

FIELD MAINTENANCE PRINT SET

MA20

**Field Maintenance
Print Set**

PRINT SET ORDER NO.
MP00010

B-TC-MA20-0-1	MA20-0-1 PRINT SET
	TABLE OF CONTENTS
D-MU-MA20-0-MUAF	MODULE UTILIZATION
D-FD-MA20-0-FD	FLOW DIAGRAM
D-BS-MA20-0-INS	INSTRUCTION/SET UP SHEET
D-TD-MA20-0-TD	TIMING DIAGRAM (MA20)
D-BS-MA20-0-IBD	INTERCONNECTION BLOCK DIAGRAM
D-BS-MA20-0-DR20	16K X-Y DRIVE (G235)
D-BS-MA20-0-DR21	16K X-Y DRIVE (G235)
D-BS-MA20-0-DR22	16K X-Y DRIVE (G235)
D-BS-MA20-0-DR30	16K X-Y DRIVE (G235)
D-BS-MA20-0-DR31	16K X-Y DRIVE (G235)
D-BS-MA20-0-DR32	16K X-Y DRIVE (G235)
D-BS-MA20-0-MAC1	CONTROL BOARD (M8561)
D-BS-MA20-0-MAC2	CONTROL BOARD (M8561)
D-BS-MA20-0-MAC3	CONTROL BOARD (M8561)
D-BS-MA20-0-MAC4	CONTROL BOARD (M8561)
D-BS-MA20-0-MAC5	CONTROL BOARD (M8561)
D-BS-MA20-0-MAC6	CONTROL BOARD (M8561)
D-BS-MA20-0-MAC7	CONTROL BOARD (M8561)
D-BS-MA20-0-MAT1	TIMING BOARD (M8562)
D-BS-MA20-0-MAT2	TIMING BOARD (M8562)
D-BS-MA20-0-MAT3	TIMING BOARD (M8562)
D-BS-MA20-0-SI20	16K SENSE/INHIBIT (G114)
D-BS-MA20-0-SI21	16K SENSE/INHIBIT (G114)
D-BS-MA20-0-SI22	16K SENSE/INHIBIT (G114)
D-BS-MA20-0-SI23	16K SENSE/INHIBIT (G114)
D-BS-MA20-0-SI24	16K SENSE/INHIBIT (G114)
D-BS-MA20-0-SI25	16K SENSE/INHIBIT (G114)
D-BS-MA20-0-SI26	16K SENSE/INHIBIT (G114)
D-BS-MA20-0-SI30	16K SENSE/INHIBIT (G114)
D-BS-MA20-0-SI31	16K SENSE/INHIBIT (G114)
D-BS-MA20-0-SI32	16K SENSE/INHIBIT (G114)
D-BS-MA20-0-SI33	16K SENSE/INHIBIT (G114)
D-BS-MA20-0-SI34	16K SENSE/INHIBIT (G114)
D-BS-MA20-0-SI35	16K SENSE/INHIBIT (G114)
D-BS-MA20-0-SI36	16K SENSE/INHIBIT (G114)
D-BS-MA20-0-ST20	STACK MODULE (H217B)
D-BS-MA20-0-ST21	STACK MODULE (H217B)
D-BS-MA20-0-ST22	STACK MODULE (H217B)
D-BS-MA20-0-ST30	STACK MODULE (H217B)

[illegible]

D-BS-MA20-0-ST30										STACK MODULE (H217B)																																											
REVISIONS <table><tr><th>DATE</th><th>CHG. NO.</th><th>REV.</th></tr><tr><td>JUL-76</td><td>MA20 - 5</td><td>A</td></tr></table>										DATE	CHG. NO.	REV.	JUL-76	MA20 - 5	A	USED ON OPTION/MODEL		DRN.	DATE	digital TITLE: CORE MEMORY (MA20) <table><tr><th>SIZE</th><th>CODE</th><th colspan="5">NUMBER</th><th>REV.</th></tr><tr><td>B</td><td>TC</td><td colspan="5">MA20-0-1</td><td>A</td></tr><tr><td colspan="2">DIST.</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>										SIZE	CODE	NUMBER					REV.	B	TC	MA20-0-1					A	DIST.							
										DATE	CHG. NO.	REV.																																									
										JUL-76	MA20 - 5	A																																									
										SIZE	CODE	NUMBER					REV.																																				
										B	TC	MA20-0-1					A																																				
										DIST.																																											
										MA20		<i>[Signature]</i>	13 JAN 76																																								
		CHK'D	DATE																																																		
		<i>[Signature]</i>	14 JAN 76																																																		
		PROJ. ENG.	DATE																																																		
		<i>P. Sullivan</i>	14 JAN 76																																																		
		FIELD SERV.	DATE																																																		
		<i>[Signature]</i>	14 JAN 76																																																		
SHEET I OF 2																																																					

D-BS-MA20-0-ST31	STACK MODULE (H217B)
D-BS-MA20-0-ST32	STACK MODULE (H217B)
D-CS-M9005-0-TRN1	CIRCUIT SCHEMATIC M9005
D-CS-G114-0-1	16K SENSE/INHIBIT (SHEET 2)
D-CS-G114-0-1	16K SENSE/INHIBIT (SHEET 3)
D-CS-G235-0-1	16K X-Y DRIVE (SHEET 2)
D-CS-G235-0-1	16K X-Y DRIVE (SHEET 3)
D-CS-H217-0-1	STACK BOARD (SHEET 1)
D-UA-M9005-0-0	TERMINATOR
D-UA-M9006-0-0	SBUS CABLE MODULE
D-UA-M8561-0-0	CONTROL BOARD (M8561)
D-UA-M8562-0-0	TIMING BOARD (M8562)
B-DD-MA20-0	DRAWING DIRECTORY (MA20)
A-PL-MA20-0-0	CORE MEMORY MA20 (PL)
E-UA-MA20-0-0	CORE MEMORY MA20
D-IC-MA20-0-PW	AC-DC POWER WIRING (MA20)
E-AD-7009465-0-0	WIRED ASSY (MA20)
K-WL-MA20-0-WL	WIRE LIST (MA20)
A-WT-7009465-0	AWT REVISION STATUS SHEET

TITLE	SHEET	SIZE	CODE	NUMBER	REV
CORE MEMORY (MA20)	2 OF 2	B	TC	MA20-0-1	A

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1975, DIGITAL EQUIPMENT CORPORATION"

NOTES:

1. BC20C CABLES AND M9005 TERMINATORS SUPPLIED FOR BASIC SYSTEM USAGE. FOR EXPANSION USAGE, SEE: D-UA-KLIQ-B-B.
2. DRAWING SHOWS CONFIGURATION FOR A MA20 IN A CPU (E & M BOX) CABINET. WHEN A MA20 IS MOUNTED IN AN I/O CABINET, THE BC20'S ARE PLUGGED INTO SLOT 54 AND THE M9005'S ARE PLUGGED INTO SLOT 1. (IF THERE IS A DMA20 ALSO IN THE I/O CABINET, THE BC20'S ARE PLUGGED INTO SLOT 1 AND THE M9005'S ARE NOT USED.)
3. MA20-H CONSISTS OF ALL MODULES SHOWN
MA20-G HAS BANKS 2 & 3 REMOVED IN CONTROL B & 1
MA20-A HAS BANKS 1, 2 & 3 REMOVED IN CONTROL B & 1

D

C

B

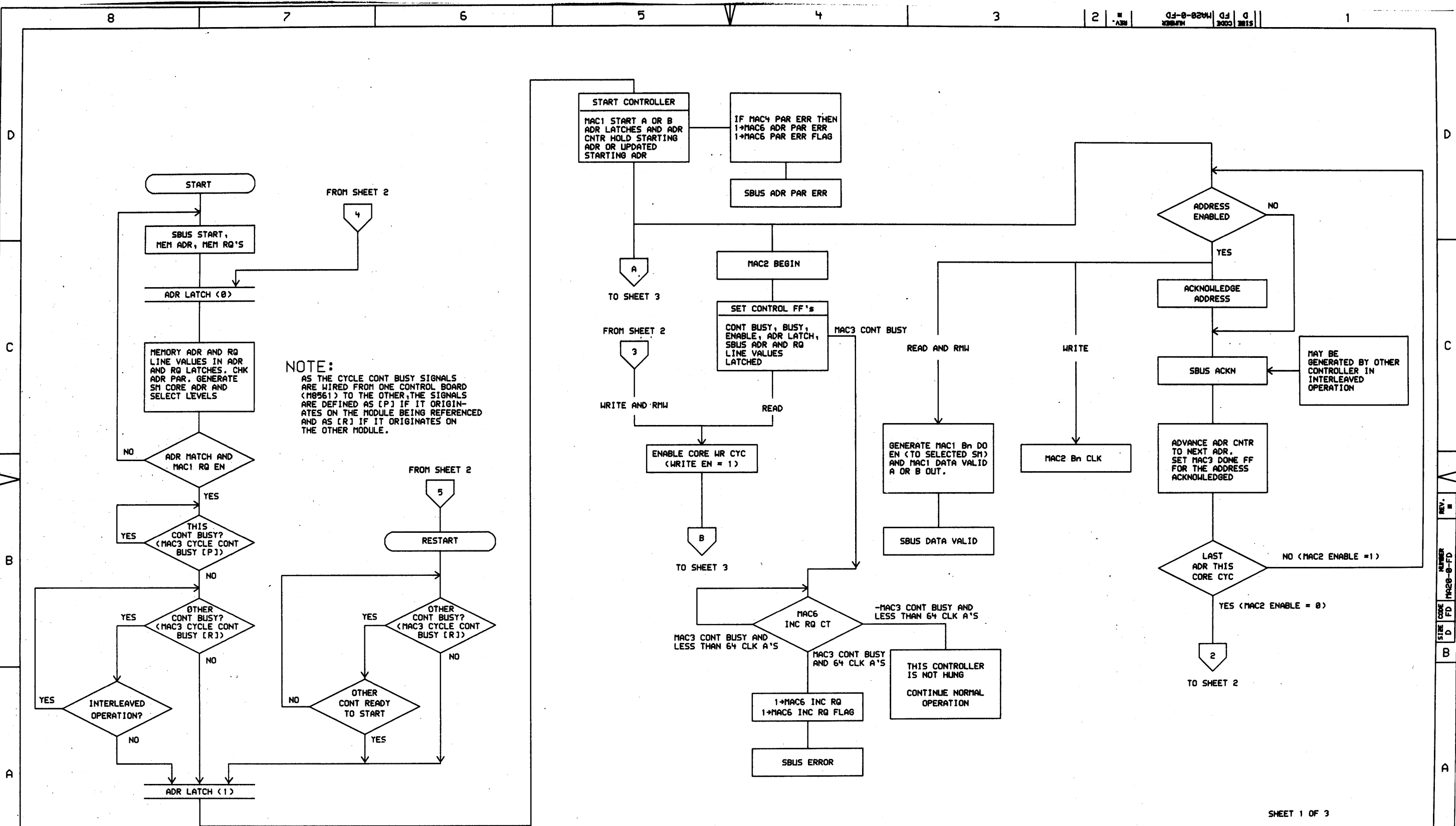
A

CONTROL 0																										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
D	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
E	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
F	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
BANK 0 BITS 00-17																										
BANK 1 BITS 00-17																										
BANK 2 BITS 00-17																										
BANK 3 BITS 00-17																										
BANK 0 BITS 18-PAR																										
BANK 1 BITS 18-PAR																										
BANK 2 BITS 18-PAR																										
BANK 3 BITS 18-PAR																										
M 9 5 6 1																										

CONTROL 1																										
	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
D	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
E	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
F	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
BANK 0 BITS 00-17																										
BANK 1 BITS 00-17																										
BANK 2 BITS 00-17																										
BANK 3 BITS 00-17																										
BANK 0 BITS 18-PAR																										
BANK 1 BITS 18-PAR																										
BANK 2 BITS 18-PAR																										
BANK 3 BITS 18-PAR																										
M 9 5 6 1																										

REF: PIN SIDE

THIRD ANGLE PROJECTION		DESCRIPTION		DWG./PART NO.		ITEM NO.	
REMOVE BURRS AND BREAK SHARP CORNERS		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		2-17-75		KLIQ	
DO NOT SCALE DWG		NEXT HIGHER ASSY.		E-24-75		MODULE UTILIZATION	
MATERIAL		SCALE		NONE		D MU MA20-0-MUAF	
FINISH		SHEET		1 OF 1		1	



NOTE:
AS THE CYCLE CONT BUSY SIGNALS
ARE WIRED FROM ONE CONTROL BOARD
(M8561) TO THE OTHER, THE SIGNALS
ARE DEFINED AS [P] IF IT ORIGIN-
ATES ON THE MODULE BEING REFERENCED
AND AS [R] IF IT ORIGINATES ON
THE OTHER MODULE.

SHEET 1 OF 3

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE
PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL
NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN
PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF
ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1975, DIGITAL EQUIPMENT CORPORATION"

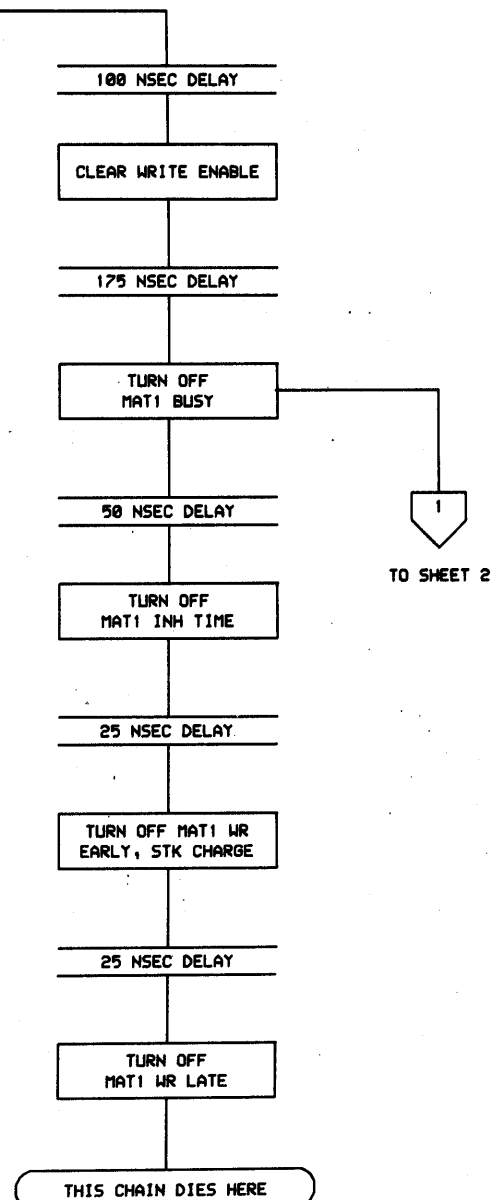
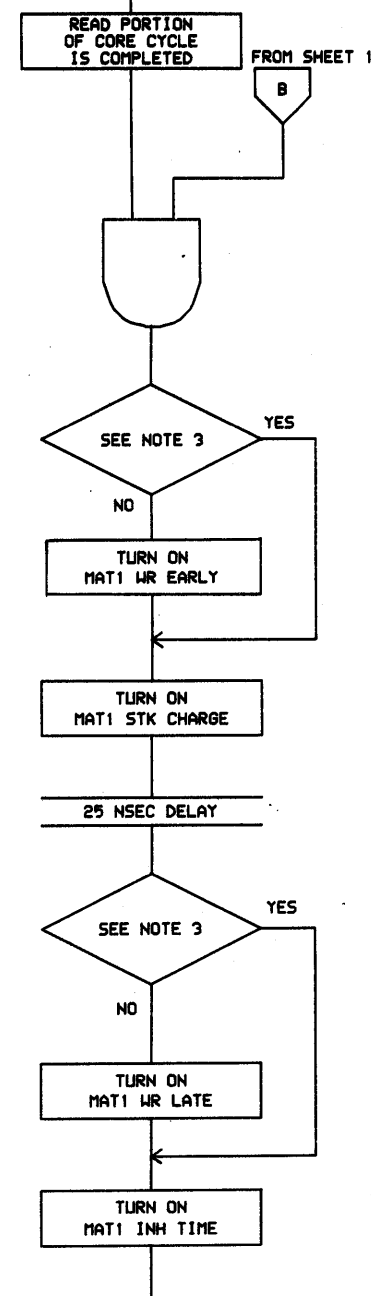
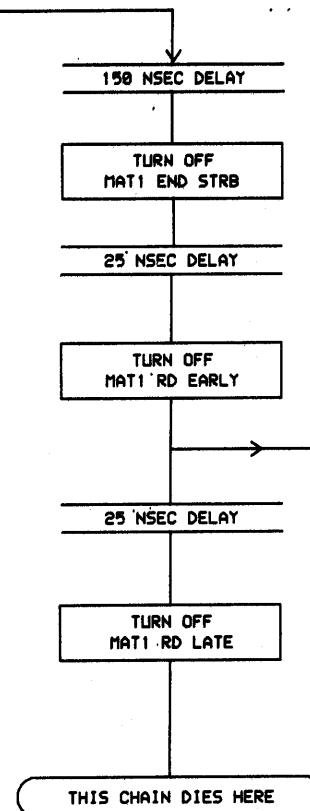
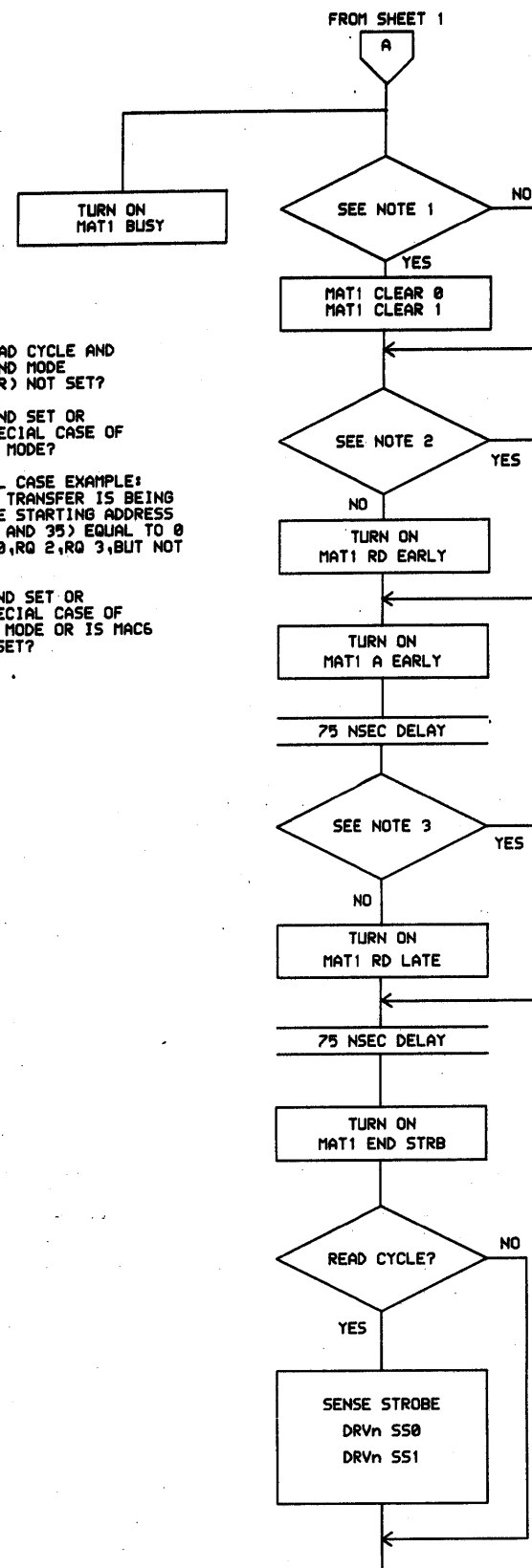
REVISIONS		
CHK	CHANGE NO.	REV

digital	DATE	ENG.	DATE	TITLE:
	20-OCT-75	P.S. Miller	14 JAN 76	MA20
	17 OCT 75	15:49	17 OCT 75	FLOW DIAGRAM
FIRST USED ON OPTION/MODEL: MA20		NEXT HIGHER ASSEMBLY: B-DD-MA20-0		SIZE CODE
D		FD		MA20-0-FD
REV. *				1

NOTES:

- 1) IS THIS A READ CYCLE AND IS LOOP AROUND MODE (MAC6 LOOP AR) NOT SET?
- 2) IS LOOP AROUND SET OR IS THIS A SPECIAL CASE OF INTERLEAVE 2 MODE?

IL2 SPECIAL CASE EXAMPLE:
A THREE WORD TRANSFER IS BEING DONE WITH THE STARTING ADDRESS (ADR BITS 34 AND 35) EQUAL TO 0 AND WITH RQ 0, RQ 2, RQ 3, BUT NOT RQ 1.
- 3) IS LOOP AROUND SET OR IS THIS A SPECIAL CASE OF INTERLEAVE 2 MODE OR IS MAC6 ADR PAR ERR SET?



THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1975, DIGITAL EQUIPMENT CORPORATION

REVISIONS		
CHK	CHANGE NO.	REV

digital

DATE 20-OCT-75
DATE 14 JAN 76
DATE 17-OCT-75 15:33
DATE 17-OCT-75 15:33

ENG. *P. J. ...*
CHK'D. *H. ...*

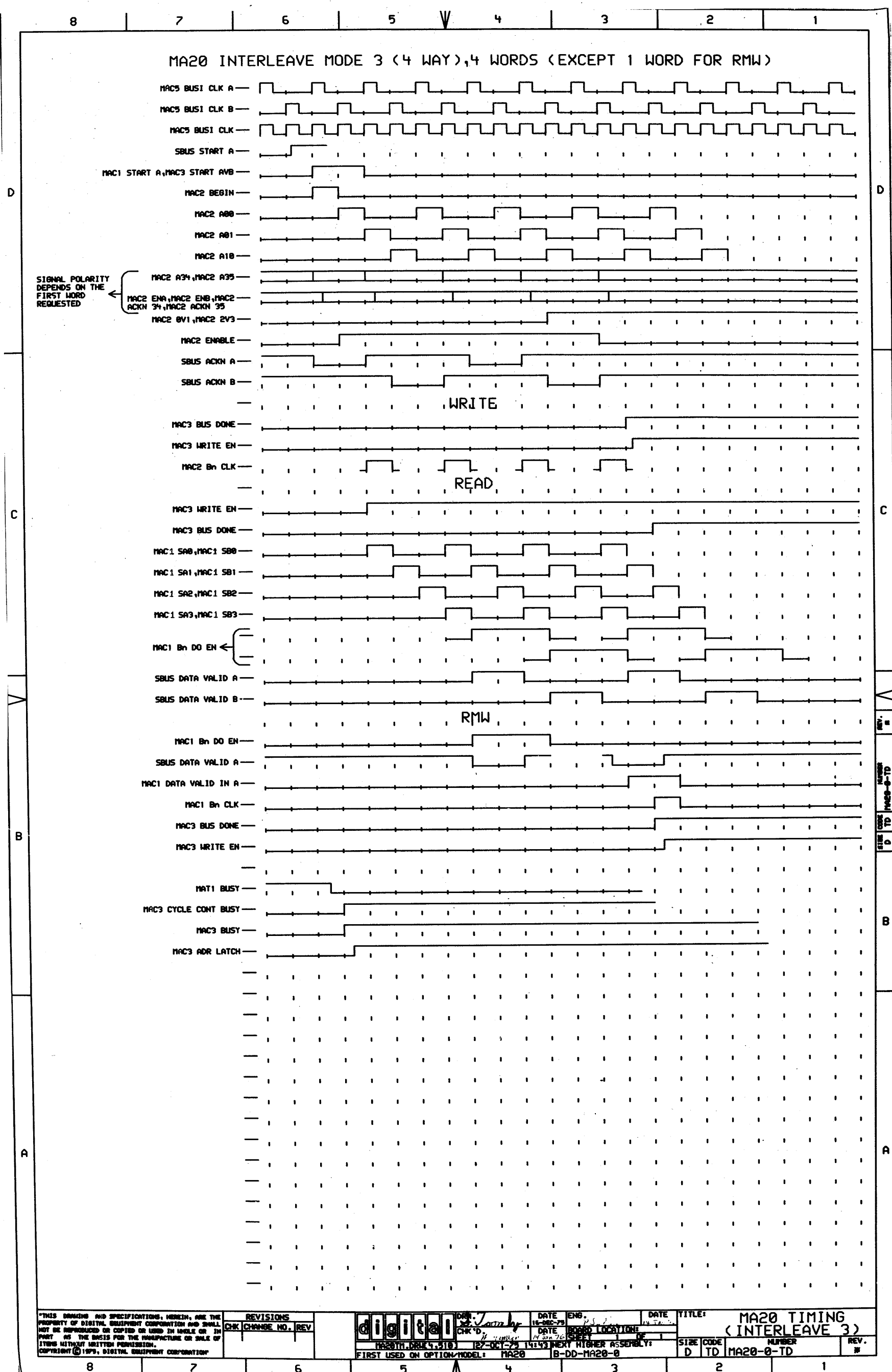
BOARD LOCATION: 3
NEXT HIGHER ASSEMBLY: 3

FIRST USED ON OPTION/MODEL: MA20
B-DD-MA20-0

TITLE: MA20 FLOW DIAGRAM

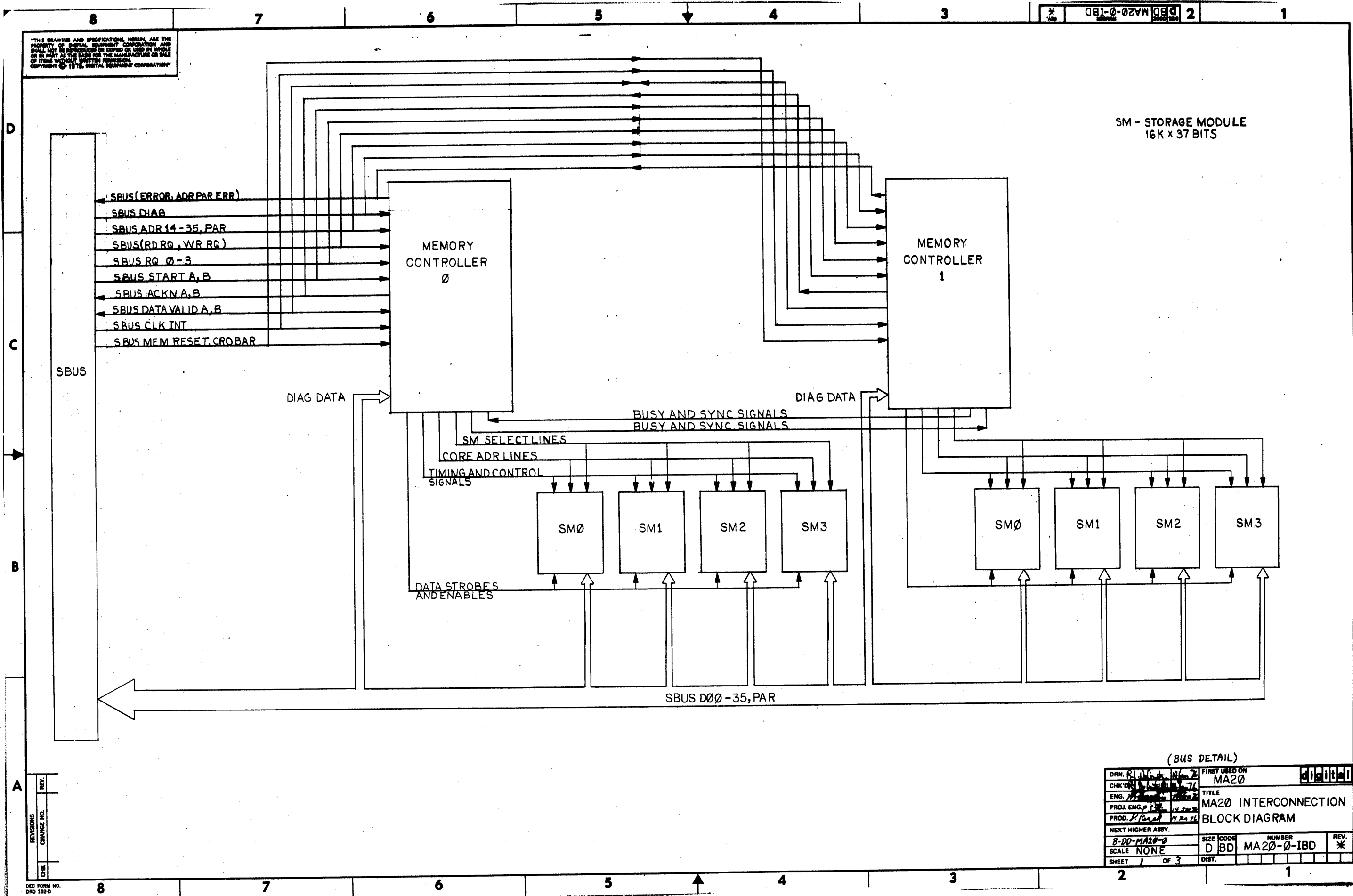
SIZE	CODE	NUMBER	REV.
D	FD	MA20-0-FD	1

SHEET 3 OF 3



"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1976, DIGITAL EQUIPMENT CORPORATION"

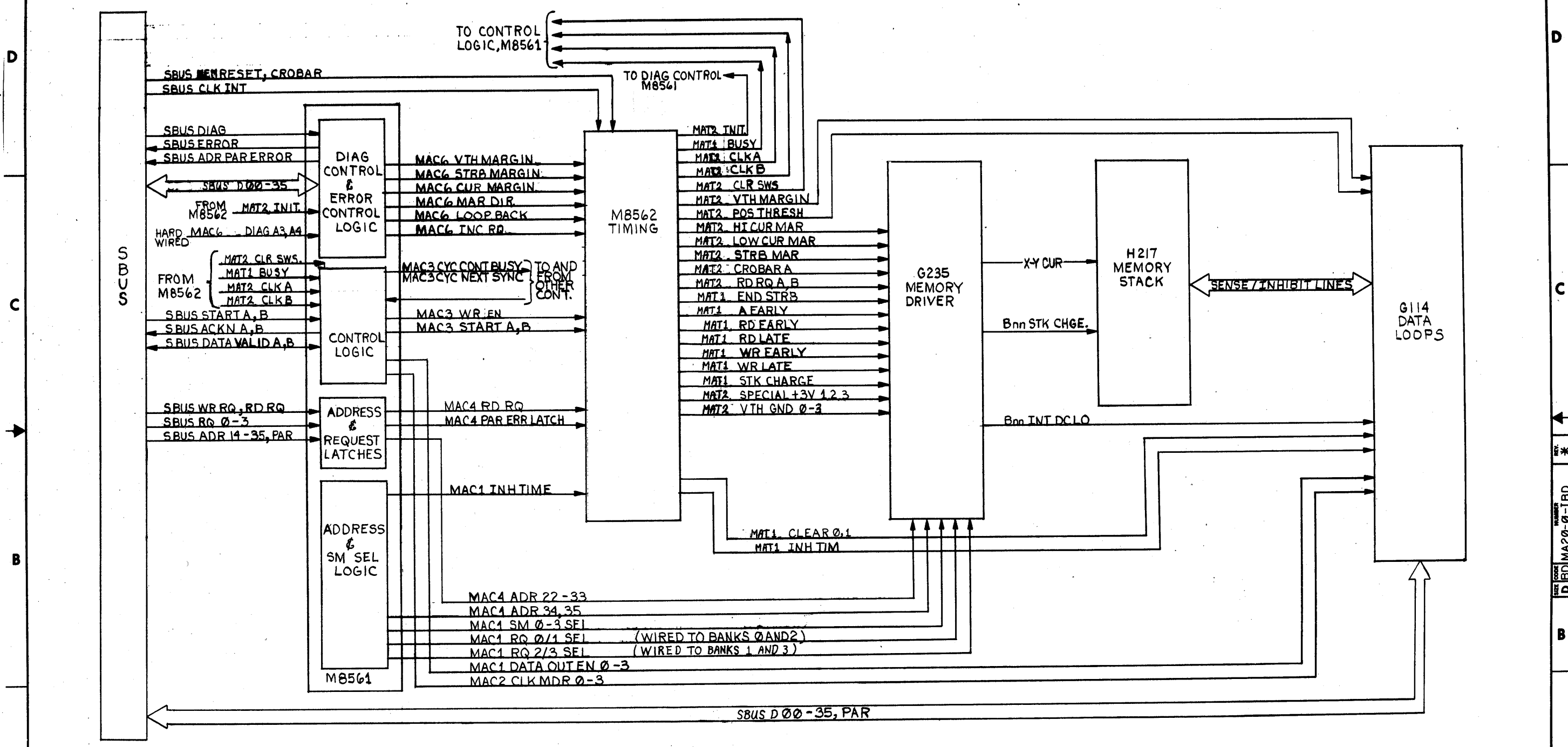
SM - STORAGE MODULE
16K x 37 BITS



(BUS DETAIL)

DRN. R. J. J. 10-76	FIRST USED ON	MA20
CHK'D. J. L. J. 10-76	TITLE	MA20 INTERCONNECTION BLOCK DIAGRAM
ENG. J. L. J. 10-76	SIZE	D BD
PROJ. ENG. P. J. 10-76	CODE	MA20-0-1BD
PROD. J. L. J. 10-76	NUMBER	1
NEXT HIGHER ASSY.	REV.	*
8-DD-MA20-0	SCALE	NONE
SHEET 1 OF 3	DIST.	

