



CONSOLE

B-DD-KY11-P  
D-UA-KY11-P-Ø  
D-CS-5412173-0-1  
D-UA-5412173-0-0 (sheet 1 only)  
B-PL-5412173-0-0  
D-CS-5412245-0-1  
D-UA-5412245-0-0 (sheet 1 only)  
B-PL-5412245-0-0  
B-DD-5412245-0

UNIBUS COMPONENTS

B-TC-M93Ø1-YH (complete)  
D-CS-M93Ø2  
B-TC-DL11-W (complete)  
D-UA-M92Ø2-Ø-Ø  
D-UA-BC11A-Ø-Ø

MODEL SPECIFIC

B-DD-116ØW-Ø  
A-PL-116ØW-Ø-Ø  
B-DD-116ØK-Ø  
A-PL-116ØK-Ø-Ø  
B-TC-MF11-W-2  
B-TC-MFIIS-K

BOX AND POWER SUPPLY

B-TC-BAl1-P-1

CONSOLE KY11-P  
CONSOLE (KY11-P) UNIT ASSY  
KY11-P CONSOLE BOARD  
KY11-P CONSOLE BOARD  
KY11-P CONSOLE BOARD  
KY11-P CONSOLE FILTER BOARD  
KY11-P CONSOLE FILTER BOARD  
KY11-P CONSOLE FILTER BOARD  
KY11-P CONSOLE FILTER BOARD

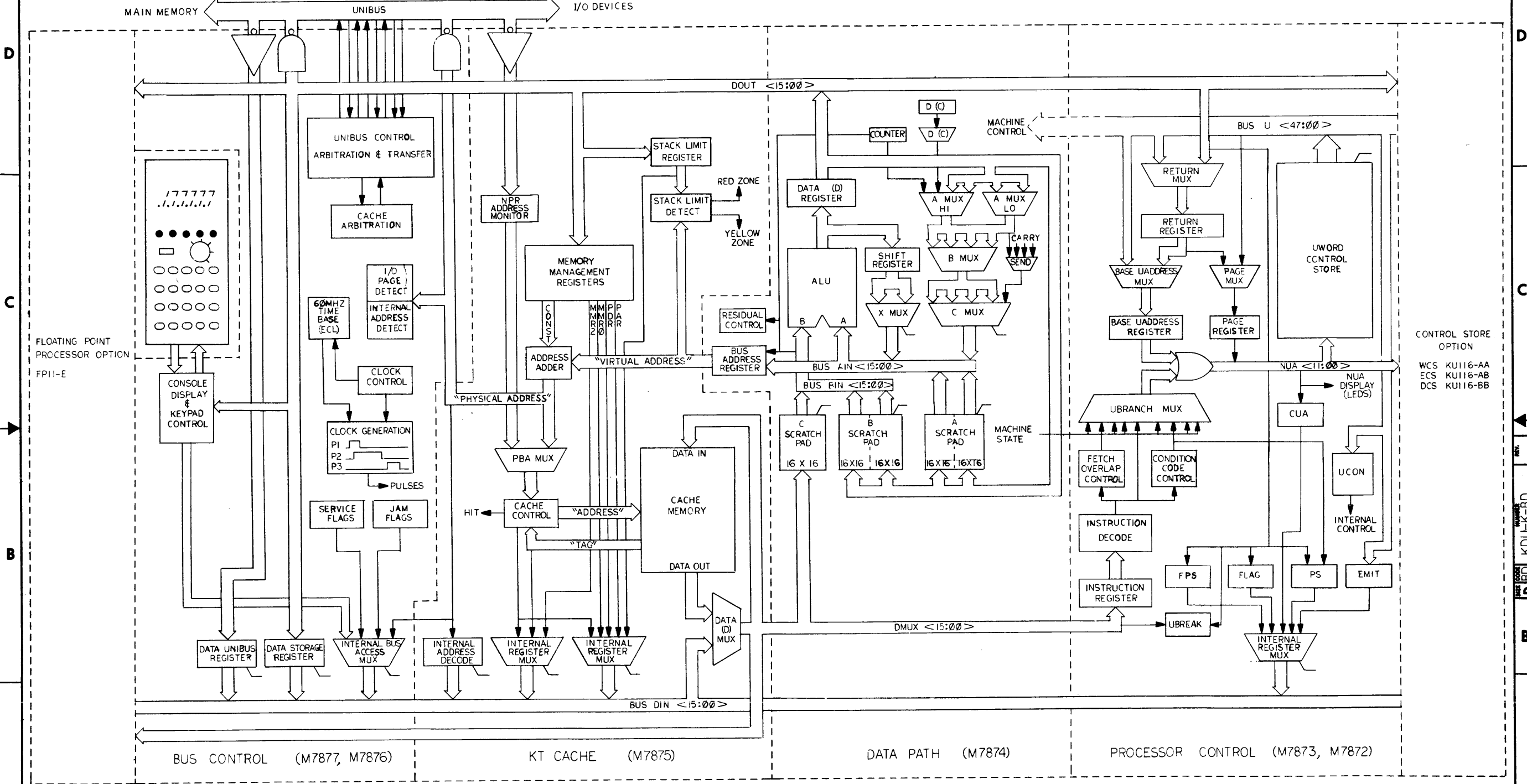
UNIBUS TERMINATOR/BOOTSTRAP  
UNIBUS TERMINATOR  
SERIAL LINE INTERFACE  
CABLE, UNIBUS (JUMPER)  
CABLE ASSY (BC11A)

UNIT ASSY 116ØW  
UNIT ASSY 116ØW  
UNIT ASSY 116ØK  
UNIT ASSY 116ØK  
MF11-W/WP MEMORY  
MFIIS-K MOS MEMROY SYS.

BAl1-P BOX AND POWER SUPPLY

TITLE	SIZE	CODE	NUMBER	REV
PDP11/6Ø BASIC COMPUTER	B	TC	11/6Ø-Ø 1	B

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CONTROL STORE OPTION  
 WCS KUI16-AA  
 ECS KUI16-AB  
 DCS KUI16-BB

REVISIONS	NO.	DATE	BY

DRN. M. STECKLAIR	14 MAY 77	FIRST USED ON	PDP 11/60	digital
CHK'D. Paul Stecker	16 MAY 77	TITLE	PDP 11/60 BLOCK DIAGRAM	
ENG. Paul Stecker	16 MAY 77			
PROD. Eng. Dept.	16 MAY 77			
NEXT HIGHER ASSY.				
KDII-K		SIZE CODE	D BD	NUMBER
SCALE		DIST.	KDII-K-BD	REV.
SHEET	1 OF 1			

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D

C

B

A

VIEW FROM MODULE SIDE

1	WCS, ECS, DCS (OPTIONAL)	NOTE: 6
2	DECODE U WORD	M7872
3	DECODE U WORD	M7873
4	DATA PATH	M7874
5	KT/CACHE	M7875
6	TIMING	M7876
7	STATUS	M7877
8	FNUA	M7878
9	MULNET EXPONENT	M7879
10	MULNET EXPONENT	M7880
11	FALLU	M7881
12	SPC	NOTE: 5
13	MEMORY UNIBUS OR BOOT LOADER	NOTE: 7
14	I/O UNIBUS OR TERMINATOR	NOTE: 12

KDII-K BASIC PROCESSOR OPTIONAL MODULES

KDII-K BASIC PROCESSOR OPTIONAL MODULES

WCS, ECS, DCS, (OPTIONAL)

PROCESSOR MODULES

FP11-E (OPTIONAL)

SPC (OPTIONAL)

DL11-W

VIEW FROM MODULE SIDE

- NOTES:
- OPTIONAL MODULES FOR SLOT 14 A,B ARE: BC11 UNIBUS CABLES; OR M902 UNIBUS JUMPER CABLE FOR CONNECTION OF ADJACENT SYSTEM UNITS.
  - A I/O (STANDARD UNIBUS) SLOT 14
    - B NO MEMORY ON THIS BUS.

ALL INTERRUPTING AND DMA UNIBUS OPTIONS MUST BE ON THIS BUS.
  - A MEMORY (MODIFIED) UNIBUS SLOT 13
    - B ALL MEMORY ON THIS BUS.

NO INTERRUPTING OR DMA UNIBUS OPTIONS CAN BE ON THIS BUS.
  - OPTIONAL MODULES FOR SLOT 13 A,B ARE BC11 UNIBUS CABLES.
  - SMALL PERIPHERAL CONTROLLER (SPC) SLOTS 4,3,2 ARE CONNECTED TO THE I/O UNIBUS OF SLOT 14 A,B. G727 GRANT CONTINUITY CARDS ARE REQUIRED IN ANY UNUSED SPC SLOTS.
  - OPTIONAL MODULES FOR SLOT 1 ARE: M7870, WRITABLE CONTROL STORE; M7871, DIAGNOSTIC CONTROL STORE; M7871-YA, EXTENDED CONTROL STORE.
  - EITHER M9301-YH OR M9312.

11/60

REV.	CHANGE NO.	BY	DATE
A	1	L. CONDON	11/18/76

DRN. 11/18/76	FIRST USED ON PDP 11/60	digital
CHK'D 11/18/76	TITLE MODULE UTILIZATION	
ENG. 11/18/76		
PROJ. ENG. 11/18/76		
PROD. 11/18/76		
NEXT HIGHER ASSY.		
A-PL-KDII-K-0	SIZE CODE NUMBER REV.	
SCALE	D MU KDII-K-MU	A
SHEET 1 OF 1	DIST.	



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NOTES:

1 THE PDP 11/60 MICROCODE IS AVAILABLE UNDER A DIAGNOSTIC MAINDEC NUMBER AS FOLLOWS.

PAPER: MAINDEC DQMCA-D

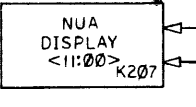
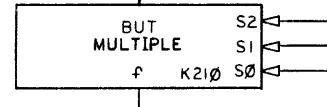
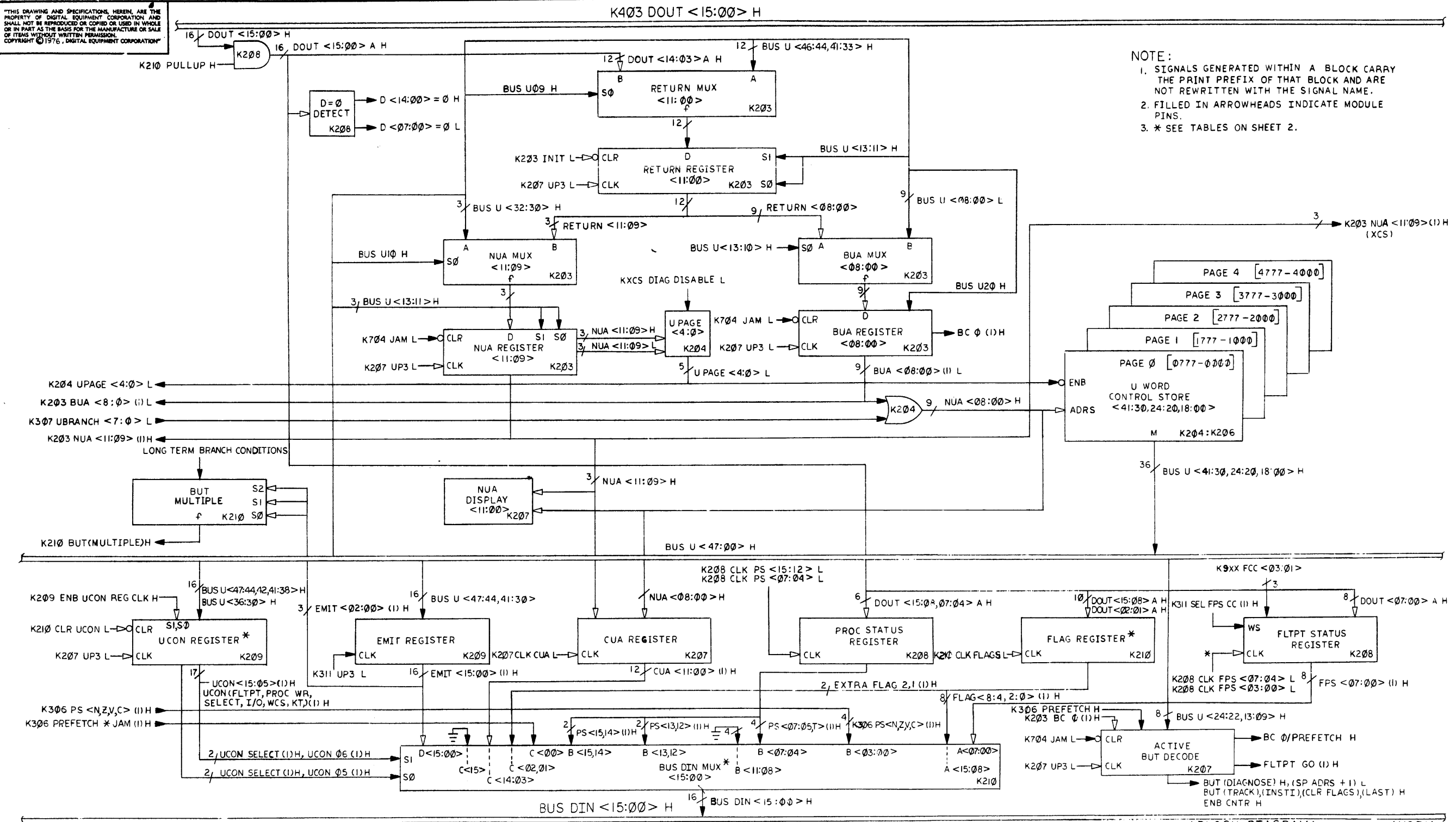
ROM REVISION	M7872 ECO#/CS REV/UA REV	M7873 ECO#/CS REV/UA REV	DESCRIPTION (#ROMS M7872, M7873)
A	#1/D/D #1A/D/D	#1/F/F	ROM 48 thru 50 PURGE-RETRO(45)(23) CORRECTION TO #1-RETRO(2)(0) DOCUMENTATION ON #1A(0)(0)
A	#2/D/E	-	
B	#3/D/F	-	FP SHARED CODE-RETRO(2)(0)
C	#4/D/H	#2/H/H	(IR)=FP AND INT FROM CON-RETRO(7)(2)
C	-	#3/H/J	D(C)←D(C)-RETRO(0)(0)
D W/#4, #5	#5/D/J	#4/H/K	#4-CLKD U29-RETRO(0)(2) #5-WCS PASSIVE RELEASE-RETRO(1)(0) DOCUMENTATION(0)(0)
D	#6/K/K	#5/L/L	
E	#7/L/L	#6/M/M	CPU ERR REG-RETRO(9)(2)
F	#8/M/M	#7/N/N	XCS 0-IN(8)(3)

FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/60		PARTS LIST		
DRN. <i>A. Blodgett</i>	DATE 10 MAY 77	<b>digital</b> EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS TITLE PDP 11/60 MICROCODE		
CHK'D. <i>[Signature]</i>	DATE 10 MAY 77			
ENG. <i>[Signature]</i>	DATE 11 MAY 77			
PROJ. ENG. <i>[Signature]</i>	DATE 10 MAY 77			
PROD. <i>[Signature]</i>	DATE 10 MAY 77			
NEXT HIGHER ASSEMBLY KDII-K		SIZE CODE K FD	NUMBER KDII-K-FD	REV. A
SCALE ---	SHEET 1 OF 1		DIST.	

REVISIONS	CHANGE NO.	REV.
CHK	KDIK-00003	A

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NOTE:  
1. SIGNALS GENERATED WITHIN A BLOCK CARRY THE PRINT PREFIX OF THAT BLOCK AND ARE NOT REWRITTEN WITH THE SIGNAL NAME.  
2. FILLED IN ARROWHEADS INDICATE MODULE PINS.  
3. \* SEE TABLES ON SHEET 2.



REV.	CHANGE NO.	DATE	BY	CHK'D	REV.
1					
2					
3					
4					
5					
6					
7					
8					

(BLOCK DIAGRAM) (K201)

DRN: 11/10/76	FIRST USED ON: PDP 11/60	digital
CHK'D: 11/10/76	TITLE: U WORD	
ENG: 11/10/76		
PROJ. ENG: 11/10/76		
PROD: 11/10/76		
NEXT HIGHER ASSY:		
B-DD-M7872-0	SIZE CODE: D CS	NUMBER: M7872-0-1
SCALE:		REV. N
SHEET 1 OF 1	DIST:	

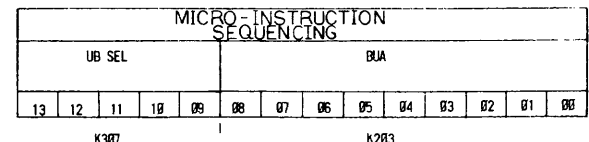
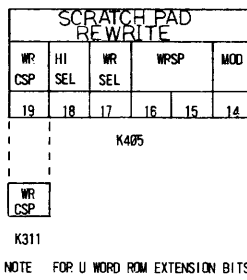
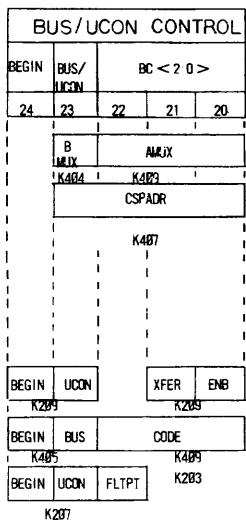
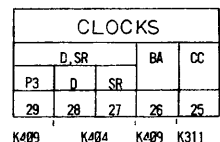
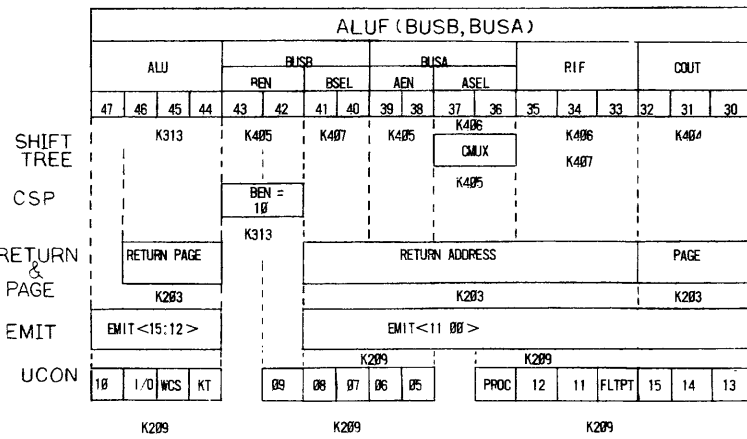
REV. N  
NUMBER M7872-0-1  
D CS

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UCON REGISTER TABLE		
INPUT BUS UCON H	OUTPUT K209 UCON XX (1) H	DESTINATION(S) & FUNCTION (NOTE: SOME FUNCTIONS REQUIRE MORE THAN ONE UCON SIGNAL)
32	15	K209 - CLOCK IR, K210 - BUS DIN MUX DISABLE K707 - CONSOLE SIGNALS, DATA STORE REG CONTROL
31	14	K208 - PS<15:12>CLOCK, K101 - WCS, K505 - INHIBIT RELOCATE, K707 - CONSOLE SIGNALS
30	13	K210 - CLOCK FLAGS, K507 - DETERMINE INT ADRS TYPE K707 - CONSOLE SIGNALS
35	12	K208 - FPS<7:4>CLOCK, K507 - ENABLE INT ADRS ROM K707 - CONSOLE SIGNALS
34	11	K209 - PS<7:4>CLOCK, K707 - CONSOLE SIGNALS K507 - READ ONLY REG MUX ENABLE
47	10	K306 - PS<N,Z,V,C>LOAD ENABLE, K708-BUS DIN MUX (STATUS) SELECT, K508-BUS DATA MUX ENABLE
42	09	K311 - U BREAK CLOCK, K708 - BUS DIN MUX (STATUS) SELECT K507 - READ ONLY REG MUX SELECT
41	08	K707 - SELECT CACHE AS DMUX OUTPUT K514 - WR REG DECODE INPUT
40	07	K707 - CLEAR ERROR SIGNALS, ALLOW BG K514 WR REG DECODE INPUT
39	06	K210 - BUS DIN MUX SELECT, K508 - BUS DATA MUX SELECT, K514 - WR REG DECODE SELECT, K707 - CLEAR ERROR SIGNALS, ALLOW-BG, K506 - AMUX SELECT
33	FLTPT	K210 - BUS DIN MUX ENABLE, K209 - CLOCK IR & ASSERT PROC WRITE SIGNAL
36	PROC	
46	I/O	K210 BUS DIN MUX DISABLE, K707 - REMOTE CONSOLE CNTL REG, ENABLE CONSOLE SIGNALS, SELECT CACHE AS DMUX OUTPUT, DATA STORE REG CONTROL
	WCS	WCS, ECS, DCS, MODULES
44	KT	K505 INHIBIT RELOCATE, SELECT MUX INPUT, K507, K508 - ENABLE CACHE ROMS, MUXES TO BUS DIN, K506 AMUX SELECT
+3V	SELECT	K210 - CAUSES BUS DIN ← EMIT (DEFAULT INPUT TO BUS DIN WHEN UCON REG CLEARED BY BUT (CLEAR FLAGS)

U WORD BUS DIN MUX				
BUS DIN	MUX PORT			
	A	B	C	
15	FLAG 3 (1) H	PS <15:14> (1) H	0	EMIT15 (1) H
14	FLAG 7 (1) H	PS <15:14> (1) H	CUA11 (1) H	EMIT14 (1) H
13	FLAG 6 (1) H	PS <13:12> (1) H	CUA10 (1) H	EMIT13 (1) H
12	FLAG 5 (1) H	PS <13:12> (1) H	CUA09 (1) H	EMIT12 (1) H
11	FLAG 4 (1) H	0	CUA08 (1) H	EMIT11 (1) H
10	FLAG 2 (1) H	0	CUA07 (1) H	EMIT10 (1) H
09	FLAG 1 (1) H	0	CUA06 (1) H	EMIT09 (1) H
08	FLAG 0 (1) H	0	CUA05 (1) H	EMIT08 (1) H
07	FPS07 (1) H	PS07 (1) H	CUA04 (1) H	EMIT07 (1) H
06	FPS06 (1) H	PS06 (1) H	CUA03 (1) H	EMIT06 (1) H
05	FPS05 (1) H	PS05 (1) H	CUA02 (1) H	EMIT05 (1) H
04	FPS04 (1) H	PS(1) (1) H	CUA01 (1) H	EMIT04 (1) H
03	FPS03 (1) H	PS(N) (1) H	CUA00 (1) H	EMIT03 (1) H
02	FPS02 (1) H	PS(2) (1) H	EXTRA FLAG 2 (1) H	EMIT02 (1) H
01	FPS01 (1) H	PS(V) (1) H	EXTRA FLAG 2 (1) H	EMIT01 (1) H
00	FPS00 (1) H	PS(C) (1) H	PREFETCH* JAM(1)H	EMIT00 (1) H

ACTIVE BUT DECODE		
OCTAL CODE BUS U<13,09>H	OUTPUT SIGNAL ASSERTED	FUNCTIONS
20	BUT (LAST) H	K409 CLEAR COUNTER REG K806 CLEAR DAT/ P BUS BUSY F/F
13 } 17 } 25 }	ENB CNTR H	K409 ENABLE COUNTER REG
32	BUT (CLR FLAGS) H	K408 CLEARS PES CONTROL REG K210 CLEAR SHORT TERM FLAGS K209 CLR UCON REG, BUS DIN ← EMIT
06	BUT (INST 1) H	K306 INHIBIT ARB SPLD (WORDS 20g - 37g) K706 LED RUN H, INDICATES MACHINE IS IN RUN STATE
31	BUT (TRACK) H	K207 ALLOW TRACKING OF U CODE FLOW (NUA) BY CUA REG
22	SPADRS 1 L	K406 ADDRESSING OF ASP MUX
33	BUT (DIAGNOSE) H	K101 TRANSFER CONTROL TO FROM DCS

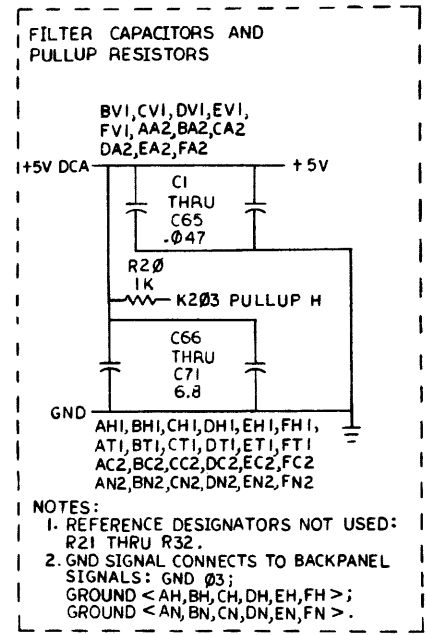
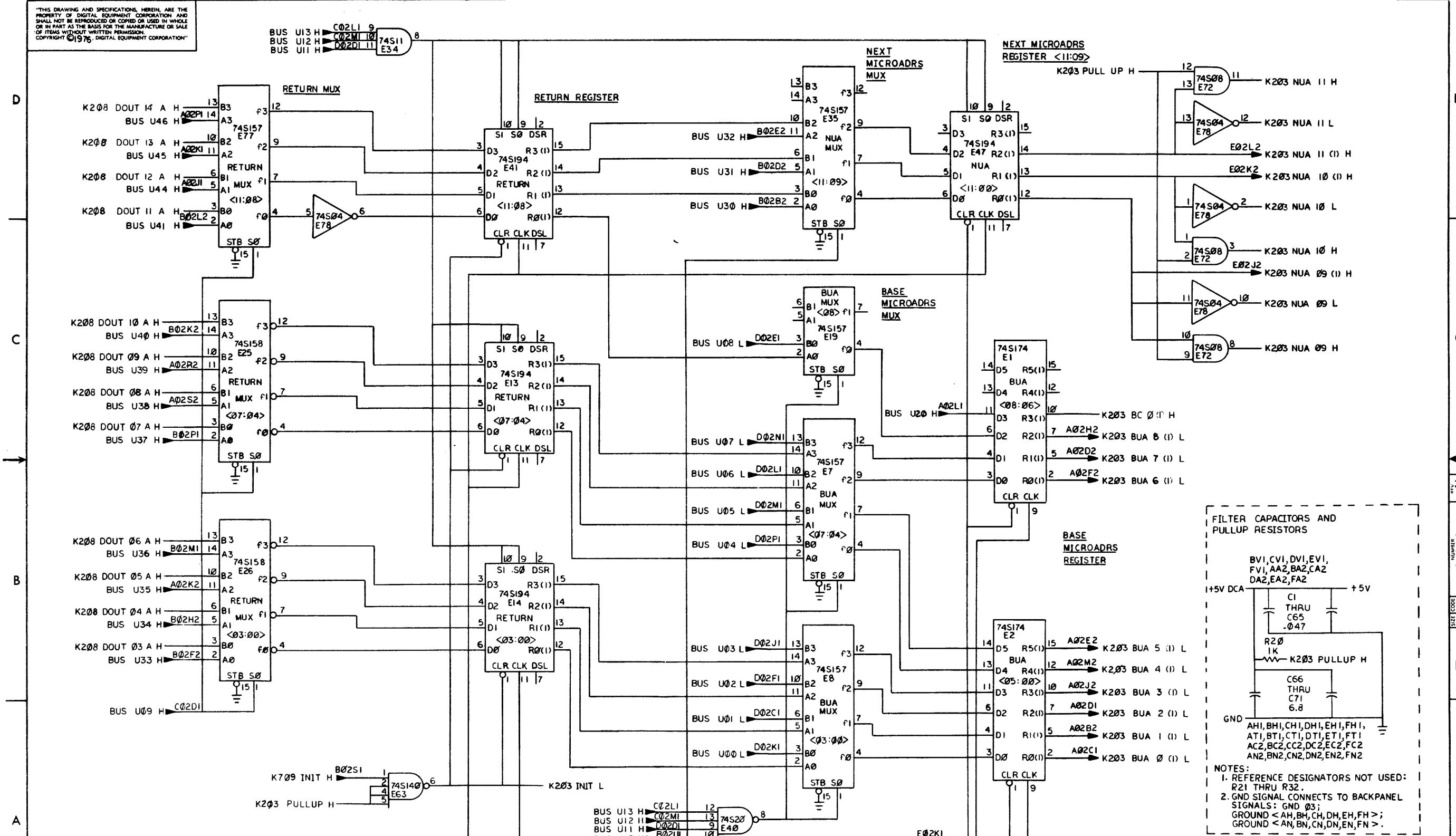


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE U WORD		SIZE CODE DCS	NUMBER M7872-0-1	REV. N
SCALE	SHEET 2 OF 10	DIST.		

