B22-32,
441	LOAD IXR 0- 7 GATE	17 -	A12-20, B17-16,
442	LOAD IXR 8-15 GATE	17 -	B13-30, B17-28,
443	LOAD MAR STB	17 -	A17-57, B09-11, B10-20,
444	LOAD SBR GATE	17 +	A17-41, B20-26,
445	LOAD STG S-306	22 -	A20-9, B22-30,
446	LOAD TAC GATE	17 +	A17-21, B07-36,
447	LOAD TAC MOD	7 +	B07-33, B11-26,
448	MACH INT A	19 -	B06-3, B19-58,
449	MACH INT A P2	6 -	A06-61, B21-33,
450	MAP REG ADD A	7 -	A07-44, B06-30,
451	MAP REG ADD A	I/O -	B07-13,
452	MAP REG ADD B	7 -	A07-48, B06-13,
453	MAP REG ADD B	I/O -	B07-27,
454	MAP REG ADD C	7 -	A07-21, B06-15,
455	MAP REG ADD C	I/O -	B07-21,
456	MAP REG ADD D	7 -	A07-42, B06-25,

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TITLE					SHEET 88 of 167	TITLE SA	DWG. NO. 3879	REV A

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CONNECTIONS

457	MAP REG ADD 1	7 -	A07-17, B06-23,
458	MAP REG ADD 2	7 -	A07-9, B06-31,
459	MAP REG ADD 3	7 -	A07-13, B06-34,
460	MAP REG ADD 4	7 -	A07-35, B06-36,
461	MAP REG OUT 0	7 +	A07-58, B06-41,
462	MAP REG OUT 1	7 +	B06-29, B07-1,
463	MAP REG OUT 2	7 +	A07-52, B06-45,
464	MAP REG OUT 3	7 +	A07-19, B06-17,
465	MAP REG OUT 4	7 +	A07-41,
466	MAP REG OUT 5	7 +	A07-53, B01-44, B06-50,
467	MAP REG OUT 6	7 +	A07-51, B01-46, B06-48,
468	MAP REG OUT 7	7 +	A07-61, B01-53, B06-46,
469	MAP REG OUT 8	7 +	B01-54, B06-39, B07-3,
470	MAP REG OUT 9	7 +	A07-59, B01-55, B06-42,
471	MAP REG OUT 10	7 +	B01-56, B06-44, B07-5,
472	MAR BIT 0	9 +	B07-22, B09-10,
473	MAR BIT 1	9 +	A07-6, B09-44,
474	MAR BIT 2	9 +	A07-7, B09-32,
475	MAR BIT 4	9 +	A07-8, B09-45,
476	MAR BIT 5	9 +	A08-6, B09-25,
477	MAR BIT 6	9 +	B08-8, B09-51,
478	MAR BIT 7	9 +	B08-6, B09-50,
479	MAR BIT 8	10 +	B08-11, B10-50,
480	MAR BIT 9	10 +	B08-7, B10-38,
481	MAR BIT 10	10 +	A08-62, B10-47,

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483	MAR BIT 11	10 +	A08-55, B10-49,
484	MAR BIT 12	10 +	A08-58, B10-41,
485	MAR BIT 13	10 +	A08-56, B10-53,
486	MAR BIT 14	10 +	A08-11, B10-33, B16-22,
487	MAR BIT 15	10 +	B10-34, B16-47,
488	MAR BIT 3	9 +	A07-5, A09-32, B10-31,
489	MAR CMP	10 -	A10-62, B18-19,
490	MAR CMP P1	9 +	B09-9, B10-22,
491	MAR CMP P2	9 +	B09-55, B10-30,
492	MAR CMP S-112	22 -	A22-47, B18-58,
493	MAR 4-7 = 0	9 +	B09-52, B10-25,
494	MD BIT 0	6 -	A06-19, A09-7, A11-19, B12-41,
495	MD BIT 1	6 -	A06-43, A09-30, A11-9, B12-57,
496	MD BIT 2	6 -	A06-31, A09-13, A11-16, B12-56,
497	MD BIT 3	6 -	A06-53, A09-18, A11-14, B12-58,
498	MD BIT 4	6 -	A06-45, A09-29, A11-5, B12-31,
499	MD BIT 5	6 -	A06-55, A09-19, A11-20, B12-46,
500	MD BIT 6	6 -	A06-51, A09-33, A11-8, B12-40,
501	MD BIT 7	6 -	A06-59, A09-35, A11-21, B12-54,
502	MD BIT 8	6 -	A06-47, A10-46, B11-45, B13-43,
503	MD BIT 9	6 -	A06-22, A10-44, B11-52, B13-23,
504	MD BIT 10	6 -	A06-7, A10-60, B11-46, B13-58,
505	MD BIT 11	6 -	A06-13, A10-43, B11-55, B13-47,
506	MD BIT 12	6 -	A06-23, A10-27, B11-57, B13-56,
507	MD BIT 13	6 -	A06-20, A10-39, B11-54, B13-57,

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DESIGN		SCALE					
DASH	FILE NUMBER					<small>HEET</small> <small>TYPE</small> <small>DWG. NO.</small> <small>REV.</small> 90167 SA 3879 A	
TITLE							

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CONNECTIONS

508	MD BIT 14	6 -	A06-5, A10-25, B11-44, B13-22,
509	MD BIT 15	6 -	A06-21, A10-38, B11-56, B13-42,
510	MD BIT 16	6 -	A20-34, B06-51,
511	MD BIT 17	6 -	B06-47, B20-29,
512	MD SUB	14 +	A14-26, A16-46,
513	MD SUB	14 -	A14-18,
514	MDM	18 +	A17-23, B18-8,
515	MDX	18 +	B17-50, B18-38,
516	MDX SKIP	14 +	A14-39, B17-12,
517	MEM ADD 7	10 -	B01-27, B02-27, B03-27, B04-27, B05-27, B10-24,
518	MEM ADD 0	8 -	B01-31, B02-31, B03-31, B04-31, B05-31, B08-9,
519	MEM ADD 1	8 -	B01-29, B02-29, B03-29, B04-29, B05-29, B08-5,
520	MEM ADD 2	8 -	A08-60, B01-23, B02-23, B03-23, B04-23, B05-23,
521	MEM ADD 3	8 -	A08-53, B01-14, B02-14, B03-14, B04-14, B05-14,
522	MEM ADD 4	8 -	A08-59, B01-15, B02-15, B03-15, B04-15, B05-15,
523	MEM ADD 5	8 -	A08-54, B01-16, B02-16, B03-16, B04-16, B05-16,
524	MEM ADD 6	8 -	A08-9, B01-12, B02-12, B03-12, B04-12, B05-12,
525	MEM ADD 8	7 -	A07-43, B01-25, B02-25, B03-25, B04-25, B05-25,
526	MEM ADD 9	7 -	A07-33, B01-21, B02-21, B03-21, B04-21, B05-21,
527	MEM ADD 10	7 -	A07-39, B01-10, B02-10, B03-10, B04-10,

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DASH	FILE NUMBER	DESIGN	SCALE					
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CONNECTIONS

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528	MEM ADD 10	7 -	B05-10,
529	MEM ADD 11	7 -	A07-29, B01-18, B02-18, B03-18, B04-18, B05-18,
530	MEM ADD 12	7 -	A07-15, B01-13, B02-13, B03-13, B04-13, B05-13,
531	MEM ADD 13	8 -	A08-5, B01-11, B02-11, B03-11, B04-11, B05-11,
532	MEM ADD 14	8 -	B01-8, B02-8, B03-8, B04-8, B05-8, B06-1, B08-10,
533	MEM ADD 15	8 -	B01-5, B02-5, B03-5, B04-5, B05-5, B06-5, B08-3,
534	MEM DATA BUS 0	6 +	A01-21, A02-21, A03-21, A04-21, A05-21, A06-46,
535	MEM DATA BUS 1	6 +	A01-23, A02-23, A03-23, A04-23, A05-23, A06-48,
536	MEM DATA BUS 2	6 +	A01-25, A02-25, A03-25, A04-25, A05-25, A06-33,
537	MEM DATA BUS 3	6 +	A01-27, A02-27, A03-27, A04-27, A05-27, A06-50,
538	MEM DATA BUS 4	6 +	A06-44, B01-47, B02-47, B03-47, B04-47, B05-47,
539	MEM DATA BUS 5	6 +	A06-27, B01-48, B02-48, B03-48, B04-48, B05-48,
540	MEM DATA BUS 6	6 +	A06-39, B01-49, B02-49, B03-49, B04-49, B05-49,
541	MEM DATA BUS 7	6 +	A06-29, B01-50, B02-50, B03-50, B04-50, B05-50,
542	MEM DATA BUS 8	6 +	A06-25, B01-51, B02-51, B03-51, B04-51, B05-51,
543	MEM DATA BUS 9	6 +	A06-28, B01-52, B02-52, B03-52, B04-52, B05-52,
544	MEM DATA BUS 10	6 +	A01-29, A02-29, A03-29, A04-29, A05-29, B06-14,

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DESIGN	SCALE					
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CONNECTIONS

544	MEM DATA BUS 11	6 +	A01-31, A02-31, A03-31, A04-31, A05-31, B06-18,
545	MEM DATA BUS 12	6 +	B01-35, B02-35, B03-35, B04-35, B05-35, B06-16,
546	MEM DATA BUS 13	6 +	B01-37, B02-37, B03-37, B04-37, B05-37, B06-22,
547	MEM DATA BUS 14	6 +	A06-32, B01-39, B02-39, B03-39, B04-39, B05-39,
548	MEM DATA BUS 15	6 +	A06-49, B01-41, B02-41, B03-41, B04-41, B05-41,
549	MEM DATA BUS 16	6 +	A06-34, B01-43, B02-43, B03-43, B04-43, B05-43,
550	MEM DATA BUS 17	6 +	A06-9, B01-45, B02-45, B03-45, B04-45, B05-45,
551	MEM DATA BUS 18	6	A01-35, A02-35, A03-35, A04-35, A05-35, A06-16,
552	MEM DATA BUS 19	6	A01-37, A02-37, A03-37, A04-37, A05-37, A06-12,
553	MEM DATA BUS 20	6	A01-39, A02-39, A03-39, A04-39, A05-39, A06-15,
554	MEM DATA BUS 21	6	A01-41, A02-41, A03-41, A04-41, A05-41, A06-10,
555	MEM DATA BUS 22	6	A01-43, A02-43, A03-43, A04-43, A05-43, A06-24,
556	MEM WRITE ENAB	7 -	A01-45, A02-45, A03-45, A04-45, A05-45, A06-38, B07-14,
557	MMC E2	7 -	B06-28, B07-34,
558	MODULE SELECTED	-	A01-19, A02-19, A03-19, A04-19, A05-19, B06-43,
559	MPY	18 -	B14-33, B16-9, B18-2,
560	MPY E1	16 +	B14-8, B16-5, B17-47,
561	MPY E2	16 +	A14-25, A16-62,

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DESIGN		SCALE							
DASH	FILE NUMBER					<small>SIZE</small> 93/167	<small>FILE NO</small> SA	<small>DWG. NO</small> 3879	<small>REV</small> A
TITLE									

SIGNAL

CONNECTIONS

56 2	MPY HOLD 17	18 -	A18-35, B13-27,
56 3	MPY SHIFT	13 +	B14-7,
56 4	MPY SHIFT	14 -	A16-41, A18-38, B13-28, B14-23,
56 5	MPY 0 RST CCC, EXT	14 -	A11-61, A14-45,
	NO CONNECTION	1	A01-7, A01-8, A01-10, A01-11, A01-12, A01-13, A01-14, A01-15, A01-16, A01-17, A01-19, A01-20, A01-22, A01-24, A01-26, A01-28, A01-30, A01-32, A01-33, A01-34, A01-36, A01-38, A01-40, A01-42, A01-44, A01-46, A01-47, A01-50, A01-52, A01-55, A01-56, A01-57, A01-58, A01-59, A01-60, A01-61, A01-62, B01-22, B01-24, B01-26, B01-28, B01-30, B01-32, B01-33, B01-34, B01-36, B01-38, B01-40,
	NO CONNECTION	2	A02-7, A02-8, A02-9, A02-10, A02-11, A02-12, A02-13, A02-14, A02-15, A02-16, A02-17, A02-18, A02-20, A02-22, A02-24, A02-26, A02-28, A02-30, A02-32, A02-33, A02-34, A02-36, A02-38, A02-40, A02-42, A02-44, A02-46, A02-47, A02-50, A02-52, A02-55, A02-56, A02-57, A02-58, A02-59, A02-60, A02-61, A02-62, B02-22, B02-24, B02-26, B02-28, B02-30, B02-32, B02-33, B02-34, B02-36, B02-38, B02-40, B02-42, B02-44, B02-46, B02-53, B02-54, B02-55, B02-56,
	NO CONNECTION	3	A03-7, A03-8, A03-9, A03-10, A03-11, A03-12, A03-13, A03-14, A03-15, A03-16, A03-17, A03-18, A03-20, A03-22, A03-24, A03-26, A03-28, A03-30, A03-32, A03-33, A03-34, A03-36, A03-38, A03-40, A03-42, A03-44, A03-46, A03-47, A03-50, A03-52, A03-55, A03-56, A03-57, A03-58, A03-59, A03-60, A03-61, A03-62, B03-22, B03-24, B03-26, B03-28, B03-30, B03-32, B03-33, B03-34, B03-36, B03-38, B03-40, B03-42, B03-44, B03-46, B03-53, B03-54, B03-55, B03-56,
	NO CONNECTION	4	A04-7, A04-8, A04-9, A04-10, A04-11, A04-12, A04-13, A04-14, A04-15, A04-16, A04-17, A04-18, A04-20, A04-22, A04-24, A04-26, A04-28, A04-30, A04-32, A04-33,

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DASH	FILE NUMBER	DESIGN	SCALE					
TITLE					<small>SHEET</small> 94-167	<small>TYPE</small> SA	<small>DWG. NO.</small> 3879	<small>REV.</small> A

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NO CONNECTION 4 A04-34, A04-36, A04-38, A04-40, A04-42,
 A04-44, A04-46, A04-47, A04-50, A04-52,
 A04-55, A04-56, A04-57, A04-58, A04-59,
 A04-60, A04-61, A04-62, B04-22, B04-24,
 B04-26, B04-28, B04-30, B04-32, B04-33,
 B04-34, B04-36, B04-38, B04-40, B04-42,
 B04-44, B04-46, B04-53, B04-54, B04-55,
 B04-56,

NO CONNECTION 5 A05-7, A05-8, A05-9, A05-10, A05-11,
 A05-12, A05-13, A05-14, A05-15, A05-16,
 A05-17, A05-18, A05-20, A05-22, A05-24,
 A05-26, A05-28, A05-30, A05-32, A05-33,
 A05-34, A05-36, A05-38, A05-40, A05-42,
 A05-44, A05-46, A05-47, A05-50, A05-52,
 A05-55, A05-56, A05-57, A05-58, A05-59,
 A05-60, A05-61, A05-62, B05-22, B05-24,
 B05-26, B05-28, B05-30, B05-32, B05-33,
 B05-34, B05-36, B05-38, B05-40, B05-42,
 B05-44, B05-46, B05-53, B05-54, B05-55,
 B05-56,

NO CONNECTION 6 A06-26, A06-30, B06-32, B06-38, B06-40,
 B06-49,

NO CONNECTION 7 A07-19, A07-12, A07-16, A07-18, A07-20,
 A07-22, A07-26, A07-27, A07-28, A07-30,
 A07-32, A07-34, A07-36, A07-38, A07-40,
 A07-46, B07-24, B07-28, B07-32, B07-38,
 B07-40, B07-42,

NO CONNECTION 8 A08-20, A08-22, A08-24, A08-26, A08-27,
 A08-28, A08-29, A08-30, A08-32, A08-34,
 A08-36, B08-49, B08-58,

NO CONNECTION 9 A09-6, A09-8, A09-14, A09-23, A09-31,
 B09-12, B09-18, B09-22, B09-39, B09-40,
 B09-42,

NO CONNECTION 10 A10-5, A10-6, A10-8, A10-13, B10-54,

NO CONNECTION 11 A11-28, A11-34, A11-38, B11-20, B11-21,
 B11-22, B11-23, B11-30, B11-32, B11-36,
 B11-38, B11-39, B11-40, B11-42, B11-58,

NO CONNECTION 13 A13-17, B13-20, B13-38,

NO CONNECTION 15 B15-27, B15-29, B15-35, B15-38,

NO CONNECTION 16 A16-14, A16-20,

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		DESIGN	SCALE				
DASH	FILE NUMBER						
TITLE					95 OF 167	SA 3879	A

SIGNAL

CONNECTIONS

NO CONNECTION	17	A17-8, A17-14,
NO CONNECTION	19	B19-57,
NO CONNECTION	20	A20-20,
NO CONNECTION	21	A21-5, A21-6, A21-10, A21-30, A21-38, A21-53, A21-59, A21-60, A21-62, B21-12, B21-14, B21-20, B21-28, B21-40, B21-44, B21-46, B21-47, B21-49, B21-54, B21-55, B21-56, B21-57, B21-58, B21-58,
NO CONNECTION	22	A22-57, A22-59, A22-61,
NO CONNECTION	24	B24-3, B24-39, B24-50, B24-52, B24-54, B24-58,
566 NO E CYCLE	18 +	B14-31, B18-47,
567 NO EA OP MOD1	7 -	A17-48, B07-50,
568 NO EA OP MOD2	7 -	B07-48, B14-16,
569 NO LVL AC1	21 +	B07-12, B15-43, B21-9,
570 NOT CS.POLL	19 -	B12-33, B19-55,
571 OP BIT 0	12 -	A12-18, B07-56, B17-21, B18-10,
572 OP BIT 1	12 -	A12-22, B07-54, B18-23,
573 OP BIT 2	12 -	A12-23, B07-57, B18-24,
574 OP BIT 3	12 -	A12-57, B07-55, B18-35,
575 OP BIT 4	12 -	A12-45, A14-49, A16-36, B07-53, B18-34,
576 OP BIT 5	12 -	A12-54, A14-47, B07-58, B15-51, B18-42,
577 OP BIT 6	12 -	A12-41, B13-10, B16-32,
578 OP BIT 7	12 -	A12-43, B13-12, B16-36,
579 OP BIT 8	13 -	A12-7, A18-10, B13-14, B16-37,
580 OP BIT 9	13 -	A18-41, B13-3, B15-58, B16-10,
581 OP BIT 10	13 -	A16-9, B13-19, B15-33,
582 OP BIT 11	13 -	A16-17, B13-17, B15-48,

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DESIGN		SCALE							
DASH	FILE NUMBER					SHEET	TITLE	DWG NO	REV
						96	SA	3879	A

SIGNAL

CONNECTIONS

583	OP BIT 12	13 -	B13-39, B16-26,
584	OP BIT 15	13 -	A16-16, B13-41, B14-26,
585	OP BIT 14	13 -	A14-31, A16-25, B13-21,
586	OP BIT 15	13 -	A16-19, B13-18, B20-7,
587	OP BIT 5	12 +	A12-27, B16-38, B17-56,
588	OP BIT 5 AND 9	15 -	B15-53, B17-29, B20-22,
589	OP CHECK	20 +	A19-36, A20-31,
590	OP CHECK	20 -	A20-33, A22-6,
591	OR	18 -	A16-30, B18-6,
592	OVERFLOW	14 +	A14-43,
593	OVERFLOW	14 -	A16-34, B14-13,
594	OVERFLOW ENAB RST	16 +	A14-62, A16-57,
595	OVERFLOW ENAB SET	16 +	A14-59, B16-35,
596	PAGE INHIBIT	7 -	A08-8, B07-44,
597	PAGE INHIBIT RST	8 -	A08-10, B12-34, B18-13,
598	PAR CHK	20 +	A19-53, A20-47,
599	PAR CHK	20 -	A20-49, B22-42,
600	PES 4	22 -	A15-51, A22-35,
601	PES 5	22 -	A15-50, A22-37,
602	PES 6	22 -	A15-52, A22-39,
603	PES 7	22 -	A15-42, A22-41,
604	PHASE A REF	12 -	A08-41, A12-60, A19-50, A20-32, B13-54, B21-26,
605	POLL	19 +	A19-41, B15-13,
606	POLL INT	19 +	B19-2, B21-3,
607	POS 12VDC A		A01-5, A01-6, A02-5, A02-6, A03-5,

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DRAWN	FILE NUMBER	DESIGN	SCALE			
TITLE					<small>SHEET</small> 97 <small>SIZE</small> 167 SA <small>DWG. NO.</small> 3879 <small>REV</small> A	

SIGNAL

CONNECTIONS

POS 12VDC A		A03-6, A04-5, A04-6, A05-5, A05-6,
POS 12VDC B		B01-57, B01-58, B02-57, B02-58, B03-57, B03-58, B04-57, B04-58, B05-57, B05-58,
POWER SUPPLY CONN	1	A01-1, A01-2, A01-3, A01-4, B01-59, B01-60, B01-61, B01-62,
POWER SUPPLY CONN	2	A02-1, A02-2, A02-3, A02-4, B02-59, B02-60, B02-61, B02-62,
POWER SUPPLY CONN	3	A03-1, A03-2, A03-3, A03-4, B03-59, B03-60, B03-61, B03-62,
POWER SUPPLY CONN	4	A04-1, A04-2, A04-3, A04-4, B04-59, B04-60, B04-61, B04-62,
POWER SUPPLY CONN	5	A05-1, A05-2, A05-3, A05-4, B05-59, B05-60, B05-61, B05-62,
POWER SUPPLY CONN	6	A06-1, A06-2, A06-3, A06-4, B06-59, B06-60, B06-61, B06-62,
POWER SUPPLY CONN	7	A07-1, A07-2, A07-3, A07-4, B07-59, B07-60, B07-61, B07-62,
POWER SUPPLY CONN	8	A08-1, A08-2, A08-3, A08-4, B08-59, B08-60, B08-61, B08-62,
POWER SUPPLY CONN	9	A09-1, A09-2, A09-3, A09-4, B09-59, B09-60, B09-61, B09-62,
POWER SUPPLY CONN	10	A10-1, A10-2, A10-3, A10-4, B10-59, B10-60, B10-61, B10-62,
POWER SUPPLY CONN	11	A11-1, A11-2, A11-3, A11-4, B11-59, B11-60, B11-61, B11-62,
POWER SUPPLY CONN	12	A12-1, A12-2, A12-3, A12-4, B12-59, B12-60, B12-61, B12-62,
POWER SUPPLY CONN	13	A13-1, A13-2, A13-3, A13-4, B13-59, B13-60, B13-61, B13-62,
POWER SUPPLY CONN	14	A14-1, A14-2, A14-3, A14-4, B14-59, B14-60, B14-61, ✓
POWER SUPPLY CONN	15	A15-1, A15-3, A15-4, B15-59, B15-60, ✓
POWER SUPPLY CONN	16	A16-1, A16-2, A16-3, A16-4, B16-59, ✓

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DESIGN		SCALE								
DASH	FILE NUMBER	TITLE				98 167 SA	SIZE 3879	DWG NO A		

SIGNAL

CONNECTIONS

	POWER SUPPLY CONN	16	B16-60, B16-61, B16-62,
	POWER SUPPLY CONN	17	A17-1, A17-2, A17-3, A17-4, B17-60, B17-61, B17-62,
	POWER SUPPLY CONN	18	A18-1, A18-2, A18-3, A18-4, B18-59, B18-60, B18-61, B18-62,
	POWER SUPPLY CONN	19	A19-1, A19-2, A19-3, A19-4, B19-59, B19-60, B19-61, B19-62,
	POWER SUPPLY CONN	20	A20-1, A20-2, A20-3, A20-4, B20-59,
	POWER SUPPLY CONN	21	A21-1, A21-3, A21-4, B20-60, B21-59, B21-60, B21-61, B21-62,
	POWER SUPPLY CONN	22	A22-1, A22-2, A22-3, A22-4, B22-59, B22-60, B22-61, B22-62,
	POWER SUPPLY CONN	24	B24-59, B24-60, B24-61, B24-62,
60 7	PROG CTL RST S-300	22 -	A20-40, B22-29,
60 8	PROG LOAD	20 +	A19-15, A20-57,
60 9	PROG LOAD S-311	22 -	A20-13, B22-21,
61 0	PROG STOP	20 -	B20-21, B21-16,
61 1	PWR ON RST	19 -	A08-39, A19-24, B20-15,
61 2	QUOT CORR	14 +	A14-17, B16-16,
61 3	QUOT CORR	14 -	A14-19,
61 4	RAS ROW ADD STROBE	8 +	A01-51, A02-51, A03-51, A04-51, A05-51, A08-43,
61 5	READ	19 -	A12-53, A15-40, B17-33, B18-48, B19-32,
61 6	READ+WRITE	19 +	A14-48, A17-61, B19-35,
61 7	RESET INT	18 -	A21-9, B18-36,
61 8	RESET OPR	16 -	A12-42, A16-35, B06-10, B07-19, B13-35,
61 9	RESET S-308	22 -	A22-14, B20-6,
62 0	RROP	18 +	A17-52, B14-27, B18-33,

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DASH	FILE NUMBER	DESIGN	SCALE					
TITLE					<small>PLT</small> 99.157	<small>SIZE</small> SA	<small>DWG. NO.</small> 3879	<small>REV.</small> A

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SIGNAL

CONNECTIONS

1	RROP	18 -	A16-59, A17-25, B18-31,
2	RST ACC	17 -	A11-45, B17-58,
3	RST DRG	17 +	A11-47, B17-4,
4	RST EXTEND	19 +	B12-6, B19-41,
5	RST TAC	17 -	A11-7, B17-15,
6	RUN	13 -	A18-48, A20-48, B08-56, B13-1,
7	RUN + SS MODE	13 -	B12-18, B13-6,
8	RUN LAMP	20 -	A20-6, A22-10,
9	RUN S-112	22 -	A18-49, B20-11, B22-17,
0	RUN*CLEAR MODE	8 -	A07-54, B08-57,
1	S CYCLE S-112	22 -	A13-9, A22-49, B12-37,
2	S INST S-112	22 -	B20-27, B22-9,
3	S STEP S-112	22 -	A22-45, B12-2,
4	SBR BIT 0	9 +	A09-59, B12-25, B19-26, B21-10,
5	SBR BIT 1	9 +	A09-58, A19-56, B12-27, B21-7,
6	SBR BIT 2	9 +	A09-44, B12-28, B19-30,
7	SBR BIT 3	9 +	A09-56, A19-8, B12-30,
8	SBR BIT 4	9 +	A09-39, B12-32, B19-12,
9	SBR BIT 5	9 +	A09-54, A19-21, B12-29,
0	SBR BIT 6	9 +	A09-52, B12-5, B19-49,
1	SBR BIT 7	9 +	A09-47, A19-12, B12-3,
2	SBR BIT 8	10 +	A10-32, A13-47, B15-15, B19-43, B21-42,
3	SBR BIT 9	10 +	A10-58, A13-49, A15-43, A19-62, B21-53,
4	SBR BIT 10	10 +	A10-59, A13-50, A21-43, B15-12, B19-11,
5	SBR BIT 11	10 +	A10-48, A13-51, A19-33, A21-41,

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DESIGN		SCALE							
DASH	FILE NUMBER					SHEET	TYPE	DWG. NO.	REV.
TITLE						100	SA	3879	A

SIGNAL

CONNECTIONS

64 6	SBR BIT 12	10 +	A10-47, A13-56, A21-32, B19-7,
64 7	SBR BIT 13	10 +	A10-19, A13-57, A19-16, A21-42,
64 8	SBR BIT 14	10 +	A10-53, A13-52, B19-5, B21-13,
64 9	SBR BIT 15	10 +	A10-50, A13-48, A19-47, B21-1,
65 0	SBR DATA RDY	7 +	A09-12, A10-12, B06-53, B07-49,
65 1	SEL HEXD A	18 +	B09-20, B10-9, B18-51,
65 2	SEL HEXD B	18 +	A18-55, B09-26, B10-7,
65 3	SELECT DISPLAY 1	XX +	B22-20,
65 4	SENSE DEV	19 -	A15-62, B19-36, B21-17,
65 5	SENSE OP	19 -	A19-52, B17-27, B18-21,
65 6	SES 0	22 -	A15-13, A22-16,
65 7	SES 1	22 -	A15-18, A22-18,
65 8	SES 2	22 -	A15-32, A22-20,
65 9	SES 3	22 -	A15-7, A22-22,
66 0	SET BSI	16 -	B12-20, B13-24, B16-2,
66 1	SET INT LVL A BIT 3	16 -	B16-28, B19-54,
66 2	SHOP SHIFT	14 +	A14-24, A16-38,
66 3	SHOP SHIF1	14 -	A14-55, A18-29, B12-48, B13-29,
66 4	SHOPS	18 +	A14-52, A17-24, B18-18,
66 5	SKIP COND	16 +	A16-40, B14-19, B17-38, B18-32,
66 6	SLC HOLD 17	14 +	A14-58,
66 7	SLC HOLD 17	14 -	A14-44, A17-6, A18-31, B12-43, B13-32,
66 8	SLCOP	18 +	B14-9, B18-57,
66 9	SP BIT	20 +	B12-47, B20-49,
67 0	SP CHECK	20 +	A19-9, A20-53,

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		DLSDGN	SCALE			
DATE	FILE NUMBER				SHEET	SIZE
TITLE					106	167 54
					DWG NO.	3879
					REV.	A

SIGNAL

CONNECTIONS

67 1	SP CHECK	20 -	A20-55, B22-44,
	SPARE	8	B08-4,
	SPARE	12	A12-48,
	SPARE	13	A13-18,
	SPARE	14	A14-36, B14-36,
	SPARE	16	B16-54,
	SPARE	17	A17-7, A17-10, A17-11, A17-34, A17-51, A17-59, B17-54,
	SPARE	20	B20-42,
	SPARE LAMP	XX -	A22-12,
	SPARE OP	7	B07-51,
	SPARE S-307	22 -	B22-40,
67 2	SS MODE	12 +	B12-9,
67 3	SS MODE	12 -	A13-43, A18-43, A20-21, B12-10,
67 4	START CLOCK	20 +	A12-13, B20-35,
67 5	START REQ INT BSI	18 -	A18-44, B13-5, B15-56, B20-58,
67 6	START REQ P1	20 -	A20-54, B13-8,
67 7	START S-302	22 -	B20-2, B22-38,
67 8	START TCP STB	12 -	B12-12, B13-7, B20-20,
67 9	STD	18 -	A14-20, A18-57, B17-46,
68 0	STG PROT OPTION	17 +	A17-62, B17-59,
68 1	STO	18 -	A14-5, A17-45, B18-7,
68 2	STOP	20 +	B20-18,
68 3	STOP S-301	22 -	B20-1, B22-36,
68 4	STOP T CLOCK	20 -	B13-2, B20-53,
68 5	STS	18 +	B17-2, B18-49,

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DASH	FILE NUMBER	DESIGN	SCALE			
TITLE					<small>SCALE</small> 102 1/2" SA	<small>LWG. NO.</small> 3879

SIGNAL

CONNECTIONS

68	6	SISE	18 +	A18-56, B15-55, B20-41,
68	7	STSE AND NOT SP	15 +	A14-51, A16-51, B15-47,
68	8	STX	18 -	B17-52, B18-5,
68	9	SUBOP	18 +	A18-61, B14-50, B16-20,
69	0	SYSCP REF P1	12 -	A18-53, B11-25, B12-52, B13-40, B14-18, B15-41,
69	1	SYSCP REF P2	12 -	A20-56, B09-28, B10-43, B12-53, B16-49, B17-25,
69	2	SYSCP REF P3	13 -	A13-12, B06-26, B07-23,
69	3	T 0	13 -	A08-42, A13-58, A19-54, A20-30, A21-56, B14-11, B17-45, B18-53,
69	4	T 1	13 -	A08-44, A13-61, A17-31, A21-39, B16-52, B19-46, B20-57,
69	5	T 2	13 +	A08-23, B07-2, B13-26, B20-12,
69	6	T 2	13 -	A13-62, B16-50, B17-7, B18-41, B19-8,
69	7	T 3	13 -	A08-37, A13-60, A17-53, A18-45, A20-37, A21-44, B14-14, B16-57, B19-45,
69	8	T 4	13 -	A13-46, A17-35, B07-37, B14-4, B16-8, B19-4, B20-33,
69	9	T 5	13 -	A07-62, A13-45, A14-50, A20-35, B16-39, B17-23, B18-54, B19-50,
70	0	T 6	13 +	A13-7, B07-41, B12-22,
70	1	T 6	13 -	A13-8, A18-51, B06-24, B14-3, B15-42, B16-25, B17-10, B19-24, B21-48,
70	2	T 7	13 -	A13-44, A18-20, B12-50, B14-2, B16-43, B17-35, B19-31,
70	3	TAC BIT U	11 +	A11-22, A14-35, B16-29,
70	4	TAG	12 +	A12-5, A17-40, B14-12,
70	5	TAG	12 -	A12-6, B15-52, B18-44,
70	6	TAG X = 0	13 +	A17-12, B13-16,

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DASH	FILE NUMBER	DESIGN	SCALE						
TITLE						103	117 SA	3579	A

SIGNAL

CONNECTIONS

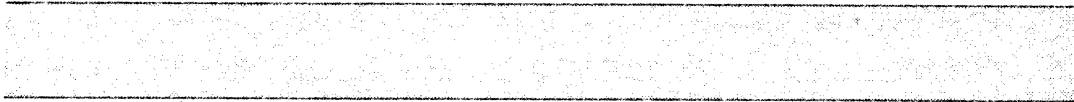
707	TAG X = 7	13 +	A17-18, B13-15,
708	TAG Y = 0	13 -	A17-22, B13-13,
709	TAG Y = 7	13 -	A17-20, B13-33,
710	TCP RESET	12 -	A13-59, B12-11,
711	TEMP CARRY	14 +	A14-15, A16-11,
712	TRACE	20 +	B20-19, B21-18,
713	TRACE S-112	22 -	B15-31, B20-30, B22-11,
714	T0 + X0 RESET	20 -	A16-33, A20-39, B09-4, B10-58, B17-34,
715	T3X3 BUF	8 +	A08-33, B06-35,
716	W + R SP BIT E CYCLE	20 +	A08-16, B20-54,
717	WAIT	18 -	A13-13, A22-8, B18-12,
718	WRITE	19 -	A12-52, B18-30, B19-34,
719	WRITE CYCLE	8 +	A01-9, B07-18, B08-12,
720	WRITE CYCLE	8 -	B06-27, B08-34,
721	WRT STG PRT S-110	22 -	A22-33, B20-8,
722	X 0	12 -	A08-40, A12-55, A19-45, A20-50, A21-61, B16-3,
723	X 1	12 +	A08-31, A12-40, B17-39, B19-42,
724	X 2	12 +	A08-21, B12-17, B18-43, B19-25,
725	X 3	12 -	A08-38, A12-58, A20-42, B06-7, B19-44,
726	X 4	12 +	A12-44, B19-29,
727	X 5	12 +	A12-46, A17-27, A20-38, B19-52,
728	X 6	12 +	A12-51, B19-27,
729	X 7	12 +	A17-44, B12-26, B19-37, B20-46,
730	X10	18 -	A16-18, A18-13, A19-43, B12-38, B15-32, B17-13,

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DASH	FILE NUMBER	DESIGN	SCALE			
TITLE					SCALE 104 167	SIZE SA
					DWG. NO. 3879	REV A

SIGNAL

CONNECTIONS

731 ZERO REM	16 +	A14-13, B16-14, B17-51,
74S04 IN	13	A13-55,
74S04 OUT	13	A13-54,



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DWG. NO.	FILE NUMBER	DESIGN	SCALE					
TITLE					SHEET 105	TITLE 1671 SA	DWG. NO. 3879	REV. A

POINT	SIGNAL	
A01-1	POWER SUPPLY CONN	1
A01-2	POWER SUPPLY CONN	1
A01-3	POWER SUPPLY CONN	1
A01-4	POWER SUPPLY CONN	1
A01-5	POS 12VDC A	
A01-6	POS 12VDC A	
A01-7	NO CONNECTION	1
A01-8	NO CONNECTION	1
A01-9	WRITE CYCLE	8 +
A01-10	NO CONNECTION	1
A01-11	NO CONNECTION	1
A01-12	NO CONNECTION	1
A01-13	NO CONNECTION	1
A01-14	NO CONNECTION	1
A01-15	NO CONNECTION	1
A01-16	NO CONNECTION	1
A01-17	NO CONNECTION	1
A01-18	NO CONNECTION	1
A01-19	MODULE SELECTED	-
A01-20	NO CONNECTION	1
A01-21	MEM DATA BUS 0	6 +
A01-22	NO CONNECTION	1
A01-23	MEM DATA BUS 1	6 +
A01-24	NO CONNECTION	1
A01-25	MEM DATA BUS 2	6 +
A01-26	NO CONNECTION	1
A01-27	MEM DATA BUS 3	6 +
A01-28	NO CONNECTION	1
A01-29	MEM DATA BUS 10	6 +
A01-30	NO CONNECTION	1
A01-31	MEM DATA BUS 11	6 +
A01-32	NO CONNECTION	1
A01-33	NO CONNECTION	1
A01-34	NO CONNECTION	1
A01-35	MEM DATA BUS 18	6
A01-36	NO CONNECTION	1
A01-37	MEM DATA BUS 19	6
A01-38	NO CONNECTION	1
A01-39	MEM DATA BUS 20	6
A01-40	NO CONNECTION	1
A01-41	MEM DATA BUS 21	6
A01-42	NO CONNECTION	1
A01-43	MEM DATA BUS 22	6
A01-44	NO CONNECTION	1
A01-45	MEM WRITE ENAB	7 -

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DESIGN		SCALE							
DRAWN	FILE NUMBER	DESIGN	SCALE			<small>PROJECT</small> 106 <small>SIZE</small> 167 SA	<small>DWG NO</small> 3879	<small>REV</small> A	

POINT	SIGNAL	
A01-46	NO CONNECTION	1
A01-47	NO CONNECTION	1
A01-48	DO NOT USE	1
A01-49	CAS MODULE 4	6 -
A01-50	NO CONNECTION	1
A01-51	RAS ROW ADD STROBE	8 +
A01-52	NO CONNECTION	1
A01-53	DO NOT USE	1
A01-54	DO NOT USE	1
A01-55	NO CONNECTION	1
A01-56	NO CONNECTION	1
A01-57	NO CONNECTION	1
A01-58	NO CONNECTION	1
A01-59	NO CONNECTION	1
A01-60	NO CONNECTION	1
A01-61	NO CONNECTION	1
A01-62	NO CONNECTION	1
A02-1	POWER SUPPLY CONN	2
A02-2	POWER SUPPLY CONN	2
A02-3	POWER SUPPLY CONN	2
A02-4	POWER SUPPLY CONN	2
A02-5	POS 12VDC A	
A02-6	POS 12VDC A	
A02-7	NO CONNECTION	2
A02-8	NO CONNECTION	2
A02-9	NO CONNECTION	2
A02-10	NO CONNECTION	2
A02-11	NO CONNECTION	2
A02-12	NO CONNECTION	2
A02-13	NO CONNECTION	2
A02-14	NO CONNECTION	2
A02-15	NO CONNECTION	2
A02-16	NO CONNECTION	2
A02-17	NO CONNECTION	2
A02-18	NO CONNECTION	2
A02-19	MODULE SELECTED	-
A02-20	NO CONNECTION	2
A02-21	MEM DATA BUS 0	6 +
A02-22	NO CONNECTION	2
A02-23	MEM DATA BUS 1	6 +
A02-24	NO CONNECTION	2
A02-25	MEM DATA BUS 2	6 +
A02-26	NO CONNECTION	2
A02-27	MEM DATA BUS 3	6 +
A02-28	NO CONNECTION	2

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DESIGN		SCALE							
DASH	FILE NUMBER								
TITLE						SHEET		DWG. NO.	
						107		3879	
						167 SA		A	

POINT	SIGNAL	
A02-29	MEM DATA BUS 10	6 +
A02-30	NO CONNECTION	2
A02-31	MEM DATA BUS 11	6 +
A02-32	NO CONNECTION	2
A02-33	NO CONNECTION	2
A02-34	NO CONNECTION	2
A02-35	MEM DATA BUS 18	6
A02-36	NO CONNECTION	2
A02-37	MEM DATA BUS 19	6
A02-38	NO CONNECTION	2
A02-39	MEM DATA BUS 20	6
A02-40	NO CONNECTION	2
A02-41	MEM DATA BUS 21	6
A02-42	NO CONNECTION	2
A02-43	MEM DATA BUS 22	6
A02-44	NO CONNECTION	2
A02-45	MEM WRITE ENAB	7 -
A02-46	NO CONNECTION	2
A02-47	NO CONNECTION	2
A02-48	DO NOT USE	2
A02-49	CAS MODULE 3	6 -
A02-50	NO CONNECTION	2
A02-51	RAS ROW ADD STROBE	8 +
A02-52	NO CONNECTION	2
A02-53	DO NOT USE	2
A02-54	DO NOT USE	2
A02-55	NO CONNECTION	2
A02-56	NO CONNECTION	2
A02-57	NO CONNECTION	2
A02-58	NO CONNECTION	2
A02-59	NO CONNECTION	2
A02-60	NO CONNECTION	2
A02-61	NO CONNECTION	2
A02-62	NO CONNECTION	2
A03-1	POWER SUPPLY CONN	3
A03-2	POWER SUPPLY CONN	3
A03-3	POWER SUPPLY CONN	3
A03-4	POWER SUPPLY CONN	3
A03-5	POS 12VDC A	
A03-6	POS 12VDC A	
A03-7	NO CONNECTION	3
A03-8	NO CONNECTION	3
A03-9	NO CONNECTION	3
A03-10	NO CONNECTION	3
A03-11	NO CONNECTION	3

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DASH	FILE NUMBER	DESIGN	SCALE			
TITLE					<small>SHEET</small> 108	<small>TYPE</small> SA
					<small>SIZE</small> 167	<small>DWG NO.</small> 3879
						<small>REV</small> A

POINT	SIGNAL	
A03-12	NO CONNECTION	3
A03-13	NO CONNECTION	3
A03-14	NO CONNECTION	3
A03-15	NO CONNECTION	3
A03-16	NO CONNECTION	3
A03-17	NO CONNECTION	3
A03-18	NO CONNECTION	3
A03-19	MODULE SELECTED	-
A03-20	NO CONNECTION	3
A03-21	MEM DATA BUS 0	6 +
A03-22	NO CONNECTION	3
A03-23	MEM DATA BUS 1	6 +
A03-24	NO CONNECTION	3
A03-25	MEM DATA BUS 2	6 +
A03-26	NO CONNECTION	3
A03-27	MEM DATA BUS 3	6 +
A03-28	NO CONNECTION	3
A03-29	MEM DATA BUS 10	6 +
A03-30	NO CONNECTION	3
A03-31	MEM DATA BUS 11	6 +
A03-32	NO CONNECTION	3
A03-33	NO CONNECTION	3
A03-34	NO CONNECTION	3
A03-35	MEM DATA BUS 18	6
A03-36	NO CONNECTION	3
A03-37	MEM DATA BUS 19	6
A03-38	NO CONNECTION	3
A03-39	MEM DATA BUS 20	6
A03-40	NO CONNECTION	3
A03-41	MEM DATA BUS 21	6
A03-42	NO CONNECTION	3
A03-43	MEM DATA BUS 22	6
A03-44	NO CONNECTION	3
A03-45	MEM WRITE ENAB	7 -
A03-46	NO CONNECTION	3
A03-47	NO CONNECTION	3
A03-48	DO NOT USE	3
A03-49	CAS MODULE 2	6 -
A03-50	NO CONNECTION	3
A03-51	RAS ROW ADD STROBE	8 +
A03-52	NO CONNECTION	3
A03-53	DO NOT USE	3
A03-54	DO NOT USE	3
A03-55	NO CONNECTION	3
A03-56	NO CONNECTION	3

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FILE NUMBER		DESIGN	SCALE					
TITLE					SHEET 109 167	TITLE SA	DWG. NO. 3879	REV A