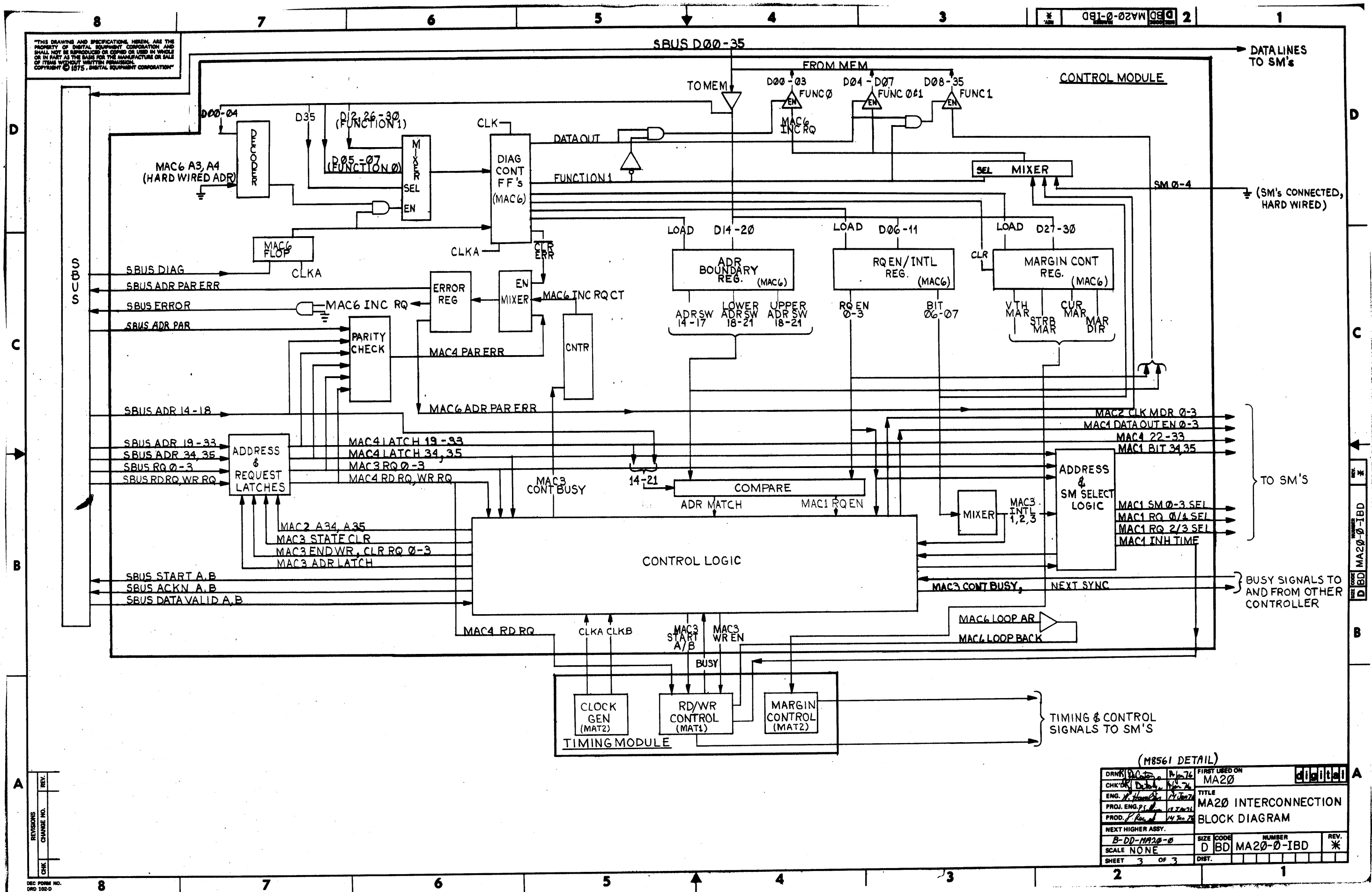
"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1975 DIGITAL EQUIPMENT CORPORATION"

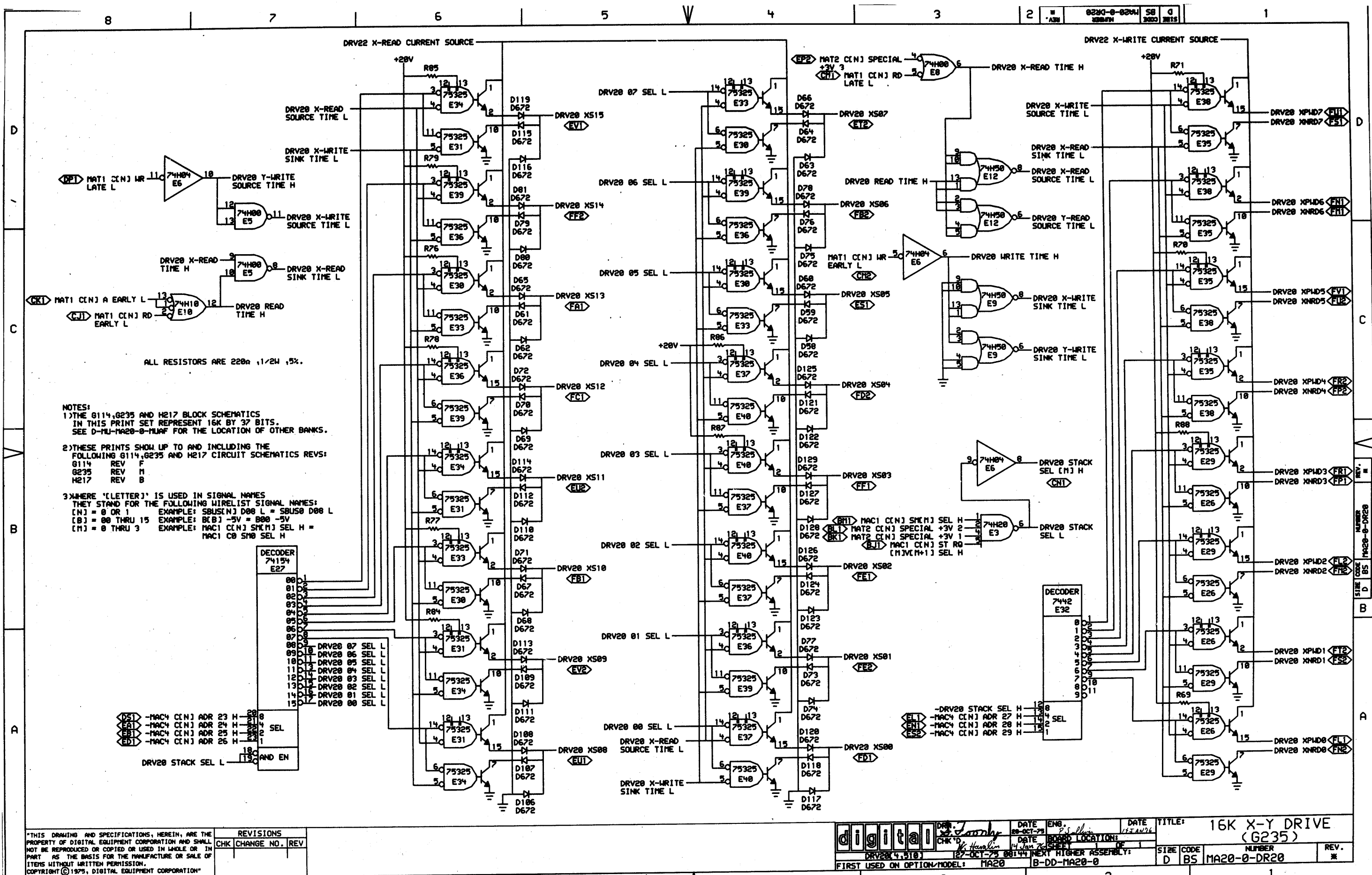


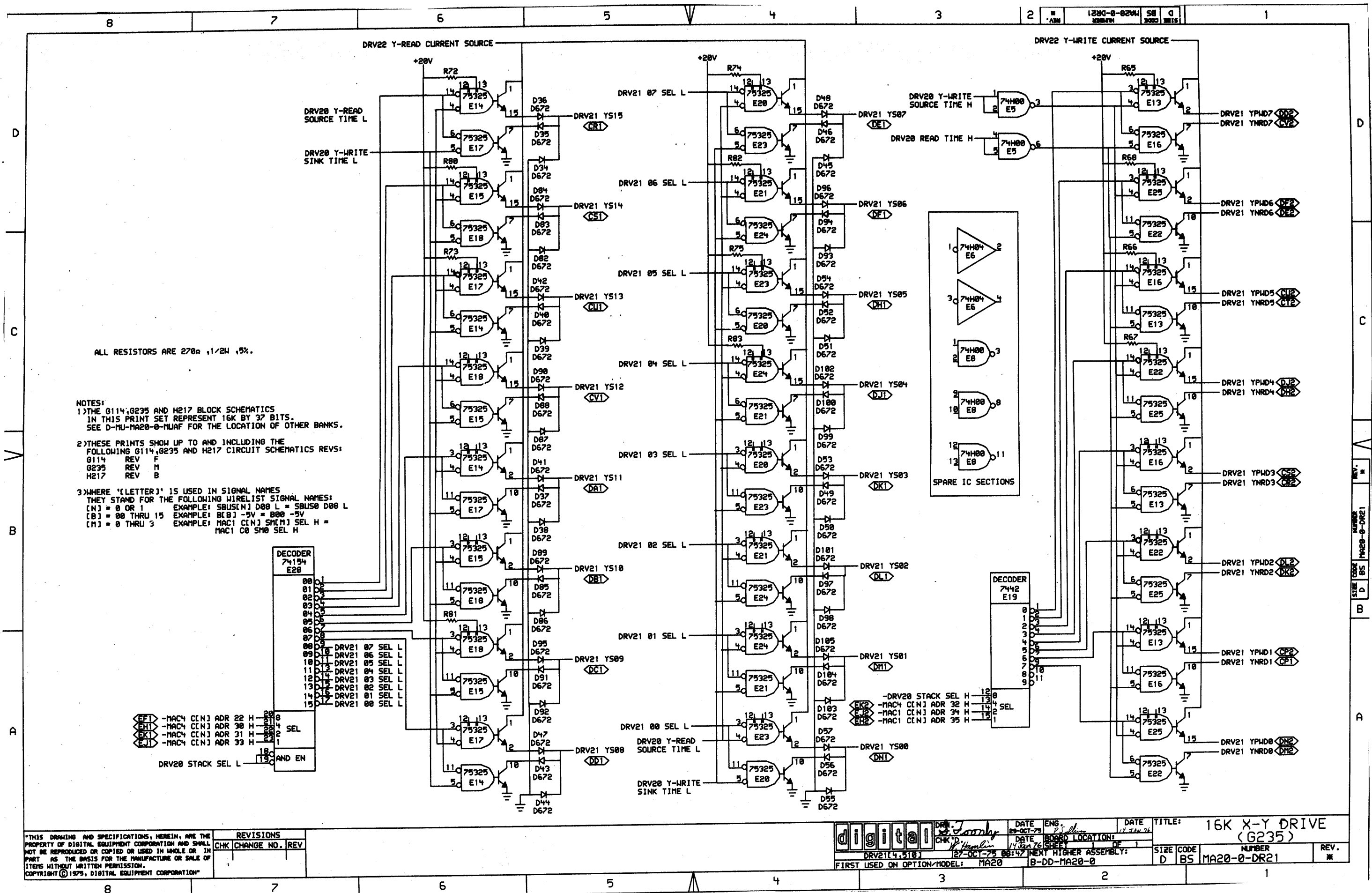
(STORAGE MODULE DETAIL)

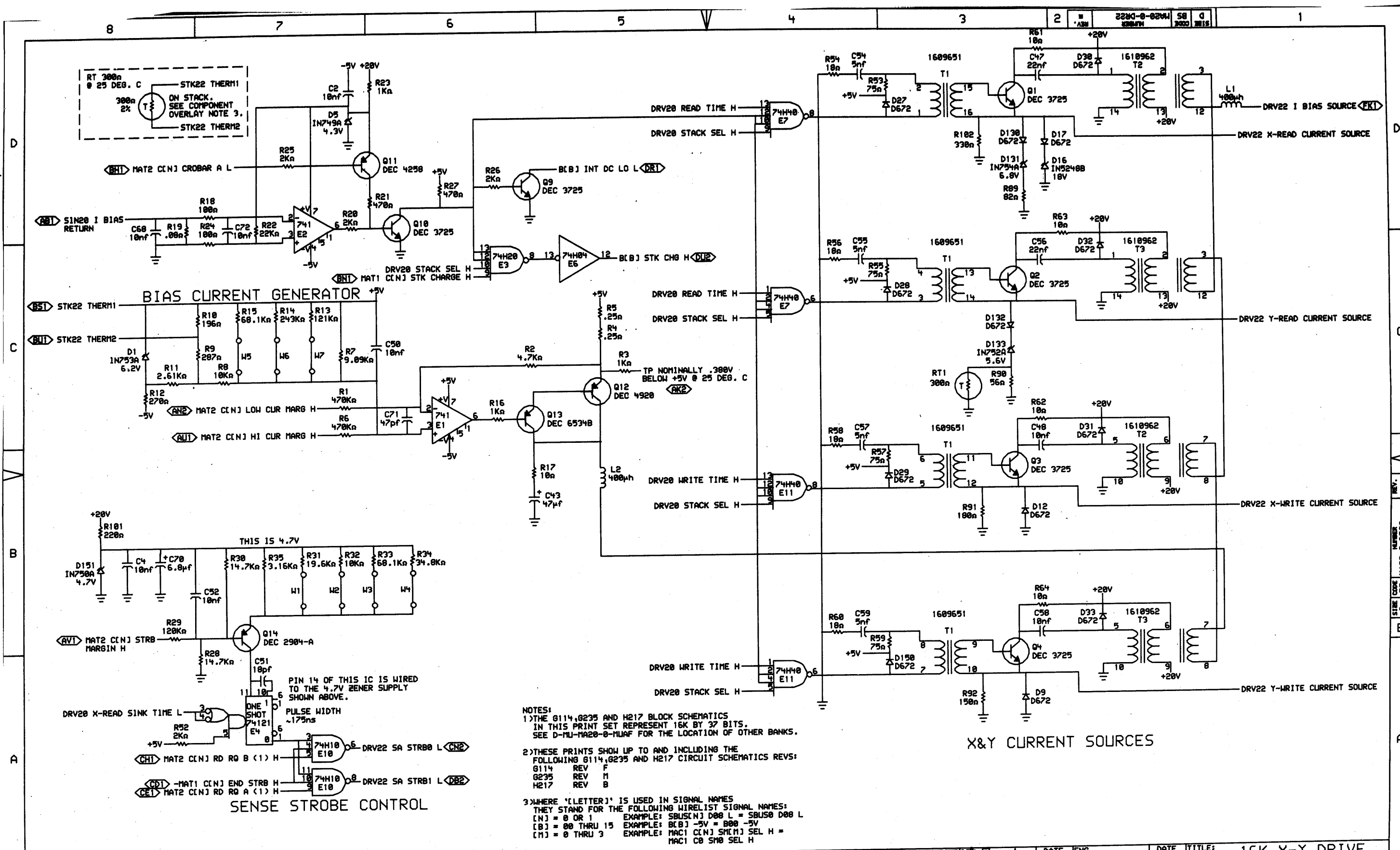
DRN: D.D. 10-76	FIRST USED ON	MA20
CHK: D.D. 10-76	TITLE	MA20 INTERCONNECTION BLOCK DIAGRAM
ENG: M. Hamada 10-76	PROD. P. Hamada 10-76	
PROJ. ENG. S. M. 10-76		
NEXT HIGHER ASSY.		
8-DD-MA20-0	SIZE CODE	D BD
SCALE NONE	NUMBER	MA20-0-IBD
SHEET 2 OF 3	REV.	*

REV.	CHANGE NO.
1	
2	
3	
4	
5	
6	
7	
8	







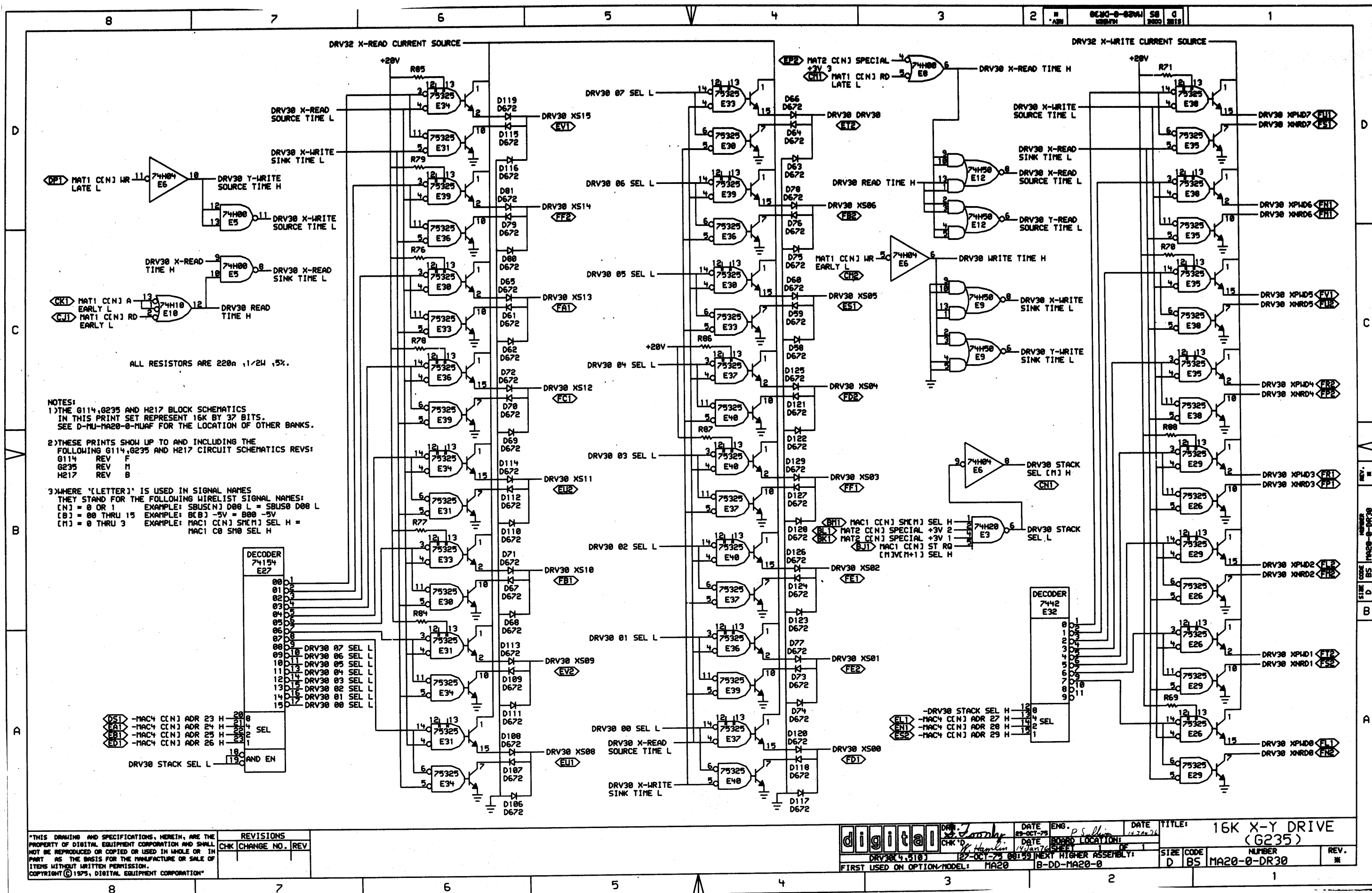


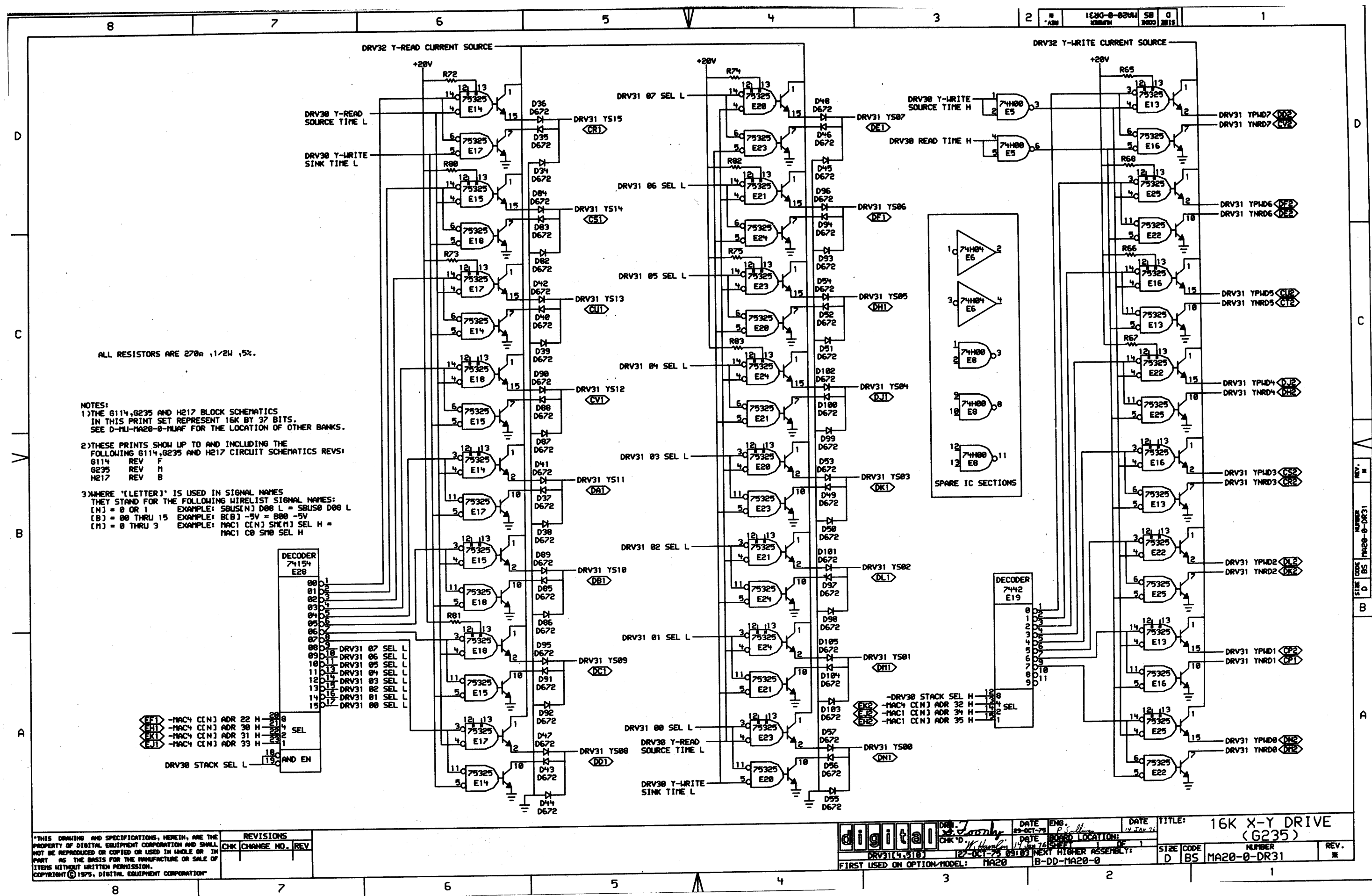
NOTES:
1) THE 6114, 6235 AND H217 BLOCK SCHEMATICS IN THIS PRINT SET REPRESENT 16K BY 32 BITS. SEE D-MU-MA20-0-MUAF FOR THE LOCATION OF OTHER BANKS.
2) THESE PRINTS SHOW UP TO AND INCLUDING THE FOLLOWING 6114, 6235 AND H217 CIRCUIT SCHEMATICS REVS:
6114 REV F
6235 REV M
H217 REV B
3) WHERE '[LETTER]' IS USED IN SIGNAL NAMES THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
[N] = 0 OR 1 EXAMPLE: SBUSINJ D00 L = SBUS0 D00 L
[B] = 00 THRU 15 EXAMPLE: BCBJ -5V = B00 -5V
[M] = 0 THRU 3 EXAMPLE: MAC1 C0N3 SH11J SEL H = MAC1 C0 SH0 SEL H

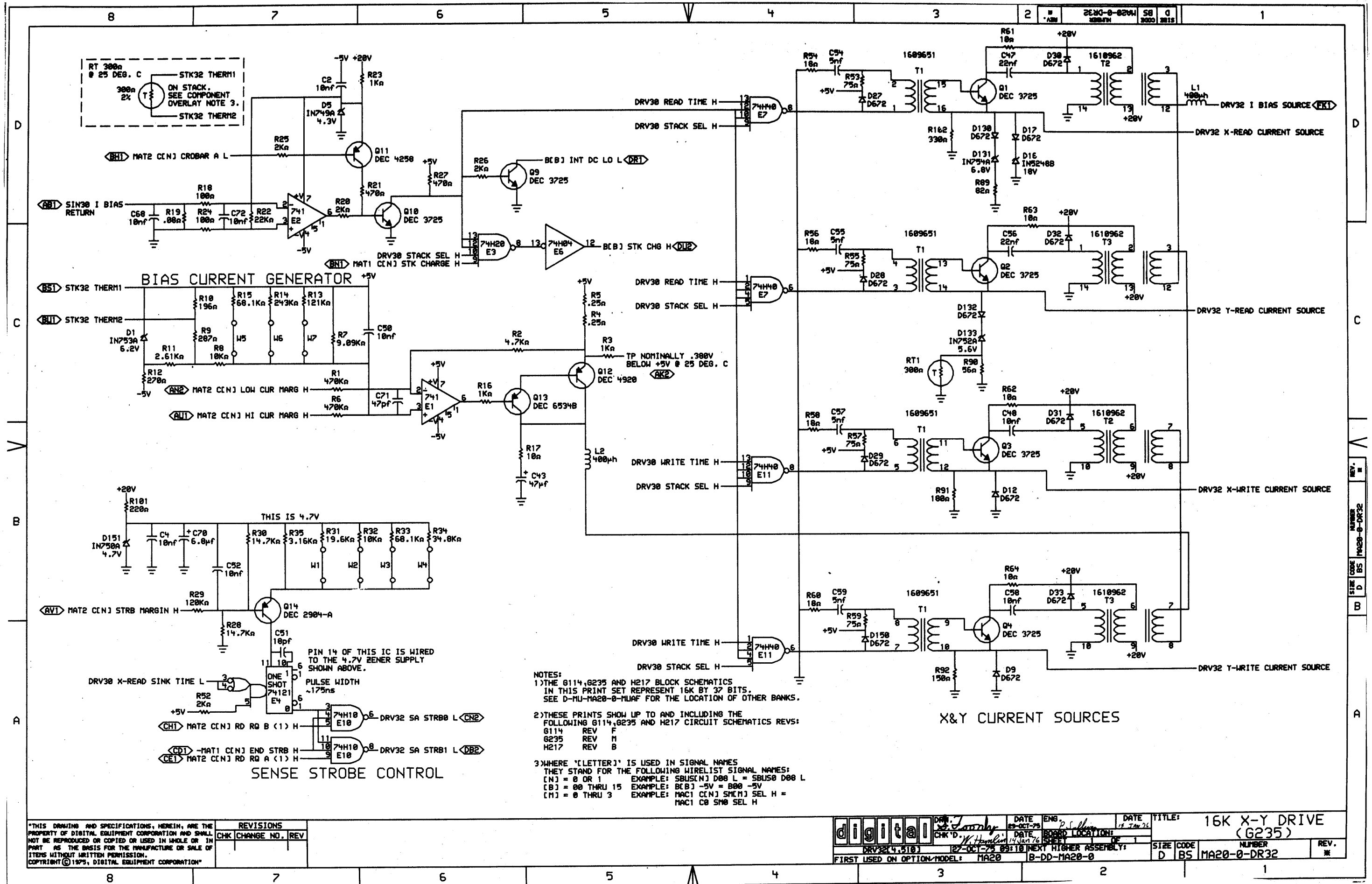
THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1975, DIGITAL EQUIPMENT CORPORATION

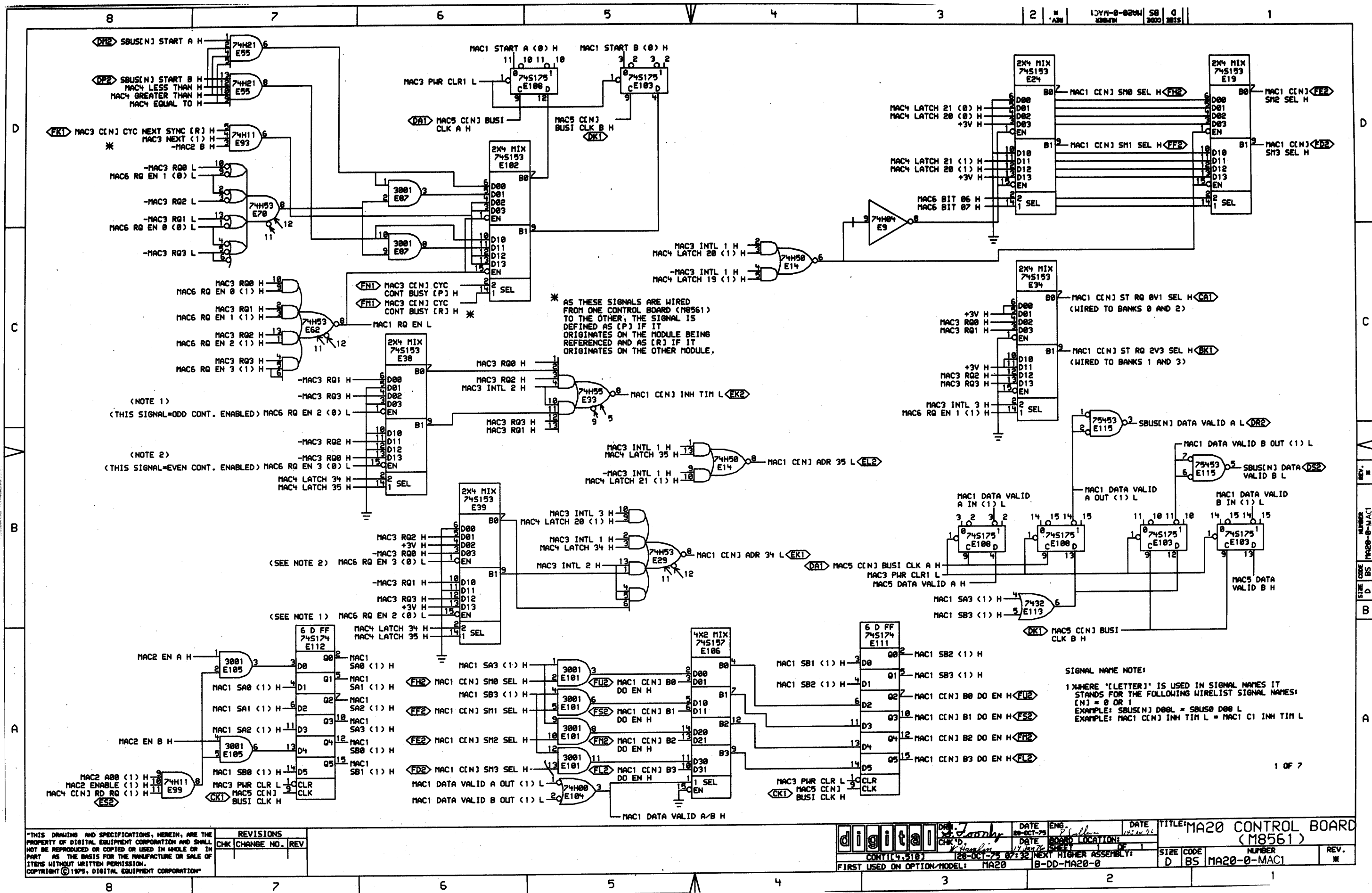
REVISIONS	
CHK	CHANGE NO. REV

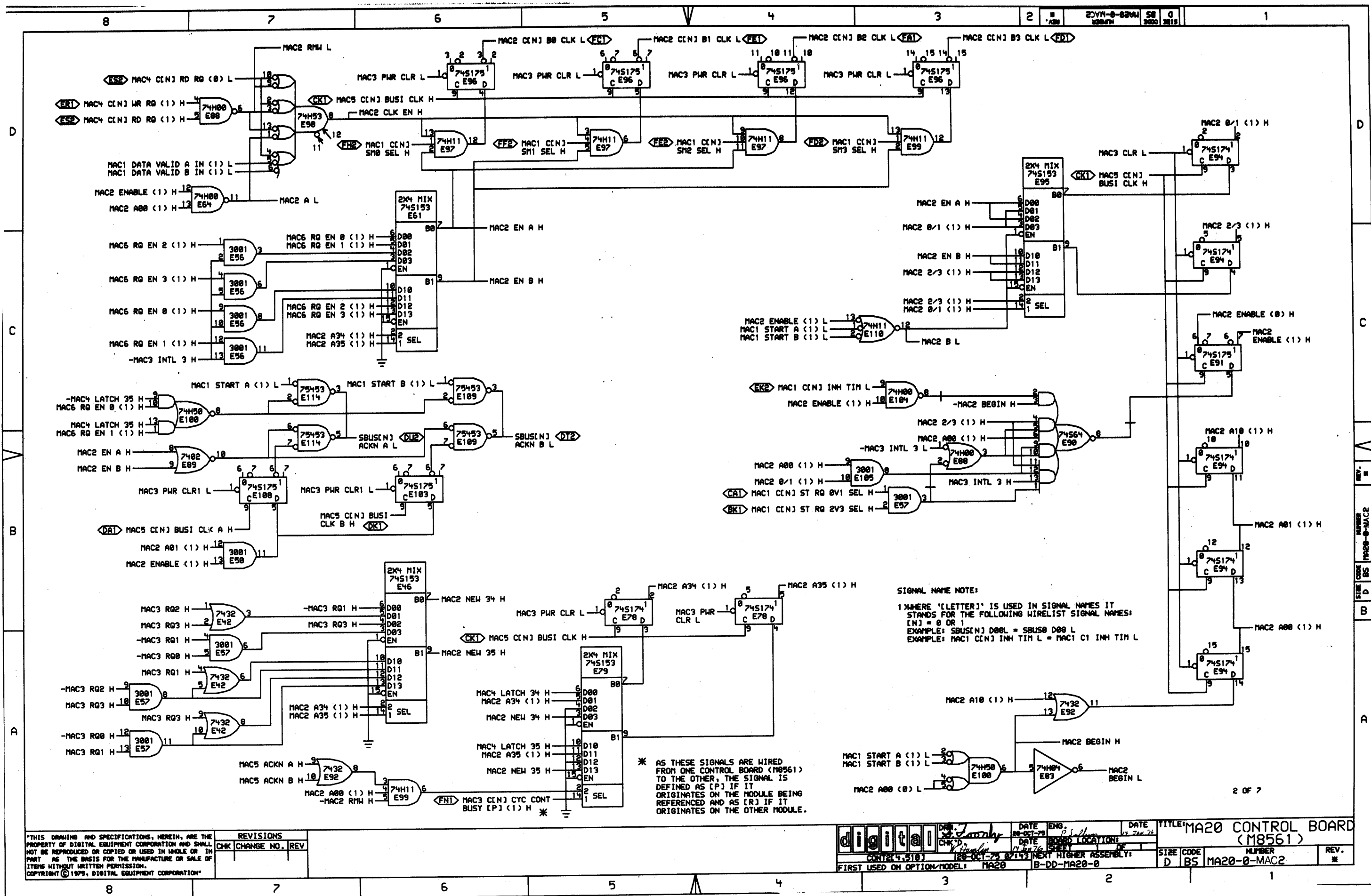
digital	DATE 23-OCT-75	ENG. Sullivan	DATE 14 JAN 76	TITLE: 16K X-Y DRIVE (G235)
	DATE 14 JAN 76	CHK'D Hamlin	DATE 14 JAN 76	REV. *
FIRST USED ON OPTION/MODEL: MA20		B-DD-MA20-0		SIZE CODE D BS
DRV22(4,510)		NEXT HIGHER ASSEMBLY: 1		NUMBER MA20-0-DR22