REV. N  
DCS M7872-0-1

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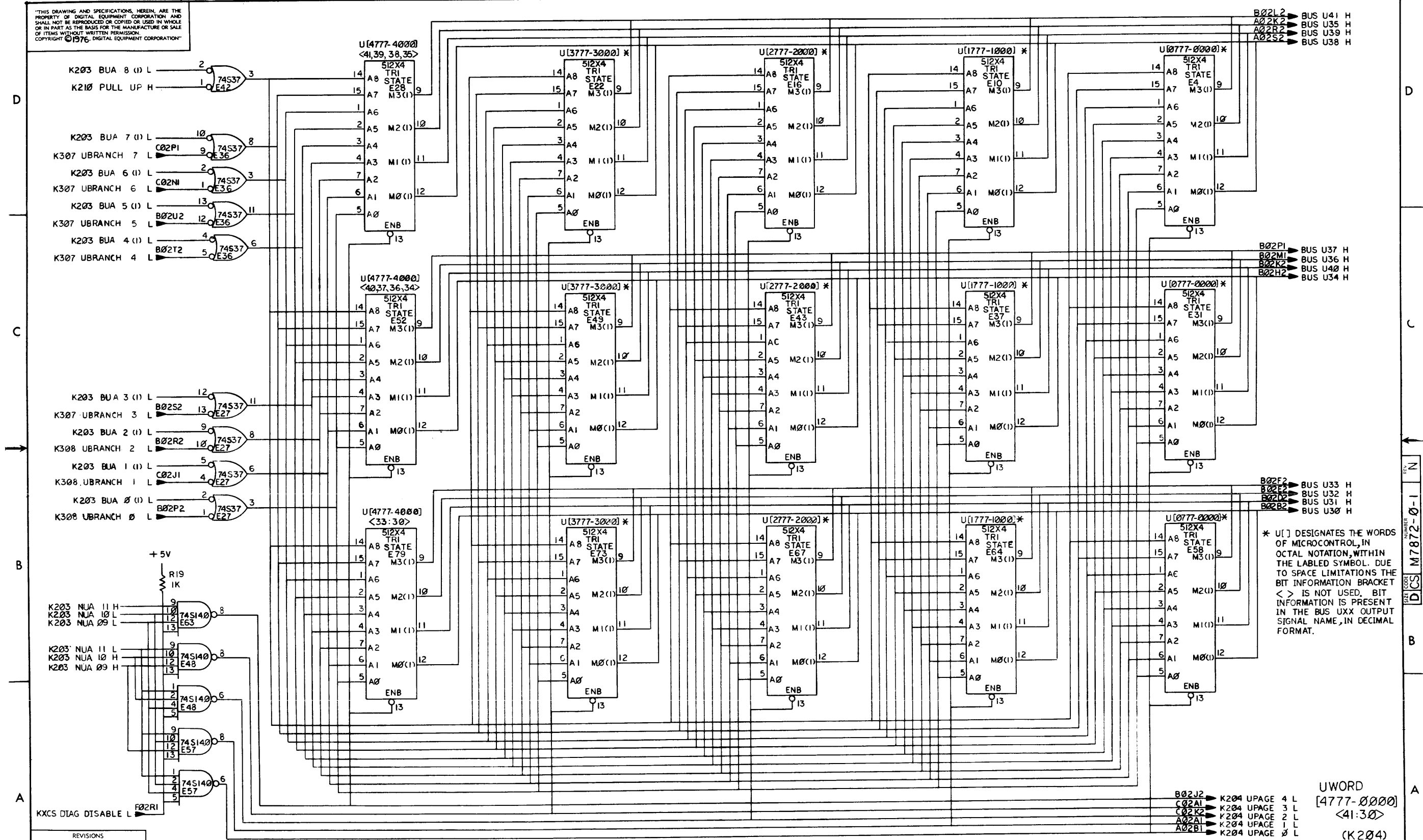
- NOTES:**
1. REFERENCE DESIGNATORS NOT USED: R21 THRU R32.
  2. GND SIGNAL CONNECTS TO BACKPANEL SIGNALS: GND 03; GROUND <AH,BH,CH,DH,EH,FH>; GROUND <AN,BN,CN,DN,EN, FN>.

(RETURN, NEXT MICROADRS, BASE MICROADRS, REGISTERS) (K203)

REVISIONS		
CHK	CHANGE NO	REV

TITLE	U WORD	SIZE CODE	D C S	NUMBER	M 7872-0-1	REV.	N
SCALE	1/8"	SHEET	3 OF 10	DIST.			

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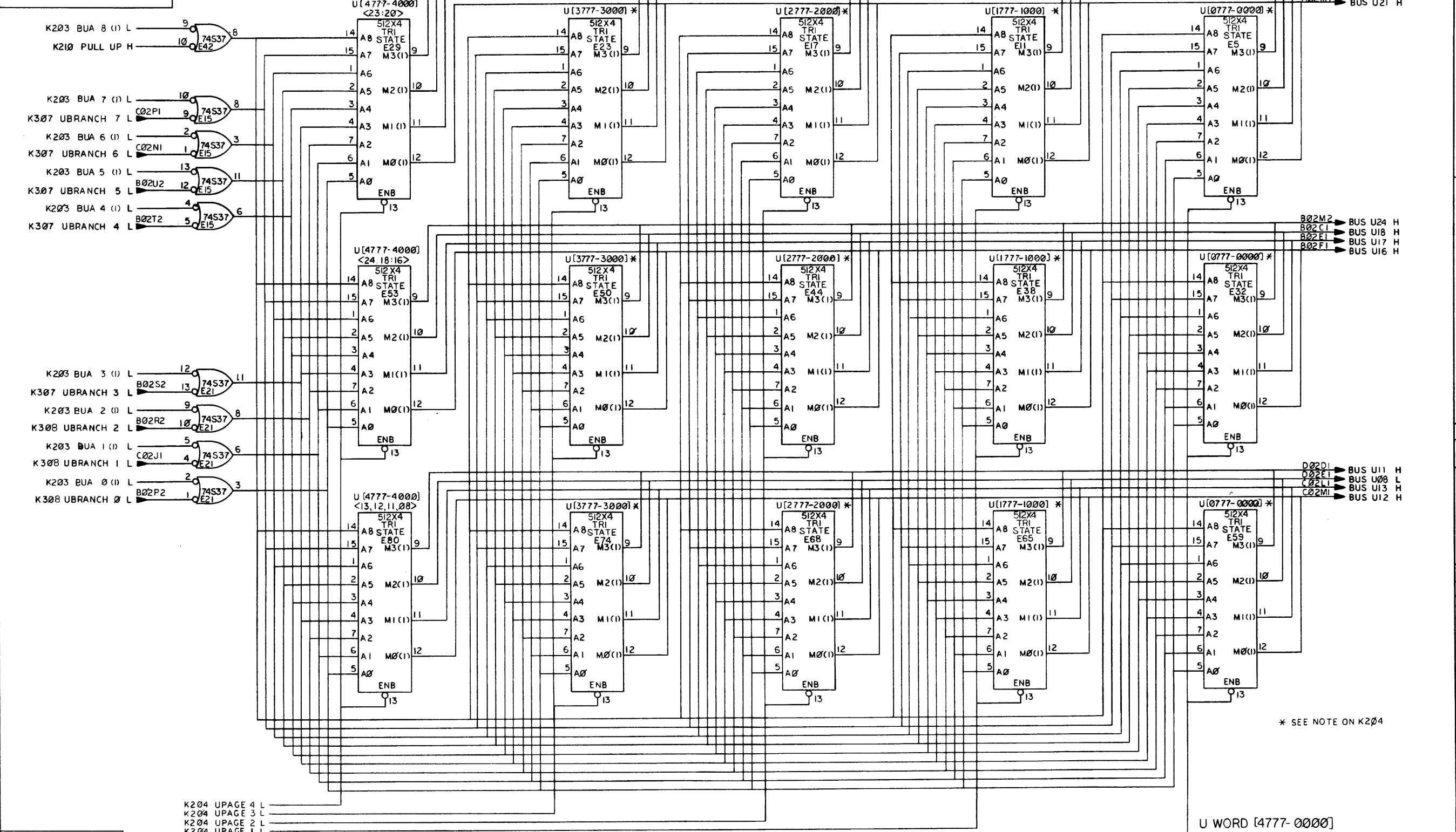


\* [U] DESIGNATES THE WORDS OF MICROCONTROL, IN OCTAL NOTATION, WITHIN THE LABELED SYMBOL. DUE TO SPACE LIMITATIONS THE BIT INFORMATION BRACKET < > IS NOT USED. BIT INFORMATION IS PRESENT IN THE BUS UXX OUTPUT SIGNAL NAME, IN DECIMAL FORMAT.

UWORD [4777-0000] <41:30> (K204)  
 B02J2 → K204 UPAGE 4 L  
 C02A1 → K204 UPAGE 3 L  
 C02K2 → K204 UPAGE 2 L  
 A02A1 → K204 UPAGE 1 L  
 A02B1 → K204 UPAGE 0 L

REVISIONS		
CHK	CHANGE NO.	REV.

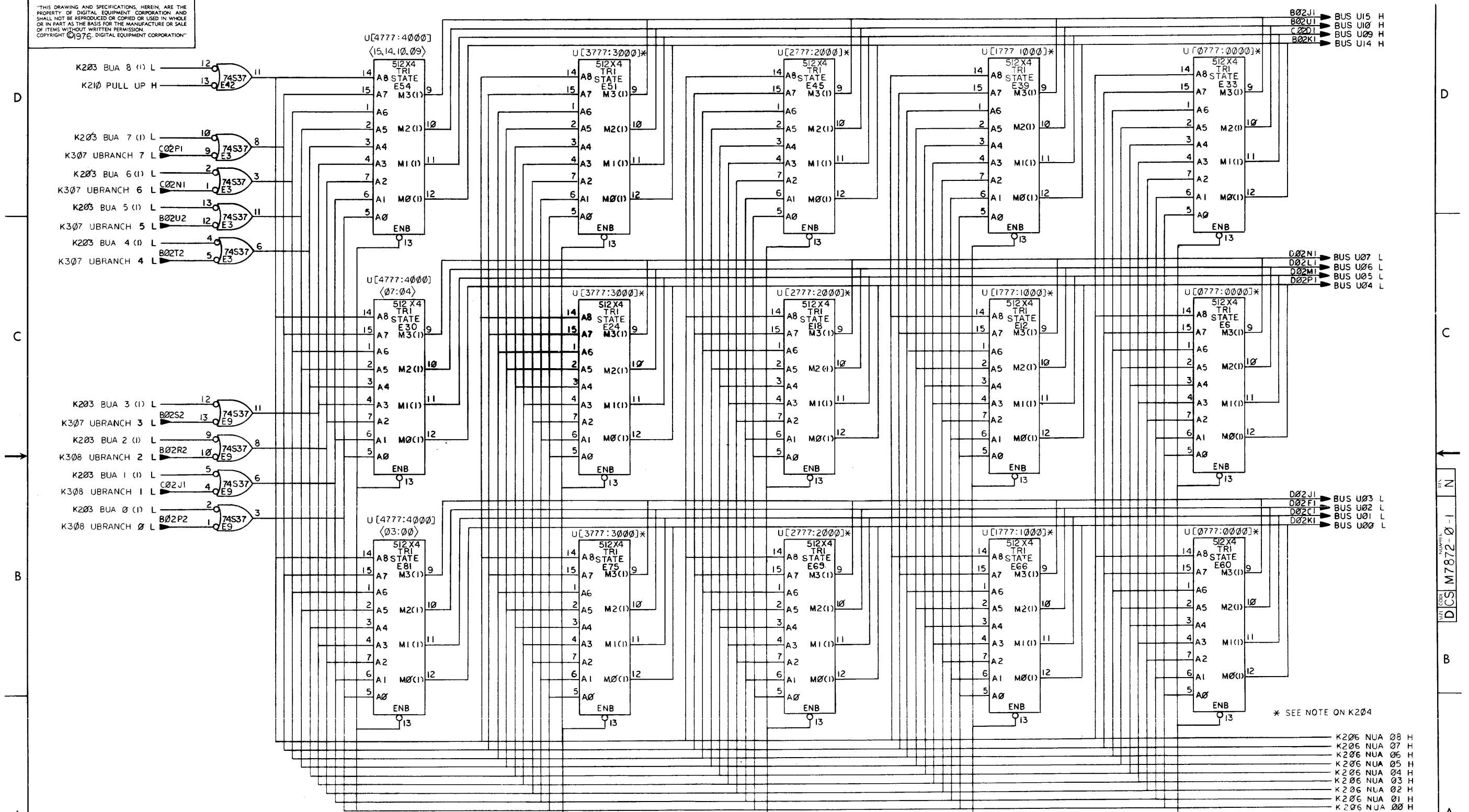
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K204 UPAGE 4 L  
K204 UPAGE 3 L  
K204 UPAGE 2 L  
K204 UPAGE 1 L  
K204 UPAGE 0 L

REVISIONS		
CHK	CHANGE NO.	REV.

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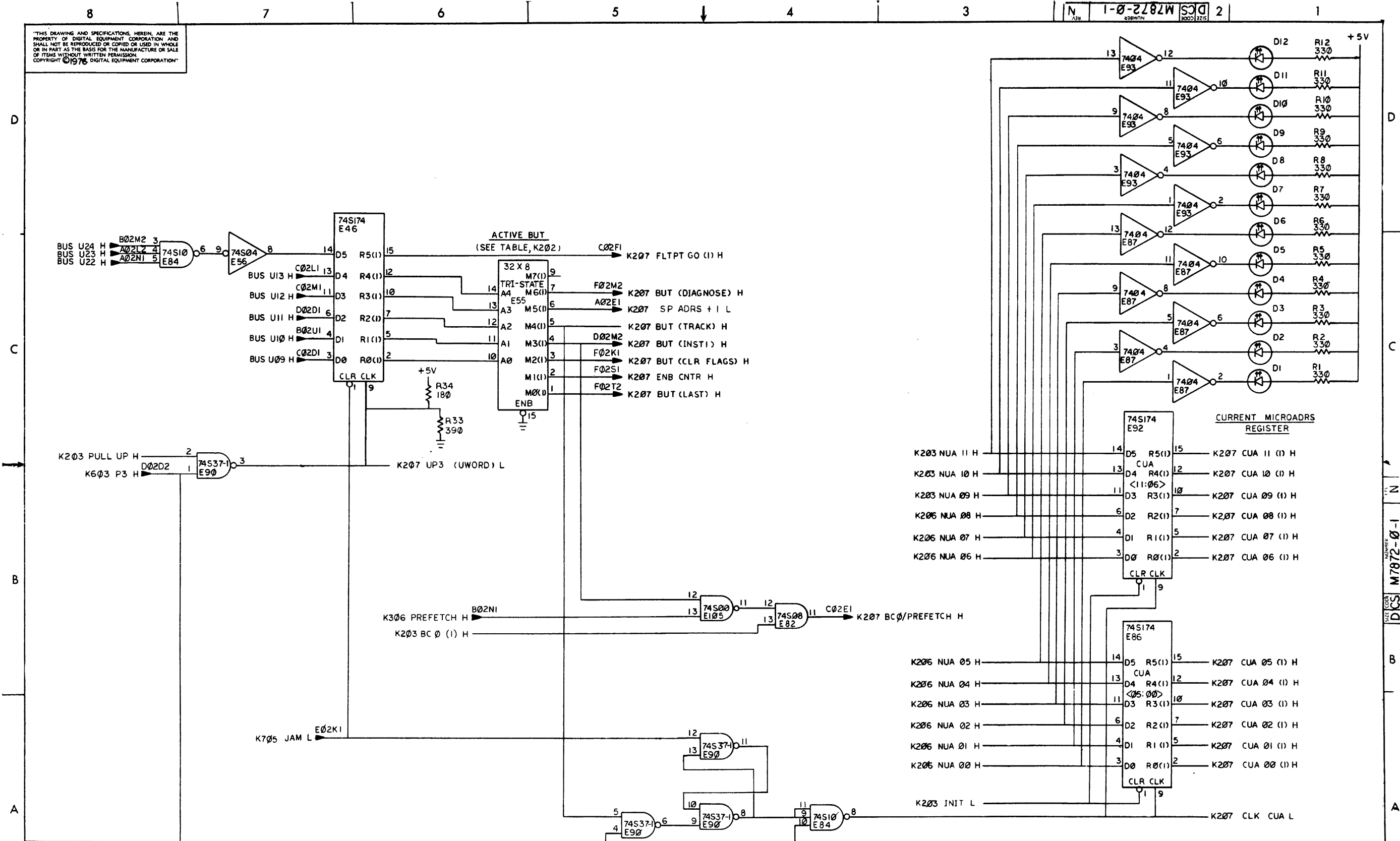
- K204 UPAGE 4 L
- K204 UPAGE 3 L
- K204 UPAGE 2 L
- K204 UPAGE 1 L
- K204 UPAGE 0 L

U WORD [4777-0000]  
(15,14,10,09,07:00) (K206)

REVISIONS		
CHK	CHANGE NO	REV

TITLE	U WORD	SIZE CODE	D CS	NUMBER	M7872-0-1	REV.	N
SCALE		SHEET	6	OF	10	DIST.	

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REVISIONS		
CHK	CHANGE NO	REV

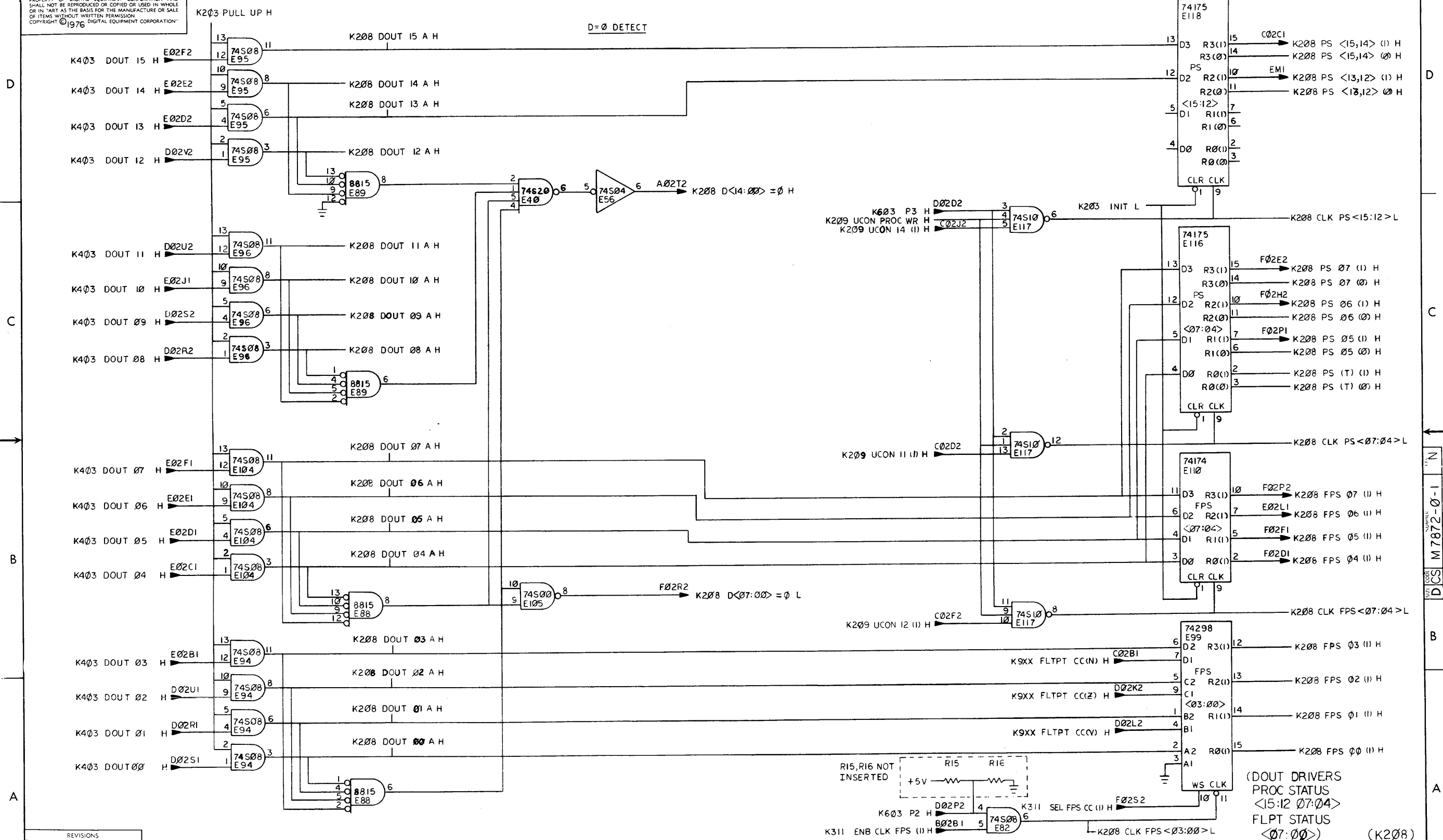
(ACTIVE BUT, CURRENT MICROADRS REG, NUA DISPLAY) (K207)

TITLE	U WORD	SIZE	CODE	NUMBER	REV.
SCALE	---	SHEET	7	OF 10	N
D C S M7872-0-1		DIST.			