POINT	SIGNAL	
A03-57	NO CONNECTION	3
A03-58	NO CONNECTION	3
A03-59	NO CONNECTION	3
A03-60	NO CONNECTION	3
A03-61	NO CONNECTION	3
A03-62	NO CONNECTION	3
A04-1	POWER SUPPLY CONN	4
A04-2	POWER SUPPLY CONN	4
A04-3	POWER SUPPLY CONN	4
A04-4	POWER SUPPLY CONN	4
A04-5	POS 12VDC A	
A04-6	POS 12VDC A	
A04-7	NO CONNECTION	4
A04-8	NO CONNECTION	4
A04-9	NO CONNECTION	4
A04-10	NO CONNECTION	4
A04-11	NO CONNECTION	4
A04-12	NO CONNECTION	4
A04-13	NO CONNECTION	4
A04-14	NO CONNECTION	4
A04-15	NO CONNECTION	4
A04-16	NO CONNECTION	4
A04-17	NO CONNECTION	4
A04-18	NO CONNECTION	4
A04-19	MODULE SELECTED	-
A04-20	NO CONNECTION	4
A04-21	MEM DATA BUS 0	6 +
A04-22	NO CONNECTION	4
A04-23	MEM DATA BUS 1	6 +
A04-24	NO CONNECTION	4
A04-25	MEM DATA BUS 2	6 +
A04-26	NO CONNECTION	4
A04-27	MEM DATA BUS 3	6 +
A04-28	NO CONNECTION	4
A04-29	MEM DATA BUS 10	6 +
A04-30	NO CONNECTION	4
A04-31	MEM DATA BUS 11	6 +
A04-32	NO CONNECTION	4
A04-33	NO CONNECTION	4
A04-34	NO CONNECTION	4
A04-35	MEM DATA BUS 18	6
A04-36	NO CONNECTION	4
A04-37	MEM DATA BUS 19	6
A04-38	NO CONNECTION	4
A04-39	MEM DATA BUS 20	6

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DWG. FILE NUMBER	DESIGN	SCALE						
TITLE					SHEET 110 OF 1107	SIZE SA	DWG. NO. 3879	REV. A

POINT	SIGNAL	
A04-40	NO CONNECTION	4
A04-41	MEM DATA BUS 21	6
A04-42	NO CONNECTION	4
A04-43	MEM DATA BUS 22	6
A04-44	NO CONNECTION	4
A04-45	MEM WRITE ENAB	7 -
A04-46	NO CONNECTION	4
A04-47	NO CONNECTION	4
A04-48	DO NOT USE	4
A04-49	CAS MODULE 1	6 -
A04-50	NO CONNECTION	4
A04-51	RAS ROW ADD STROBE	8 +
A04-52	NO CONNECTION	4
A04-53	DO NOT USE	4
A04-54	DO NOT USE	4
A04-55	NO CONNECTION	4
A04-56	NO CONNECTION	4
A04-57	NO CONNECTION	4
A04-58	NO CONNECTION	4
A04-59	NO CONNECTION	4
A04-60	NO CONNECTION	4
A04-61	NO CONNECTION	4
A04-62	NO CONNECTION	4
A05-1	POWER SUPPLY CONN	5
A05-2	POWER SUPPLY CONN	5
A05-3	POWER SUPPLY CONN	5
A05-4	POWER SUPPLY CONN	5
A05-5	POS 12VDC A	
A05-6	POS 12VDC A	
A05-7	NO CONNECTION	5
A05-8	NO CONNECTION	5
A05-9	NO CONNECTION	5
A05-10	NO CONNECTION	5
A05-11	NO CONNECTION	5
A05-12	NO CONNECTION	5
A05-13	NO CONNECTION	5
A05-14	NO CONNECTION	5
A05-15	NO CONNECTION	5
A05-16	NO CONNECTION	5
A05-17	NO CONNECTION	5
A05-18	NO CONNECTION	5
A05-19	MODULE SELECTED	-
A05-20	NO CONNECTION	5
A05-21	MEM DATA BUS 0	6 +
A05-22	NO CONNECTION	5

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DASH	FILE NUMBER	DESIGN	SCALE				
TITLE					<small>SHEET</small> 111	<small>SIZE</small> 167 SA	<small>DWG. NO.</small> 3879
						<small>REV.</small> A	

POINT	SIGNAL		
A05-23	MEM DATA BUS 1	6	+
A05-24	NO CONNECTION	5	
A05-25	MEM DATA BUS 2	6	+
A05-26	NO CONNECTION	5	
A05-27	MEM DATA BUS 3	6	+
A05-28	NO CONNECTION	5	
A05-29	MEM DATA BUS 10	6	+
A05-30	NO CONNECTION	5	
A05-31	MEM DATA BUS 11	6	+
A05-32	NO CONNECTION	5	
A05-33	NO CONNECTION	5	
A05-34	NO CONNECTION	5	
A05-35	MEM DATA BUS 18	6	
A05-36	NO CONNECTION	5	
A05-37	MEM DATA BUS 19	6	
A05-38	NO CONNECTION	5	
A05-39	MEM DATA BUS 20	6	
A05-40	NO CONNECTION	5	
A05-41	MEM DATA BUS 21	6	
A05-42	NO CONNECTION	5	
A05-43	MEM DATA BUS 22	6	
A05-44	NO CONNECTION	5	
A05-45	MEM WRITE ENAB	7	-
A05-46	NO CONNECTION	5	
A05-47	NO CONNECTION	5	
A05-48	DO NOT USE	5	
A05-49	CAS MODULE 0	6	-
A05-50	NO CONNECTION	5	
A05-51	RAS ROW ADD STROBE	8	+
A05-52	NO CONNECTION	5	
A05-53	DO NOT USE	5	
A05-54	DO NOT USE	5	
A05-55	NO CONNECTION	5	
A05-56	NO CONNECTION	5	
A05-57	NO CONNECTION	5	
A05-58	NO CONNECTION	5	
A05-59	NO CONNECTION	5	
A05-60	NO CONNECTION	5	
A05-61	NO CONNECTION	5	
A05-62	NO CONNECTION	5	
A06-1	POWER SUPPLY CONN	6	
A06-2	POWER SUPPLY CONN	6	
A06-3	POWER SUPPLY CONN	6	
A06-4	POWER SUPPLY CONN	6	
A06-5	MD BIT 14	6	-

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		DESIGN	SCALE			
DASH	FILE NUMBER	TITLE			<small>REV. DATE</small> 112 OF 167 SA 3879 A	<small>PLT</small> A

POINT	SIGNAL	
A06-6	CD BIT 12	10 -
A06-7	MD BIT 10	6 -
A06-8	CD BIT 14	10 -
A06-9	MEM DATA BUS 17	6 +
A06-10	MEM DATA BUS 21	6
A06-11	CD BIT 10	10 -
A06-12	MEM DATA BUS 19	6
A06-13	MD BIT 11	6 -
A06-14	CD BIT 15	10 -
A06-15	MEM DATA BUS 20	6
A06-16	MEM DATA BUS 18	6
A06-17	CD BIT 13	10 -
A06-18	CD BIT 11	10 -
A06-19	MD BIT 0	6 -
A06-20	MD BIT 13	6 -
A06-21	MD BIT 15	6 -
A06-22	MD BIT 9	6 -
A06-23	MD BIT 12	6 -
A06-24	MEM DATA BUS 22	6
A06-25	MEM DATA BUS 8	6 +
A06-26	NO CONNECTION	6
A06-27	MEM DATA BUS 5	6 +
A06-28	MEM DATA BUS 9	6 +
A06-29	MEM DATA BUS 7	6 +
A06-30	NO CONNECTION	6
A06-31	MD BIT 2	6 -
A06-32	MEM DATA BUS 14	6 +
A06-33	MEM DATA BUS 2	6 +
A06-34	MEM DATA BUS 16	6 +
A06-35	CD BIT 2	9 -
A06-36	CD BIT 9	10 -
A06-37	CD BIT 8	10 -
A06-38	MEM WRITE ENAB	7 -
A06-39	MEM DATA BUS 6	6 +
A06-40	CD BIT 4	9 -
A06-41	CD BIT 6	9 -
A06-42	CD BIT 0	9 -
A06-43	MD BIT 1	6 -
A06-44	MEM DATA BUS 4	6 +
A06-45	MD BIT 4	6 -
A06-46	MEM DATA BUS 0	6 +
A06-47	MD BIT 8	6 -
A06-48	MEM DATA BUS 1	6 +
A06-49	MEM DATA BUS 15	6 +
A06-50	MEM DATA BUS 3	6 +

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DASH	FILE NUMBER	DESIGN	SCALE			
TITLE					SHEET 113 SIZE 167 SA	DWG. NO. 3879 REV. A

POINT	SIGNAL	
A06-51	MD BIT 6	6 -
A06-52	CD BIT 7	9 -
A06-53	MD BIT 3	6 -
A06-54	CD BIT 1	9 -
A06-55	MD BIT 5	6 -
A06-56	CD BIT 16	12 -
A06-57	DATA READY	8 -
A06-58	CD BIT 5	9 -
A06-59	MD BIT 7	6 -
A06-60	CD BIT 3	9 -
A06-61	MACH INT A P2	6 -
A06-62	I/F IN BIT 10	-
A07-1	POWER SUPPLY CONN	7
A07-2	POWER SUPPLY CONN	7
A07-3	POWER SUPPLY CONN	7
A07-4	POWER SUPPLY CONN	7
A07-5	MAR BIT 3	9 +
A07-6	MAR BIT 1	9 +
A07-7	MAR BIT 2	9 +
A07-8	MAR BIT 4	9 +
A07-9	MAP REG ADD 2	7 -
A07-10	NO CONNECTION	7
A07-11	CD BIT 0	9 -
A07-12	NO CONNECTION	7
A07-13	MAP REG ADD 3	7 -
A07-14	CD BIT 3	9 -
A07-15	MEM ADD 12	7 -
A07-16	NO CONNECTION	7
A07-17	MAP REG ADD 1	7 -
A07-18	NO CONNECTION	7
A07-19	MAP REG OUT 3	7 +
A07-20	NO CONNECTION	7
A07-21	MAP REG ADD C	7 -
A07-22	NO CONNECTION	7
A07-23	CD BIT 15	10 -
A07-24	CD BIT 13	10 -
A07-25	CD BIT 14	10 -
A07-26	NO CONNECTION	7
A07-27	NO CONNECTION	7
A07-28	NO CONNECTION	7
A07-29	MEM ADD 11	7 -
A07-30	NO CONNECTION	7
A07-31	CD BIT 12	10 -
A07-32	NO CONNECTION	7
A07-33	MEM ADD 9	7 -

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		DESIGN	SCALE			
DASH	FILE NUMBER				114 OF 167	SA 3879 A
TITLE					FILE NO.	DWG NO.

POINT	SIGNAL	
A07-34	NO CONNECTION	7
A07-35	MAP REG ADD 4	7 -
A07-36	NO CONNECTION	7
A07-37	CD BIT 4	9 -
A07-38	NO CONNECTION	7
A07-39	MEM ADD 10	7 -
A07-40	NO CONNECTION	7
A07-41	MAP REG OUT 4	7 +
A07-42	MAP REG ADD 0	7 -
A07-43	MEM ADD 8	7 -
A07-44	MAP REG ADD A	7 -
A07-45	CD BIT 6	9 -
A07-46	NO CONNECTION	7
A07-47	CD BIT 5	9 -
A07-48	MAP REG ADD B	7 -
A07-49	CD BIT 1	9 -
A07-50	CD BIT 2	9 -
A07-51	MAP REG OUT 6	7 +
A07-52	MAP REG OUT 2	7 +
A07-53	MAP REG OUT 5	7 +
A07-54	RUN+CLEAR MODE	8 -
A07-55	CD BIT 9	10 -
A07-56	ENOP 3	7 +
A07-57	LMR F CYCLES	7 -
A07-58	MAP REG OUT 0	7 +
A07-59	MAP REG OUT 9	7 +
A07-60	IAR BIT 0	9 +
A07-61	MAP REG OUT 7	7 +
A07-62	T 5	13 -
A08-1	POWER SUPPLY CONN	8
A08-2	POWER SUPPLY CONN	8
A08-3	POWER SUPPLY CONN	8
A08-4	POWER SUPPLY CONN	8
A08-5	MEM ADD 13	8 -
A08-6	MAP BIT 5	9 +
A08-7	I/F BLOCK CLOCK	-
A08-8	PAGE INHIBIT	7 -
A08-9	MEM ADD 6	8 -
A08-10	PAGE INHIBIT RST	8 -
A08-11	MAP BIT 14	10 +
A08-12	COFS+CLEAR	20 -
A08-13	DO NOT USE	8
A08-14	CD BIT 16	12 -
A08-15	DO NOT USE	8
A08-16	W + R SP BIT F CYCLE	20 +

		DRAWN	CHECKED	DO NOT SCALE THIS PRINT	<small>THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS PROHIBITED EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>	COMPUTER HARDWARE INC.		
		DESIGN	SCALE					
DASH	FILE NUMBER							
TITLE					SHEET 115	FILE SIZE 1607 SA	DWG NO. 3879	REV A

POINT	SIGNAL	
A08-17	DO NOT USE	8
A08-18	DO NOT USE	8
A08-19	DO NOT USE	8
A08-20	NO CONNECTION	8
A08-21	X 2	12 +
A08-22	NO CONNECTION	8
A08-23	T 2	13 +
A08-24	NO CONNECTION	8
A08-25	HOLD T1	7 +
A08-26	NO CONNECTION	8
A08-27	NO CONNECTION	8
A08-28	NO CONNECTION	8
A08-29	NO CONNECTION	8
A08-30	NO CONNECTION	8
A08-31	X 1	12 +
A08-32	NO CONNECTION	8
A08-33	T3X3 BUF	8 +
A08-34	NO CONNECTION	8
A08-35	HOLD PHASE B	8 +
A08-36	NO CONNECTION	8
A08-37	T 3	13 -
A08-38	X 3	12 -
A08-39	PWR ON RST	19 -
A08-40	X 0	12 -
A08-41	PHASE A REF	12 -
A08-42	T 0	13 -
A08-43	RAS ROW ADD STROBE	8 +
A08-44	T 1	13 -
A08-45	GATE MD TO DRG 8-15	8 -
A08-46	GATE SIG TO QPR	16 +
A08-47	CLOCK SBR 8-15	20 -
A08-48	DATA READY	8 +
A08-49	GATE MD TO DRG 0- 7	8 -
A08-50	DATA RDY OPR	8 +
A08-51	CAS COL ADD STROBE	8 -
A08-52	GATE LMR TO D	7 -
A08-53	MEM ADD 3	8 -
A08-54	MEM ADD 5	8 -
A08-55	MAR BIT 11	10 +
A08-56	MAR BIT 13	10 +
A08-57	CLEAR MODE	20 -
A08-58	MAR BIT 12	10 +
A08-59	MEM ADD 4	8 -
A08-60	MEM ADD 2	8 -
A08-61	INH STOR	18 -

DASH	FILE NUMBER	DRAWN	CHECKED	DO NOT SCALE THIS PRINT	<small>THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>	COMPUTER HARDWARE INC.
TITLE		DESIGN	SCALE			
					<small>FILE #</small> 116 <small>SIZE</small> 167 SA <small>DWG. NO.</small> 3379 <small>REV.</small> A	

POINT	SIGNAL	
A08-62	MAR BIT 10	10 +
A09-1	POWER SUPPLY CONN	9
A09-2	POWER SUPPLY CONN	9
A09-3	POWER SUPPLY CONN	9
A09-4	POWER SUPPLY CONN	9
A09-5	LAMP BUS 4	-
A09-6	NO CONNECTION	9
A09-7	MD BIT 0	6 -
A09-8	NO CONNECTION	9
A09-9	GATE LAMPS P0	21 -
A09-10	GATE LAMPS P2	21 -
A09-11	DC RESET	20 +
A09-12	SBR DATA RDY	7 +
A09-13	MD BIT 2	6 -
A09-14	NO CONNECTION	9
A09-15	GATE LAMPS P4	21 -
A09-16	GATE LAMPS P1	21 -
A09-17	GATE STAT TO SBR	17 -
A09-18	MD BIT 3	6 -
A09-19	MD BIT 5	6 -
A09-20	BUS BIT 1	+
A09-21	LAMP BUS 7	-
A09-22	BUS BIT 2	+
A09-23	NO CONNECTION	9
A09-24	BUS BIT 0	+
A09-25	BUS BIT 5	+
A09-26	BUS BIT 3	+
A09-27	BUS BIT 7	+
A09-28	BUS BIT 4	+
A09-29	MD BIT 4	6 -
A09-30	MD BIT 1	6 -
A09-31	NO CONNECTION	9
A09-32	MAR BIT 3	9 +
A09-33	MD BIT 6	6 -
A09-34	LAMP BUS 0	-
A09-35	MD BIT 7	6 -
A09-36	LAMP BUS 1	-
A09-37	IAR CARRY 8-15	10 +
A09-38	LOAD IAR GATE	17 -
A09-39	SBR BIT 4	9 +
A09-40	LAMP BUS 5	-
A09-41	ADV IAR 0-7	10 +
A09-42	LAMP BUS 6	-
A09-43	CD BIT 2	9 -
A09-44	SBR BIT 2	9 +

DRAWN		CHECKED		DO NOT SCALE THIS PRINT	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	COMPUTER HARDWARE INC.		
DESIGN		SCALE						
DASH	FILE NUMBER	TITLE			FULL 117 167	SIZE SA	DWG. NO. 3879	REV A

POINT	SIGNAL	
A09-45	CD BIT 1	9 -
A09-46	CLOCK SBR 0- 7	20 -
A09-47	SBR HIT 7	9 +
A09-48	BUS BIT 6	+
A09-49	CD BIT 7	9 -
A09-50	CD BIT 0	9 -
A09-51	CD BIT 6	9 -
A09-52	SBR BIT 6	9 +
A09-53	CD BIT 4	9 -
A09-54	SBR BIT 5	9 +
A09-55	CD BIT 5	9 -
A09-56	SBR BIT 3	9 +
A09-57	CD BIT 3	9 -
A09-58	SBR BIT 1	9 +
A09-59	SBR BIT 0	9 +
A09-60	GATE MD TO SBR	20 +
A09-61	LAMP BUS 2	-
A09-62	LAMP BUS 3	-
A10-1	POWER SUPPLY CONN	10
A10-2	POWER SUPPLY CONN	10
A10-3	POWER SUPPLY CONN	10
A10-4	POWER SUPPLY CONN	10
A10-5	NO CONNECTION	10
A10-6	NO CONNECTION	10
A10-7	LAMP BUS 9	-
A10-8	NO CONNECTION	10
A10-9	GATE LAMPS P0	21 -
A10-10	DC RESET	20 +
A10-11	GATE LAMPS P2	21 -
A10-12	SBR DATA RDY	7 +
A10-13	NO CONNECTION	10
A10-14	ADV IAR 0-7	10 +
A10-15	GATE LAMPS P4	21 -
A10-16	GATE LAMPS P1	21 -
A10-17	CD BIT 13	10 -
A10-18	LAMP BUS 8	-
A10-19	SBR BIT 13	10 +
A10-20	BUS BIT 15	+
A10-21	BUS BIT 14	+
A10-22	LAMP BUS 12	-
A10-23	BUS BIT 13	+
A10-24	BUS BIT 12	+
A10-25	MD BIT 14	6 -
A10-26	BUS BIT 10	+
A10-27	MD BIT 12	6 -

		DRAWN	CHECKED	DO NOT SCALE THIS PRINT	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	COMPUTER HARDWARE INC.
		DESIGN	SCALE			
DASH	FILE NUMBER				118 167 SA	1118 167 SA
TITLE					DWG. NO.	REV.
					3879	A.

POINT	SIGNAL	
A10-28	LAMP BUS 14	-
A10-29	BUS BIT 11	+
A10-30	IAR CARRY 8-15	10 +
A10-31	LAMP BUS 10	-
A10-32	SBR BIT 8	10 +
A10-33	BUS BIT 9	+
A10-34	LAMP BUS 15	-
A10-35	LAMP BUS 11	-
A10-36	BUS BIT 8	+
A10-37	ADV IAR GATE	17 +
A10-38	MD BIT 15	6 -
A10-39	MD BIT 13	6 -
A10-40	LOAD IAR GATE	17 -
A10-41	ENOP 3	7 +
A10-42	LAMP BUS 13	-
A10-43	MD BIT 11	6 -
A10-44	MD BIT 9	6 -
A10-45	GATE MD TO SBR	20 +
A10-46	MD BIT 8	6 -
A10-47	SBR BIT 12	10 +
A10-48	SBR BIT 11	10 +
A10-49	CD BIT 12	10 -
A10-50	SBR BIT 15	10 +
A10-51	CD BIT 15	10 -
A10-52	CD BIT 10	10 -
A10-53	SBR BIT 14	10 +
A10-54	CD BIT 11	10 -
A10-55	CD BIT 14	10 -
A10-56	CLOCK SBR 8-15	20 -
A10-57	CD BIT 9	10 -
A10-58	SBR BIT 9	10 +
A10-59	SBR BIT 10	10 +
A10-60	MD BIT 10	6 -
A10-61	CD BIT 8	10 -
A10-62	MAR CMP	10 -
A11-1	POWER SUPPLY CONN	11
A11-2	POWER SUPPLY CONN	11
A11-3	POWER SUPPLY CONN	11
A11-4	POWER SUPPLY CONN	11
A11-5	MD BIT 4	6 -
A11-6	ALU MODE	16 +
A11-7	RST TAC	17 -
A11-8	MD BIT 6	6 -
A11-9	MD BIT 1	6 -
A11-10	ALU S2	16 +

		DRAWN	CHECKED	DO NOT SCALE THIS PRINT	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE THEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY EXPRESS WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	COMPUTER HARDWARE INC.	
		DESIGN	SCALE				
DASH	FILE NUMBER	TITLE			SHEET 119 OF 1671SA	SIZE 3879	DWG NO A

POINT	SIGNAL		
A11-11	BUS BIT 6		+
A11-12	BUS BIT 1		+
A11-13	BUS BIT 7		+
A11-14	MD BIT 3	6	-
A11-15	ACC BIT 6	11	+
A11-16	MD BIT 2	6	-
A11-17	ACC BIT 7	11	+
A11-18	ALU S3	16	+
A11-19	MD BIT 0	6	-
A11-20	MD BIT 5	6	-
A11-21	MD BIT 7	6	-
A11-22	TAC BIT 0	11	+
A11-23	GATE MD TO DRG 0- 7	8	-
A11-24	ALU S1	16	+
A11-25	ACC BIT 2	11	+
A11-26	ALU BIT 0	11	+
A11-27	ALU CN+4	11	-
A11-28	NO CONNECTION	11	
A11-29	ACC BIT 0 SERIAL IN	16	+
A11-30	BUS BIT 0		+
A11-31	LAMP BUS 6		-
A11-32	BUS BIT 2		+
A11-33	LAMP BUS 1		-
A11-34	NO CONNECTION	11	
A11-35	LAMP BUS 7		-
A11-36	BUS BIT 3		+
A11-37	ACC BIT 4	11	+
A11-38	NO CONNECTION	11	
A11-39	ACC S1	16	+
A11-40	LAMP BUS 2		-
A11-41	ALU A=B	11	+
A11-42	ACC S0	16	+
A11-43	ACC BIT 3	11	+
A11-44	ALU S0	16	+
A11-45	RST ACC	17	-
A11-46	DRG BIT 0	11	+
A11-47	RST DRG	17	+
A11-48	ACC BIT 0	11	+
A11-49	LAMP BUS 4		-
A11-50	LOAD DRG GATE	17	+
A11-51	LAMP BUS 3		-
A11-52	BUS BIT 5		+
A11-53	ACC BIT 1	11	+
A11-54	BUS BIT 4		+
A11-55	LAMP BUS 0		-

		DRAWN	CHECKED	DO NOT SCALE THIS PRINT	<small>THIS PRINT CONTAINS PROPRIETARY INFORMATION. PERMISSION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY PARTS THEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>	COMPUTER HARDWARE INC.
		DESIGN	SCALE			
DASH	FILE NUMBER				<small>DATE</small> 120	<small>REV</small> A
TITLE					<small>SIZE</small> 167 SA	<small>DWG. NO.</small> 3879

POINT	SIGNAL	
A11-56	EXT S1	16 +
A11-57	LAMP BUS 5	-
A11-58	EXT S0	16 +
A11-59	GATE ALU TO BUS	17 -
A11-60	ACC BIT 5	11 +
A11-61	MPY 0 RST CCC, EXT	14 -
A11-62	ACC = 0	11 -
A12-1	POWER SUPPLY CONN	12
A12-2	POWER SUPPLY CONN	12
A12-3	POWER SUPPLY CONN	12
A12-4	POWER SUPPLY CONN	12
A12-5	TAG	12 +
A12-6	TAG	12 -
A12-7	OP BIT 8	13 -
A12-8	IXR ADD 2	16 +
A12-9	IXR ADD 1	16 +
A12-10	I/O IN BIT 7	15 +
A12-11	I/O IN BIT 5	15 +
A12-12	BUS BIT 7	+
A12-13	START CLOCK	20 +
A12-14	BUS BIT 5	+
A12-15	I/O IN BIT 6	15 +
A12-16	I/O IN BIT 4	15 +
A12-17	BUS BIT 6	+
A12-18	OP BIT 0	12 -
A12-19	BUS BIT 4	+
A12-20	LOAD IXR 0- 7 GATE	17 -
A12-21	LAMP MPX A	21 +
A12-22	OP BIT 1	12 -
A12-23	OP BIT 2	12 -
A12-24	IXR ADD 0	16 +
A12-25	LAMP MPX B	21 +
A12-26	LAMP MPX C	21 +
A12-27	OP BIT 5	12 +
A12-28	GATE IXR TO BUS	17 -
A12-29	I/O IN BIT 3	15 +
A12-30	I/O IN BIT 1	15 +
A12-31	BUS BIT 3	+
A12-32	LAMP BUS 4	-
A12-33	BUS BIT 1	+
A12-34	I/O IN BIT 2	15 +
A12-35	LAMP BUS 5	-
A12-36	BUS BIT 2	+
A12-37	CS HOLD T7	12 -
A12-38	BUS BIT 0	+

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DATE	FILE NUMBER	DESIGN	SCALE				
TITLE					SHEET 121 1107 SA	DWG NO. 3879	REV A

POINT	SIGNAL	
A12-39	I/O IN BIT 0	15 +
A12-40	X 1	12 +
A12-41	OP BIT 6	12 -
A12-42	RESET OPR	16 -
A12-43	OP BIT 7	12 -
A12-44	X 4	12 +
A12-45	OP BIT 4	12 -
A12-46	X 5	12 +
A12-47	GATE DISP TO TAC	17 -
A12-48	SPARE	12
A12-49	GATE DISP TO DRG	17 -
A12-50	E2 CYCLE	18 +
A12-51	X 6	12 +
A12-52	WRITE	19 -
A12-53	READ	19 -
A12-54	OP BIT 5	12 -
A12-55	X 0	12 -
A12-56	LAMP BUS 7	-
A12-57	OP BIT 3	12 -
A12-58	X 3	12 -
A12-59	GATE LAMPS P6	21 -
A12-60	PHASE A REF	12 -
A12-61	GATE LAMPS P3	21 -
A12-62	GATE LAMPS P9-F	21 -
A13-1	POWER SUPPLY CONN	13
A13-2	POWER SUPPLY CONN	13
A13-3	POWER SUPPLY CONN	13
A13-4	POWER SUPPLY CONN	13
A13-5	IXR ADD 1	16 +
A13-6	LAMP MPX A	21 +
A13-7	T 6	13 +
A13-8	T 6	13 -
A13-9	S CYCLE S-112	22 -
A13-10	GATE I/O TO SBR	18 -
A13-11	GATE I/O TO SBR + ACC	17 -
A13-12	SYSCP REF P3	13 -
A13-13	WAIT	18 -
A13-14	GATE I/O TO DRG	18 -
A13-15	ERROR CHK	20 -
A13-16	GATE I/O TO BUS	13 -
A13-17	NO CONNECTION	13
A13-18	SPARE	13
A13-19	BUS BIT 15	+
A13-20	LAMP MPX B	21 +
A13-21	BUS BIT 11	+

DRAWN		CHECKED		DO NOT SCALE THIS PRINT	<small>THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>	COMPUTER HARDWARE INC.		
DESIGN		SCALE						
DASH	FILE NUMBER	TITLE			SHEET	SIZE	DWG. NO.	PLV
					122	167 SA	3879	A

POINT	SIGNAL	
A13-22	LAMP BUS 15	-
A13-23	BUS BIT 10	+
A13-24	IXR ADD 2	16 +
A13-25	LAMP BUS 10	-
A13-26	LAMP BUS 9	-
A13-27	IMM STOP	20 +
A13-28	BUS BIT 8	+
A13-29	BUS BIT 9	+
A13-30	LAMP BUS 8	-
A13-31	GATE LAMPS P7	21 -
A13-32	GATE LAMPS P9-F	21 -
A13-33	GATE LAMPS P6	21 -
A13-34	LAMP BUS 11	-
A13-35	GATE LAMPS P3	21 -
A13-36	LAMP BUS 12	-
A13-37	ADV TCP	13 +
A13-38	LAMP BUS 13	-
A13-39	BUS BIT 13	+
A13-40	LAMP BUS 14	-
A13-41	LAMP MPX C	21 +
A13-42	GATE IXR TO BUS	17 -
A13-43	SS MODE	12 -
A13-44	T 7	13 -
A13-45	T 5	13 -
A13-46	T 4	13 -
A13-47	SBR BIT 8	10 +
A13-48	SBR BIT 15	10 +
A13-49	SBR BIT 9	10 +
A13-50	SBR BIT 10	10 +
A13-51	SBR BIT 11	10 +
A13-52	SBR BIT 14	10 +
A13-53	HOLD T1	7 +
A13-54	74S04 OUT	13
A13-55	74S04 IN	13
A13-56	SBR BIT 12	10 +
A13-57	SBR BIT 13	10 +
A13-58	T 0	13 -
A13-59	TCP RESET	12 -
A13-60	T 3	13 -
A13-61	T 1	13 -
A13-62	T 2	13 -
A14-1	POWER SUPPLY CONN	14
A14-2	POWER SUPPLY CONN	14
A14-3	POWER SUPPLY CONN	14
A14-4	POWER SUPPLY CONN	14

		DRAWN	CHECKED	DO NOT SCALE THIS PRINT	<small>THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS PROHIBITED, EXCEPT BY EXPRESS WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>	COMPUTER HARDWARE INC.		
DASH	FILE NUMBER	DESIGN	SCALE					
TITLE					<small>SHEET</small> 123 OF 167	<small>TYPE</small> SA	<small>DWG NO.</small> 3879	<small>REV.</small> A

POINT	SIGNAL	
A14-5	STO	18 -
A14-6	EXT BIT 15	11 +
A14-7	DRG BIT 0	11 +
A14-8	ALU SUB	16 +
A14-9	ALU CN+4	11 -
A14-10	ALU CARRY CUT	14 +
A14-11	ACC BIT 0	11 +
A14-12	ACC BIT 0 = DRG BIT 0	14 -
A14-13	ZERO REM	16 +
A14-14	CARRY TO ALU	16 +
A14-15	TEMP CARRY	14 +
A14-16	ALU CN	14 -
A14-17	QUOT CORR	14 +
A14-18	MD SUB	14 -
A14-19	QUOT CORR	14 -
A14-20	STD	18 -
A14-21	INH ALU TO ACC	14 +
A14-22	DIFF SIGN	14 -
A14-23	DIV E1	16 +
A14-24	SHOP SHIFT	14 +
A14-25	MPY E2	16 +
A14-26	MD SUB	14 +
A14-27	E1 CYCLE	18 -
A14-28	ALU BIT 0	11 +
A14-29	ALU = 0	11 -
A14-30	CMPOP	18 +
A14-31	OP BIT 14	13 -
A14-32	GATE IXR TO CCC	14 -
A14-33	DIFF SIGN	14 +
A14-34	EXT BIT 14	11 +
A14-35	TAC BIT 0	11 +
A14-36	SPARE	14
A14-37	COMP LESS OR EQUAL	14 +
A14-38	ACC BIT 1	11 +
A14-39	MOX SKIP	14 +
A14-40	DRG = 0	11 -
A14-41	GATE SBK TO CCC	14 -
A14-42	LDS MODIFIED	16 +
A14-43	OVERFLOW	14 +
A14-44	SLC HOLD T7	14 -
A14-45	MPY 0 RST CCC, EXT	14 -
A14-46	LAST I	18 -
A14-47	OP BIT 5	12 -
A14-48	READ+WRITE	19 +
A14-49	OP BIT 4	12 -

DRAWN		CHECKED		DO NOT SCALE THIS PRINT		THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN IN MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMIT FROM COMPUTER HARDWARE INC.		COMPUTER HARDWARE INC.	
DASH	FILE NUMBER	DESIGN	SCALE						
TITLE						LT	SIZE	DWG NO.	REV.
						124	SA	3879	A

POINT	SIGNAL	
A14-50	T 5	13 -
A14-51	STSE AND NOT SP	15 +
A14-52	SHOPS	18 +
A14-53	GATE CCC TO IXR	14 -
A14-54	DBL PREC OP MOD1	7 +
A14-55	SHOP_SHIFT	14 -
A14-56	ALU A=B	11 +
A14-57	COMP EQUAL	14 -
A14-58	SIC HOLD T7	14 +
A14-59	OVERFLOW ENAB SET	16 +
A14-60	E CYCLES	18 -
A14-61	COMP EQUAL	14 +
A14-62	OVERFLOW ENAB RST	16 +
A15-1	POWER SUPPLY CONN	15
A15-2	ENOP 4 (1800 SWITS)	XX +
A15-3	POWER SUPPLY CONN	15
A15-4	POWER SUPPLY CONN	15
A15-5	CES 10	XX -
A15-6	DES 10	22 -
A15-7	SES 3	22 -
A15-8	I/F IN BIT 8	-
A15-9	DES 3	22 -
A15-10	I/F IN BIT 10	-
A15-11	INT_VEC BIT 0	21 -
A15-12	DES 11	22 -
A15-13	SES 0	22 -
A15-14	DES 0	22 -
A15-15	I/F IN BIT 0	-
A15-16	CES 8	XX -
A15-17	I/F IN BIT 1	-
A15-18	SES 1	22 -
A15-19	DES 1	22 -
A15-20	GATE DES TO I/O	20 -
A15-21	DES 2	22 -
A15-22	CES 11	XX -
A15-23	ENOP 4 (1800 SWITS)	XX +
A15-24	I/F IN BIT 11	-
A15-25	DES 8	22 -
A15-26	I/O IN BIT 8	15 +
A15-27	I/O IN BIT 9	15 +
A15-28	CES 9	XX -
A15-29	I/O IN BIT 0	15 +
A15-30	I/O IN BIT 11	15 +
A15-31	I/O IN BIT 1	15 +
A15-32	SES 2	22 -

		DRAWN	CHECKED	DO NOT SCALE THIS PRINT	<small>THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>	COMPUTER HARDWARE INC.
		DESIGN	SCALE			
DASH	FILE NUMBER				<small>LET SIZE</small> 125 167 SA	<small>DWG. NO.</small> 3879
TITLE						<small>REV</small> A

POINT	SIGNAL	
A15-33	I/O IN BIT 10	15 +
A15-34	I/O IN BIT 5	15 +
A15-35	I/O IN BIT 2	15 +
A15-36	DES 9	22 -
A15-37	I/O IN BIT 3	15 +
A15-38	I/F IN BIT 2	-
A15-39	I/F IN BIT 3	-
A15-40	READ	19 -
A15-41	I/O IN BIT 7	15 +
A15-42	PES 7	22 -
A15-43	SBR BIT 9	10 +
A15-44	DES 6	22 -
A15-45	AREA 7	19 -
A15-46	DES 5	22 -
A15-47	I/F IN BIT 9	-
A15-48	INT VEC BIT 15	21 -
A15-49	DES 7	22 -
A15-50	PES 5	22 -
A15-51	PES 4	22 -
A15-52	PES 6	22 -
A15-53	DES 4	22 -
A15-54	INT VEC BIT 12	21 -
A15-55	I/F IN BIT 4	-
A15-56	CES 12	XX -
A15-57	I/F IN BIT 7	-
A15-58	I/F IN BIT 5	-
A15-59	I/O IN BIT 12	15 +
A15-60	I/O IN BIT 15	15 +
A15-61	INT ACK	18 -
A15-62	SENSE DEV	19 -
A16-1	POWER SUPPLY CONN	16
A16-2	POWER SUPPLY CONN	16
A16-3	POWER SUPPLY CONN	16
A16-4	POWER SUPPLY CONN	16
A16-5	CS LEVEL	12 -
A16-6	EXT BIT 0	11 +
A16-7	ALU S2	16 +
A16-8	E2 CYCLE	18 +
A16-9	OP BIT 10	13 -
A16-10	DBL PREC OP MOD 2	7 +
A16-11	TEMP CARRY	14 +
A16-12	ADDOP	18 +
A16-13	ALU S0	16 +
A16-14	NO CONNECTION	16
A16-15	ACC BIT 15	11 +

DRAWN		CHECKED		DO NOT SCALE THIS PRINT		THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM, IN OR DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.		COMPUTER HARDWARE INC.		
DESIGN		SCALE								
DASH	FILE NUMBER					126	167	SA	3979	A
TITLE										

POINT	SIGNAL	
A16-16	OP BIT 13	13 -
A16-17	OP BIT 11	13 -
A16-18	XIO	18 -
A16-19	OP BIT 15	13 -
A16-20	NO CONNECTION	16
A16-21	IXR ADD 1	16 +
A16-22	LDS MODIFIED	16 +
A16-23	GATE STG TO OPR	16 +
A16-24	INI VEC BIT 0	21 -
A16-25	OP BIT 14	13 -
A16-26	GATE EXT TO ACC	17 -
A16-27	GATE KDR IO ACC	20 +
A16-28	CCC = 1	14 -
A16-29	GATE I/O TO SBR + ACC	17 -
A16-30	OR	18 -
A16-31	GATE ALU TO ACC	17 -
A16-32	BSC	18 -
A16-33	I0 + X0 RESET	20 -
A16-34	OVERFLOW	14 -
A16-35	RESET OPR	16 -
A16-36	OP BIT 4	12 -
A16-37	CARRY TO ALU	16 +
A16-38	SHOP SHIFT	14 +
A16-39	ACC S0	16 +
A16-40	SKIP COND	16 +
A16-41	MPY SHIFT	14 -
A16-42	I1 CYCLE	18 -
A16-43	AND	18 -
A16-44	CMPOP	18 +
A16-45	ALU S3	16 +
A16-46	MD SUB	14 +
A16-47	LDS	18 +
A16-48	E CYCLES	18 -
A16-49	ACC = 0	11 -
A16-50	ALU MODE	16 +
A16-51	SISE AND NOT SP	15 +
A16-52	INT BSI I1 I2	18 +
A16-53	ACC S1	16 +
A16-54	EXT S0	16 +
A16-55	EXT S1	16 +
A16-56	ALU S1	16 +
A16-57	OVERFLOW ENAB RST	16 +
A16-58	ACC BIT 0 SERIAL IN	16 +
A16-59	RROP	18 -
A16-60	CARRY	14 -

DRAWN	CHECKED	D. NOT SCALE THIS PRINT	INFORMATION REPRODUCING OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISSEMINATION TO OTHERS IS FORBIDDEN EXCEPT BY WRITING PERMISSION FROM COMPUTER HARDWARE INC.	COMPUTER HARDWARE INC.
DESIGN	SCALE			
DWG. NO.	SHEET	FILE	DWG. NO.	REV.
	127	SA	3879	A
	167			

POINT	SIGNAL	
A16-61	LAST I	18 -
A16-62	MPY E2	16 +
A17-1	POWER SUPPLY CONN	17
A17-2	POWER SUPPLY CONN	17
A17-3	POWER SUPPLY CONN	17
A17-4	POWER SUPPLY CONN	17
A17-5	DIOP	18 -
A17-6	SLC HOLD T7	14 -
A17-7	SPARE	17
A17-8	NO CONNECTION	17
A17-9	GATE DISP TO TAC	17 -
A17-10	SPARE	17
A17-11	SPARE	17
A17-12	TAG X = 0	13 +
A17-13	GATE I/O TO DRG	18 -
A17-14	NO CONNECTION	17
A17-15	GATE IXR TO CCC	14 -
A17-16	GATE DISP TO DRG	17 -
A17-17	LOAD DRG GATE	17 +
A17-18	TAG X = 7	13 +
A17-19	GATE IXR TO OPR	16 -
A17-20	TAG Y = 7	13 -
A17-21	LOAD TAC GATE	17 +
A17-22	TAG Y = 0	13 -
A17-23	MDM	18 +
A17-24	SHOPS	18 +
A17-25	RROP	18 -
A17-26	GATE I/O TO SBR + ACC	17 -
A17-27	X 5	12 +
A17-28	INDST	18 -
A17-29	GATE ACC TO BUS	17 -
A17-30	DO NOT USE	17
A17-31	T 1	13 -
A17-32	GATE KDR TO SBR	20 -
A17-33	CCC = 0	14 -
A17-34	SPARE	17
A17-35	T 4	13 -
A17-36	DIV E	16 +
A17-37	GATE STAT TO SBR	17 -
A17-38	EMCSL 123	10 -
A17-39	GATE I/O TO SBR	18 -
A17-40	TAG	12 +
A17-41	LOAD SBR GATE	17 +
A17-42	IA CYCLE	18 -
A17-43	L0X	18 -

DATE	FILE NUMBER	DRAWN	CHECKED	DO NOT SCALE THIS PRINT	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISSEMINATION TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	COMPUTER HARDWARE INC.	
		DESIGN	SCALE				
				128 167	SA	DWG. NO. 3879	REV A

POINT	SIGNAL	
A17-44	X 7	12 +
A17-45	STO	18 -
A17-46	II CYCLE	18 -
A17-47	CS LEVEL	12 -
A17-48	NO EA OP MOD1	7 -
A17-49	GATE EXT TO ACC	17 -
A17-50	E2 CYCLE	18 +
A17-51	SPARE	17
A17-52	RROP	18 +
A17-53	T 3	13 -
A17-54	GATE MAR TO BUS	17 -
A17-55	GATE IXR TO BUS	17 -
A17-56	ADV TCP	13 +
A17-57	LOAD MAR STB	17 -
A17-58	GATE SBR TO IXR P2	17 -
A17-59	SPARE	17
A17-60	GATE CCC TO IXR	14 -
A17-61	READ+WRITE	19 +
A17-62	STG PROT OPTION	17 +
A18-1	POWER SUPPLY CONN	18
A18-2	POWER SUPPLY CONN	18
A18-3	POWER SUPPLY CONN	18
A18-4	POWER SUPPLY CONN	18
A18-5	BSI	18 -
A18-6	CMP CHK	18 -
A18-7	END OP	18 +
A18-8	IA CYCLE	18 -
A18-9	INH STOR	18 -
A18-10	OP BIT 8	13 -
A18-11	LAMP BUS 4	-
A18-12	E1 CYCLE	18 -
A18-13	XIO	18 -
A18-14	LAMP BUS 2	-
A18-15	II CYCLE	18 -
A18-16	LAMP BUS 5	-
A18-17	LAMP BUS 0	-
A18-18	LAMP BUS 1	-
A18-19	LAMP BUS 3	-
A18-20	T 7	13 -
A18-21	I1 CYCLE	18 -
A18-22	LDX OP BIT 10	15 -
A18-23	I2 CYCLE	18 -
A18-24	DC RESET	20 +
A18-25	CONSOLE S-112	22 -
A18-26	ADV CS CLOCK	12 +

DASH	FILE NUMBER	DRAWN	CHECKED	DO NOT SCALE THIS PRINT	<small>THIS PRINT CONTAINS PROPRIETARY INFORMATION. PERMISSION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>	COMPUTER HARDWARE INC.
TITLE		DESIGN	SCALE			
					SHEET 129 167	DRAW NO SA 3879 A