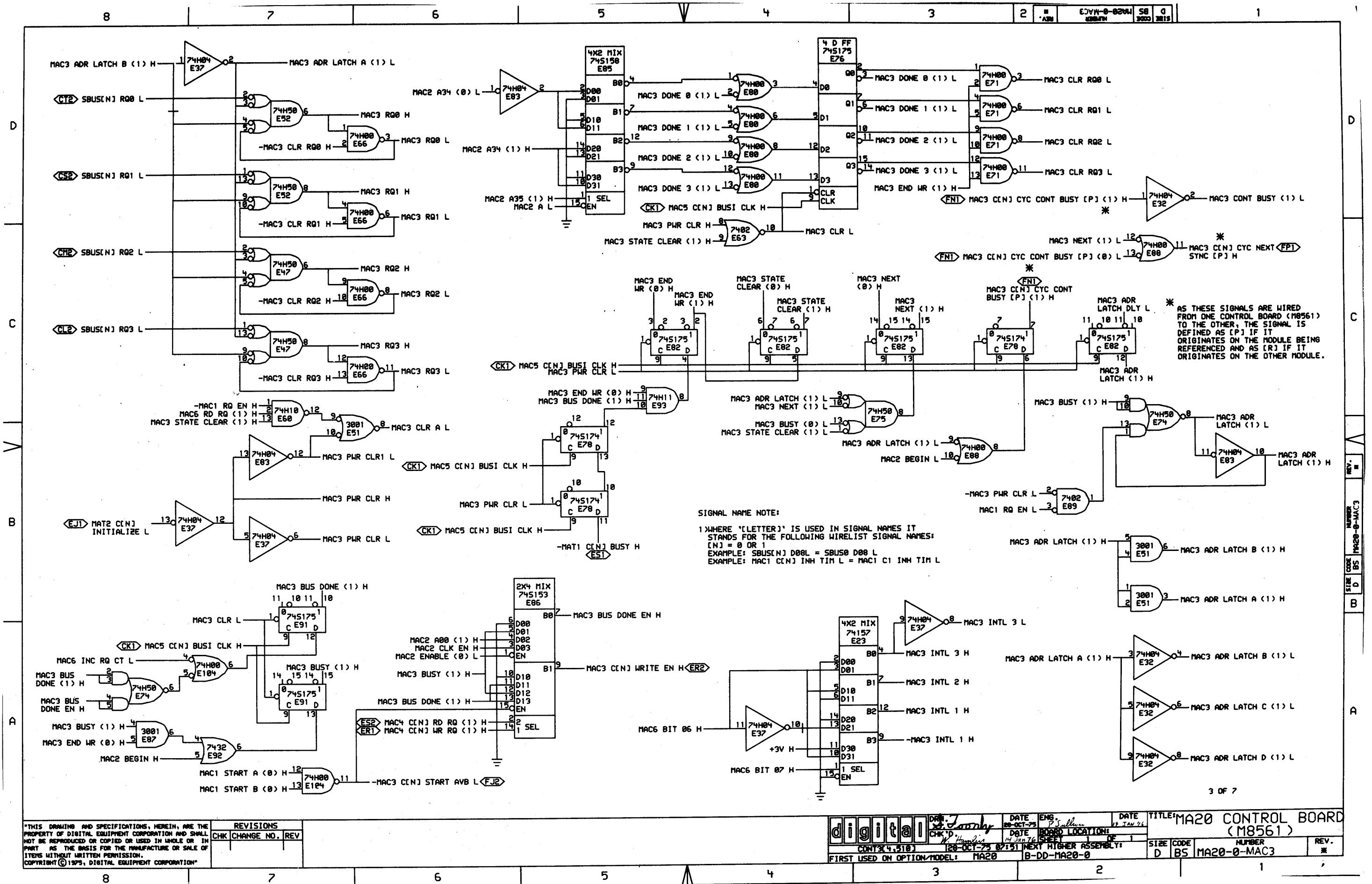


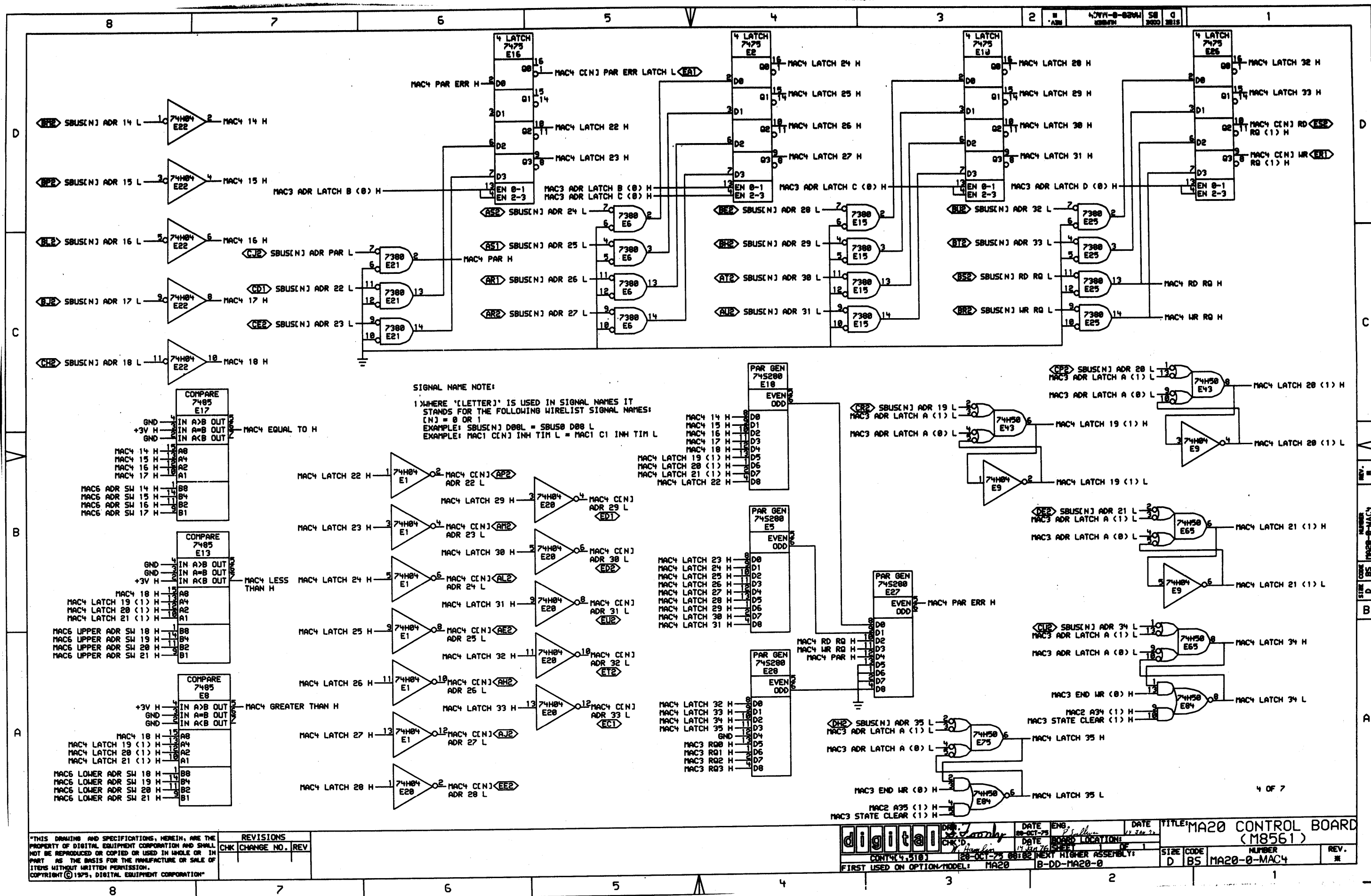












8

7

6

5

4

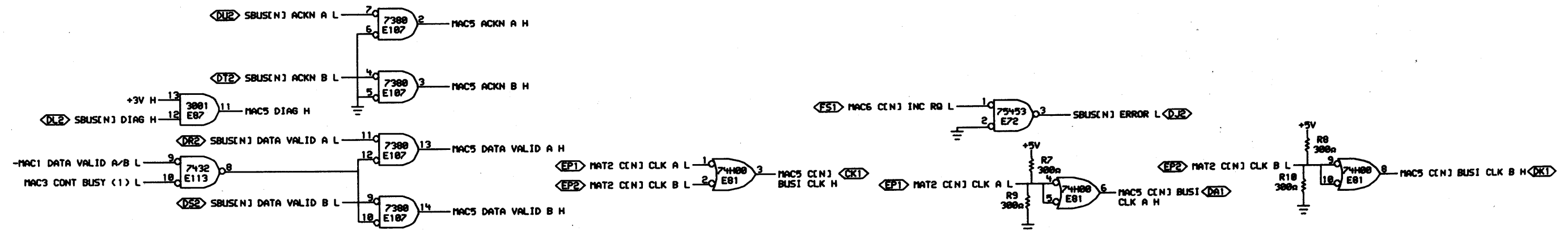
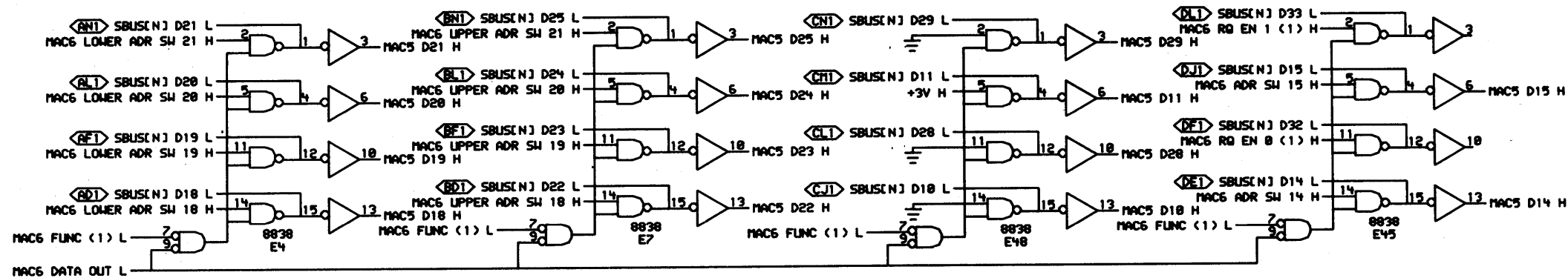
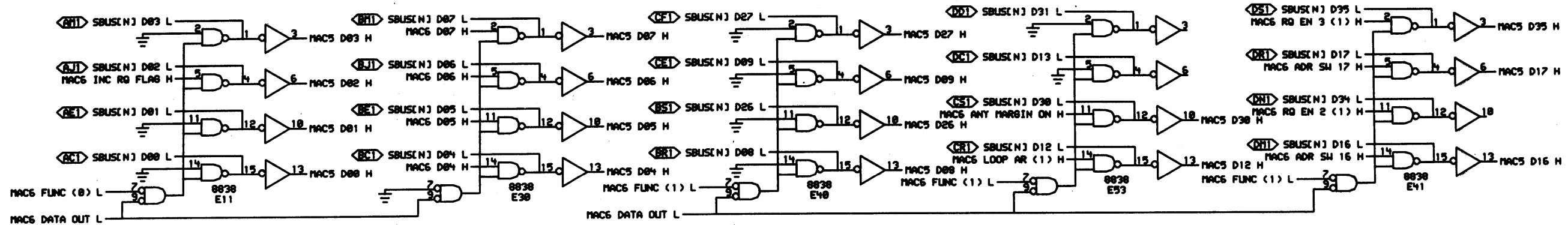
3

2

1

SYN-0-0304
K8847H
SB
Q
1815

1



SIGNAL NAME NOTE:

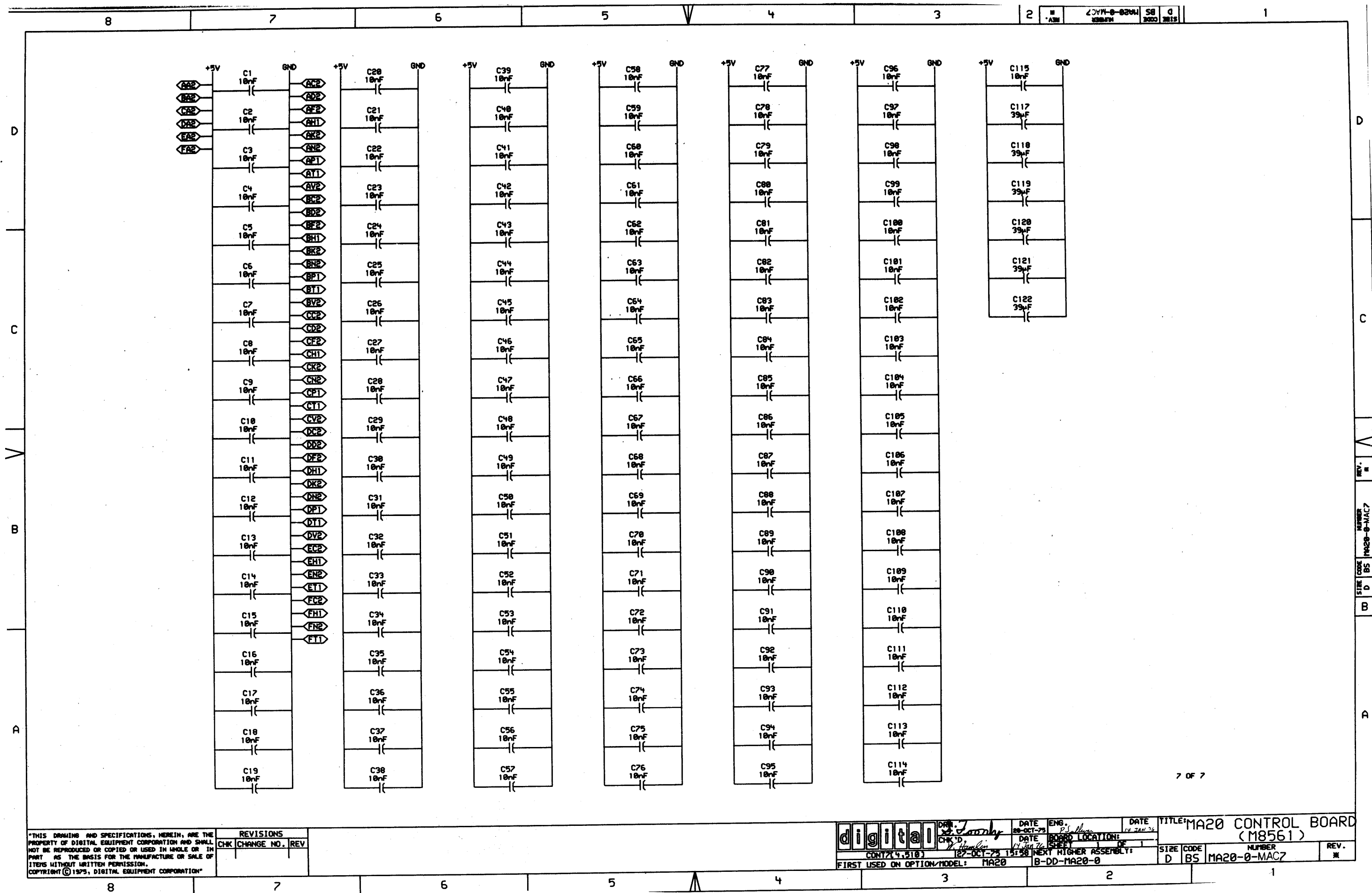
1 WHERE "LETTER" IS USED IN SIGNAL NAMES IT STANDS FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
[N] = 0 OR 1
EXAMPLE: SBUSIN D08L = SBUS0 D08 L
EXAMPLE: MAC1 C[N] INH TIM L = MAC1 C1 INH TIM L

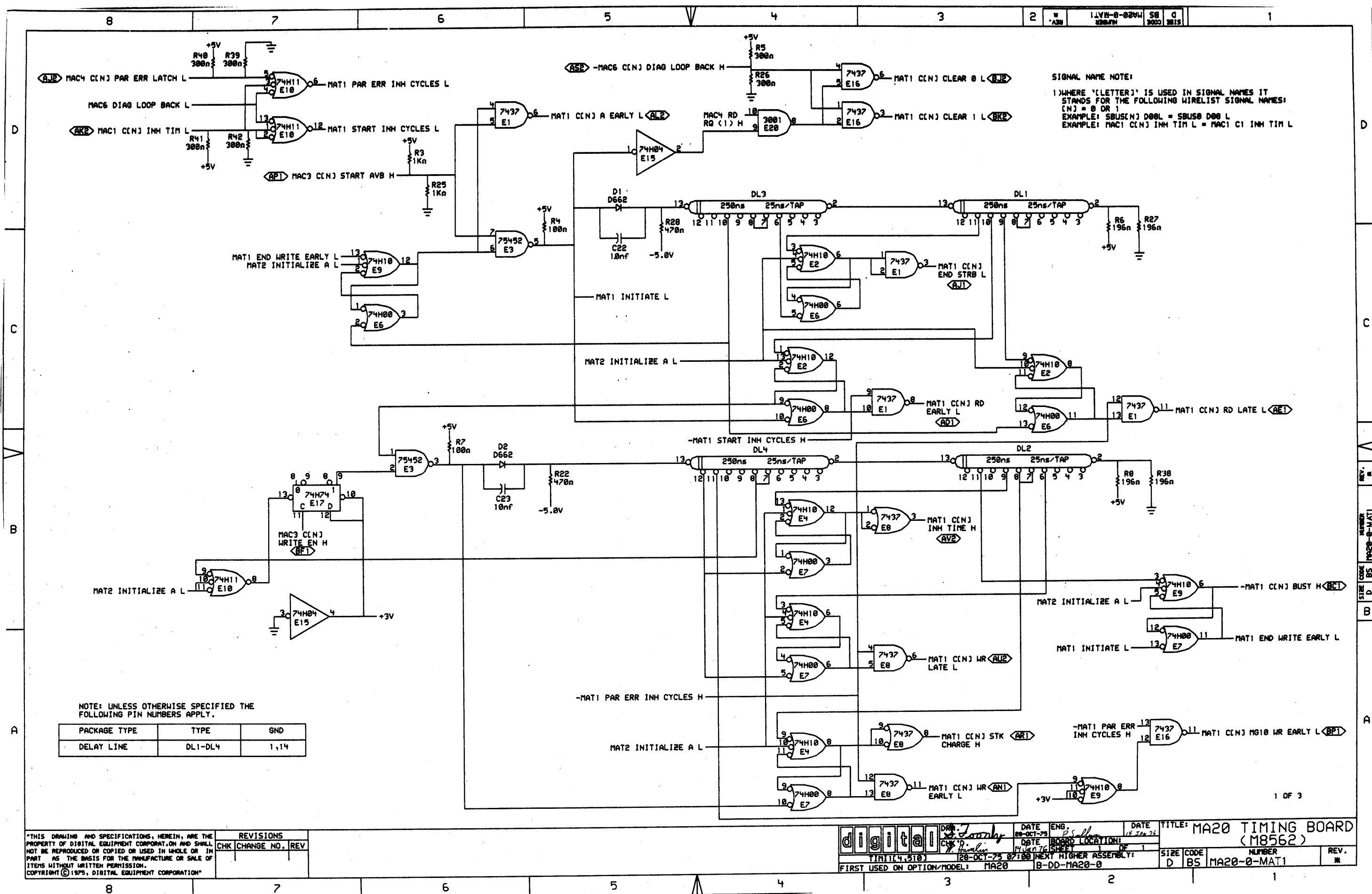
5 OF 7

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1975, DIGITAL EQUIPMENT CORPORATION"

REVISIONS		
CHK	CHANGE NO.	REV

digital	DATE	ENG.	DATE	TITLE: MA20 CONTROL BOARD (M8561)		
	80-OCT-75	P.S. [Signature]	11 Jan 76	SIZE	CODE	NUMBER
CONT 4, 5, 10	DATE	BOARD LOCATION	DE	D	BS	MA20-0-MAC5
FIRST USED ON OPTION/MODEL: MA20				REV. 1		





8

7

6

5

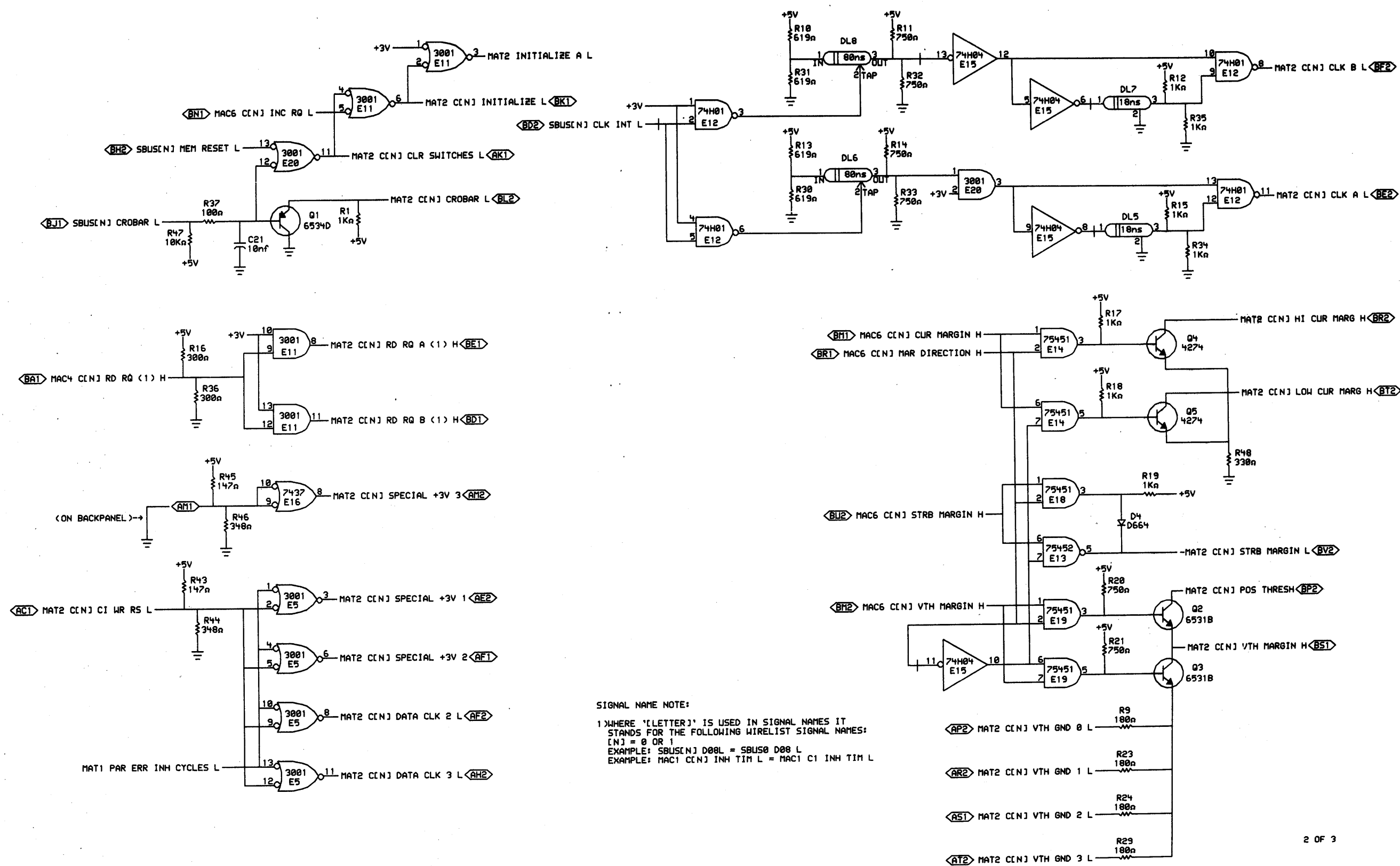
4

3

2

21VW-0-020W
MA20-0-MAT2SB
0000
0
0015

1



SIGNAL NAME NOTE:

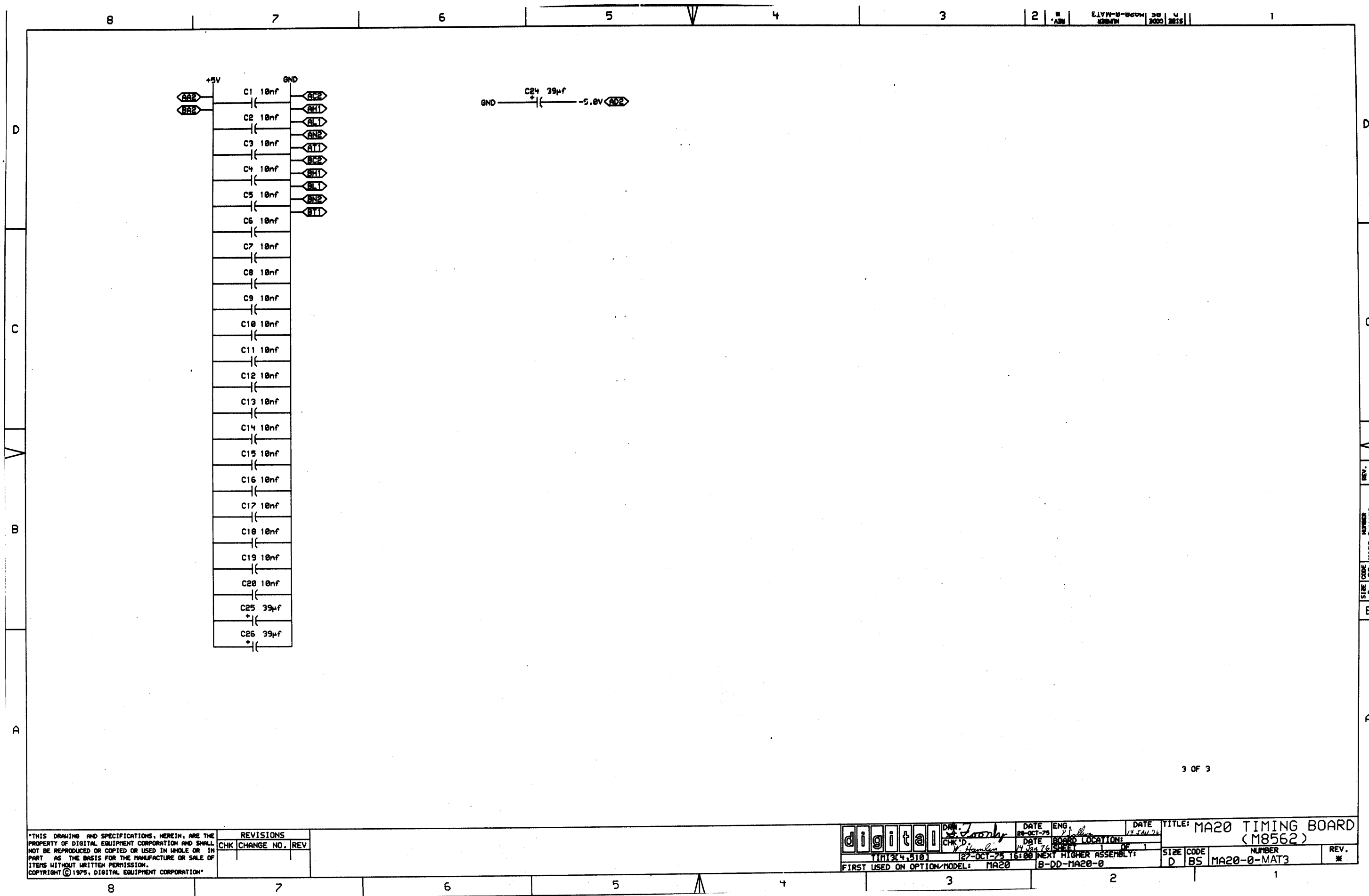
1) WHERE '[LETTER]' IS USED IN SIGNAL NAMES IT STANDS FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
 [N] = 0 OR 1
 EXAMPLE: SBUS[N] D00L = SBUS0 D00 L
 EXAMPLE: MAC1 CENJ INH TIM L = MAC1 C1 INH TIM L

2 OF 3

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
 COPYRIGHT © 1975, DIGITAL EQUIPMENT CORPORATION"

REVISIONS		
CHK	CHANGE NO.	REV

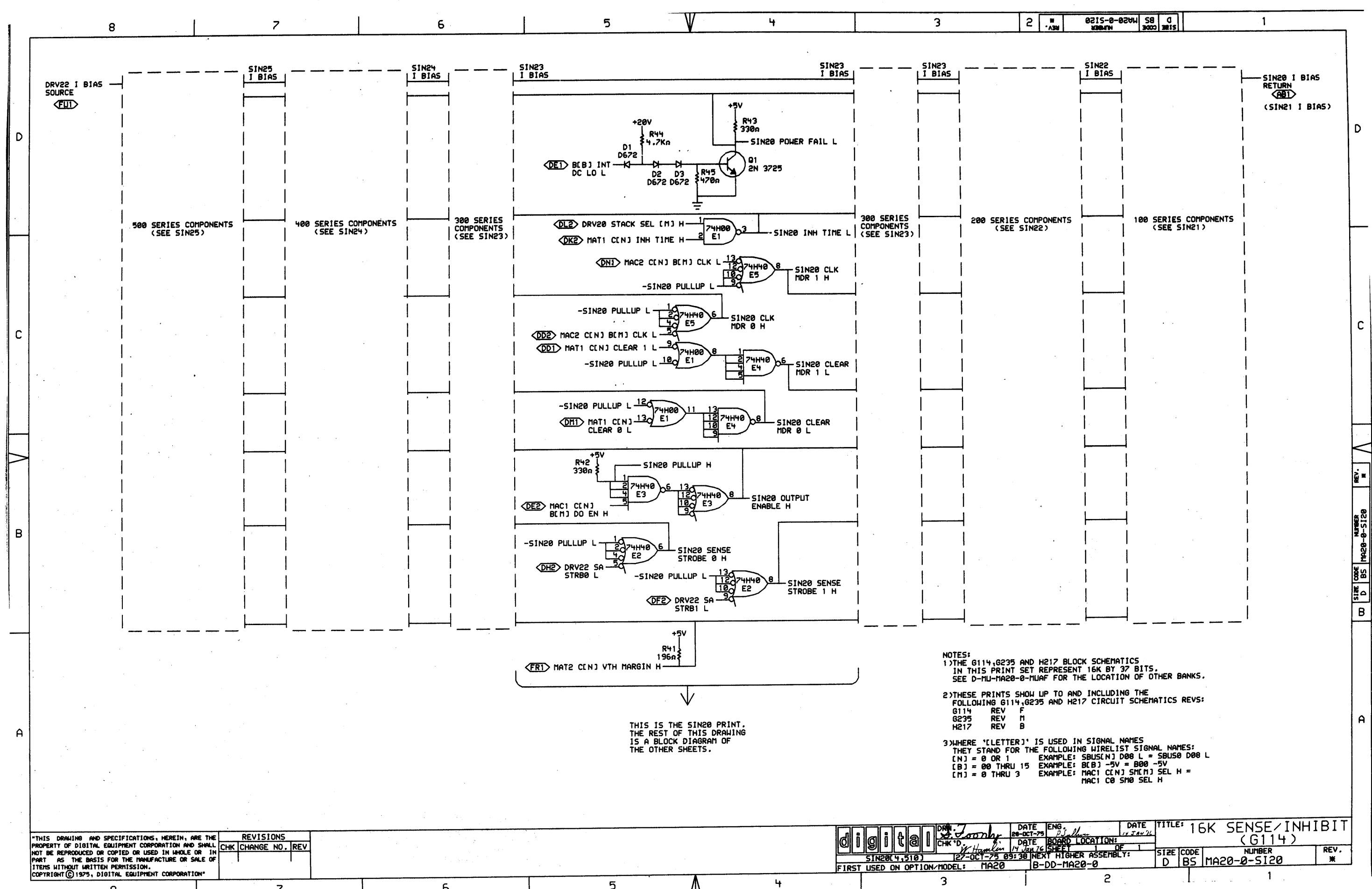
digital	DATE	ENG.	DATE	TITLE: MA20 TIMING BOARD (M8562)	
	28-OCT-75	25-MAY-76	14-JAN-76	SIZE	CODE
CHK'D	DATE	BOARD LOCATION	DATE	D	BS
28-OCT-75	07:00	NEXT HIGHER ASSEMBLY:	1	NUMBER	REV.
FIRST USED ON OPTION/MODEL:	MA20	B-DD-MA20-0	2	MA20-0-MAT2	*



"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1975, DIGITAL EQUIPMENT CORPORATION"

REVISIONS		
CHK	CHANGE NO.	REV

digital	DRN. <i>J. J. J.</i>	DATE 20-OCT-75	ENG. <i>J. J. J.</i>	DATE 14-JAN-76	TITLE: MA20 TIMING BOARD (M8562)	
	CHK'D. <i>J. J. J.</i>	DATE 14-JAN-76	BOARD LOCATION: 1	DATE 14-JAN-76		
FIRST USED ON OPTION/MODEL: MA20		NEXT HIGHER ASSEMBLY: B-DD-MA20-0		SIZE CODE D BS	NUMBER MA20-0-MAT3	REV. *

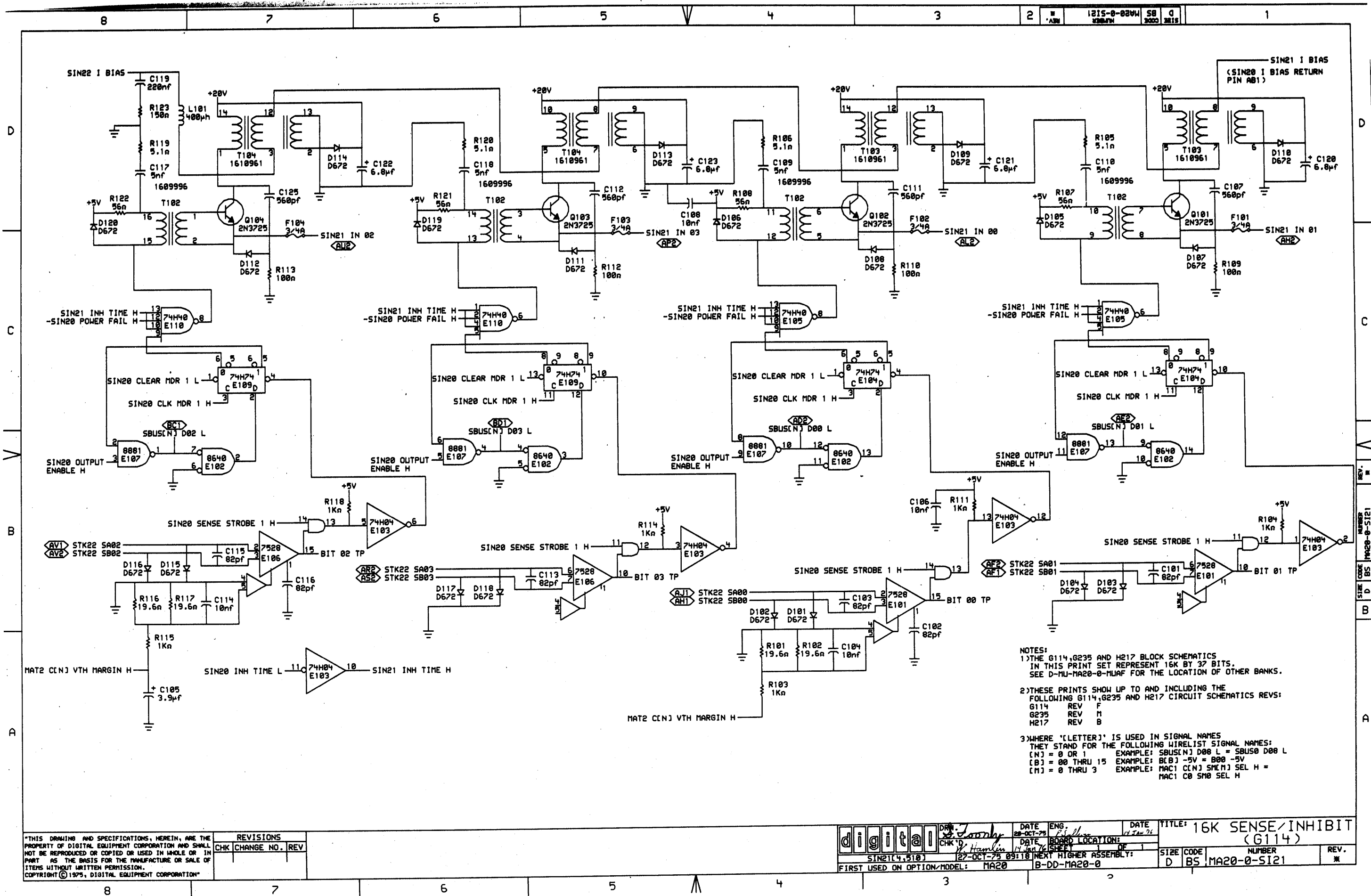


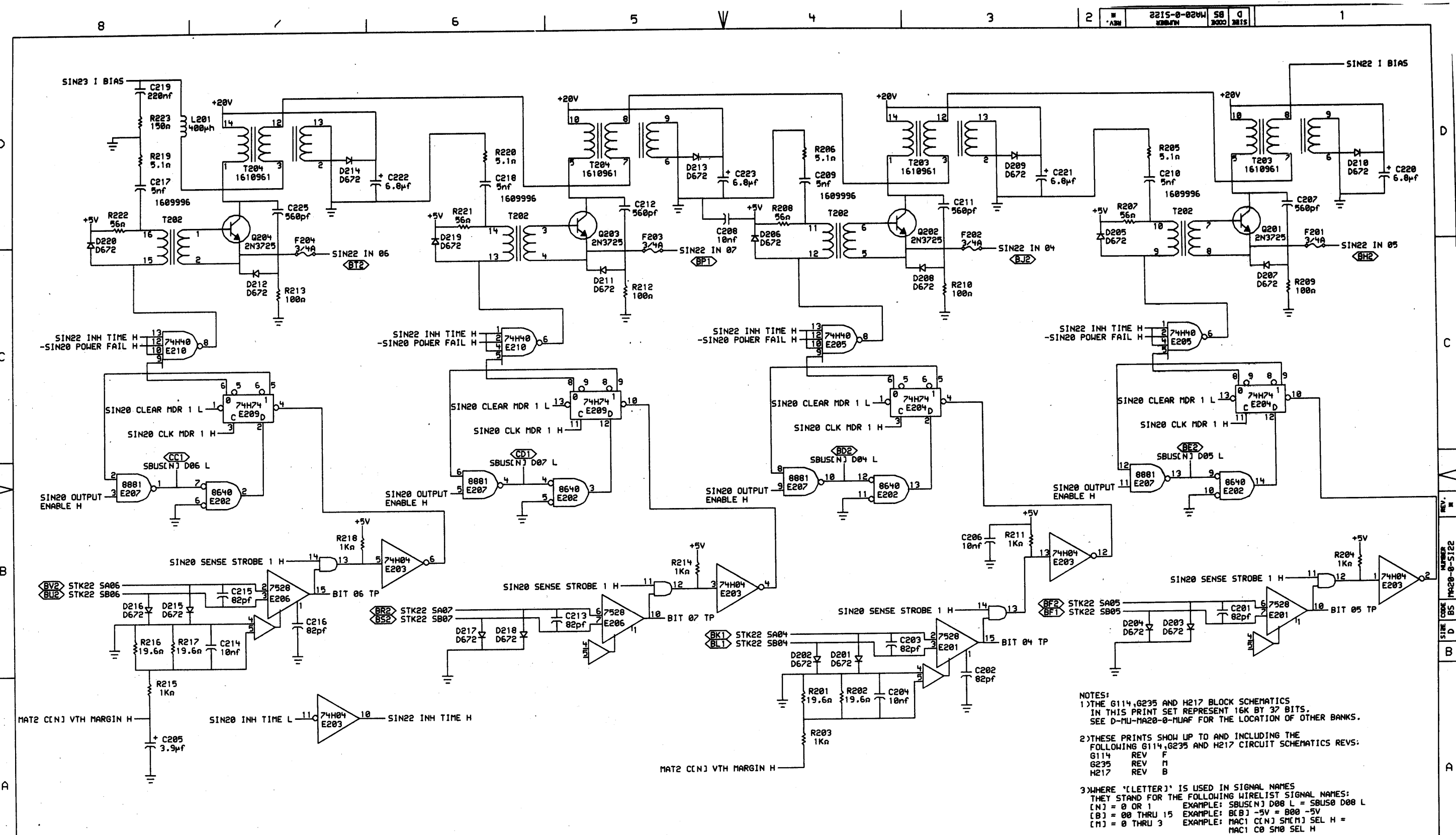
NOTES:
1) THE G114, G235 AND H217 BLOCK SCHEMATICS IN THIS PRINT SET REPRESENT 16K BY 37 BITS. SEE D-HU-MA20-0-MUAF FOR THE LOCATION OF OTHER BANKS.
2) THESE PRINTS SHOW UP TO AND INCLUDING THE FOLLOWING G114, G235 AND H217 CIRCUIT SCHEMATICS REVS:
G114 REV F
G235 REV M
H217 REV B
3) WHERE '[LETTER]' IS USED IN SIGNAL NAMES THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
[N] = 0 OR 1 EXAMPLE: SBU50 D08 L = SBU50 D08 L
[B] = 00 THRU 15 EXAMPLE: BCBJ -5V = B00 -5V
[M] = 0 THRU 3 EXAMPLE: MAC1 CENJ SEL H = MAC1 C0 S00 SEL H