DCS M7872-0-1 N

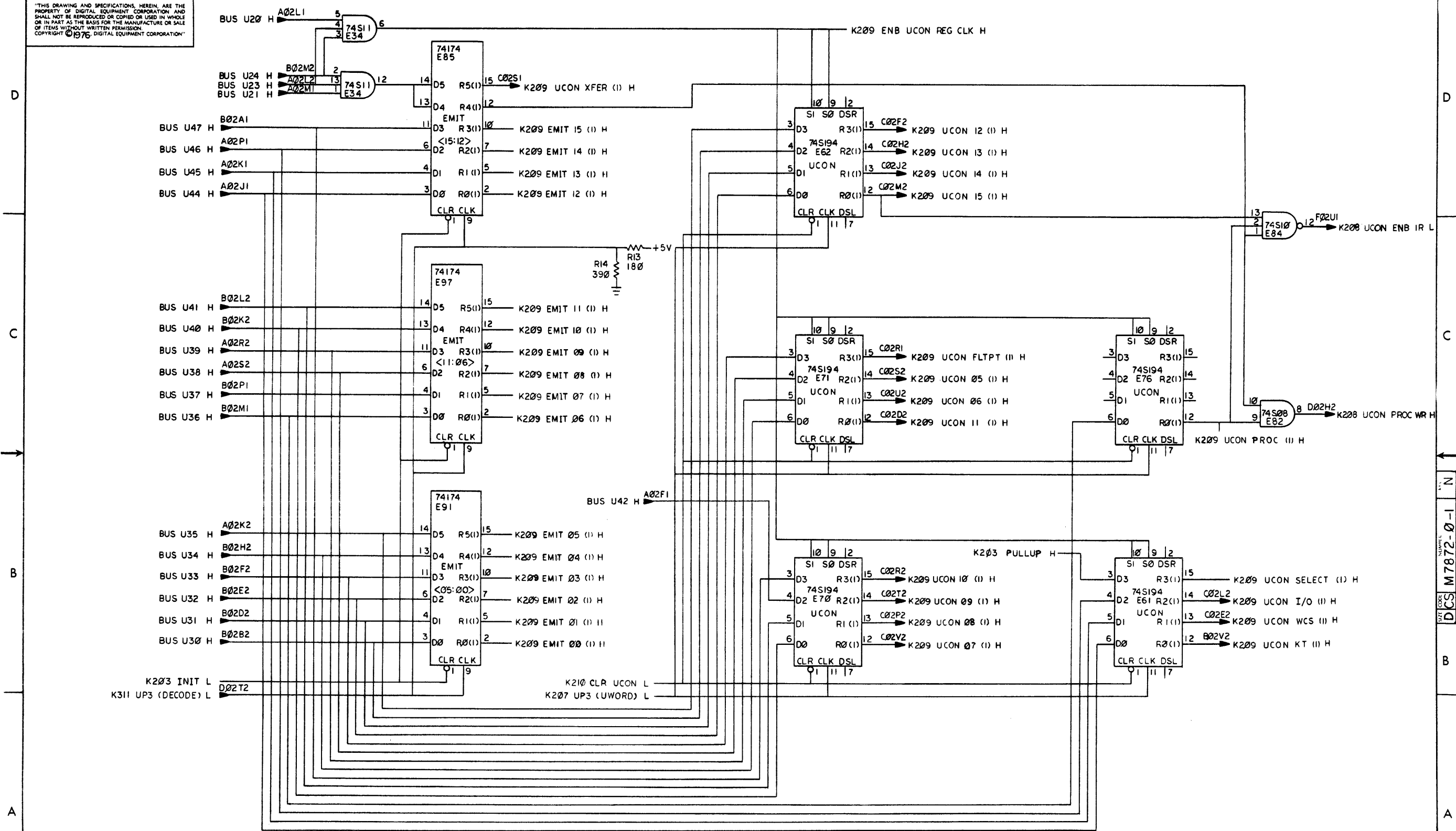


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REVISIONS		
CHK	CHANGE NO	REV

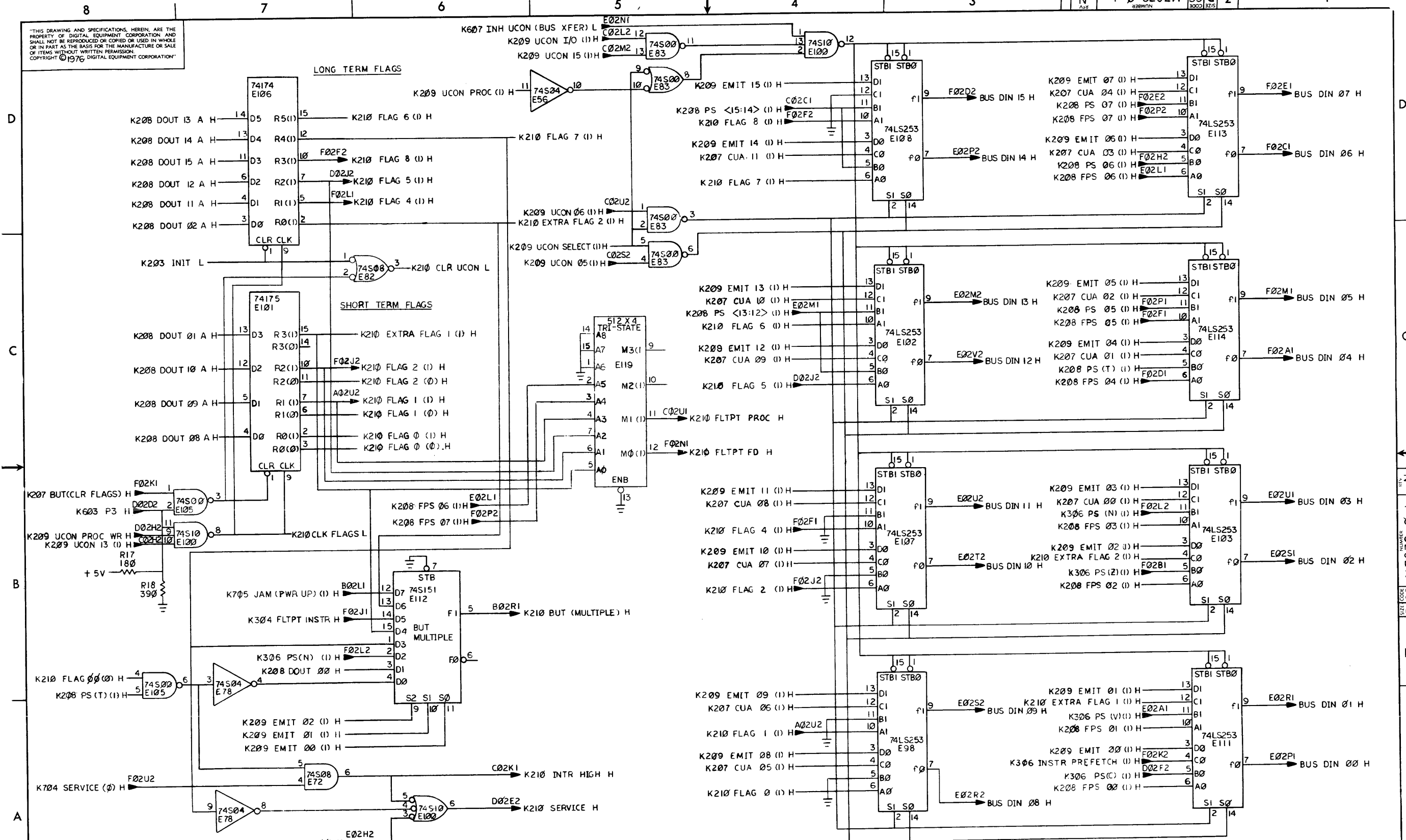
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REVISIONS		
CHK	CHANGE NO	REV

TITLE		NUMBER		REV.
U WORD		DCS M7872-0-1		N
SCALE	SHEET	OF	DIST.	
	9	10		

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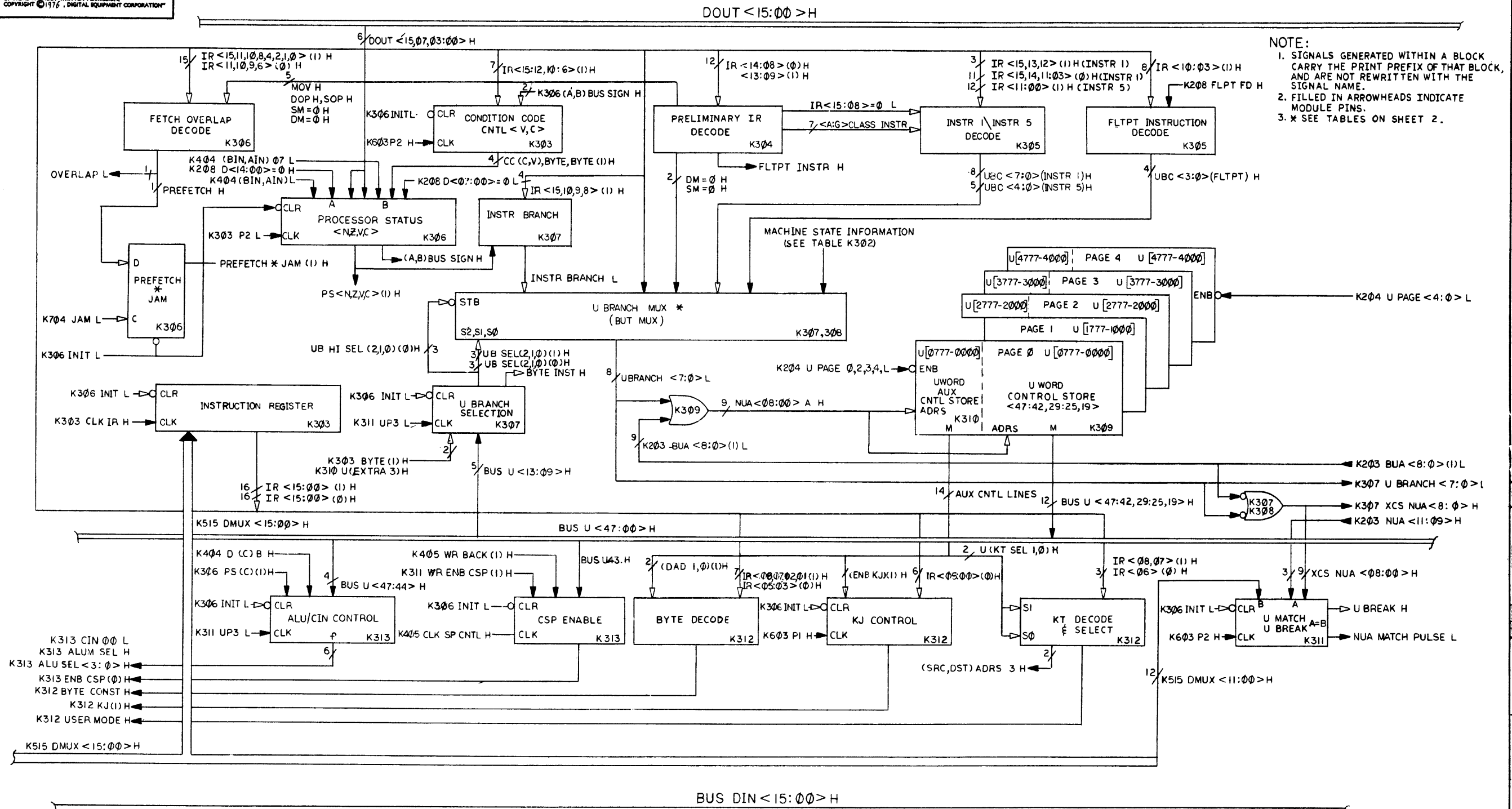


(FLAG REG, BUT (MULTIPLE), BUS DIN MUX) (K210)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	U WORD	SIZE CODE	DCS	NUMBER	M7872-0-1	REV.	N
SCALE	1:1	SHEET	10	OF	10	DIST.	

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NOTE:  
 1. SIGNALS GENERATED WITHIN A BLOCK CARRY THE PRINT PREFIX OF THAT BLOCK, AND ARE NOT REWRITTEN WITH THE SIGNAL NAME.  
 2. FILLED IN ARROWHEADS INDICATE MODULE PINS.  
 3. \* SEE TABLES ON SHEET 2.

REV.	CHG	NO.	BY	DATE
1				
2				
3				
4				
5				
6				
7				
8				

(BLOCK DIAGRAM) (K301)

DRN	11/10/76	FIRST USED ON	PDP 11/60
CHK'D	11/10/76	TITLE	DECODE
ENG	11/10/76	SIZE	D CS M7873-0-1
PROL	11/10/76	NUMBER	1 OF 13
PROD	11/10/76	DIST.	

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**UCON TABLE FOR DECODE**

UCON SIGNAL	DECODE FUNCTION	OTHER CONDITIONS
K289 UCON 15	UCON ENBIR	K289 UCON PROC(1) H
K289 UCON 16	SEL FOR P.S. N,Z,V,C	K289 UCON XFER
K289 UCON 18	MICRO BREAK	K289 UCON PROC WR H
		K289 UCON PROC WR H
		K883 P2 H

**OTHER INSTRUCTION DECODE \*USED FOR DCS**

INSTRUCTION INPUT	UCB <4:9> (INSTR) H	OCTAL OUTPUT ROM E88
RESERVED	0	0
FAST X I	1	1
EIS, (MUL, DIV, ETC.)	2	2
FIS	3	3
SXT	4	4
*FLTPT(3258), *INC(4528)	5	5
NORMM 0	6	6
NORMM 1	7	7
SQB	10	10
MARK	11	11
*FLTPT(7528), FLTPT(7258)	12	12
MFP1, MFD1	13	13
MTP1, MFD1	14	14
EMT	15	15
TRP	16	16
JRS	17	17
RESERVED	20	20
WAIT	21	21
RTI	22	22
BPT	23	23
LOT	24	24
*JMP(1528)	25	25
RTS	26	26
RESET	27	27
SCC, CCC, NOP	30	30
SWAB*DM 0	31	31
SWAB*DM 1	32	32
*JMP(1258)	33	33
SWAB*DM 0	34	34
SWAB*DM 1	35	35
HALT	36	36
NOT USED	37	37
RTT		
NOT USED		

**U BRANCH (BUT MUX) TABLE**

BUT NAME	URF FIELD	BIT 7	BIT 6	BIT 5	BIT 4	BIT 3	BIT 2	BIT 1	BIT 0
BUT(CASE)	00				0	K488 SHIFT 03(1) H	K488 SHIFT 02(1) H	K488 SHIFT 01(1) H	K288 SHIFT 00(1) H
BUT(DOP)	01				0	K383 IR 15(1) H	K383 IR 14(1) H	K383 IR 13(1) H	K383 IR 12(1) H
BUT(INSTR5)	02				K385 UBC 4(INSTR5) H	K385 UBC 3(INSTR5) H	K385 UBC 2(INSTR5) H	K385 UBC 1(INSTR5) H	K385 UBC 0(INSTR5) H
BUT(FLPDECODE)	03				K383 IR 11(1) H	K385 UBC 3(FLTPT) H	K385 UBC 2(FLTPT) H	K385 UBC 1(FLTPT) H	K385 UBC 0(FLTPT) H
BUT(SOP)	04				0	K383 IR 09(1) H	K383 IR 08(1) H	K383 IR 07(1) H	K383 IR 06(1) H
BUT(MOVWDM)	05				0	K383 IR 05(1) H	K383 IR 04(1) H	K383 IR 03(1) H	K383 IR 02(1) H
BUT(INSTR1)	06	K385 UBC 7(INSTR1) H	K385 UBC 6(INSTR1) H	K385 UBC 5(INSTR1) H	K385 UBC 4(INSTR1) H	K385 UBC 3(INSTR1) H	K385 UBC 2(INSTR1) H	K385 UBC 1(INSTR1) H	K385 UBC 0(INSTR1) H
BUT(07)	07				0	K484 D(C) H	K484 D(C) H	FLTPT RETURN 1 H	FLTPT RETURN 0 H
BUT(FNORM)	10					K484 DOUT 07(1) H	K388 DOUT 07 A H	K388 DOUT 07 B H	K288 FPS 05(1) H
BUT(DM0 SMF BYTE)	11					K384 DM 0 H			K383 BYTE H
BUT(GUARD)	12					0	K488 GUARD 03(1) H	K488 GUARD 02(1) H	K488 GUARD 01(1) H
BUT(MULSTEP)	13					K481 SHIFT 01(1) H	K488 SHIFT 00(1) H	K311 CNTR ONES(1) H	K311 CNTR ONES(1) H
BUT(MULTIPLE)	14					K784 BG SERVICE(0) H	K312 MF SAME SLACK H	K218 BUT (MULTIPLE) H	K386 DOUT 15 A H
BUT(D ZERO)	15					0	K288 D 14:00 0 H		K386 DOUT 15 A H
BUT(JMP, JSR)	16					0	K383 IR 11(1) H	K288 PS 15,14 (1) H	
BUT(IR 11 P5)	17					0		K311 CNTR ONES(1) H	K484 D(C) B H
BUT(ASHBR)	20							K311 PREFETCH 0 H	K218 SERVICE H
BUT(SERVICE)	21							K784 VECTOR LOAD(1) H	K312 DST REG 6/7 L
BUT(21)	22							0	0
BUT(RORI)	23							0	K483 BA 00(1) H
BUT(D(C) ODD ADDRESS)	24							K785 OTHER JAM H	K218 FLTPT PROC H
BUT(OTHER JAMUPT HOT WARM)	25							0	K311 CNTR ONES(1) H
BUT(COUNT)	26							K218 INTR HIGH H	K387 INSTR BRANCH L
BUT(26)	27							K386 PREFETCH/JAM(1) H	K288 FPS 07(1) H
BUT(27)									

**PROCESSOR STATUS WORD (777776)**

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
CURRENT MODE	PREVIOUS MODE							PRIORITY	T	N	Z	V	C		

**FLOATING POINT INSTRUCTION DECODE**

INPUT IR <10:03>	FLTPT FD H	ROM OUTPUT	OTHER CONDITIONS INSTRUCTION IR11 = 0 INSTRUCTION IR11 = 1
00 000 XXX	X	00	SET CLASS STP1
00 0XX XXX	X	01	STATUS STP2
00 1XX 000	X	02	CTANP*DM DIV*DM
00 1XX XXX	X	03	CTANP*DM DIV*DM
01 0XX 000	0	04	MULF*DM STEXP*DM
01 0XX XXX	1	05	MULF*DM STEXP*DM
01 1XX 000	X	06	MULX*DM STEXP*DM
01 1XX XXX	X	07	MODFD STCT
10 0XX 000	0	10	ADD*DM STCP*DM
10 0XX XXX	X	11	ADD*DM STCP*DM
10 1XX 000	0	12	LDFD*DM LDXP*DM
10 1XX XXX	X	13	LDFD*DM LDXP*DM
10 1XX 000	X	14	LDFD*(DM) DM6 LDXP*(DM) DM6
11 0XX 000	X	15	SUB*DM LDCT*DM
11 0XX XXX	X	16	SUB*DM LDCT*DM
11 1XX 000	X	17	DM LDCT*DM LDCT*DM

**U WORD AUXILIARY CONTROL BITS**

U BIT	NAME	PAGE 4	PAGE 3	PAGE 2	PAGE 0
59	U (FLTPT ADRS)	X	X	X	X
58	U (FPS CLK)	X	X	X	X
57	U (FPS SEL)	X	X	X	X
56	NOT IMPLEMENTED				
55	U (KT STACK)	X			X
54	U (ENB KT)	X			X
53,52	U (DAD<I=0>)	X			X
51	U (ALLOW DATIP)	X			X
50	U (ENB KT MAINT)	X			X
48,49	U (KT SEL <I=0>)	X			X

**REVISIONS**

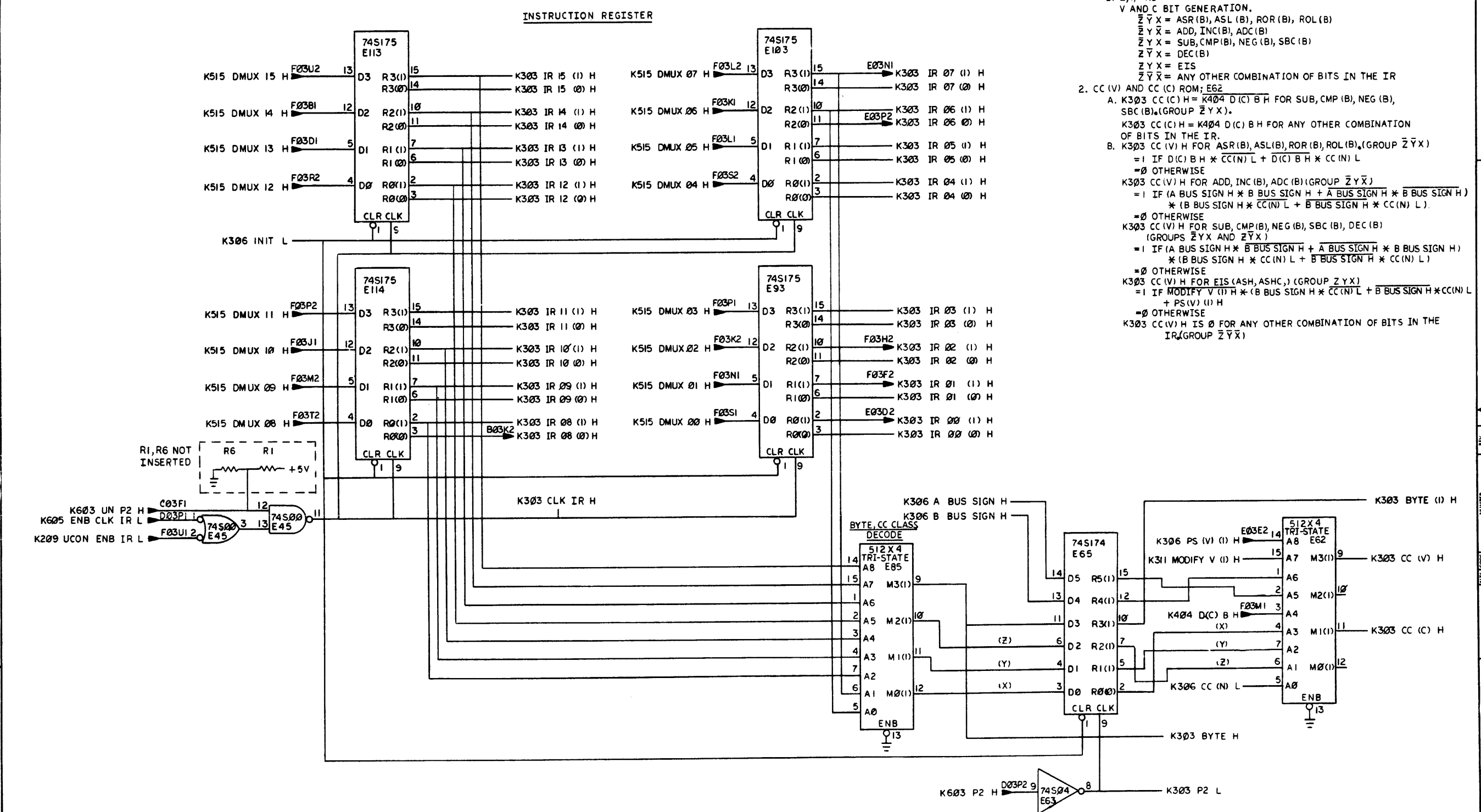
CHK	CHANGE NO.	REV.

(TABLES AND REGISTERS) (K302)

TITLE	SIZE/CODE	NUMBER	REV.
DECODE	DCS	M7873-0-1	R
SCALE	SHEET	2 OF 13	DIST.

REV. R. NUMBER DCS M7873-0-1

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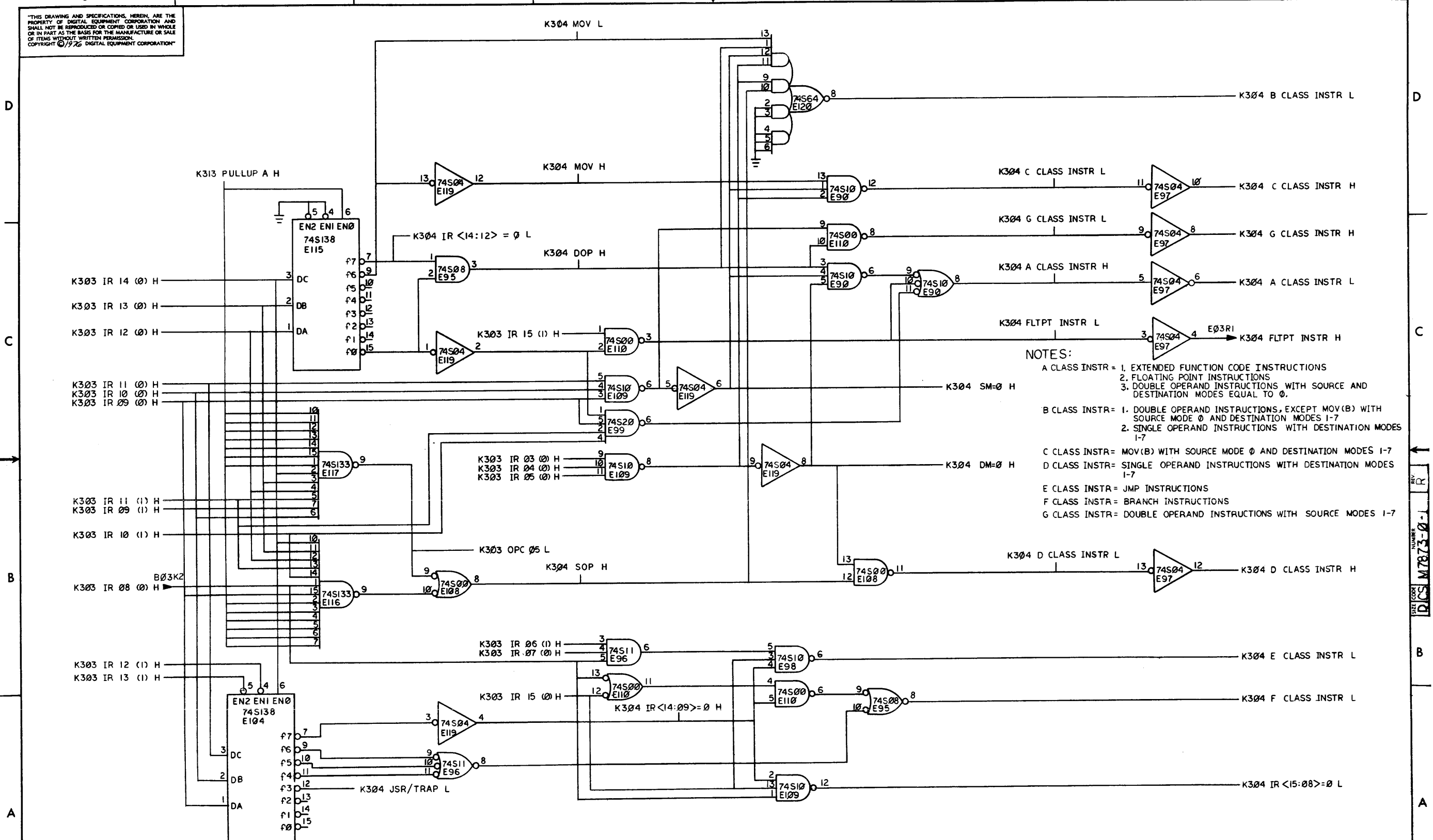
NOTES:

1. BYTE, CC CLASS ROM; E85
  - A. K303 BYTE H IS ASSERTED FOR ALL BYTE OP- CODES AND SWAB.
  - B. Z, Y, AND X OUTPUTS DETECT INSTRUCTION GROUP FOR V AND C BIT GENERATION.
    - Z Y X = ASR (B), ASL (B), ROR (B), ROL (B)
    - Z Y X = ADD, INC (B), ADC (B)
    - Z Y X = SUB, CMP (B), NEG (B), SBC (B)
    - Z Y X = DEC (B)
    - Z Y X = EIS
    - Z Y X = ANY OTHER COMBINATION OF BITS IN THE IR
2. CC (V) AND CC (C) ROM; E62
  - A. K303 CC (C) H =  $K404 D(C) B H$  FOR SUB, CMP (B), NEG (B), SBC (B), (GROUP Z Y X).
  - B. K303 CC (V) H FOR ASR (B), ASL (B), ROR (B), ROL (B), (GROUP Z Y X)
    - = 1 IF  $D(C) B H * CC(N) L + D(C) B H * CC(N) L$
    - = 0 OTHERWISE
  - K303 CC (V) H FOR ADD, INC (B), ADC (B) (GROUP Z Y X)
    - = 1 IF  $(A \text{ BUS SIGN } H * B \text{ BUS SIGN } H + A \text{ BUS SIGN } H * B \text{ BUS SIGN } H) * (B \text{ BUS SIGN } H * CC(N) L + B \text{ BUS SIGN } H * CC(N) L)$
    - = 0 OTHERWISE
  - K303 CC (V) H FOR SUB, CMP (B), NEG (B), SBC (B), DEC (B) (GROUPS Z Y X AND Z Y X)
    - = 1 IF  $(A \text{ BUS SIGN } H * B \text{ BUS SIGN } H + A \text{ BUS SIGN } H * B \text{ BUS SIGN } H) * (B \text{ BUS SIGN } H * CC(N) L + B \text{ BUS SIGN } H * CC(N) L)$
    - = 0 OTHERWISE
  - K303 CC (V) H FOR EIS (ASH, ASHC), (GROUP Z Y X)
    - = 1 IF  $MODIFY V (I) H * (B \text{ BUS SIGN } H * CC(N) L + B \text{ BUS SIGN } H * CC(N) L) + PS (V) (I) H$
    - = 0 OTHERWISE
  - K303 CC (V) H IS 0 FOR ANY OTHER COMBINATION OF BITS IN THE IR (GROUP Z Y X)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		DECODE		NUMBER		REV.	
SIZE CODE		D CS		M7873-0-1		R	
SCALE		SHEET 3 OF 13		DIST.			