POINT	SIGNAL	
A18-27	GEN ADD BIT 15	18 +
A18-28	CMP CHK IND	18 -
A18-29	SHOP SHIFT	14 -
A18-30	E2 CYCLE	18 +
A18-31	SLC HOLD T7	14 -
A18-32	KEY ACTIVE	20 +
A18-33	DIV CMP HOLD T7	14 -
A18-34	CCC = 1	14 -
A18-35	MPY HOLD T7	18 -
A18-36	E CYCLES	18 -
A18-37	INT BSI I1 I2	18 +
A18-38	MPY SHIFT	14 -
A18-39	INT REQ	21 -
A18-40	LAST I	18 -
A18-41	OP HIT 9	13 -
A18-42	ADV ICP	13 +
A18-43	SS MODE	12 -
A18-44	START REQ INT BSI	18 -
A18-45	T 3	13 -
A18-46	INH INTERRUPT	15 +
A18-47	DO NOT USE	18
A18-48	RUN	13 -
A18-49	RUN S-112	22 -
A18-50	COND RUN	18 +
A18-51	T 6	13 -
A18-52	GATE INT	18 +
A18-53	SYSCP REF p1	12 -
A18-54	GATE I/O TO DRG	13 -
A18-55	SEL HEXD B	18 +
A18-56	SISE	18 +
A18-57	STD	18 -
A18-58	BSIE	18 +
A18-59	ADDOP	18 +
A18-60	LDOP	18 +
A18-61	SUBOP	18 +
A18-62	CMPOP	18 +
A19-1	POWER SUPPLY CONN	19
A19-2	POWER SUPPLY CONN	19
A19-3	POWER SUPPLY CONN	19
A19-4	POWER SUPPLY CONN	19
A19-5	I/F CS DATA STORE	24 -
A19-6	I/F PWR ON RST	19 -
A19-7	I/F OUT BIT 3	19 -
A19-8	SBR BIT 3	9 +
A19-9	SP CHECK	20 +

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DESIGN		SCALE							
DASH	FILE NUMBER					SHEET		DWG. NO.	
TITLE						130 167 SA		3879 A	

POINT	SIGNAL	
A19-10	CHECK STOP S-111	22 -
A19-11	I/F STG PRT ERR	19 -
A19-12	SBR BIT 7	9 +
A19-13	INH CS REQ	XX -
A19-14	I/F OUT BIT 7	19 -
A19-15	PROG LOAD	20 +
A19-16	SBR BIT 13	10 +
A19-17	I/F PROG LOAD	19 -
A19-18	I/F OUT BIT 13	19 -
A19-19	I/F INH CS REQ	19 +
A19-20	I/F OUT BIT 5	19 -
A19-21	SBR BIT 5	9 +
A19-22	I/F PROG LOAD BUSY	24 -
A19-23	I/F RESET EXTEND	24 -
A19-24	PWR ON RST	19 -
A19-25	END OP	18 +
A19-26	I/F BLOCK CLOCK	-
A19-27	CPU CLOCK	18 -
A19-28	I/F IN BIT 2	-
A19-29	I/F IN BIT 0	-
A19-30	GATE ILSW	19 +
A19-31	I/F CPU CLOCK	19 +
A19-32	I/F FUNC CLEAR	19 -
A19-33	SBR BIT 11	10 +
A19-34	CS LEVEL	12 +
A19-35	I/F OUT BIT 11	19 -
A19-36	OP CHECK	20 +
A19-37	I/F CS REQ	24 -
A19-38	I/F OUT BIT 15	19 -
A19-39	I/F IN BIT 1	-
A19-40	I/F CS CYCLE	19 -
A19-41	POLL	19 +
A19-42	INT REQ A	-
A19-43	XIO	18 -
A19-44	ACT LVL A	21 -
A19-45	X 0	12 -
A19-46	INT VEC BIT 15	21 +
A19-47	SBR BIT 15	10 +
A19-48	I/F PHASE A	19 -
A19-49	INT VEC BIT 13	21 +
A19-50	PHASE A REF	12 -
A19-51	I/F E2+E3	19 +
A19-52	SENSE OP	19 -
A19-53	PAR CHK	20 +
A19-54	T 0	13 -

DRAWN		CHECKED		DO NOT SCALE THIS PRINT		THIS DRAWING CONTAINS PROPRIETARY INFORMATION. PERMISSION BY THIS POINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY EXPRESS WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.		COMPUTER HARDWARE INC.	
DESIGN		SCALE							
DASH	FILE NUMBER					SHEET 136 167	TITLE SA	DWG. NO. 3879	REV. A

POINT	SIGNAL	
A19-55	I/F PARITY ERR	19 -
A19-56	SBR BIT 1	9 +
A19-57	I/F OUT BIT 1	19 -
A19-58	I/F E1+E3	19 +
A19-59	INT VEC BIT 12	21 +
A19-60	INT VEC BIT 14	21 +
A19-61	I/F OUT BIT 9	19 -
A19-62	SBR BIT 9	10 +
A20-1	POWER SUPPLY CONN	20
A20-2	POWER SUPPLY CONN	20
A20-3	POWER SUPPLY CONN	20
A20-4	POWER SUPPLY CONN	20
A20-5	GATE MD TO SBR	20 +
A20-6	RUN LAMP	20 -
A20-7	KEY 4	22 -
A20-8	KEY 3	22 -
A20-9	LOAD STG S-306	22 -
A20-10	LOAD ACC S-309	22 -
A20-11	KEY 6	22 -
A20-12	DISP STG S-303	22 -
A20-13	PROG LOAD S-311	22 -
A20-14	KEY 5	22 -
A20-15	CONS INT S-310	22 -
A20-16	CONSOLE S-112	22 -
A20-17	KEY 7	22 -
A20-18	KEY 2	22 -
A20-19	KEY 0	22 -
A20-20	NO CONNECTION	20
A20-21	SS MODE	12 -
A20-22	KEY 1	22 -
A20-23	KEY A	22 -
A20-24	CLEAR BUS T7	20 -
A20-25	GATE KDR TO ACC	20 +
A20-26	DC RESET P2	20 -
A20-27	GATE KDR TO IAR	20 -
A20-28	KEY 9	22 -
A20-29	CONSOLE INT	20 -
A20-30	T 0	13 -
A20-31	OP CHECK	20 +
A20-32	PHASE A REF	12 -
A20-33	OP CHECK	20 -
A20-34	MD BIT 16	6 -
A20-35	T 5	13 -
A20-36	CLEAR MODE	20 -
A20-37	T 3	13 -

DESIGN	FILE NUMBER	DRAWN	CHECKED	DO NOT SCALE THIS PRINT	<small>THIS IS NOT FEDERAL PROPRIETARY INFORMATION. REPRODUCTION OF THIS FILE OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE OR REFERENCE TO IT IS UNLAWFUL WITHOUT WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>	COMPUTER HARDWARE INC.
TITLE		DESIGN	SCALE			

POINT	SIGNAL		
A20-38	X 5	12	+
A20-39	T0 + X0 RESET	20	-
A20-40	PROG CTL RST S-300	22	-
A20-41	ENOP 1 (SP CHECK)	XX	+
A20-42	X 3	12	-
A20-43	GATE KDR TO BUS	20	-
A20-44	KEY DATA CLOCK	20	+
A20-45	CLEAR STG S-304	22	-
A20-46	I/E PROG LOAD BUSY	24	-
A20-47	PAR CHK	20	+
A20-48	RUN	13	-
A20-49	PAR CHK	20	-
A20-50	X 0	12	-
A20-51	KEY ACTIVE	20	+
A20-52	KEY REG DATA	20	+
A20-53	SP CHECK	20	+
A20-54	START REQ P1	20	-
A20-55	SP CHECK	20	-
A20-56	SYSCP REF P2	12	-
A20-57	PROG LOAD	20	+
A20-58	LOAD IAR S-300	22	-
A20-59	KEY B	22	-
A20-60	KEY B	22	-
A20-61	KEY D	22	-
A20-62	KEY C	22	-
A21-1	POWER SUPPLY CONN	21	
A21-2	ENAB LAMP MPX	XX	-
A21-3	POWER SUPPLY CONN	21	
A21-4	POWER SUPPLY CONN	21	
A21-5	NO CONNECTION	21	
A21-6	NO CONNECTION	21	
A21-7	GATE INT	18	+
A21-8	DC RESEL P2	20	-
A21-9	RESEL INT	18	-
A21-10	NO CONNECTION	21	
A21-11	LAMP BUS 15		-
A21-12	LAMP BUS 9		-
A21-13	ACT LVL A	21	-
A21-14	GATE LAMPS P0	21	-
A21-15	LAMP BUS 8		-
A21-16	GATE LAMPS P1	21	-
A21-17	GATE LAMPS P2	21	-
A21-18	LAMP MPX B	21	+
A21-19	GATE LAMPS P3	21	-
A21-20	LAMP BUS 14		-

DASH	FILE NUMBER	DRAWN	CHECKED	DO NOT SCALE THIS PRINT	<small>THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN WITHOUT THE WRITTEN PERMISSION OF THIS COMPANY IS STRICTLY PROHIBITED. EXCEPT BY SPECIAL WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>	COMPUTER HARDWARE INC.	
		DESIGN	SCALE				
TITLE					SHEET 133 OF 167	DWG. NO. 3879	REV. A

POINT	SIGNAL		
A21-21	GATE LAMPS P4	21	-
A21-22	GATE LAMPS P5	21	-
A21-23	ACT LVL B	21	-
A21-24	GATE LAMPS P6	21	-
A21-25	GATE LAMPS P7	21	-
A21-26	ENAB LAMP MPX	XX	-
A21-27	GATE LAMPS P8	21	-
A21-28	ACT LVL 3	21	-
A21-29	ACT LVL 0	21	-
A21-30	NO CONNECTION	21	
A21-31	LAMP MPX A	21	+
A21-32	SBR BIT 12	10	+
A21-33	ACT LVL 1	21	-
A21-34	LAMP MPX C	21	+
A21-35	ACT LVL 4	21	-
A21-36	LAMP MPX D	21	+
A21-37	GATE LAMPS P9-F	21	-
A21-38	NO CONNECTION	21	
A21-39	T 1	13	-
A21-40	INT REQ	21	-
A21-41	SBR BIT 11	10	+
A21-42	SBR BIT 13	10	+
A21-43	SBR BIT 10	10	+
A21-44	T 3	13	-
A21-45	INT VEC BIT 15	21	-
A21-46	GATE ILSW	19	+
A21-47	ACT LVL 5	21	-
A21-48	INT VEC BIT 14	21	+
A21-49	INT VEC BIT 15	21	+
A21-50	LAMP BUS 13		-
A21-51	LAMP BUS 11		-
A21-52	ACT LVL 2	21	-
A21-53	NO CONNECTION	21	
A21-54	INT VEC BIT 14	21	-
A21-55	LAMP BUS 12		-
A21-56	T 0	13	-
A21-57	LAMP BUS 10		-
A21-59	NO CONNECTION	21	
A21-60	NO CONNECTION	21	
A21-61	X 0	12	-
A21-62	NO CONNECTION	21	
A22-1	POWER SUPPLY CONN	22	
A22-2	POWER SUPPLY CONN	22	
A22-3	POWER SUPPLY CONN	22	
A22-4	POWER SUPPLY CONN	22	

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TITLE	FILE NUMBER	DATE	REV		
			134 167 SA	DWG. NO. 3879	REV A

POINT	SIGNAL	
A22-5	HEX BIT 0	9 +
A22-6	OP CHECK	20 -
A22-7	HEX BIT 2	9 +
A22-8	WAIT	18 -
A22-9	HEX BIT 7	9 +
A22-10	RUN LAMP	20 -
A22-11	HEX BIT 15	10 +
A22-12	SPARE LAMP	XX -
A22-13	HEX BIT 11	10 +
A22-14	RESET S-308	22 -
A22-15	HEX BIT 3	9 +
A22-16	SES 0	22 -
A22-17	HEX BIT 1	9 +
A22-18	SES 1	22 -
A22-19	HEXD ENAB	18 -
A22-20	SES 2	22 -
A22-21	HEX BIT 5	9 +
A22-22	SES 3	22 -
A22-23	HEX BIT 10	10 +
A22-24	INT DISABLE S-109	22 -
A22-25	HEX BIT 8	10 +
A22-26	DES 2	22 -
A22-27	HEX BIT 13	10 +
A22-28	DES 3	22 -
A22-29	KEY 0	22 -
A22-30	DES 4	22 -
A22-31	KEY 1	22 -
A22-32	DES 5	22 -
A22-33	WRT STG PRT S-110	22 -
A22-34	DES 6	22 -
A22-35	PES 4	22 -
A22-36	DES 7	22 -
A22-37	PES 5	22 -
A22-38	DES 8	22 -
A22-39	PES 6	22 -
A22-40	DES 9	22 -
A22-41	PES 7	22 -
A22-42	DES 10	22 -
A22-43	CHECK STOP S-111	22 -
A22-44	DES 11	22 -
A22-45	S STEP S-112	22 -
A22-46	LAMP BUS 5	-
A22-47	MAR CMP S-112	22 -
A22-48	LAMP BUS 1	-
A22-49	S CYCLE S-112	22 -

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DESIGN		SCALE								
DWG. NO.	FILE NUMBER									
TITLE										
						135 167 SA		3879 A		

POINT	SIGNAL	
A22-50	LAMP BUS 16	-
A22-51	DISP/SP S-112	22 -
A22-52	LAMP BUS 15	-
A22-53	LAMP BUS 0	-
A22-54	LAMP BUS 3	-
A22-55	LAMP BUS 2	-
A22-56	LAMP BUS 4	-
A22-57	NO CONNECTION	22
A22-58	LAMP BUS 8	-
A22-59	NO CONNECTION	22
A22-60	LAMP BUS 17	-
A22-61	NO CONNECTION	22
A22-62	LAMP BUS 7	-
B01-1	DO NOT USE	1
B01-2	DO NOT USE	1
B01-3	DO NOT USE	1
B01-4	DO NOT USE	1
B01-5	MEM ADD 15	8 -
B01-6	DO NOT USE	1
B01-7	DO NOT USE	1
B01-8	MEM ADD 14	8 -
B01-9	DO NOT USE	1
B01-10	MEM ADD 10	7 -
B01-11	MEM ADD 13	6 -
B01-12	MEM ADD 6	8 -
B01-13	MEM ADD 12	7 -
B01-14	MEM ADD 3	8 -
B01-15	MEM ADD 4	8 -
B01-16	MEM ADD 5	8 -
B01-17	DO NOT USE	1
B01-18	MEM ADD 11	7 -
B01-19	DO NOT USE	1
B01-20	DO NOT USE	1
B01-21	MEM ADD 9	7 -
B01-22	NO CONNECTION	1
B01-23	MEM ADD 2	8 -
B01-24	NO CONNECTION	1
B01-25	MEM ADD 8	7 -
B01-26	NO CONNECTION	1
B01-27	MEM ADD 7	10 -
B01-28	NO CONNECTION	1
B01-29	MEM ADD 1	8 -
B01-30	NO CONNECTION	1
B01-31	MEM ADD 0	8 -
B01-32	NO CONNECTION	1

DASH	FILE NUMBER	DRAWN	CHECKED	DO NOT SCALE THIS PRINT	<small>THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>	COMPUTER HARDWARE INC.
DATE		DESIGN	SCALE			
					<small>SCALE</small> 136 of 167 SA	<small>DWG NO.</small> 3879
						<small>REV</small> A

POINT	SIGNAL	
B01-33	NO CONNECTION	1
B01-34	NO CONNECTION	1
B01-35	MEM DATA BUS 12	6 +
B01-36	NO CONNECTION	1
B01-37	MEM DATA BUS 13	6 +
B01-38	NO CONNECTION	1
B01-39	MEM DATA BUS 14	6 +
B01-40	NO CONNECTION	1
B01-41	MEM DATA BUS 15	6 +
B01-42	CAS COL ADD STROBE	8 -
B01-43	MEM DATA BUS 16	6 +
B01-44	MAP REG OUT 5	7 +
B01-45	MEM DATA BUS 17	6 +
B01-46	MAP REG OUT 6	7 +
B01-47	MEM DATA BUS 4	6 +
B01-48	MEM DATA BUS 5	6 +
B01-49	MEM DATA BUS 6	6 +
B01-50	MEM DATA BUS 7	6 +
B01-51	MEM DATA BUS 8	6 +
B01-52	MEM DATA BUS 9	6 +
B01-53	MAP REG OUT 7	7 +
B01-54	MAP REG OUT 8	7 +
B01-55	MAP REG OUT 9	7 +
B01-56	MAP REG OUT 10	7 +
B01-57	POS 12VDC B	
B01-58	POS 12VDC B	
B01-59	POWER SUPPLY CONN	1
B01-60	POWER SUPPLY CONN	1
B01-61	POWER SUPPLY CONN	1
B01-62	POWER SUPPLY CONN	1
B02-1	DO NOT USE	2
B02-2	DO NOT USE	2
B02-3	DO NOT USE	2
B02-4	DO NOT USE	2
B02-5	MEM ADD 15	8 -
B02-6	DO NOT USE	2
B02-7	DO NOT USE	2
B02-8	MEM ADD 14	8 -
B02-9	DO NOT USE	2
B02-10	MEM ADD 10	7 -
B02-11	MEM ADD 13	8 -
B02-12	MEM ADD 6	8 -
B02-13	MEM ADD 12	7 -
B02-14	MEM ADD 3	8 -
B02-15	MEM ADD 4	8 -

DATE	FILE NUMBER	DRAWN	CHECKED	DO NOT SCALE THIS PRINT	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION BY THIS FIRM OR ANY SUBSEQUENT CONTAINING HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISSEMINATION TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	COMPUTER HARDWARE INC.
DATE	FILE NUMBER	DESIGN	SCALE			
				SHEET	REV	DWG. NO.
				137 167	SA	3879
						A

POINT	SIGNAL	
B02-16	MEM ADD 5	8 -
B02-17	DO NOT USE	2
B02-18	MEM ADD 11	7 -
B02-19	DO NOT USE	2
B02-20	DO NOT USE	2
B02-21	MEM ADD 9	7 -
B02-22	NO CONNECTION	2
B02-23	MEM ADD 2	8 -
B02-24	NO CONNECTION	2
B02-25	MEM ADD 8	7 -
B02-26	NO CONNECTION	2
B02-27	MEM ADD 7	10 -
B02-28	NO CONNECTION	2
B02-29	MEM ADD 1	8 -
B02-30	NO CONNECTION	2
B02-31	MEM ADD 0	8 -
B02-32	NO CONNECTION	2
B02-33	NO CONNECTION	2
B02-34	NO CONNECTION	2
B02-35	MEM DATA BUS 12	6 +
B02-36	NO CONNECTION	2
B02-37	MEM DATA BUS 13	6 +
B02-38	NO CONNECTION	2
B02-39	MEM DATA BUS 14	6 +
B02-40	NO CONNECTION	2
B02-41	MEM DATA BUS 15	6 +
B02-42	NO CONNECTION	2
B02-43	MEM DATA BUS 16	6 +
B02-44	NO CONNECTION	2
B02-45	MEM DATA BUS 17	6 +
B02-46	NO CONNECTION	2
B02-47	MEM DATA BUS 4	6 +
B02-48	MEM DATA BUS 5	6 +
B02-49	MEM DATA BUS 6	6 +
B02-50	MEM DATA BUS 7	6 +
B02-51	MEM DATA BUS 8	6 +
B02-52	MEM DATA BUS 9	6 +
B02-53	NO CONNECTION	2
B02-54	NO CONNECTION	2
B02-55	NO CONNECTION	2
B02-56	NO CONNECTION	2
B02-57	POS 12VDC B	
B02-58	POS 12VDC B	
B02-59	POWER SUPPLY CONN	2
B02-60	POWER SUPPLY CONN	2

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DESIGN		SCALE								
DASH	FIRE NUMBER									
TITLE						138	167	SA	3879	A

POINT	SIGNAL	
B02-61	POWER SUPPLY CONN	2
B02-62	POWER SUPPLY CONN	2
B03-1	DO NOT USE	3
B03-2	DO NOT USE	3
B03-3	DO NOT USE	3
B03-4	DO NOT USE	3
B03-5	MEM ADD 15	8 -
B03-6	DO NOT USE	3
B03-7	DO NOT USE	3
B03-8	MEM ADD 14	8 -
B03-9	DO NOT USE	3
B03-10	MEM ADD 10	7 -
B03-11	MEM ADD 13	8 -
B03-12	MEM ADD 6	8 -
B03-13	MEM ADD 12	7 -
B03-14	MEM ADD 3	8 -
B03-15	MEM ADD 4	8 -
B03-16	MEM ADD 5	8 -
B03-17	DO NOT USE	3
B03-18	MEM ADD 11	7 -
B03-19	DO NOT USE	3
B03-20	DO NOT USE	3
B03-21	MEM ADD 9	7 -
B03-22	NO CONNECTION	3
B03-23	MEM ADD 2	8 -
B03-24	NO CONNECTION	3
B03-25	MEM ADD 8	7 -
B03-26	NO CONNECTION	3
B03-27	MEM ADD 7	10 -
B03-28	NO CONNECTION	3
B03-29	MEM ADD 1	8 -
B03-30	NO CONNECTION	3
B03-31	MEM ADD 0	8 -
B03-32	NO CONNECTION	3
B03-33	NO CONNECTION	3
B03-34	NO CONNECTION	3
B03-35	MEM DATA BUS 12	6 +
B03-36	NO CONNECTION	3
B03-37	MEM DATA BUS 13	6 +
B03-38	NO CONNECTION	3
B03-39	MEM DATA BUS 14	6 +
B03-40	NO CONNECTION	3
B03-41	MEM DATA BUS 15	6 +
B03-42	NO CONNECTION	3
B03-43	MEM DATA BUS 16	6 +

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DESIGN		SCALE									
DWG. NO.	JOB NUMBER										
TITLE						SHEET SIZE		DWG. NO.		REV.	
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POINT	SIGNAL	
B03-44	NO CONNECTION	3
B03-45	MEM DATA BUS 17	6 +
B03-46	NO CONNECTION	3
B03-47	MEM DATA BUS 4	6 +
B03-48	MEM DATA BUS 5	6 +
B03-49	MEM DATA BUS 6	6 +
B03-50	MEM DATA BUS 7	6 +
B03-51	MEM DATA BUS 8	6 +
B03-52	MEM DATA BUS 9	6 +
B03-53	NO CONNECTION	3
B03-54	NO CONNECTION	3
B03-55	NO CONNECTION	3
B03-56	NO CONNECTION	3
B03-57	POS 12VDC B	
B03-58	POS 12VDC B	
B03-59	POWER SUPPLY CONN	3
B03-60	POWER SUPPLY CONN	3
B03-61	POWER SUPPLY CONN	3
B03-62	POWER SUPPLY CONN	3
B04-1	DO NOT USE	4
B04-2	DO NOT USE	4
B04-3	DO NOT USE	4
B04-4	DO NOT USE	4
B04-5	MEM ADD 15	8 -
B04-6	DO NOT USE	4
B04-7	DO NOT USE	4
B04-8	MEM ADD 14	8 -
B04-9	DO NOT USE	4
B04-10	MEM ADD 10	7 -
B04-11	MEM ADD 13	8 -
B04-12	MEM ADD 6	8 -
B04-13	MEM ADD 12	7 -
B04-14	MEM ADD 3	8 -
B04-15	MEM ADD 4	8 -
B04-16	MEM ADD 5	8 -
B04-17	DO NOT USE	4
B04-18	MEM ADD 11	7 -
B04-19	DO NOT USE	4
B04-20	DO NOT USE	4
B04-21	MEM ADD 9	7 -
B04-22	NO CONNECTION	4
B04-23	MEM ADD 2	8 -
B04-24	NO CONNECTION	4
B04-25	MEM ADD 8	7 -
B04-26	NO CONNECTION	4

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		DESIGN	SCALE								
TITLE				SHEET	140 167	SIZE	SA	DWG. NO.	3879	REV.	A

POINT	SIGNAL	
B04-27	MEM ADD 7	10 -
B04-28	NO CONNECTION	4
B04-29	MEM ADD 1	8 -
B04-30	NO CONNECTION	4
B04-31	MEM ADD 0	8 -
B04-32	NO CONNECTION	4
B04-33	NO CONNECTION	4
B04-34	NO CONNECTION	4
B04-35	MEM DATA BUS 12	6 +
B04-36	NO CONNECTION	4
B04-37	MEM DATA BUS 13	6 +
B04-38	NO CONNECTION	4
B04-39	MEM DATA BUS 14	6 +
B04-40	NO CONNECTION	4
B04-41	MEM DATA BUS 15	6 +
B04-42	NO CONNECTION	4
B04-43	MEM DATA BUS 16	6 +
B04-44	NO CONNECTION	4
B04-45	MEM DATA BUS 17	6 +
B04-46	NO CONNECTION	4
B04-47	MEM DATA BUS 4	6 +
B04-48	MEM DATA BUS 5	6 +
B04-49	MEM DATA BUS 6	6 +
B04-50	MEM DATA BUS 7	6 +
B04-51	MEM DATA BUS 8	6 +
B04-52	MEM DATA BUS 9	6 +
B04-53	NO CONNECTION	4
B04-54	NO CONNECTION	4
B04-55	NO CONNECTION	4
B04-56	NO CONNECTION	4
B04-57	POS 12VDC B	
B04-58	POS 12VDC B	
B04-59	POWER SUPPLY CONN	4
B04-60	POWER SUPPLY CONN	4
B04-61	POWER SUPPLY CONN	4
B04-62	POWER SUPPLY CONN	4
B05-1	DO NOT USE	5
B05-2	DO NOT USE	5
B05-3	DO NOT USE	5
B05-4	DO NOT USE	5
B05-5	MEM ADD 15	8 -
B05-6	DO NOT USE	5
B05-7	DO NOT USE	5
B05-8	MEM ADD 14	8 -
B05-9	DO NOT USE	5

DASH	FILE NUMBER	DRAWN	CHECKED	DO NOT SCALE THIS PRINT	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION IN THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS PROHIBITED EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	COMPUTER HARDWARE INC.
TITLE		DESIGN	SCALE			
					141 or 167	SA 3879 A

	POINT	SIGNAL	
1	B05-10	MEM ADD 10	7 -
3	B05-11	MEM ADD 13	8 -
5	B05-12	MEM ADD 6	8 -
7	B05-13	MEM ADD 12	7 -
8	B05-14	MEM ADD 3	8 -
9	B05-15	MEM ADD 4	8 -
0	B05-16	MEM ADD 5	8 -
1	B05-17	DO NOT USE	5
2	B05-18	MEM ADD 11	7 -
3	B05-19	DO NOT USE	5
4	B05-20	DO NOT USE	5
5	B05-21	MEM ADD 9	7 -
6	B05-22	NO CONNECTION	5
7	B05-23	MEM ADD 2	8 -
8	B05-24	NO CONNECTION	5
9	B05-25	MEM ADD 8	7 -
0	B05-26	NO CONNECTION	5
1	B05-27	MEM ADD 7	10 -
2	B05-28	NO CONNECTION	5
3	B05-29	MEM ADD 1	8 -
4	B05-30	NO CONNECTION	5
5	B05-31	MEM ADD 0	8 -
6	B05-32	NO CONNECTION	5
7	B05-33	NO CONNECTION	5
8	B05-34	NO CONNECTION	5
9	B05-35	MEM DATA BUS 12	6 +
0	B05-36	NO CONNECTION	5
1	B05-37	MEM DATA BUS 13	6 +
2	B05-38	NO CONNECTION	5
3	B05-39	MEM DATA BUS 14	6 +
4	B05-40	NO CONNECTION	5
5	B05-41	MEM DATA BUS 15	6 +
6	B05-42	NO CONNECTION	5
7	B05-43	MEM DATA BUS 16	6 +
8	B05-44	NO CONNECTION	5
9	B05-45	MEM DATA BUS 17	6 +
0	B05-46	NO CONNECTION	5
1	B05-47	MEM DATA BUS 4	6 +
2	B05-48	MEM DATA BUS 5	6 +
3	B05-49	MEM DATA BUS 6	6 +
4	B05-50	MEM DATA BUS 7	6 +
5	B05-51	MEM DATA BUS 8	6 +
6	B05-52	MEM DATA BUS 9	6 +
7	B05-53	NO CONNECTION	5
8	B05-54	NO CONNECTION	5

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DESIGN		SCALE							
DASH	FILE NUMBER								
TITLE									
				SHEET 142		TOTAL SIZE 167 SA		DWG NO 3879 A	

POINT	SIGNAL	
B05-55	NO CONNECTION	5
B05-56	NO CONNECTION	5
B05-57	POS 12VDC B	
B05-58	POS 12VDC B	
B05-59	POWER SUPPLY CONN	5
B05-60	POWER SUPPLY CONN	5
B05-61	POWER SUPPLY CONN	5
B05-62	POWER SUPPLY CONN	5
B06-1	MEM ADD 14	8 -
B06-2	INT REQ 5	-
B06-3	MACH INT A	19 -
B06-4	I/F IN BIT 6	-
B06-5	MEM ADD 15	8 -
B06-6	ACT LVL A	21 -
B06-7	X 3	12 -
B06-8	LMR E2 CYCLE	7 -
B06-9	ACT LVL 5	21 -
B06-10	RESET OPR	16 -
B06-11	DC RESET P1	20 -
B06-12	DSR CLOCK	6 +
B06-13	MAP REG ADD B	7 -
B06-14	MEM DATA BUS 10	6 +
B06-15	MAP REG ADD C	7 -
B06-16	MEM DATA BUS 12	6 +
B06-17	MAP REG OUT 3	7 +
B06-18	MEM DATA BUS 11	6 +
B06-19	I/F IN BIT 5	-
B06-20	GATE ILSW	19 +
B06-21	I/F IN BIT 7	-
B06-22	MEM DATA BUS 13	6 +
B06-23	MAP REG ADD 1	7 -
B06-24	T 6	13 -
B06-25	MAP REG ADD 0	7 -
B06-26	SYSCP REF P3	13 -
B06-27	WRITE CYCLE	8 -
B06-28	MMC E2	7 -
B06-29	MAP REG OUT 1	7 +
B06-30	MAP REG ADD A	7 -
B06-31	MAP REG ADD 2	7 -
B06-32	NO CONNECTION	6
B06-33	INH STOR	18 -
B06-34	MAP REG ADD 3	7 -
B06-35	T3X3 BUF	8 +
B06-36	MAP REG ADD 4	7 -
B06-37	CS LEVEL	12 -

DATE	FILE NUMBER	DRAWN	CHECKED	DO NOT SCALE THIS PRINT	<small>THIS DRAWING PROPERTY OF INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN IN MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISSEMINATION TO OTHERS IS PROHIB- ITED, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE, INC.</small>
11/11		DESIGN	SCALE		COMPUTER HARDWARE INC.
					SHEET 143 SIZE 167 SA DWG. NO. 3879 REV A

POINT	SIGNAL	
B06-38	NO CONNECTION	6
B06-39	MAP REG OUT 8	7 +
B06-40	NO CONNECTION	6
B06-41	MAP REG OUT 0	7 +
B06-42	MAP REG OUT 9	7 +
B06-43	MODULE SELECTED	-
B06-44	MAP REG OUT 10	7 +
B06-45	MAP REG OUT 2	7 +
B06-46	MAP REG OUT 7	7 +
B06-47	MD BIT 17	6 -
B06-48	MAP REG OUT 6	7 +
B06-49	NO CONNECTION	6
B06-50	MAP REG OUT 5	7 +
B06-51	MD BIT 16	6 -
B06-52	CAS MODULE 2	6 -
B06-53	SBR DATA RDY	7 +
B06-54	CAS MODULE 1	6 -
B06-55	CAS MODULE 4	6 -
B06-56	CAS MODULE 0	6 -
B06-57	CAS COL ADD STROBE	8 -
B06-58	CAS MODULE 3	6 -
B06-59	POWER SUPPLY CONN	6
B06-60	POWER SUPPLY CONN	6
B06-61	POWER SUPPLY CONN	6
B06-62	POWER SUPPLY CONN	6
B07-1	MAP REG OUT 1	7 +
B07-2	T 2	13 +
B07-3	MAP REG OUT 8	7 +
B07-4	GATE LMR TO D	7 -
B07-5	MAP REG OUT 10	7 +
B07-6	CS LEVEL	12 +
B07-7	CD BIT 7	9 -
B07-8	E CYCLES	18 -
B07-9	CD BIT 8	10 -
B07-10	INT VEC BIT 0	21 -
B07-11	DC RESET P1	20 -
B07-12	NO LVL ACT	21 +
B07-13	MAP REG ADD A	I/O -
B07-14	MEM WRITE ENAB	7 -
B07-15	CD BIT 11	10 -
B07-16	E2 CYCLE	18 +
B07-17	CD BIT 10	10 -
B07-18	WRITE CYCLE	8 +
B07-19	RESET OPR	16 -
B07-20	ENAB SAR BIT 0	15 +

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DESIGN		SCALE							
DASH	FILE NUMBER								
TITLE						SHEET 144 OF 167		TYPE SA	
								DWS. NO. 3879 A	

POINT	SIGNAL	
2		
3		
4	B07-21	MAP REG ADD C I/O -
5	B07-22	MAR BIT 0 9 +
6	B07-23	SYSCP REF P3 13 -
7	B07-24	NO CONNECTION 7 -
8	B07-25	LMR E2 CYCLE 7 -
9	B07-26	ENABLE IXRP1 7 -
10	B07-27	MAP REG ADD B I/O -
11	B07-28	NO CONNECTION 7 -
12	B07-29	LD OP + LMR 7 +
13	B07-30	ADV CS CLOCK 12 +
14	B07-31	LDOP 18 +
15	B07-32	NO CONNECTION 7 -
16	B07-33	LOAD TAC MOD 7 +
17	B07-34	MMC E2 7 -
18	B07-35	GATE DSR TO BUS 7 -
19	B07-36	LOAD TAC GATE 17 +
20	B07-37	T 4 13 -
21	B07-38	NO CONNECTION 7 -
22	B07-39	E1 CYCLE 18 -
23	B07-40	NO CONNECTION 7 -
24	B07-41	T 6 13 +
25	B07-42	NO CONNECTION 7 -
26	B07-43	DBL PREC OP MOD 2 7 +
27	B07-44	PAGE INHIBIT 7 -
28	B07-45	ILLOPS 7 -
29	B07-46	DBL PREC OP MOD1 7 +
30	B07-47	DATA READY 8 -
31	B07-48	NO EA OP MOD2 7 -
32	B07-49	SBR DATA RDY 7 +
33	B07-50	NO EA OP MOD1 7 -
34	B07-51	SPARE OP 7 -
35	B07-52	COPS+CLEAR 20 -
36	B07-53	OP BIT 4 12 -
37	B07-54	OP BIT 1 12 -
38	B07-55	OP BIT 3 12 -
39	B07-56	OP BIT 0 12 -
40	B07-57	OP BIT 2 12 -
41	B07-58	OP BIT 5 12 -
42	B07-59	POWER SUPPLY CONN 7 -
43	B07-60	POWER SUPPLY CONN 7 -
44	B07-61	POWER SUPPLY CONN 7 -
45	B07-62	POWER SUPPLY CONN 7 -
46	B08-1	EMCSL 123 10 -
47	B08-2	LMR E CYCLES 7 -
48	B08-3	MEM ADD 15 8 -
49		

DRAWN	FILE NUMBER	DESIGN	CHECKED	SCALE	DO NOT SCALE THIS PRINT	<small>THIS PRINT CONTAINS PROPRIETARY INFORMATION. PERMISSION IN THIS POINT OR ANY INFORMATION CONTAINED HEREIN OR REPRODUCTION OF ANY ARTICLE HEREFROM FOR DISSEMINATION TO OTHERS IS PROHIBITED EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>	COMPUTER HARDWARE INC.
TITLE							

POINT	SIGNAL	
B08-4	SPARE	8
B08-5	MEM ADD 1	8 -
B08-6	MAR BIT 7	9 +
B08-7	MAR BIT 9	10 +
B08-8	MAR BIT 6	9 +
B08-9	MEM ADD 0	8 -
B08-10	MEM ADD 14	8 -
B08-11	MAR BIT 8	10 +
B08-12	WRITE CYCLE	8 +
B08-13	DO NOT USE	8
B08-14	DO NOT USE	8
B08-15	DO NOT USE	8
B08-16	DATA READY	8 -
B08-17	CS LEVEL	12 +
B08-18	DO NOT USE	8
B08-19	LOAD DRG GATE	17 +
B08-20	DO NOT USE	8
B08-21	DO NOT USE	8
B08-22	DO NOT USE	8
B08-23	DO NOT USE	8
B08-24	DO NOT USE	8
B08-25	DO NOT USE	8
B08-26	DO NOT USE	8
B08-27	DO NOT USE	8
B08-28	DO NOT USE	8
B08-29	DO NOT USE	8
B08-30	DO NOT USE	8
B08-31	DO NOT USE	8
B08-32	DO NOT USE	8
B08-33	DO NOT USE	8
B08-34	WRITE CYCLE	8 -
B08-35	DO NOT USE	8
B08-36	DO NOT USE	8
B08-37	DO NOT USE	8
B08-38	DO NOT USE	8
B08-39	DO NOT USE	8
B08-40	DO NOT USE	8
B08-41	DO NOT USE	8
B08-42	DO NOT USE	8
B08-43	DO NOT USE	8
B08-44	DO NOT USE	8
B08-45	DO NOT USE	8
B08-46	DO NOT USE	8
B08-47	DO NOT USE	8
B08-48	DO NOT USE	8

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POINT	SIGNAL	
B08-49	NO CONNECTION	8
B08-50	DO NOT USE	8
B08-51	DO NOT USE	8
B08-52	DO NOT USE	8
B08-53	DO NOT USE	8
B08-54	DO NOT USE	8
B08-55	DO NOT USE	8
B08-56	RUN	13 -
B08-57	RUN*CLEAR MODE	8 -
B08-58	NO CONNECTION	8
B08-59	POWER SUPPLY CONN	8
B08-60	POWER SUPPLY CONN	8
B08-61	POWER SUPPLY CONN	8
B08-62	POWER SUPPLY CONN	8
B09-1	ACC BIT 0	11 +
B09-2	HEX BIT 0	9 +
B09-3	ACC BIT 1	11 +
B09-4	T0 + X0 RESET	20 -
B09-5	HEX BIT 2	9 +
B09-6	ACC BIT 2	11 +
B09-7	HEX BIT 3	9 +
B09-8	ACC BIT 3	11 +
B09-9	MAR CMP P1	9 +
B09-10	MAR BIT 0	9 +
B09-11	LOAD MAR STB	17 -
B09-12	NO CONNECTION	9
B09-13	ACC BIT 6	11 +
B09-14	DSR CLOCK	6 +
B09-15	HEX BIT 6	9 +
B09-16	ACC BIT 7	11 +
B09-17	HEX BIT 7	9 +
B09-18	NO CONNECTION	9
B09-19	IAR BIT 0	9 +
B09-20	SEL HEXD A	18 +
B09-21	I/O IN BIT 7	15 +
B09-22	NO CONNECTION	9
B09-23	GATE DSR TO BUS	7 -
B09-24	HEX BIT 1	9 +
B09-25	MAR BIT 5	9 +
B09-26	SEL HEXD B	18 +
B09-27	GATE MAR TO BUS	17 -
B09-28	SYSCP REF P2	12 -
B09-29	GATE KDR TO BUS	20 -
B09-30	GATE SBR TO BUS	16 -
B09-31	ACC BIT 4	11 +

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		DESIGN	SCALE					
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POINT	SIGNAL	
B09-32	MAR BIT 2	9 +
B09-33	HEX BIT 4	9 +
B09-34	I/O IN BIT 6	15 +
B09-35	HEX BIT 5	9 +
B09-36	ACC BIT 5	11 +
B09-37	I/O IN BIT 5	15 +
B09-38	I/O IN BIT 4	15 +
B09-39	NO CONNECTION	9
B09-40	NO CONNECTION	9
B09-41	ADV CS CLOCK	12 +
B09-42	NO CONNECTION	9
B09-43	I/O IN BIT 2	15 +
B09-44	MAR BIT 1	9 +
B09-45	MAR BIT 4	9 +
B09-46	I/O IN BIT 3	15 +
B09-47	GATE IAK TO BUS	17 -
B09-48	KEY DATA 8	10 +
B09-49	CSIG ADD BIT 3	9 -
B09-50	MAR BIT 7	9 +
B09-51	MAR BIT 6	9 +
B09-52	MAR 4-7 = 0	9 +
B09-53	ENAB IXR P2	9 +
B09-54	I/O IN BIT 0	15 +
B09-55	MAR CMP P2	9 +
B09-56	KEY DATA CLOCK	20 +
B09-57	I/O IN BIT 1	15 +
B09-58	HOLD CS ADD (X7)	12 +
B09-59	POWER SUPPLY CONN	9
B09-60	POWER SUPPLY CONN	9
B09-61	POWER SUPPLY CONN	9
B09-62	POWER SUPPLY CONN	9
B10-1	ACC BIT 14	11 +
B10-2	HEX BIT 10	10 +
B10-3	ACC BIT 10	11 +
B10-4	HEX BIT 11	10 +
B10-5	ACC BIT 11	11 +
B10-6	HEX BIT 14	10 +
B10-7	SEL HEXD B	18 +
B10-8	HEX BIT 15	10 +
B10-9	SEL HEXD A	18 +
B10-10	KEY DATA 8	10 +
B10-11	HEX BIT 8	10 +
B10-12	ACC BIT 15	11 +
B10-13	ACC BIT 12	11 +
B10-14	ACC BIT 9	11 +

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POINT	SIGNAL	
B10-15	HEX BIT 12	10 +
B10-16	ACC BIT 13	11 +
B10-17	HEX BIT 13	10 +
B10-18	HEX BIT 9	10 +
B10-19	ACC BIT 8	11 +
B10-20	LOAD MAR STB	17 -
B10-21	KEY REG DATA	20 +
B10-22	MAR CMP P1	9 +
B10-23	KEY DATA CLOCK	20 +
B10-24	MEM ADD 7	10 -
B10-25	MAR 4-7 = 0	9 +
B10-26	I/O IN BIT 15	15 +
B10-27	INH STOR	18 -
B10-28	I/O IN BIT 14	15 +
B10-29	ENABLE IXRP1	7 -
B10-30	MAR CMP P2	9 +
B10-31	MAR BIT 3	9 +
B10-32	I/O IN BIT 13	15 +
B10-33	MAR BIT 14	10 +
B10-34	MAR BIT 15	10 +
B10-35	EMCSL 123	10 -
B10-36	DSR CLOCK	6 +
B10-37	I/O IN BIT 12	15 +
B10-38	MAR BIT 9	10 +
B10-39	GEN ADD BIT 15	18 +
B10-40	ADV CS CLOCK	12 +
B10-41	MAR BIT 12	10 +
B10-42	GATE KDR TO BUS	20 -
B10-43	SYSCP REF P2	12 -
B10-44	GATE DSR TO BUS	7 -
B10-45	I/O IN BIT 10	15 +
B10-46	HOLD CS ADD (X7)	12 +
B10-47	MAR BIT 10	10 +
B10-48	I/O IN BIT 11	15 +
B10-49	MAR BIT 11	10 +
B10-50	MAR BIT 8	10 +
B10-51	GATE SBR TO BUS	16 -
B10-52	I/O IN BIT 9	15 +
B10-53	MAR BIT 13	10 +
B10-54	NO CONNECTION	10
B10-55	I/O IN BIT 8	15 +
B10-56	GATE IAR TO BUS	17 -
B10-57	GATE MAR TO BUS	17 -
B10-58	TO + X0 RESET	20 -
B10-59	POWER SUPPLY CONN	10

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DESIGN	SCALE			
DWG. NO.	FILE NUMBER		<small>SCALE</small> <small>FILE</small> <small>SIZE</small> 149 SA	<small>DWG. NO.</small> 3879
TITLE				<small>REV.</small> A