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1975, DIGITAL EQUIPMENT CORPORATION"

REVISIONS		
CHK	CHANGE NO.	REV

digital	DATE 28-OCT-75	ENG. J. J. J.	DATE 14 Jan 76	TITLE: 16K SENSE/INHIBIT (G114)
	CHK'D J. J. J.	DATE 27-OCT-75 09:38	BOARD LOCATION: 14 Jan 76	SIZE CODE D BS
SIN20(4,510)		NEXT HIGHER ASSEMBLY: B-DD-MA20-0		NUMBER 1
FIRST USED ON OPTION/MODEL: MA20				REV. *

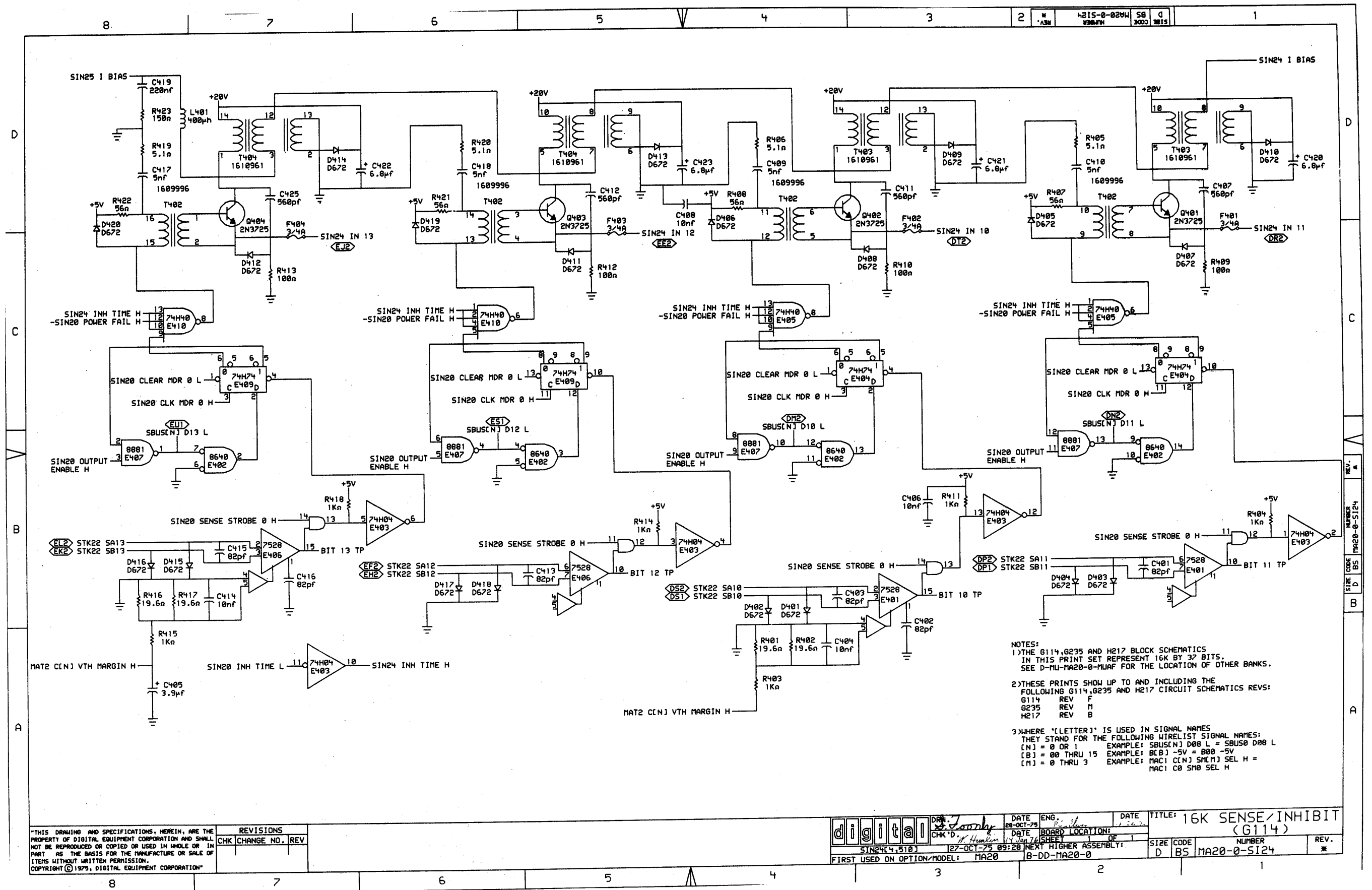


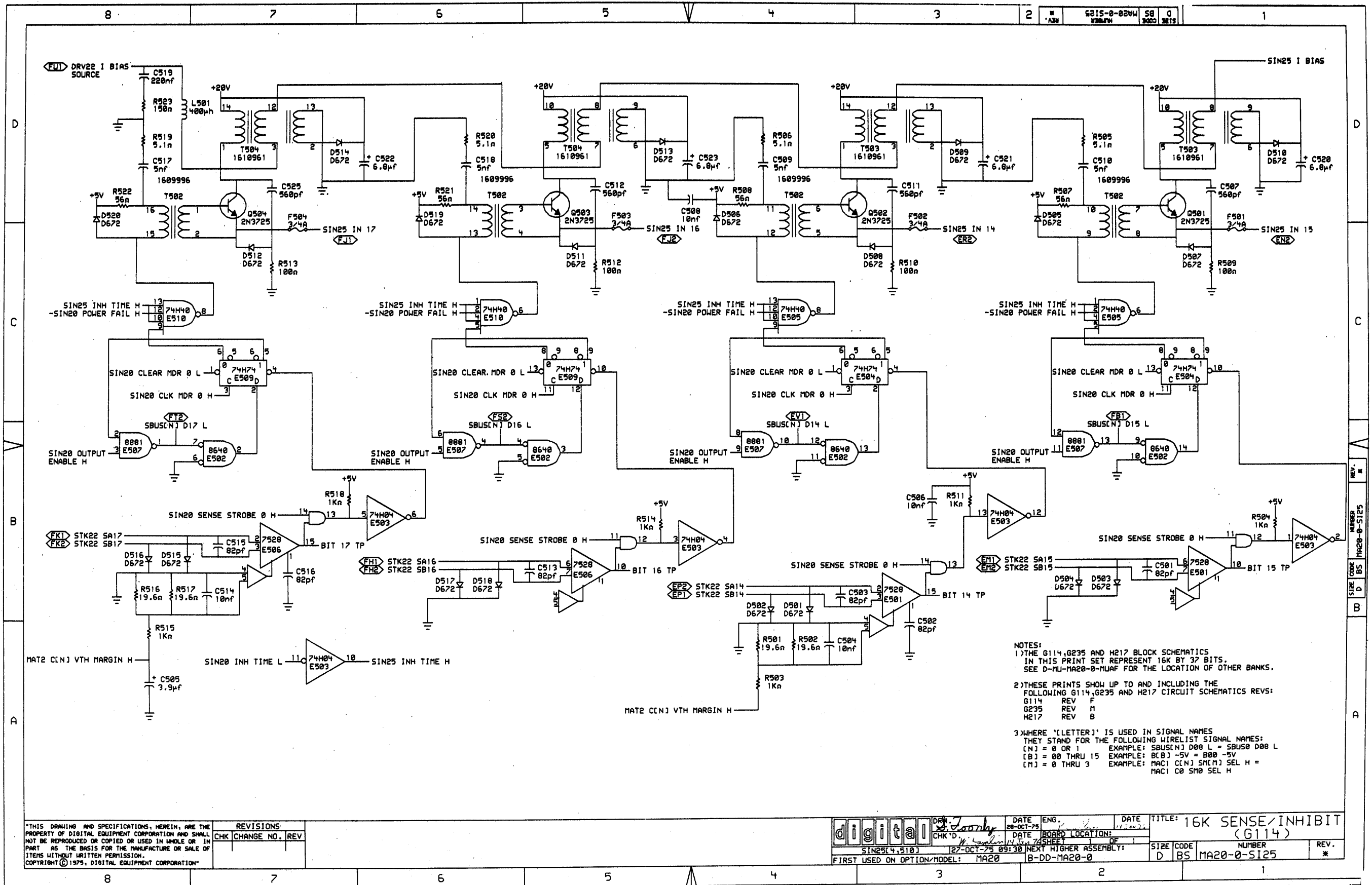


THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
 COPYRIGHT © 1975, DIGITAL EQUIPMENT CORPORATION

REVISIONS		
CHK	CHANGE NO.	REV

digital	DATE 20-OCT-75	ENG. P. S. L.	DATE 14 JAN 76	TITLE: 16K SENSE/INHIBIT (G114)
	DATE 127-OCT-75	CHK'D. W. Hamlin	DATE 14 JAN 76	BOARD LOCATION: 1 OF 1
FIRST USED ON OPTION MODEL: MA20		NEXT HIGHER ASSEMBLY: B-DD-MA20-0		SIZE CODE D BS MA20-0-S122
REV. *		NUMBER 1		REV. *





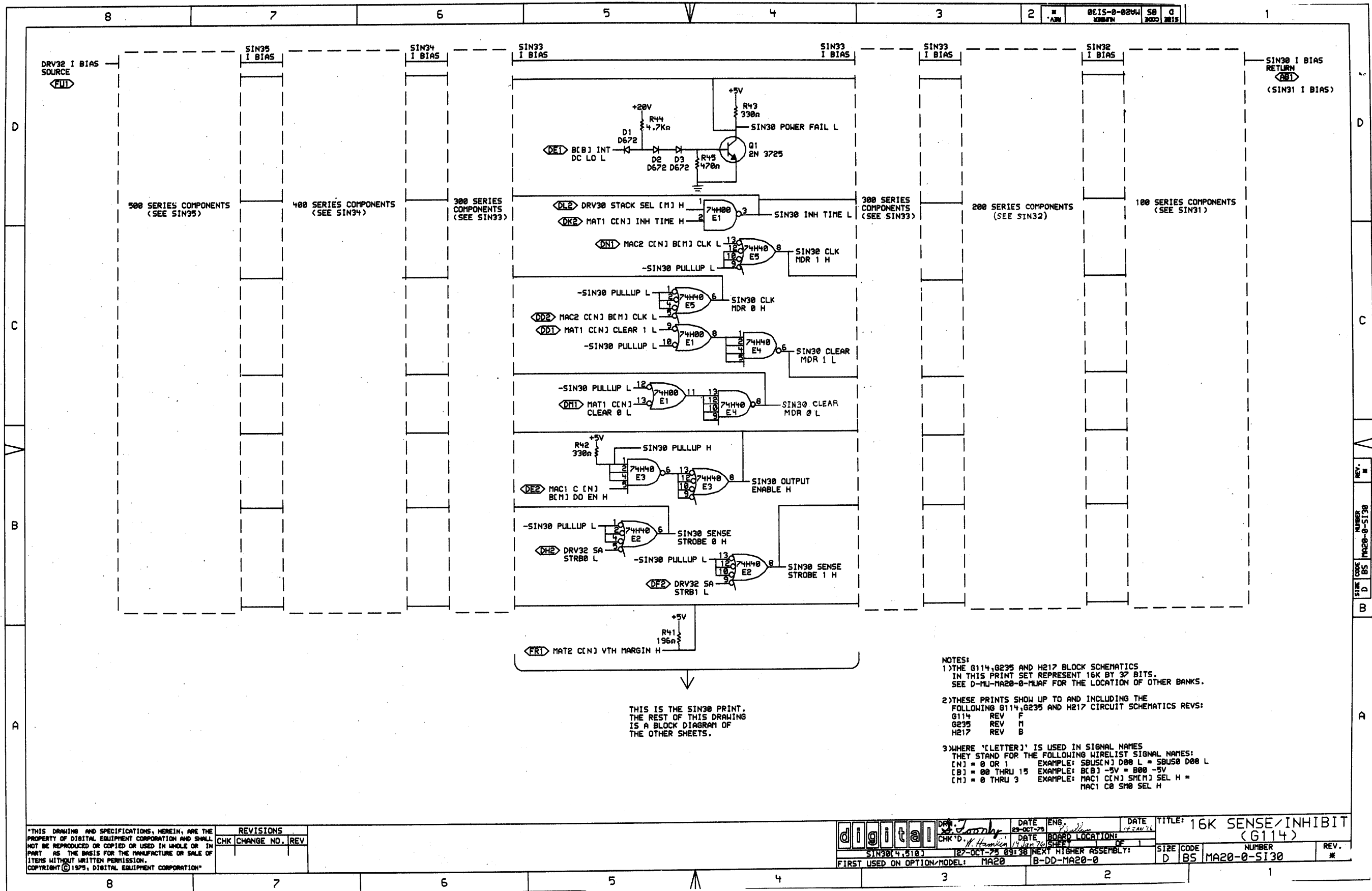
THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
 COPYRIGHT © 1975, DIGITAL EQUIPMENT CORPORATION

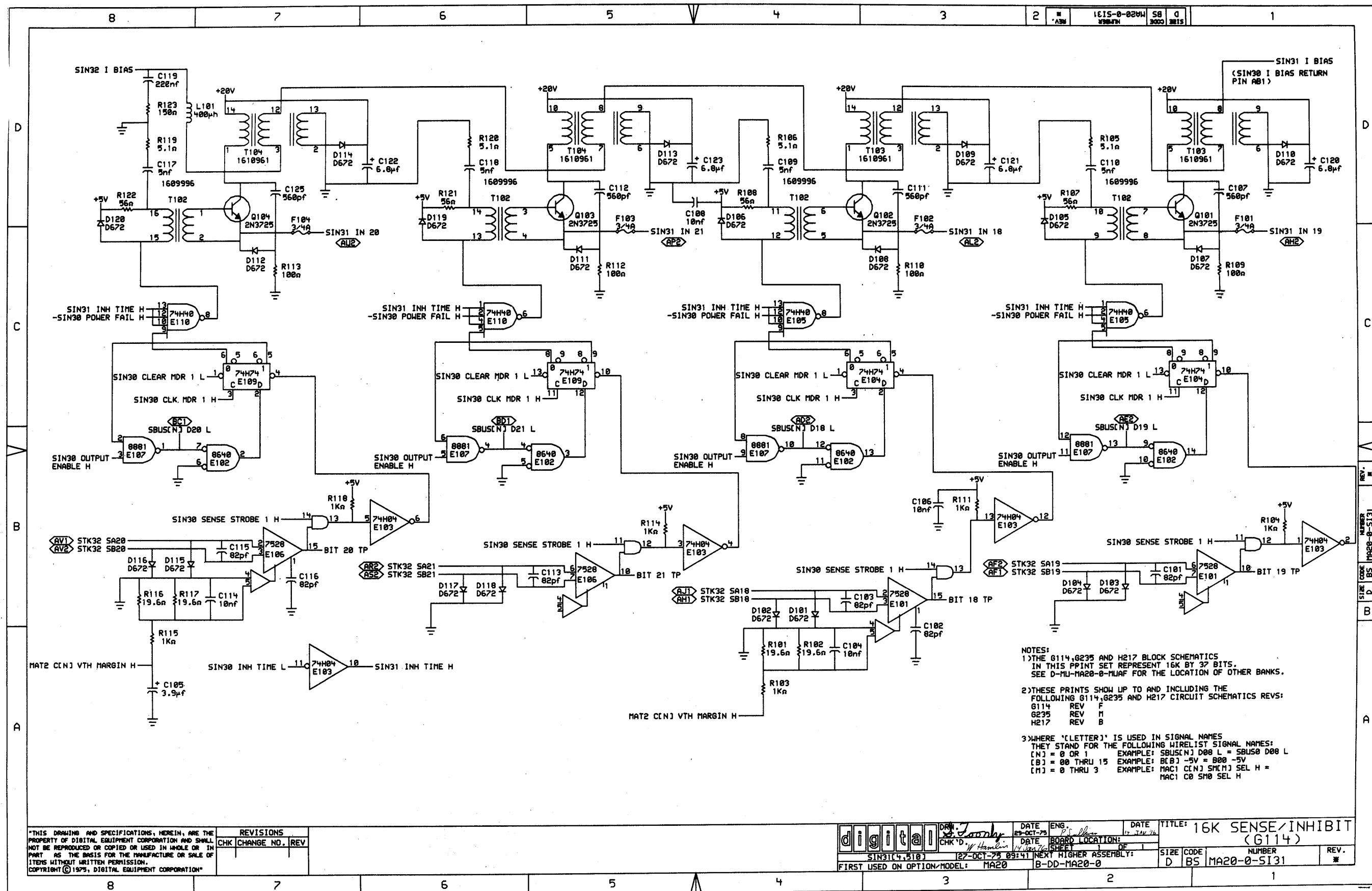
REVISIONS		
CHK	CHANGE NO.	REV

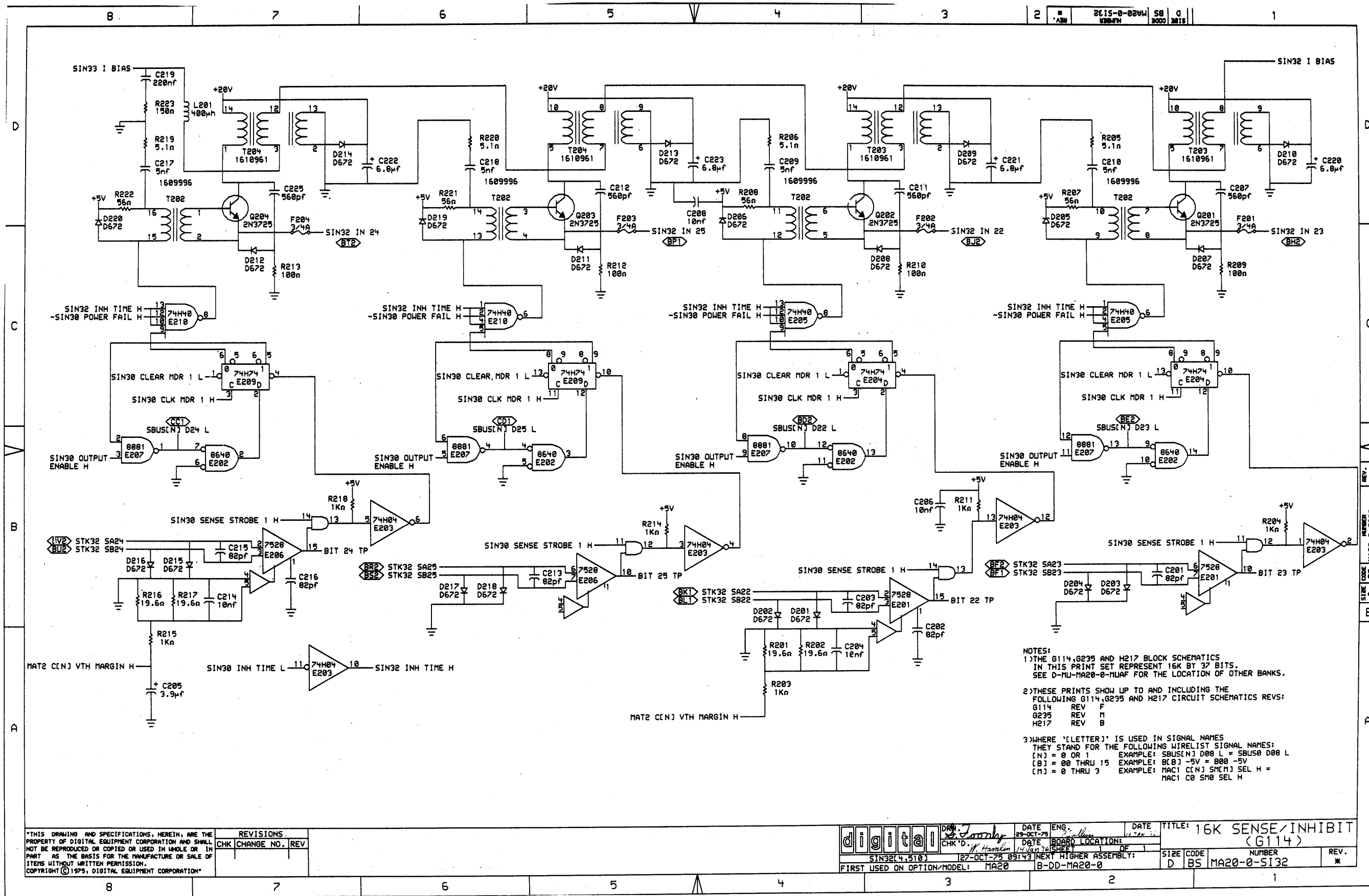
digital
 DATE 88-OCT-75
 CHK'D
 DATE 127-OCT-75 09:30
 FIRST USED ON OPTION/MODEL: MA20

ENG.
 DATE 127-OCT-75
 BOARD LOCATION: DE 1
 NEXT HIGHER ASSEMBLY: B-DD-MA20-0

TITLE: 16K SENSE/INHIBIT (G114)
 SIZE CODE NUMBER REV.
 D BS MA20-0-S125 *





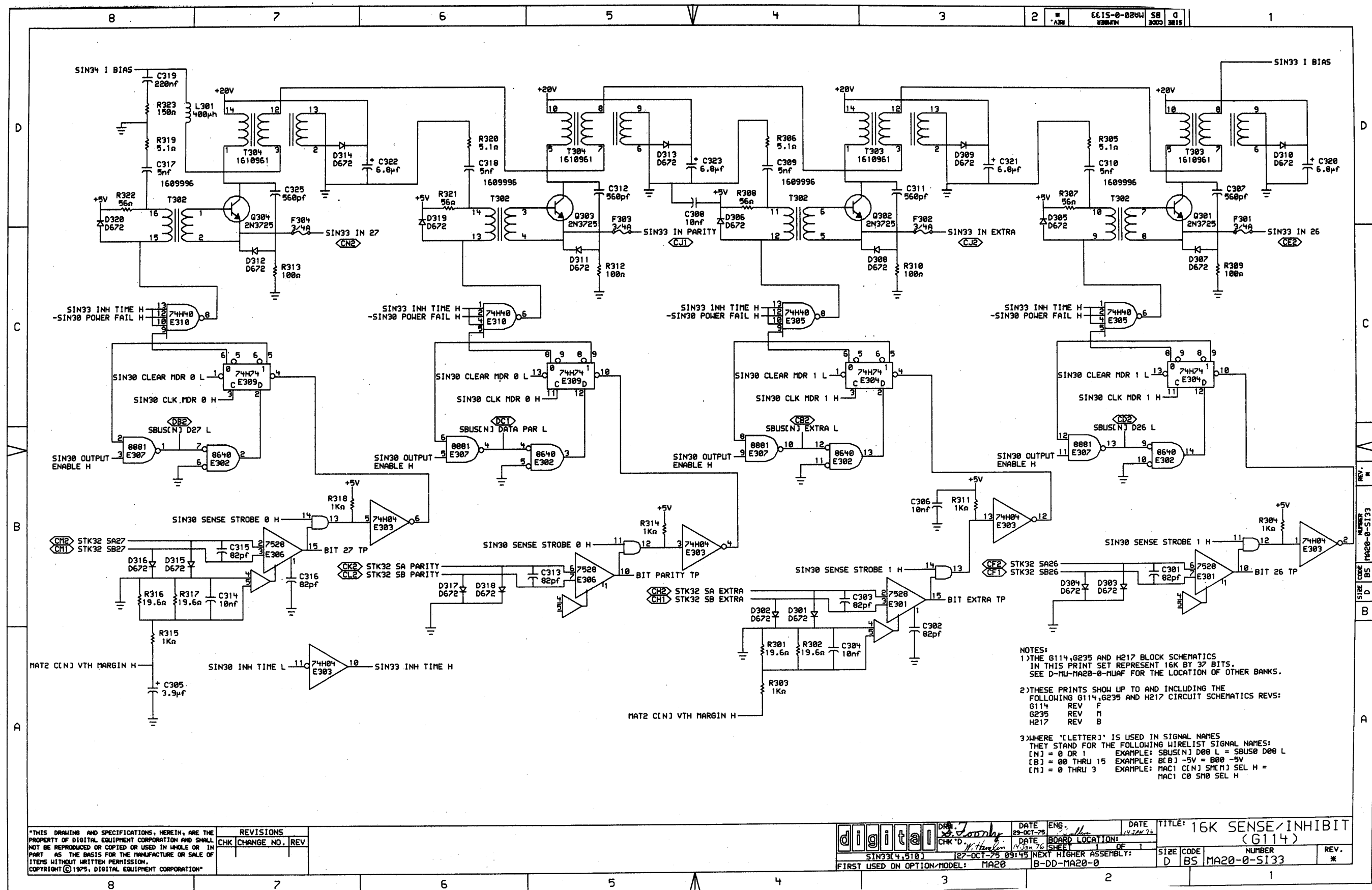


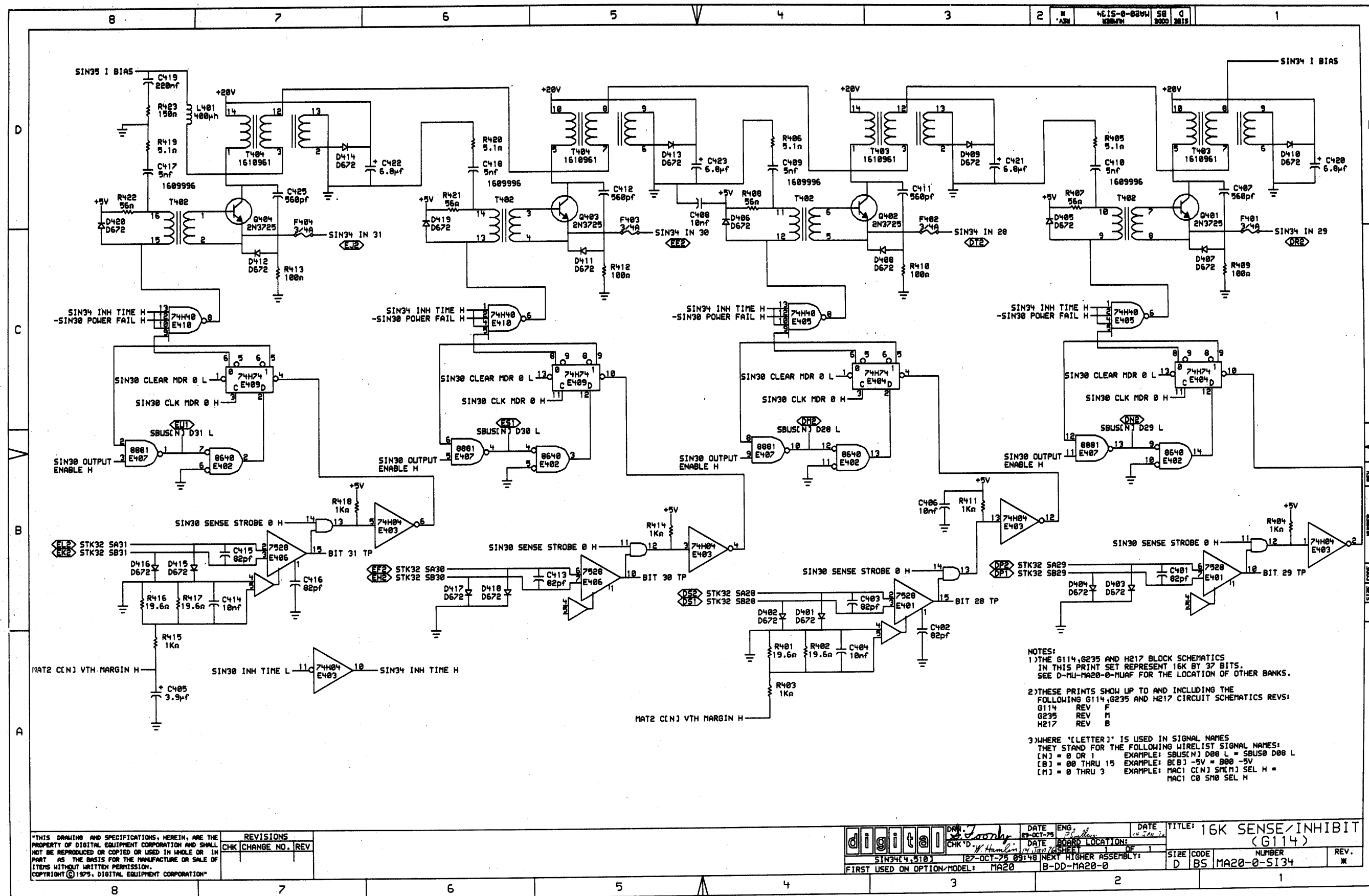
NOTES:
1) THE G114, G235 AND H217 BLOCK SCHEMATICS IN THIS PRINT SET REPRESENT 16K BY 32 BITS. SEE D-MU-MA20-0-MUAF FOR THE LOCATION OF OTHER BANKS.
2) THESE PRINTS SHOW UP TO AND INCLUDING THE FOLLOWING G114, G235 AND H217 CIRCUIT SCHEMATICS REVS:
G114 REV F
G235 REV H
H217 REV B
3) WHERE 'LETTER' IS USED IN SIGNAL NAMES THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
[N] = 0 OR 1 EXAMPLE: SBUSIN] D08 L = SBUS0 D08 L
[B] = 00 THRU 15 EXAMPLE: BC0] -5V = B00 -5V
[M] = 0 THRU 3 EXAMPLE: MAC1 C0] SM1] SEL H = MAC1 C0 SM0 SEL H

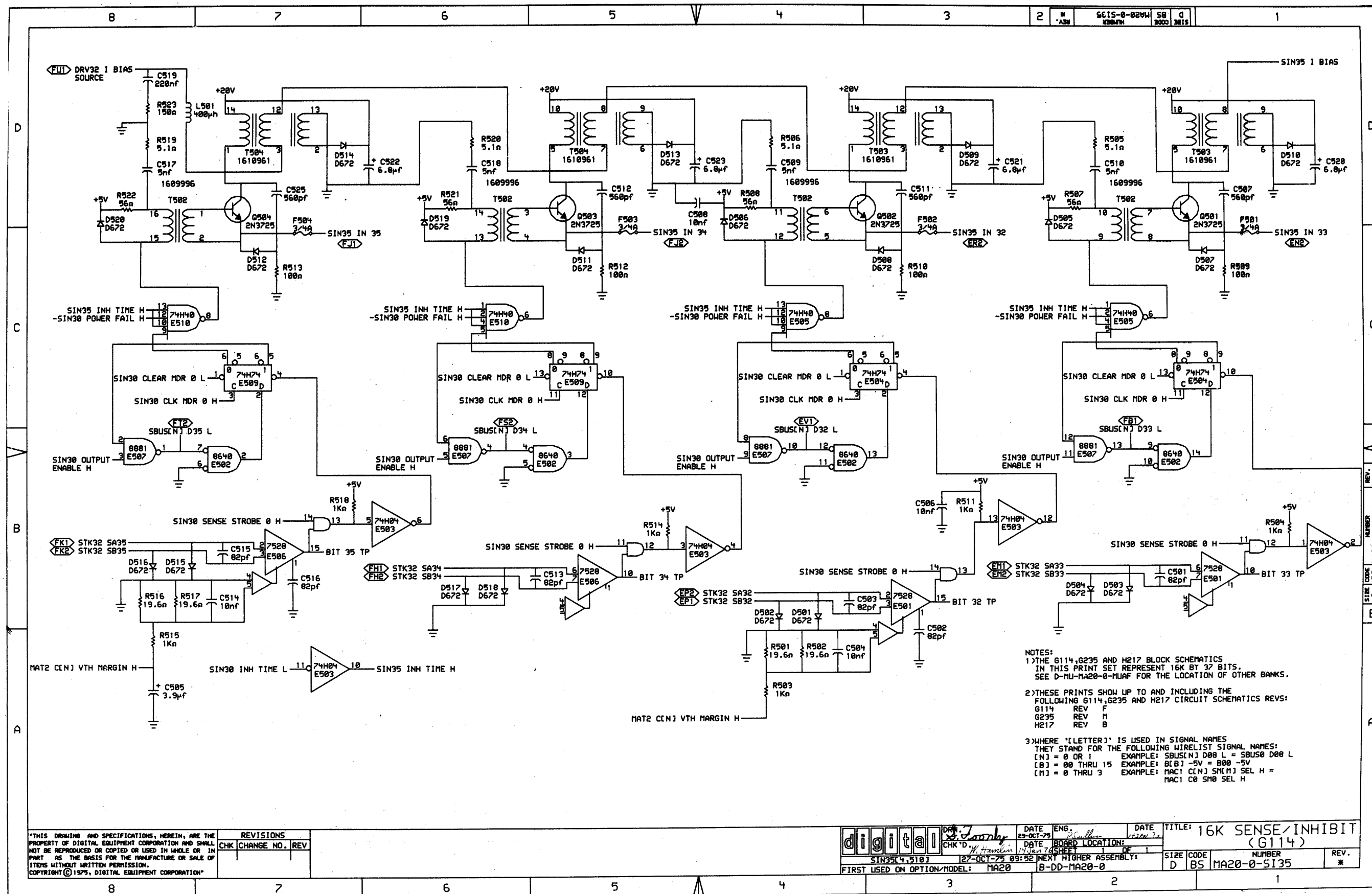
*THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1975, DIGITAL EQUIPMENT CORPORATION*