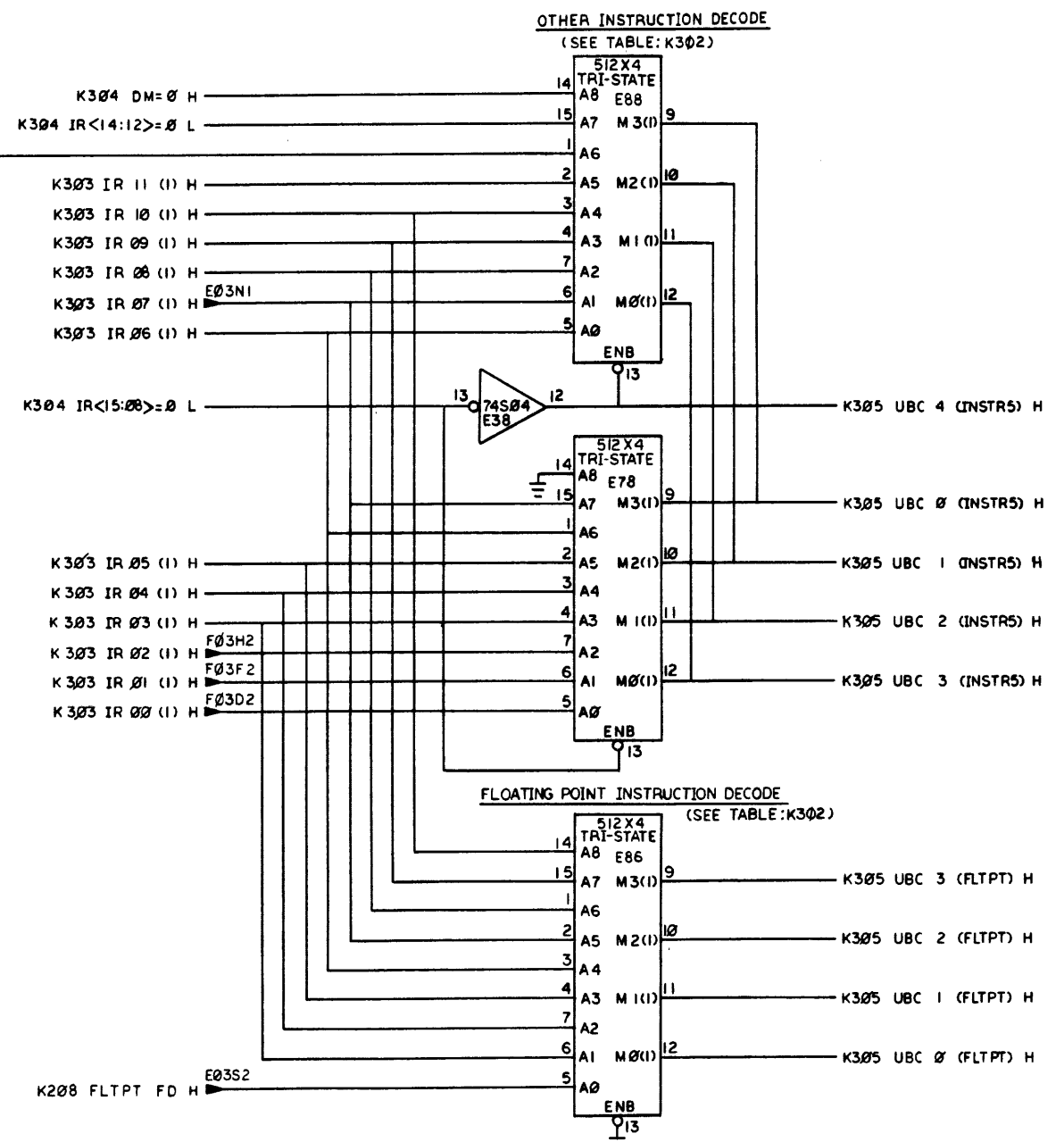
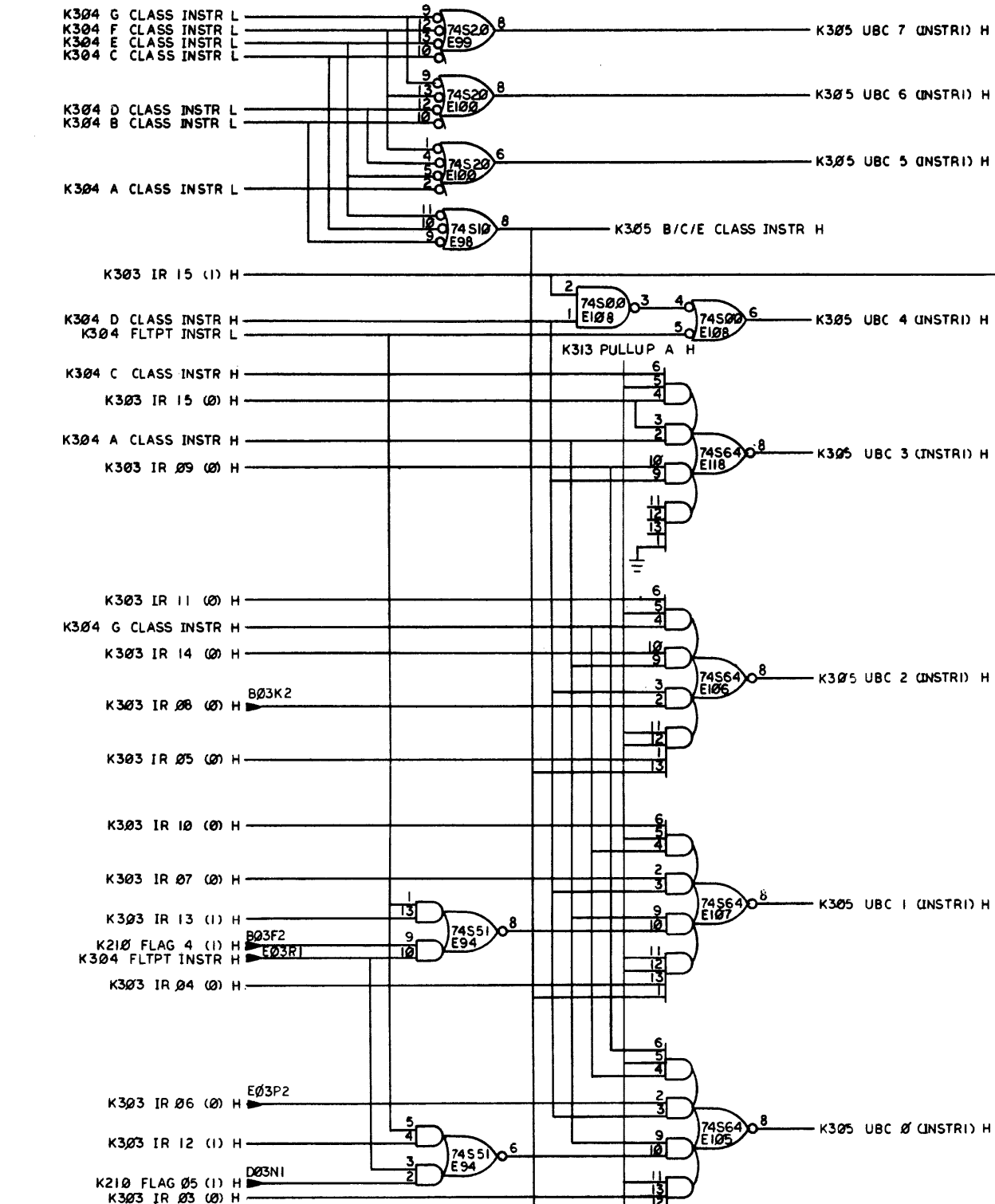
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NOTES:  
 A CLASS INSTR = 1. EXTENDED FUNCTION CODE INSTRUCTIONS  
 2. FLOATING POINT INSTRUCTIONS  
 3. DOUBLE OPERAND INSTRUCTIONS WITH SOURCE AND DESTINATION MODES EQUAL TO 0.  
 B CLASS INSTR = 1. DOUBLE OPERAND INSTRUCTIONS, EXCEPT MOV(B) WITH SOURCE MODE 0 AND DESTINATION MODES 1-7  
 2. SINGLE OPERAND INSTRUCTIONS WITH DESTINATION MODES 1-7  
 C CLASS INSTR = MOV(B) WITH SOURCE MODE 0 AND DESTINATION MODES 1-7  
 D CLASS INSTR = SINGLE OPERAND INSTRUCTIONS WITH DESTINATION MODES 1-7  
 E CLASS INSTR = JMP INSTRUCTIONS  
 F CLASS INSTR = BRANCH INSTRUCTIONS  
 G CLASS INSTR = DOUBLE OPERAND INSTRUCTIONS WITH SOURCE MODES 1-7

REVISIONS			(PRELIMINARY IR DECODE)				(K304)			
CHK	CHANGE NO.	REV.	TITLE	SIZE CODE	NUMBER	REV.	TITLE	SIZE CODE	NUMBER	REV.
			DECODE	DCS	M7873-0-1	R				
			SCALE	SHEET 4	OF 13	DIST.				

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(MICRO BRANCH CONDITIONS (INSTR1, INSTR5, FLTPT) (K305))

REVISIONS		
CHK	CHANGE NO.	REV.

REC FORM NO. 138

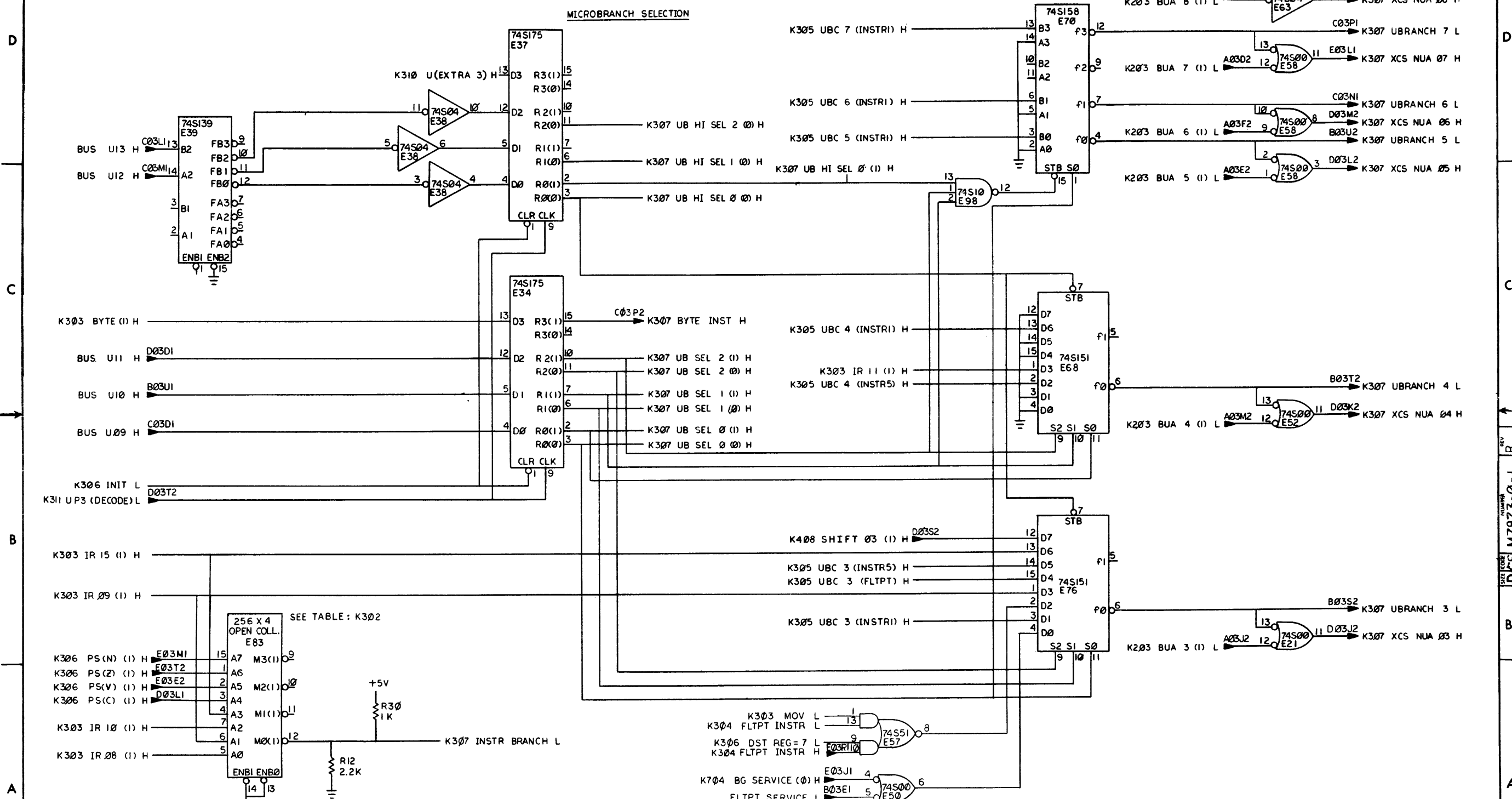
TITLE	DECODE	SIZE CODE	D.C.S.	NUMBER	M7873-0-1	REV.	R
SCALE	1/8"	SHEET	5 OF 13	DIST.			

REV. M7873-0-1





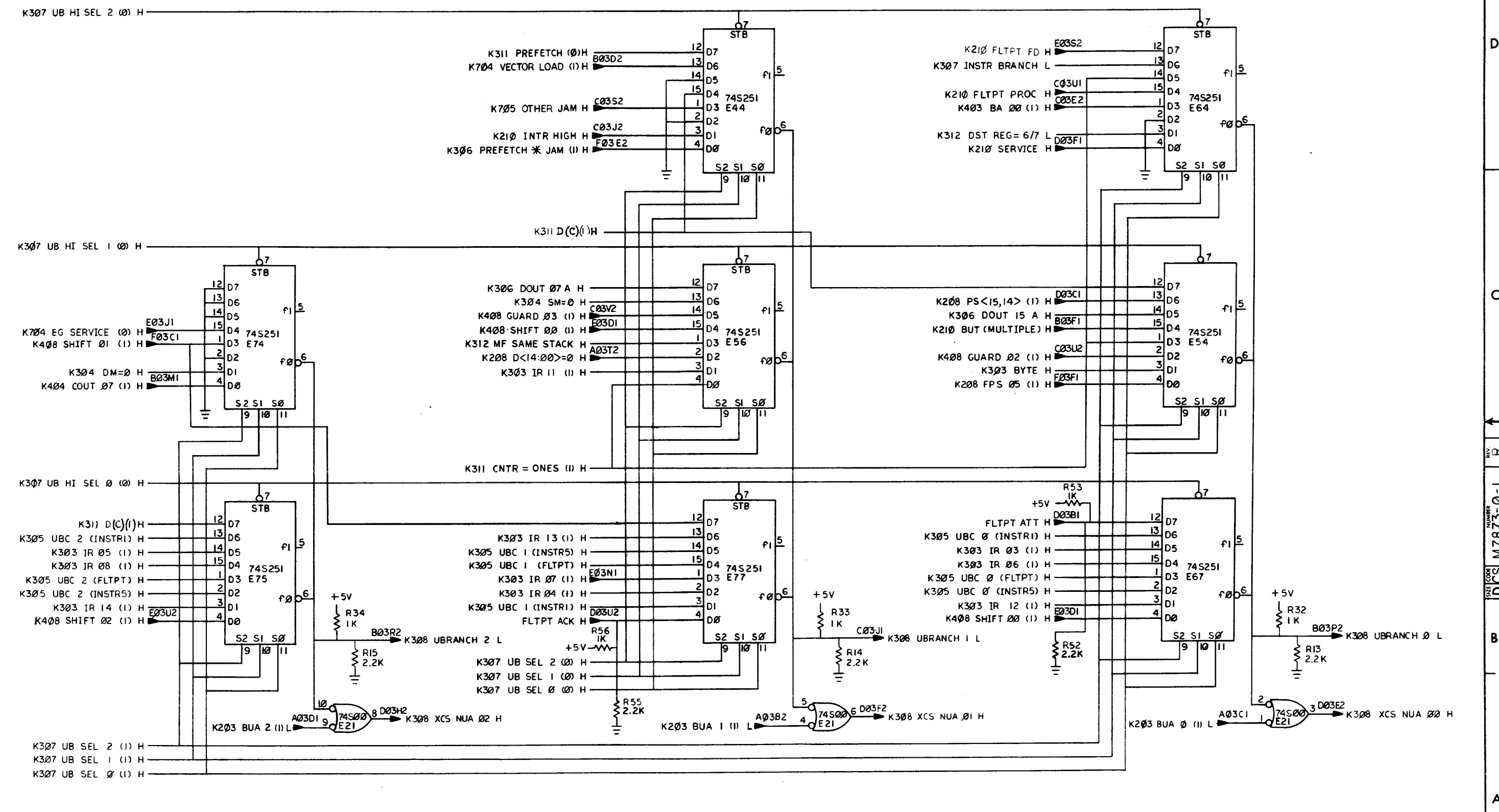
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REVISIONS		
CHK	CHANGE NO.	REV.

(MICROBRANCH <7:3> XCS NEXT MICROADRS <08:03>)		(K307)
TITLE	SIZE/CODE	NUMBER
DECODE	DCS	M7873-0-1
SCALE	SHEET 7 OF 13	DIST.

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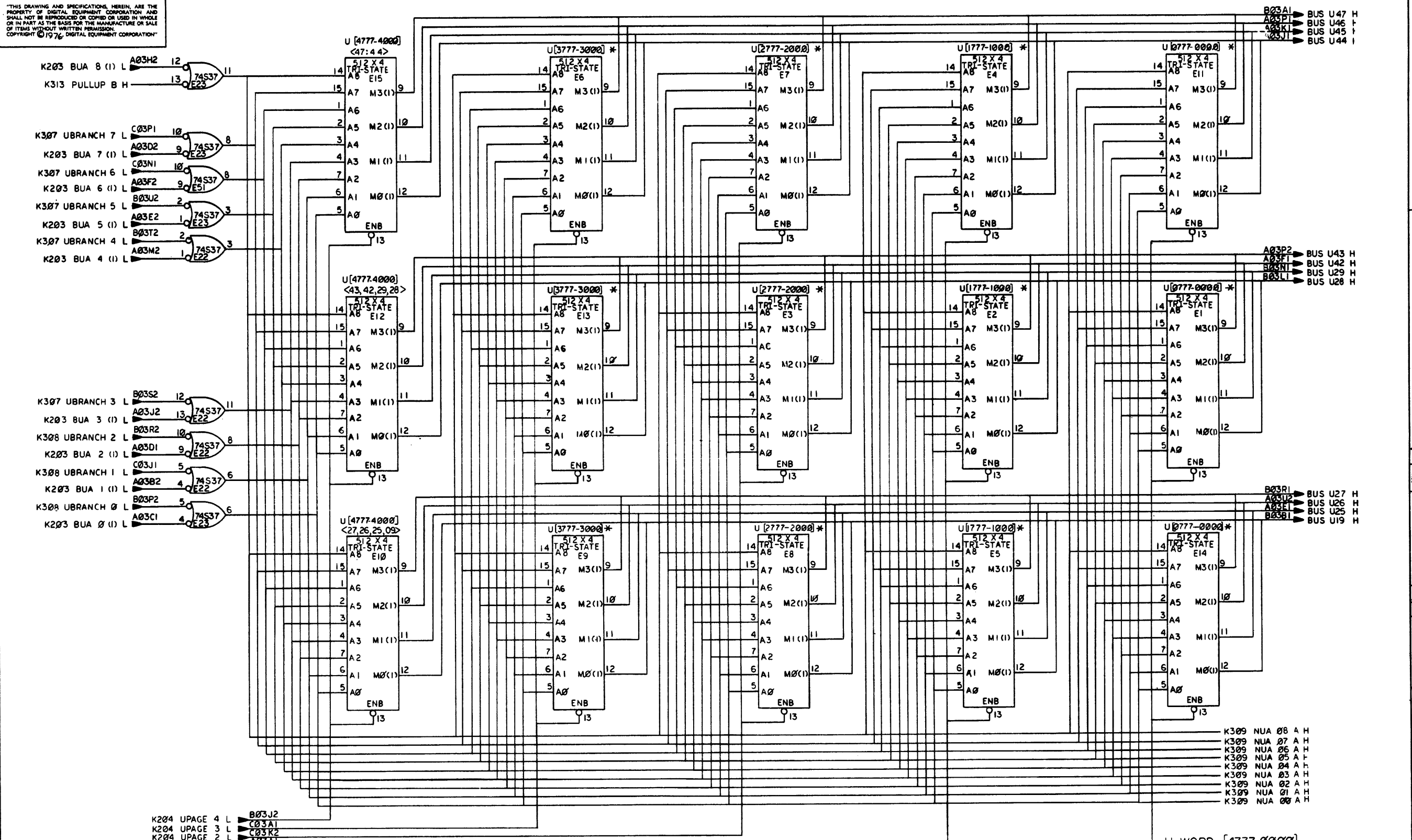


REVISIONS		
CHK	CHANGE NO.	REV.

(MICROBRANCH <2:0>  
XCS NEXT MICROADRS <02:00>) (K308)

TITLE: DECODE  
SCALE: 1/8  
SHEET: 8 OF 13  
NUMBER: M7873-0-1  
REV. R

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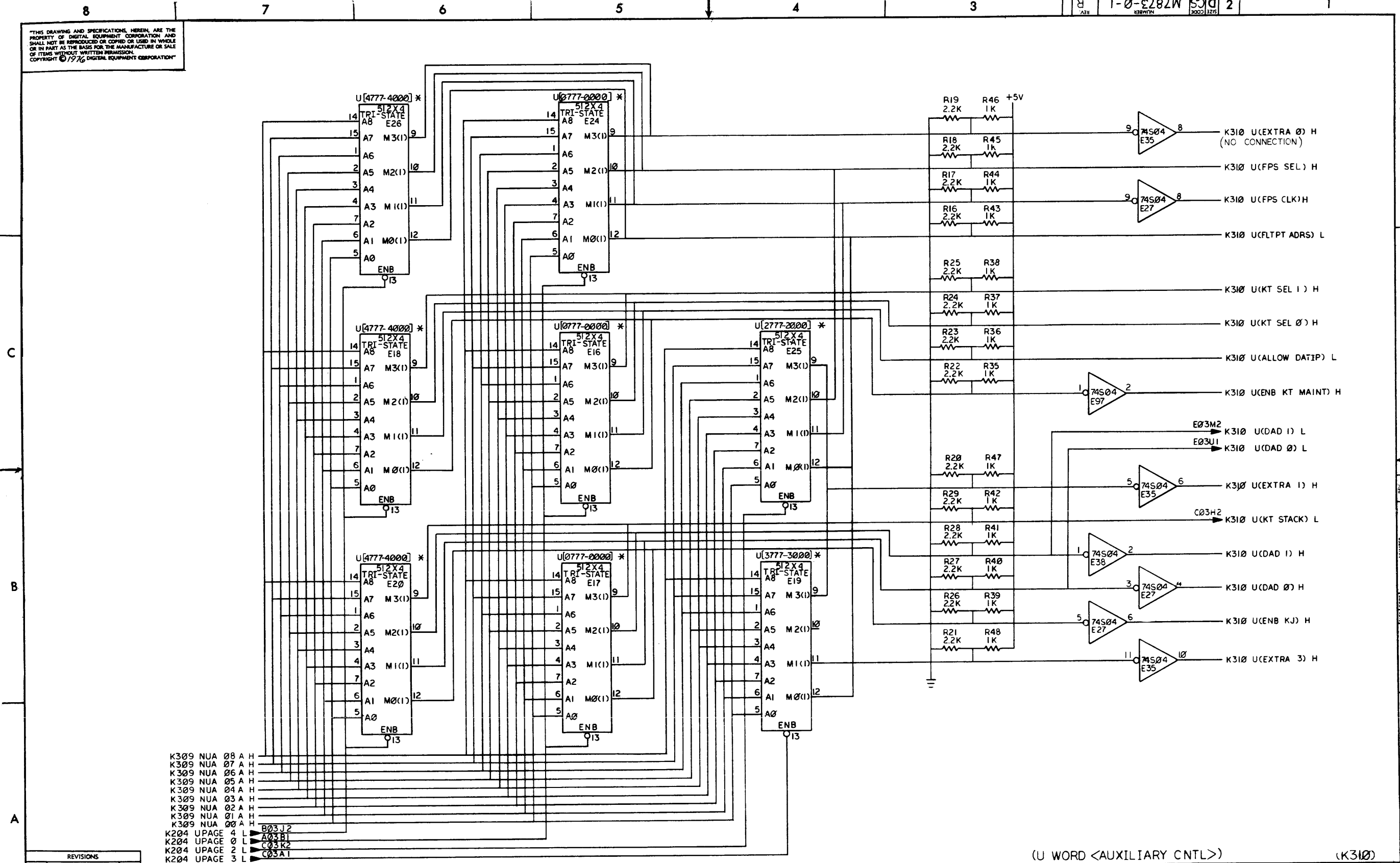
REVISIONS		
CHK	CHANGE NO	REV

- K204 UPAGE 4 L B03J2
- K204 UPAGE 3 L C03A1
- K204 UPAGE 2 L C03K2
- K204 UPAGE 1 L A03A1
- K204 UPAGE 0 L A03B1

U WORD [4777-0000]  
<47:42, 29:25, 19> (K309)

TITLE	DECODE	SIZE CODE	D CS	NUMBER	M 7873-0-1	REV.	R
SCALE	---	SHEET	9	OF	13	DIST.	