POINT	SIGNAL		
B10-60	POWER SUPPLY CONN	10	
B10-61	POWER SUPPLY CONN	10	
B10-62	POWER SUPPLY CONN	10	
B11-1	EXT BIT 0	11	+
B11-2	ACC BIT 15 SERIAL IN	16	+
B11-3	BUS BIT 13		+
B11-4	BUS BIT 12		+
B11-5	BUS BIT 15		+
B11-6	ACC BIT 14	11	+
B11-7	ACC BIT 8	11	+
B11-8	BUS BIT 14		+
B11-9	ACC BIT 9	11	+
B11-10	ALU = 0	11	-
B11-11	ACC BIT 10	11	+
B11-12	BUS BIT 10		+
B11-13	ACC BIT 11	11	+
B11-14	GATE ACC TO BUS	17	-
B11-15	ALU CN	14	-
B11-16	BUS BIT 8		+
B11-17	DRG = 0	11	-
B11-18	BUS BIT 11		+
B11-19	GATE EXT TO BUS	17	-
B11-20	NO CONNECTION	11	
B11-21	NO CONNECTION	11	
B11-22	NO CONNECTION	11	
B11-23	ACC BIT 12	11	+
B11-24	BUS BIT 9		+
B11-25	SYSCP REF P1	12	-
B11-26	LOAD TAC MOD	7	+
B11-27	LAMP BUS 8		-
B11-28	NO CONNECTION	11	
B11-29	LAMP BUS 10		-
B11-30	NO CONNECTION	11	
B11-31	ACC BIT 13	11	+
B11-32	NO CONNECTION	11	
B11-33	LAMP BUS 9		-
B11-34	EXT BIT 15 SERIAL IN	16	+
B11-35	LAMP BUS 11		-
B11-36	NO CONNECTION	11	
B11-37	GATE LAMPS P8	21	-
B11-38	NO CONNECTION	11	
B11-39	NO CONNECTION	11	
B11-40	NO CONNECTION	11	
B11-41	ACC BIT 15	11	+
B11-42	NO CONNECTION	11	

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POINT	SIGNAL	
B11-43	GATE MD TO DRG 8-15	8 -
B11-44	MD BIT 14	6 -
B11-45	MD BIT 8	6 -
B11-46	MD BIT 10	6 -
B11-47	LAMP BUS 14	-
B11-48	LAMP BUS 12	-
B11-49	EXT BIT 15	11 +
B11-50	EXT BIT 14	11 +
B11-51	LAMP BUS 15	-
B11-52	MD BIT 9	6 -
B11-53	LAMP BUS 13	-
B11-54	MD BIT 13	6 -
B11-55	MD BIT 11	6 -
B11-56	MD BIT 15	6 -
B11-57	MD BIT 12	6 -
B11-58	NO CONNECTION	11
B11-59	POWER SUPPLY CONN	11
B11-60	POWER SUPPLY CONN	11
B11-61	POWER SUPPLY CONN	11
B11-62	POWER SUPPLY CONN	11
B12-1	LAMP BUS 2	-
B12-2	S STEP S-112	22 -
B12-3	SBR BIT 7	9 +
B12-4	LAMP BUS 3	-
B12-5	SBR BIT 6	9 +
B12-6	RST EXTEND	19 +
B12-7	E3 CYCLE	18 +
B12-8	LAMP BUS 1	-
B12-9	SS MODE	12 +
B12-10	SS MODE	12 -
B12-11	TCP RESET	12 -
B12-12	START TCP STB	12 -
B12-13	ADV CS CLOCK	12 +
B12-14	LAMP BUS 0	-
B12-15	LAMP BUS 6	-
B12-16	CS LEVEL	12 -
B12-17	X 2	12 +
B12-18	RUN + SS MODE	13 -
B12-19	CS LEVEL	12 +
B12-20	SET BSI	16 -
B12-21	GATE IXR TO OPR	16 -
B12-22	T 6	13 +
B12-23	HOLD CS ADD (X7)	12 +
B12-24	DC RESET	20 +
B12-25	SBR BIT 0	9 +

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DESIGN	SCALE			
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POINT	SIGNAL	
B12-26	X 7	12 +
B12-27	SBR BIT 1	9 +
B12-28	SBR BIT 2	9 +
B12-29	SBR BIT 5	9 +
B12-30	SBR BIT 3	9 +
B12-31	MD BIT 4	6 -
B12-32	SBR BIT 4	9 +
B12-33	NOT CS.POLL	19 -
B12-34	PAGE INHIBIT RST	8 -
B12-35	DATA RDY OPR	8 +
B12-36	LAST I	18 -
B12-37	S CYCLE S-112	22 -
B12-38	XIO	18 -
B12-39	HOLD PHASE B	8 +
B12-40	MD BIT 6	6 -
B12-41	MD BIT 0	6 -
B12-42	CS REQUEST	19 +
B12-43	SLC HOLD T7	14 -
B12-44	GATE I/O TO BUS	13 -
B12-45	CS ERR CHK STP	20 -
B12-46	MD BIT 5	6 -
B12-47	SP BIT	20 +
B12-48	SHOP SHIFT	14 -
B12-49	CD BIT 16	12 -
B12-50	T 7	13 -
B12-51	I/F BLOCK CLOCK	-
B12-52	SYSCP REF P1	12 -
B12-53	SYSCP REF P2	12 -
B12-54	MD BIT 7	6 -
B12-55	COPS+CLEAR	20 -
B12-56	MD BIT 2	6 -
B12-57	MD BIT 1	6 -
B12-58	MD BIT 3	6 -
B12-59	POWER SUPPLY CONN	12
B12-60	POWER SUPPLY CONN	12
B12-61	POWER SUPPLY CONN	12
B12-62	POWER SUPPLY CONN	12
B13-1	RUN	13 -
B13-2	STOP T CLOCK	20 -
B13-3	OP BIT 9	13 -
B13-4	IXR ADD 0	16 +
B13-5	START REQ INT BSI	18 -
B13-6	RUN + SS MODE	13 -
B13-7	START TCP STB	12 -
B13-8	START REQ P1	20 -

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		DESIGN	SCALE				
TITLE				SHEET 152 167	SIZE SA	DWG. NO. 3879	REV. A

POINT	SIGNAL	
B13-9	GATE DISP TO DRG	17 -
B13-10	OP BIT 6	12 -
B13-11	GATE DISP TO TAC	17 -
B13-12	OP BIT 7	12 -
B13-13	TAG Y = 0	13 -
B13-14	OP BIT 8	13 -
B13-15	TAG X = 7	13 +
B13-16	TAG X = 0	13 +
B13-17	OP BIT 11	13 -
B13-18	OP BIT 15	13 -
B13-19	OP BIT 10	13 -
B13-20	NO CONNECTION	13
B13-21	OP BIT 14	13 -
B13-22	MD BIT 14	6 -
B13-23	MD BIT 9	6 -
B13-24	SET BSI	16 -
B13-25	DIV CMP HOLD T7	14 -
B13-26	T 2	13 +
B13-27	MPY HOLD T7	18 -
B13-28	MPY SHIFT	14 -
B13-29	SHOP SHIFT	14 -
B13-30	LOAD IXR 8-15 GATE	17 -
B13-31	DATA RDY OPR	8 +
B13-32	SLC HOLD T7	14 -
B13-33	TAG Y = 7	13 -
B13-34	CS HOLD T7	12 -
B13-35	RESET OPR	16 -
B13-36	GATE IXR TO OPR	16 -
B13-37	ADV CS CLOCK	12 +
B13-38	NO CONNECTION	13
B13-39	OP BIT 12	13 -
B13-40	SYSCP REF P1	12 -
B13-41	OP BIT 13	13 -
B13-42	MD BIT 15	6 -
B13-43	MD BIT 8	6 -
B13-44	I/O IN BIT 9	15 +
B13-45	I/O IN BIT 15	15 +
B13-46	BUS BIT 12	+
B13-47	MD BIT 11	6 -
B13-48	I/O IN BIT 11	15 +
B13-49	I/O IN BIT 10	15 +
B13-50	I/O IN BIT 13	15 +
B13-51	I/O IN BIT 14	15 +
B13-52	I/O IN BIT 12	15 +
B13-53	BUS BIT 14	+

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FILE NUMBER	DESIGN	SCALE			
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POINT	SIGNAL	
B13-54	PHASE A REF	12 -
B13-55	I/O IN BIT 8	15 +
B13-56	MD BIT 12	6 -
B13-57	MD BIT 13	6 -
B13-58	MD BIT 10	6 -
B13-59	POWER SUPPLY CONN	13
B13-60	POWER SUPPLY CONN	13
B13-61	POWER SUPPLY CONN	13
B13-62	POWER SUPPLY CONN	13
B14-1	CARRY	14 -
B14-2	T 7	13 -
B14-3	T 6	13 -
B14-4	T 4	13 -
B14-5	DC RESET P1	20 -
B14-6	DIV E	16 +
B14-7	MPY SHIFT	13 +
B14-8	MPY E1	16 +
B14-9	SLCOP	18 +
B14-10	ILLOPS	7 -
B14-11	T 0	13 -
B14-12	TAG	12 +
B14-13	OVERFLOW	14 -
B14-14	T 3	13 -
B14-15	DIV CMP HOLD T7	14 -
B14-16	NO EA OP MOD2	7 -
B14-17	DIV CMP HOLD T7	14 +
B14-18	SYSCP REF P1	12 -
B14-19	SKIP COND	16 +
B14-20	BUS BIT 8	+
B14-21	DIV	18 -
B14-22	I1 CYCLE	18 -
B14-23	MPY SHIFT	14 -
B14-24	BUS BIT 10	+
B14-25	CCC = 1	14 -
B14-26	OP BIT 13	13 -
B14-27	RRDP	18 +
B14-28	LAST M	XX +
B14-29	GATE CCC TO IXR	14 +
B14-30	CCC = 0	14 -
B14-31	NO E CYCLE	18 +
B14-32	BUS BIT 11	+
B14-33	BUS BIT 14	+
B14-34	DIV OVFL RST CCC	16 +
B14-35	ADV CS CLOCK	12 +
B14-36	SPARE	14

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TITLE		DESIGN	SCALE		FILE NO	REV
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POINT	SIGNAL		
B14-37	BUS BIT 13		+
B14-38	MPY	18	-
B14-39	BUS BIT 15		+
B14-40	GATE LAMPS P2	21	-
B14-41	E2 CYCLE	18	+
B14-42	BUS BIT 12		+
B14-43	GATE LAMPS P5	21	-
B14-44	LAMP BUS 4		-
B14-45	GATE DIV OVFL T7	14	+
B14-46	BUS BIT 9		+
B14-47	LAMP BUS 16		-
B14-48	ADDOP	18	+
B14-49	BSI	18	-
B14-50	SUBOP	18	+
B14-51	BSC	18	-
B14-52	LAMP BUS 2		-
B14-53	LAMP BUS 17		-
B14-54	LAMP BUS 0		-
B14-55	GATE STAT TO SBR	17	-
B14-56	LAMP BUS 1		-
B14-57	LAMP BUS 5		-
B14-58	LAMP BUS 3		-
B14-59	POWER SUPPLY CONN	14	
B14-60	POWER SUPPLY CONN	14	
B14-61	POWER SUPPLY CONN	14	
B14-62	LAST M	XX	+
B15-1	DES 12	22	-
B15-2	I/O IN BIT 13	15	+
B15-3	I/F IN BIT 12		-
B15-4	DES 13	22	-
B15-5	CES 13	XX	-
B15-6	I/F IN BIT 13		-
B15-7	DES 14	22	-
B15-8	CES 14	XX	-
B15-9	INT VEC BIT 14	21	-
B15-10	I/O IN BIT 4	15	+
B15-11	I/F IN BIT 15		-
B15-12	SBR BIT 10	10	+
B15-13	POLL	19	+
B15-14	I/O IN BIT 14	15	+
B15-15	SBR BIT 8	10	+
B15-16	INT VEC BIT 13	21	-
B15-17	I/O IN BIT 6	15	+
B15-18	CES 15	XX	-
B15-19	DES 15	22	-

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DESIGN		SCALE							
DWG. TITLE	FILE NUMBER					SHEET 155 OF 167		SIZE SA 3879	
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								A	

POINT	SIGNAL	
B15-20	I/F IN BIT 6	-
B15-21	I/F IN BIT 14	-
B15-22	DXFR	19 +
B15-23	AREA 0	19 -
B15-24	E3 DXFR	19 +
B15-25	END OP	18 +
B15-26	E2 DXFR	19 +
B15-27	NO CONNECTION	15
B15-28	ERROR CHK	20 -
B15-29	NO CONNECTION	15
B15-30	ENOP 6 (AUX FEA)	XX -
B15-31	TRACE S-112	22 -
B15-32	XIO	18 -
B15-33	OP BIT 10	13 -
B15-34	BSI	18 -
B15-35	NO CONNECTION	15
B15-36	LDX OP BIT 10	15 -
B15-37	INH INTERRUPT	15 +
B15-38	NO CONNECTION	15
B15-39	ENAB SAR BIT 0	15 +
B15-40	ENOP 7 (SET/RESET SP)	XX -
B15-41	SYSCP REF P1	12 -
B15-42	T 6	13 -
B15-43	NO LVL ACT	21 +
B15-44	ADV CS CLOCK	12 +
B15-45	DC RESET P1	20 -
B15-46	ENDOP EARLY	18 +
B15-47	STSE AND NOT SP	15 +
B15-48	OP BIT 11	13 -
B15-49	COPS+CLEAR	20 -
B15-50	INT DISABLE S-109	22 -
B15-51	OP BIT 5	12 -
B15-52	TAG	12 -
B15-53	OP BIT 5 AND 9	15 -
B15-54	LDX	18 -
B15-55	STSE	18 +
B15-56	START REQ INT BSI	18 -
B15-57	LAST I	18 -
B15-58	OP BIT 9	13 -
B15-59	POWER SUPPLY CONN	15
B15-60	POWER SUPPLY CONN	15
B15-61	ENOP 7 (SET/RESET SP)	XX -
B15-62	ENOP 6 (AUX FEA)	XX -
B16-1	EOR	18 -
B16-2	SET BSI	16 -

DATE	FILE NUMBER	DRAWN	CHECKED	DO NOT SCALE THIS PRINT	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	COMPUTER HARDWARE INC.
		DESIGN	SCALE			
				SHEET	SIZE	DWG. NO.
				156	SA	3879
				167		A

POINT	SIGNAL	
B16-3	X U	12 -
B16-4	ACC BIT 0	11 +
B16-5	MPY E1	16 +
B16-6	COPS+CLEAR	20 -
B16-7	E1 CYCLE	18 -
B16-8	T 4	13 -
B16-9	MPY	18 -
B16-10	OP BIT 9	13 -
B16-11	DIV E1	16 +
B16-12	EXT BIT 15	11 +
B16-13	DIV	18 -
B16-14	ZERO REM	16 +
B16-15	GATE IXR TO OPR	16 -
B16-16	QUOT CORR	14 +
B16-17	EXT BIT 15 SERIAL IN	16 +
B16-18	ALU SUB	16 +
B16-19	EMCSL 123	10 -
B16-20	SUBOP	18 +
B16-21	IXR ADD 2	16 +
B16-22	MAR BIT 14	10 +
B16-23	DIV E	16 +
B16-24	ACC BIT 0 = DRG BIT 0	14 -
B16-25	T 6	13 -
B16-26	OP BIT 12	13 -
B16-27	ALU OVFL	16 +
B16-28	SET INT LVL A BIT 3	16 -
B16-29	TAC BIT 0	11 +
B16-30	ACC BIT 15 SERIAL IN	16 +
B16-31	DRG BIT 0	11 +
B16-32	OP BIT 6	12 -
B16-33	DIFF SIGN	14 +
B16-34	DIV OVFL RST CCC	16 +
B16-35	OVERFLOW ENAB SET	16 +
B16-36	OP BIT 7	12 -
B16-37	OP BIT 8	13 -
B16-38	OP BIT 5	12 +
B16-39	T 5	13 -
B16-40	GATE DIV OVFL T7	14 +
B16-41	CCC = 0	14 -
B16-42	GATE SBR TO CCC	14 -
B16-43	T 7	13 -
B16-44	DRG = 0	11 -
B16-45	ALU CARRY OUT	14 +
B16-46	BSI	18 -
B16-47	MAR BIT 15	10 +

DASH	FILE NUMBER	DRAWN	CHECKED	DO NOT SCALE THIS PRINT	<small>THIS PRINT CONTAINS PROPRIETARY INFORMATION - REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISPOSITION TO OTHERS IS PROHIBITED EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>	COMPUTER HARDWARE INC.
FILE		DESIGN	SCALE			
					SHEET 157 OF 167	TYPE SA
					DWG. NO. 3879	REV A

POINT	SIGNAL	
B16-48	IXR ADD 0	16 +
B16-49	SYSCP REF P2	12 -
P16-50	T 2	13 -
B16-51	ALU BIT 0	11 +
B16-52	T 1	13 -
B16-53	GATE SBR TO BUS	16 -
B16-54	SPARE	16
B16-55	GATE SBR TO IXR P1	17 -
B16-56	GATE SBR TO IXR P2	17 -
B16-57	T 3	13 -
B16-58	ACC BIT 1	11 +
B16-59	POWER SUPPLY CONN	16
B16-60	POWER SUPPLY CONN	16
B16-61	POWER SUPPLY CONN	16
B16-62	POWER SUPPLY CONN	16
B17-1	COPS+CLEAR	20 -
B17-2	STS	18 +
B17-3	I2 CYCLE	18 -
B17-4	RST DRG	17 +
B17-5	GATE KDR TO IAR	20 -
B17-6	BSIE	18 +
B17-7	T 2	13 -
B17-8	COMP EQUAL	14 +
B17-9	GATE EXT TO BUS	17 -
B17-10	T 6	13 -
B17-11	LAST I	18 -
B17-12	MDX SKIP	14 +
B17-13	XIO	18 -
B17-14	DEL PREC OP MOD 2	7 +
B17-15	RST IAC	17 -
B17-16	LOAD IXR 0- 7 GATE	17 -
B17-17	ADV IAR GATE	17 +
B17-18	LOAD IAR GATE	17 -
B17-19	DIV CMP HOLD T7	14 +
B17-20	DO NOT USE	17
B17-21	OP BIT 0	12 -
B17-22	COMP LESS OR EQUAL	14 +
B17-23	T 5	13 -
B17-24	GATE ALU TO ACC	17 -
B17-25	SYSCP REF P2	12 -
B17-26	I1 CYCLE	18 -
B17-27	SENSE OP	19 -
B17-28	LOAD IXR 8-15 GATE	17 -
B17-29	OP BIT 5 AND 9	15 -
B17-30	INT BSI I1 I2	18 +

DATE	DRAWN	CHECKED	DO NOT SCALE THIS PRINT	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR ANY FEATURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	COMPUTER HARDWARE INC.
FILE NUMBER	DESIGN	SCALE			
TITLE				SHEET 158 167	SIZE SA
				DWG. NO. 3879	REV. A

POINT	SIGNAL	
B17-31	BSC	18 -
B17-32	E CYCLES	18 -
B17-33	READ	19 -
B17-34	T0 + X0 RESET	20 -
B17-35	T 7	13 -
B17-36	CLEAR BUS T7	20 -
B17-37	LD OP + LMR	7 +
B17-38	SKIP COND	16 +
B17-39	X 1	12 +
B17-40	GATE SBR TO IXR P1	17 -
B17-41	E1 CYCLE	18 -
B17-42	GATE ALU TO BUS	17 -
B17-43	DC RESET P1	20 -
B17-44	GATE IAR TO BUS	17 -
B17-45	T 0	13 -
B17-46	STD	18 -
B17-47	MPY E1	16 +
B17-48	BSI	18 -
B17-49	E3 CYCLE	18 +
B17-50	MDX	18 +
B17-51	ZERO REM	16 +
B17-52	STX	18 -
B17-53	CMPOP	18 +
B17-54	SPARE	17
B17-55	INH ALU TO ACC	14 +
B17-56	OP BIT 5	12 +
B17-57	CCC = 1	14 -
B17-58	RST ACC	17 -
B17-59	STG PROT OPTION	17 +
B17-60	POWER SUPPLY CONN	17
B17-61	POWER SUPPLY CONN	17
B17-62	POWER SUPPLY CONN	17
B18-1	DIV	18 -
B18-2	MPY	18 -
B18-3	FLT	18 -
B18-4	EOR	18 -
B18-5	STX	18 -
B18-6	OR	18 -
B18-7	STO	18 -
B18-8	MDM	18 +
B18-9	AND	18 -
B18-10	OP BIT 0	12 -
B18-11	COPS+CLEAR	20 -
B18-12	WAIT	18 -
B18-13	PAGE INHIBIT RST	8 -

DATE	FILE NUMBER	DRAWN	CHECKED	DO NOT SCALE THIS PRINT	INFORMATION REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS PROHIBITED EXCEPT BY SPECIAL WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	COMPUTER HARDWARE INC.
		DESIGN	SCALE			
					159 OF 167	SA 3879 A

POINT	SIGNAL		
4	B18-14	ENDOP EARLY	18 +
5	B18-15	CCC = 0	14 -
6	B18-16	RSC	18 -
7	B18-17	DIOP	18 -
8	B18-18	SHOPS	18 +
9	B18-19	MAR CMP	10 -
10	B18-20	CS LEVEL	12 +
11	B18-21	SENSE OP	19 -
12	B18-22	CPU CLOCK	18 -
13	B18-23	OP BIT 1	12 -
14	B18-24	OP BIT 2	12 -
15	B18-25	GATE LAMPS P7	21 -
16	B18-26	IAR CMP S-112	22 -
17	B18-27	LDS	18 +
18	B18-28	HEXD ENAB	18 -
19	B18-29	INH PAR CHK ON INT	18 -
20	B18-30	WRITE	19 -
21	B18-31	RROP	18 -
22	B18-32	SKIP COND	16 +
23	B18-33	RROP	18 +
24	B18-34	OP BIT 4	12 -
25	B18-35	OP BIT 3	12 -
26	B18-36	RESET INT	18 -
27	B18-37	DO NOT USE	18 -
28	B18-38	MDX	18 +
29	B18-39	GATE DES TO I/O	20 -
30	B18-40	LDX	18 -
31	B18-41	T 2	13 -
32	B18-42	OP BIT 5	12 -
33	B18-43	X 2	12 +
34	B18-44	TAG	12 -
35	B18-45	INT ACK	18 -
36	B18-46	E3 CYCLE	18 +
37	B18-47	NO E CYCLE	18 +
38	B18-48	READ	19 -
39	B18-49	SIS	18 +
40	B18-50	I/F CS DATA STORE	24 -
41	B18-51	SEL HEXD A	18 +
42	B18-52	COPS DISP CYCLE	20 -
43	B18-53	T 0	13 -
44	B18-54	T 5	13 -
45	B18-55	GATE I/O TO SRR	18 -
46	B18-56	INDST	18 -
47	B18-57	SLCOP	18 +
48	B18-58	MAR CMP S-112	22 -

DRAWN	CHECKED	DO NOT SCALE THIS PRINT	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OR DISSEMINATION OF ANY INFORMATION CONTAINED HEREIN OR INFERENCE OF ANY ACT THEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY EXPRESS WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	COMPUTER HARDWARE INC.
DESIGN	SCALE			
DWG. NUMBER			SHEET 160 OF 167	REV SA
TITLE			DWG. NO. 3879	REV A

POINT	SIGNAL	
B18-59	POWER SUPPLY CONN	18
B18-60	POWER SUPPLY CONN	18
B18-61	POWER SUPPLY CONN	18
B18-62	POWER SUPPLY CONN	18
B19-1	AREA 0	19 -
B19-2	POLL INT	19 +
B19-3	I/F OUT BIT 2	19 -
B19-4	T 4	13 -
B19-5	SBR BIT 14	10 +
B19-6	I/F POLL	19 -
B19-7	SBR BIT 12	10 +
B19-8	T 2	13 -
B19-9	I/F OUT BIT 14	19 -
B19-10	I/F OUT BIT 12	19 -
B19-11	SBR BIT 10	10 +
B19-12	SBR BIT 4	9 +
B19-13	I/F OUT BIT 10	19 -
B19-14	I/F OUT BIT 0	19 -
B19-15	DXFR	19 +
B19-16	I/F OUT BIT 4	19 -
B19-17	ENOP 2 (INT A TSO)	XX +
B19-18	E3 CYCLE	18 +
B19-19	I/F DXFR	19 -
B19-20	CS REQUEST	19 +
B19-21	E2 DXFR	19 +
B19-22	E1 CYCLE	18 -
B19-23	E3 DXFR	19 +
B19-24	T 6	13 -
B19-25	X 2	12 +
B19-26	SBR BIT 0	9 +
B19-27	X 6	12 +
B19-28	CONTROL	19 -
B19-29	X 4	12 +
B19-30	SBR BIT 2	9 +
B19-31	T 7	13 -
B19-32	READ	19 -
B19-33	DC RESET P2	20 -
B19-34	WRITE	19 -
B19-35	READ+WRITE	19 +
B19-36	SENSE DEV	19 -
B19-37	X 7	12 +
B19-38	E2 CYCLE	18 +
B19-39	AREA 7	19 -
B19-40	AC PWR ON RESET	XX -
B19-41	RST EXTEND	19 +

DRAWN	CHECKED	DO NOT SCALE THIS PRINT	THIS PRINT CONTAINS PROPRIETARY INFORMATION. PERMISSION BY THIS POINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	COMPUTER HARDWARE INC.
DESIGN	SCALE			
DASH	FILE NUMBER		SHEET 161 OF 167	DWG NO SA 3879
TITLE				REV A

POINT	SIGNAL	
B19-42	X 1	12 +
B19-43	SBR BIT 8	10 +
B19-44	X 3	12 -
B19-45	T 3	13 -
B19-46	T 1	13 -
B19-47	I/F OUT BIT 8	19 -
B19-48	I/F DC RESET	19 -
B19-49	SBR BIT 6	9 +
B19-50	T 5	13 -
B19-51	I/F OUT BIT 6	19 -
B19-52	X 5	12 +
B19-53	I/F CLOCK	19 -
B19-54	SET INT LVL A BIT 3	16 -
B19-55	NOT CS.POLL	19 -
B19-56	I/F IN BIT 3	-
B19-57	NO CONNECTION	19
B19-58	MACH INT A	19 -
B19-59	POWER SUPPLY CONN	19
B19-60	POWER SUPPLY CONN	19
B19-61	POWER SUPPLY CONN	19
B19-62	POWER SUPPLY CONN	19
B20-1	STOP S-301	22 -
B20-2	START S-302	22 -
B20-3	IMM STOP S-305	22 -
B20-4	KEY E	22 -
B20-5	KEY F	22 -
B20-6	RESET S-308	22 -
B20-7	OP BIT 15	13 -
B20-8	WRT STG PRT S-110	22 -
B20-9	GATE DES TO I/O	20 -
B20-10	DC RESET	20 +
B20-11	RUN S-112	22 -
B20-12	T 2	13 +
B20-13	IMM STOP	20 +
B20-14	GATE KDR TO SBR	20 -
B20-15	PWR ON RST	19 -
B20-16	ENOP 5 (IMM STP RST)	XX +
B20-17	DC RESET P1	20 -
B20-18	STOP	20 +
B20-19	TRACE	20 +
B20-20	START TCP STB	12 -
B20-21	PROG STOP	20 -
B20-22	OP BIT 5 AND 9	15 -
B20-23	CLOCK SBR 0- 7	20 -
B20-24	CMP CHK	18 -

DATE	FILE NUMBER	DESIGN	CHECKED	DO NOT SCALE THIS PRINT	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MATERIALS OF ANY KIND IS STRICTLY FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	COMPUTER HARDWARE INC.
			SCALE			
					162 OF 167	SA 3879 A

POINT	SIGNAL	
2		
3		
4	B20-25	ILLOPS 7 -
5	B20-26	LOAD SBR GATE 17 +
6	B20-27	S INST S-112 22 -
7	B20-28	CLOCK SBR B-15 20 -
8	B20-29	MD BIT 17 6 -
9	B20-30	TRACE S-112 22 -
10	B20-31	DISP/SP S-112 22 -
11	B20-32	COPS DISP CYCLE 20 -
12	B20-33	T 4 13 -
13	B20-34	COPS LOAD CYCLE 20 -
14	B20-35	START CLOCK 20 +
15	B20-36	ERROR CHK 20 -
16	B20-37	COPS+CLEAR 20 -
17	B20-38	GATE STAT TO SBR 17 -
18	B20-39	CHECK STOP S-111 22 -
19	B20-40	CS ERR CHK STP 20 -
20	B20-41	STSE 18 +
21	B20-42	SPARE 20 -
22	B20-43	I1 CYCLE 18 -
23	B20-44	GATE LAMPS P7 21 -
24	B20-45	COND RUN 18 +
25	B20-46	X 7 12 +
26	B20-47	LAMP BUS 7 -
27	B20-48	GATE LAMPS P1 21 -
28	B20-49	SP BIT 20 +
29	B20-50	LAMP BUS 16 -
30	B20-51	GROUND PAR ODD 20 -
31	B20-52	LAMP BUS 17 -
32	B20-53	STOP T CLOCK 20 -
33	B20-54	W + R SP BIT E CYCLE 20 +
34	B20-55	ENDOP EARLY 18 +
35	B20-56	INH PAR CHK ON INT 18 -
36	B20-57	T 1 13 -
37	B20-58	START REQ INT BSI 18 -
38	B20-59	POWER SUPPLY CONN 20 -
39	B20-60	POWER SUPPLY CONN 21 -
40	B20-61	GROUND PAR ODD 20 -
41	B20-62	ENOP 5 (IMM STP RST) XX +
42	B21-1	SBR BIT 15 10 +
43	B21-2	I/F IN BIT 2 -
44	B21-3	POLL INT 19 +
45	B21-4	INT VEC BIT 12 21 +
46	B21-5	INT VEC BIT 12 21 -
47	B21-6	I/F IN BIT 0 -
48	B21-7	SBR BIT 1 9 +
49		

DESIGN	DRAWN	CHECKED	DO NOT SCALE THIS PRINT	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE THEREFROM FOR DISSEMINATION TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	COMPUTER HARDWARE INC
FILE NUMBER	DESIGN	SCALE			
DATE				163 167	SA 3879 A

POINT	SIGNAL	
B21-8	INT VEC BIT 13	21 -
B21-9	NO LVL ACT	21 +
B21-10	SBR BIT 0	9 +
B21-11	INT VEC BIT 13	21 +
B21-12	NO CONNECTION	21
B21-13	SBR BIT 14	10 +
B21-14	NO CONNECTION	21
B21-15	I/F IN BIT 1	-
B21-16	PROG STOP	20 -
B21-17	SENSE DEV	19 -
B21-18	TRACE	20 +
B21-19	I/F IN BIT 1	-
B21-20	NO CONNECTION	21
B21-21	INT REQ 1	-
B21-22	I/F IN BIT 6	-
B21-23	INT REQ A	-
B21-24	I/F IN BIT 0	-
B21-25	E2 DXFR	19 +
B21-26	PHASE A REF	12 -
B21-27	I/F IN BIT 4	-
B21-28	NO CONNECTION	21
B21-29	INT REQ 4	-
B21-30	I/F IN BIT 5	-
B21-31	INT REQ 5	-
B21-32	I/F IN BIT 7	-
B21-33	MACH INT A P2	6 -
B21-34	INT REQ B	-
B21-35	INT REQ 0	-
B21-36	LAMP CLOCK	21 +
B21-37	INT REQ 3	-
B21-38	I/F IN BIT 3	-
B21-39	FP INT	XX -
B21-40	NO CONNECTION	21
B21-41	INT REQ 2	-
B21-42	SBR BIT 8	10 +
B21-43	END OP	18 +
B21-44	NO CONNECTION	21
B21-45	INT ACK	18 -
B21-46	NO CONNECTION	21
B21-47	NO CONNECTION	21
B21-48	T 6	13 -
B21-49	NO CONNECTION	21
B21-50	CONTROL	19 -
B21-51	AREA 7	19 -
B21-52	INT VEC BIT 0	21 -

DATE	FILE NUMBER	DRAWN	CHECKED	DO NOT SCALE THIS PRINT	<small>THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY EXPRESS WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>	COMPUTER HARDWARE INC.		
		DESIGN	SCALE					
					SHEET 164 167	SIZE SA	DWG. NO. 3879	REV. A

POINT	SIGNAL	
B21-53	SBR BIT 9	10 +
B21-54	NO CONNECTION	21
B21-55	NO CONNECTION	21
B21-56	NO CONNECTION	21
B21-57	NO CONNECTION	21
B21-58	NO CONNECTION	21
B21-58	NO CONNECTION	21
B21-59	POWER SUPPLY CONN	21
B21-60	POWER SUPPLY CONN	21
B21-61	POWER SUPPLY CONN	21
B21-62	POWER SUPPLY CONN	21
B22-1	DES 13	22 -
B22-2	DES 14	22 -
B22-3	DES 12	22 -
B22-4	DES 15	22 -
B22-5	LAMP CLOCK	21 +
B22-6	LAMP BUS 12	-
B22-7	LAMP MPX A	21 +
B22-8	LAMP BUS 6	-
B22-9	S INST S-112	22 -
B22-10	LAMP BUS 13	-
B22-11	TRACE S-112	22 -
B22-12	LAMP BUS 11	-
B22-13	IAR CMP S-112	22 -
B22-14	LAMP BUS 14	-
B22-15	CONSOLE S-112	22 -
B22-16	LAMP BUS 10	-
B22-17	RUN S-112	22 -
B22-18	LAMP BUS 9	-
B22-19	IMM STOP S-305	22 -
B22-20	SELECT DISPLAY 1	XX +
B22-21	PROG LOAD S-311	22 -
B22-22	LAMP MPX B	21 +
B22-23	CLEAR STG S-304	22 -
B22-24	DES 0	22 -
B22-25	LAMP MPX D	21 +
B22-26	DES 1	22 -
B22-27	LAMP MPX C	21 +
B22-28	LOAD ACC S-309	22 -
B22-29	PROG CTL RST S-300	22 -
B22-30	LOAD STG S-306	22 -
B22-31	DISP STG S-303	22 -
B22-32	LOAD IAR S-300	22 -
B22-33	KEY 2	22 -
B22-34	CONS INT S-310	22 -

DASH	FILE NUMBER	DRAWN	CHECKED	DO NOT SCALE THIS PRINT	<small>THIS PRINT CONTAINS PROPRIETARY INFORMATION. PERMISSION OF THE POINT OF PURCHASE CONTAINED HEREIN MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISSEMINATION TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>	COMPUTER HARDWARE INC.
TITLE		DESIGN	SCALE			
					<small>SCALE</small> 165 167	<small>REV</small> SA
					<small>DWG NO</small> 3879	<small>REV</small> A

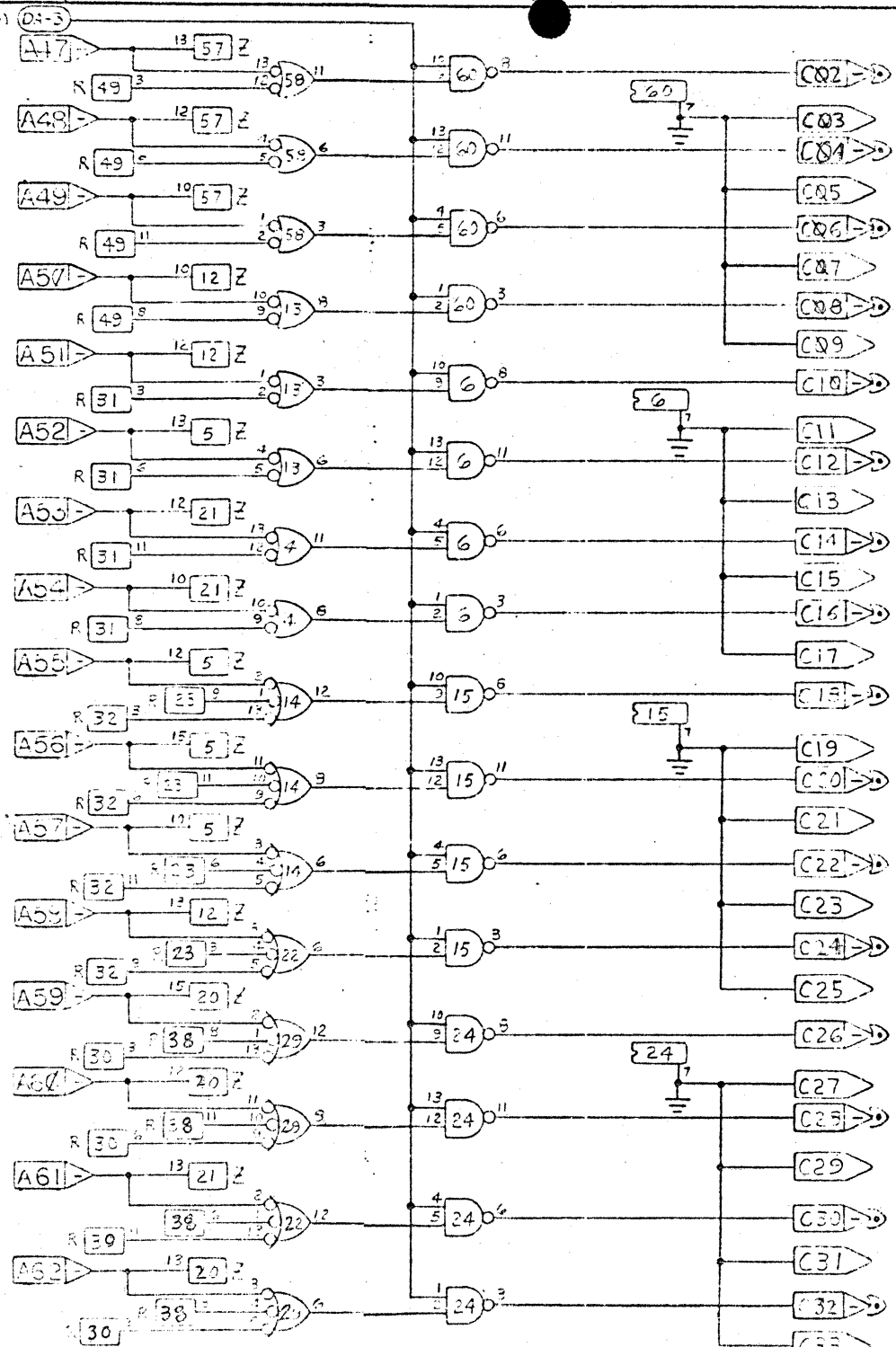
POINT	SIGNAL		
4	B22-35	KEY 3	22 -
5	B22-36	STOP S-301	22 -
6	B22-37	KEY 4	22 -
7	B22-38	START S-302	22 -
8	B22-39	KEY 5	22 -
9	B22-40	SPARE S-307	22 -
10	B22-41	KEY 6	22 -
11	B22-42	PAR CHK	20 -
12	B22-43	KEY 7	22 -
13	B22-44	SP CHECK	20 -
14	B22-45	KEY A	22 -
15	B22-46	KEY D	22 -
16	B22-47	KEY B	22 -
17	B22-48	KEY C	22 -
18	B22-49	CMP CHK IND	18 -
19	B22-50	KEY E	22 -
20	B22-51	HEX BIT 12	10 +
21	B22-52	KEY F	22 -
22	B22-53	HEX BIT 14	10 +
23	B22-54	KEY 8	22 -
24	B22-55	HEX BIT 9	10 +
25	B22-56	KEY 9	22 -
26	B22-57	HEX BIT 4	9 +
27	B22-58	HEX BIT 6	9 +
28	B22-59	POWER SUPPLY CONN	22
29	B22-60	POWER SUPPLY CONN	22
30	B22-61	POWER SUPPLY CONN	22
31	B22-62	POWER SUPPLY CONN	22
32	B24-1	I/F OUT BIT 1	19 -
33	B24-2	I/F IN BIT 1	-
34	B24-3	NO CONNECTION	24
35	B24-4	I/F DC RESET	19 -
36	B24-5	I/F IN BIT 5	-
37	B24-6	I/F PROG LOAD BUSY	24 -
38	B24-7	I/F BLOCK CLOCK	-
39	B24-8	I/F CS REQ	24 -
40	B24-9	I/F IN BIT 2	-
41	B24-10	I/F RESET EXTEND	24 -
42	B24-11	I/F IN BIT 6	-
43	B24-12	I/F IN BIT 0	-
44	B24-13	I/F IN BIT 3	-
45	B24-14	I/F PWR ON RST	19 -
46	B24-15	I/F IN BIT 4	-
47	B24-16	I/F E2+E3	19 +
48	B24-17	I/F CLOCK	19 -

DRAWN		CHECKED		DO NOT SCALE THIS PRINT		THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR INFERENCE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.		COMPUTER HARDWARE INC.	
DESIGN		SCALE							
DASH	FILE NUMBER					SHEET 166 OF 167		REV SA 3879 A	
TITLE									

POINT	SIGNAL	
B24-18	I/F CPU CLOCK	19 +
B24-19	I/F E1+E3	19 +
B24-20	I/F OUT BIT 9	19 -
B24-21	I/F CS CYCLE	19 -
B24-22	I/F OUT BIT 0	19 -
B24-23	I/F OUT BIT 11	19 -
B24-24	I/F INH CS REQ	19 +
B24-25	I/F OUT BIT 8	19 -
B24-26	I/F CS DATA STORE	24 -
B24-27	I/F IN BIT 9	-
B24-28	I/F OUT BIT 4	19 -
B24-29	I/F IN BIT 15	-
B24-30	I/F POLL	19 -
B24-31	I/F OUT BIT 10	19 -
B24-32	I/F OUT BIT 3	19 -
B24-33	I/F IN BIT 10	-
B24-34	I/F OUT BIT 5	19 -
B24-35	I/F IN BIT 11	-
B24-36	I/F FUNC CLEAR	19 -
B24-37	I/F PARITY ERR	19 -
B24-38	I/F OUT BIT 7	19 -
B24-39	NO CONNECTION	24
B24-40	I/F OUT BIT 6	19 -
B24-41	I/F OUT BIT 12	19 -
B24-42	I/F DXFR	19 -
B24-43	I/F PHASE A	19 -
B24-44	I/F OUT BIT 14	19 -
B24-45	I/F OUT BIT 15	19 -
B24-46	I/F PROG LOAD	19 -
B24-47	I/F IN BIT 14	-
B24-48	I/F IN BIT 8	-
B24-49	I/F IN BIT 7	-
B24-50	NO CONNECTION	24
B24-51	I/F IN BIT 13	-
B24-52	NO CONNECTION	24
B24-53	I/F IN BIT 12	-
B24-54	NO CONNECTION	24
B24-55	I/F OUT BIT 2	19 -
B24-56	I/F OUT BIT 13	19 -
B24-57	I/F STG PRT ERR	19 -
B24-58	NO CONNECTION	24
B24-59	POWER SUPPLY CONN	24
B24-60	POWER SUPPLY CONN	24
B24-61	POWER SUPPLY CONN	24
B24-62	POWER SUPPLY CONN	24

DRAWN		CHECKED		DO NOT SCALE THIS PRINT		<small>THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.</small>		COMPUTER HARDWARE INC.	
DESIGN		SCALE							
DWG. NO.	FILE NUMBER					SHEET 167 OF 167	I.V. SIZE SA	DWG. NO. 3879	I.V. A
TITLE									

DATA IN BIT 0
 DATA IN BIT 1
 DATA IN BIT 2
 DATA IN BIT 3
 DATA IN BIT 4
 DATA IN BIT 5
 DATA IN BIT 6
 DATA IN BIT 7
 DATA IN BIT 8
 DATA IN BIT 9
 DATA IN BIT 10
 DATA IN BIT 11
 DATA IN BIT 12
 DATA IN BIT 13
 DATA IN BIT 14
 DATA IN BIT 15



I/F DATA IN BIT 0
 1
 2
 3
 4
 5
 6
 7
 8
 9
 10
 11
 12
 13
 14
 I/F DATA IN BIT 15

POWER LOSS INHIBIT

F14

3

2

CS REQ

A25

GND

E35

GND

E37

+5V

E38

GND

E40

1/2 DXFR

E34

1/2 POLL

E26

1/2 CLOCK

E10

GND

E11

GND

E13

GND

E15

1/2 PHASE A

E12

1/2 E1 + E3 CYCLE

E16

GND

E17

1/2 E2 + E3 CYCLE

E16

1/2 CS CYCLE

E15

1/2 CPU PARITY ER

E20

GND

E19

1/2 CPU STG PROT ER

E22

1/2 CPU CLOCK

E24

GND

E21

GND

E23

GND

E25

1/2 PWR ON RST

E26

GND

E27

1/2 RESET

E28

1/2 FUNC CLEAR

E30

GND

E31

GND

E33

INHIBIT CS REQ

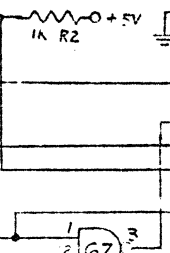
E32

1/2 PROG LOAD

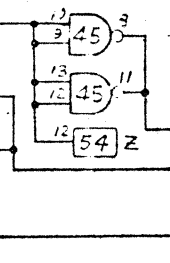
E39

E1/2 ROM PROG LOAD

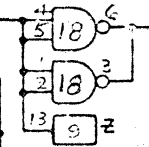
E16



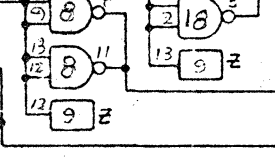
C35 - CS ACK TO 2ND CASE
 C37 - CS ACK TO 3RD CASE
 C39 - CS ACK TO 4TH CASE
 E07 - 1/2 CS REQ
 DA-2 DA-4 - GATE OUTPUTS
 A24 - CS ACK OUT TO FIRST ADAP
 A26 - CS LATCH ENABLE