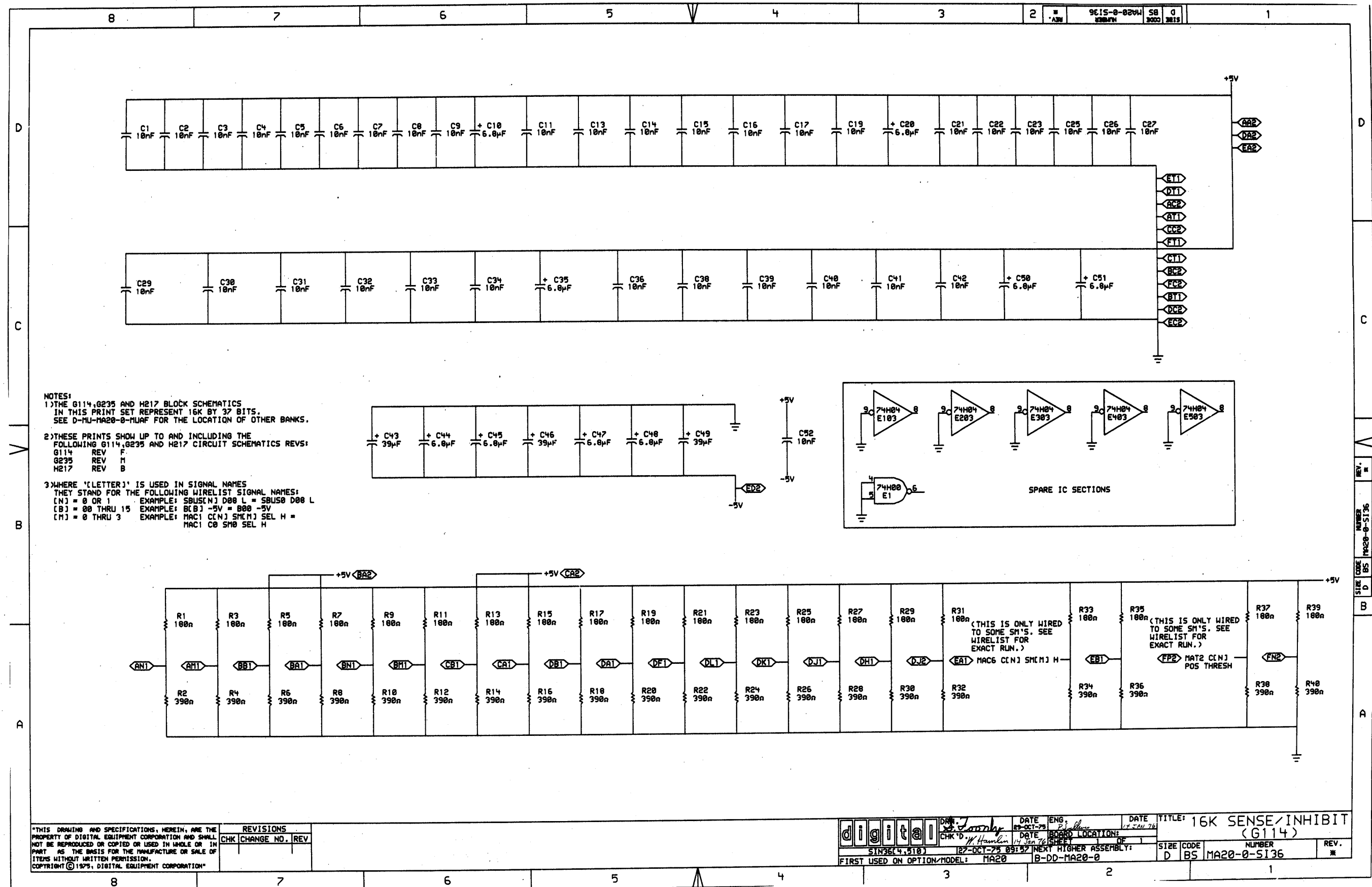
REVISIONS	
CHK	CHANGE NO. REV

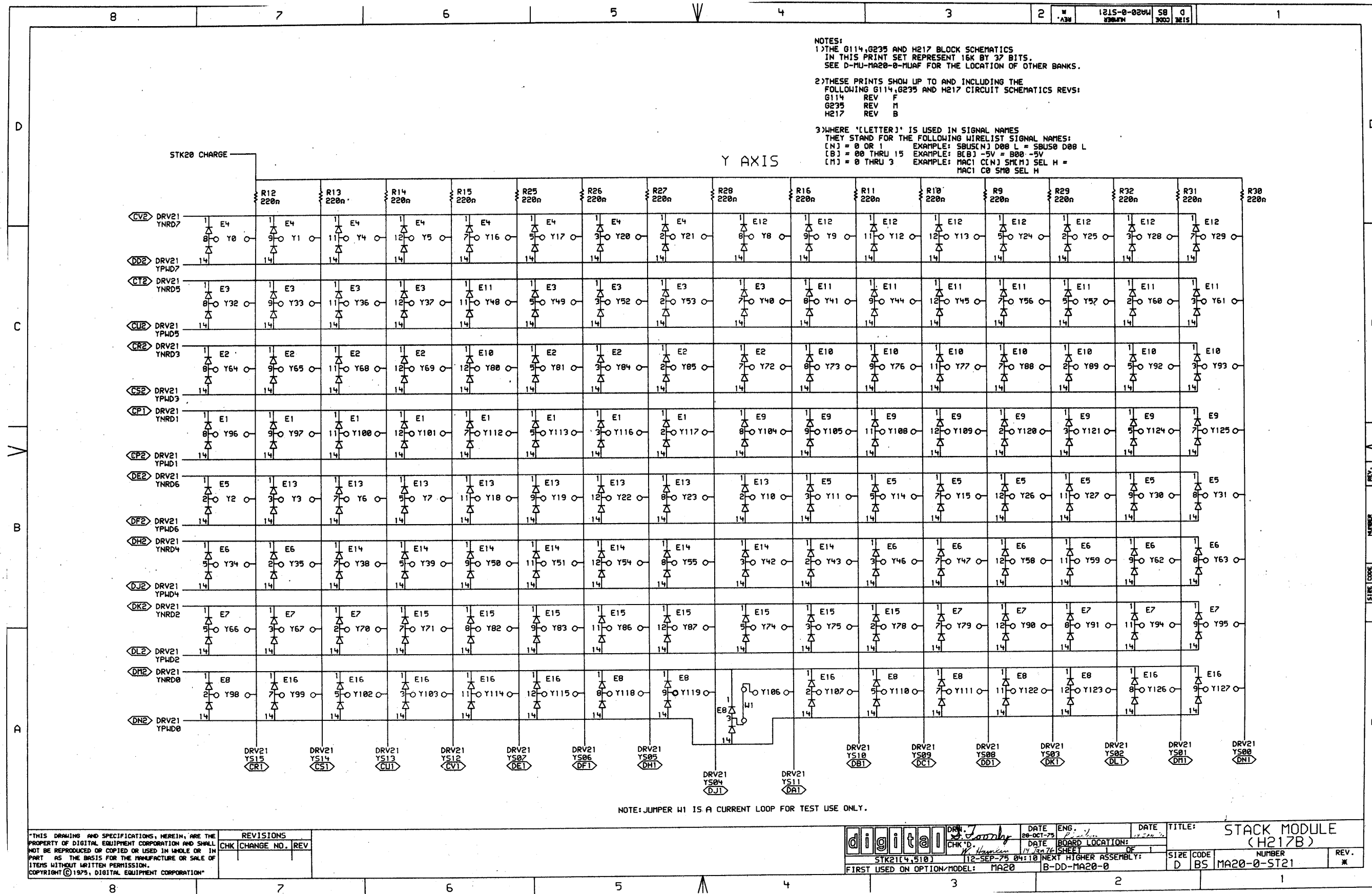
digital	DATE	ENG.	DATE	TITLE: 16K SENSE/INHIBIT (G114)
	20-OCT-75	14	14	
CHK'D: J. J. J.	DATE	BOARD LOCATION:	OF	
SIN32(4,5)10	12-OCT-75 09:43	NEXT HIGHER ASSEMBLY:	SIZE	CODE
FIRST USED ON OPTION/MODEL: MA20	B-DD-MA20-0		D	BS
			NUMBER	REV.
			MA20-0-5132	*

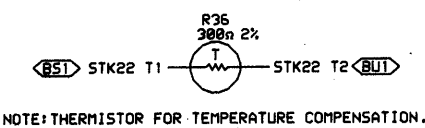




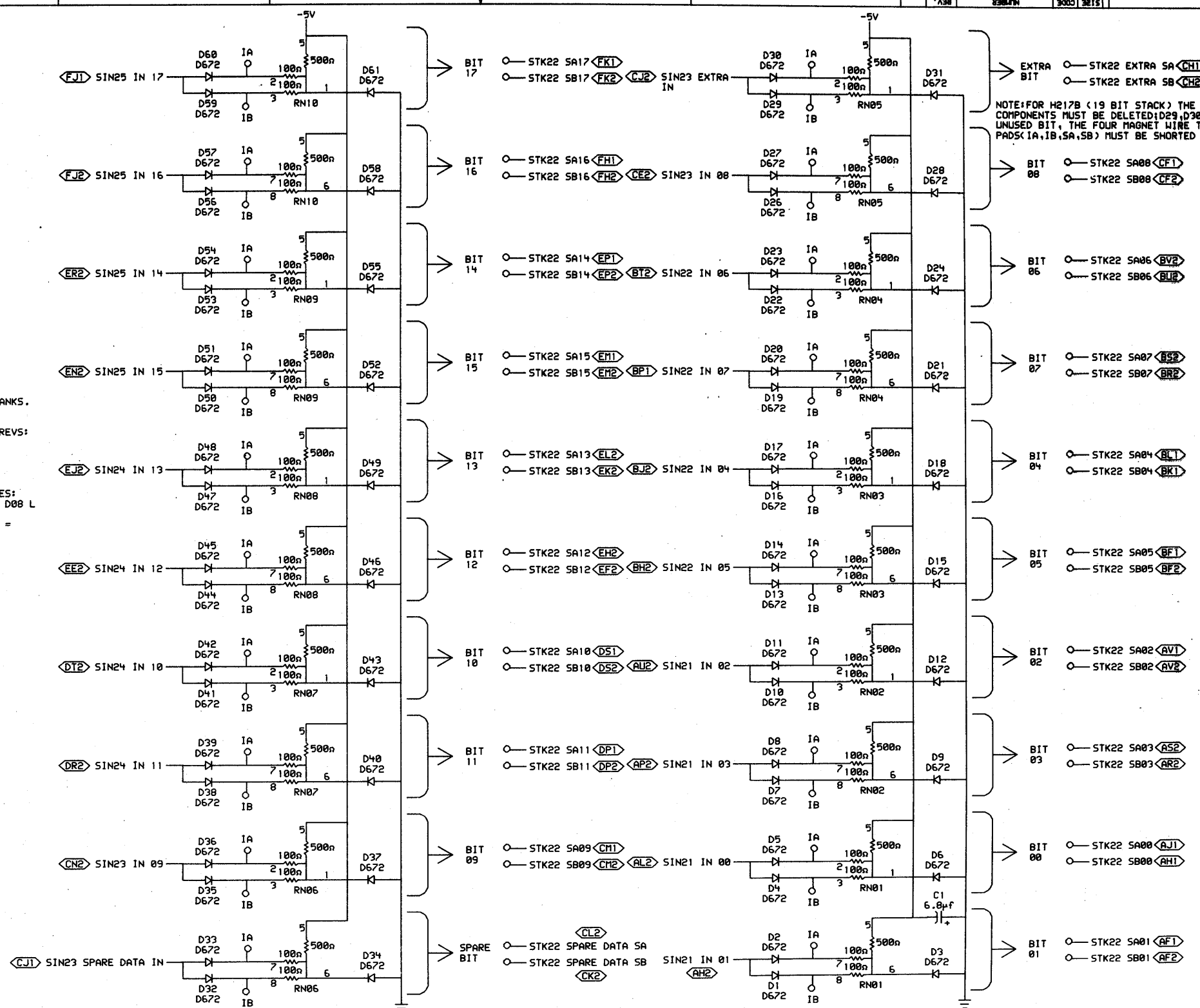








NOTES:
1) THE G114, G235 AND H217 BLOCK SCHEMATICS IN THIS PRINT SET REPRESENT 16K BY 37 BITS. SEE D-MU-MA20-0-MUAF FOR THE LOCATION OF OTHER BANKS.
2) THESE PRINTS SHOW UP TO AND INCLUDING THE FOLLOWING G114, G235 AND H217 CIRCUIT SCHEMATICS REVS:
G114 REV F
G235 REV M
H217 REV B
3) WHERE "[LETTER]" IS USED IN SIGNAL NAMES THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
[N] = 0 OR 1 EXAMPLE: SBUS[N] D00 L = SBUS0 D00 L
[B] = 00 THRU 15 EXAMPLE: BC[B] -5V = B00 -5V
[M] = 0 THRU 3 EXAMPLE: MAC1 [C[N] S[M] N] SEL H = MAC1 C0 S10 SEL H



NOTE: FOR H217B (19 BIT STACK) THE FOLLOWING COMPONENTS MUST BE DELETED: D29, D30. FOR THE UNUSED BIT, THE FOUR MAGNET WIRE TERMINATION PADS (1A, 1B, 5A, 5B) MUST BE SHORTED TOGETHER.

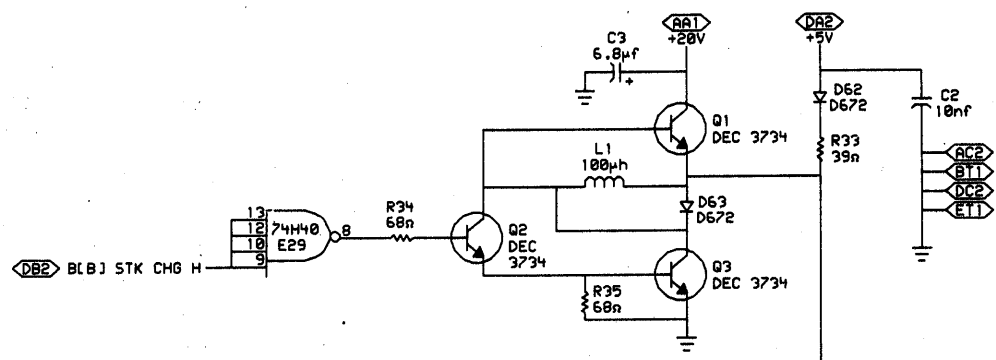
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1975, DIGITAL EQUIPMENT CORPORATION"

REVISIONS		
CHK	CHANGE NO.	REV

digital	DATE	ENG.	DATE	TITLE:
	20-OCT-75		17-Jan-76	STACK MODULE (H217B)
STK22(4,510)	DATE	BOARD LOCATION:		
112-SEP-75 03:23				
FIRST USED ON OPTION MODEL: MA20		NEXT HIGHER ASSEMBLY: B-DD-MA20-0		

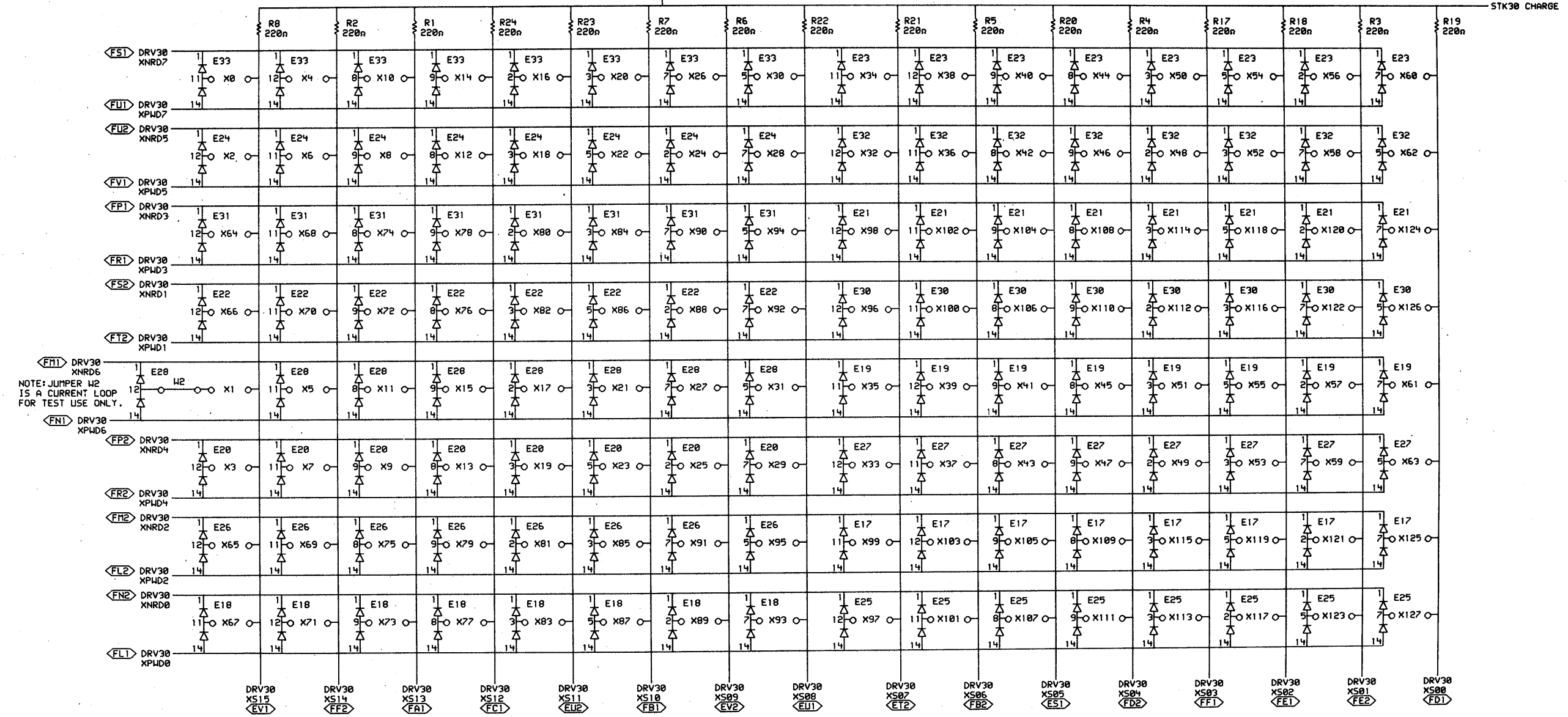
SIZE	CODE	NUMBER	REV.
D	B5	MA20-0-ST22	*

8 7 6 5 4 3 2 1



NOTES:
1) THE G114, G235 AND H217 BLOCK SCHEMATICS IN THIS PRINT SET REPRESENT 16K BY 37 BITS. SEE D-MU-MA20-0-MUAF FOR THE LOCATION OF OTHER BANKS.
2) THESE PRINTS SHOW UP TO AND INCLUDING THE FOLLOWING G114, G235 AND H217 CIRCUIT SCHEMATICS REVS:
G114 REV F
G235 REV M
H217 REV B
3) WHERE 'LETTER' IS USED IN SIGNAL NAMES THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
[N] = 0 OR 1 EXAMPLE: SBUS[N] D08 L = SBUS0 D08 L
[B] = 00 THRU 15 EXAMPLE: BLB] -5V = B00 -5V
[N] = 0 THRU 3 EXAMPLE: MAC1 CLN] SHL[N] SEL H = MAC1 C0 SH0 SEL H

X AXIS

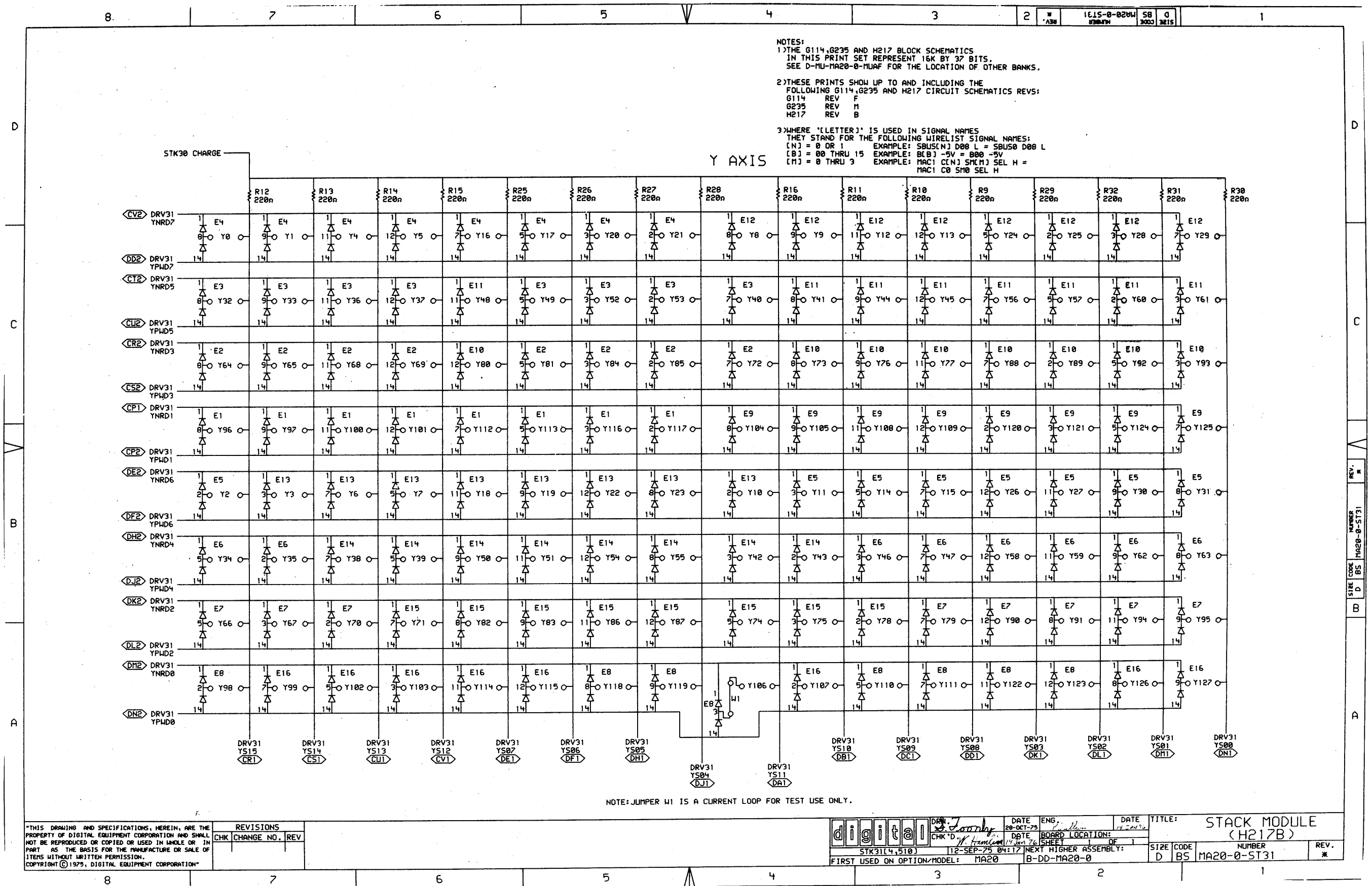


THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1975, DIGITAL EQUIPMENT CORPORATION

REVISIONS		
CHK	CHANGE NO.	REV

digital	DATE 20-OCT-75	ENG. [Signature]	DATE 14-Jan-76	TITLE: STACK MODULE (H217B)
	CHK'D [Signature]	DATE 14-Jan-76	BOARD LOCATION: [Blank]	SIZE CODE NUMBER REV. D B5 MA20-0-ST30 *
STK30 4.5101		124-OCT-75 11:03		NEXT HIGHER ASSEMBLY: B-DD-MA20-0
FIRST USED ON OPTION-MODEL: MA20				

8 7 6 5 4 3 2 1



8

7

6

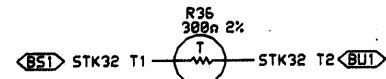
5

4

3

2

1

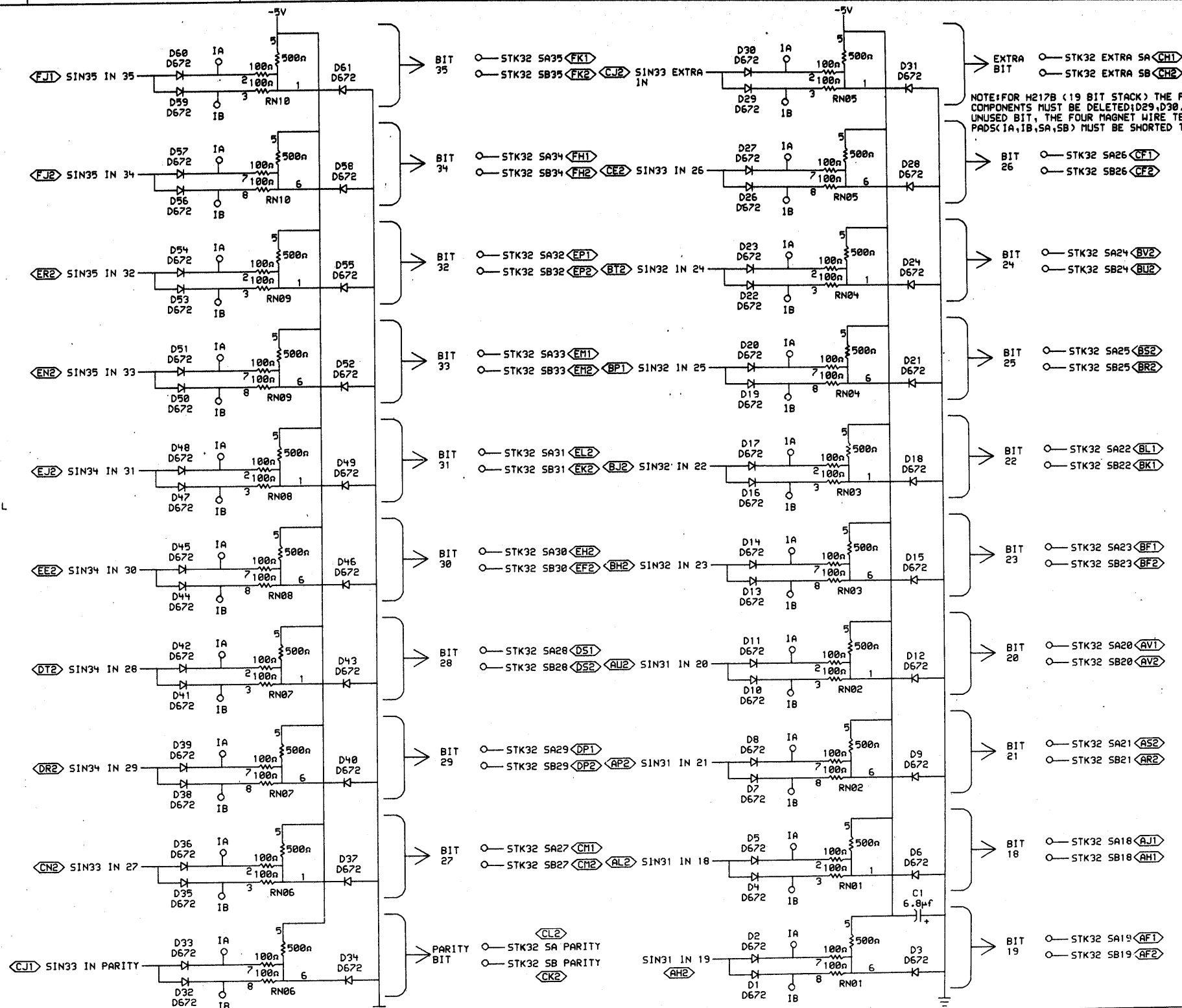


NOTE: THERMISTOR FOR TEMPERATURE COMPENSATION.

NOTES:
1) THE G114, G235 AND H217 BLOCK SCHEMATICS IN THIS PRINT SET REPRESENT 16K BY 37 BITS. SEE D-MU-MA20-0-MUAF FOR THE LOCATION OF OTHER BANKS.

2) THESE PRINTS SHOW UP TO AND INCLUDING THE FOLLOWING G114, G235 AND H217 CIRCUIT SCHEMATICS REV'S:
G114 REV F
G235 REV M
H217 REV B

3) WHERE 'LETTER' IS USED IN SIGNAL NAMES THEY STAND FOR THE FOLLOWING WIRELIST SIGNAL NAMES:
[N] = 0 OR 1 EXAMPLE: SBUS[N] D00 L = SBUS0 D00 L
[B] = 00 THRU 15 EXAMPLE: BL[B] -5V = B00 -5V
[M] = 0 THRU 3 EXAMPLE: MAC1 C0 S[M] SEL H = MAC1 C0 S00 SEL H

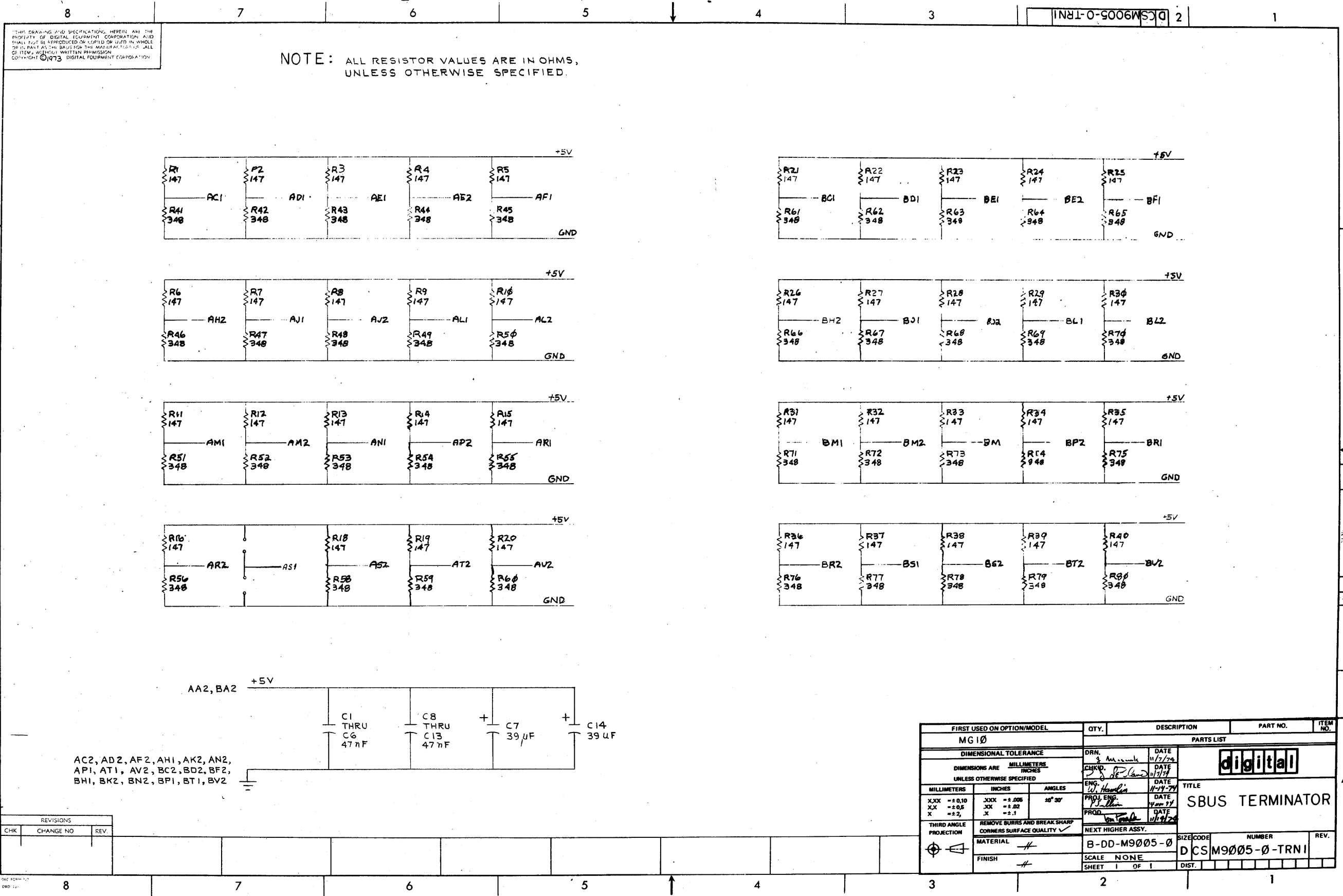


NOTE: FOR H217B (19 BIT STACK) THE FOLLOWING COMPONENTS MUST BE DELETED: D29, D30. FOR THE UNUSED BIT, THE FOUR MAGNET WIRE TERMINATION PADS (1A, 1B, SA, SB) MUST BE SHORTED TOGETHER.

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1975, DIGITAL EQUIPMENT CORPORATION"

REVISIONS	
CHK	CHANGE NO. REV

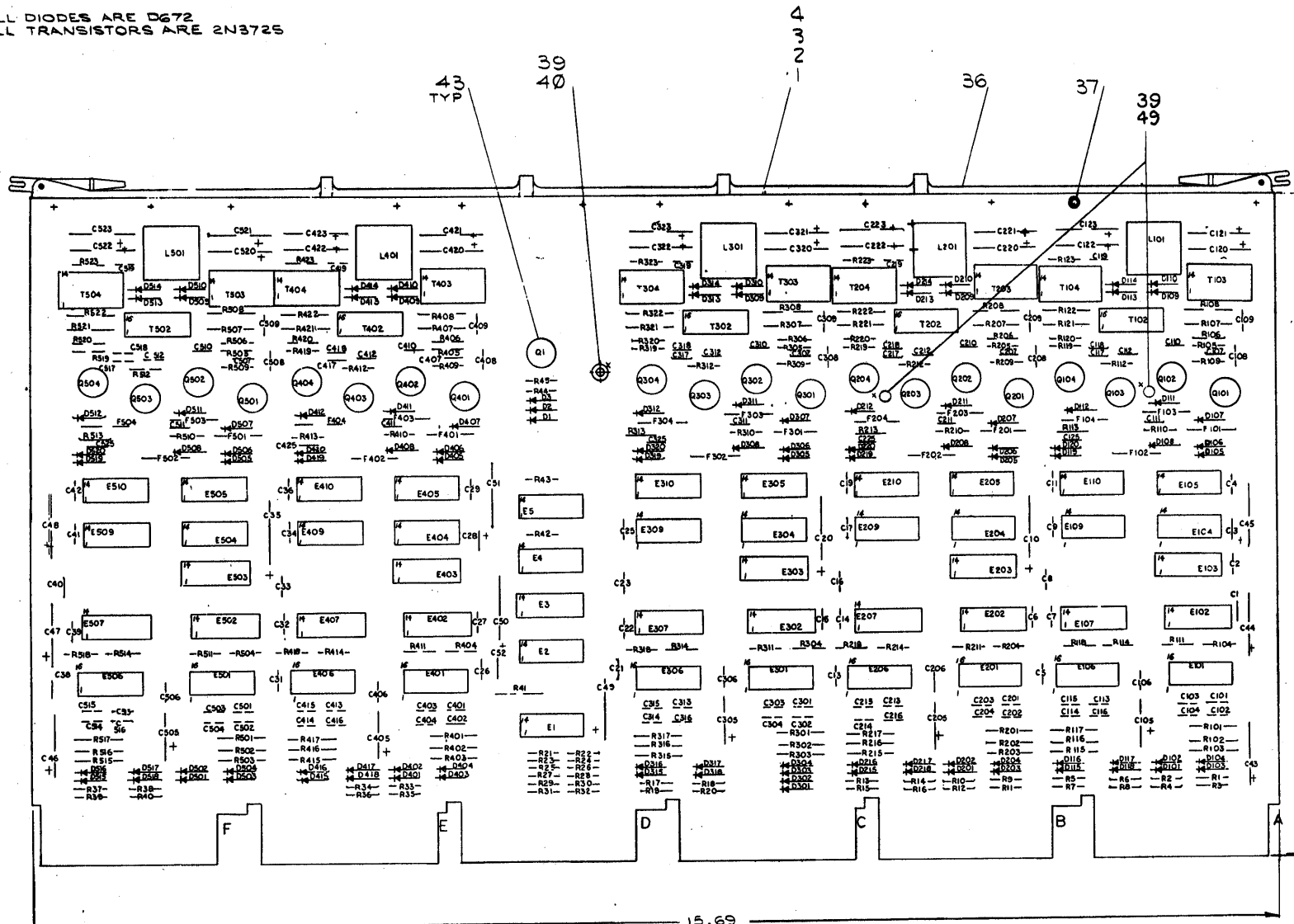
digital	DATE	ENG.	DATE	TITLE:
	28-OCT-75	J. J. J.	14-SEP-75	STACK MODULE (H217B)
CHK'D	DATE	BOARD LOCATION	OF	
14-SEP-75	14-SEP-75	14-SEP-75	1	
STK32(4, 510)	12-SEP-75	03:25	NEXT HIGHER ASSEMBLY:	SIZE CODE
FIRST USED ON OPTION MODEL:	MA20	B-DD-MA20-0		D BS
				NUMBER
				MA20-0-ST32
				REV.
				*



FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
MG10					
DIMENSIONAL TOLERANCE		PARTS LIST			
DIMENSIONS ARE MILLIMETERS UNLESS OTHERWISE SPECIFIED		digital			
MILLIMETERS		TITLE			
XXX ±0.10		SBUS TERMINATOR			
XX ±0.05		D CS M9005-0-TRN1			
X ±0.2		REV.			
THIRD ANGLE PROJECTION		SCALE NONE			
MATERIAL		SHEET 1 OF 1			
FINISH		DIST.			