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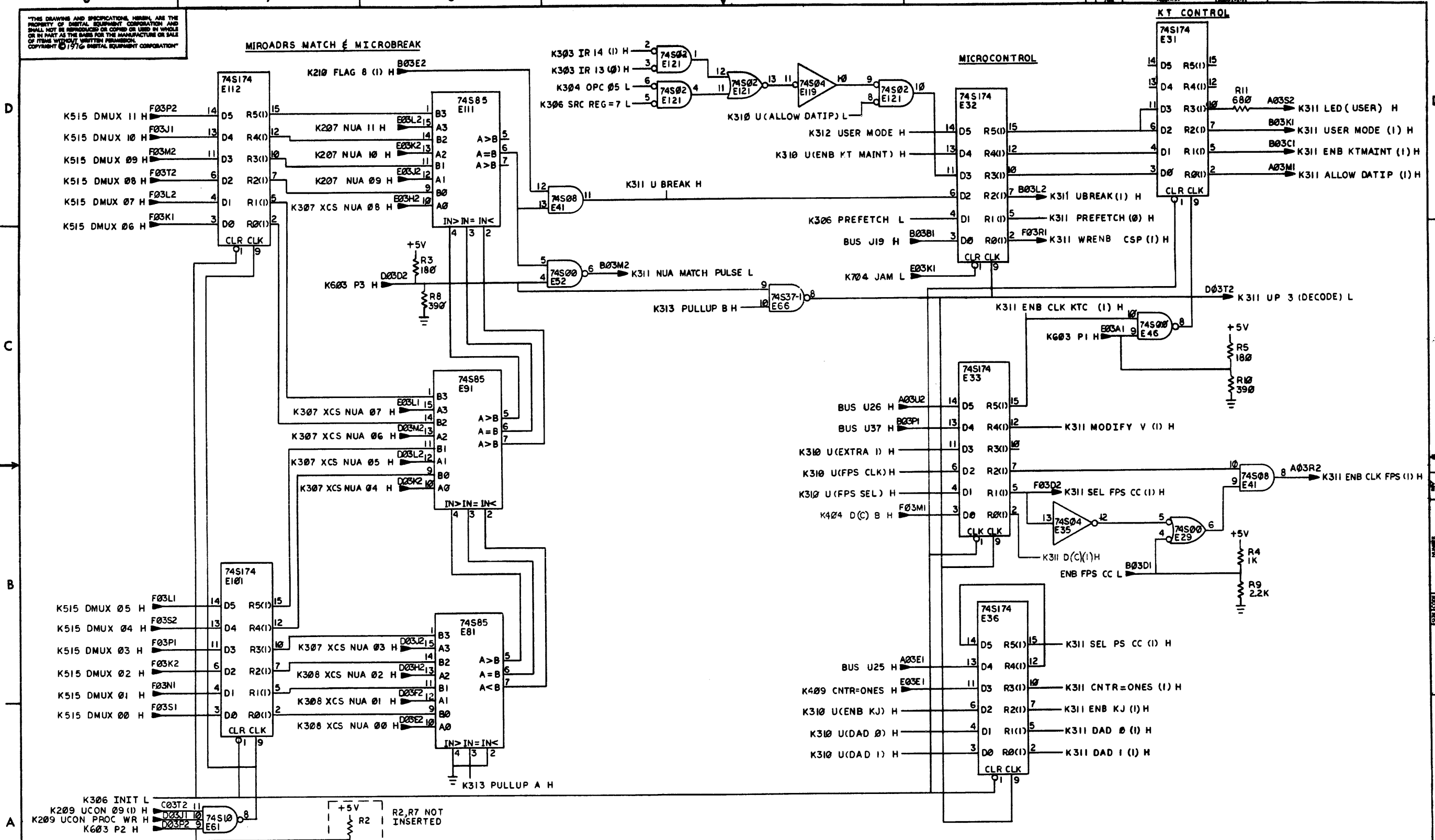
- K309 NUA 08 A H
- K309 NUA 07 A H
- K309 NUA 06 A H
- K309 NUA 05 A H
- K309 NUA 04 A H
- K309 NUA 03 A H
- K309 NUA 02 A H
- K309 NUA 01 A H
- K309 NUA 00 A H
- K204 UPAGE 4 L
- K204 UPAGE 0 L
- K204 UPAGE 2 L
- K204 UPAGE 3 L

- 003 J2
- A03 B1
- C03 K2
- C03 A1

REVISIONS		
CHK	CHANGE NO.	REV.

(U WORD <AUXILIARY CNTL>)		(K310)	
TITLE	DECODE	SIZE CODE	NUMBER
SCALE	SHEET 10 OF 13	DCS	M7873-0-1
		DIST.	

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(MICROADRS MATCH, MICROBREAK, KT CNTL) (K311)

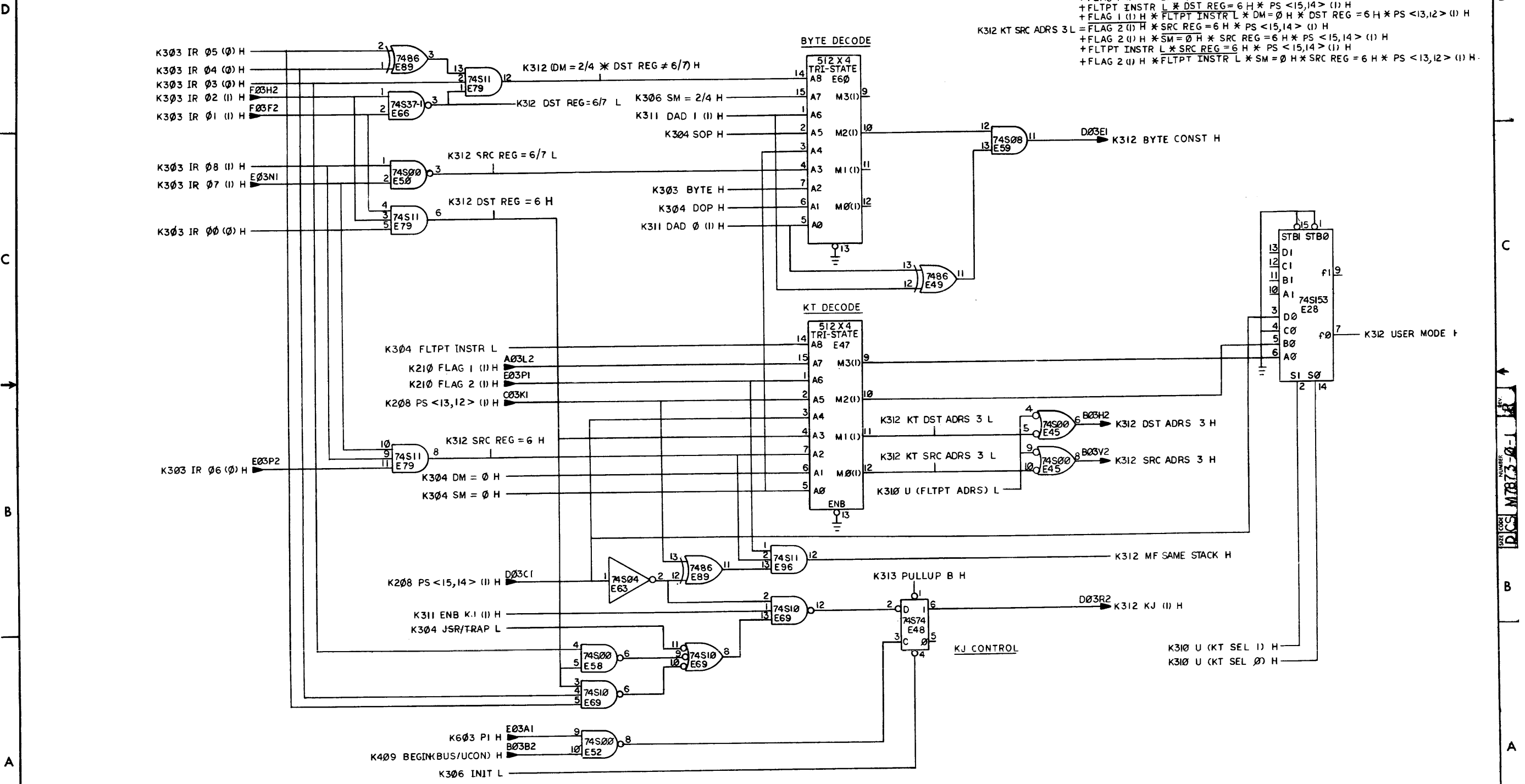
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	DECODE	SIZE CODE	DCS	NUMBER	M7873-0-1	REV.	R
SCALE		SHEET	11	OF	13	DIST.	

DCS M7873-0-1 R

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NOTES:  
 1. K312 BYTE CONST H = DAD 1 (1) H \* DAD 0 (1) H \* DOP H \* BYTE H \* (DM=2/4 \* DST REG=6/7) H  
 + DAD 1 (1) H \* DAD 0 (1) H \* DOP H \* BYTE H \* SM=2/4 H \* SRC REG=6/7 L  
 + DAD 1 (1) H \* DAD 0 (1) H \* DOP H \* BYTE H \* SM=0 H \* (DM=2/4 \* DST REG=6/7) H  
 + DAD 1 (1) H \* DAD 0 (1) H \* SOP H \* BYTE H \* (DM=2/4 \* DST REG=6/7) H  
 2. KT DECODE ROM; E47  
 OUTPUT M3(1) = FLAG 2 (1) H \* PS <13,12> H + FLAG 2 (1) H \* PS <15,14> (1) H  
 OUTPUT M2(1) = FLAG 1 (1) H \* PS <13,12> H + FLAG 1 (1) H \* PS <15,14> (1) H  
 K312 KT DST ADRS 3 L = FLAG 1 (1) H \* DST REG=6 H \* PS <15,14> (1) H  
 + FLAG 1 (1) H \* DM=0 H \* DST REG=6 H \* PS <15,14> (1) H  
 + FLTP T INSTR L \* DST REG=6 H \* PS <15,14> (1) H  
 + FLAG 1 (1) H \* FLTP T INSTR L \* DM=0 H \* DST REG=6 H \* PS <13,12> (1) H  
 K312 KT SRC ADRS 3 L = FLAG 2 (1) H \* SRC REG=6 H \* PS <15,14> (1) H  
 + FLAG 2 (1) H \* SM=0 H \* SRC REG=6 H \* PS <15,14> (1) H  
 + FLTP T INSTR L \* SRC REG=6 H \* PS <15,14> (1) H  
 + FLAG 2 (1) H \* FLTP T INSTR L \* SM=0 H \* SRC REG=6 H \* PS <13,12> (1) H

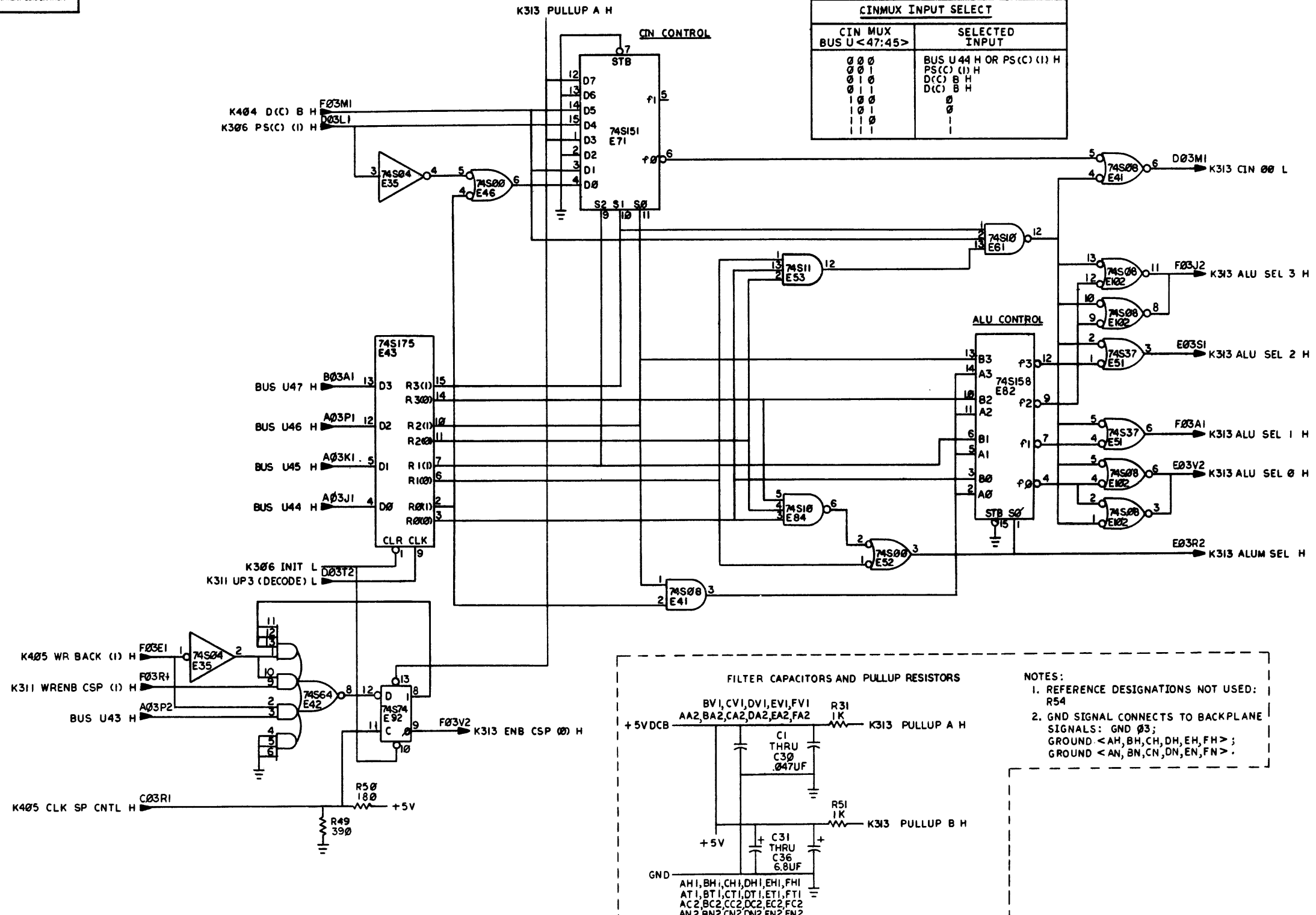


REVISIONS		
CHK	CHANGE NO.	REV.

(BYTES & KT DECODE, KT SELECTION)		(K312)	
TITLE	DECODE	SIZE/CODE	NUMBER
SCALE	SHEET 12 OF 13	D/CS	M7873-0-1
DIST.		REV	R

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CINMUX INPUT SELECT	
CIN MUX BUS U <47:45>	SELECTED INPUT
0 0 0	BUS U44 H OR PS(C) (I) H
0 0 1	PS(C) (I) H
0 1 0	D(C) B H
0 1 1	D(C) B H
1 0 0	0
1 0 1	0
1 1 0	0
1 1 1	0



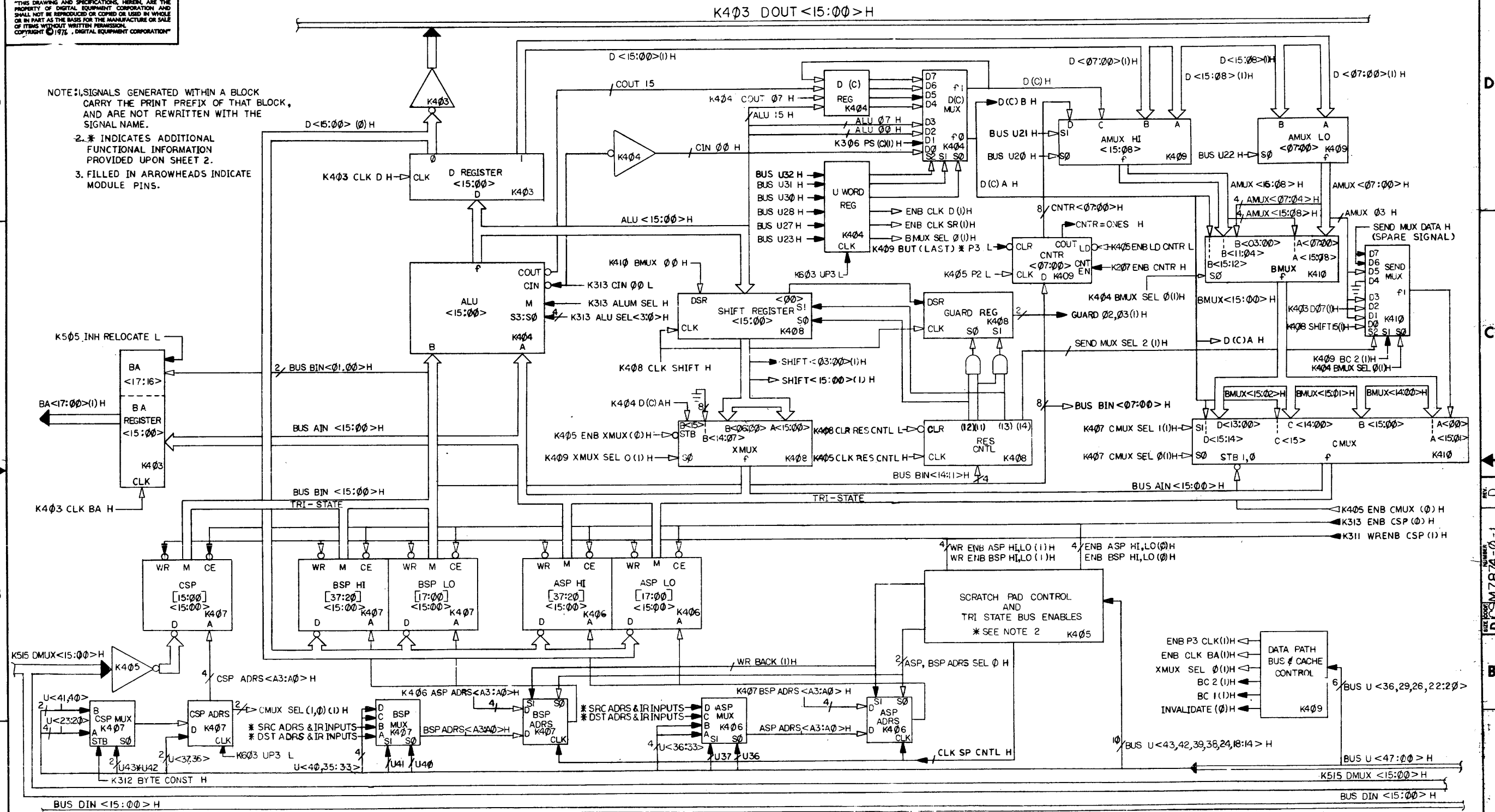
REVISIONS		
CHK	CHANGE NO.	REV.

(CSP, ALU & CIN CNTL)		(K313)	
TITLE	DECODE	SIZE CODE	NUMBER
SCALE	---	SHEET	13 OF 13
DIST.		D.C.S.	M7873-Ø-1
REV.			R



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NOTE: 1. SIGNALS GENERATED WITHIN A BLOCK CARRY THE PRINT PREFIX OF THAT BLOCK, AND ARE NOT REWRITTEN WITH THE SIGNAL NAME.  
 2. \* INDICATES ADDITIONAL FUNCTIONAL INFORMATION PROVIDED UPON SHEET 2.  
 3. FILLED IN ARROWHEADS INDICATE MODULE PINS.



REV.	CHG	NO.	DATE	BY	CHKD
1		1	11/10/76	J. O'LOUGHLIN	
2		2	11/10/76	J. O'LOUGHLIN	
3		3	11/10/76	J. O'LOUGHLIN	
4		4	11/10/76	J. O'LOUGHLIN	
5		5	11/10/76	J. O'LOUGHLIN	
6		6	11/10/76	J. O'LOUGHLIN	
7		7	11/10/76	J. O'LOUGHLIN	
8		8	11/10/76	J. O'LOUGHLIN	

(BLOCK DIAGRAM) (K401)

DRN. 01/10/76	FIRST USED ON	PDP 11/60	digital
CHK'D 11/10/76	ENG. 11/10/76	PROJ. ENG. 11/10/76	PROD. 11/10/76
TITLE DATA PATH			
NEXT HIGHER ASSY.			
B-DD-M7874-0	SIZE CODE	NUMBER	REV.
SCALE	D	CS M7874-0-1	D
SHEET 1	OF 10	DIST.	

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SCRATCH PAD ADDRESSING

Table with columns for CSP, BSPLO, and ASPLO, listing SPADPS, BASE (R/W), FLPT, and CONTENTS.

BSPHI

ASPHI

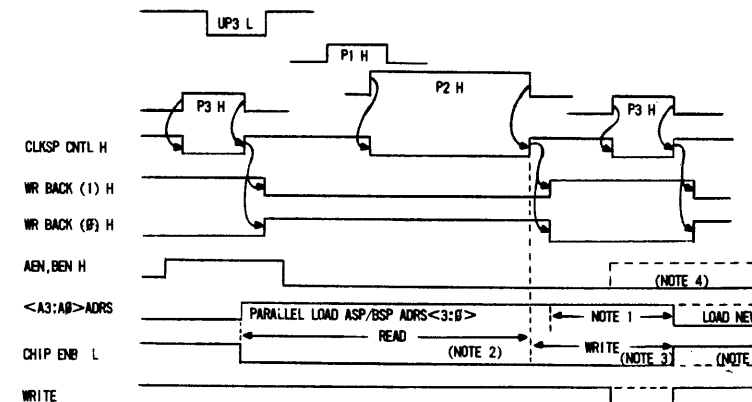
Table with columns for BSPHI and ASPHI, listing SPADPS, BASE (R/W), and various control fields like WCSR, R, R(TIB), etc.

BSP MUX CONTROL

ASP MUX CONTROL

Table showing input ports for BSP and ASP MUX CONTROL, with columns for SP ADRS and input ports A, B, C, D.

SCRATCH PAD TIMING



- NOTES: 1. ROM PIN 7/9 HI-IGNORE CLOCK - USE ASP/BSP ADRS FOR WRITE... 2. CHIP ENABLES DERIVED FROM BUS A/B SOURCE DECODER... 3. CHIP ENABLES DERIVED FROM SP ROM... 4. CHIP ENABLES FOR THE NEXT U-WORD WILL BE DETERMINED BY THE NEXT AEN, BEN

ALU CONTROL table with columns for ALU FIELD, ALU OPERATION, and CIN MUX.

(D/C) SELECT table with columns for COUT FIELD, D(C) SOURCE, and DESCRIPTION.

BUS BTN & BUS ATN ENABLES table with columns for BUS AEN, BUS B EN, and BUS A/B ENABLES.

SHIFT REGISTER (74SI94) table with columns for SI, SB, and FUNCTION.

ROM OUTPUTS AND RESULTANT SIGNALS table with columns for M7-M0, WR, ENB, and various signal names like BSP ADRS, ASP ADRS, etc.

SHIFT TREE CONTROL table with columns for A MUX, B MUX, C MUX, MNEMONIC, and FUNCTION.

DATA PATH CONTROL table with columns for BIT'S U BIT, FIELD NAME, and FUNCTION.

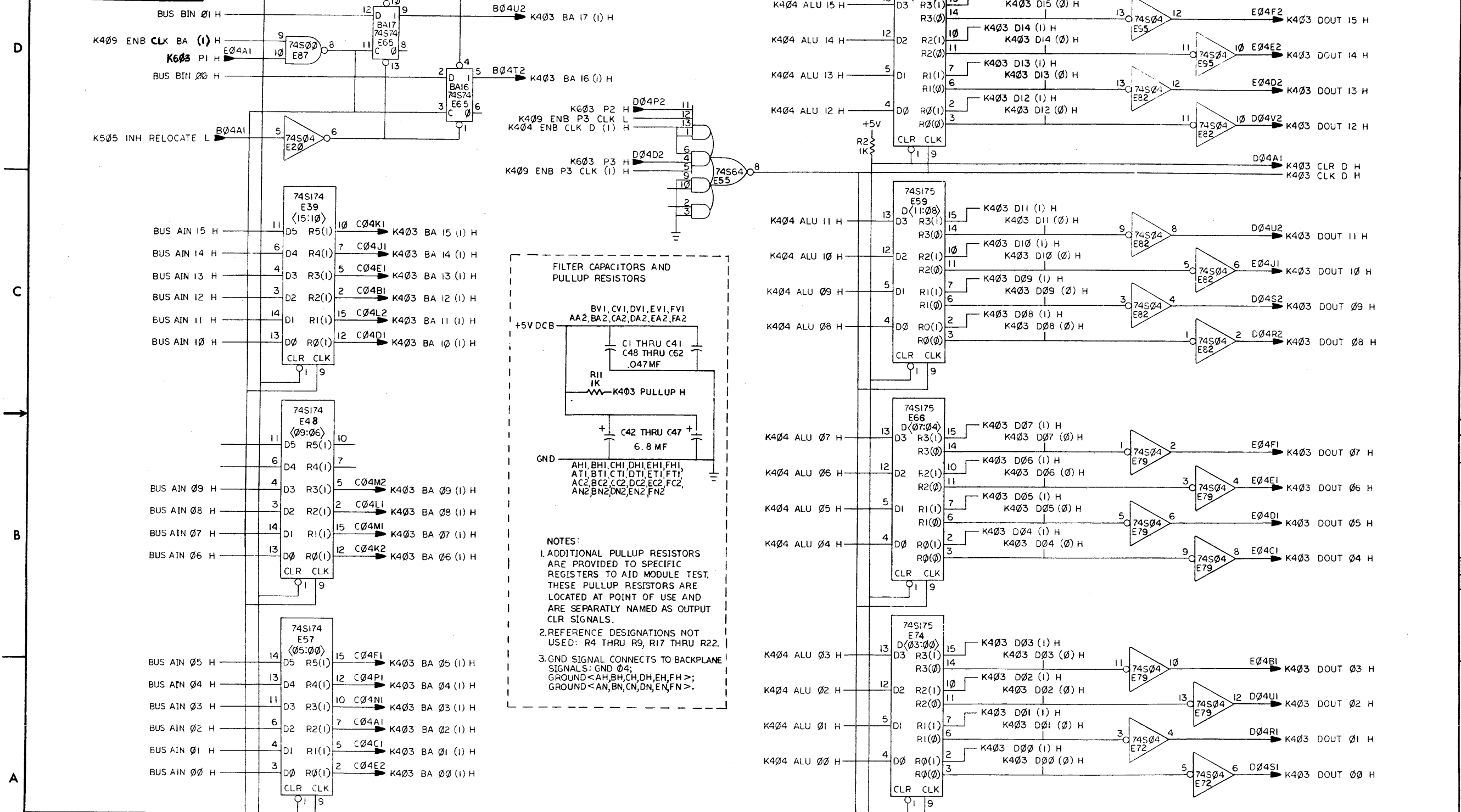
WRITE OPERATION table with columns for EFFECTED SP(ADRS USED) and various signal combinations.