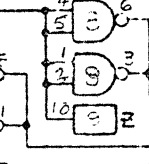
A43 - DXFR
 A44 - POLL
 A45 - CLOCK



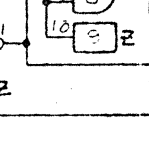
A46 - PHASE A



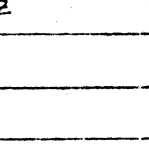
A42 - E1 + E3 CYCLE
 A41 - E2 + E3 CYCLE



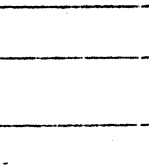
A40 - CS CYCLE



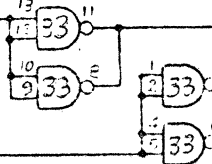
A22 - CPU PARITY ERROR



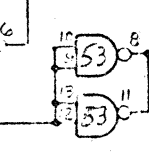
A21 - CPU STG PROT ERR



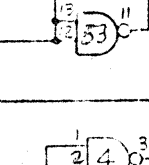
A30 - CPU CLOCK



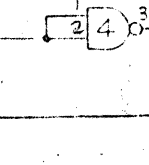
A36 - POWER ON RESET
 A35 - RESET



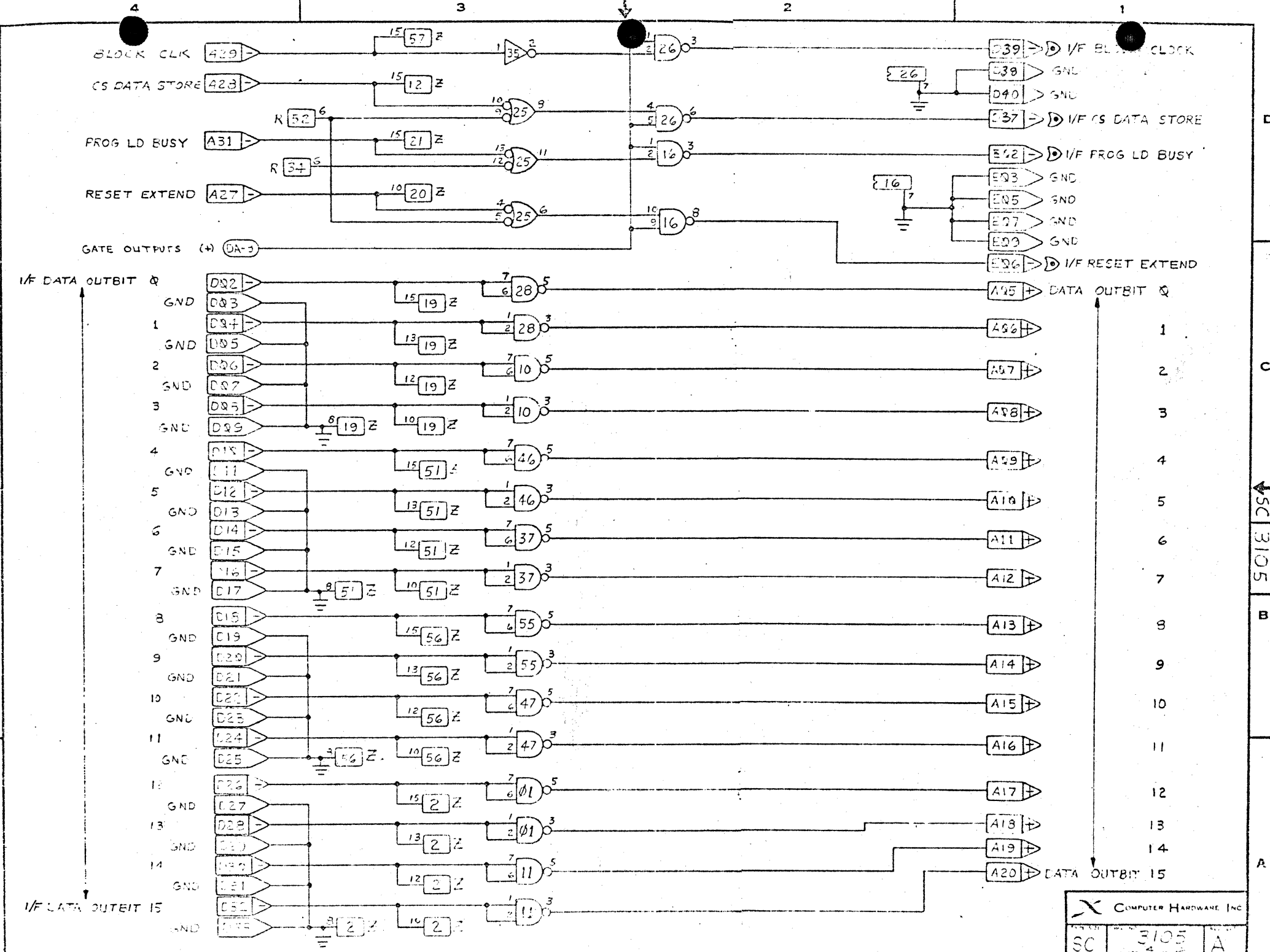
A32 - FUNCTION CLEAR

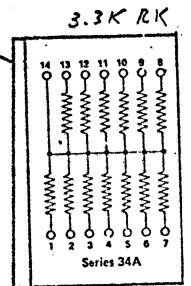
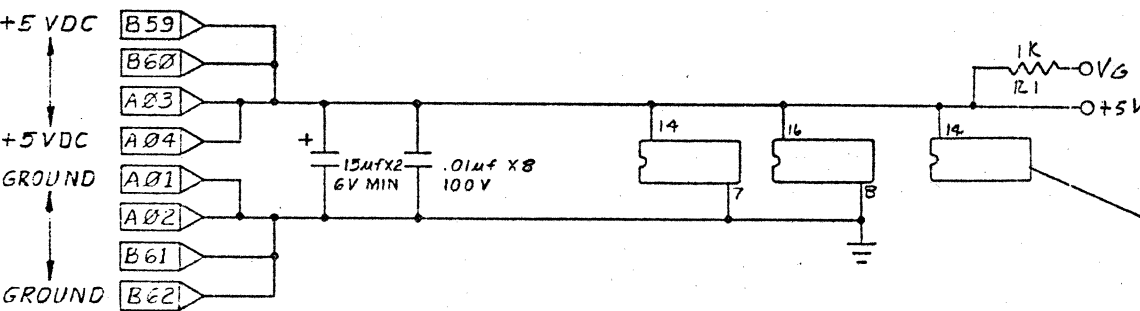
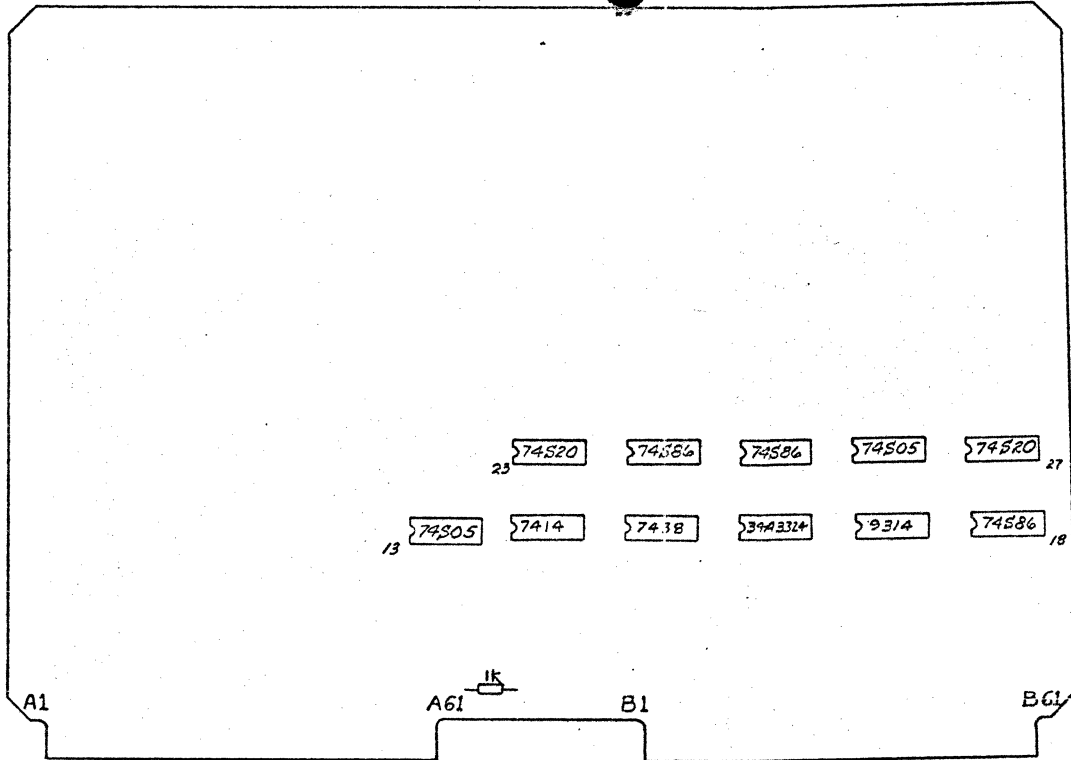


A37 - INHIBIT CS REQ



A37 - PROG LOAD



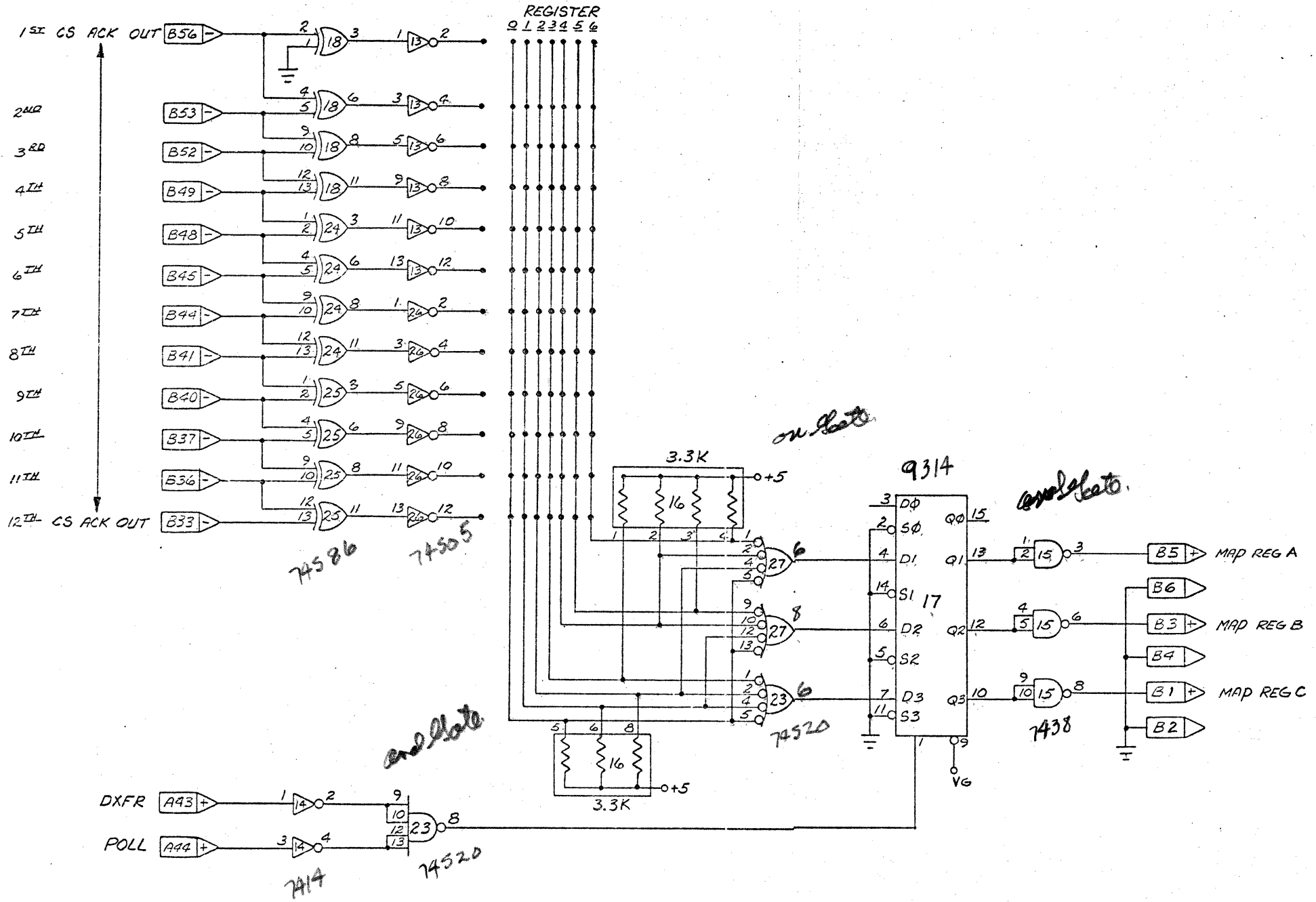


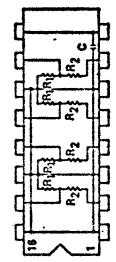
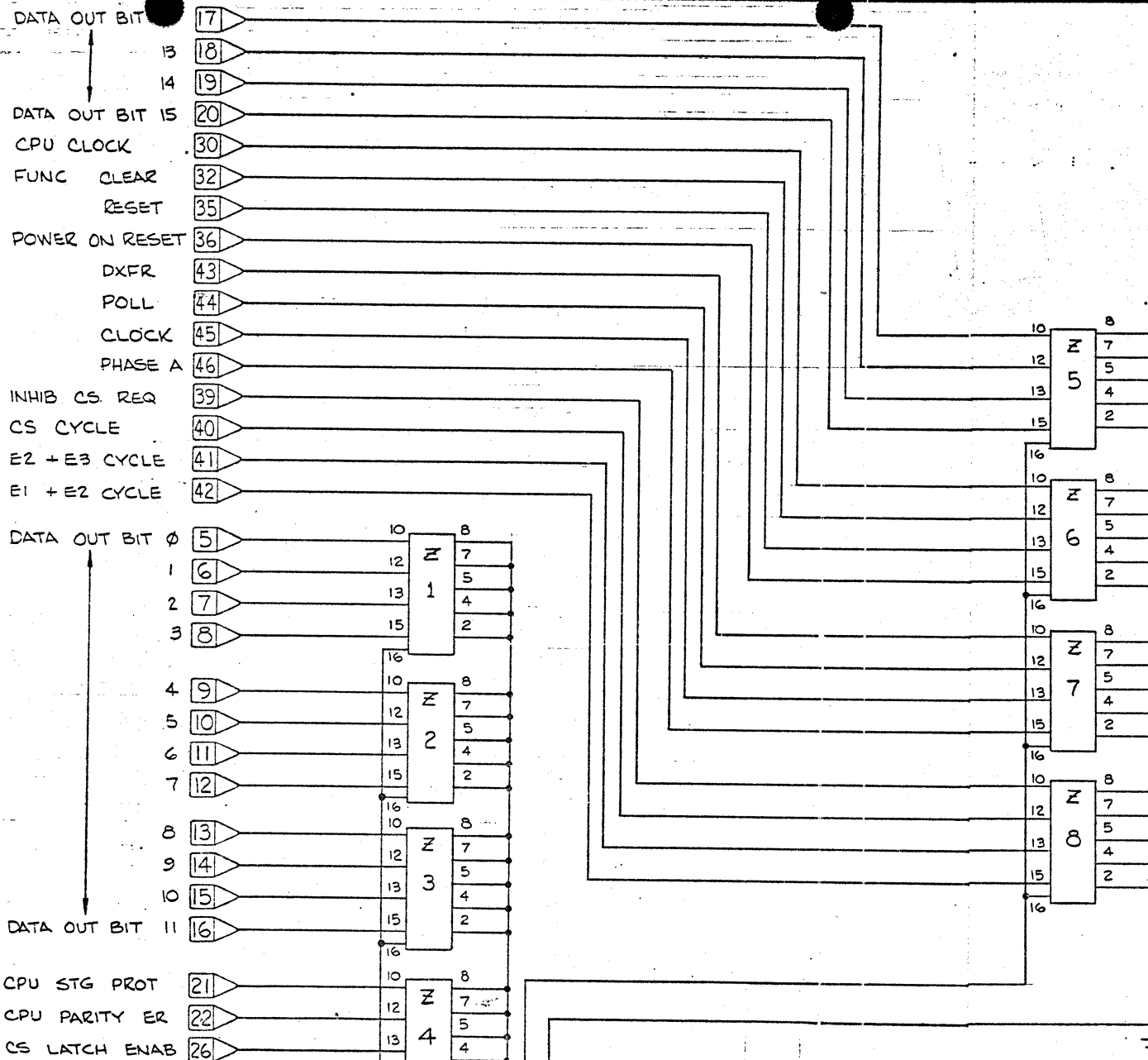
D
C
B
ASC 3695

LAST USED TABLE		FILE NUMBER
CODE	REF DES	

PART OR FILE NUMBER		NOMENCLATURE	MFG PART NO OR MATERIAL	MFG NAME OR SPECIFICATION	ITEM NO
QTY REQD		LIST OF MATERIALS			
THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR USE, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. DIMENSION TOLERANCES: ANGULAR DIMENSION ± .2° DECIMAL 2 PLACE ± .020 DECIMAL 3 PLACE ± .010 BREAK SHARP EDGES MAX INSIDE CORNER ALL MACHINE SURFACES ✓ DIMEN CHECKED DATE			
TITLE		REGISTER SELECTOR, CYCLE STEAL MAP H/W			
DRAWN		TW		CHECKED	
LETTER		TW		DATE	
SCALE		SC		3695	

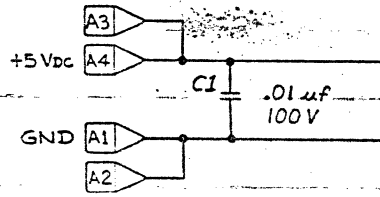
*Substitute OR
NOR*





INTERNAL CIRCUIT
TYP. 8 PLACES

POSITION	PART
1 THRU 8	898-43-Z100

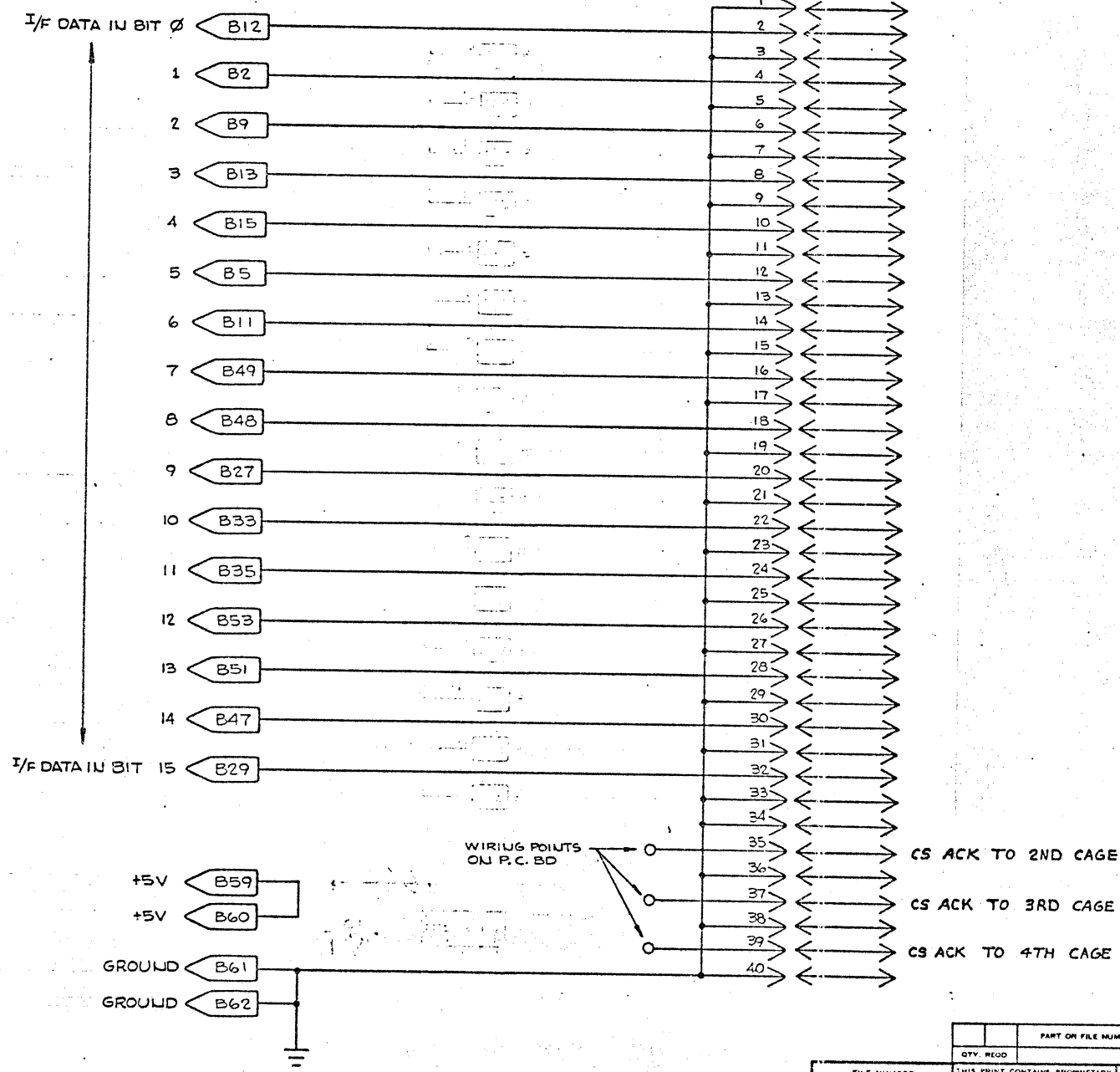


CONFIGURATION TABLE				
SC-2009	NC	NC	A	
PC-1913	NC	A	A	
AC-2032	NC	A	B	

FILE NUMBER	THIS PRINT CONTAINS PROPRIETARY INFORMATION REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR DISCLOSURE TO OTHERS, IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DIMENSION TOLERANCES: ANGULAR DIMENSION ± 1/2° DECIMAL 2 PLACE ± .020 DECIMAL 3 PLACE ± .010	TITLE
			TERMINATOR, I/O MOTHER BOARD
			X COMPUTER HARDWARE INC.
			DRAWN DON 04-25-74 CHECKED [Signature]
			DESIGN TCW
			SCALE NONE
			DATE 2009
			SHEET 1 OF 1

REF CABLE CG-2457-15
U (CCUJ BC-REF)

NOTES:
1. THIS DRAWING USED IN CONJUNCTION WITH ASSY AC-3088.

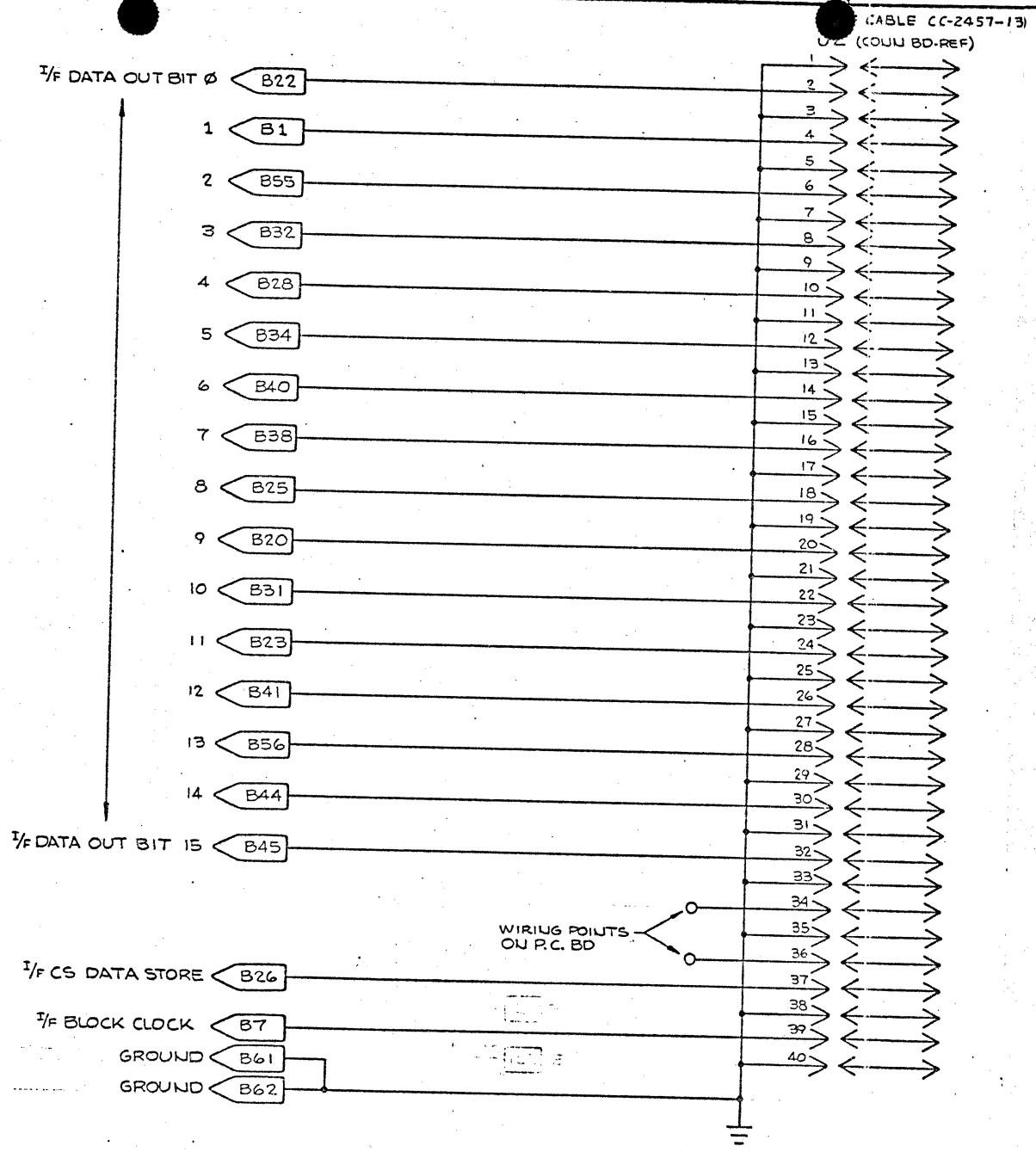


CONFIGURATION TABLE						
SC-3086	NC	A				
PC-3087	UC	NC				
AC-3088	NC	NC				

FILE NUMBER	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. ANGULAR DIMENSION ± 1° DECIMAL 3 PLACE ± .008 DECIMAL 5 PLACE ± .010	TITLE	LIST OF MATERIALS
			CPU, I/F CABLE PADDLE	
			X COMPUTER HARDWARE INC. <i>TCS 12-11-75</i>	
A	HS 11/11/76	ALL MACHINE SURFACES	DRAWN	Nov 4, 1975
LETTER	DMN	CIM	DATE	CHECKED
CHANGE RECORD NO	3086	DO NOT SCALE THIS PRINT	SCALE	DESIGN
			T. WALTERS	SC 3086
				12-11-75
				SHEET 1 OF 3

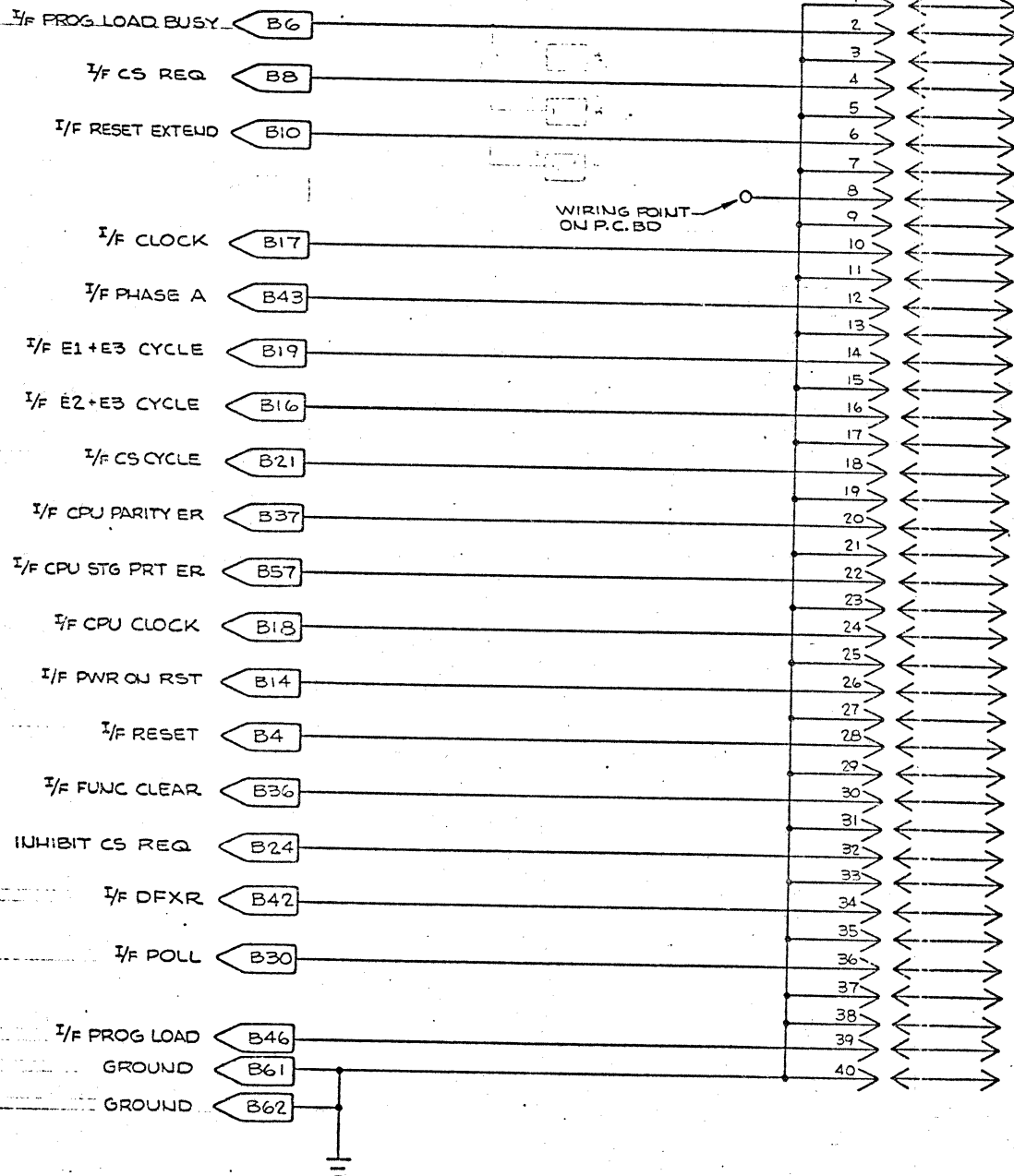
SC 3086

A



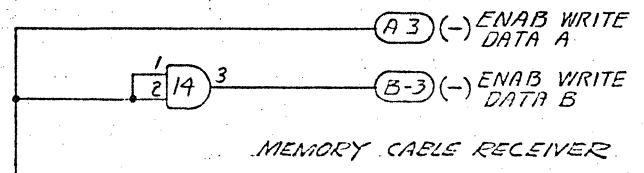
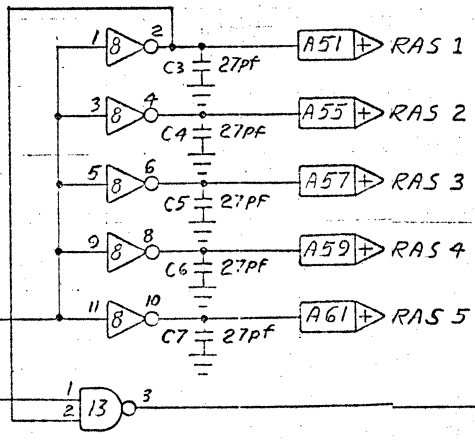
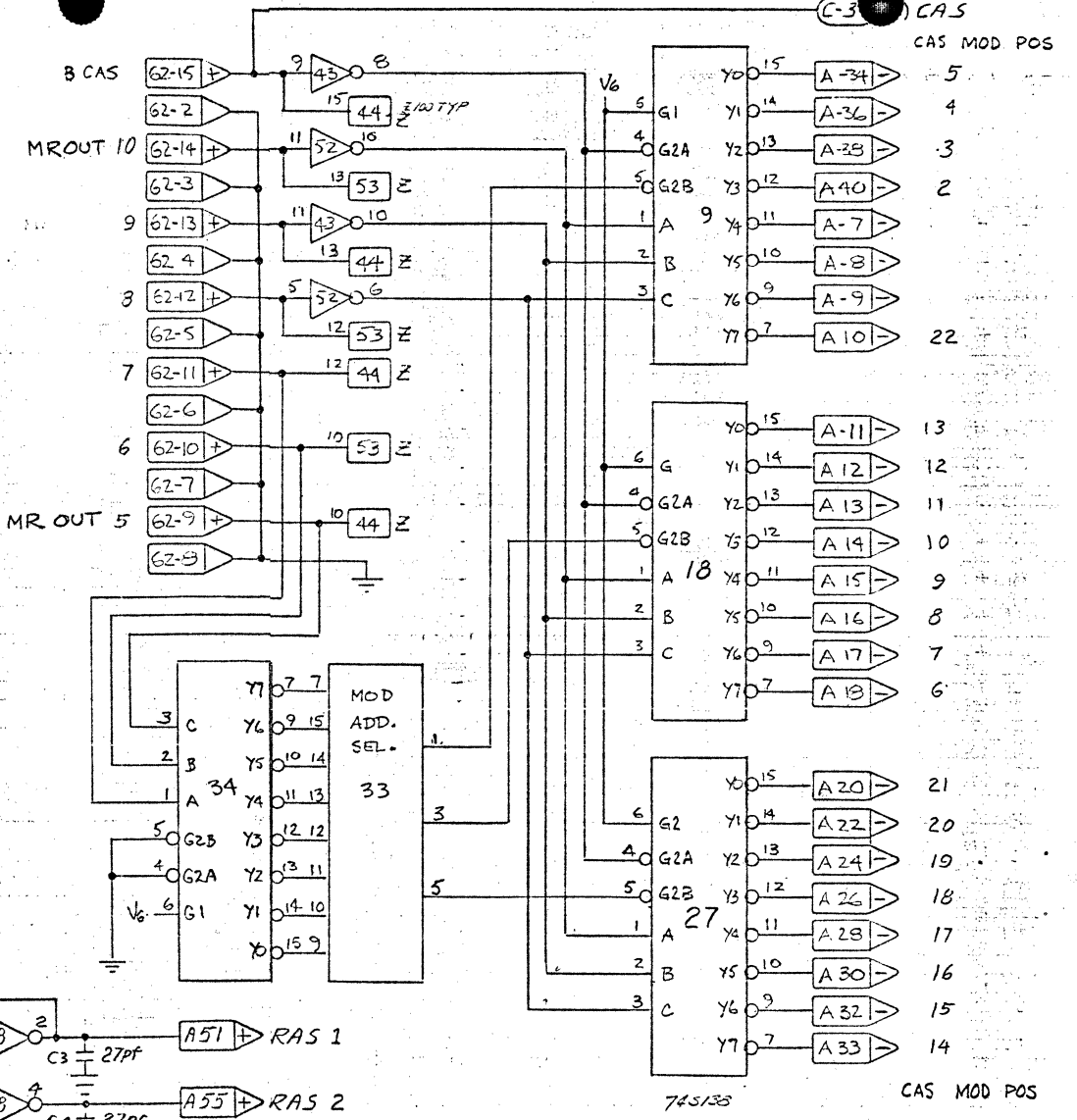
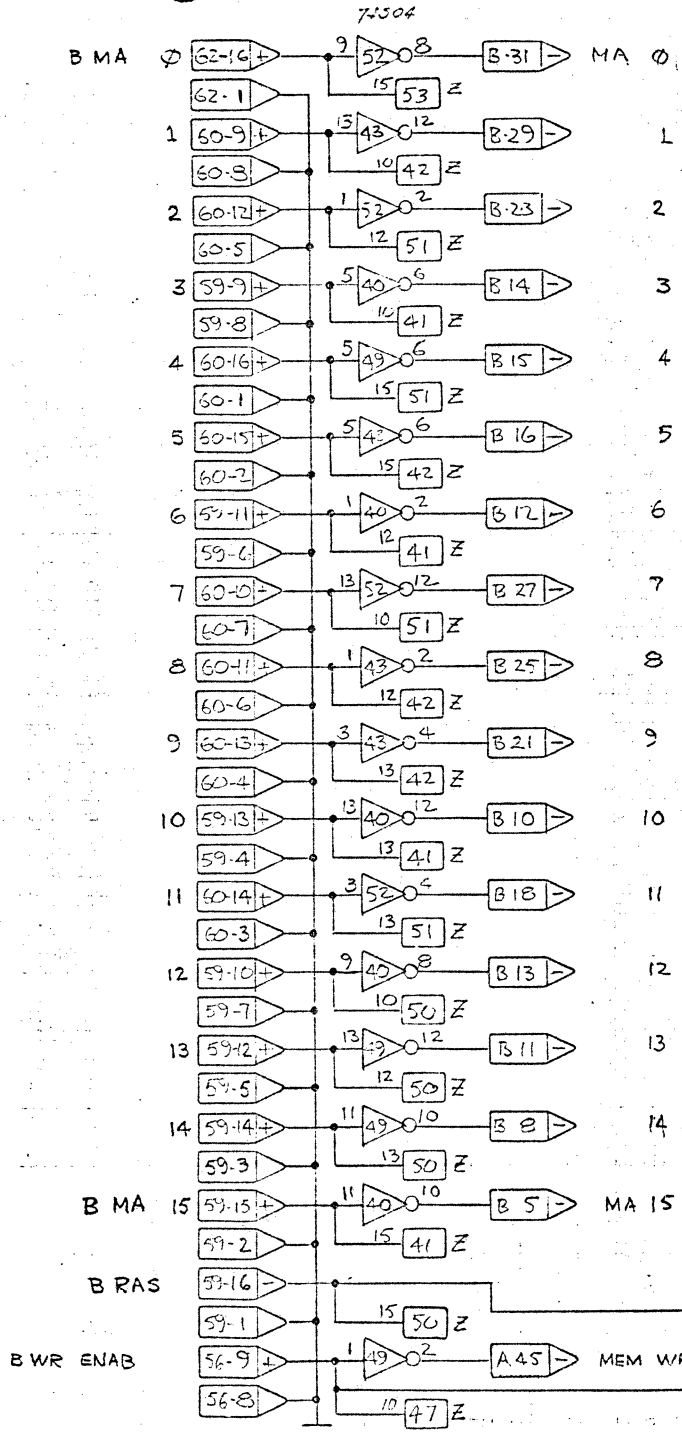
SC 3086

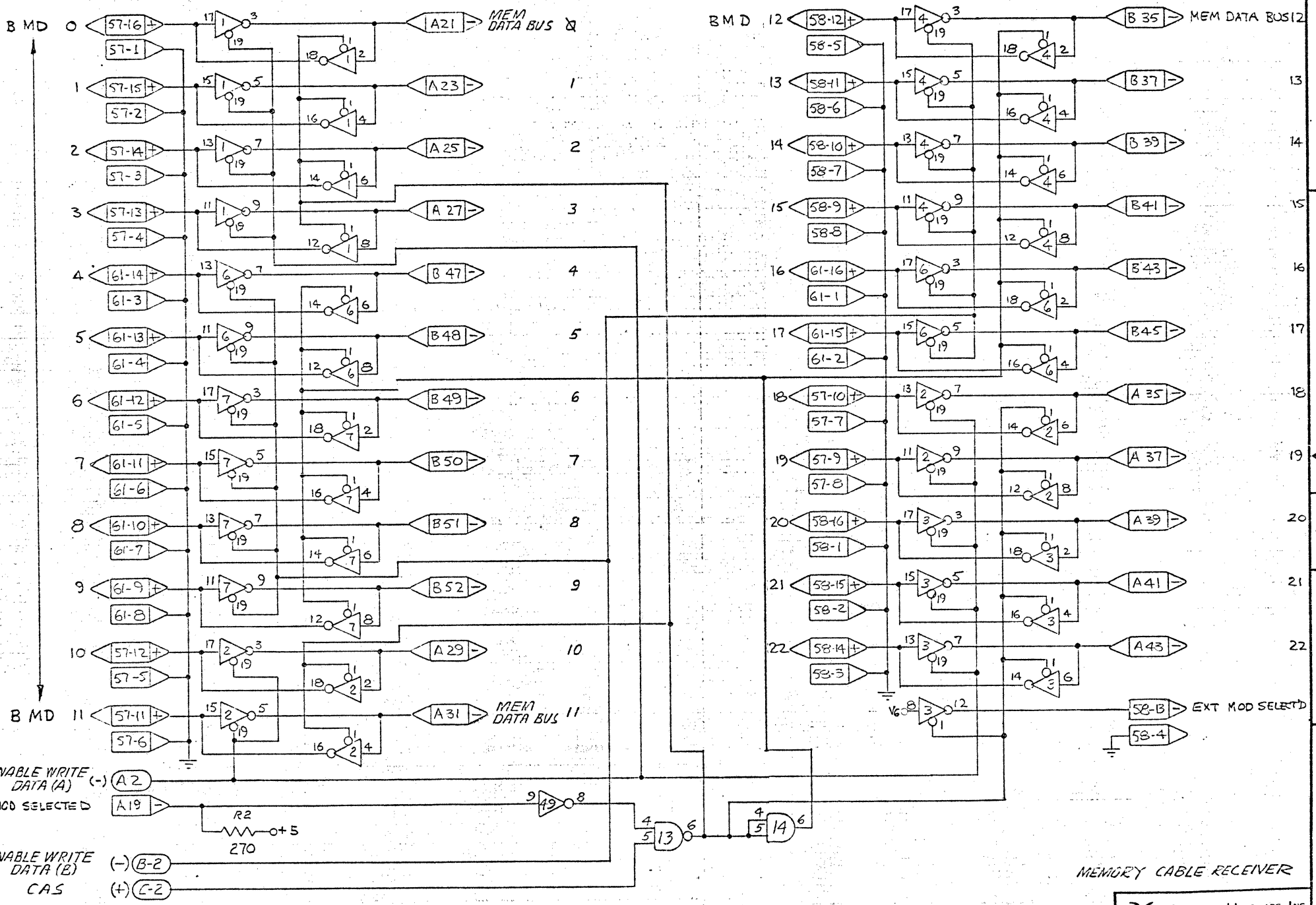
CABLE CC-2457-11
V/S (CONUL BE-REF)