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION
COPYRIGHT © 1975 DIGITAL EQUIPMENT CORPORATION

- NOTES:** UNLESS OTHERWISE SPECIFIED
1. ALL RESISTORS ARE IN OHMS 1/4W
 2. ALL CAPACITANCE IS IN MICROFARADS
 3. DATA BITS 17 & 18 ARE NOT USED IN 18 BIT SYSTEMS
 4. DATA BIT 18 IS NOT USED IN 19 BIT SYSTEMS
 5. DATA BITS 16, 17, 18 & 19 ARE NOT USED IN 16 BIT SYSTEMS
 6. ALL DIODES ARE D672
 7. ALL TRANSISTORS ARE 2N3725



IC DEC 7380	1	8	-
IC DEC 8640	1	8	-
IC DEC 7528	9	16	8
IC TYPE	GND	+5V	-5V
GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE			
IC PIN LOCATIONS			

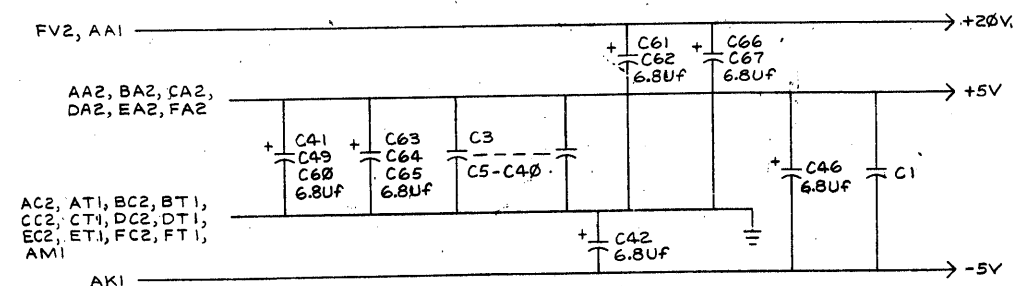
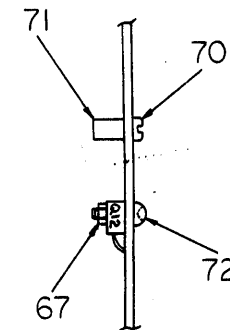
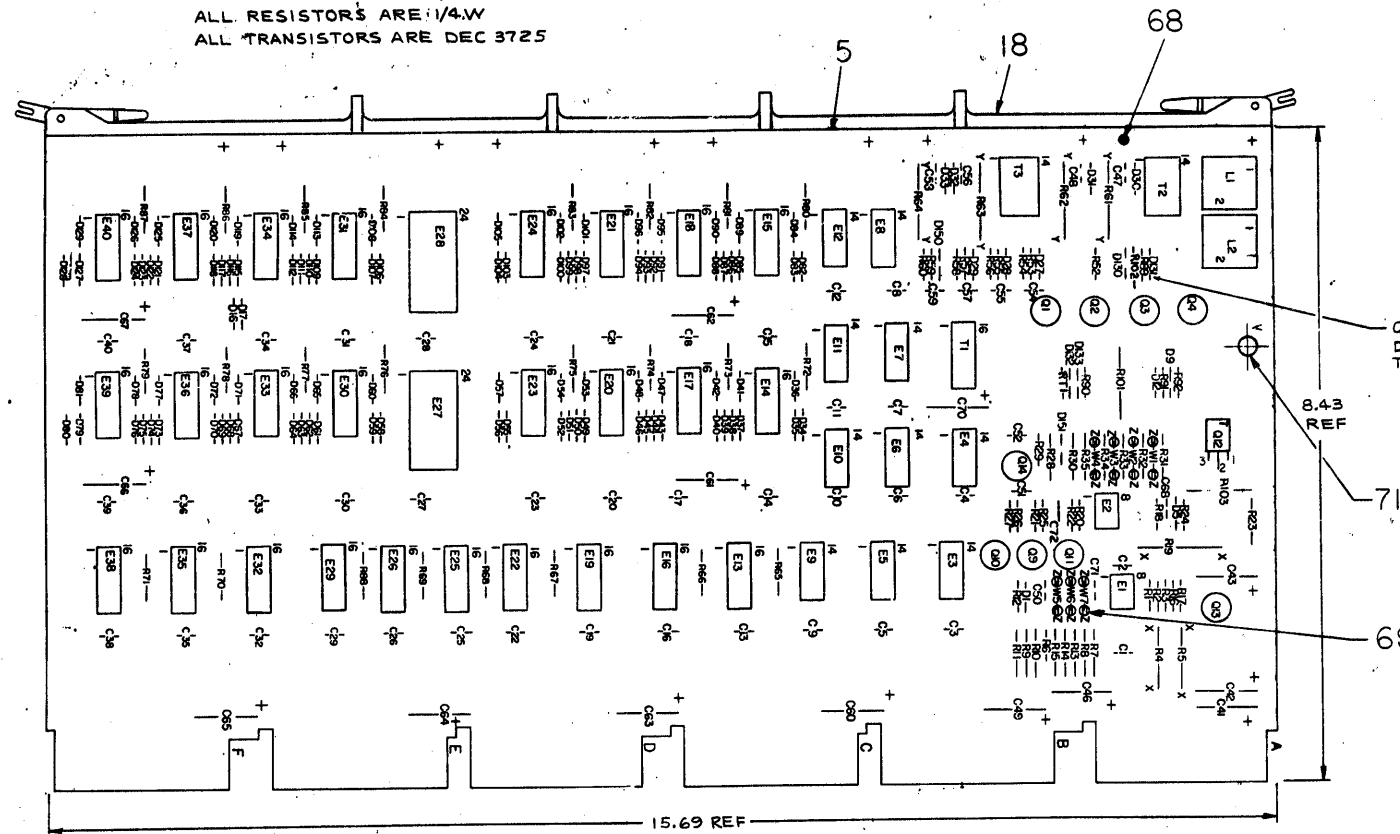
QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
FIRST USED ON OPTION MODEL MF 11-U & MF 11-UP				
ETCH BOARD REV C				
REV	CHANGE NO.	REVISIONS	DATE	BY
1			4-3-73	
2			11-15-73	
3			11-15-73	
4			11-15-73	
5			11-15-73	
6			11-15-73	
7			11-15-73	
8			11-15-73	
9			11-15-73	
10			11-15-73	
11			11-15-73	
12			11-15-73	
13			11-15-73	
14			11-15-73	
15			11-15-73	
16			11-15-73	
17			11-15-73	
18			11-15-73	
19			11-15-73	
20			11-15-73	
21			11-15-73	
22			11-15-73	
23			11-15-73	
24			11-15-73	
25			11-15-73	
26			11-15-73	
27			11-15-73	
28			11-15-73	
29			11-15-73	
30			11-15-73	
31			11-15-73	
32			11-15-73	
33			11-15-73	
34			11-15-73	
35			11-15-73	
36			11-15-73	
37			11-15-73	
38			11-15-73	
39			11-15-73	
40			11-15-73	
41			11-15-73	
42			11-15-73	
43			11-15-73	
44			11-15-73	
45			11-15-73	
46			11-15-73	
47			11-15-73	
48			11-15-73	
49			11-15-73	
50			11-15-73	
51			11-15-73	
52			11-15-73	
53			11-15-73	
54			11-15-73	
55			11-15-73	
56			11-15-73	
57			11-15-73	
58			11-15-73	
59			11-15-73	
60			11-15-73	
61			11-15-73	
62			11-15-73	
63			11-15-73	
64			11-15-73	
65			11-15-73	
66			11-15-73	
67			11-15-73	
68			11-15-73	
69			11-15-73	
70			11-15-73	
71			11-15-73	
72			11-15-73	
73			11-15-73	
74			11-15-73	
75			11-15-73	
76			11-15-73	
77			11-15-73	
78			11-15-73	
79			11-15-73	
80			11-15-73	
81			11-15-73	
82			11-15-73	
83			11-15-73	
84			11-15-73	
85			11-15-73	
86			11-15-73	
87			11-15-73	
88			11-15-73	
89			11-15-73	
90			11-15-73	
91			11-15-73	
92			11-15-73	
93			11-15-73	
94			11-15-73	
95			11-15-73	
96			11-15-73	
97			11-15-73	
98			11-15-73	
99			11-15-73	
100			11-15-73	

[illegible]

This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission.

NOTES:

- * INDICATES NOT USED ON MF11-U & MF11-UP (2 PLACES).
- ** INDICATES NOT USED ON MF11-U & MF11-UP, BUT ARE TIED TO UNUSED TERMINATORS ON THE G114 MODULE, WHICH FORCES THEM TO +3V (5 PLACES).
- 1 THERMISTOR LOCATED ON H217 STACK MODULE, 1 ON G235
- UNLESS OTHERWISE INDICATED;
ALL DIODES ARE D672
ALL CAPACITORS ARE .01UF
ALL RESISTORS ARE 1/4W
ALL TRANSISTORS ARE DEC 3725



IC TYPE	GND	+5V	+20V
74121	7	—	—
741	—	—	—
75325	—	9	16
7442	8	16	—
74154	12	24	—

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE.

IC PIN LOCATIONS

DEC FORM NO. DRD-135A

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
FIRST USED ON OPTION MODEL				
MF11-U & MF11-UP				
ETCH BOARD REV D				
DRN CHK'D WAC-HAND ENG PROG. ENG PROD. NEXT HIGHER ASSY DATE 4-4-73 DATE 4-4-73 DATE 7/4/73 DATE 7/7/73 DATE 7/7/73				
DEC NO. EIA NO. DEC NO. EIA NO. SCALE SHEET 2 OF 6				
16K X-Y DRIVE SIZE CODE D CS				
NUMBER G235-0-1 REV. P				

1-0-5329 SC 2

G235-0-1

16K X-Y DRIVE

D CS

G235-0-1

16K X-Y DRIVE

D CS

G235-0-1

16K X-Y DRIVE

D CS

G235-0-1

16K X-Y DRIVE

D CS

G235-0-1

16K X-Y DRIVE

D CS

G235-0-1

16K X-Y DRIVE

[illegible]

This drawing and specifications herein are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission. COPYRIGHT © 1974
DIGITAL EQUIPMENT CORPORATION

NOTES:

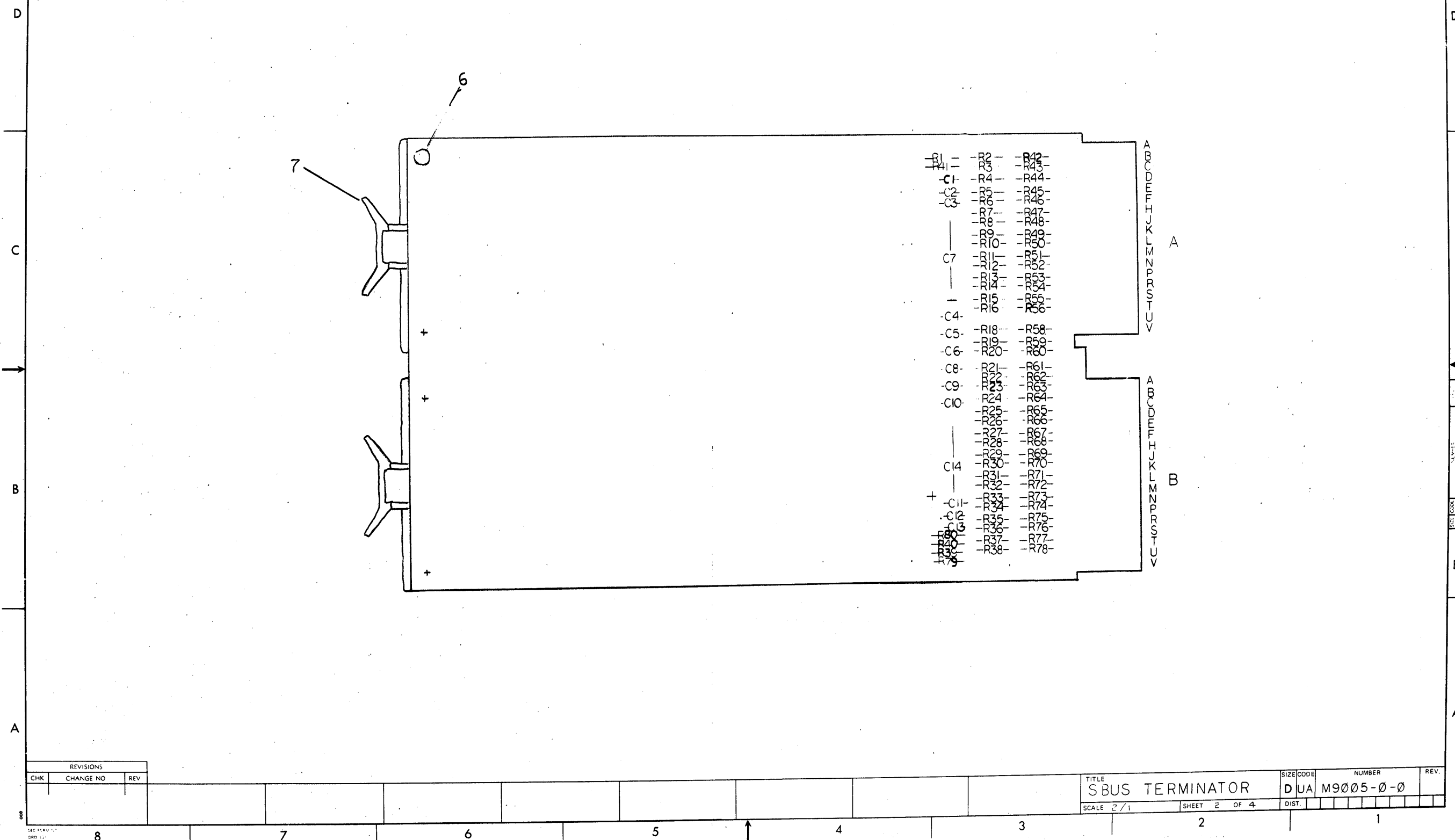
1. FOR DRAWING DIRECTORY, REFER TO: B-DD-M9005-0

1	ETCHED CIRCUIT BOARD	5010683	1
2	C7,C14	CAP. 39uf 10% 10V	1000076
12	C1 THRU C6,C8 THRU C13	CAP. 47nF 16V	1009678
39	R1 THRU R16,R18 THRU R40	RES. 147 1% 1/4W	1302874
39	R41 THRU R56,R58 THRU R80	RES. 348 1% 1/4W	1304858
4	EYELET (HANDLE)	9006732	6
2	HANDLE, FLIP CHIP (MAGENTA)	9008337-8	7

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
FIRST USED ON MG10				
ETCH BOARD-REV				
DRN.	DATE	digital EQUIPMENT CORPORATION NATYARD MASSACHUSETTS		
CHKD.	DATE	TITLE		
ENG.	DATE	SBUS TERMINATOR		
PROJ. ENG.	DATE	NEXT HIGHER ASSY		
PROD.	DATE	B-DD-M9005-0		
DEC. NO.	EIA NO.	DEC. NO.	EIA NO.	SCALE NONE
SEMICONDUCTOR CONVERSION CHART				SHEET 1 OF 4
DIST.				REV.

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION, AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OF ANY ITEM WITHOUT THE WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION.

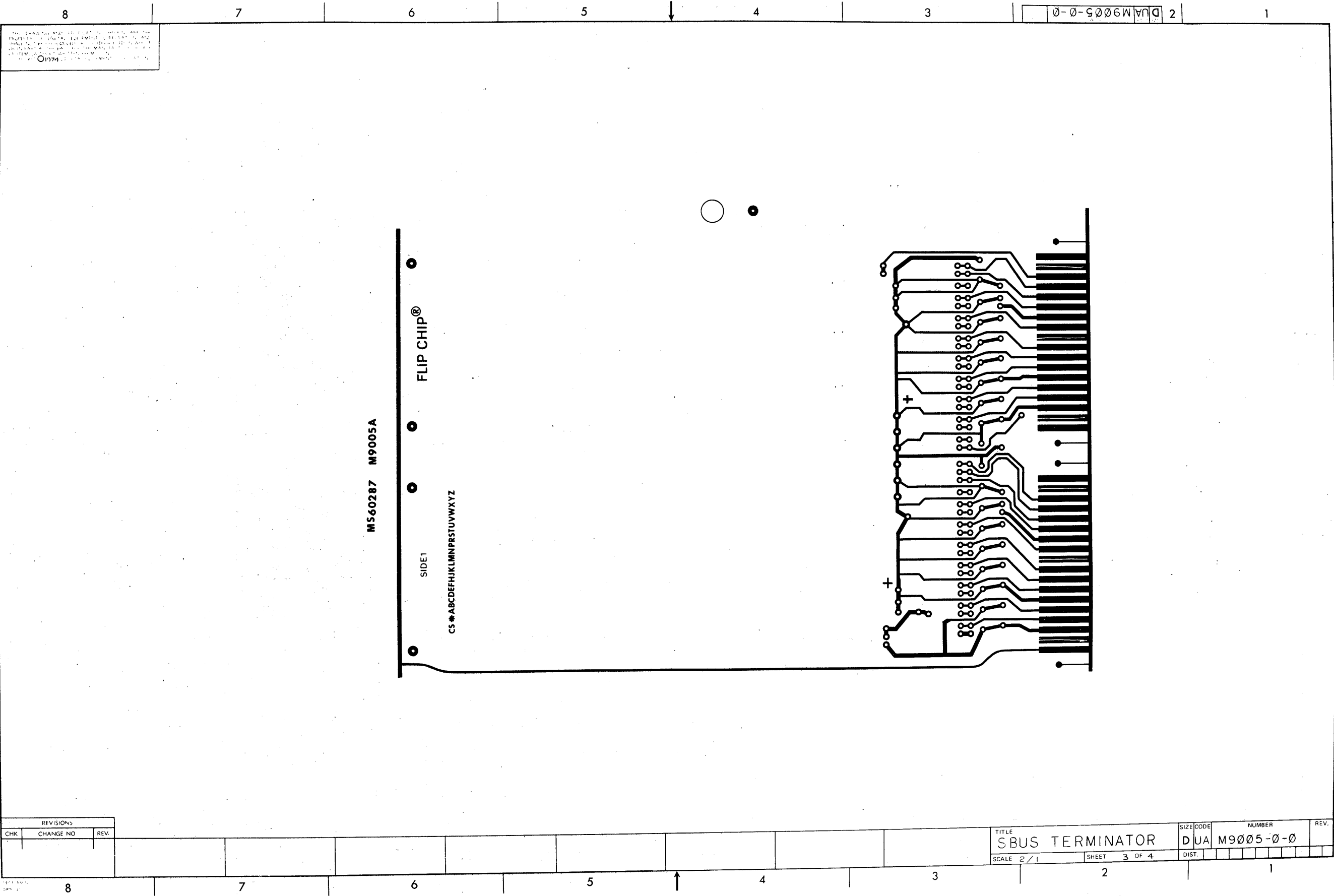
0-0-50066VND 2



0-0-50066VND 2

REVISIONS		
CHK	CHANGE NO	REV

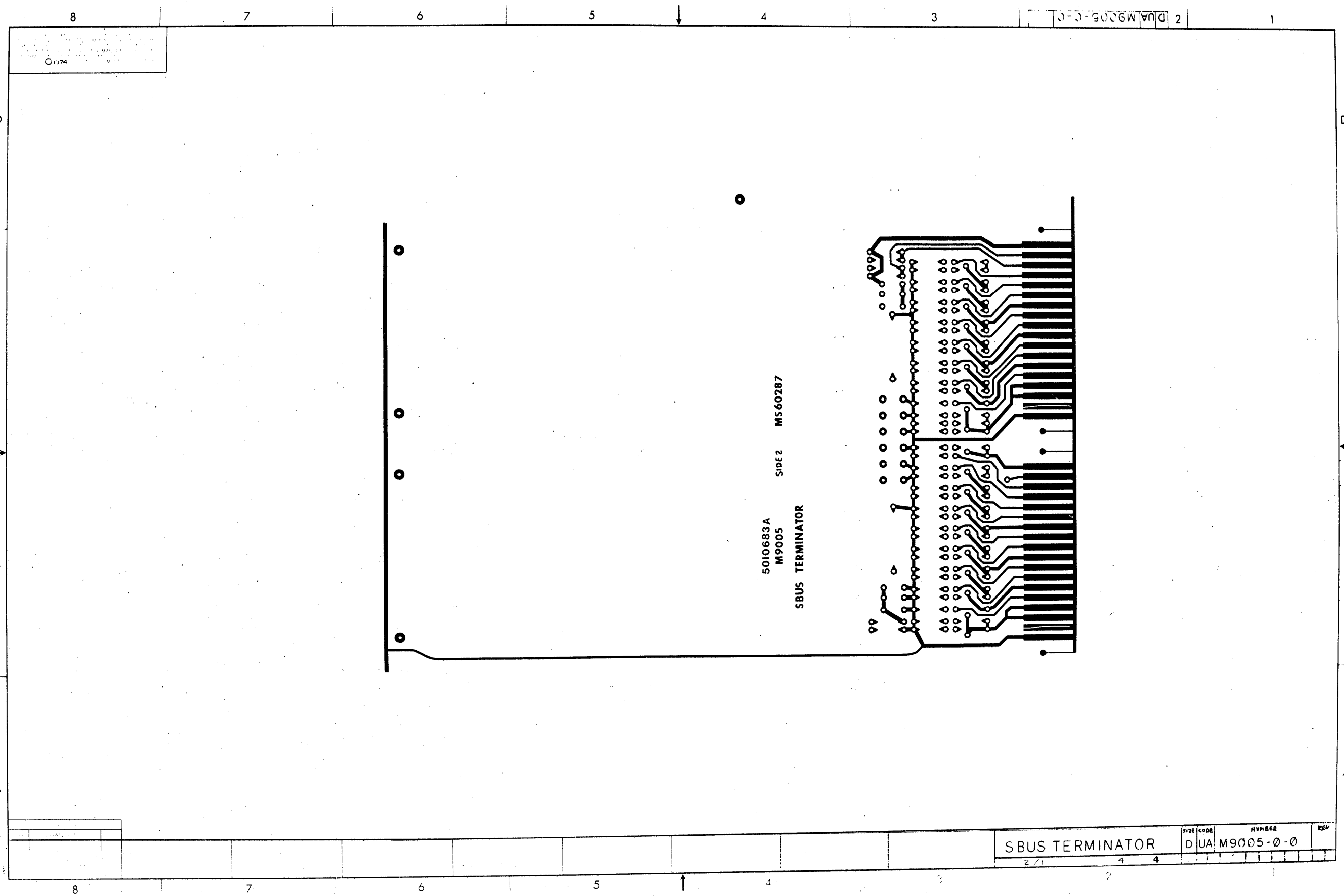
TITLE		SIZE	CODE	NUMBER		REV.
SBUS TERMINATOR		D	UA	M9005-0-0		
SCALE 2/1		SHEET 2 OF 4		DIST.		



THIS DRAWING AND THE DATA HEREIN ARE THE PROPERTY OF THE UNITED STATES GOVERNMENT AND ARE NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM THE UNITED STATES GOVERNMENT.

REVISIONS		
CHK	CHANGE NO	REV.

TITLE		SIZE	CODE	NUMBER		REV.
SBUS TERMINATOR		D	UA	M9005-0-0		
SCALE 2/1		SHEET 3 OF 4		DIST.		



C1174

5010683A
M9005
SIDE 2 MS60287
SBUS TERMINATOR

SBUS TERMINATOR				SIZE	CODE	NUMBER	REV
2	1	4	4	D	UA	M9005-0-0	

DUA M9005-0-0

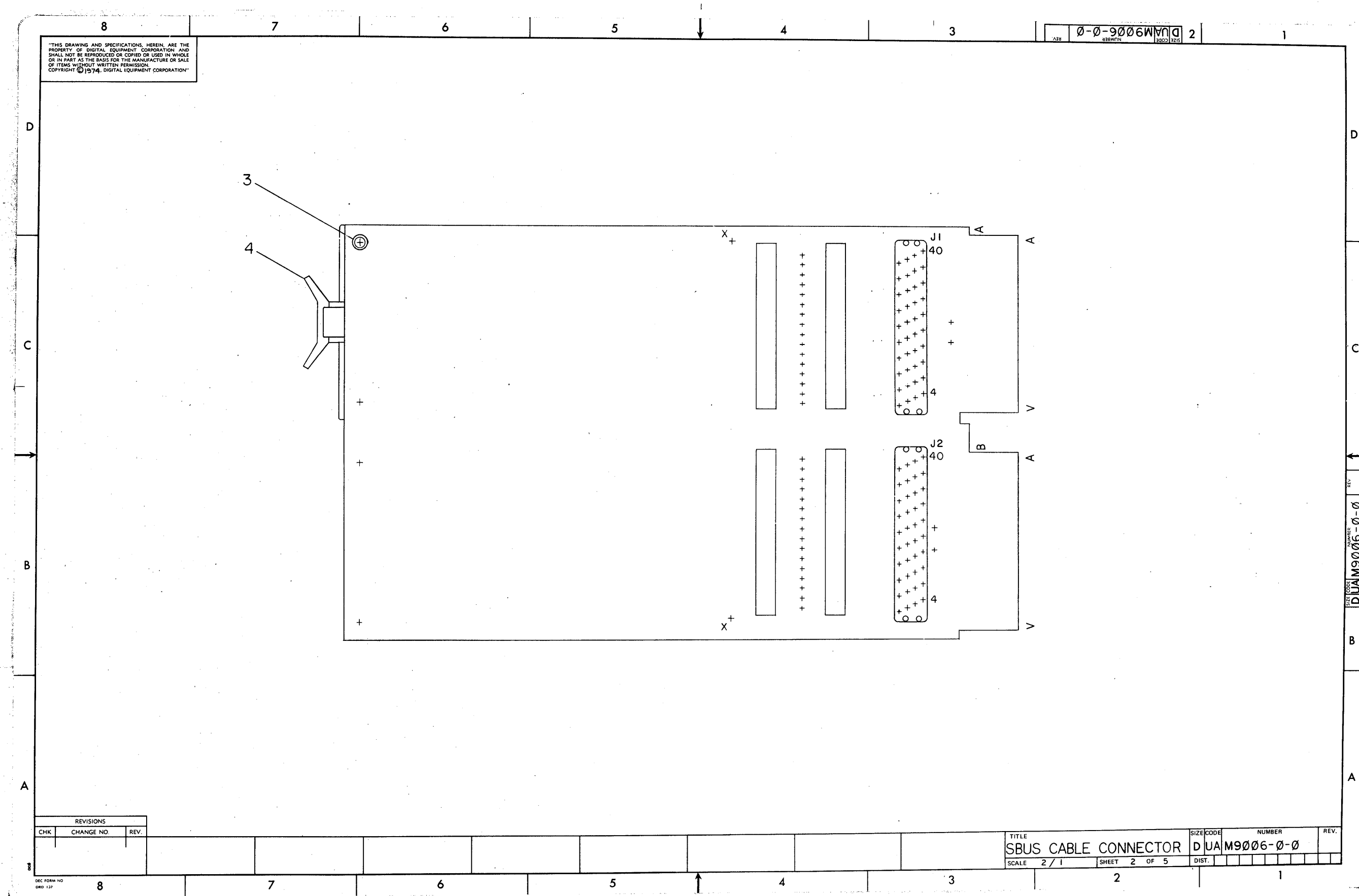
This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission. COPYRIGHT © 1974
DIGITAL EQUIPMENT CORPORATION

- NOTES:
- 1. FOR DRAWING DIRECTORY, REFER TO B-DD-M9006-0
 - 2. COVERS OF CONNECTORS ITEM 2 NOT ATTACHED UNTIL CABLE ASSEMBLY TIME, SEE D-UA-BC20C-0-0

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1		ETCH CIRCUIT BOARD	5010723	1
2	J1, J2	CONN 40 PIN (3M) (SEE NOTE 2)	1210073	2
4		EYELET	9006732	3
2		HANDLE FLIP CHIP MAGENTA	9008337-06	4

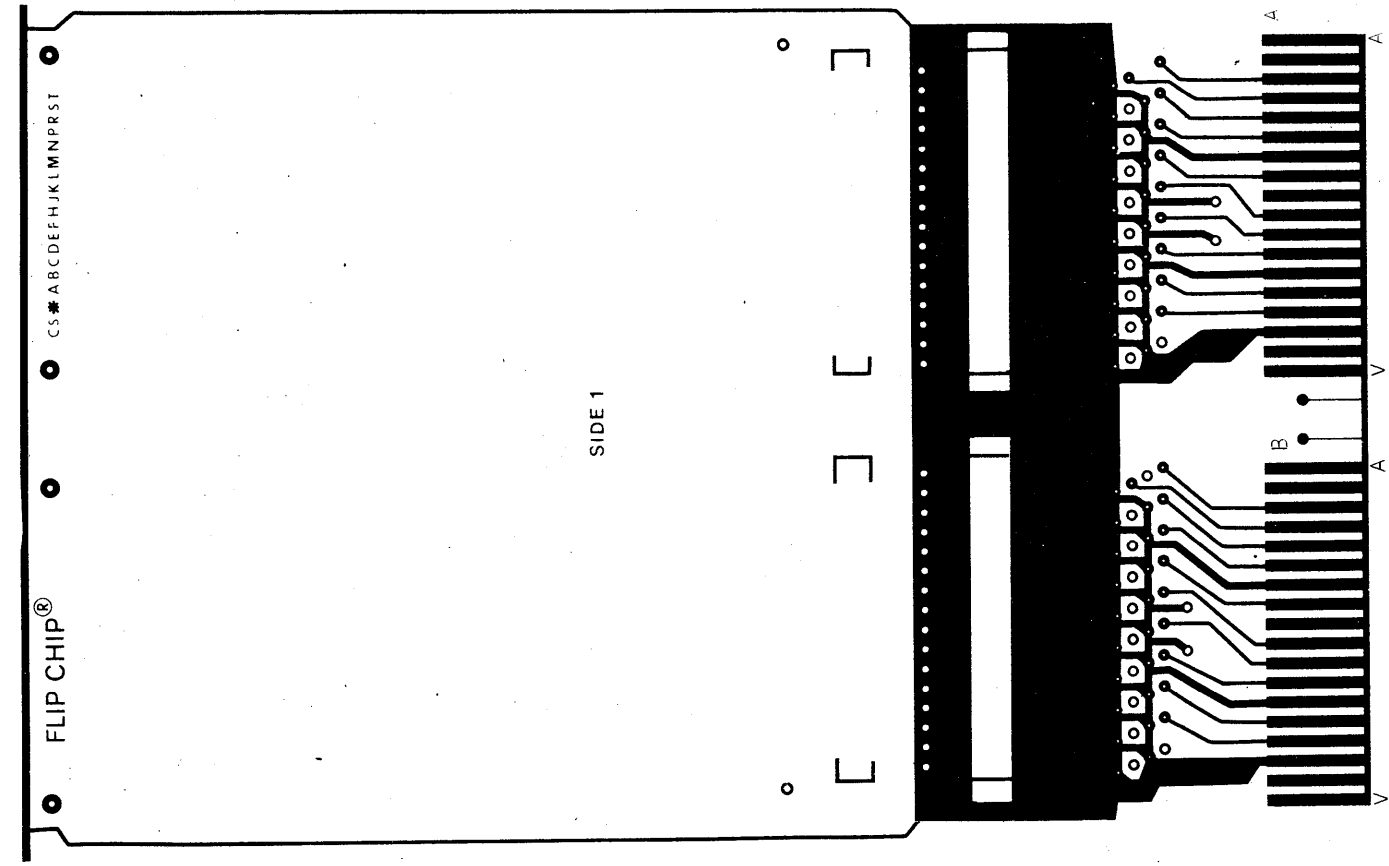
FIRST USED ON OPT/MOD MA20				PARTS LIST			
ETCH BOARD-REV				digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			
DRN	R.W. Caunter	DATE	11/22/74	TITLE			SBUS CABLE CONNECTOR
CHK'D	J. W. ...	DATE	1/13/75	SIZE CODE			DUA
ENG	H. Hamlin	DATE	1/29/75	NUMBER			M9006-0-0
PROJ. ENG.	P. Sullivan	DATE	1/20/75	REV.			
PROD.	J. ...	DATE	1/25/75	NEXT HIGHER ASSY			B-DD-M9006-0
SCALE NONE				SHEET 1 OF 5			
SEMICONDUCTOR CONVERSION CHART				DIST.			

BRUNING 40-107 15568



THIS DRAWING AND SPECIFICATION, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OF ANY OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1974 DIGITAL EQUIPMENT CORPORATION.

D
C
B
A



REVISION		
CHK	CHANGE NO	REV

8

7

6

5

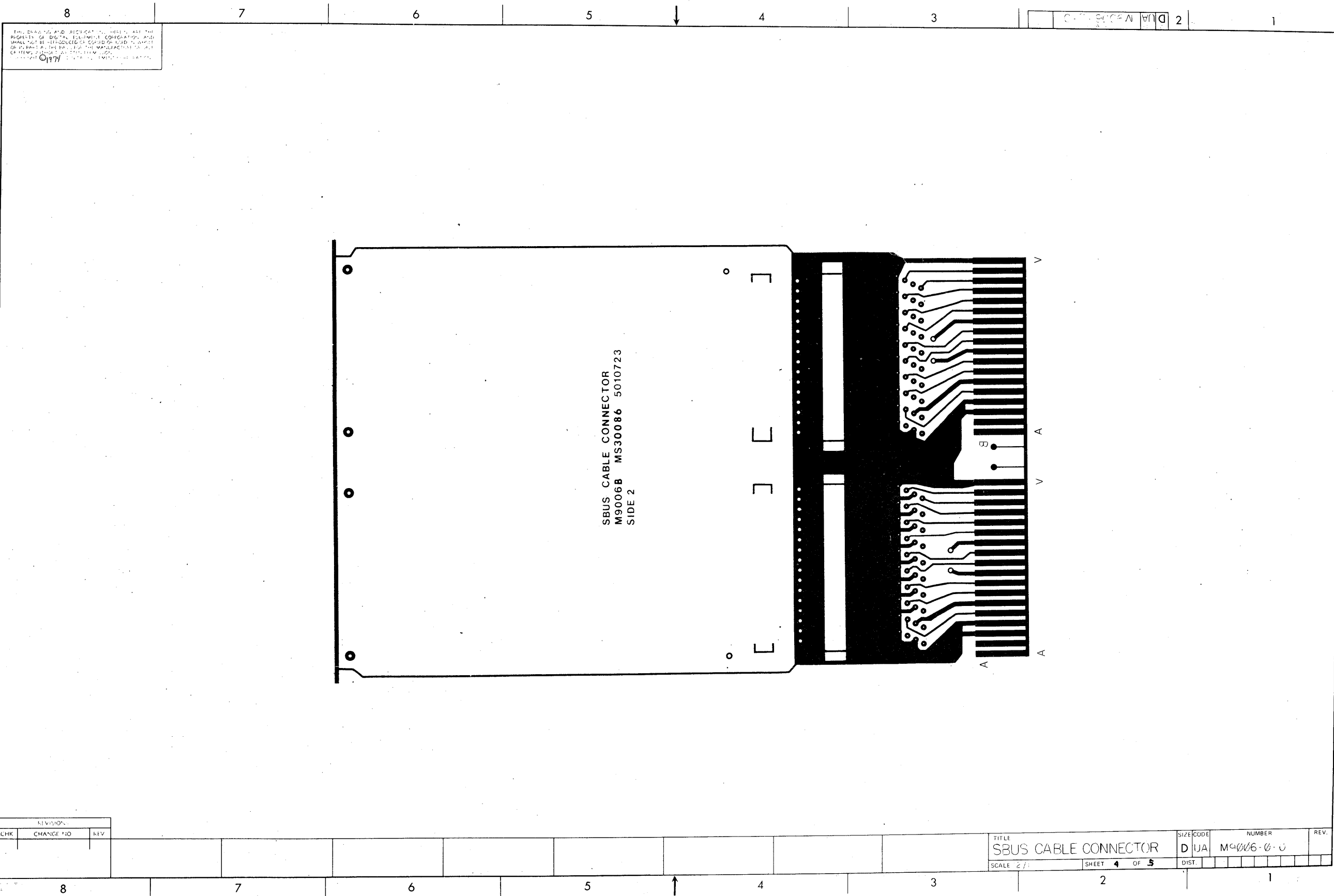
4

3

2

1

TITLE		SIZE	CODE	NUMBER		REV.
SBUS CABLE CONNECTOR		D	JA	M9006-0-0		
SCALE 1 / 1		SHEET 3 OF 5		DIST.		