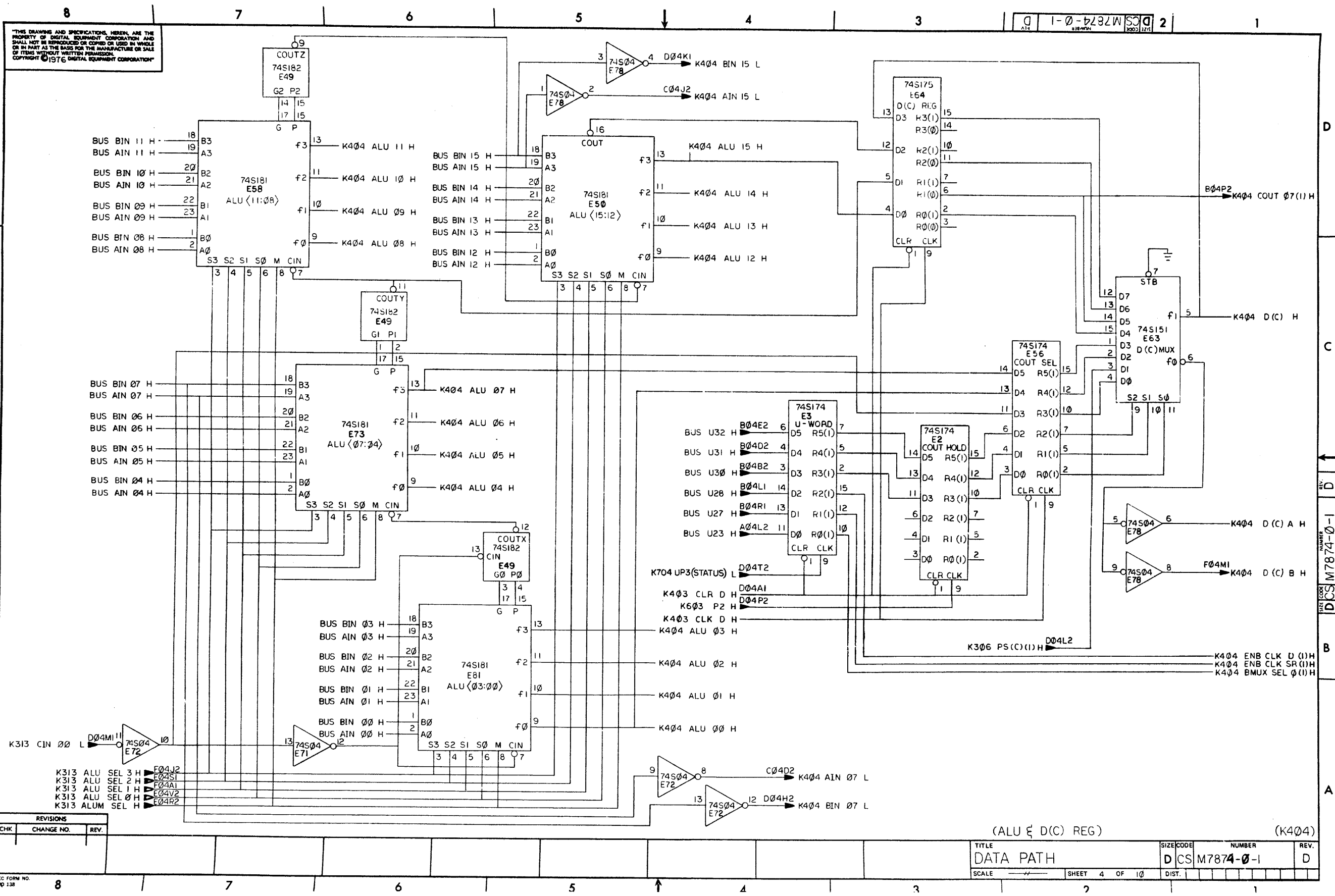
(TABLES) (K402)

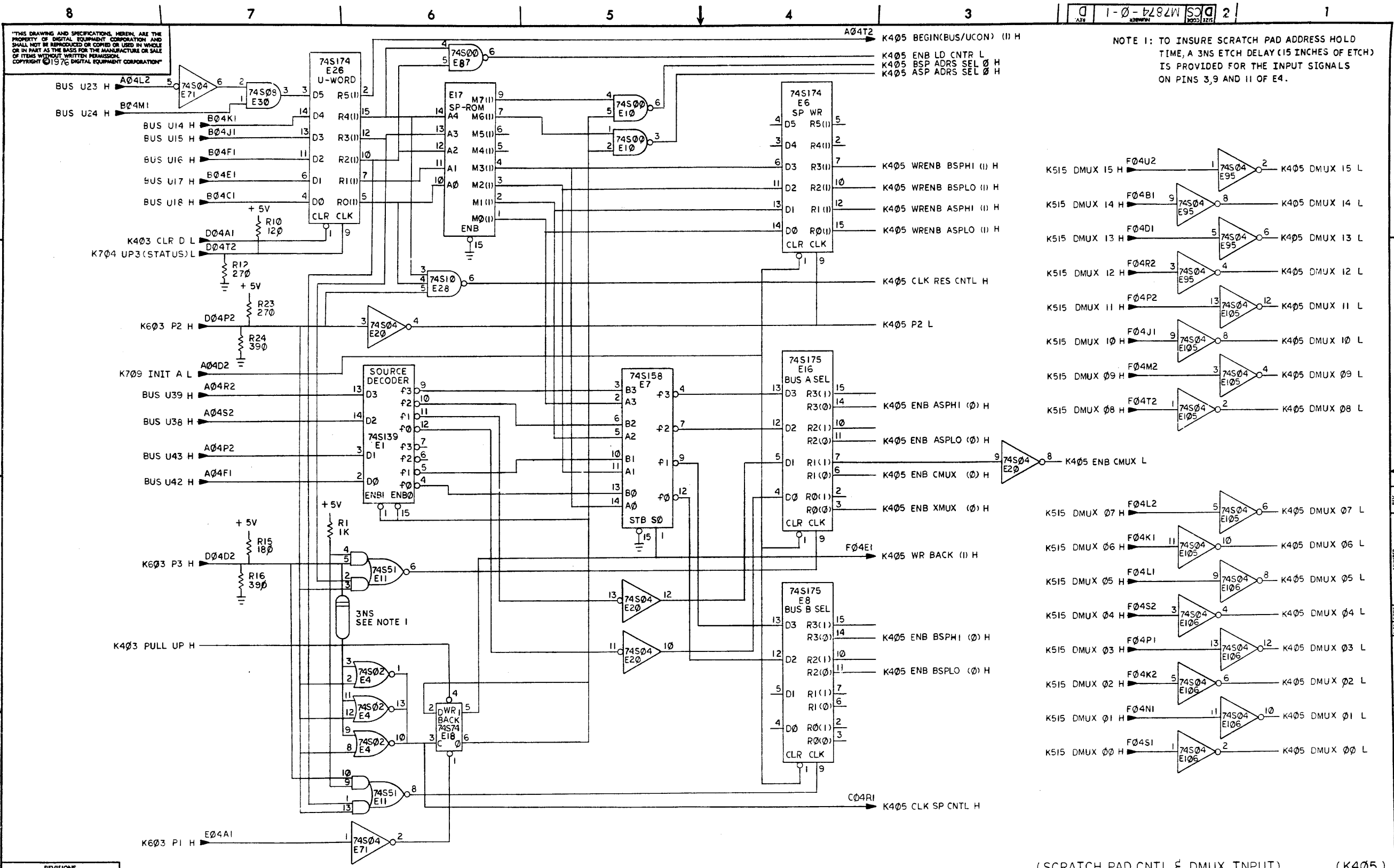
REVISIONS table with columns for CHK, CHANGE NO., and REV.

Metadata table with columns for TITLE (DATA PATH), SIZE CODE (DCS), NUMBER (M7874-0-1), and REV. (D).

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NOTE 1: TO INSURE SCRATCH PAD ADDRESS HOLD TIME, A 3NS ETCH DELAY (15 INCHES OF ETCH) IS PROVIDED FOR THE INPUT SIGNALS ON PINS 3, 9 AND 11 OF U4.

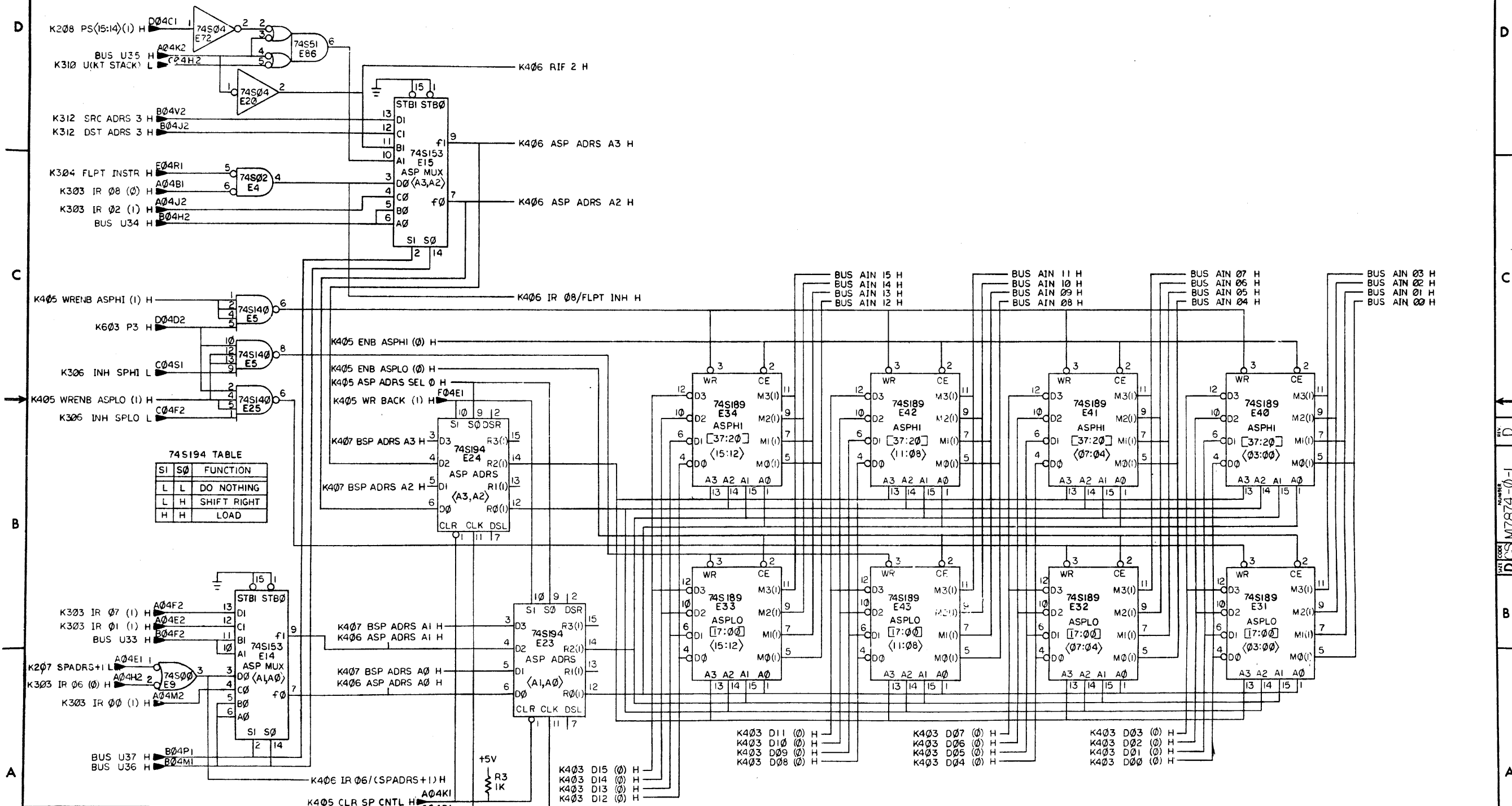
REVISIONS		
CHK	CHANGE NO.	REV.

(SCRATCH PAD CNTL & DMUX INPUT)		(K405)	
TITLE	DATA PATH	SIZE CODE	NUMBER
SCALE	SHEET 5 OF 10	D CS	M7874-0-1
		DIST.	REV. D

REV. D NUMBER M7874-0-1 SIZE CODE DCS

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NOTE:  
REFER TO THE TABLE ON K402 FOR THE SP ADDRESS ASSIGNMENTS WITHIN THE ASP.



74S194 TABLE

SI	S0	FUNCTION
L	L	DO NOTHING
L	H	SHIFT RIGHT
H	H	LOAD

REVISIONS

CHK	CHANGE NO.	REV.

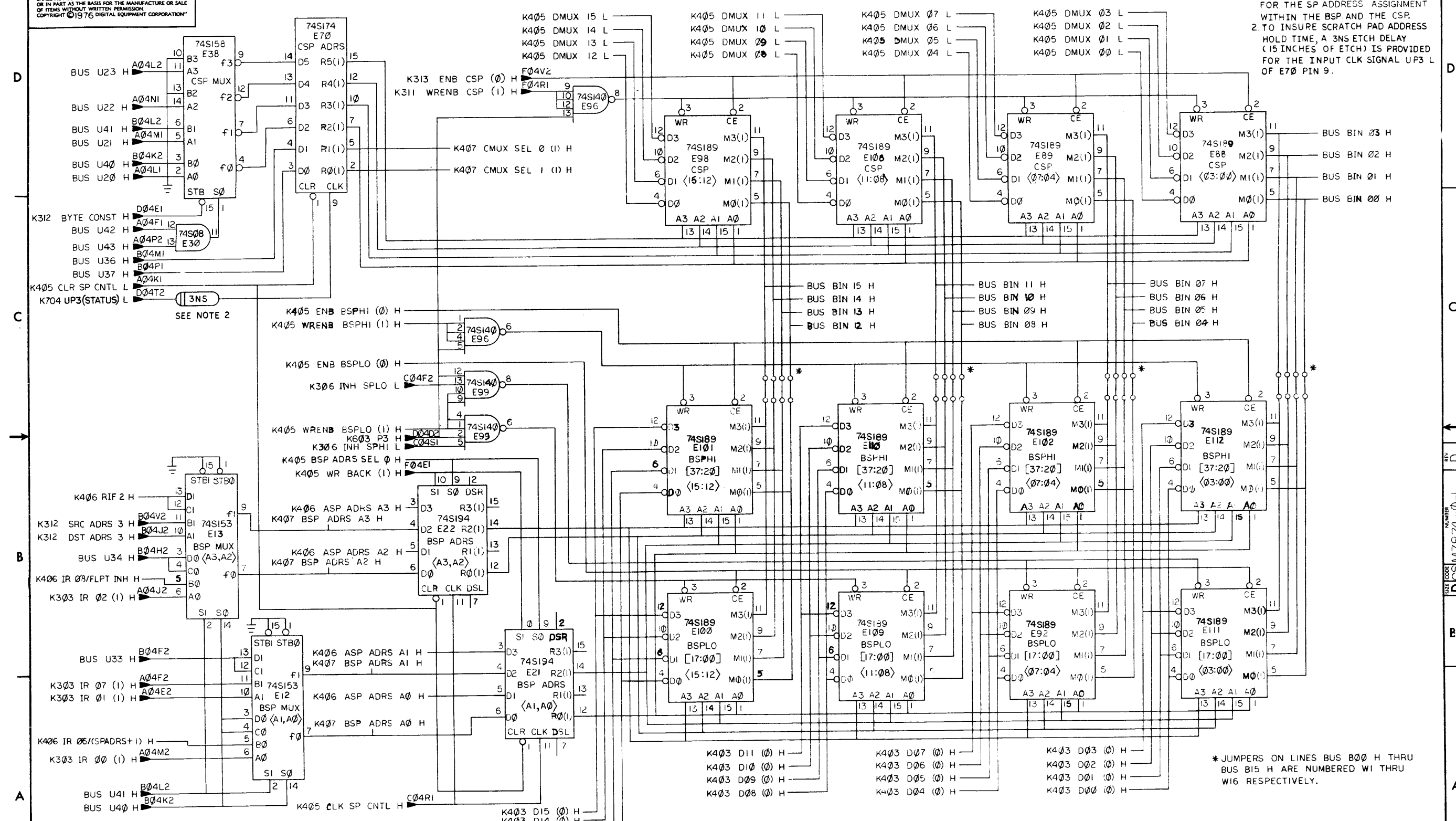
(A SCRATCH PAD & ADRS) (K406)

TITLE: DATA PATH  
 SIZE CODE: DCS  
 NUMBER: M7874-0-1  
 REV: D

SCALE: --- SHEET 6 OF 10 DIST.

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NOTES:  
 1. REFER TO THE TABLE ON K402 FOR THE SP ADDRESS ASSIGNMENT WITHIN THE BSP AND THE CSP.  
 2. TO INSURE SCRATCH PAD ADDRESS HOLD TIME, A 3NS ETCH DELAY (15 INCHES OF ETCH) IS PROVIDED FOR THE INPUT CLK SIGNAL UP3 L OF E70 PIN 9.



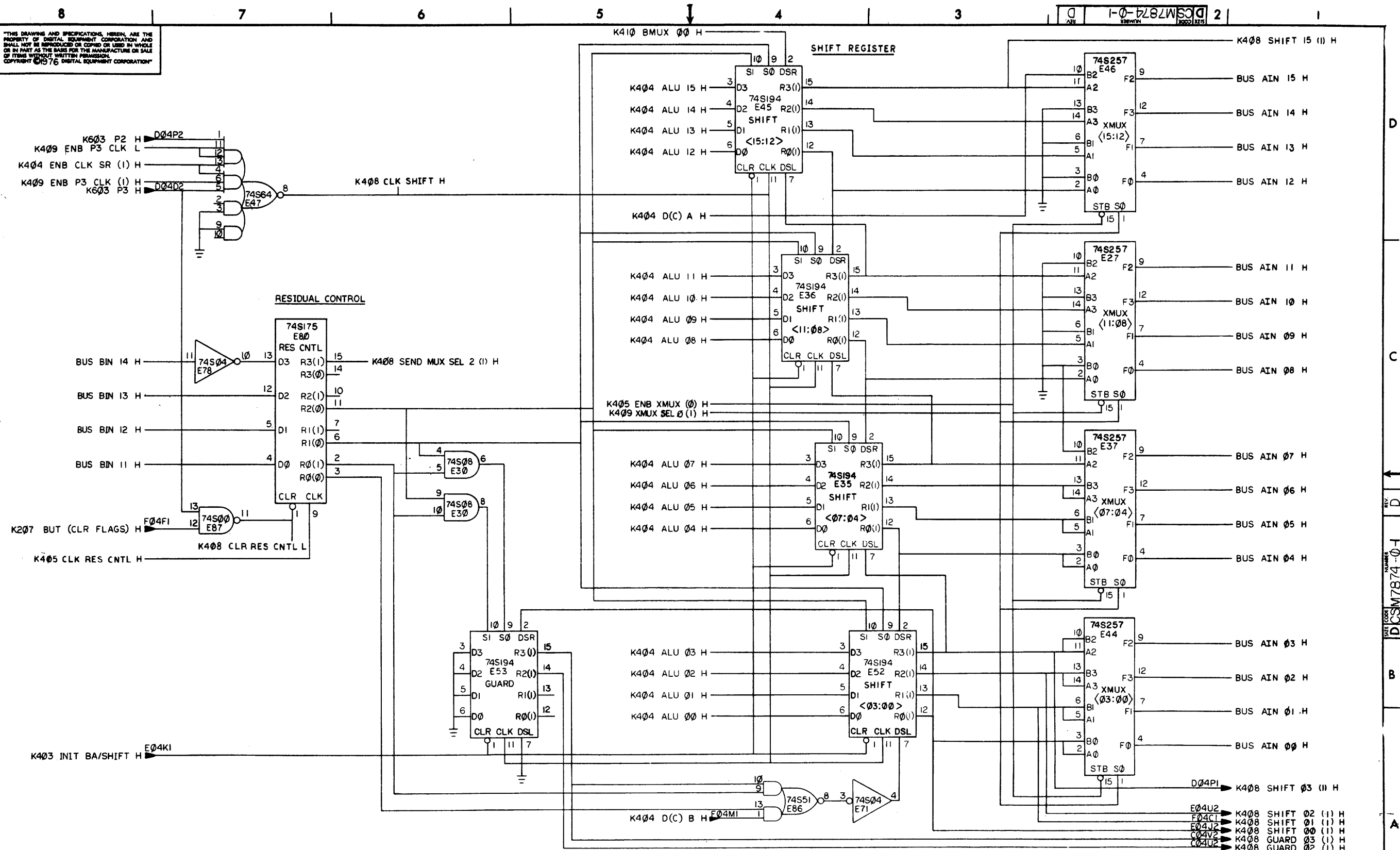
REVISIONS		
CHK	CHANGE NO.	REV.

(B, C SCRATCH PADS & ADRS) (K407)

TITLE	DATA PATH	SIZE CODE	NUMBER	REV.
SCALE	SHEET 7 OF 10	D CS M7874-0-1	D	D

REV. D

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(SHIFT & GUARD REG, XMUX AND RES CNTL) (K408)

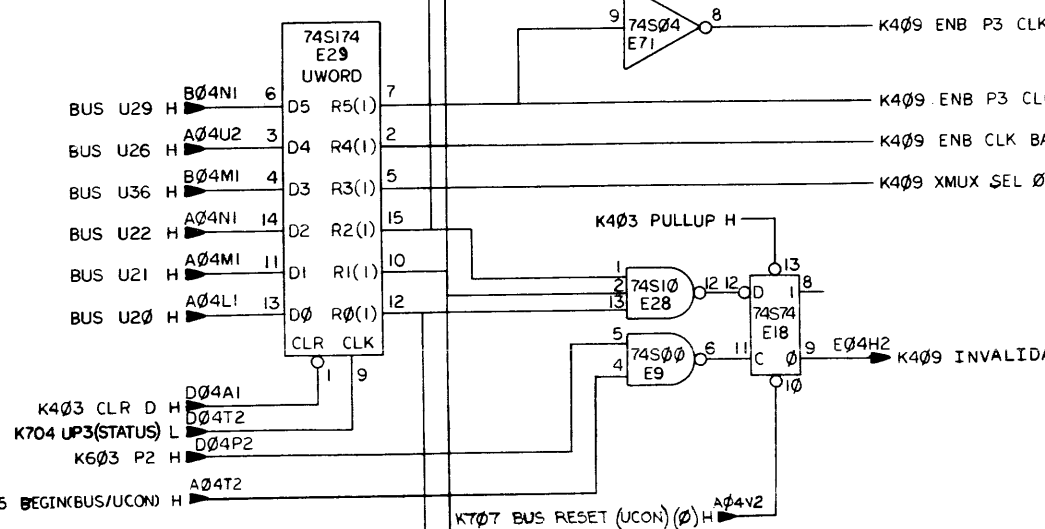
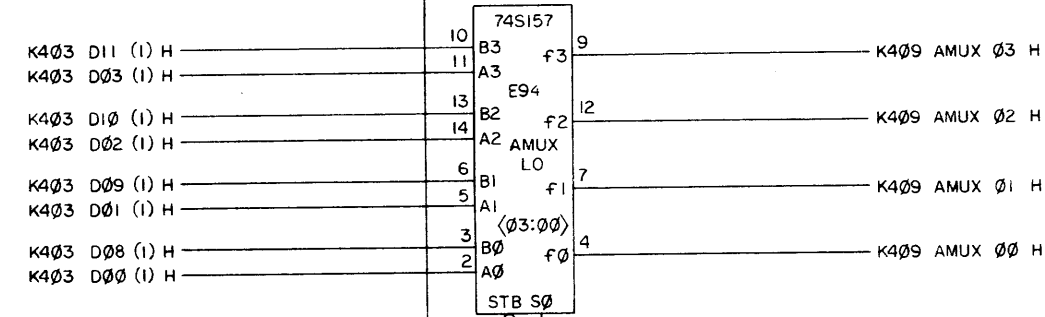
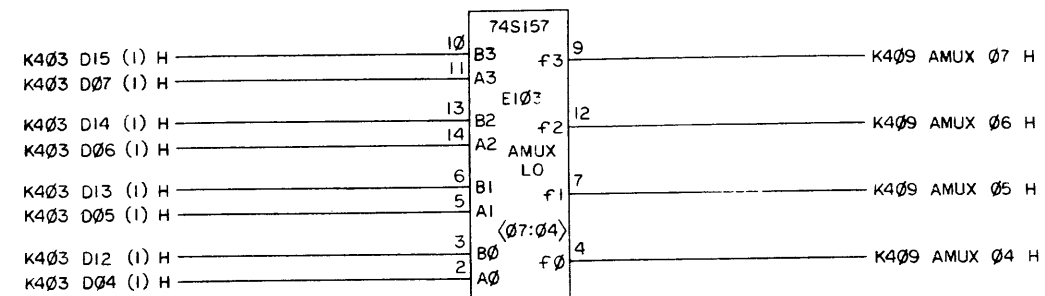
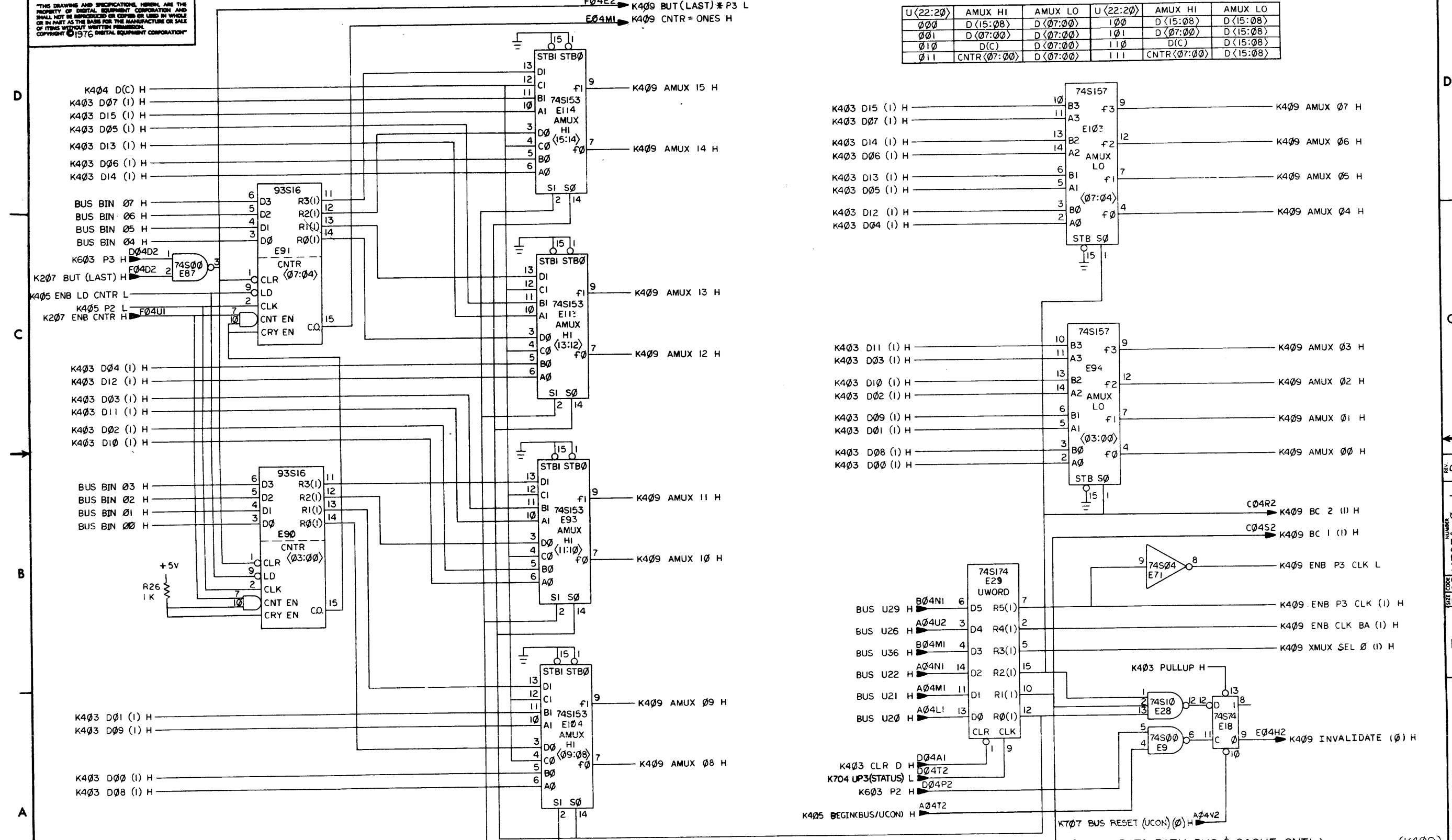
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
DATA PATH	D	CSM7874-0-1	D
SCALE	SHEET	OF	
	8	10	