WIRING POINT ON P.C. BOARD

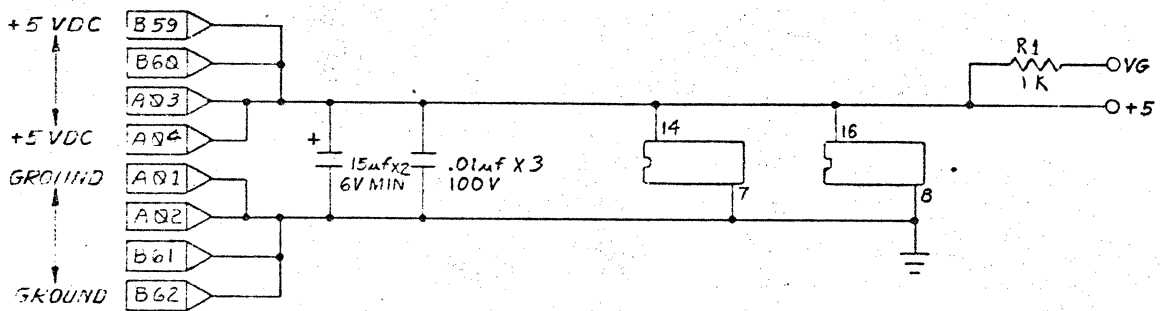
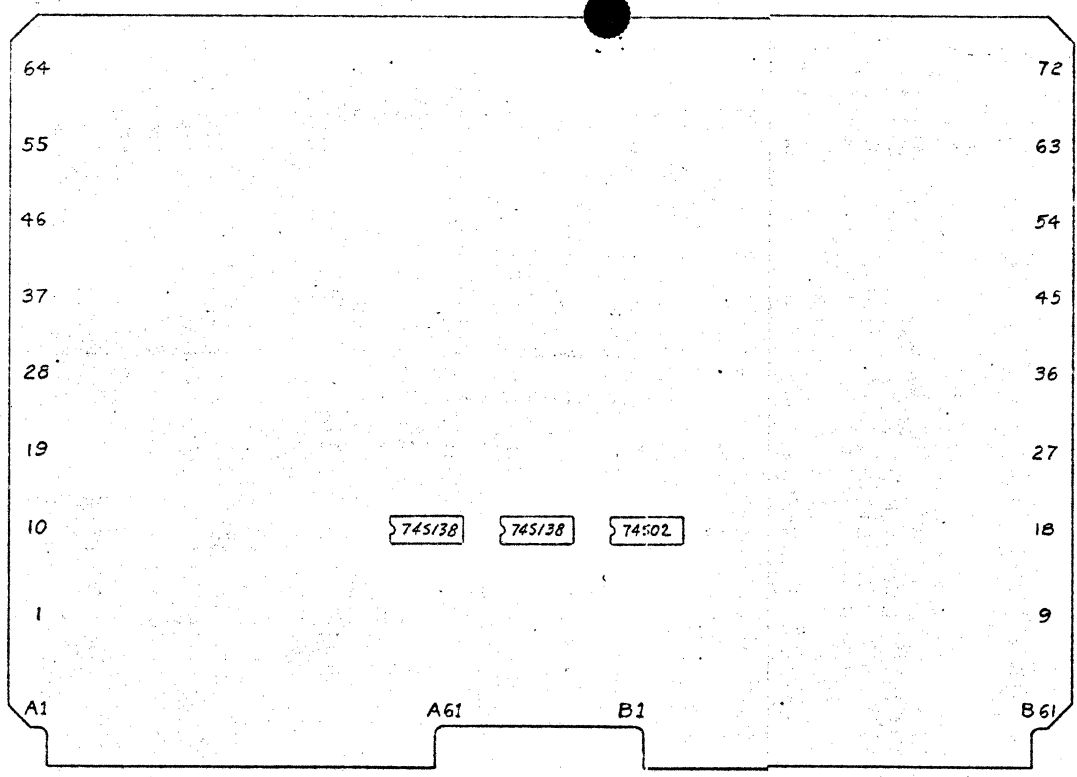
SC 3086





MEMORY CABLE RECEIVER

ASSEMBLY REVISION DATA (REF)	
KEY	DESCRIPTION

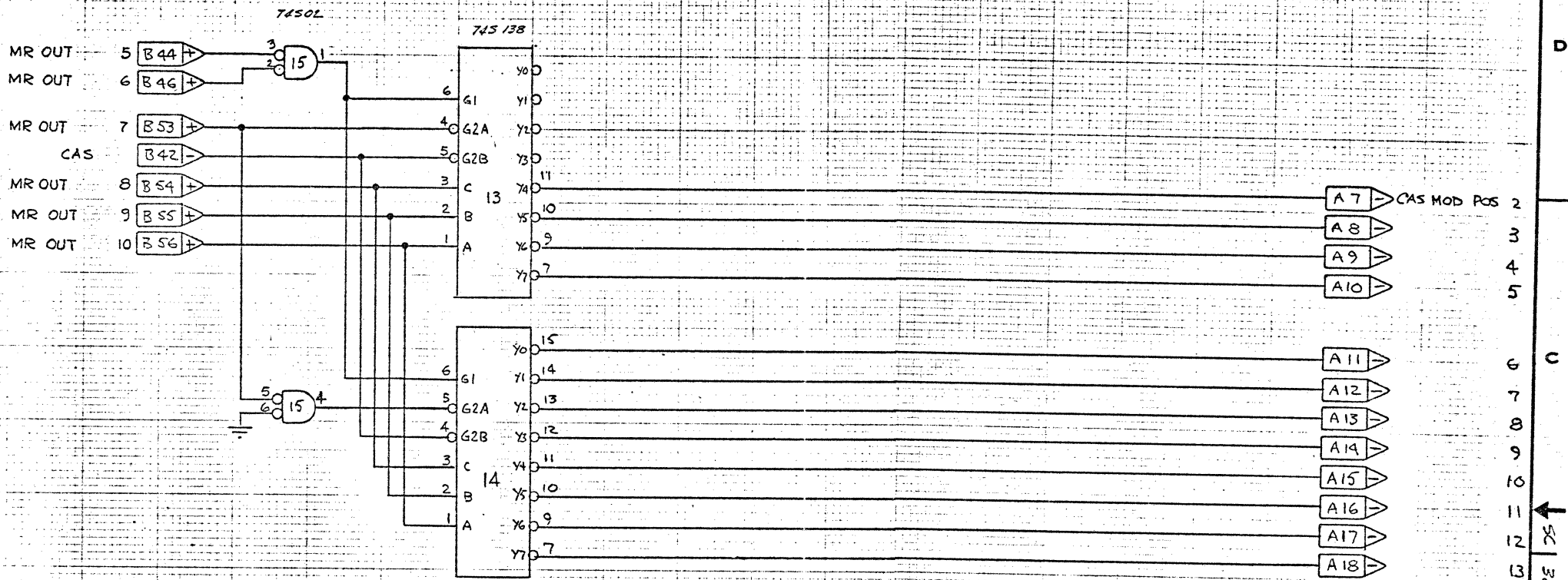


QTY	PART NO	DESCRIPTION	MFG. PART NO. OR MATERIAL	MFG. NAME OR SPECIFICATION	ITEM
1	210028	RESISTOR 1KΩ 1/4W 5%	11100142	QPL	6
3	210044	CAPACITOR .01µf 100V DISC CER	TG-510	SPR	5
2	212808	INTEGRATED CIRCUIT	SN74S138	TI	4
1	212633	INTEGRATED CIRCUIT	SN74S02N	TI	3
2	210408	CAPACITOR 6/15µf 6VMM TAN	EC-0916-1	CHI	2
1	214005	PC BOARD	PC-2493	CHI	1
-1	PART NO	DESCRIPTION	MFG. PART NO. OR MATERIAL	MFG. NAME OR SPECIFICATION	ITEM

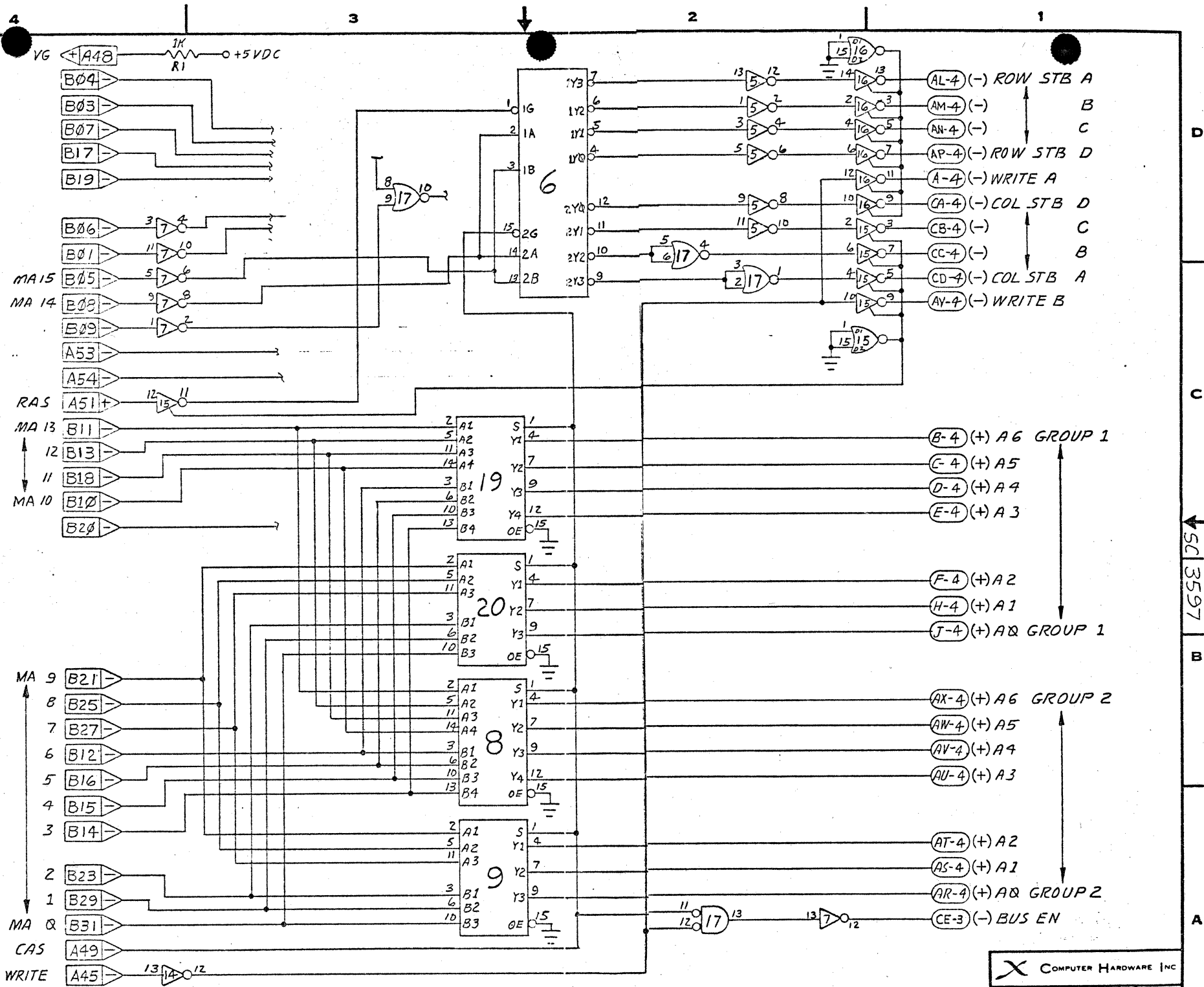
LAB	US J TAB	FILE NUMBER
CODE	REF DES.	-1 217042
	RI	

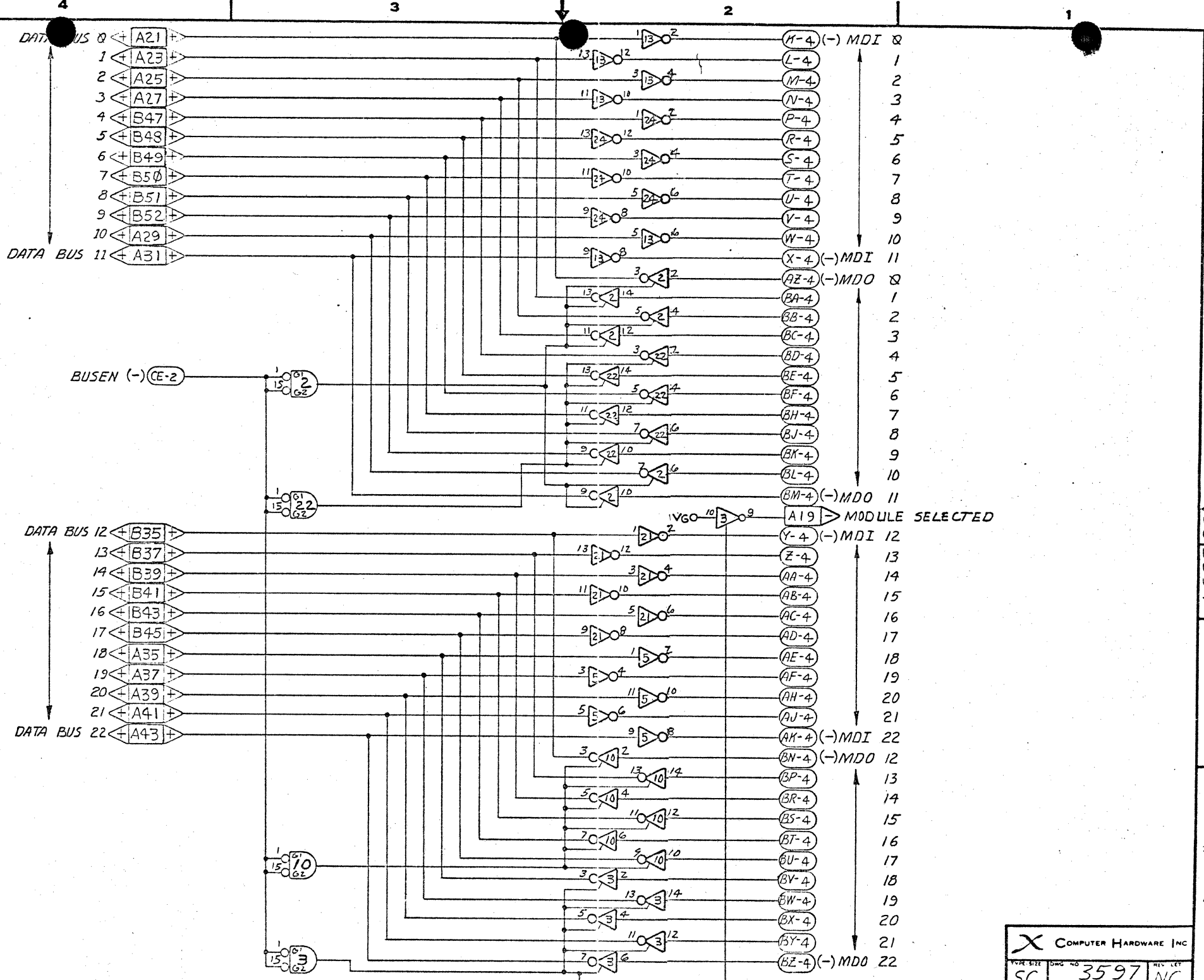
TITLE		MATERIAL	
MEM MODULE ADDRESS DECODE - EXT. MEM.		HW	
DESIGN	DATE	CHECKED	
SC	NOV 3 1971		

SC 3871 | M.M. | L1017 | 1821 SC



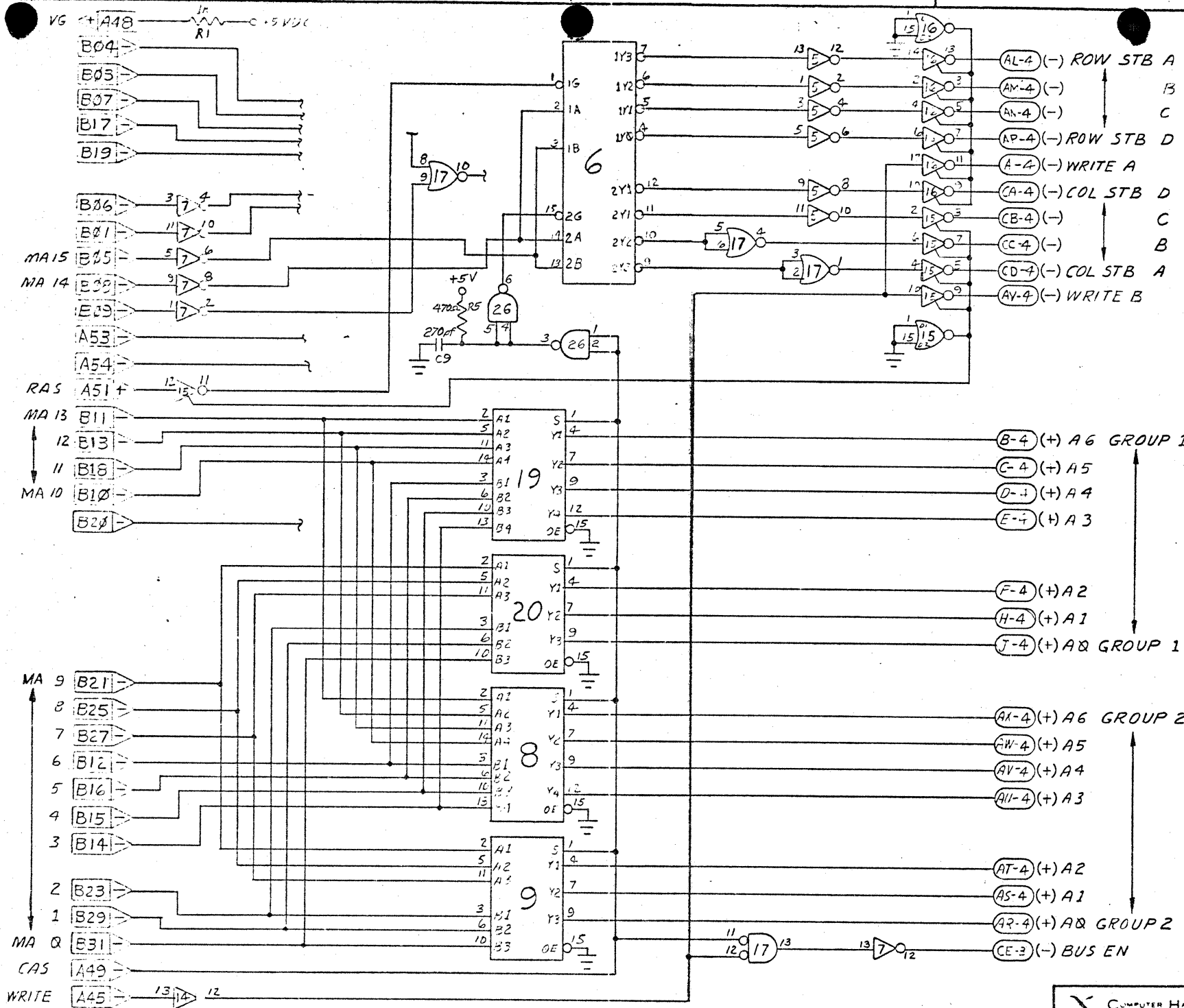
MEM MODULE ADDRESS DECODE

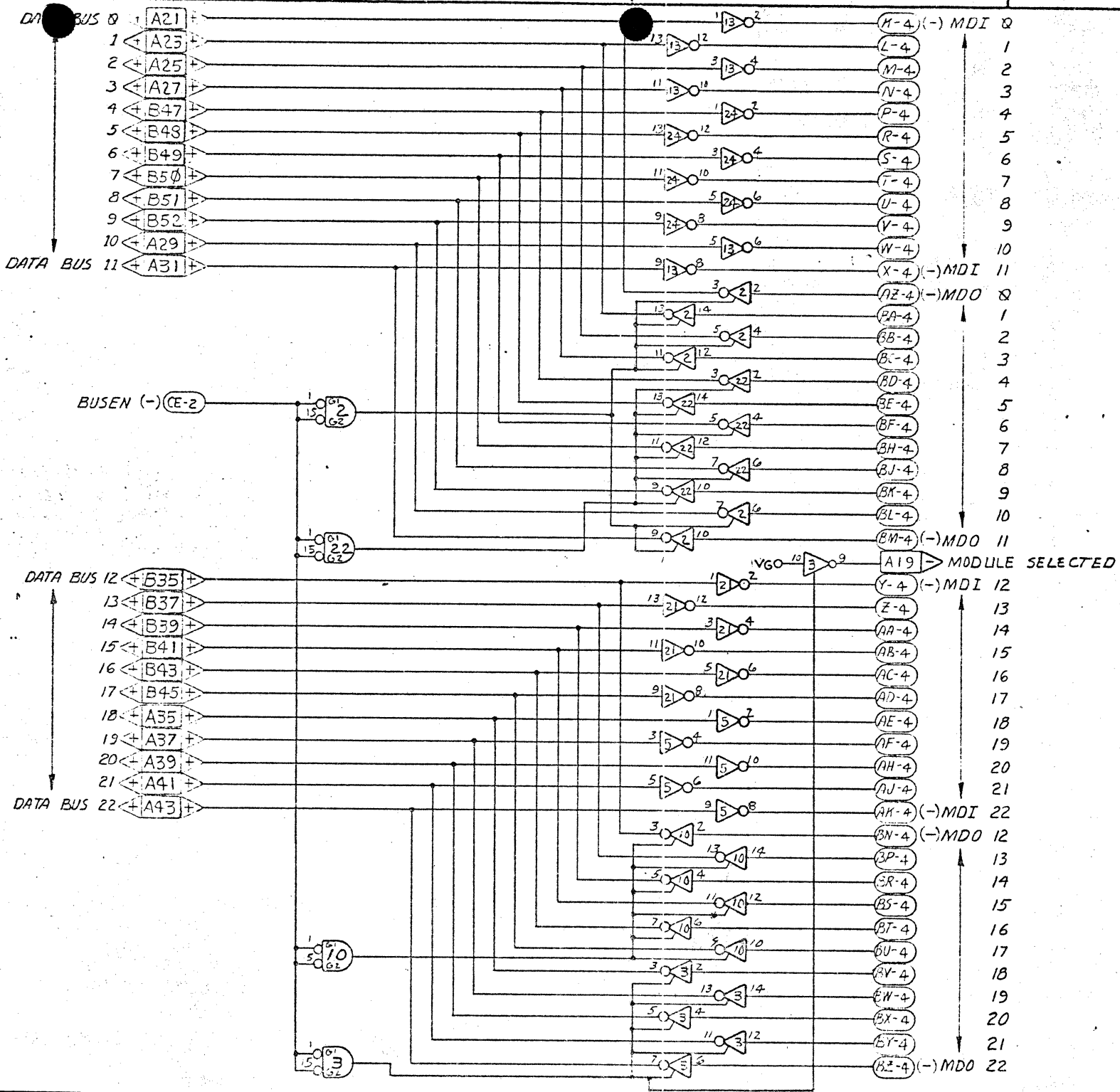


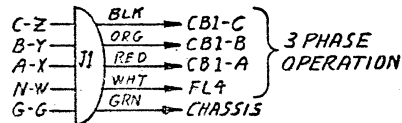
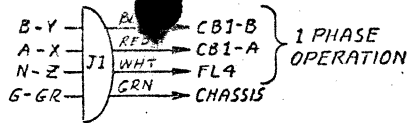


SC13597 | B

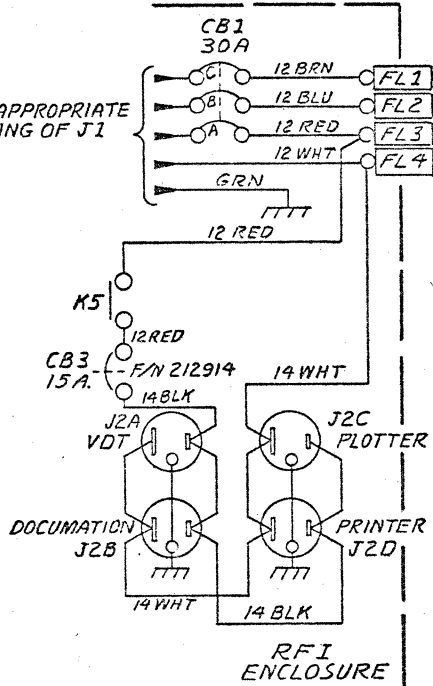
A



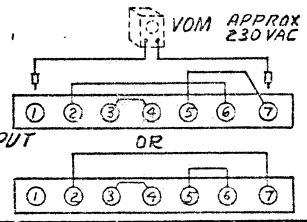
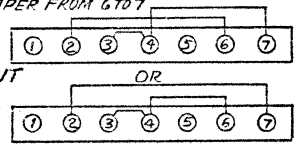




SEE APPROPRIATE WIRING OF J1

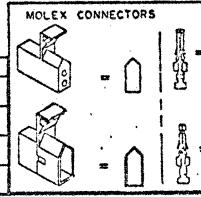


TB2 STRAPPING OPTIONS FOR ADJUSTMENT OF 208-240 VAC LINE INPUT VOLTAGE REMOVE JUMPER FROM G107



CONFIGURATION TABLE

AC-3002	NC	NC	A						
AC-3020	NC	NC	A						
AC-3007	NC	A	A						
SC-3003	AC	A	A						



QTY	RFQD	PART OR FILE NUMBER	NOMENCLATURE	MFG PART NO OR MATERIAL	MFG NAME OR SPECIFICATION	ITEM NO
LIST OF MATERIALS						
THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR DISCLOSURE TO OTHERS, IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.			UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DIMENSION TOLERANCES ANGULAR DIMENSION ± 1/4° DECIMAL 2 PLACE ± .010 DECIMAL 3 PLACE ± .010			
B 115 115 115 115 115 115			TITLE POWER DISTRIBUTION, INTERMEDIATE-2130			
X			Computer Hardware Inc			
DRAWN WF 9-25-75		CHECKED 1				
DESIGN HOLBR00A		DATE		3003		
CHANGE REQUIRED NO 3003		SCALE		1 of 2		

SC 3003

A

D

C

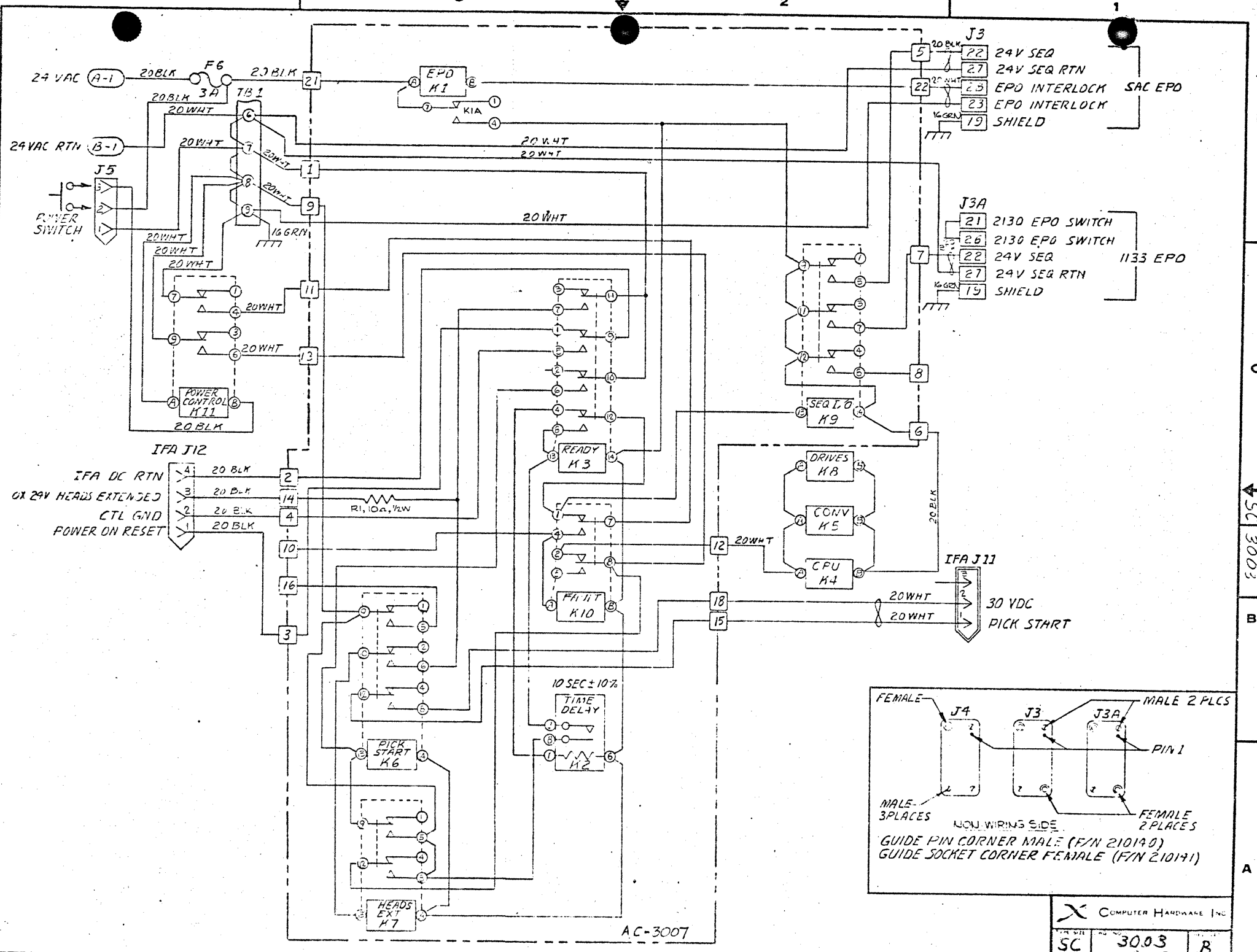
B

1

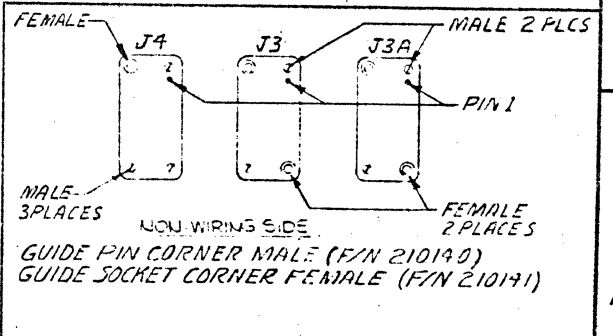
2

3

4

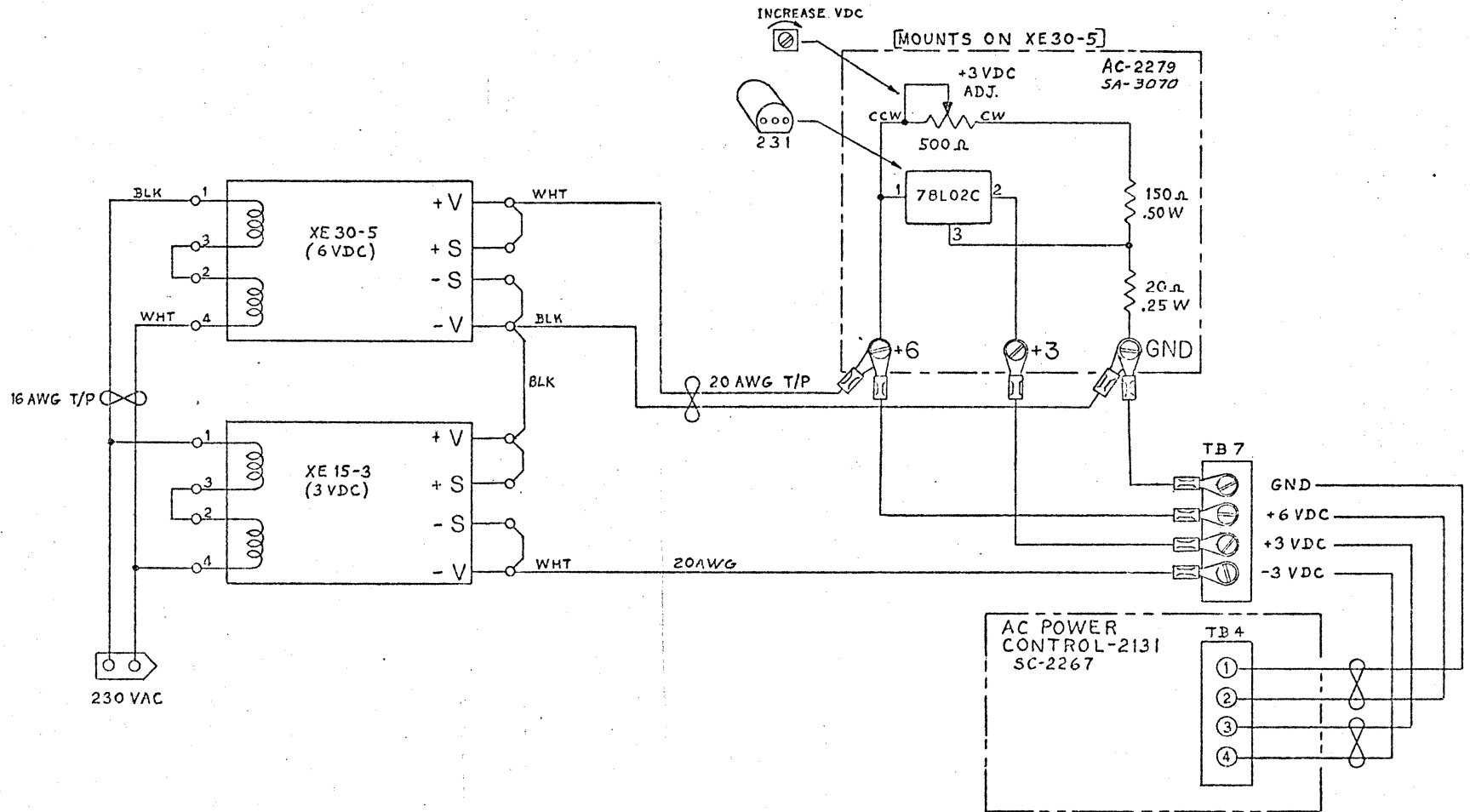


SC 3003 B



AC-3007

NOTES:
1. THIS DRAWING USED IN CONJUNCTION
WITH AC-2350.



CONFIGURATION TABLE	
SA-3070	NC
PE-227B	NC
AC-2279	NC

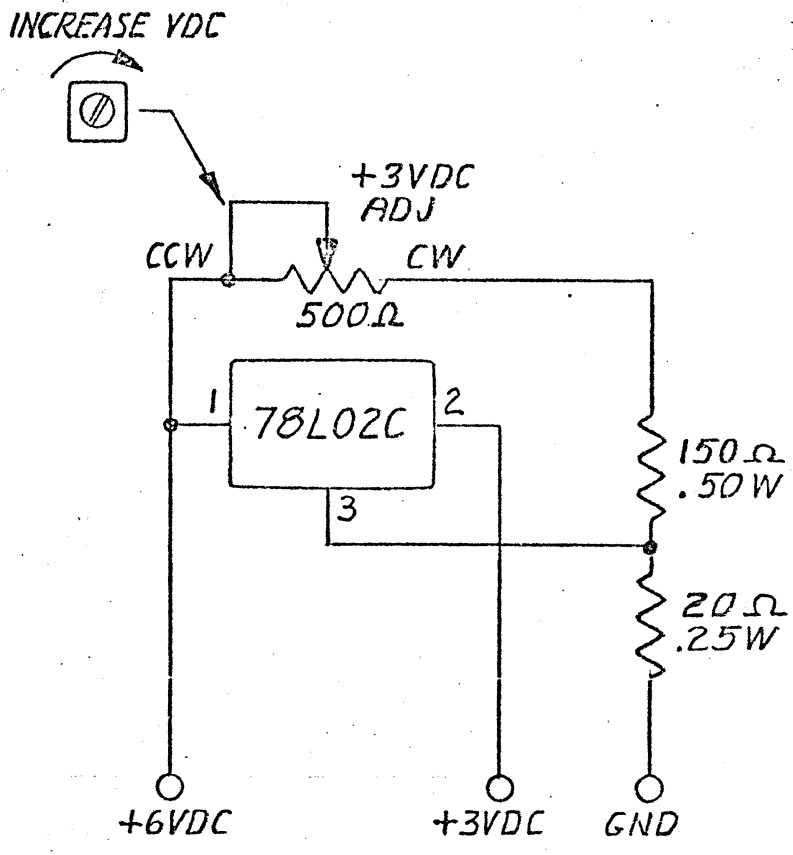
QTY. REQD.	PART OR FILE NUMBER	NOMENCLATURE	MFG. PART NO. OR MATERIAL	MFG. NAME OR SPECIFICATION	ITEM NO.	
THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR DISCLOSURE TO OTHERS, IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.		UNLESS OTHERWISE SPECIFIED: DIMENSION TOLERANCES: ANGULAR DIMENSION ± 0.5° DECIMAL 2 PLACE ± 0.010 DECIMAL 3 PLACE ± 0.005 FRACTIONAL ± .005	TITLE: POWER SUPPLY, DC, 1442-2131			
ALL MACHINE SURFACES		✓	DRAWN: D. WOODSON			
102	REV	1.1	DATE	DESIGN	LGW	
LETTER	ENH	CM	DATE	SCALE	SC	
CHANGE REL-NO	2277	DO NOT SCALE THIS PRINT	SCALE	TYP. SIZE	2277	
					1 OF 1	

D

C

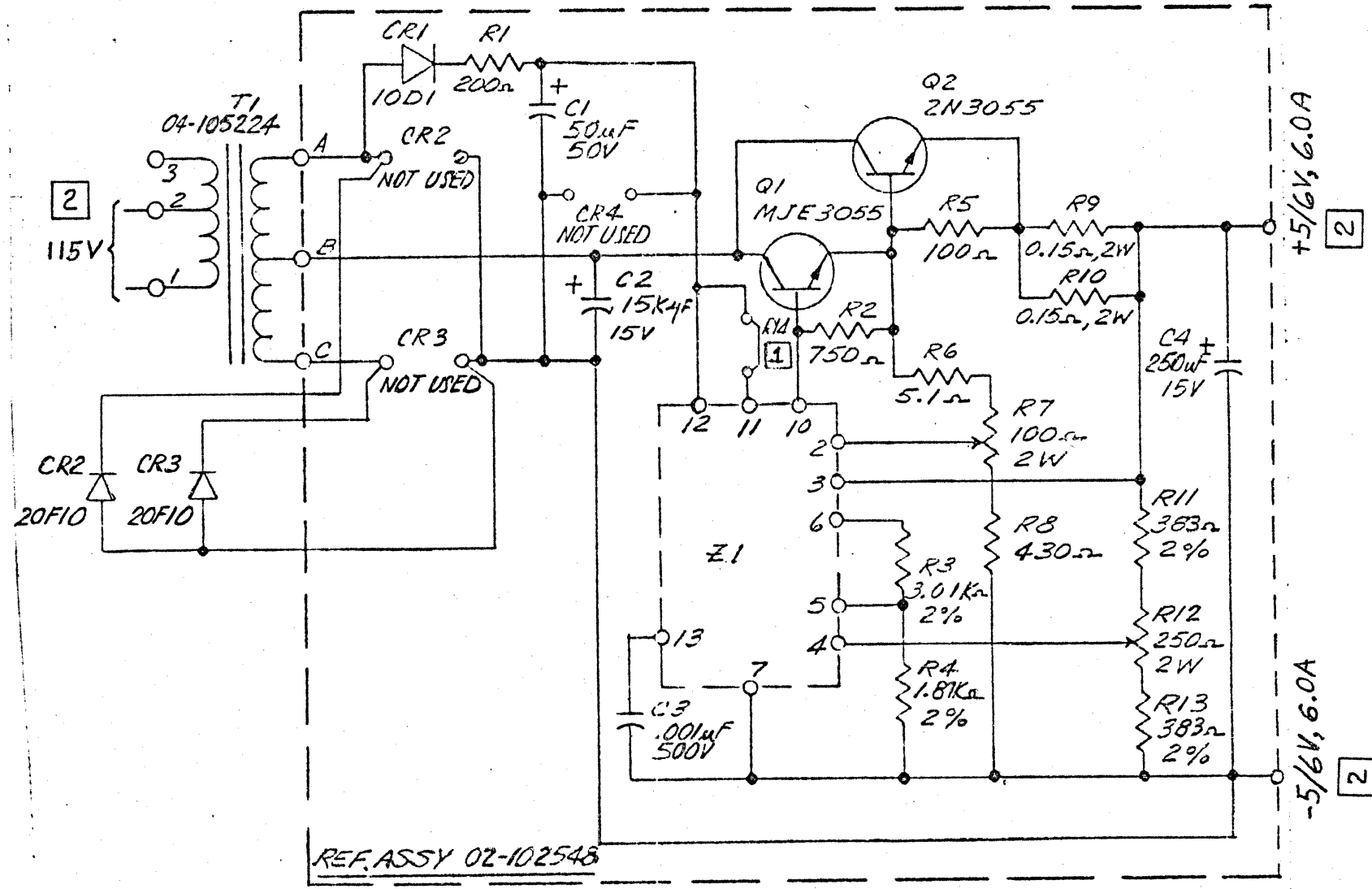
SCI 2277 | B

A



CONFIGURATION TABLE									
SA-3070	NC								
PC-2278	NC								
AC-2279	NC								

DASH	FILE NUMBER	DRAWN KVF	11-25-75	CHECKED A. Hedell	12-01-75	1ST RLSED	12-01-75	THIS DRAWING CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS DRAWING OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.
		ORIGINATOR ROYER/WALTERS		1ST/REV RLSE APPROVAL		REV RLSED		



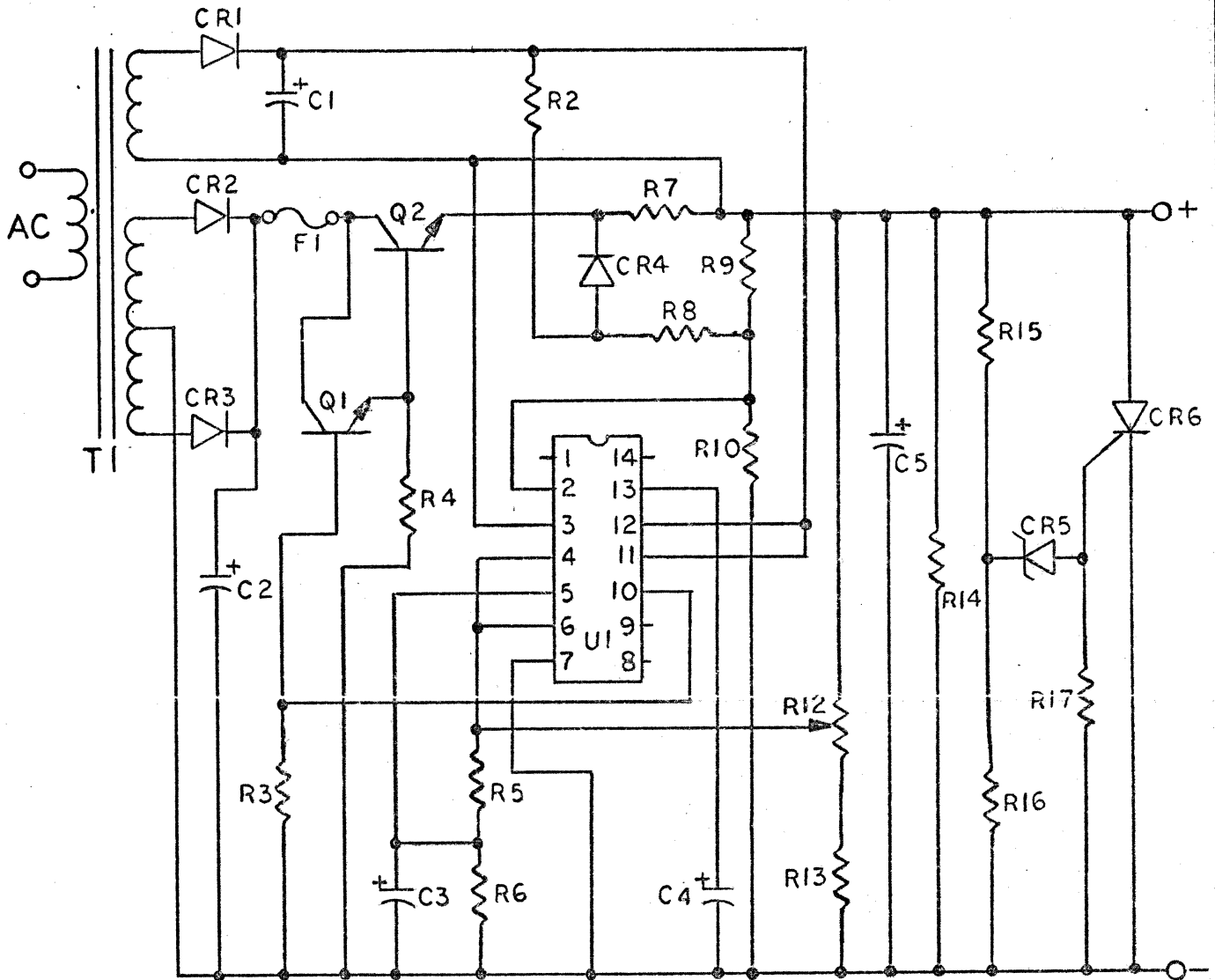
NOTES:

- 1. INSTALL JUMPER.
- 2. FOR 6V OUTPUT 115VAC IN AT T1-1 & T1-2.
FOR 5V OUTPUT 115VAC IN AT T1-1 & T1-3.