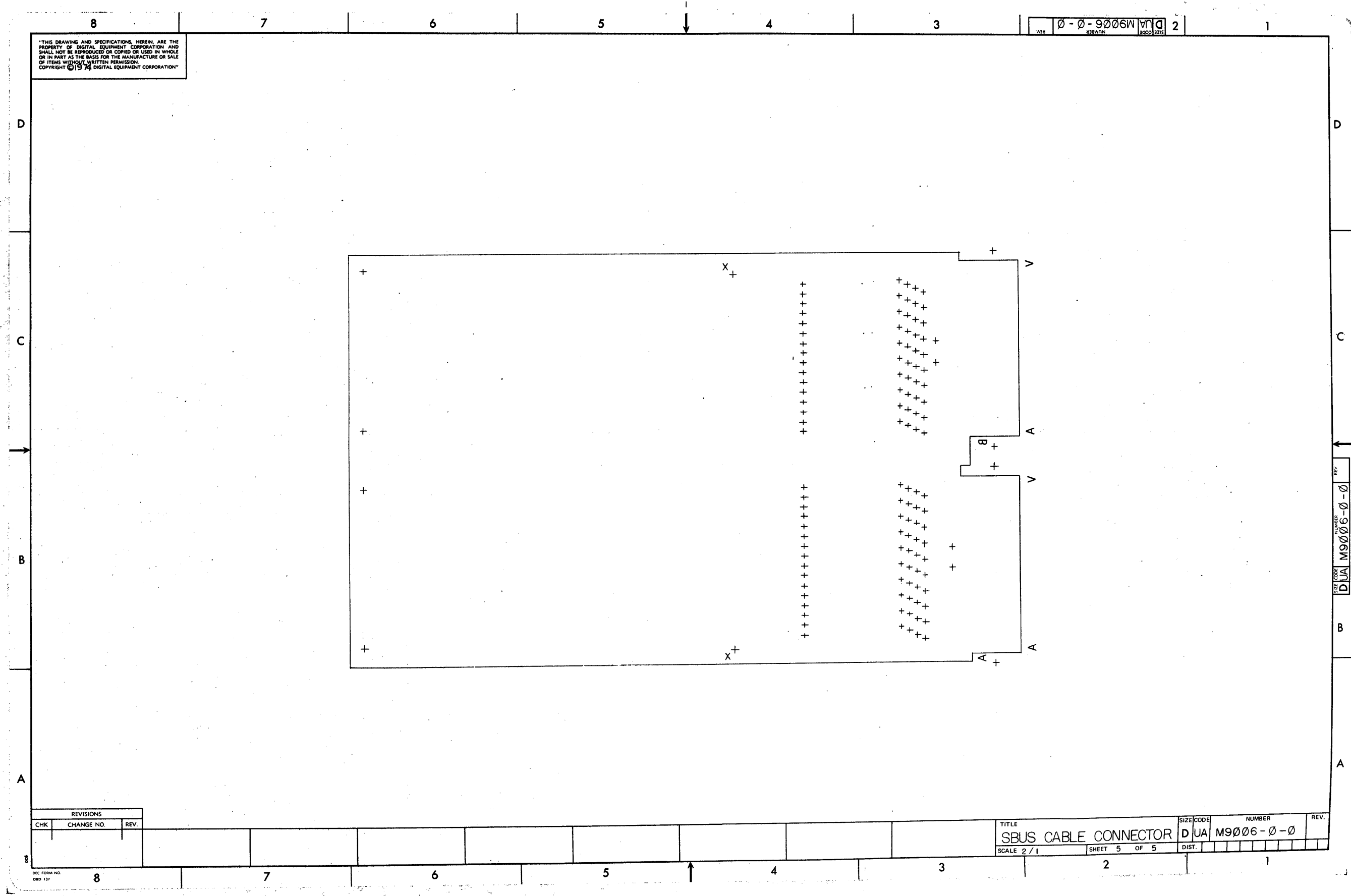


THIS DRAWING AND SPECIFICATION HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION, AND SHALL NOT BE REPRODUCED OR COPIED IN ANY MANNER OR PLACED IN THE PUBLIC DOMAIN WITHOUT THE WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION.

SBUS CABLE CONNECTOR
M9006B MS30086 5010723
SIDE 2

REVISIONS		
CHK	CHANGE NO	REV

TITLE		SIZE	CODE	NUMBER		REV.
SBUS CABLE CONNECTOR		D	UA	M9006-0-0		
SCALE 2/1		SHEET 4 OF 5		DIST.		



"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1974 DIGITAL EQUIPMENT CORPORATION"

REV. 2
NUMBER 00002215
DUA M9006-0-0

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE
SBUS CABLE CONNECTOR
SCALE 2 / 1
SHEET 5 OF 5
DIST. 1
SIZE CODE
DUA
NUMBER
M9006-0-0
REV.

"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1976 DIGITAL EQUIPMENT CORPORATION"

ECO*2=()

DELETE COMPONENT SIDE 1 AS SHOWN:
(P/N 1910224)

1. E8 (IC 7485)
2. E13 (IC 7485)
3. E17 (IC 7485)
4. E31 (IC 7485)
5. E66 (IC 1074H00) (P/N 1910462)

ETCH CUTS SIDE 2 AS SHOWN
1. AT E44 (10)

COMPONENT ADDS SIDE 1 AS SHOWN:
(P/N 1912089)

1. E8 (IC 74S85)
2. E13 (IC 74S85)
3. E17 (IC 74S85)
4. E31 (IC 74S85)
5. E66 (IC 74S00) (P/N 1910532)

WIRE ADDS SIDE 1 AS SHOWN:
1. FROM E44 (10) TO E59 (12)
(P/N 9105740-55)

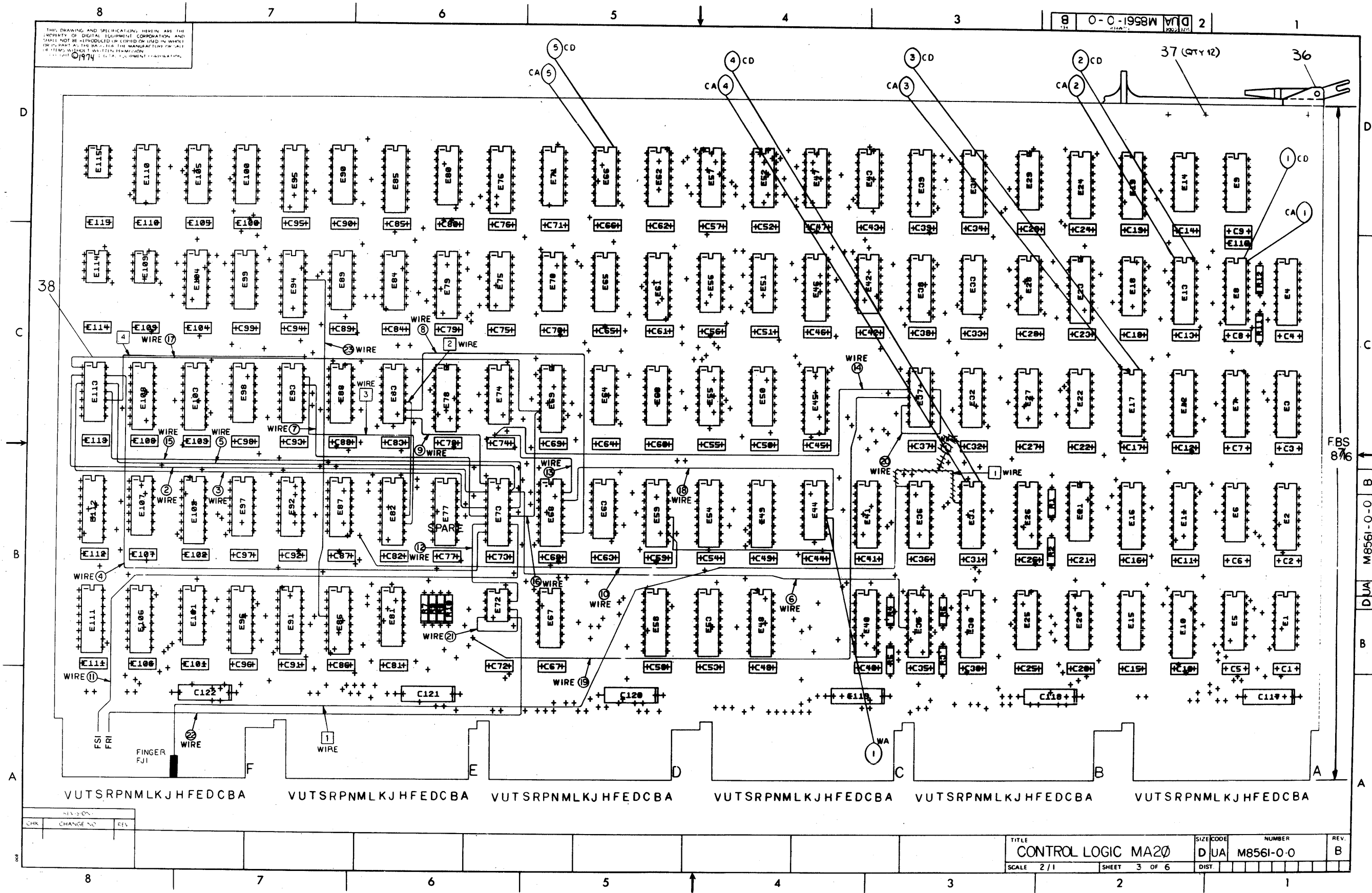
REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO.
040 127

TITLE		SIZE CODE	NUMBER	REV.
CONTROL LOGIC MA20		D UA	M8561-0-0	B
SCALE	SHEET 2 OF 6	DIST.		

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OF ANY EQUIPMENT WITHOUT THE WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION.

8 0-0-1958W 2

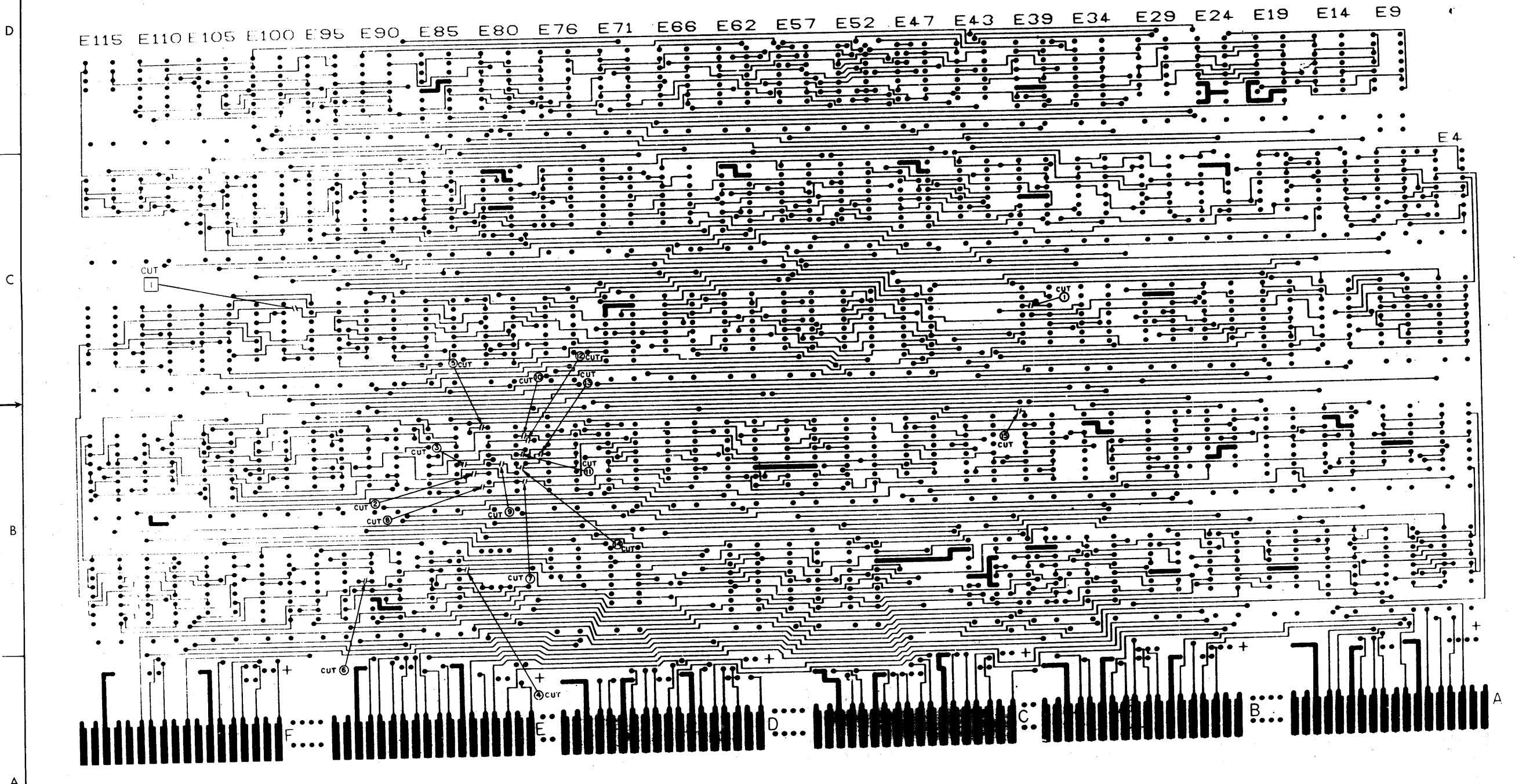


CHK	CHANGE NO.	REV.

TITLE		SIZE CODE	NUMBER	REV.
CONTROL LOGIC MA20		D UA	M8561-0-0	B
SCALE 2/1		SHEET 3 OF 6		

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND ALL RIGHT OF REPRODUCTION OR USE IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OF ANY ITEM, WITHOUT WRITTEN PERMISSION, IS EXPRESSLY FORBIDDEN.

8 0-0-1958W 2

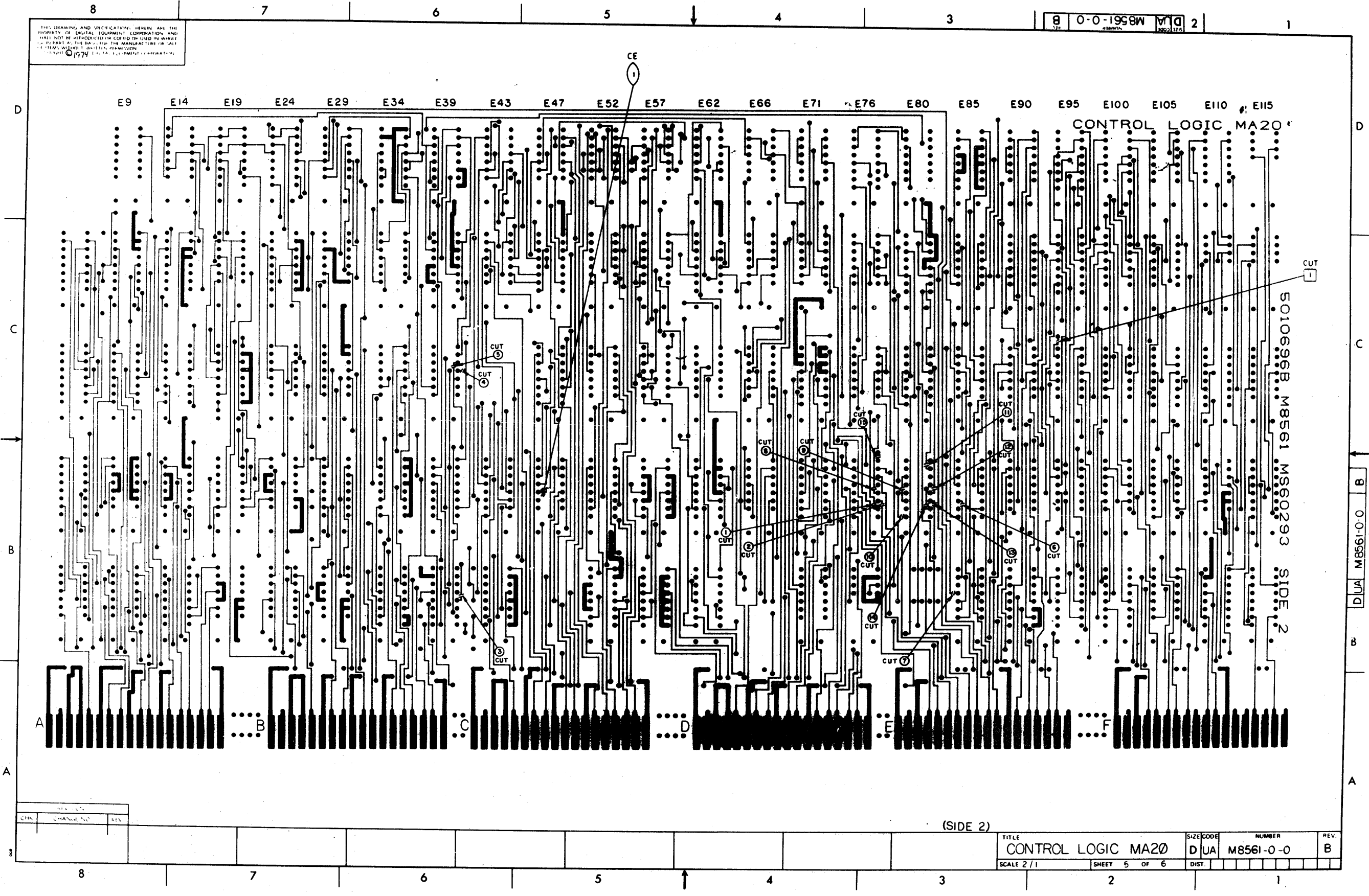


REV.	CHANGE NO.	DESCRIPTION

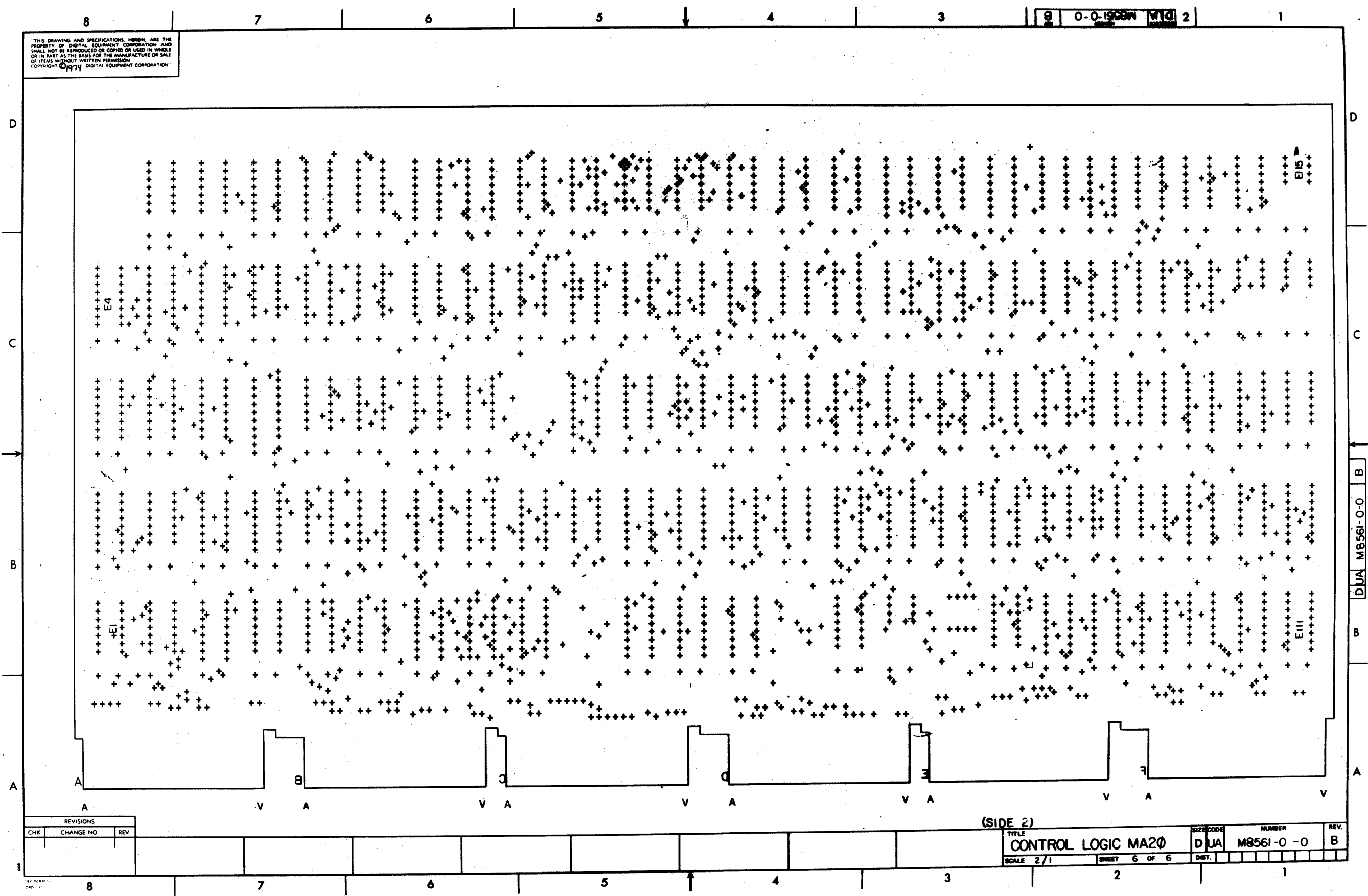
(SIDE 1)		SIZE CODE	NUMBER	REV.
TITLE CONTROL LOGIC MA20		D UA	M8561-0-0	B
SCALE 2/1	SHEET 4 OF 6	DIST	1	

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION, AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION.
© 1974 DIGITAL EQUIPMENT CORPORATION

8 0-0-1958W DUA 2



THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1974 DIGITAL EQUIPMENT CORPORATION.



REVISIONS		
CHK	CHANGE NO	REV

(SIDE 2)		TITLE		SIZE CODE	NUMBER	REV.
CONTROL LOGIC MA20		DUA	M8561-0-0	B		
SCALE 2/1		SHEET 6 OF 6		DIST.		

This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of parts without written permission. DEC-11C-IT (C) 1974
DIGITAL EQUIPMENT CORPORATION

NOTES:

- FOR DRAWING DIRECTORY, REFER TO: B-DD-M8562-0
- UNLESS OTHERWISE SPECIFIED, THE FOLLOWING PIN NUMBERS APPLY:

PACKAGE TYPE VCC GND
16 PIN DIP 16 8
14 PIN DIP 14 8

REWORK INSTRUCTIONS

PRE L/R = 0

ETCH CUTS SIDE 1

- CUT ETCH BETWEEN R10 AND DL8 (OUT)
- CUT ETCH BETWEEN IC E15 (13) AND DL8 (TAP)
- CUT ETCH BETWEEN R14 AND DL8 (TAP)
- CUT ETCH BETWEEN DL8 (IN) AND E12 (6) BOTH ENDS
- CUT ETCH BETWEEN DL8 (IN) AND E12 (3)
- CUT ETCH BETWEEN E10 (2) AND P.T.H. HOLE JUST ABOVE E9 (14)
- CUT ETCH BETWEEN E10 (12) AND E8 (13)
- CUT ETCH BETWEEN E8 (2) AND E8 (12)
- CUT ETCH BETWEEN E9 (9) AND FINGER AK1 BOTH ENDS
- CUT ETCH BETWEEN E9 (9) AND P.T.H. HOLE JUST BELOW E5
- CUT ETCH BETWEEN E1 (4) AND THE ETCH LINE JUST ABOVE IT.

ADD SINGLE WIRE SIDE #1 (ITEM #35)

- ADD A WIRE BETWEEN DL4 (11) AND E9 (9)
- ADD A WIRE BETWEEN E9 (12) AND E1 (4)
- ADD A WIRE BETWEEN E9 (9) AND E16 (12)
- ADD A WIRE BETWEEN E8 (1) AND E9 (2)
- ADD A WIRE BETWEEN E8 (9) AND P.T.H. HOLE THAT IS CONNECTED TO E8 (10)
- ADD A WIRE BETWEEN E10 (1) AND E10 (2)
- ADD A WIRE BETWEEN E8 (4) AND E9 (12)

COMPONENT MODIFICATIONS

INSERT TRANSISTORS Q1, Q2, Q3, Q4, AND Q5 IN BACKWARDS SO THAT EMITTER TABS ARE OPPOSITE THAT SHOWN ON DRAWING

- Q1
- Q2, Q3
- Q4, Q5

ECO #1 = ☐

ETCH CUTS SIDE 2, AS SHOWN:

- CUT ETCH BETWEEN PTH BESIDE E11(5) AND C21.
- CUT ETCH BETWEEN PTH BESIDE E11(4) AND FINGER PIN BH2.

SINGLE WIRE ADDS SIDE 1, AS SHOWN (ITEM 37):

- ADD FROM E11(5) TO FINGER PIN BN1.
- ADD FROM E11(4) TO FINGER PIN AK1.
- ADD FROM E11(4) TO E20(11).
- ADD FROM R37 TO E20(12).

SINGLE WIRE ADDS SIDE 2, AS SHOWN (ITEM 37):

- ADD FROM E20(13) TO FINGER PIN BH2.

ETCH CUTS SIDE 2

- CUT ETCH BETWEEN R13 AND DL8 (OUT)
- CUT ETCH BETWEEN E8 (2) AND E8 (4)
- CUT ETCH BETWEEN E8 (9) AND E8 (12)

ADD SINGLE WIRE SIDE #2 (ITEM #35)

- ADD A WIRE BETWEEN DL8 (OUT) AND E15 (13)
- ADD A WIRE BETWEEN DL8(TAP) AND E12 (3)
- ADD A WIRE BETWEEN R31 AND DL 8 (IN)
- ADD A WIRE BETWEEN DL8 (OUT) AND R14
- ADD A WIRE BETWEEN DL8 (TAP) AND E12 (6)
- ADD A WIRE BETWEEN R30 AND DL8 (IN)

ECO #2 = ☐

ETCH CUT SIDE 1 AS SHOWN:

- TO THE LEFT OF E5 (4).

ETCH CUT SIDE 2 AS SHOWN:

- AT Q4 EMITTER.

COMPONENT ADD SIDE 1 AS SHOWN:

- R48 (330 ohms 1300295) AND WIRE FROM E14(4), TO Q4 EMITTER.

WIRE ADD SIDE 1 AS SHOWN: (9105740-55)

- FROM E5(4) TO E10(6).

ECO #3

NOTE: ECO #3 IS A PHASE-IN ECO
ALL BOARDS ARE COMPATIBLE.

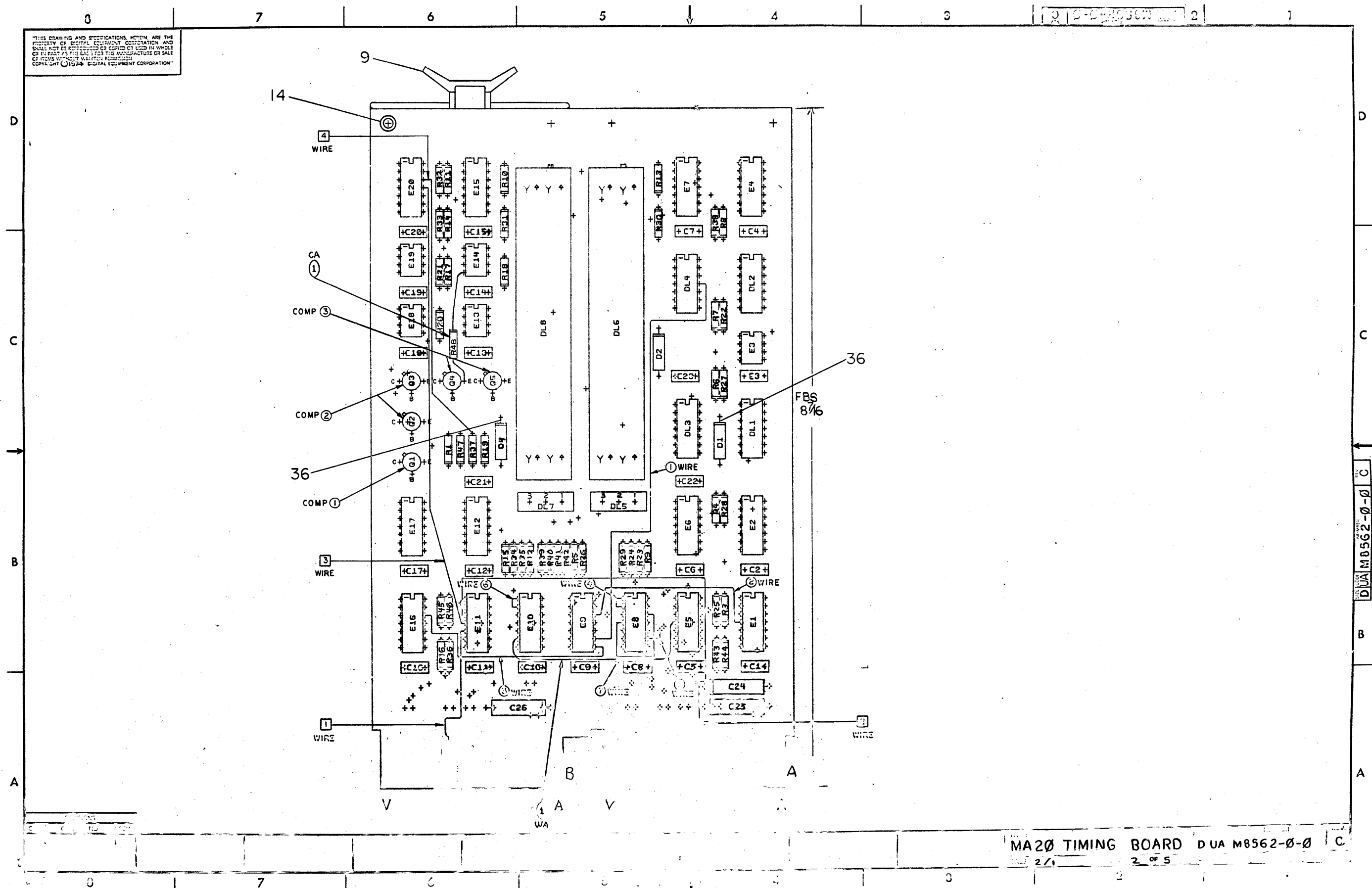
QTY		REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST					
1			ETCHED CIRCUIT BOARD	9010397	1
3		C24 THRU C28	CAP. 30uF 10V	1000070	2
23		C1 THRU C23	CAP. .01uF 100V DISC	1001810-01	3
2		D1, D2	DIODE D082	1100113	4
1		D4	DIODE D084	1100114	5
3		R4, R7, R37	RES. 100 5% 1/4W	1300229	6
2		R22, R28	RES. 470 5% 1/4W	1300318	7
11		R3, R12, R15, R17, R18, R19, R25, R34, R35, R1 R+S	RES. 1K 5% 1/4W	1300365	8
2			HANDLE, FLIP CHIP-MAGNETA	9008337-6	9
1		R47	RES. 10K 5% 1/4W	1300478	10
4		R9, R23, R24, R28	RES. 180 5% 1/4W	1301322	11
6		R11, R14, R32, R33, R20, R21	RES. 750 5% 1/4W	1301401	12
8		R5, R10, R20, R30, R39 THRU R42	RES. 300 5% 1/4W	1301425	13
4			EYELET, HANDLE	9006732	14
2		R43, R45	RES. 147 1% 1/4W	1302874	15
4		R6, R8, R27, R30	RES. 196 1% 1/4W	1302958	16
2		R44, R46	RES. 349 1% 1/4W	1304858	17
4		R10, R13, R30, R31	RES. 619 1% 1/4W	1305126	18
1		Q1	TRANSISTOR DEC 65340	1503409-00	19
2		Q4, Q5	TRANSISTOR DEC 4274	1505302-00	20
2		Q2, Q3	TRANSISTOR DEC 65318	1509338-00	21
2		DL6, DL8	DELAY LINE 60NS	1610079	22
2		DL5, DL7	DELAY LINE 18NS	1610080-00	23
4		DL1 THRU DL4	DELAY LINE 250NS	1611243	24
2		E6, E7	I.C. DEC 74H00	1909056-00	25
3		E2, E4, E9	I.C. DEC 74H10	1909057	26
1		E10	I.C. DEC 74H11	1909267	27
1		E12	I.C. DEC 1074H01	1910887	28
3		E1, E8, E16	I.C. DEC 7437	1910091	29
3		E5, E11, E20	I.C. DEC 3001	1909514	30
3		E14, E18, E19	I.C. DEC 75451	1910408	31
1		E15	I.C. DEC 1074H04	1910463	32
1		E17	I.C. DEC 74H74	1909667	33
2		E3, E13	I.C. DEC 75452	1910845-00	34
3FT			#30 AWG WIRE WRAP WIRE WHITE	9105740-99	35
5IN			SLEEVING TEFLON CLR	9107256-10	36
A/R			#30 AWG WIRE WRAP WIRE GREEN	9105740-55	37

FIRST USED ON
MA20

DRN CHD ENG PROJ ENG PRD NEXT HIGHER ASSY SCALE CHECK	DATE 11/1/74 DATE 12-4-74 DATE 12-4-74 DATE 12-4-74 DATE 12-4-74 DATE 12-4-74	EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
TITLE MA20 TIMING BOARD		
DUA M8562-0-0		
REV. C		

SEMICONDUCTOR CONVERSION CHART

DEC FORM 40
DEC-135

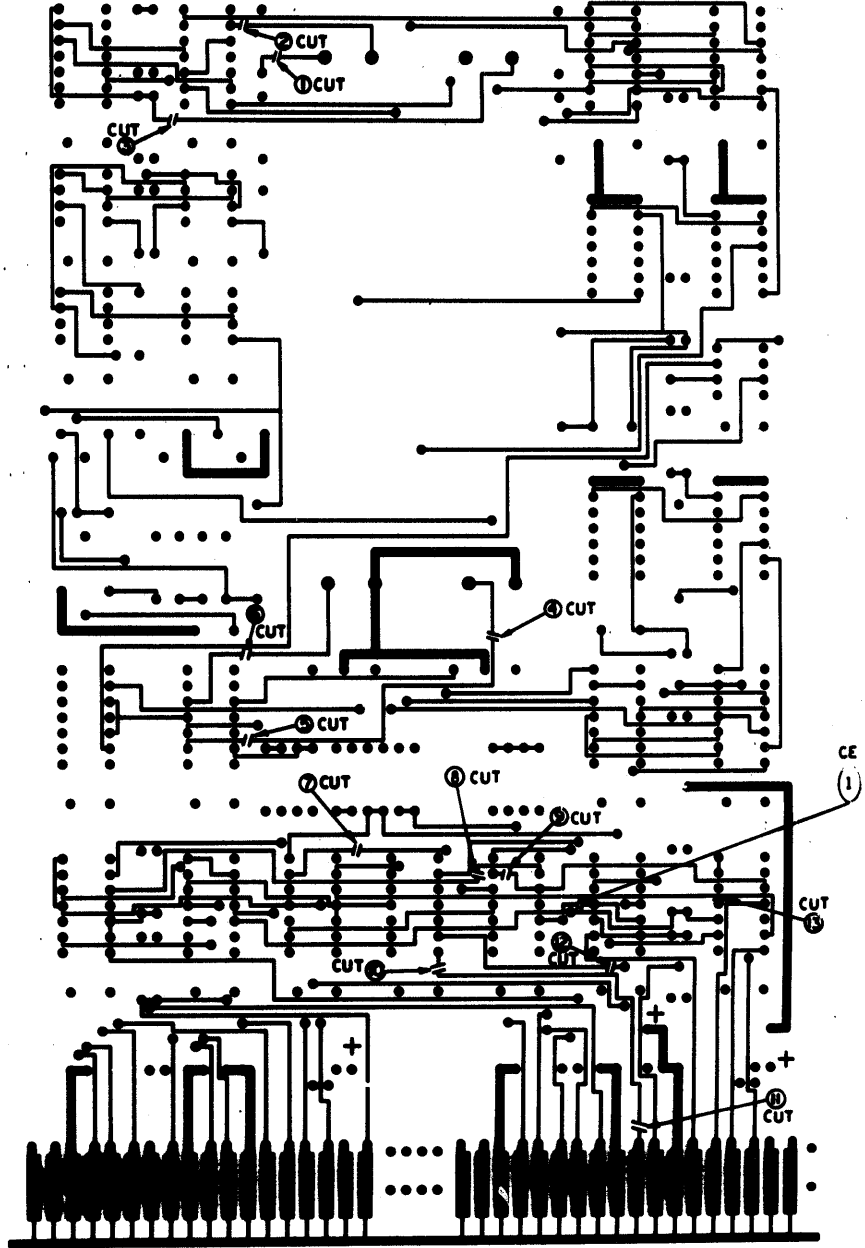


THIS DRAWING AND SPECIFICATIONS HEREBY ARE THE PROPERTY OF THE DIGITAL EQUIPMENT CORPORATION, AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AT THE BASIS FOR THE MANUFACTURE OR SALE OF ANY EQUIPMENT WITHOUT THE WRITTEN PERMISSION OF THE DIGITAL EQUIPMENT CORPORATION.