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U(22:20)	AMUX HI	AMUX LO	U(22:20)	AMUX HI	AMUX LO
000	D(15:08)	D(07:00)	100	D(15:08)	D(15:08)
001	D(07:00)	D(07:00)	101	D(07:00)	D(15:08)
010	D(C)	D(07:00)	110	D(C)	D(15:08)
011	CNTR(07:00)	D(07:00)	111	CNTR(07:00)	D(15:08)



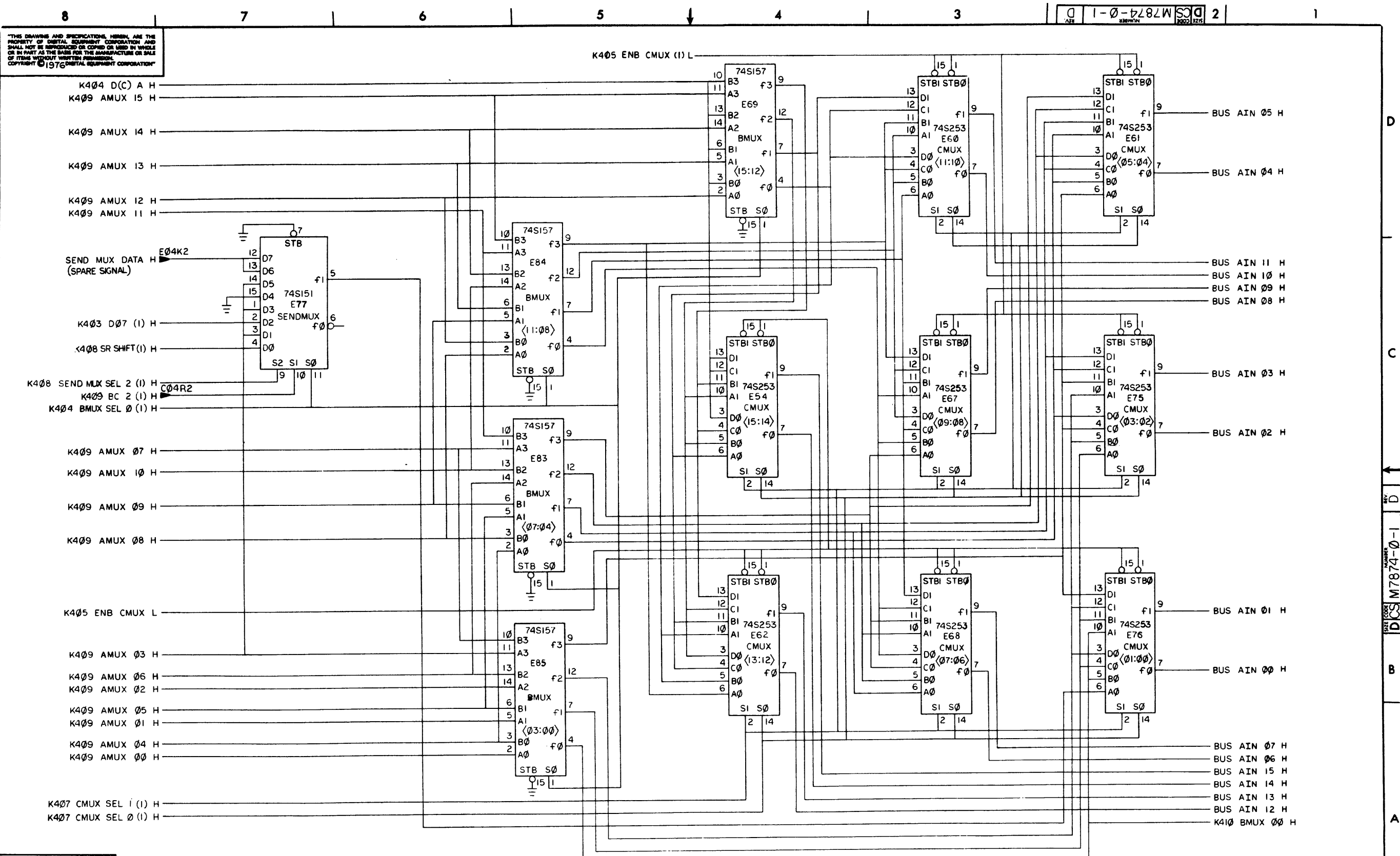
REVISIONS		
CHK	CHANGE NO.	REV.

(AMUX; DATA PATH BUS & CACHE CNTL) (K409)

TITLE	DATA PATH	SIZE CODE	D CS	NUMBER	M7874-0-1	REV	D
SCALE		SHEET	9	OF	10	DIST.	

REV. D DCS M7874-0-1

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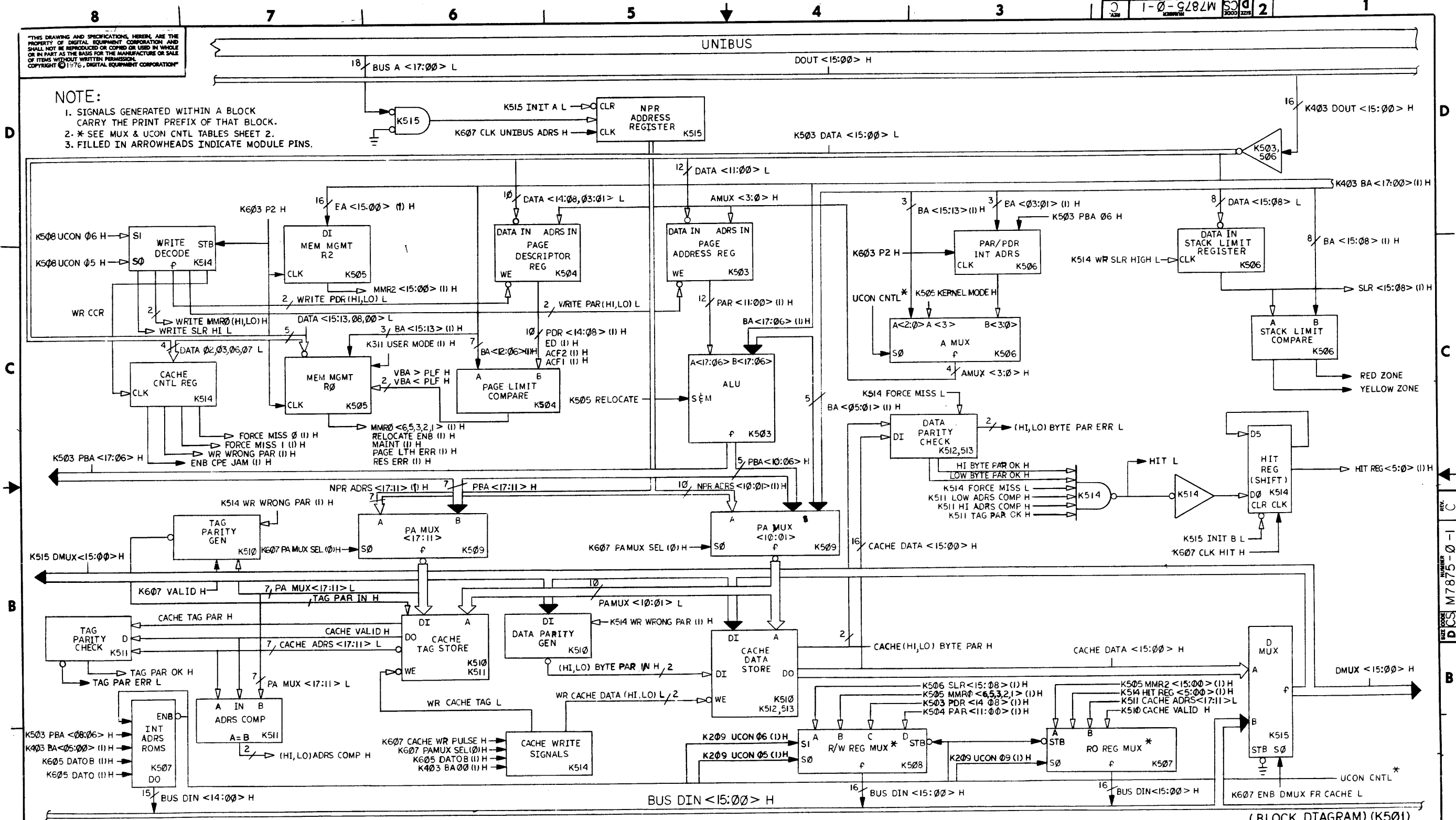


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE DATA PATH		SIZE CODE D CS	NUMBER M7874-0-1	REV. D
SCALE	SHEET 10 OF 10	DIST.		

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NOTE:  
1. SIGNALS GENERATED WITHIN A BLOCK CARRY THE PRINT PREFIX OF THAT BLOCK.  
2. \* SEE MUX & UCON CNTL TABLES SHEET 2.  
3. FILLED IN ARROWHEADS INDICATE MODULE PINS.



(BLOCK DIAGRAM) (K501)

Table with columns: REVISIONS, CHANGE NO., REV., DATE. Includes entries for M7875-TM001 and LONDON.

Table with columns: DRN, CHK'D, ENG, PROJ. ENG, PROD, NEXT HIGHER ASSY, B-D-O, SCALE, SHEET, FIRST USED ON, TITLE, SIZE, CODE, NUMBER, REV. Includes title 'KT/CACHE' and sheet number '1 OF 15'.

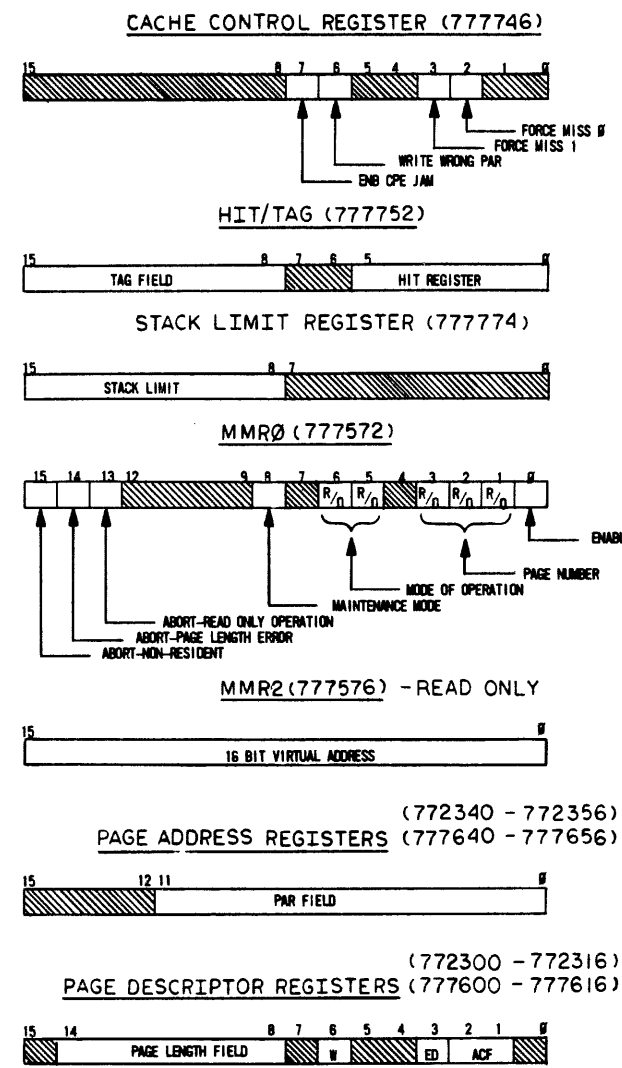
REV. C  
M7875-0-1

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KT/CACHE UCON FUNCTIONS		
SIGNALS	KT FUNCTION	OTHER CONDITIONS
UCON14	INHIBIT KT RELOCATE, 0 NO INHIBIT	UCON KT(1) H AND NOT MAINT (1) H * ENB KT MAINT (1) H
UCON13	1=DECODE MICROADDRESS DISPATCH FOR INTERNAL ADDRESSES 0=DECODE MICROADDRESS, DISPATCH FOR UNIBUS ADDRESSES	NO OTHER CONDITION ALTHOUGH INFORMATION IS GATED ONTO BUS DIN BY UCON12
UCON12	EN DIN ← DISPATCH, (ENABLES ADRS DISPATCH SELECTED BY UCON13 TO BUS DIN)	UCON KT(1) H * INH UCON(BUS XFER) L
UCON11	EN DIN ← KT REGS 1, (ENABLES REGISTERS SELECTED BY UCON09 TO BUS DIN)	UCON KT(1) H * INH UCON(BUS XFER) L
UCON10	EN DIN ← KT REGS 2, (ENABLES REGISTERS SELECTED BY UCON08, 05 TO BUS DIN)	UCON KT(1) H * INH UCON(BUS XFER) L
UCON09	1=SELECTS TAG, HIT FOR GATING TO BUS DIN BY UCON11 BUS DIN15 ← CACHE VALID BUS DIN <14:06> ← CACHE ADRS <17:11> L, BUS DIN <07:06> ← 0 BUS' DIN <05:00> ← HIT <5:0> 0 SELECTS MMR2 FOR GATING TO BUS DIN BY UCON11, BUS DIN <15:00> ← MMR2 <15:00>	NO OTHER CONDITION
UCON08, 07	ENABLES HIGH OR LOW BYTE WRITE TO KT REGISTERS SELECTED BY UCON06, 05 1 1 WRITE HIGH AND LOW BYTES 1 0 WRITE HIGH BYTE 0 1 WRITE LOW BYTE 0 0 NULL (NO WRITE)	UCON KT(1) H * UCON XFER(1) H * PZH
UCON06, 05	SELECTS KT REGISTERS WRITTEN INTO BY UCON08, 07 OR REGISTERS GATED TO BUS DIN BY UCON10, (BIT POSITIONS DIRECTLY RELATE TO BUS DIN. EXCEPT WHERE NOTED) 1 1 SEL, PAR <11:00> FOR WRITE OR READ PAR <15:12> UNUSED AND 0 1 0 SEL PDR <14:00, 03:01> FOR WRITE OR READ PDR 06 READ ONLY PDR <15, 07, 05, 04, 00> UNUSED AND 0 0 1 MMR0 <15:13, 00, 00> FOR WRITE OR READ MMR0 <06, 05, 03:01> READ ONLY MMR0 <12:09, 07, 04> UNUSED AND 0 0 0 SEL SLR <15:00> FOR WRITE OR READ BIT7: ENB CPE JAM(1) H BIT6: WT WRONG PAR(1) H BIT3: FORCE MISS 1(1) H BIT2: FORCE MISS 0(1) H BIT5: 4, 1, 0 UNUSED AND 0	WRITE ENABLE OF UCON08, 07 OR BUS DIN ENABLE OF UCON10

READ/WRITE REGISTER MUX TO BUS DIN				
BUS DIN	INPUT PORT			
	A	B	C	D
15	SLR15(1) H	NON RES ERROR (1) H	0	0
14	SLR14(1) H	PAGE LTH ERROR (1) H	PDR14(1) H	0
13	SLR13(1) H	READ ONLY ERROR (1) H	PDR13(1) H	0
12	SLR12(1) H	0	PDR12(1) H	0
11	SLR11(1) H	0	PDR11(1) H	PAR11(1) H
10	SLR10(1) H	0	PDR10(1) H	PAR10(1) H
09	SLR09(1) H	0	PDR09(1) H	PAR09(1) H
08	SLR08(1) H	MAINT (1) H	PDR08(1) H	PAR08(1) H
07	ENB CPE JAM (1) H	0	0	PAR07(1) H
06	WRITE WRONG PAR (1) H	MMR0 06 (1) H	W (1) H	PAR06(1) H
05	0	MMR0 05 (1) H	0	PAR05(1) H
04	0	0	0	PAR04(1) H
03	FORCE MISS 1 (1) H	MMR0 03 (1) H	ED (1) H	PAR03(1) H
02	FORCE MISS 0 (1) H	MMR0 02 (1) H	ACF2(1) H	PAR02(1) H
01	0	MMR0 01 (1) H	ACF1(1) H	PAR01(1) H
00	0	RELOCATE ENB (1) H	0	PAR00(1) H

READ ONLY REG MUX TO BUS DIN		
BUS DIN	INPUT PORT	
	A	B
15	MMR2 15 (1) H	CACHE VALID H
14	MMR2 14 (1) H	CACHE ADRS 17 L
13	MMR2 13 (1) H	CACHE ADRS 16 L
12	MMR2 12 (1) H	CACHE ADRS 15 L
11	MMR2 11 (1) H	CACHE ADRS 14 L
10	MMR2 10 (1) H	CACHE ADRS 13 L
09	MMR2 09 (1) H	CACHE ADRS 12 L
08	MMR2 08 (1) H	CACHE ADRS 11 L
07	MMR2 07 (1) H	0
06	MMR2 06 (1) H	0
05	MMR2 05 (1) H	HIT REG 5 (1) H
04	MMR2 04 (1) H	HIT REG 4 (1) H
03	MMR2 03 (1) H	HIT REG 3 (1) H
02	MMR2 02 (1) H	HIT REG 2 (1) H
01	MMR2 01 (1) H	HIT REG 1 (1) H
00	MMR2 00 (1) H	HIT REG 0 (1) H



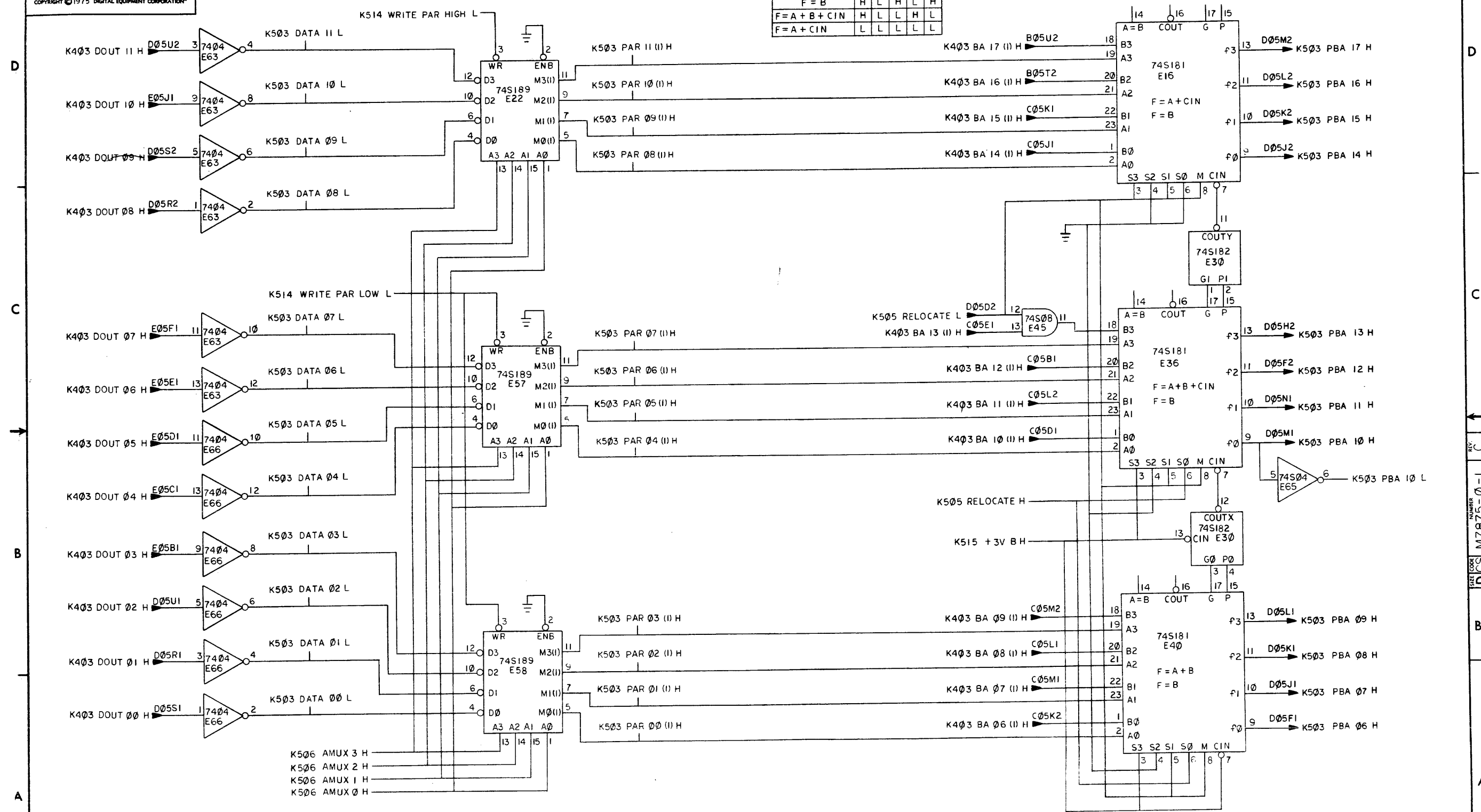
NOTE:  
1. MMR1(777574) READS AS ALL 0'S  
2. MMR3(777516) NOT USED  
3. TERM R/O = READ ONLY BIT.

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE CODE	NUMBER	REV.
KT/CACHE		DCS	M7875-0-1	C
SCALE	SHEET	DIST.		
	2 OF 15			

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ALU FUNCTION	S3	S2	S1	S0	M
F = B	H	L	H	L	H
F = A + B + CIN	H	L	L	H	L
F = A + CIN	L	L	L	L	L



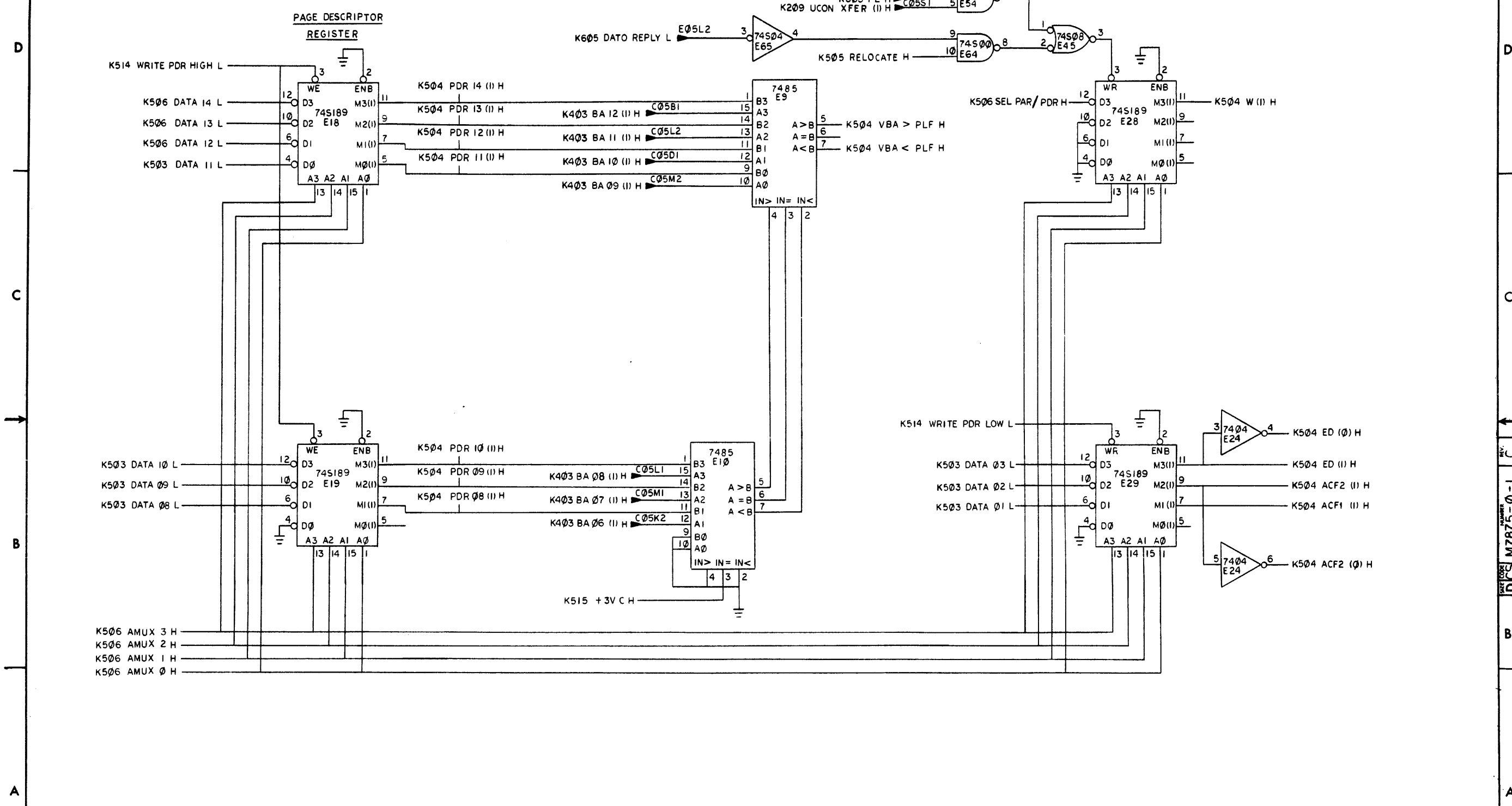
(PAGE ADDRESS REG. & ALU) (K503)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	KT/CACHE	SIZE CODE	D CS	NUMBER	M7875-0-1	REV.	C
SCALE	---	SHEET	3 OF 15	DIST.			