DRAWN SANDERS	3-11-76	CHECKED A. Hedell	1ST RLS	3/11/76	REV RLS
			1ST/REV RLS APPROVAL		
ORIGINATOR G.T. Sanders	3/11/76				



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PARTS LIST

C1	500MFD 15V	R9	510	CR2,3	A15F
C2	9000MFD 15V	R10	820	CR4	1N4002
C3	1000 mmfd	R12	500Ω POT	CR5	1N747A 3.6V
C4	4.7 MFD 10V	R13	510	CR6	S2600B (RCA)
C5	47MFD 25V	R14	150		
F1	AGC3	R15	47		
T1	30T3	R16	1K		
R2	750	R17	1K		
R3	10K	Q1	2N3569		
R4	1K	Q2	2N3055		
R5	910	U1	723C		
R6	390	CR1	1N4002		
R7	0.1 BWH				
R8	150				

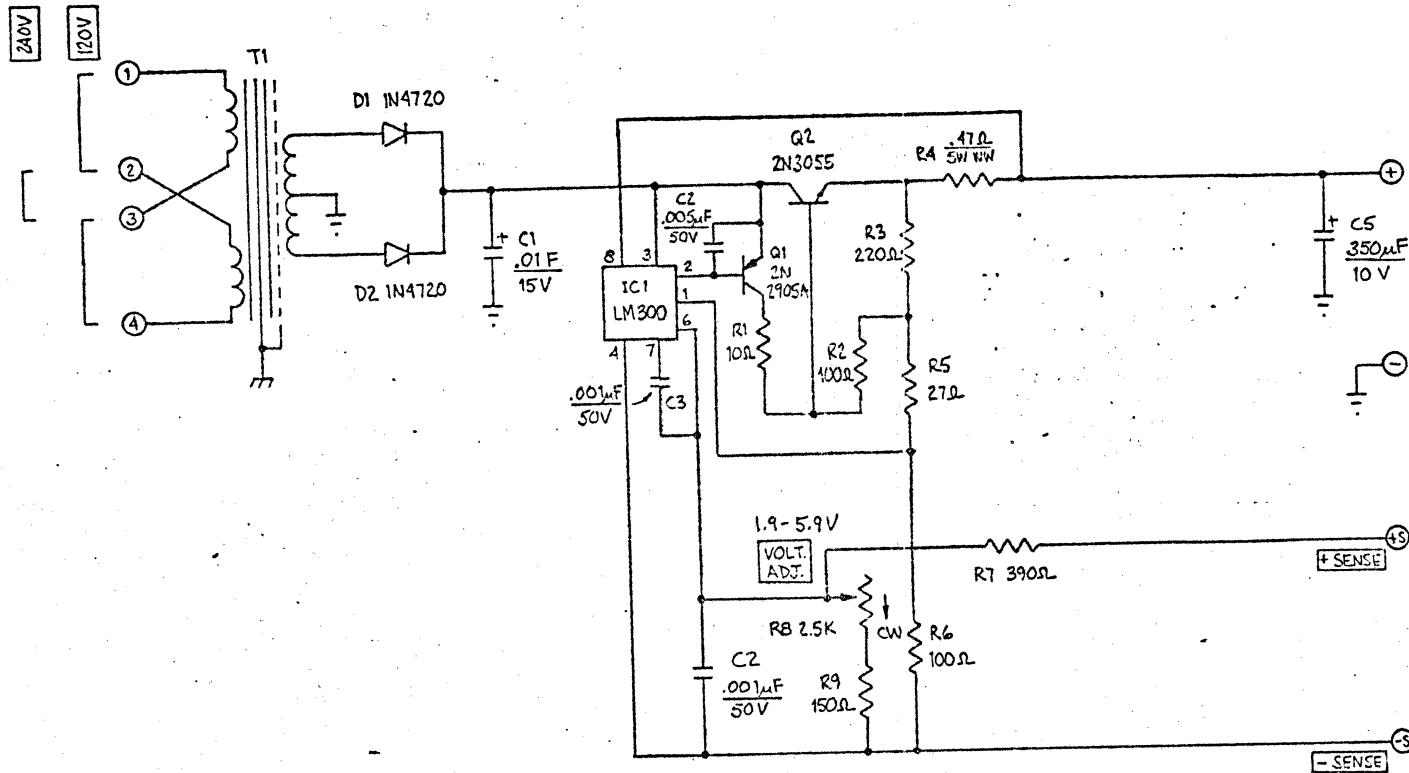
DRAWN
SANDERS
3-18-76
ORIGINATOR
C. H. Sanders

CHECKED
d. chadwick
1ST/REV RLSE APPROVAL

1ST RLSED
4/27/76
REV RLSED

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COMPUTER
HARDWARE
INC.



NOTES:

1. USED WITH PN XE-15-3, XENTEK INC.
2. SET UP: SET R8 TO OUTPUT VOLTAGE (SEE NEXT HIGHER SCHEMATIC FOR VALUE). THIS PROCEDURE FOR REFERENCE ONLY; IT IS TO BE PERFORMED IN ACCORDANCE WITH THE NEXT HIGHER ASSEMBLY DRAWING.

CAUTION

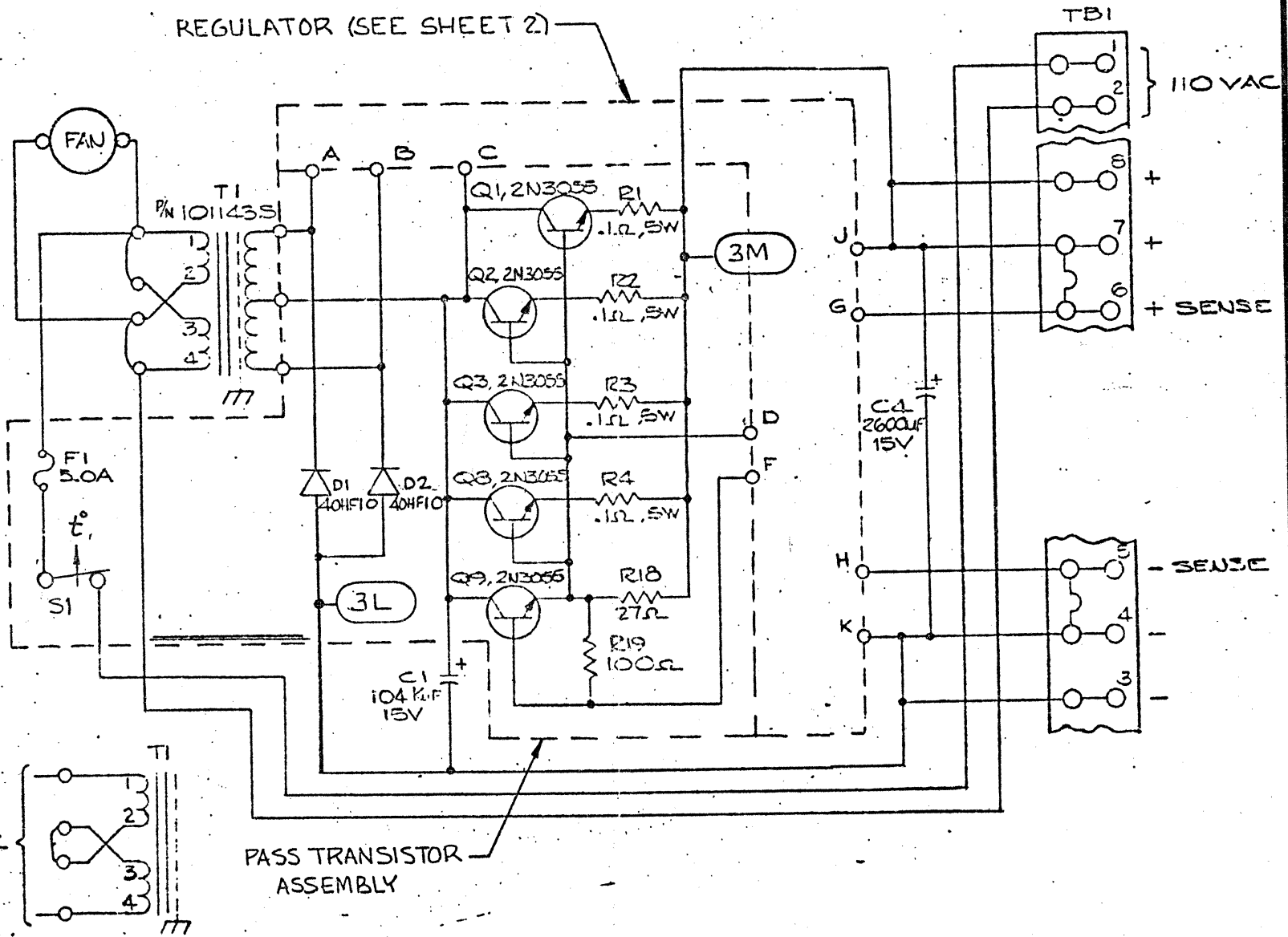
DO NOT USE PART AS A REPLACEMENT. USE NEXT HIGHER ASSEMBLY WHICH WILL HAVE LEADS, PART MARKINGS AND SEALED ADJUSTMENTS. AN INCORRECTLY ADJUSTED SUPPLY WILL CAUSE DAMAGE TO EQUIPMENT.

QTY	REF ID	PART OR FILE NUMBER	NOMENCLATURE	MFG PART NO OR MATERIAL	MFG NAME OR SPECIFICATION	ITEM NO
		LIST OF MATERIALS				
FILE NUMBER	THIS PRINT CONTAINS PROPRIETARY INFORMATION. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM COMPUTER HARDWARE INC.		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DIMENSION TOLERANCES ANGULAR DIMENSIONS DECIMAL 2 PLACE DECIMAL 3 PLACE	TITLE +3VDC POWER SUPPLY W/O OVP		
			BREAK SHARP EDGES MAX UNDER LIGHT	X COMPUTER HARDWARE INC.		
			ALL MATED SURFACES	DRAWN	WHITENAL	CHECKED
LETTER	ENH	CR	DATE	BY	DATE	DATE
				SC	1432	NC

D
C
SC1432
B

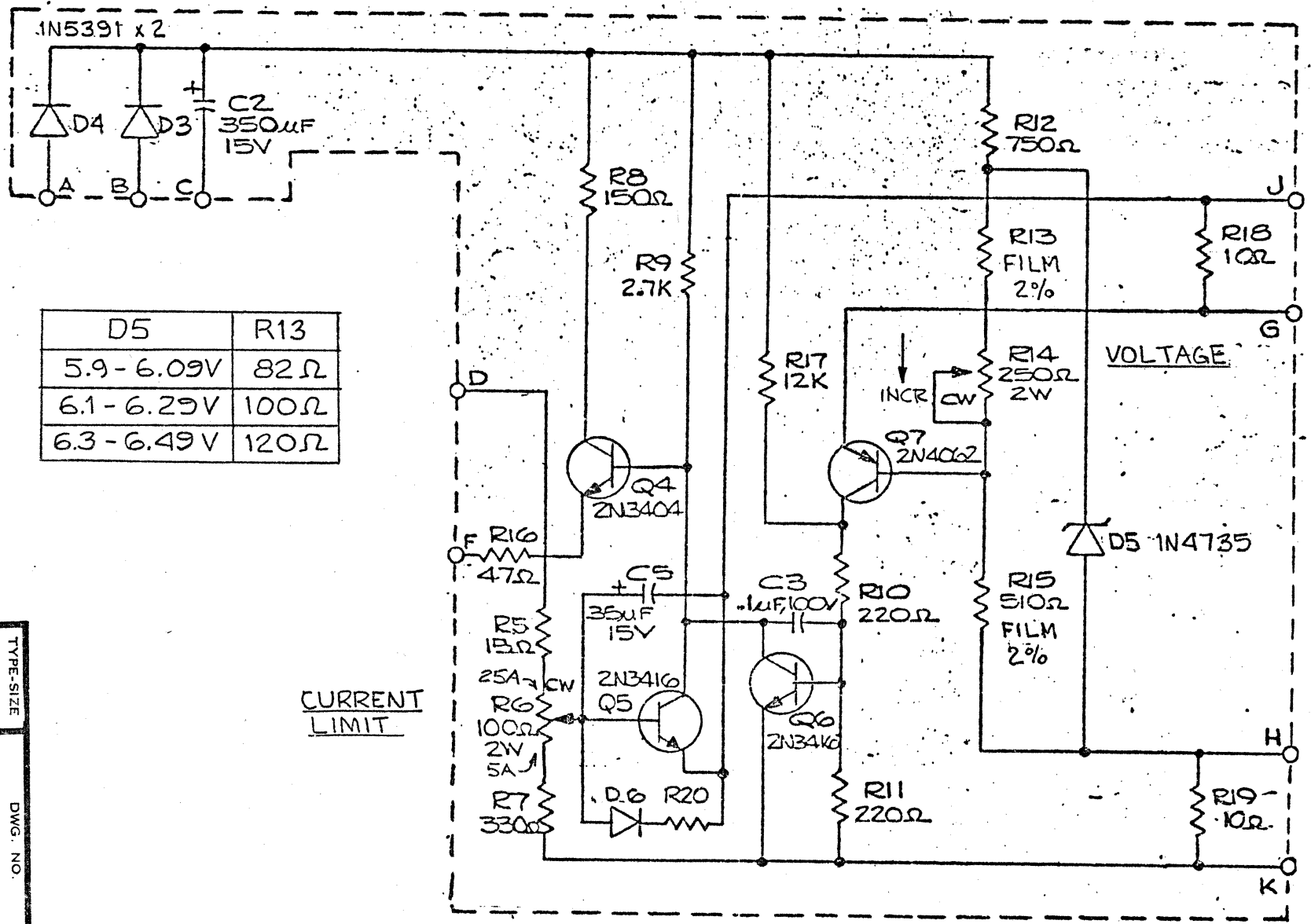
A

REGULATOR (SEE SHEET 2)



NOTE:

1. ALL RESISTORS .5W UNLESS NOTED.
2. SEPARATE REFERENCE DESIGNATIONS USED FOR OVP CIRCUIT (SHEET 3).

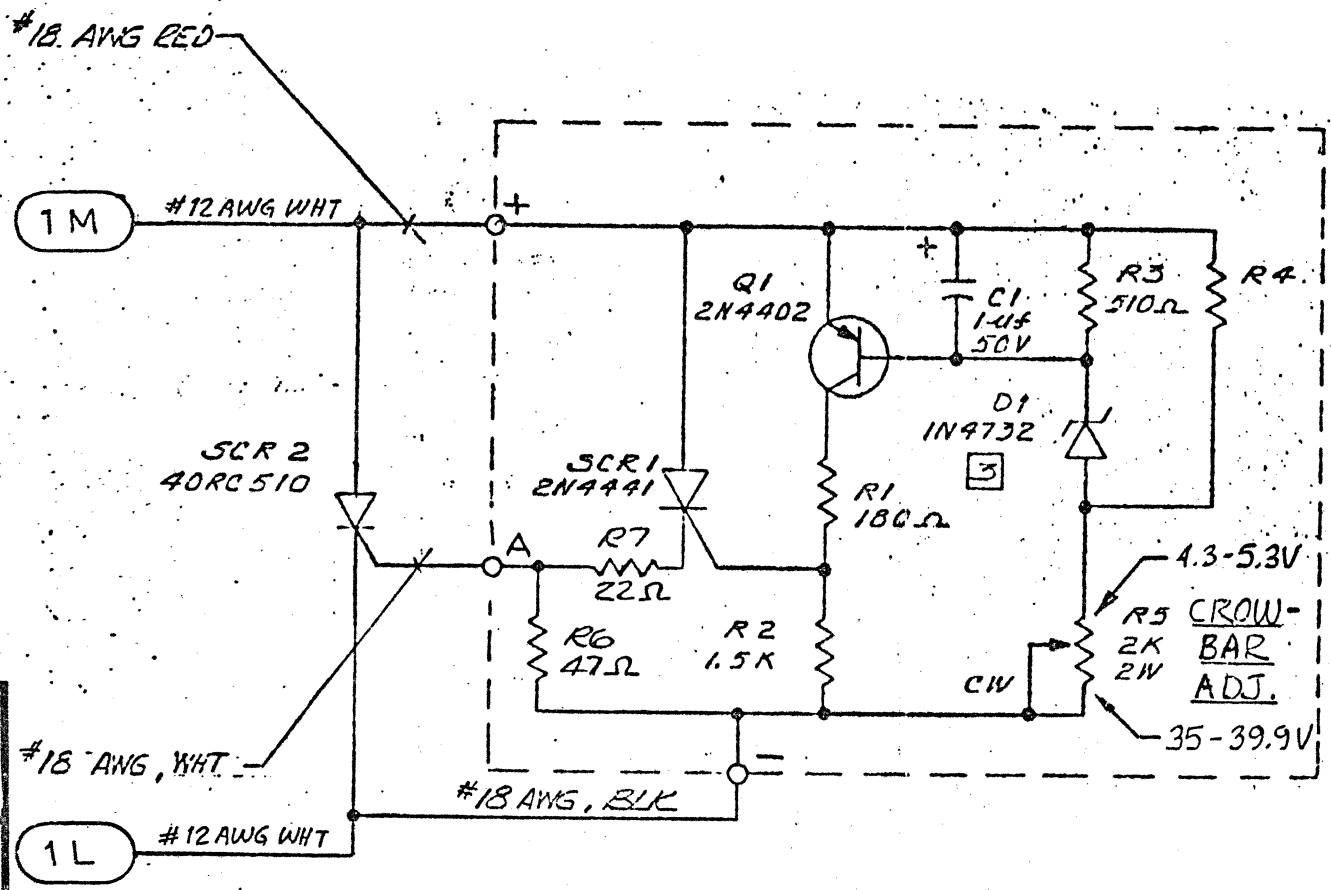


D5	R13
5.9 - 6.09V	82Ω
6.1 - 6.29V	100Ω
6.3 - 6.49V	120Ω

CURRENT LIMIT

VOLTAGE

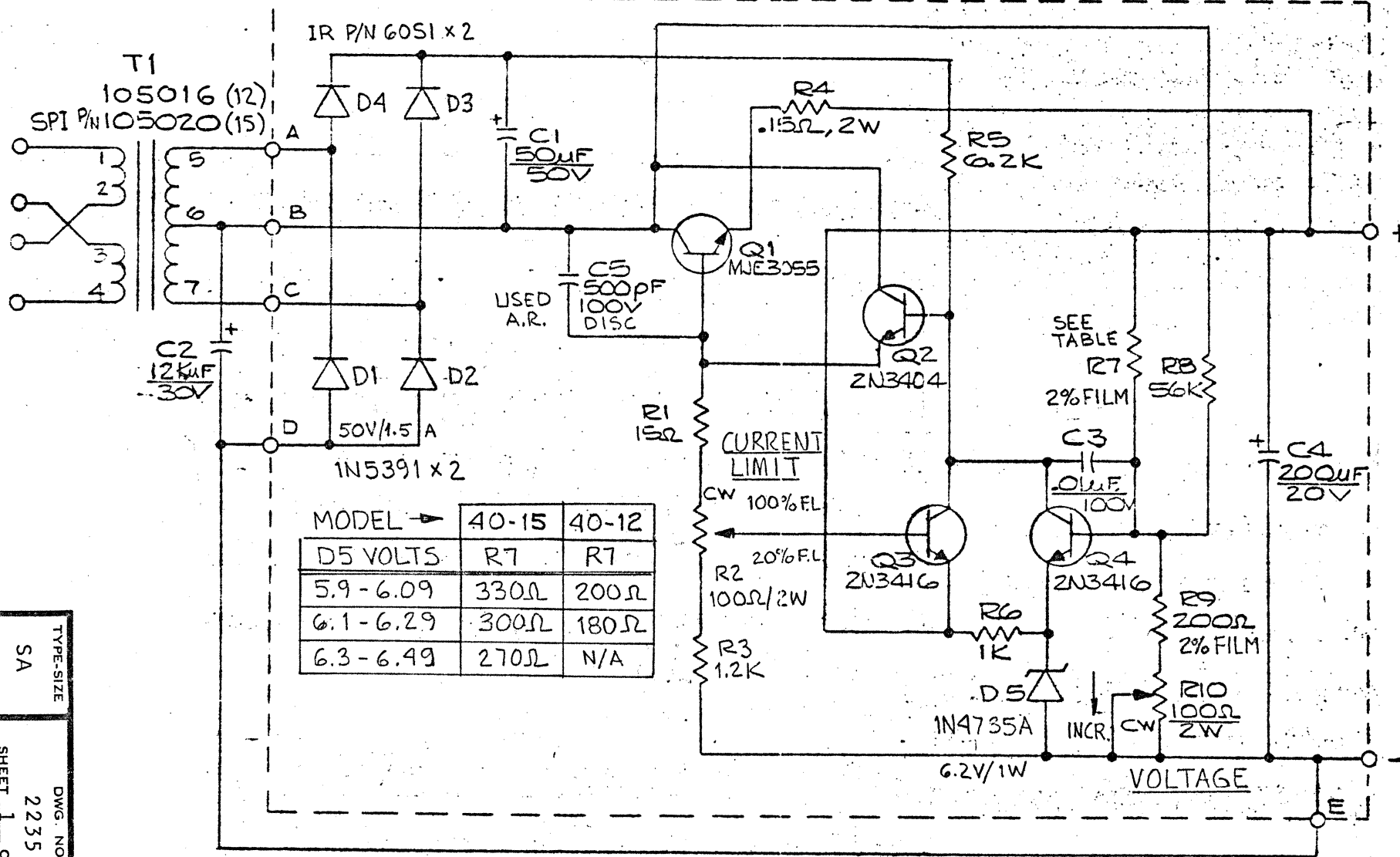
REGULATOR CIRCUIT



D1	R4
4.3V	270Ω
4.4 - 4.59V	330Ω
4.6 - 4.7V	360Ω

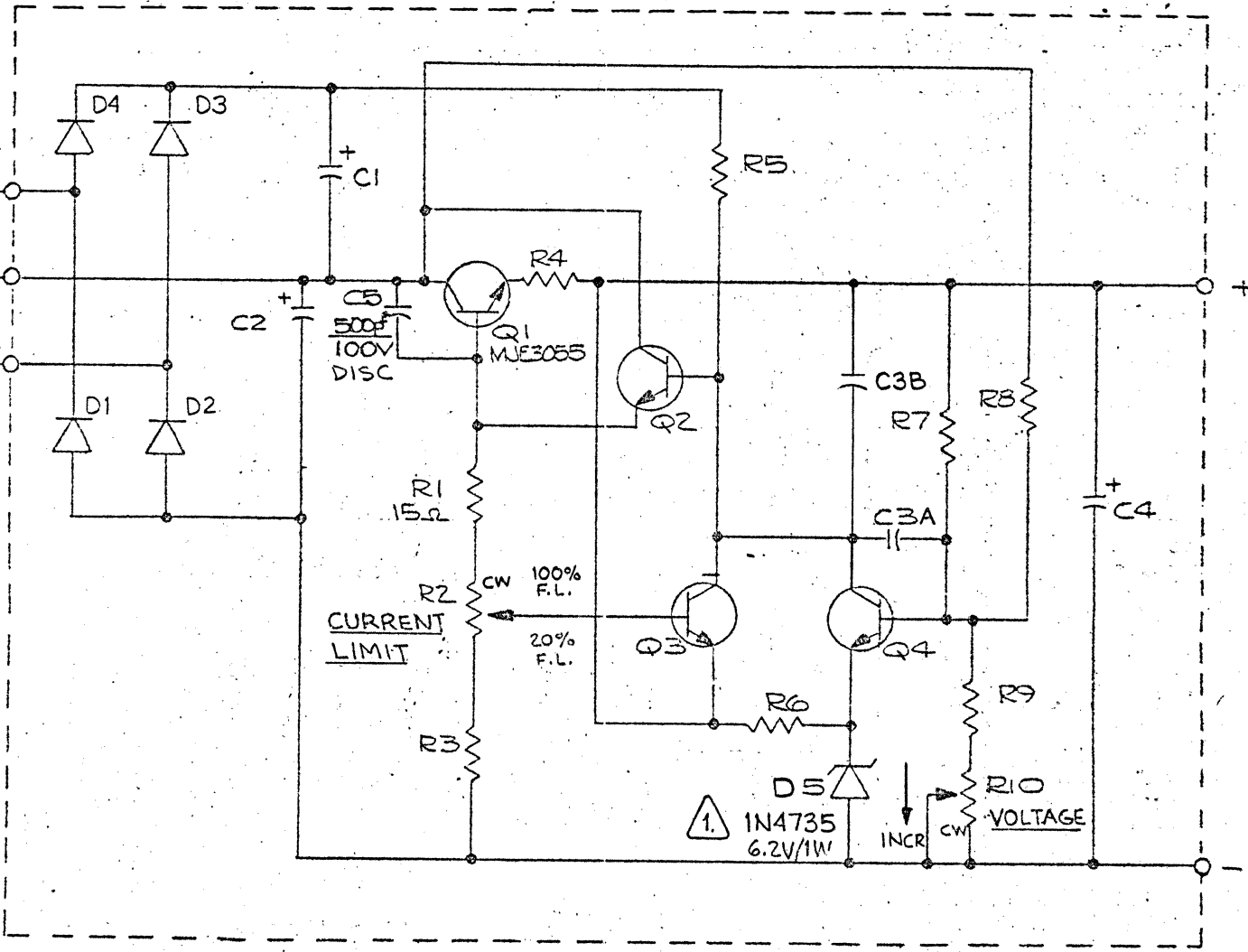
OVP-3 OVERVOLTAGE PROTECTION CIRCUIT

TYPE-SIZE SA	DWG. NO. 2340	REV. LET.
SHEET 3	OF 3	



NOTE:
1. ALL RESISTORS 1/2 W. UNLESS NOTED.

TYPE-SIZE SA	DWG. NO. 2235	REV. LET. NC
SHEET 1 OF 1		



RECTIFIER RATINGS (SEE SHEET 2)			
1N5391	50V	1.5A	
1N5392	100V	1.5A	
1N5401	100V	3.0A	
1N5402	200V	3.0A	

TITLE

POWER SUPPLIES, NOMINAL 12-48VDC, 15-30W,
STANDARD POWER INC. SPS 15/30

X COMPUTER HARDWARE INC.

TABLE OF UNIQUE COMPONENTS

PART	15-12	30-12	15-15	30-15	15-24/28	30-24/28	30-48
C1	50UF/50V						50UF/75V
C2	1100UF/30V	2900UF/30V	1100UF/30V	2900UF/30V	650UF/50V	1700UF/50V	600UF/100V
C3A	.01UF/100V			500PF/100V			—
C3B	—						.01UF/100V
C4	250UF/15V			200UF/20V		50UF/50V	50UF/75V
D1, D2	1N5391				1N5401		1N5402
D3, D4	1N5391						1N5392
Q2	2N3404						D33D29
Q3, Q4	2N3416						D33D29
R2	100Ω/2W					250Ω/2W	500Ω/2W
R3	1.2K		1.5K	1.2K	5.6K		10K
R4	.33Ω/2W		.56Ω/2W	.33Ω/2W	1.2Ω/2W	.56Ω/2W	1Ω/2W
R5	6.2K				1.2K	12K	43K
R6	1K				2.7K		5.1K
R7 (VALUES FOR D5 VOLTAGE)	200Ω 5.9-6.09V		330Ω 5.9-6.09V		2K±1% 6.0-6.09V		8.06K±2%
	180Ω 6.1-6.29V		300Ω 6.1-6.29V		1.91K±1% 6.1-6.19V		
			270Ω 6.3-6.49V		1.87K±1% 6.2-6.29V		
R8	820K						1.5M
R9	200Ω±2%			560Ω±2%			1.13K±2%
R10	100Ω/2W				250Ω/2W		500Ω/2W
T1 P/N	101148	101021	101176	101077	101172	101022	101092

NOTES:

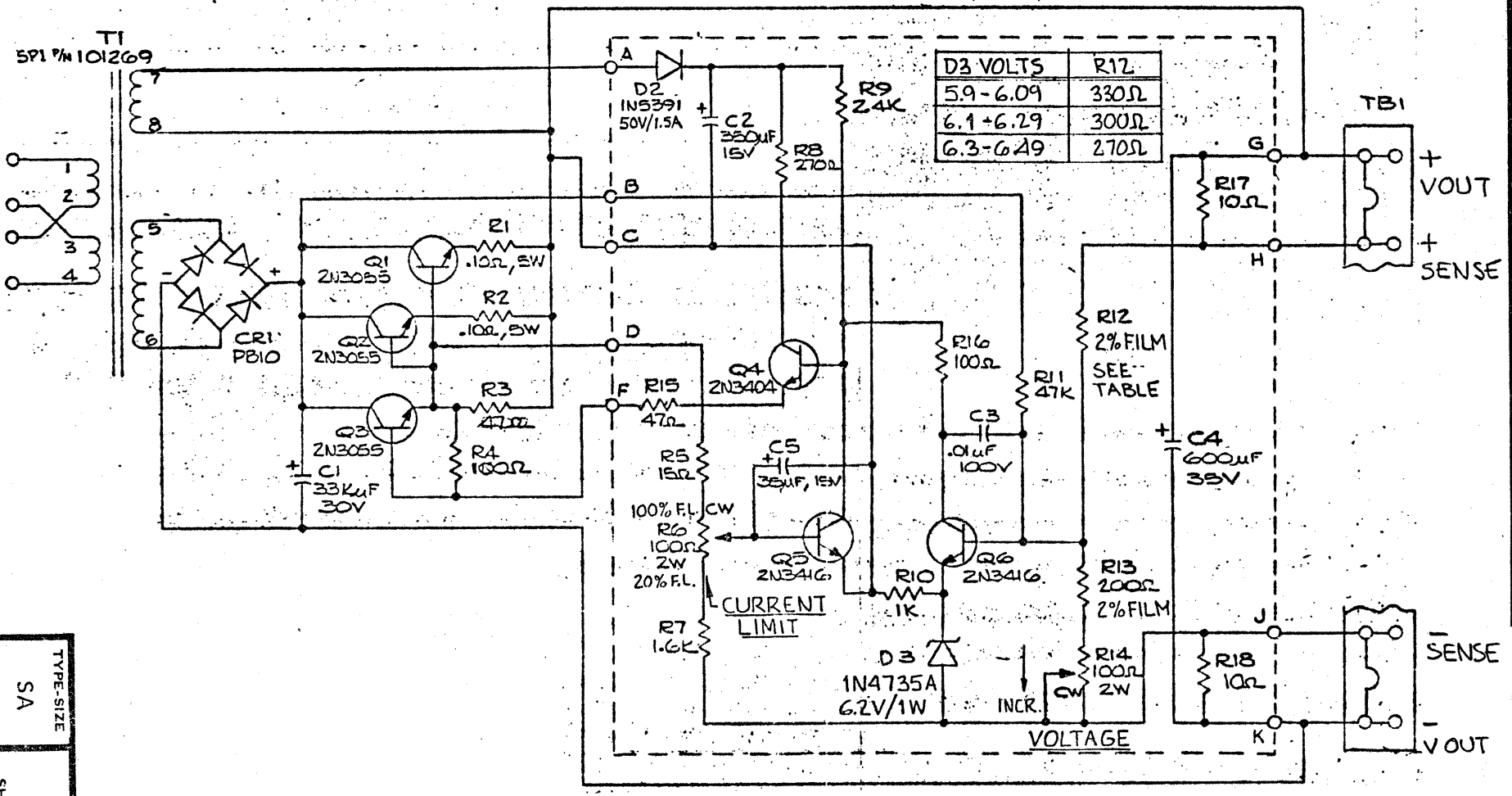


1. ON P/N SPS-30-48, D5 IS SELECTED TO 5.9-6.49V.

2. RESISTORS ARE 1/2W UNLESS NOTED

SUFFIX "K" TO PART NUMBER DENOTES POWER SUPPLY
COMPONENTS ARE FASTENED WITH SCREWS (VS. RIVETS).

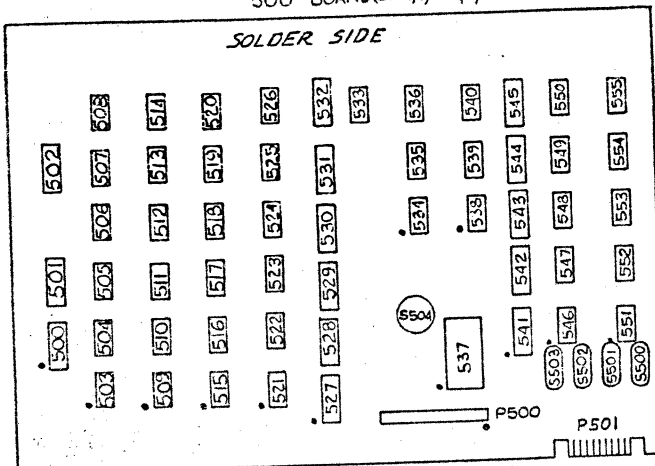
TYPE-SIZE	DWG. NO.	REV. LET.
SA	1826	A1
	SHEET 2 OF 2	



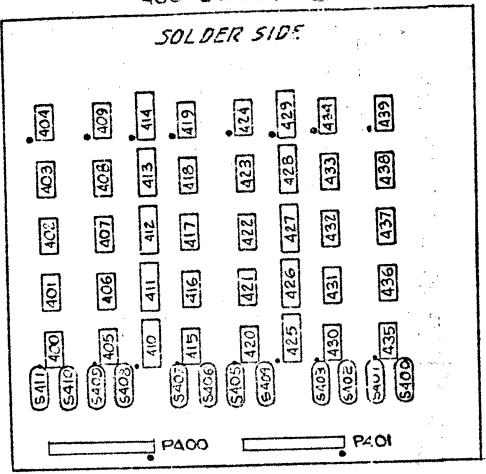
NOTE:
1. ALL RESISTORS ARE 1/2 W UNLESS NOTED.

TYPE-SIZE	SA
DWG. NO.	2163
SHEET	1 OF 1
REV. LET.	NC

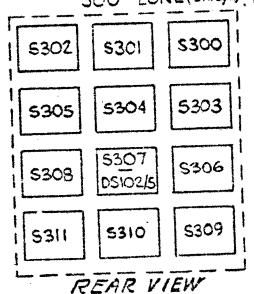
"500" BOARD (SH. 2,3,4, 8,9,10,11 & 12)



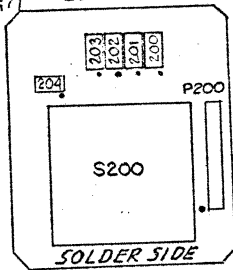
"400" BOARD (SH. 3,7,8,9,10 & 12)



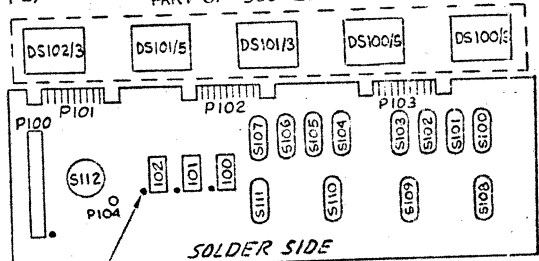
"300" ZONE (SH. 2,3,4 & 7)



"200" BOARD (SH. 2,3 & 6)

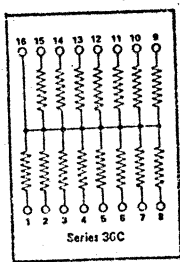
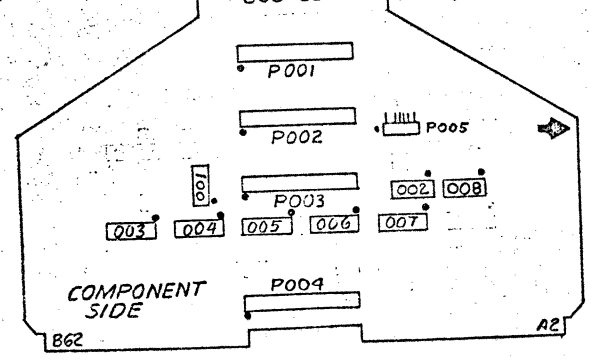


PART OF "300" ZONE (REAR VIEW) (SH. 2,3,4 & 7)



"100" BOARD (SH. 2,3,4, 5 & 7)

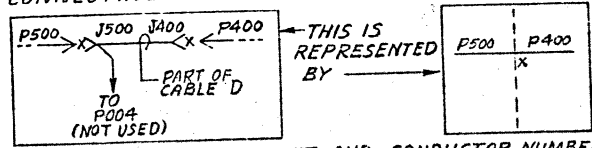
"000" BOARD (SH. 2,3,4,5,6,7, & 8)



3.3K RESISTOR NETWORKS 001,002

NOTES:

1. USED WITH PT NUMBERS SHOWN ON SHEET.
2. LAMP REFERENCE DESIGNATIONS CONSIST OF DRIVER IC & PIN, E.G. DS 439/5, DS439/3, DS434/5, DS434/3, ETC, FOR SHEET 9 THRU 12.
3. TITLES IN BOXES APPEAR ON FRONT PANEL OR ON PC FOIL IF APPLICABLE: ALL LAMP TITLES APPEAR ON FRONT PANEL.
4. ON SHEETS 9 THRU 12, SIGNALS CROSSING THE DASHED LINE DENOTE USAGE OF THAT PORTION OF CABLE D CONNECTING THE 400 & 500 BOARDS, IE:



WHERE X IS THE PIN, SOCKET, AND CONDUCTOR NUMBER.

5. DISTRIBUTION SYMBOLS ($\frac{+}{-}$, +5, VG, +LAMP, ETC) CONNECT TOGETHER ONLY THOSE CIRCUITS COMMON TO ANY ONE BOARD OR ZONE; CONNECTIONS BETWEEN BOARDS OR ZONES ARE SHOWN BY LINES.
6. DELETED

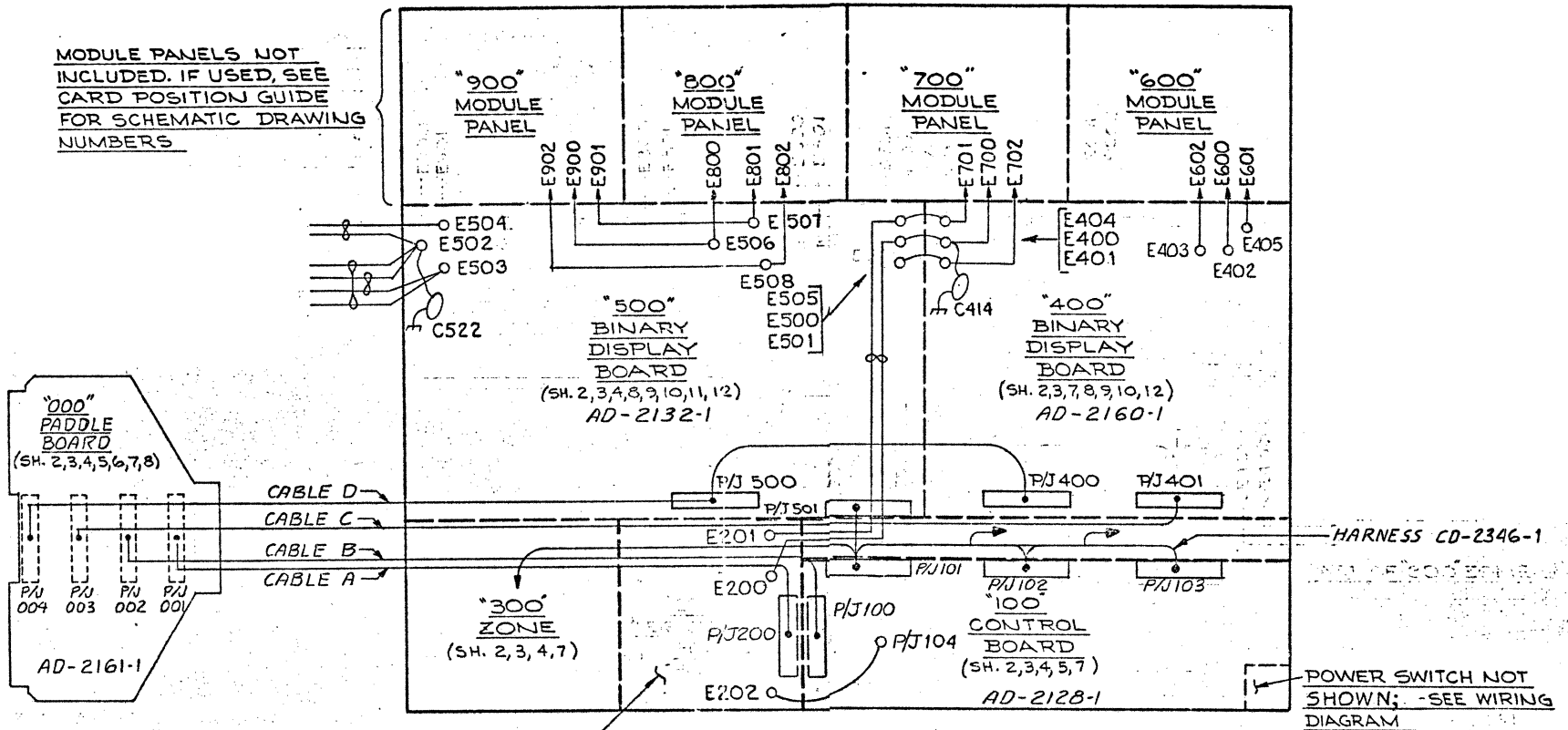
7. FOIL ARROW ON ALL PC BOARDS DESIGNATES COMPONENT SIDE OF BOARD. DIRECTION OF ARROW DESIGNATES TOP OF BOARD

8. -1 FRONT PANEL USES -1 "200" BOARD WITH DESCENDING KEY NUMBERS; -3 PANEL USES -3 BOARD WITH ASCENDING PATTERN.

Model	Panel	Zone	Board	Zone	Board	Zone	Board
SC-2111	C						
AC-2126	F						
PC-1921	F						
AD-2128	A						
PD-1930	B						
AD-2132	A						
PD-2090	B						
AD-2160	B						
PD-2084	B						
AD-2161	C						
PD-2110	B						

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LETTER	DRN	CH	DATE	DESIGN	SCALE	DRAWN	TYPE-SIZE	CHECKED	DATE	REV. NO.	REV. LET.
				K. BALLEWS	NONE	KAC	6-13-74	DJD	03-1-74	2111	C1
CHANGE RECORD NO. 2111				DO NOT SCALE THIS PRINT				SHEET 1 of 12			

MODULE PANELS NOT INCLUDED. IF USED, SEE CARD POSITION GUIDE FOR SCHEMATIC DRAWING NUMBERS



REAR OF FRONT PANEL ASSEMBLY AD-2016-1, -3 Ⓜ

200
HEX DISPLAY BOARD
(SH. 2, 3, 6)
AC-2126-1, -3 Ⓜ

CABLE	PART NO.
A	CC-2457-3
B	CC-2457-5
C	CC-2457-7
D	CC-32947

TO LAMP SUPPLY. SEE WIRING DIAGRAM WC-2291.