0-0-2998WMD 2

5010697B M8562 M860349

CS-XABCDEFGHIJKLMN FLIPCHIP SIDE 1

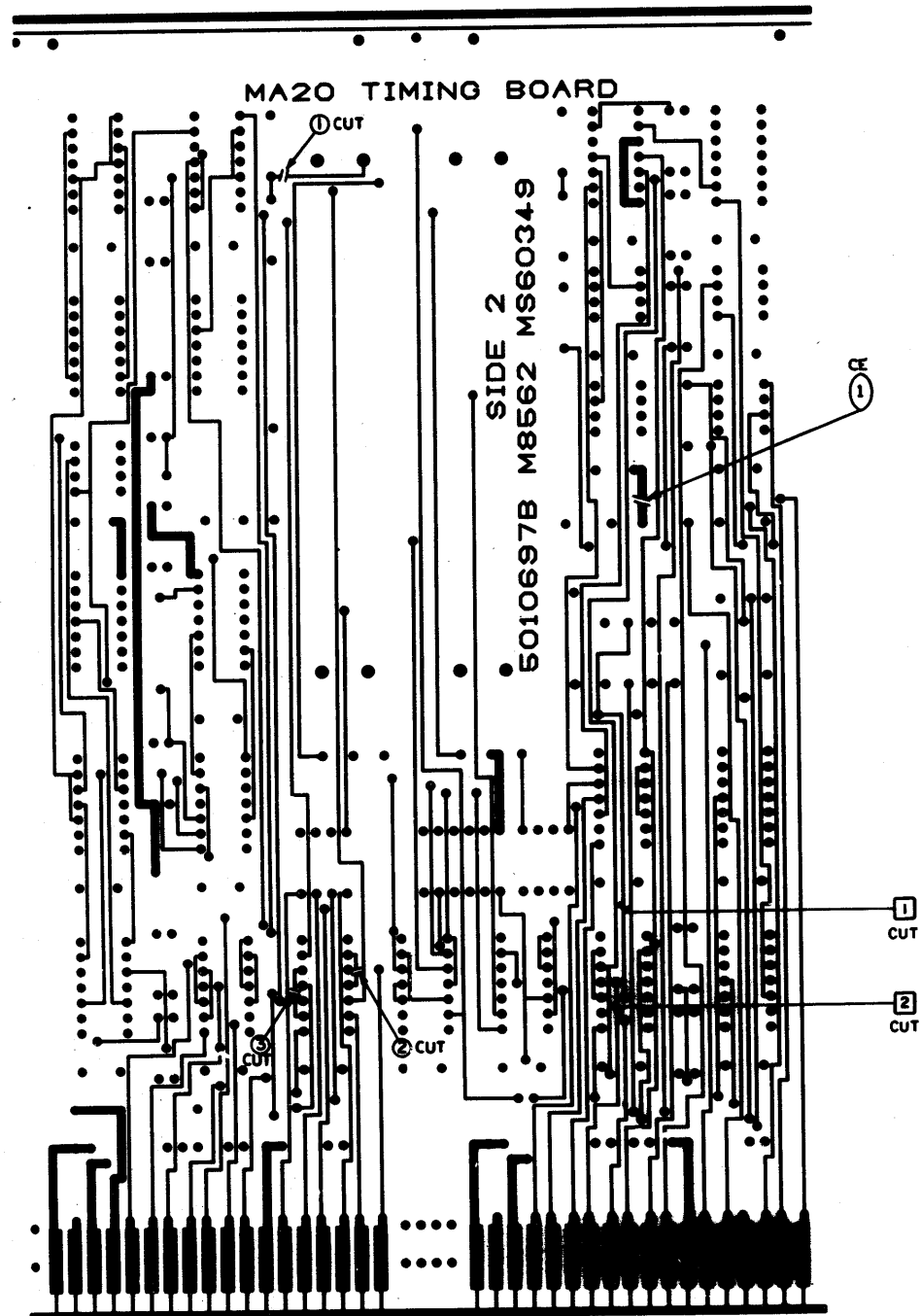


DJAM8562-0-0

DATE	BY	CHKD

TITLE	MA20 TIMING BOARD	SIZE/CODE	DJA M8562-0-0	NUMBER		REV.	C
SCALE	2/1	SHEET	3 OF 5	DIST			

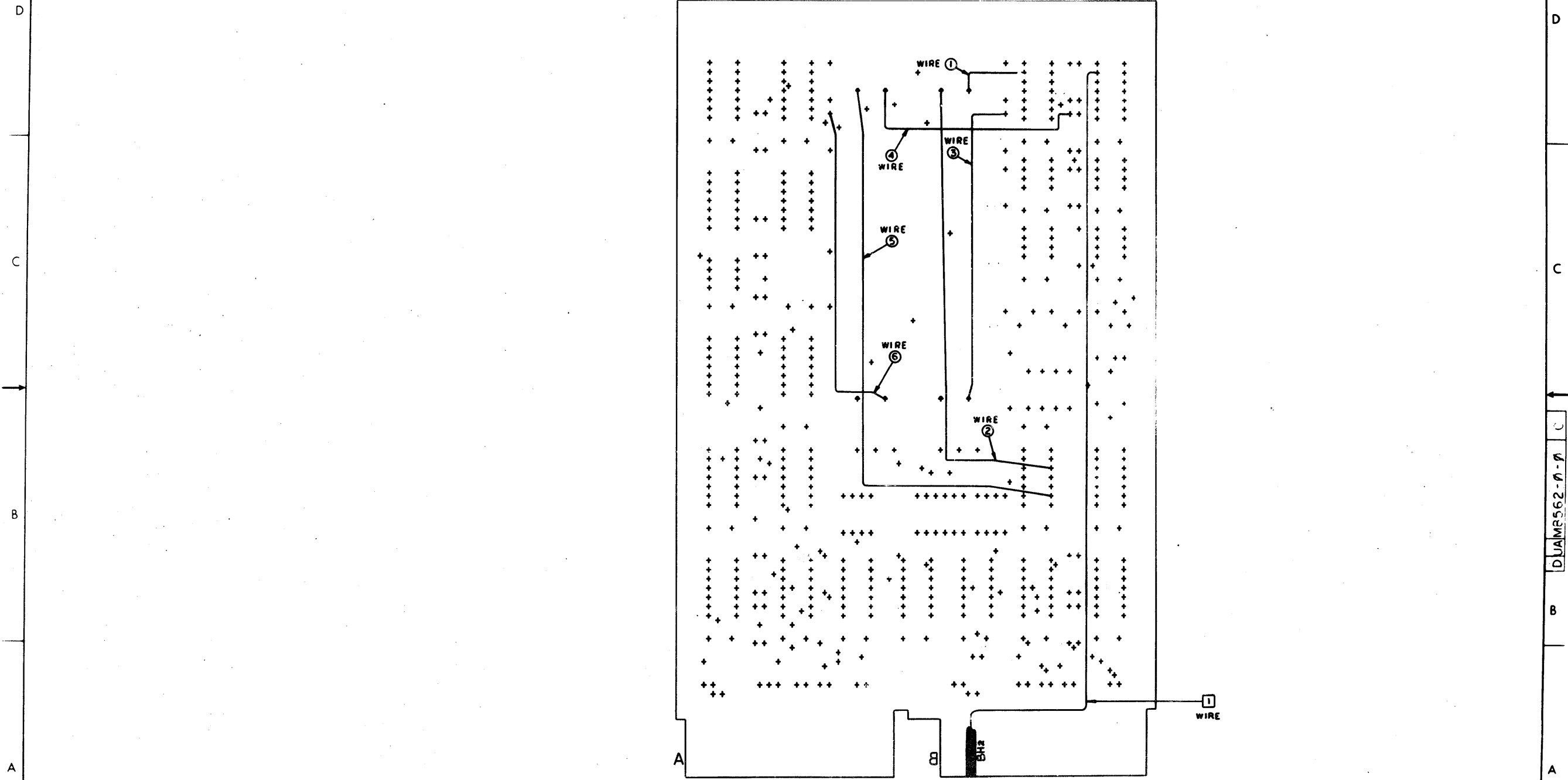
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1974 DIGITAL EQUIPMENT CORPORATION

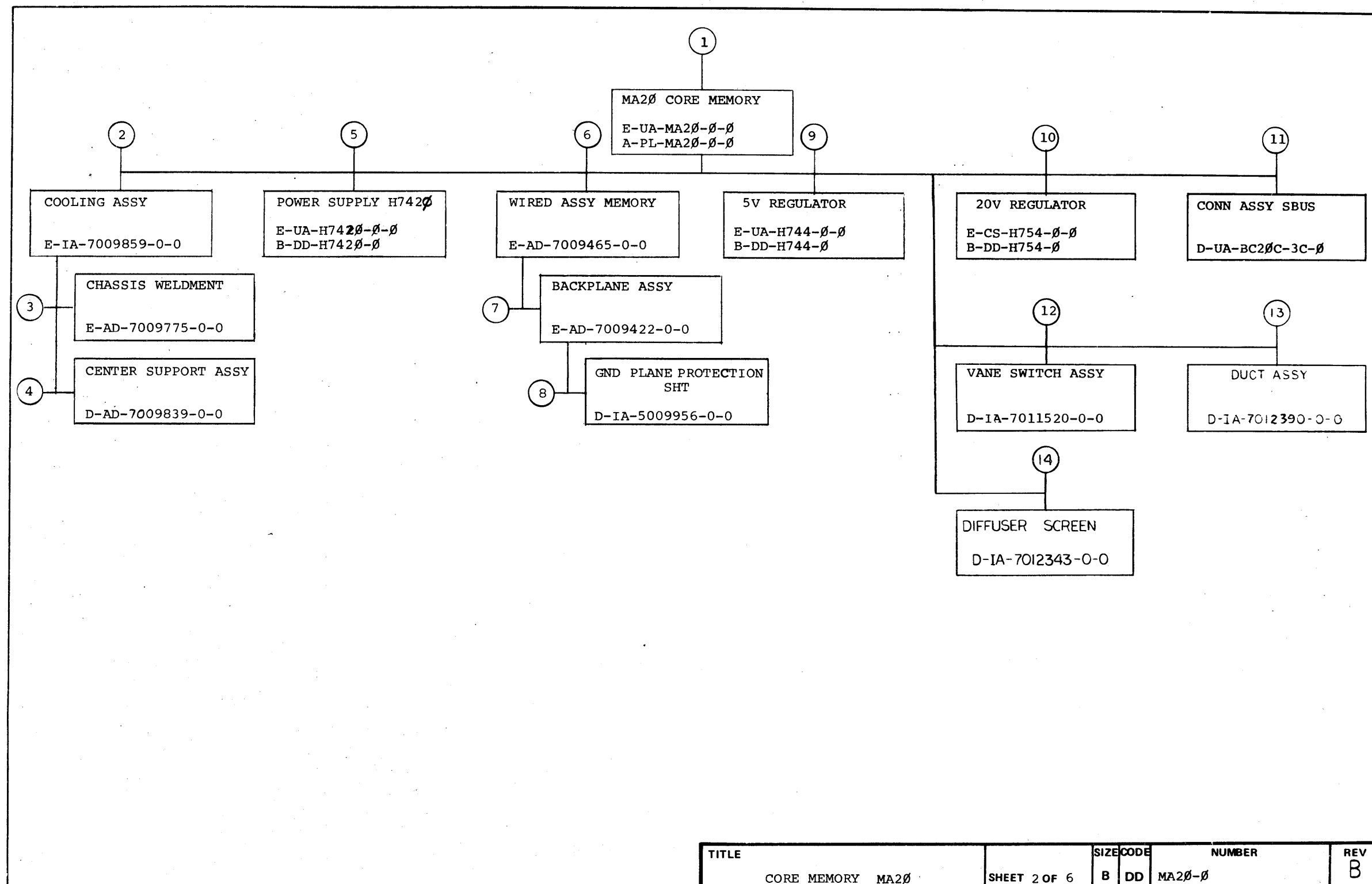


REVISION		
DATE	CHANGE BY	REV

TITLE		SIZE CODE	NUMBER	REV.
MA20 TIMING BOARD		DJA	M8562-0-0	C
SCALE	2/1	SHEET	4 OF 5	DIST.

THE DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF THE U.S. GOVERNMENT. ANY REPRODUCTION OR TRANSMISSION OF THIS DRAWING IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN PERMISSION OF THE U.S. GOVERNMENT, IS PROHIBITED.



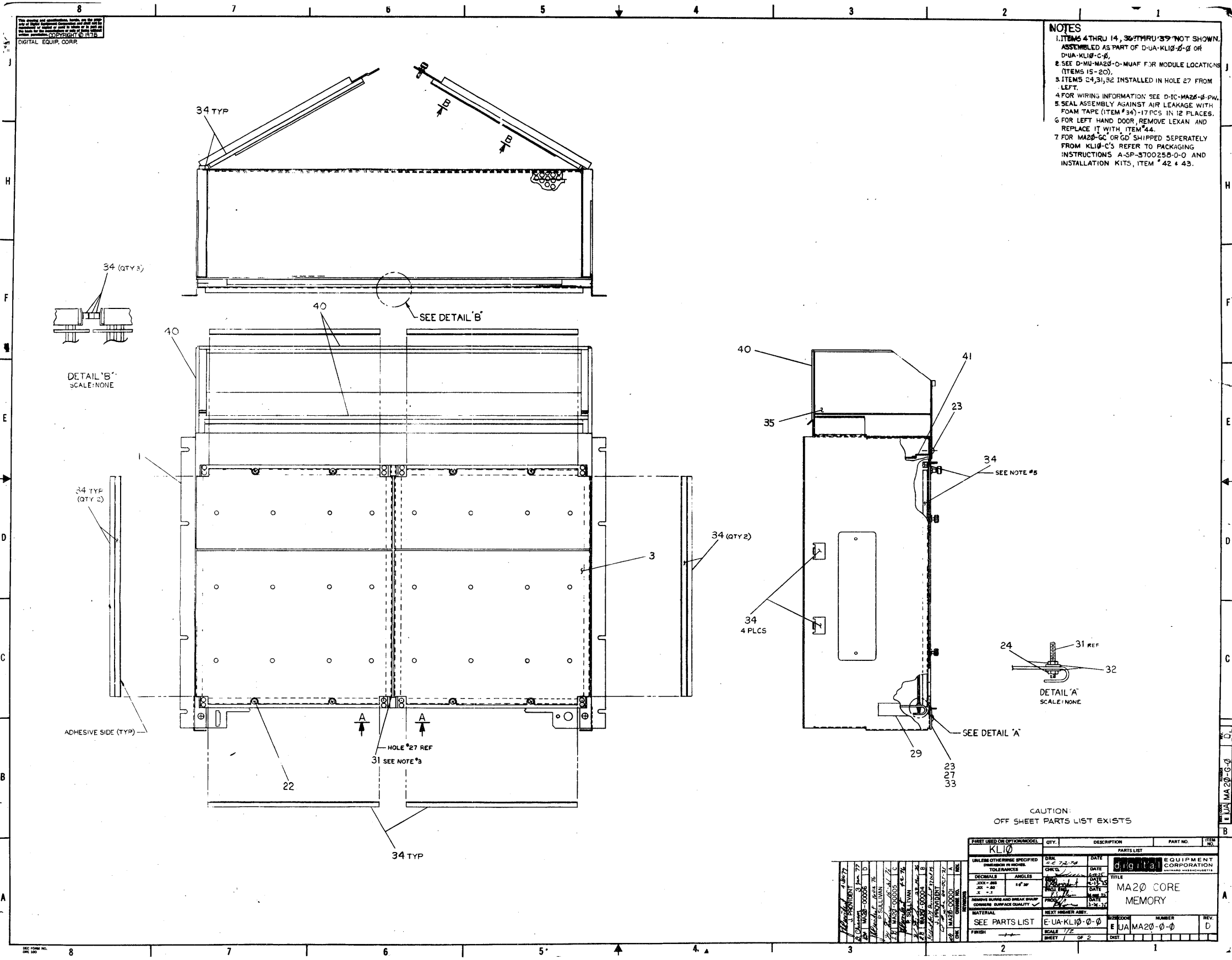


CUSTOMER PRINT SET						ELECTRICAL						CUSTOMER PRINT SET						ELECTRICAL							
MFG SET		FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO./FILE DATE	MFG SET		FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO./FILE DATE	MFG SET		FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO./FILE DATE		
CUSTOMER PRINT SET								CUSTOMER PRINT SET								CUSTOMER PRINT SET									
		1	E-UA-MA20-0-0	#	1	CORE MEMORY MA20					D-BS-MA20-0-SI33	#	1	16K SENSE/INHIBIT (G114)							D-BS-MA20-0-SI34	#	1	16K SENSE/INHIBIT (G114)	
			C-PL-MA20-0-0	#	1	CORE MEMORY MA20 (P.L.)								D-BS-MA20-0-SI35	#	1	16K SENSE/INHIBIT (G114)								
			D-MU-MA20-0-MUAF	#	1	MODULE UTILIZATION								D-BS-MA20-0-SI36	#	1	16K SENSE/INHIBIT (G114)								
			D-IA-7010805-0-0	#	1	AC WIRING HARNESS ASSY NO. 1								D-CS-H217-0-1	#	3	STACK BOARD								
			J-IA-7012094-0-0	#	1	HARNESS DC. MA20								D-BS-MA20-0-ST20	#	1	STACK MODULE (H217)								
			D-UA-M9005-0-0	#	4	TERMINATOR								D-BS-MA20-0-ST21	#	1	STACK MODULE (H217)								
			B-DD-M9005-0	#	2	M9005 DRAWING DIRECTORY								D-BS-MA20-0-ST22	#	1	STACK MODULE (H217)								
			J-IA-7012477-0-0	#	1	HARNESS, MEM #2								D-BS-MA20-0-ST30	#	1	STACK MODULE (H217)								
														D-BS-MA20-0-ST31	#	1	STACK MODULE (H217)								
			D-FD-MA20-0-FD	#	3	FLOW DIAGRAM								D-BS-MA20-0-ST32	#	1	STACK MODULE (H217)								
			D-BS-MA20-0-INS	#	1	INSTRUCTION/SETUP SHEET								D-IC-MA20-0-PW	#	2	AC-DC POWER WIRING								
			D-BS-MA20-0-IBD1	#	3	INTERCONNECTION BLOCK DIAGRAM								A-SP-MA20-0-TP	#	59	CHECKOUT PROCEDURE (MA20)								
			D-TD-MA20-0-TD	#	1	TIMING DIAGRAM (MA20)								A-SP-MA20-0-TS	#	5	TEST SPECIFICATION (MA20)								
			D-UA-M8562-0-0	#	5	TIMING BOARD MA20								A-PL-7013249-0-0	#	1	INSTALLATION KIT (60 HZ)								
			B-DD-M8562-0	#	2	M8562 DRAWING DIRECTORY								A-PL-7013249-1-0	#	1	INSTALLATION KIT (50 HZ)								
			D-BS-MA20-0-MAT1	#	1	TIMING BOARD (M8562)								A-SP-3700258-0-0	#	1	PACKAGING INSTRUCTIONS								
			D-BS-MA20-0-MAT2	#	1	TIMING BOARD (M8562)																			
			D-BS-MA20-0-MAT3	#	1	TIMING BOARD (M8562)																			
			D-UA-M8561-0-0	#	5	CONTROL BOARD MA20																			
			B-DD-M8561-0	#	2	M8561 DRAWING DIRECTORY																			
			D-BS-MA20-0-MAC1	#	1	CONTROL BOARD (M8561)																			
			D-BS-MA20-0-MAC2	#	1	CONTROL BOARD (M8561)																			
			D-BS-MA20-0-MAC3	#	1	CONTROL BOARD (M8561)																			
			D-BS-MA20-0-MAC4	#	1	CONTROL BOARD (M8561)																			
			D-BS-MA20-0-MAC5	#	1	CONTROL BOARD (M8561)																			
			D-BS-MA20-0-MAC6	#	1	CONTROL BOARD (M8561)																			
			D-BS-MA20-0-MAC7	#	1	CONTROL BOARD (M8561)																			
			D-CS-G235-0-1	#	6	X-Y DRIVE CURRENT SOURCE DECODE																			
			D-BS-MA20-0-DR20	#	1	16K X-Y DRIVE (G235)																			
			D-BS-MA20-0-DR21	#	1	16K X-Y DRIVE (G235)																			
			D-BS-MA20-0-DR22	#	1	16K X-Y DRIVE (G235)																			
			D-BS-MA20-0-DR30	#	1	16K X-Y DRIVE (G235)																			
			D-BS-MA20-0-DR31	#	1	16K X-Y DRIVE (G235)																			
			D-BS-MA20-0-DR32	#	1	16K X-Y DRIVE (G235)																			
			D-CS-G114-0-1	#	9	16K SENSE/INHIBIT																			
			D-BS-MA20-0-SI21	#	1	16K SENSE/INHIBIT (G114)																			
			D-BS-MA20-0-SI22	#	1	16K SENSE/INHIBIT (G114)																			
			D-BS-MA20-0-SI23	#	1	16K SENSE/INHIBIT (G114)																			
			D-BS-MA20-0-SI24	#	1	16K SENSE/INHIBIT (G114)																			
			D-BS-MA20-0-SI25	#	1	16K SENSE/INHIBIT (G114)																			
			D-BS-MA20-0-SI26	#	1	16K SENSE/INHIBIT (G114)																			
			D-BS-MA20-0-SI30	#	1	16K SENSE/INHIBIT (G114)																			
			D-BS-MA20-0-SI31	#	1	16K SENSE/INHIBIT (G114)																			
			D-BS-MA20-0-SI32	#	1	16K SENSE/INHIBIT (G114)																			
CUSTOMER PRINT SET CODES		X = PRINT OF DOCUMENT INCLUDED IN PRINT SET C = INCLUDES ALL PRINTS INDICATED ON DOCUMENT S = CONFIDENTIAL AUTHORIZED SIGNATURE REQUIRED						TITLE		SHEET 3 OF 6		SIZE	CODE	NUMBER		REV									
								CORE MEMORY MA20				B	DD	MA20-0		B									

DRB 108

This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission.

			QUANTITY/VARIATION																																																																																																																																																																																																																																																																																																																																																																																																																																																					
--	--	--	--------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



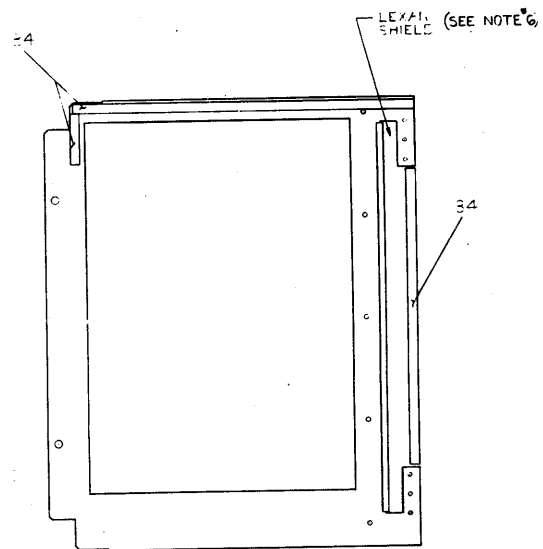
- NOTES**
- 1. ITEMS 4 THRU 14, 36 THRU 39 NOT SHOWN. ASSEMBLED AS PART OF D-UA-KLI0-0-0 OR D-UA-KLI0-G-0.
 - 2. SEE D-MU-MA20-0-MUAF FOR MODULE LOCATIONS (ITEMS 15-20).
 - 3. ITEMS 24, 31, 32 INSTALLED IN HOLE 27 FROM LEFT.
 - 4. FOR WIRING INFORMATION SEE D-IC-MA20-0-PW.
 - 5. SEAL ASSEMBLY AGAINST AIR LEAKAGE WITH FOAM TAPE (ITEM #34) - 17 PCS IN 12 PLACES.
 - 6. FOR LEFT HAND DOOR, REMOVE LEXAN AND REPLACE IT WITH ITEM #44.
 - 7. FOR MA20-GC OR GD SHIPPED SEPARATELY FROM KLI0-C'S REFER TO PACKAGING INSTRUCTIONS A-SP-3700250-0-0 AND INSTALLATION KITS, ITEM #42 & 43.

FIRST USED ON OPTION MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES.					
TOLERANCES					
DECIMALS	ANGLES				
.001	1/2°				
REMOVE BURRS AND BREAK SHARP CORNERS. SURFACE QUALITY					
MATERIAL					
SEE PARTS LIST					
FINISH					
SCALE					
SHEET					

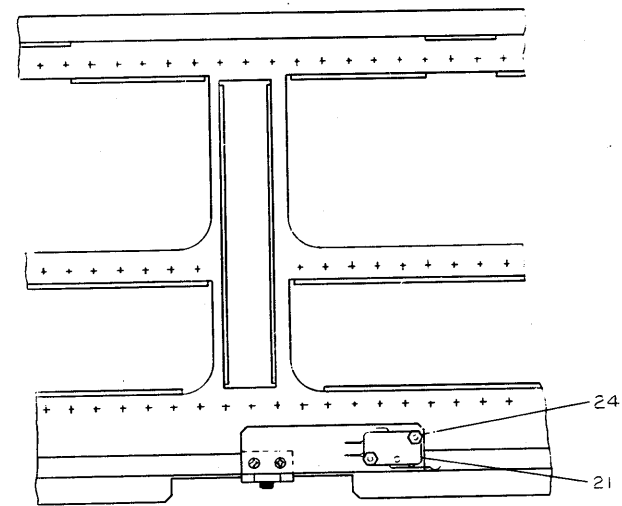
PARTS LIST		QTY.	DESCRIPTION	PART NO.	ITEM NO.
E-UA-KLI0-0-0					
E-UA-KLI0-G-0					
E-UA-KLI0-0-0					
E-UA-KLI0-G-0					
E-UA-KLI0-0-0					
E-UA-KLI0-G-0					
E-UA-KLI0-0-0					
E-UA-KLI0-G-0					
E-UA-KLI0-0-0					
E-UA-KLI0-G-0					

EQUIPMENT CORPORATION		DATE	REV.
MA20 CORE MEMORY <td></td> <td></td>			
E-UA-KLI0-0-0 <td></td> <td></td>			
E-UA-KLI0-G-0 <td></td> <td></td>			
E-UA-KLI0-0-0 <td></td> <td></td>			
E-UA-KLI0-G-0 <td></td> <td></td>			
E-UA-KLI0-0-0 <td></td> <td></td>			
E-UA-KLI0-G-0 <td></td> <td></td>			
E-UA-KLI0-0-0 <td></td> <td></td>			
E-UA-KLI0-G-0 <td></td> <td></td>			

THIS DRAWING AND INFORMATION HEREON ARE THE PROPERTY OF SPATIAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ANY EQUIPMENT WITHOUT THE WRITTEN CONSENT OF SPATIAL EQUIPMENT CORPORATION.



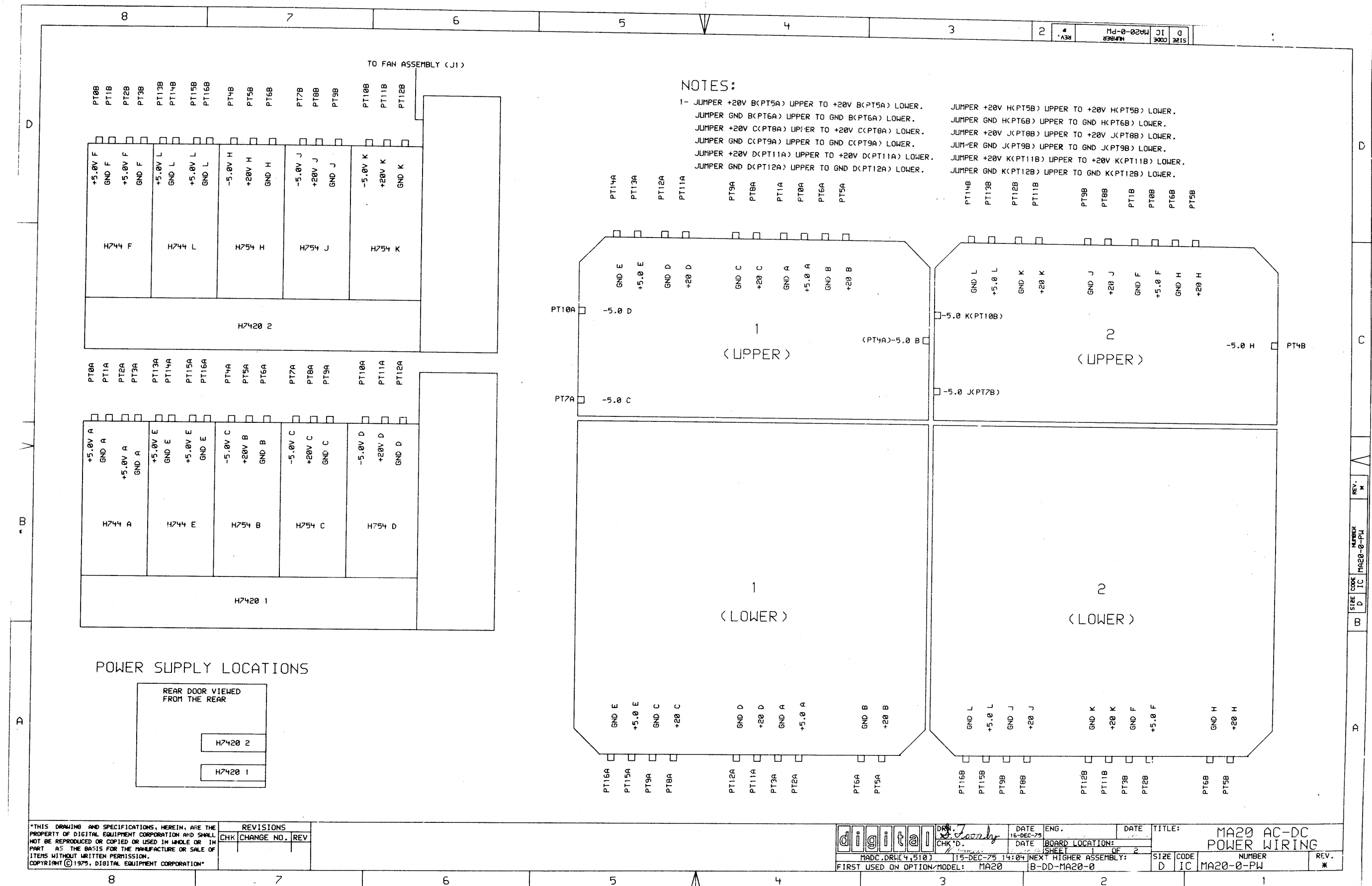
VIEW B-B
SCALE: 1/2
TYP FOR BOTH DOORS

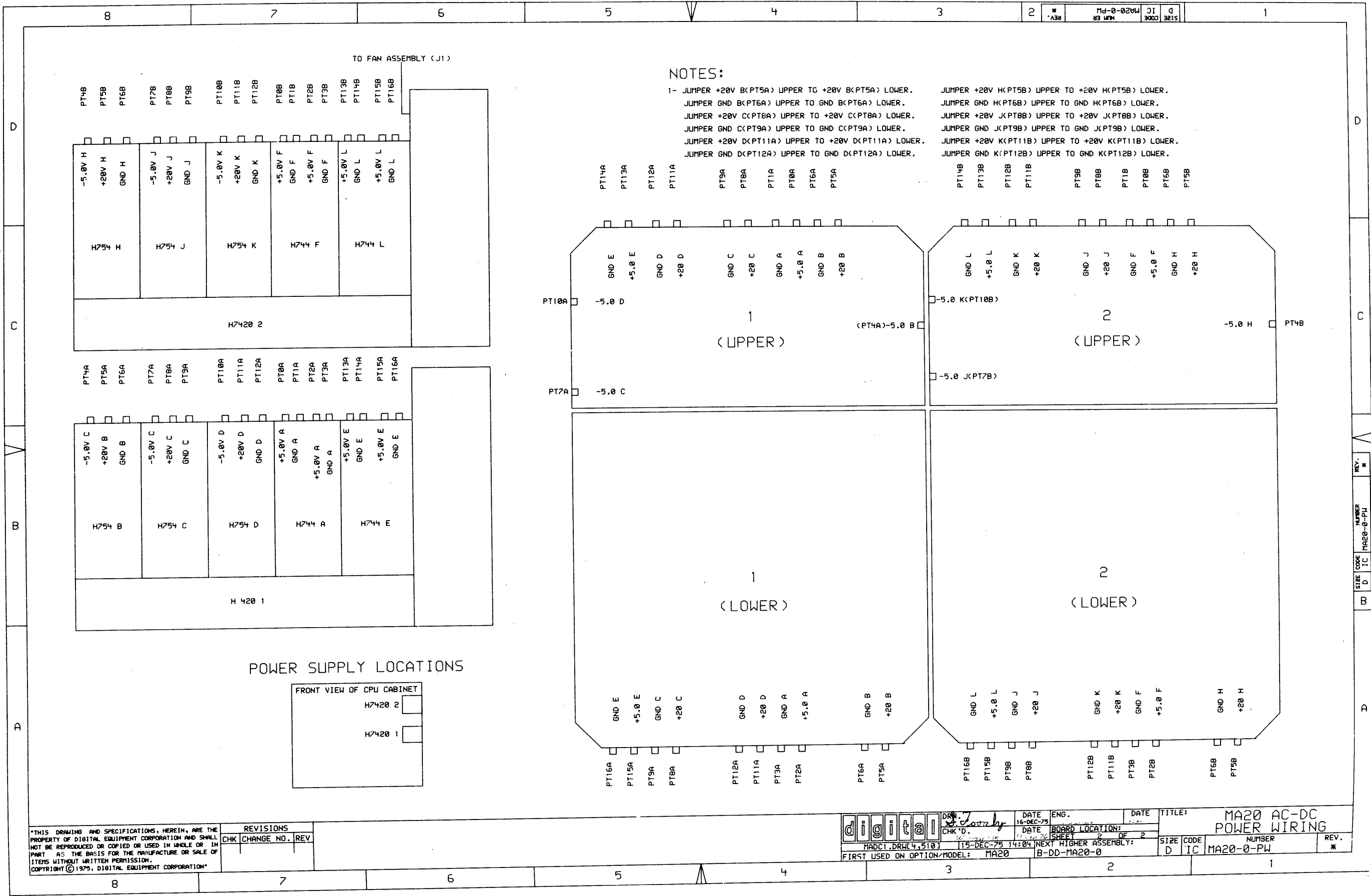


VIEW A-A
SCALE: 1/1

REVISIONS		
DATE	CHANGE NO.	REV.

TITLE		SUBCODE		NUMBER		REV.
MA20 CORE MEMORY		EUA		MA20-0-0		D
SCALE	1/2	SHEET	2	OF	2	DIST.





This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission. 1975

MA2Ø.NCC
MA2Ø.TPC

MA2ØC.ALL
7Ø9442.RCC (MA2Ø AND MG1Ø ETCH ONLY TEST TAPE)

NOTES:

1. LIST OF PAPER TAPE FILES USED.
2. LIST OF AWT FILES USED.

REVISIONS		REV.	
CHANGE NO.			
MA2Ø-00002	ORIG	B	
MA2Ø-00003		C	

DEC FORM NO.
DRB 109

FIRST USED ON OPTION MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
KLIØ			PARTS LIST		
DRN.	<i>Phil Reed</i>	DATE	7-15-75	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
CHK'D	<i>Bill Hovey</i>	DATE	7-15-75		
ENG.	<i>W. Hamlin</i>	DATE	9/30/75		
PROJ. ENG.	<i>P. Sullivan</i>	DATE	7-11-75		
PROD.	<i>A. Cuck</i>	DATE	7/16/75		
NEXT HIGHER ASSEMBLY				TITLE	
E-AD-7009465-0-0				WIRED ASSY (MEMORY)	
SCALE		SIZE CODE		NUMBER	
SHEET		K WL		MA2Ø-Ø-WL	
OF		DIST.		REV.	
				C	

1975

DRA 123