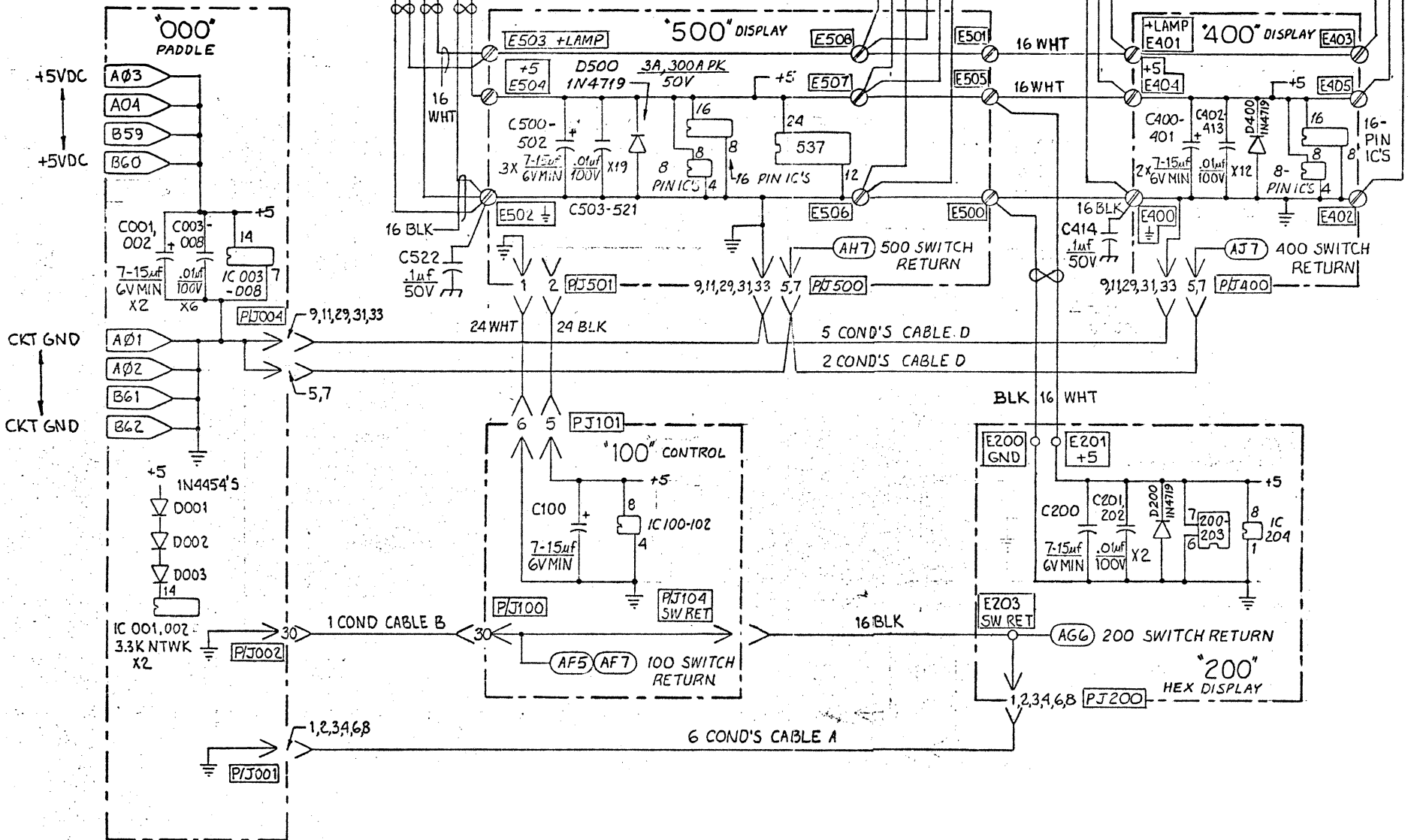
TO +5VDC SUPPLY. SEE WIRING DIAGRAM WC-2291.

TO OPTIONAL '900' PANEL

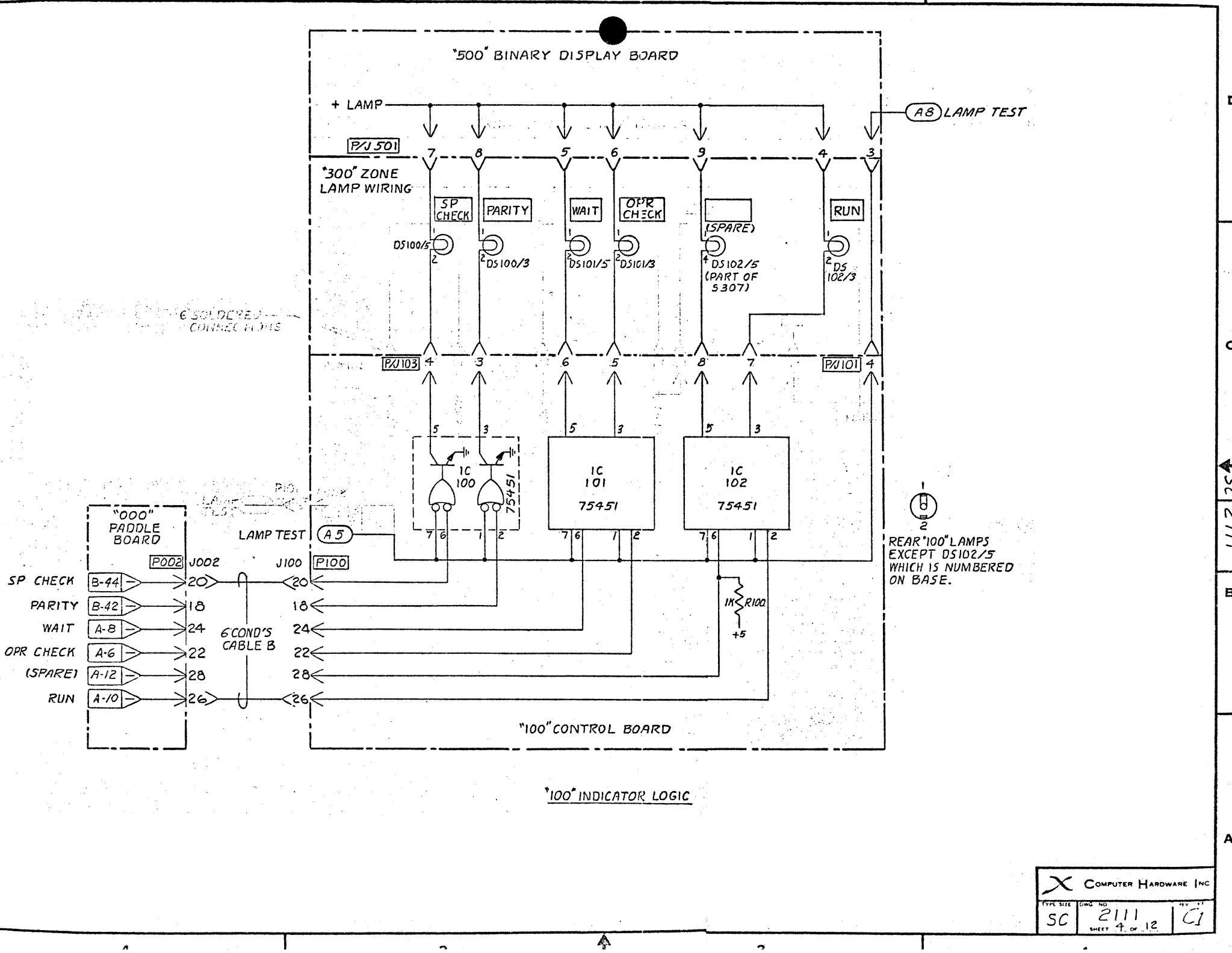
TO OPTIONAL '800' PANEL

TO OPTIONAL '700' PANEL

TO OPTIONAL '600' PANEL



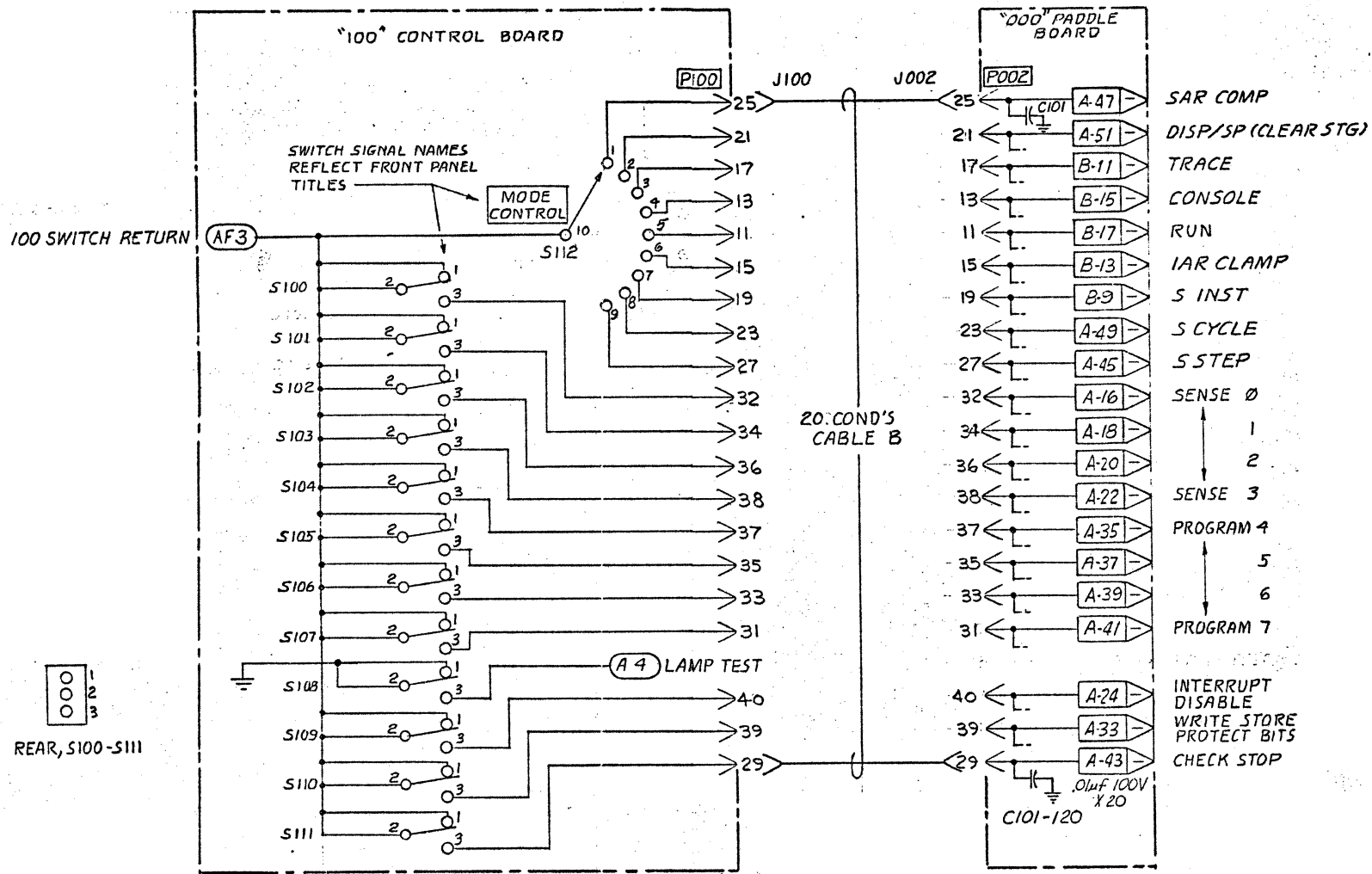
POWER DISTRIBUTION



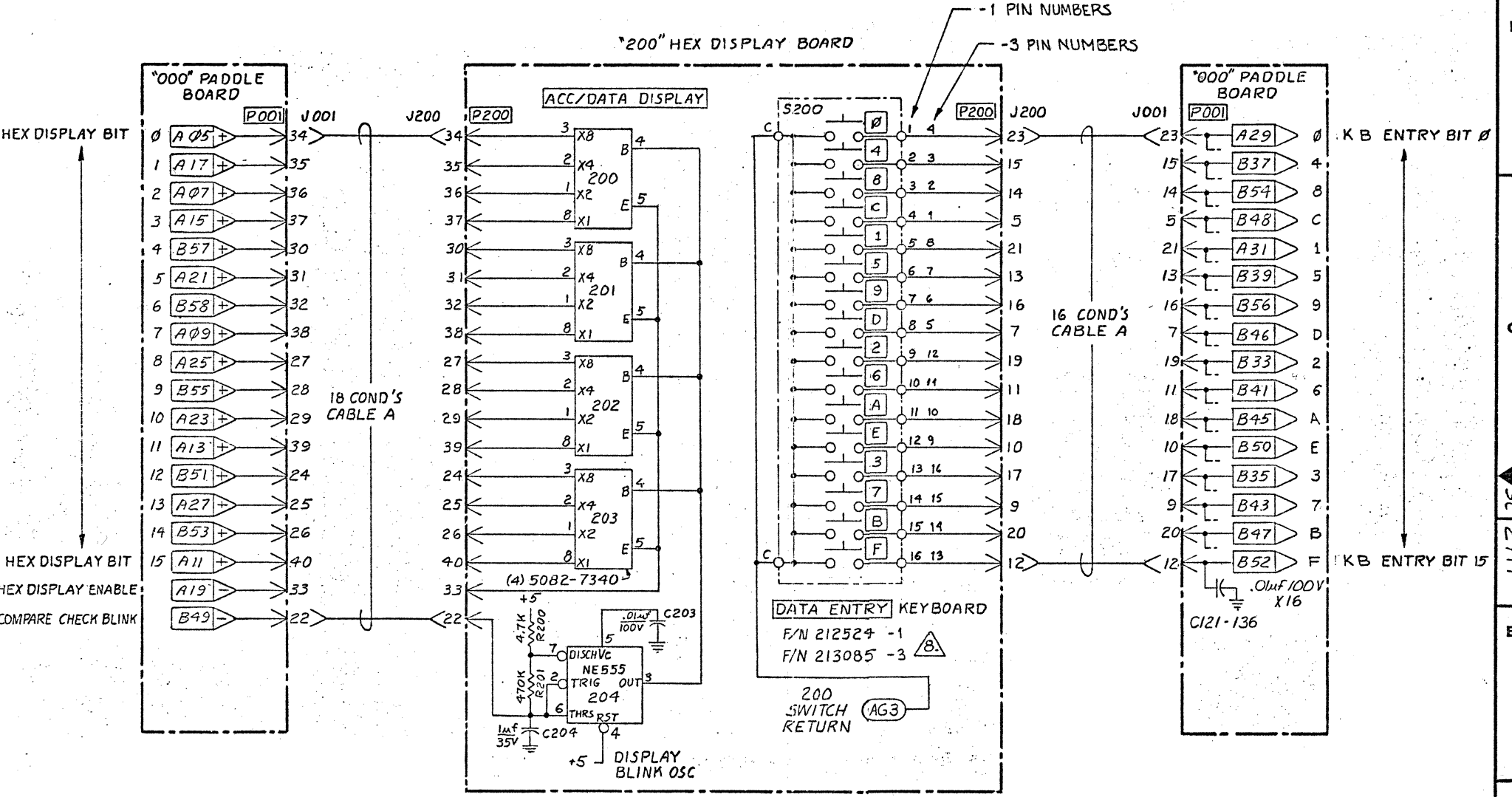
6 SOLDERED
CONNECT PLUGS

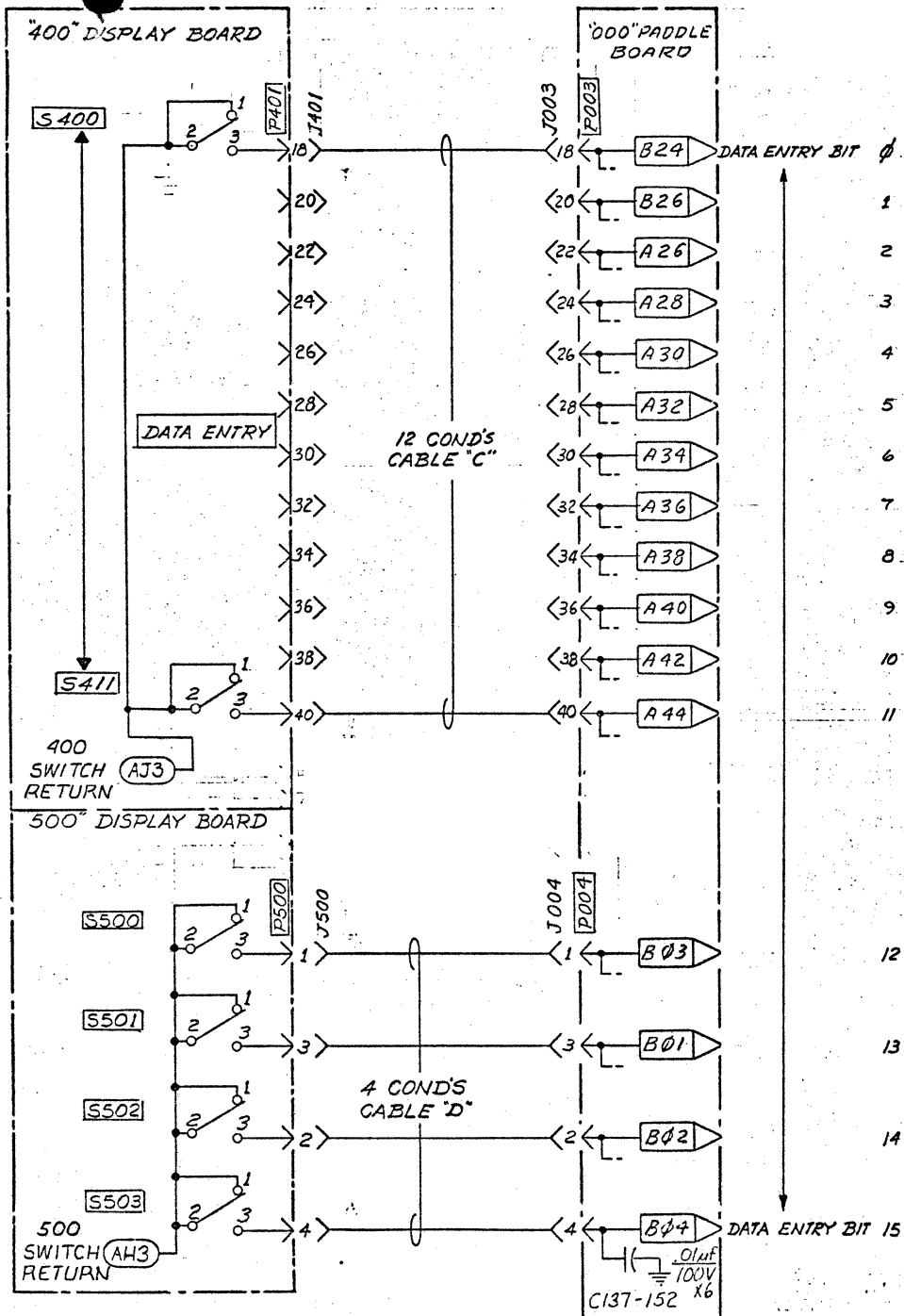
REAR '100' LAMPS
EXCEPT DS102/5
WHICH IS NUMBERED
ON BASE.

'100' INDICATOR LOGIC

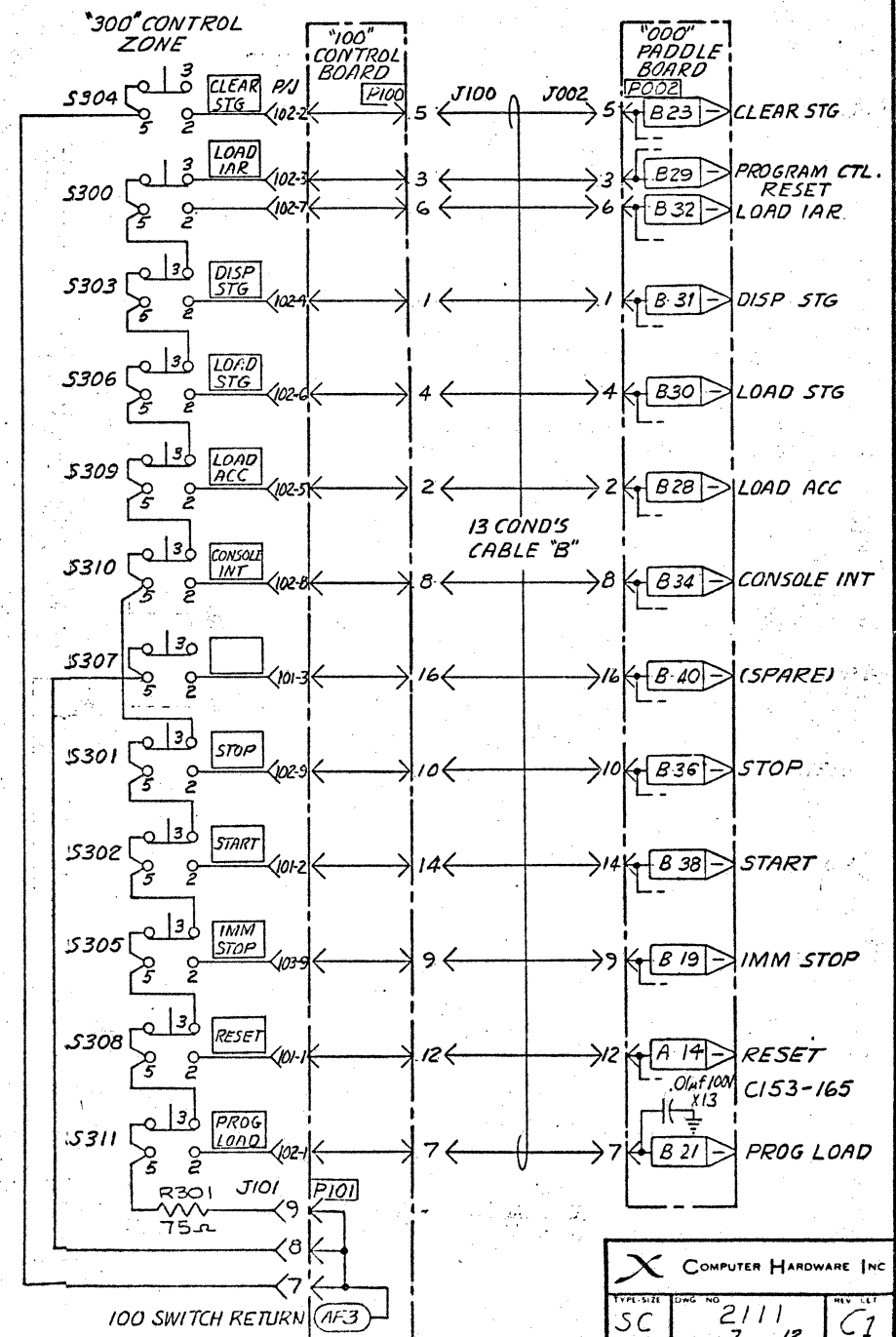


"100" CONTROL LOGIC

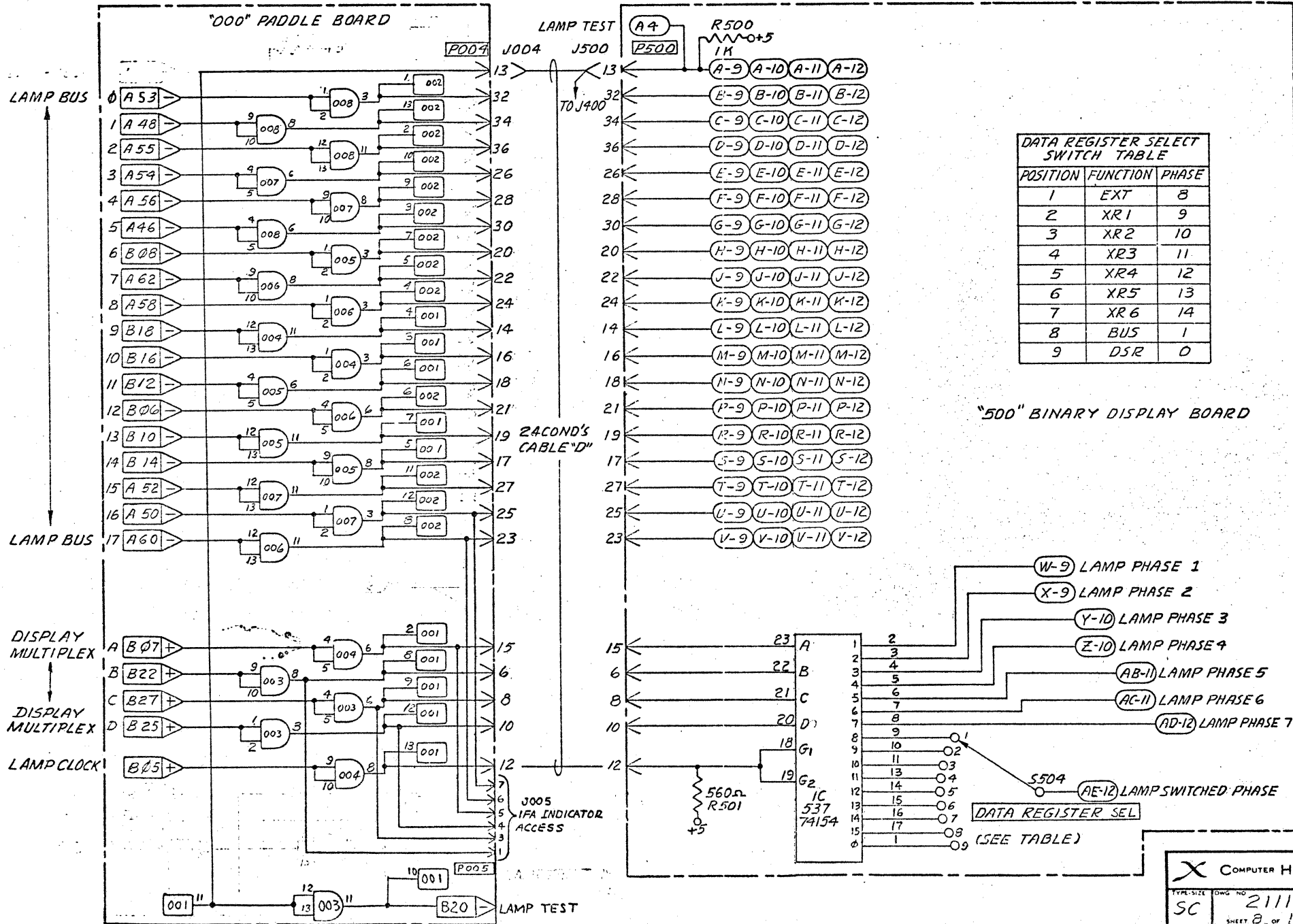




"300" THRU "500" SWITCH WIRING

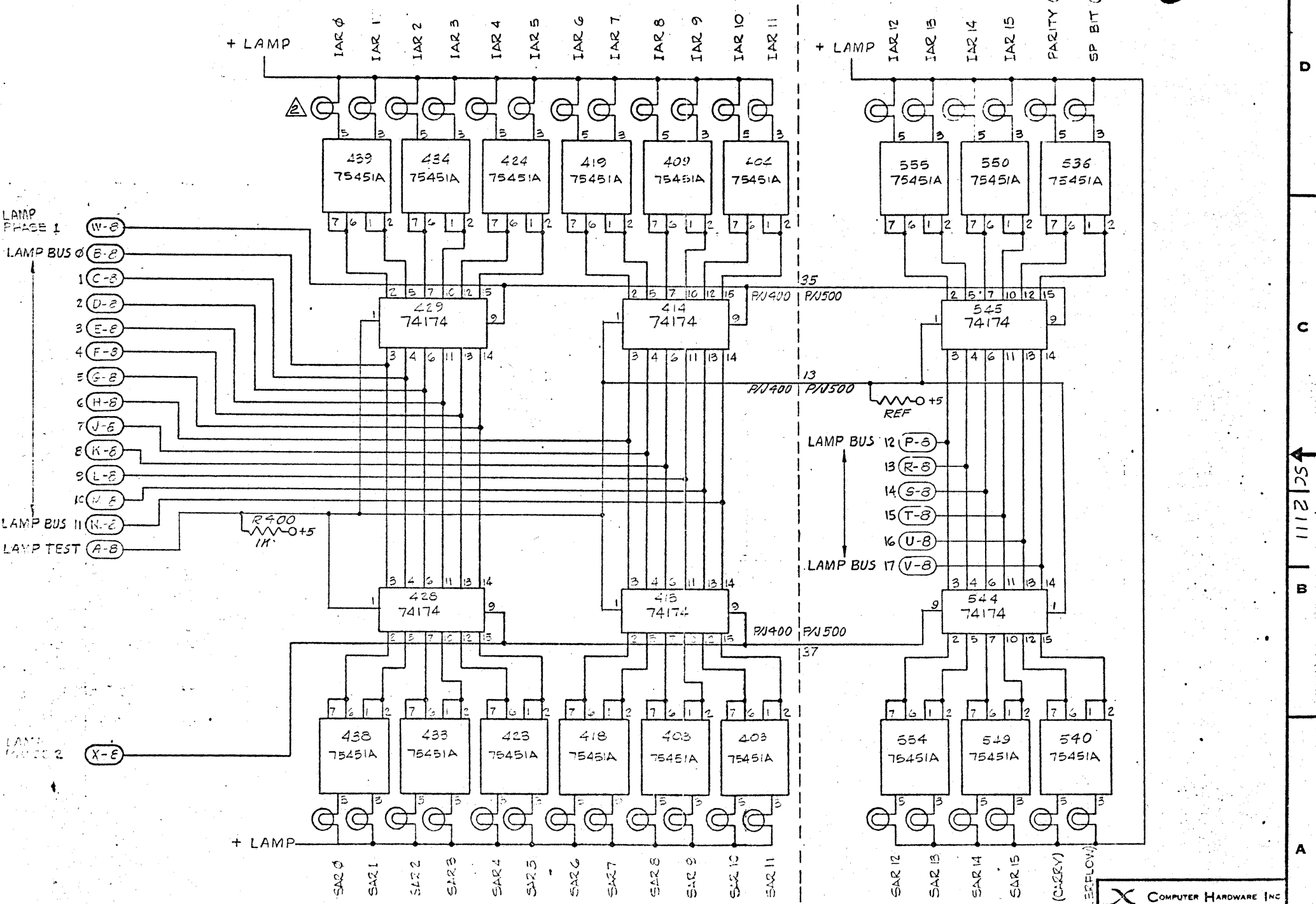


"400" & "500" BINARY DISPLAY BOARD COMMON SIGNALS



"400" BINARY DISPLAY BOARD

"500" BINARY DISPLAY BOARD



SC 2111

A

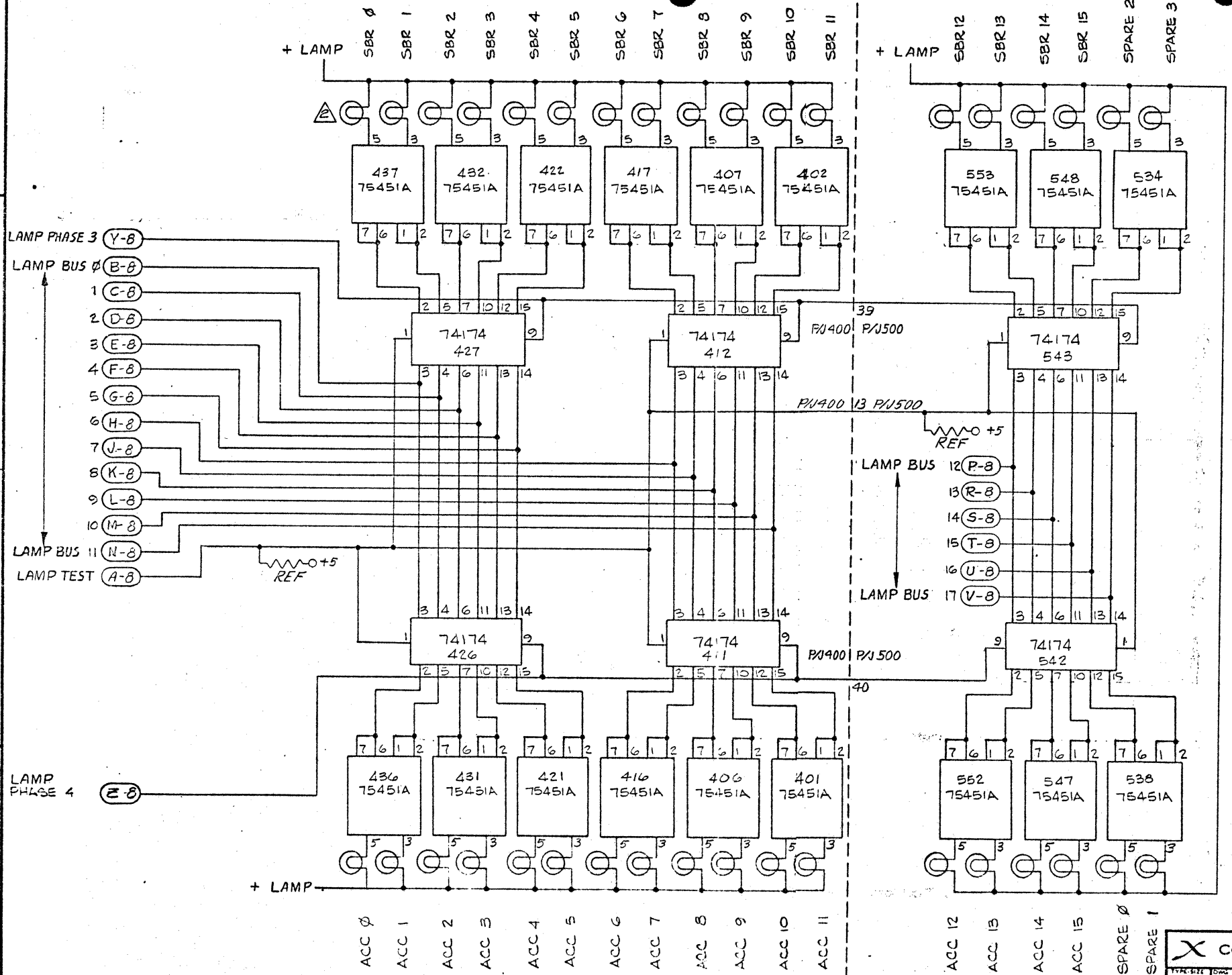
B

C

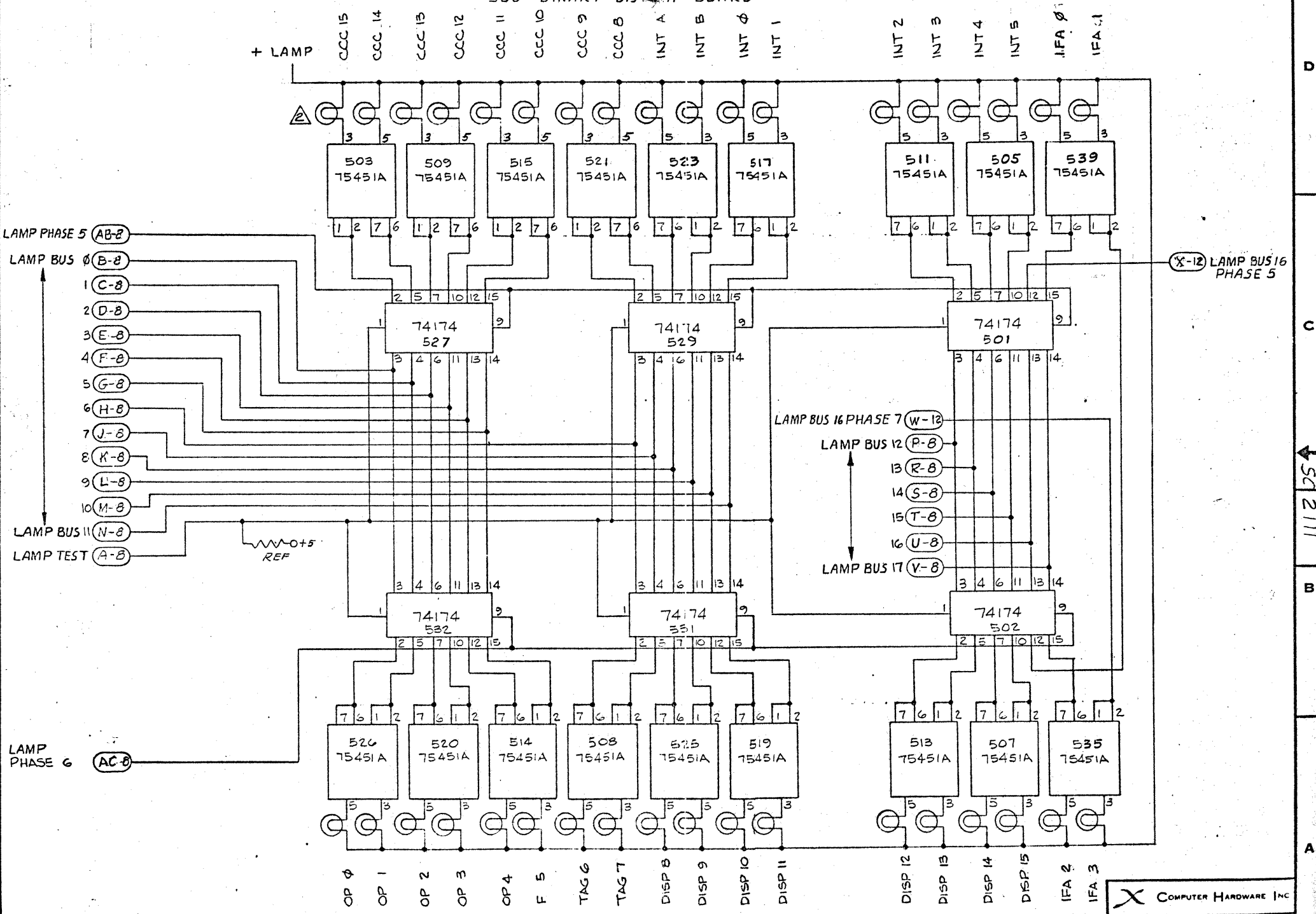
D

"400" BINARY DISPLAY BOARD

"500" BINARY DISPLAY BOARD

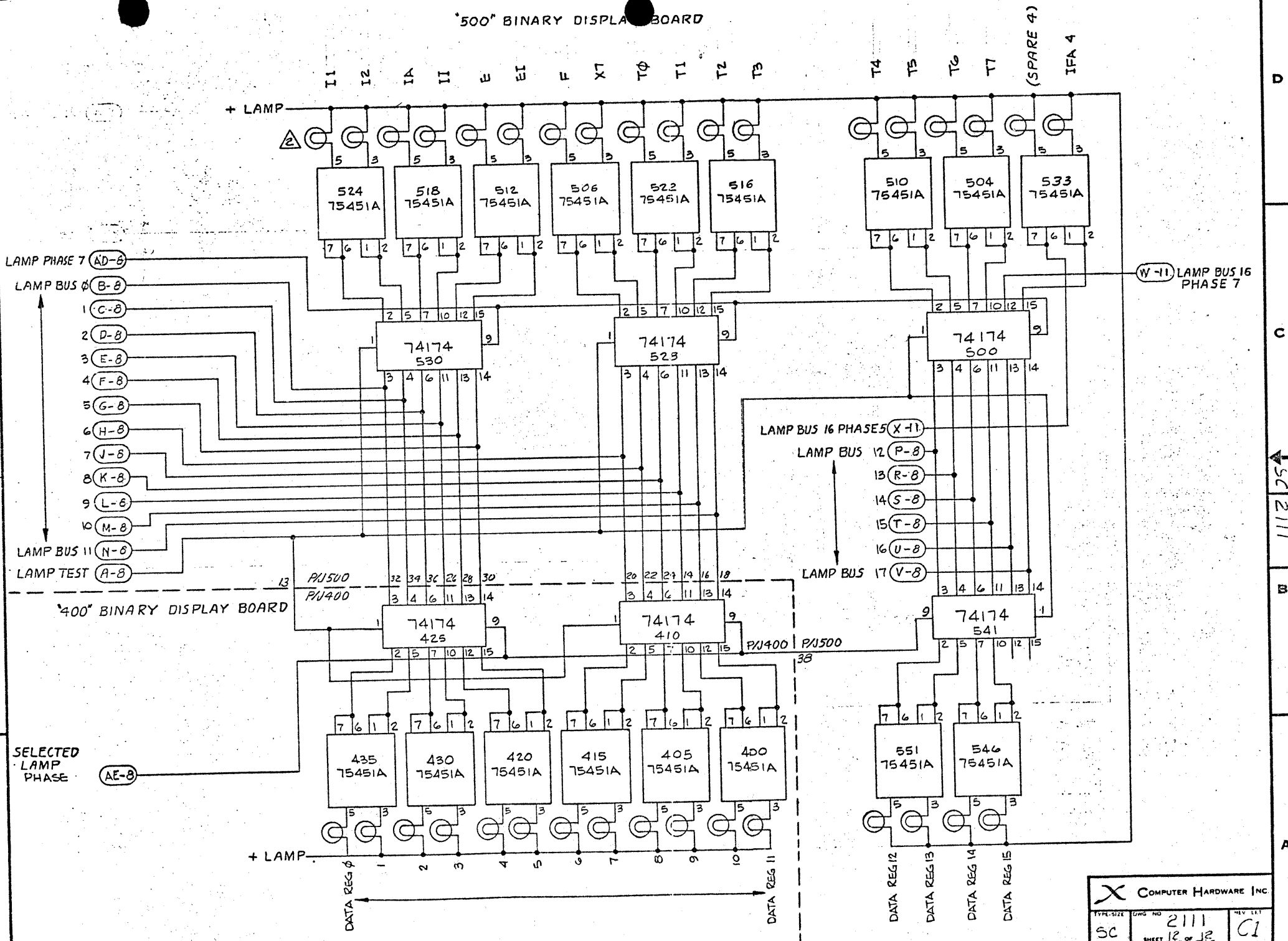


"500" BINARY DISPLAY BOARD



D
C
B
A
 502111

500" BINARY DISPLAY BOARD



PIN #	SIGNAL NAME	APPLICABLE CONNECTOR	PIN #	APPLICABLE CONNECTOR	PIN #	SIGNAL NAME	APPLICABLE CONNECTOR
A1	GND	1 THRU 23	A37-38	PROG LOAD OR SPARE (ADJACENT CARDS ATTACHED NOT A BUS LINE.)	A39	INHIBIT CS REQ	+ 1 THRU 23
A2	GND			A1 37 - NC	A40	CS CYCLE	+
A3	+5VDC			A1 38 - A2 37	A41	E2 + E3 CYCLE	-
A4	+5VDC			A2 38 - A3 37	A42	E1 + E3 CYCLE	-
A5	DATA OUT BIT 0 +			A3 38 - A4 37	A43	DXFR	+
A6	1 +			A4 38 - A5 37	A44	POLL	+
A7	2 +			A5 38 - A6 37	A45	CLOCK	+
A8	3 +			A6 38 - A7 37	A46	PHASE A	+ 1 THRU 23
A9	4 +			A7 38 - A8 37	A47	DATA IN BIT 0 -	1 THRU 22, 23 NC
A10	5 +			A8 38 - A9 37	A48	1 -	
A11	6 +			A9 38 - A10 37	A49	2 -	
A12	7 +			A10 38 - A11 37	A50	3 -	
A13	8 +			A11 38 - A12 37	A51	4 -	
A14	9 +			A12 38 - A13 37	A52	5 -	
A15	10 +			A13 38 - A14 37	A53	6 -	
A16	11 +			A14 38 - A15 37	A54	7 -	
A17	12 +			A15 38 - A16 37	A55	8 -	
A18	13 +			A16 38 - A17 37	A56	9 -	
A19	14 +			A17 38 - A18 37	A57	10 -	
A20	DATA OUT BIT 15 +			A18 38 - A19 37	A58	11 -	
A21	CPU STG PROT ERR -		A19 38 - A20 37	A59	12 -		
A22	CPU PARITY ERROR -	1 THRU 23	A20 38 - A21 37	A60	13 -		
A23	CS ACK IN -	1 THRU 23 NC	A21 38 - A22 37	A61	14 -		
A24	CS ACK OUT -	1 THRU 23 NC	A22 38 - NC	A62	DATA IN BIT 15 -	1 THRU 22, 23 NC	
A25	CS REQ -	1 THRU 22, 23 NC	A23 37 - NC				
A26	CS LATCH ENABLE +	1 THRU 23	A23 38 - NC				
A27	REQ INHIB EXT -	1 THRU 22, 23 NC					
A28	CS DATA STORE -	1 THRU 22, 23 NC					
A29	BLOCK CLK -	1 THRU 23					
A30	CPU CLOCK +	1 THRU 23					
A31	PROG LD BUSY -	1 THRU 22, 23 NC					
A32	FUNCTION CLEAR -	1 THRU 23					
A33	SPARE BUS						
A34	SPARE BUS						
A35	RESET -						
A36	POWER ON RESET -	1 THRU 23					

TITLE
SIGNAL LIST I/O MOTHER BOARD

X COMPUTER HARDWARE INC.

DRAWN	SST	CHECKED	W.F. 2-2-78
DESIGN	T.W.	DWG. NO.	2192
SCALE		TYPE-SIZE	5X
		REV. LET.-NO.	NC
		SHZKT	1 OF 1