REV. C  
NUMBER M7875-0-1  
SIZE CODE DCS

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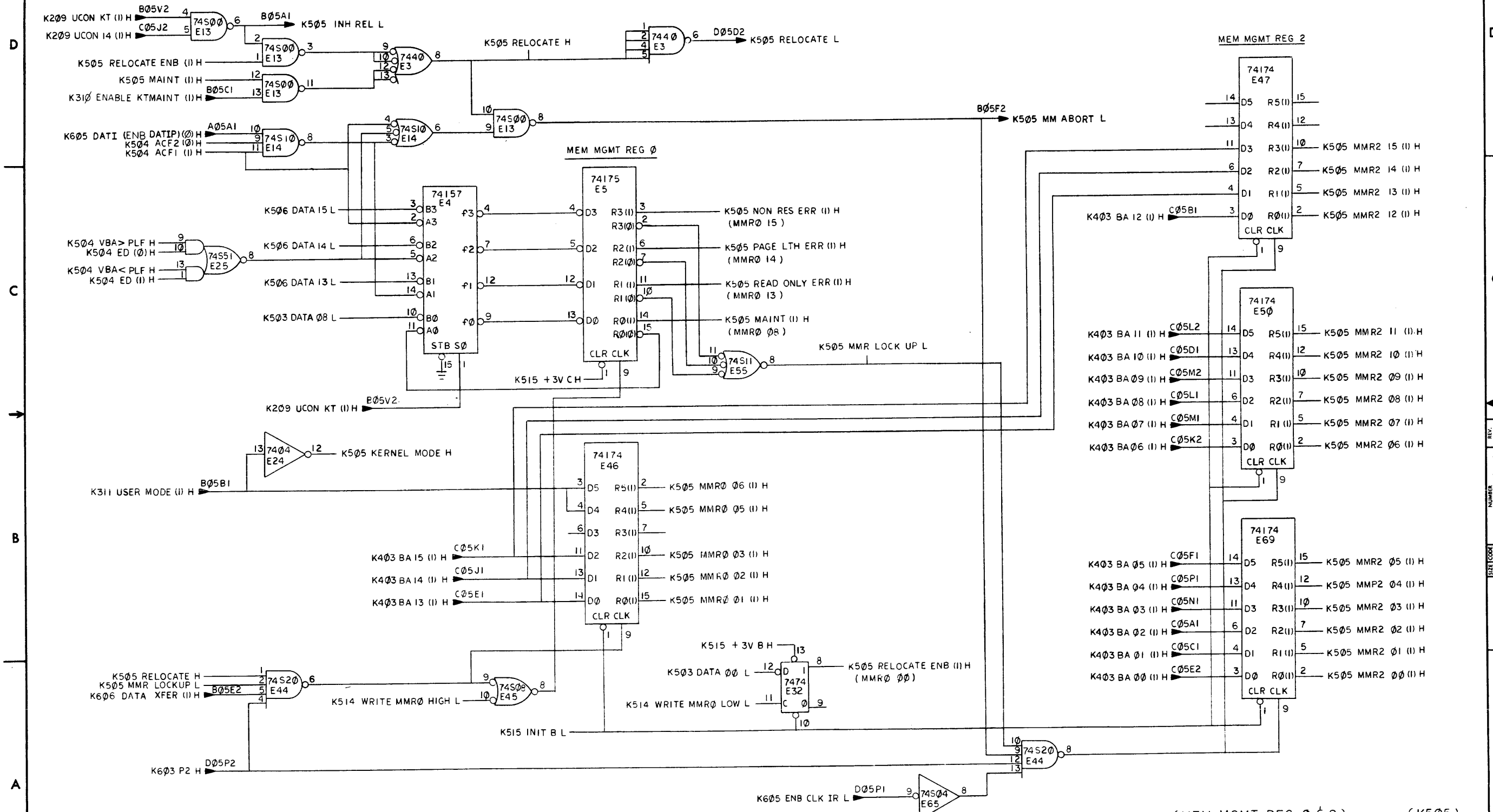
REVISIONS		
CHK	CHANGE NO.	REV.

(PAGE DESCRIPTOR REGISTERS) (K504)

TITLE	KT/CACHE	SIZE/CODE	D/CS	NUMBER	M7875-0-1	REV.	C
SCALE		SHEET	4 OF 15	DIST.			

REV. C  
M7875-0-1

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(MEM MGMT REG 0 & 2) (K505)

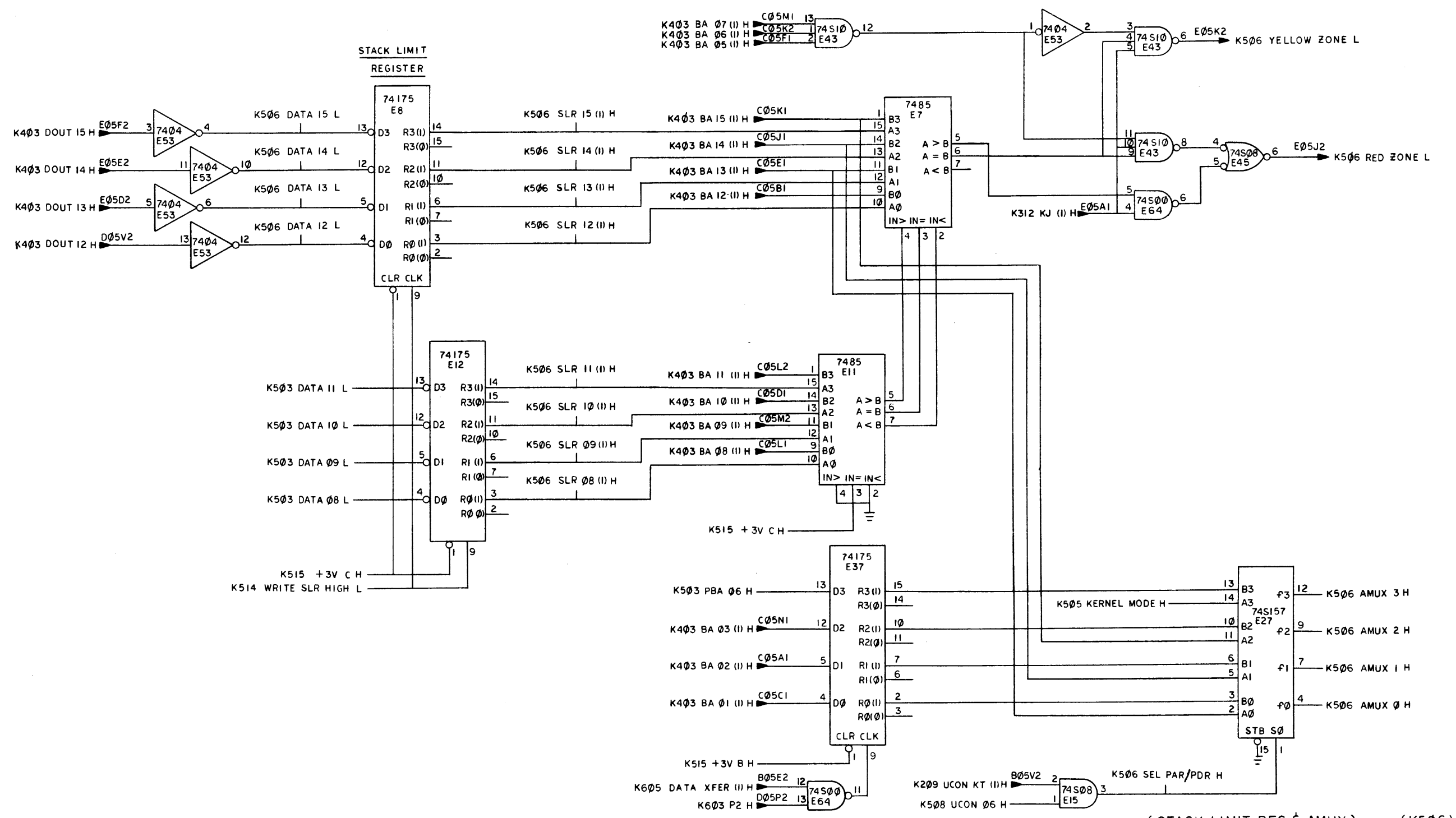
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	KT/CACHE	SIZE CODE	D CS	NUMBER	M7875-0-1	REV.	C
SCALE		SHEET	5 OF 15	DIST.			

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D  
C  
B  
A

D  
C  
B  
A



(STACK LIMIT REG & AMUX) (K506)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
KT/ CACHE	DCS	M7875-0-1	C
SCALE	SHEET	DIST.	
	6 OF 15		

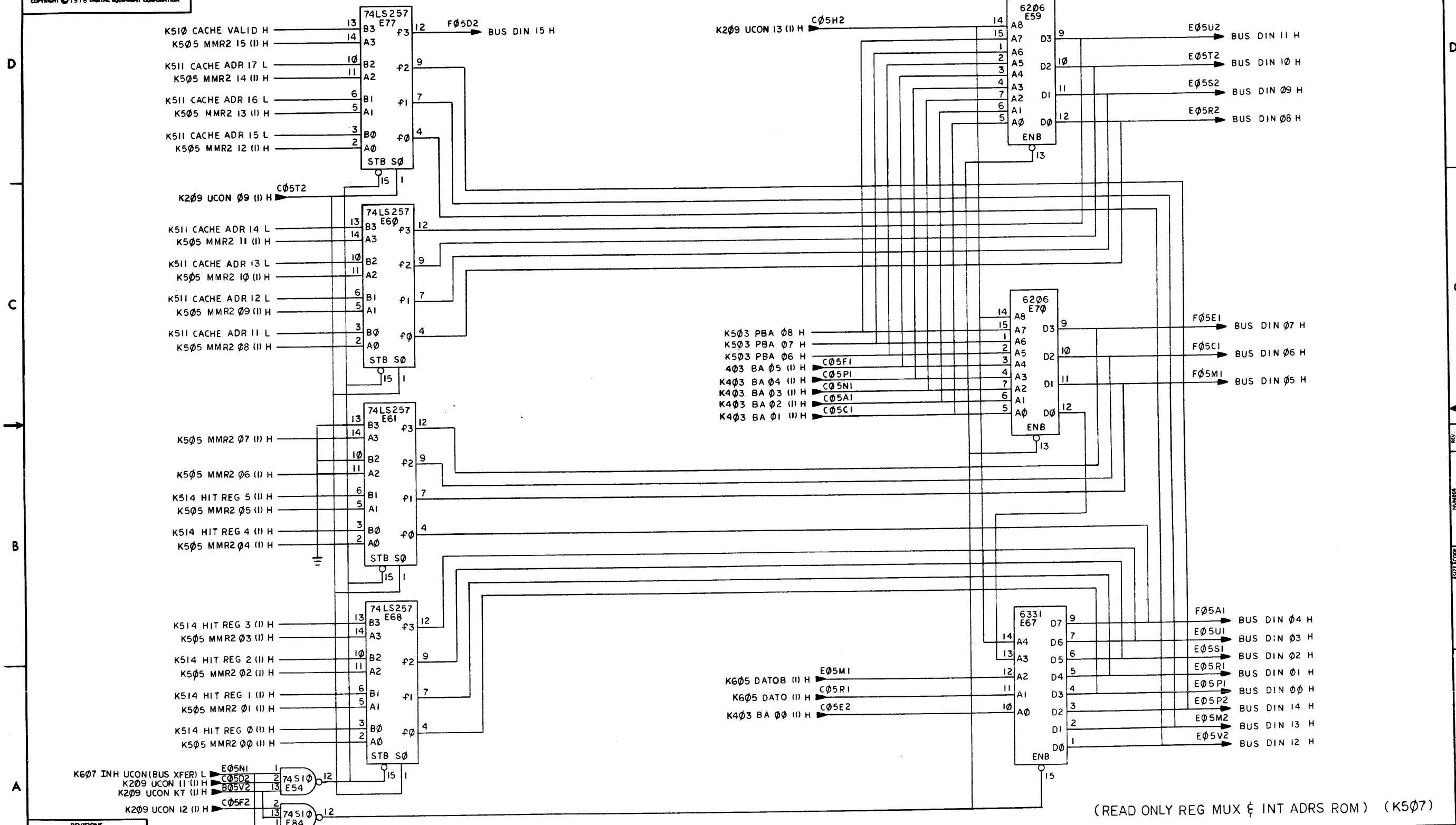
REV. C  
DCS M7875-0-1



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READ ONLY REGISTER  
MULTIPLEXER

INTERNAL ADDRESS ROM



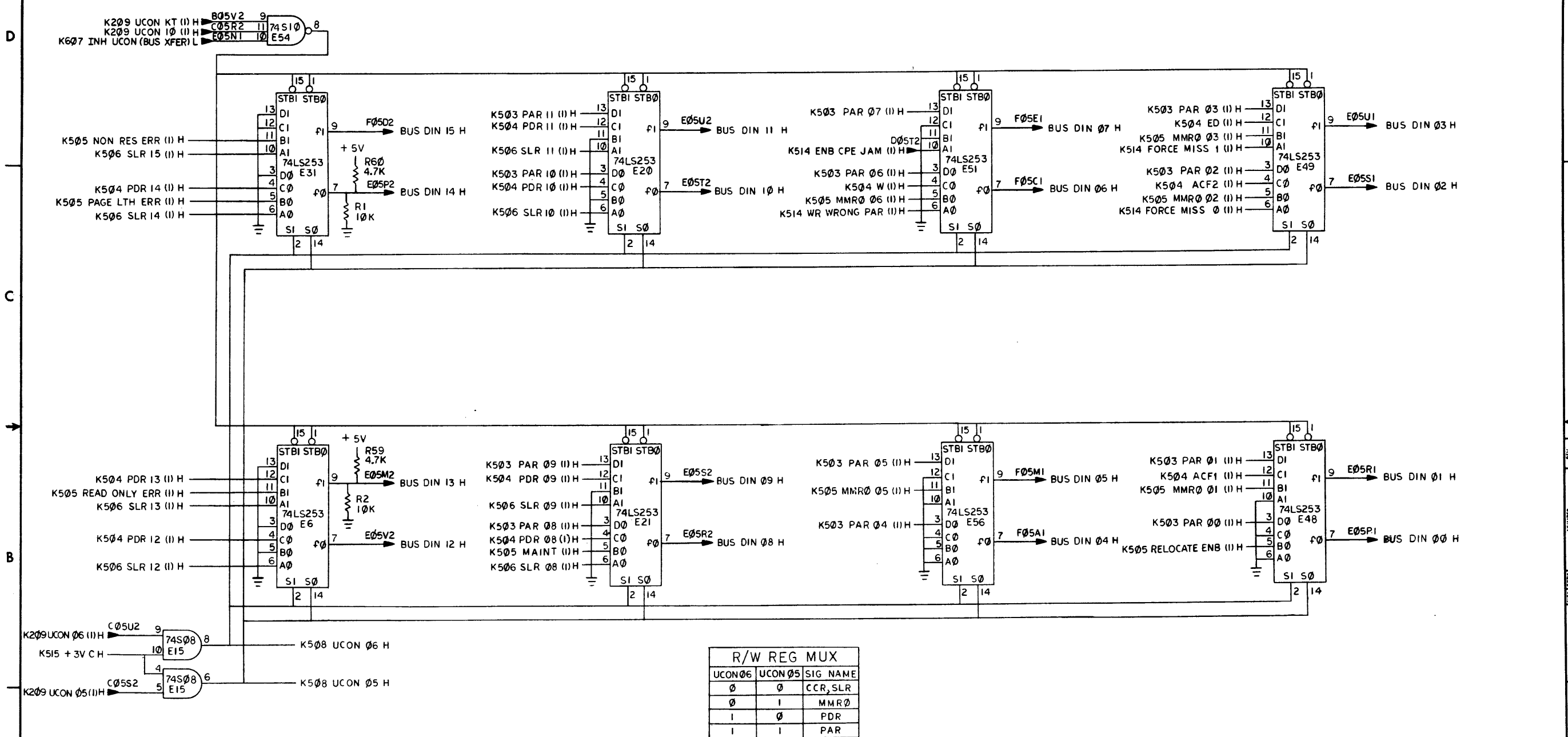
(READ ONLY REG MUX & INT ADRS ROM) (K507)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	KT/CACHE	SIZE/CODE	D CS	NUMBER	M7875-0-1	REV.	C
SCALE	---	SHEET	7 OF 15	DIST.			

DCS M7875-0-1

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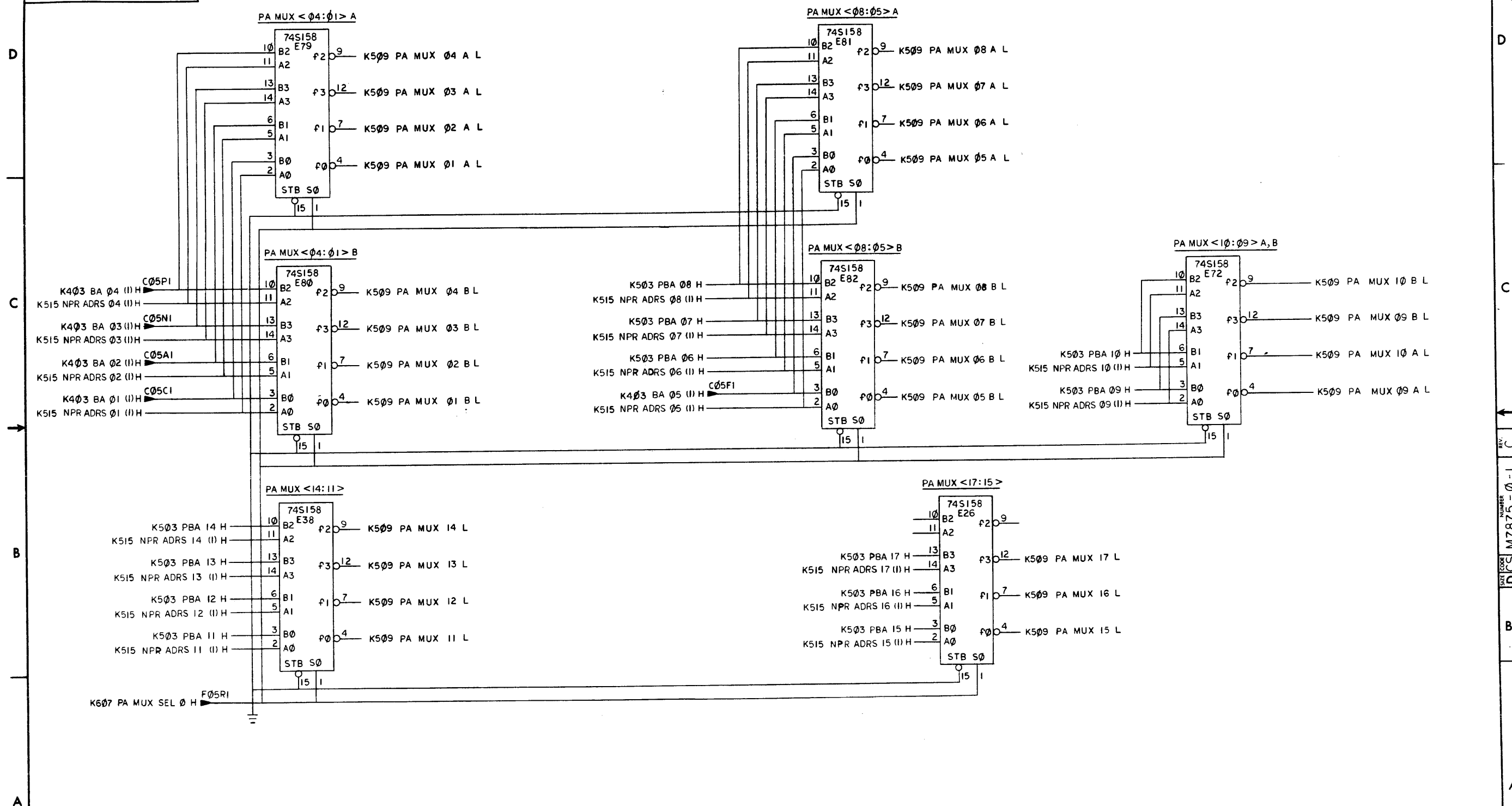


REVISIONS		
CHK	CHANGE NO.	REV.

(READ/WRITE REGISTER MULTIPLEXER) (K508)

TITLE	KT/CACHE	SIZE CODE	D CS	NUMBER	M7875-0-1	REV.	C
SCALE	1/1	SHEET	8 OF 15	DIST.			

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( PHYSICAL ADRS MUX ) ( K509 )

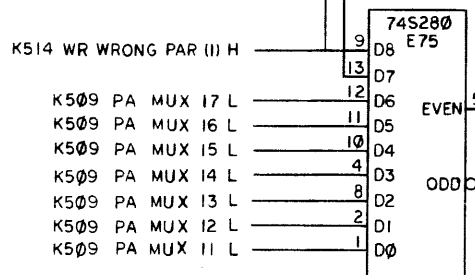
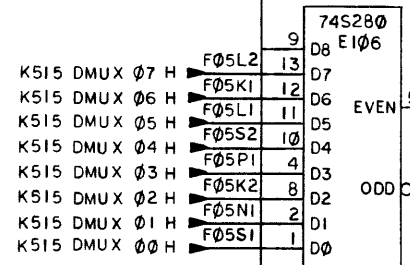
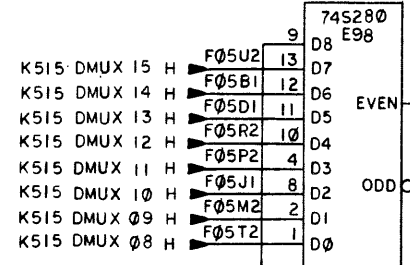
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	KT/CACHE	SIZE CODE	D CS	NUMBER	M 7875 - 0 - 1	REV.	C
SCALE	1/1	SHEET	9 OF 15	DIST.			

SIZE CODE NUMBER  
 DCS M7875-0-1 C

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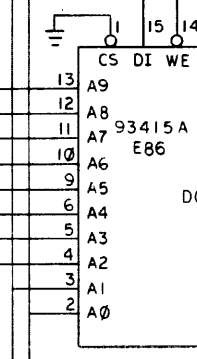
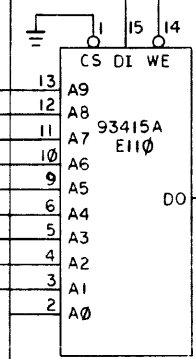
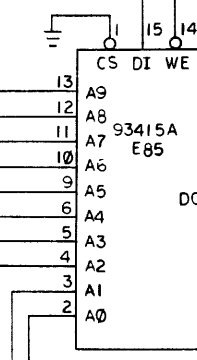
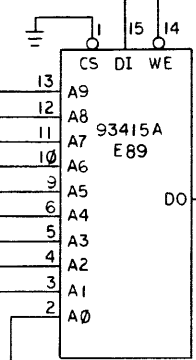
PARITY GENERATORS



- K509 PA MUX 10 A L
- K509 PA MUX 09 A L
- K509 PA MUX 08 A L
- K509 PA MUX 07 A L
- K509 PA MUX 06 A L
- K509 PA MUX 05 A L
- K509 PA MUX 04 A L
- K509 PA MUX 03 A L
- K509 PA MUX 02 A L
- K509 PA MUX 01 A L

K514 WR CACHE DATA LO L

K514 WR CACHE DATA HI L

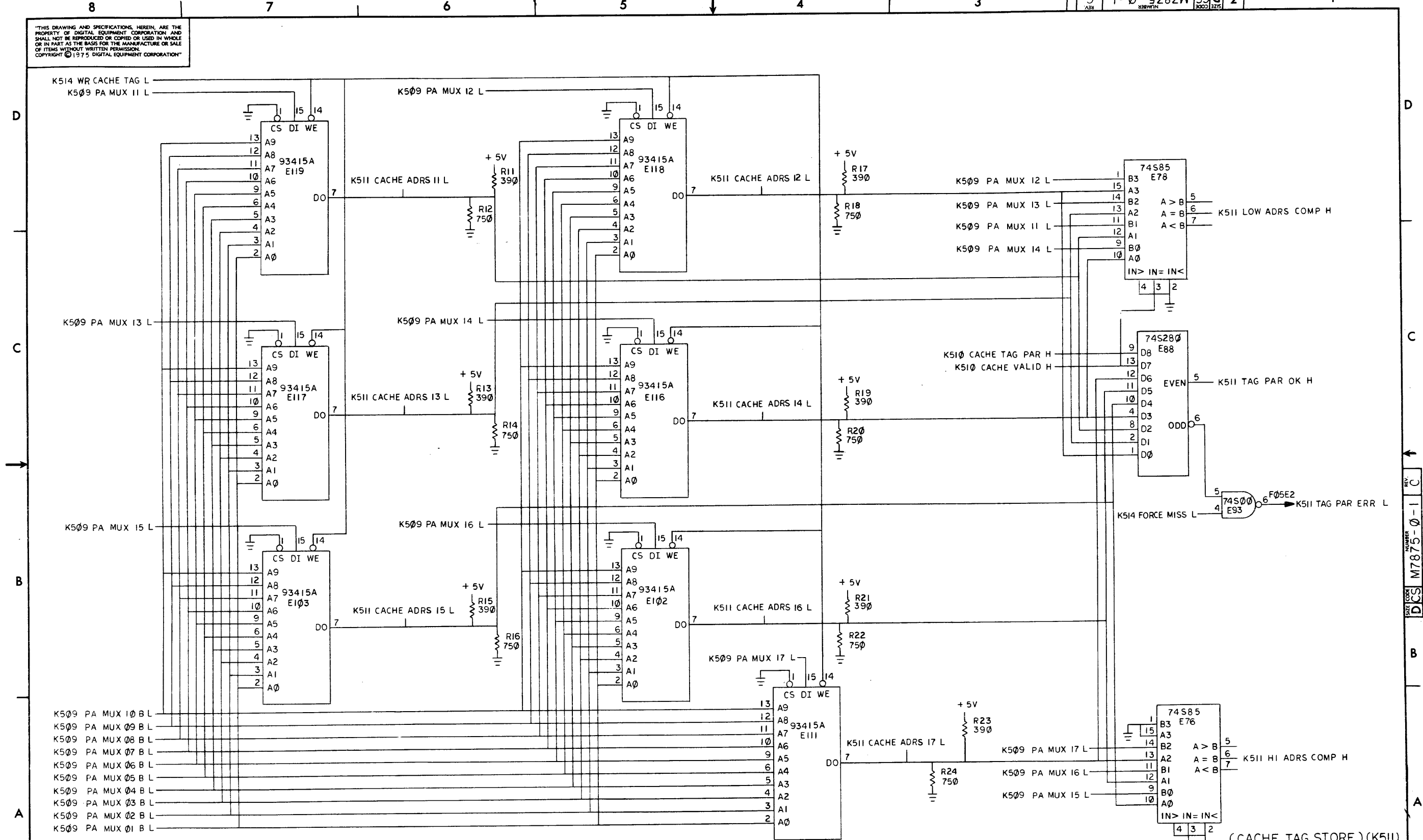


(CACHE VALID & PARITY) (K510)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	KT/ CACHE	SIZE CODE	D CS	NUMBER	M7875-0-1	REV.	C
SCALE	1/1	SHEET	10	OF 15	DIST.		

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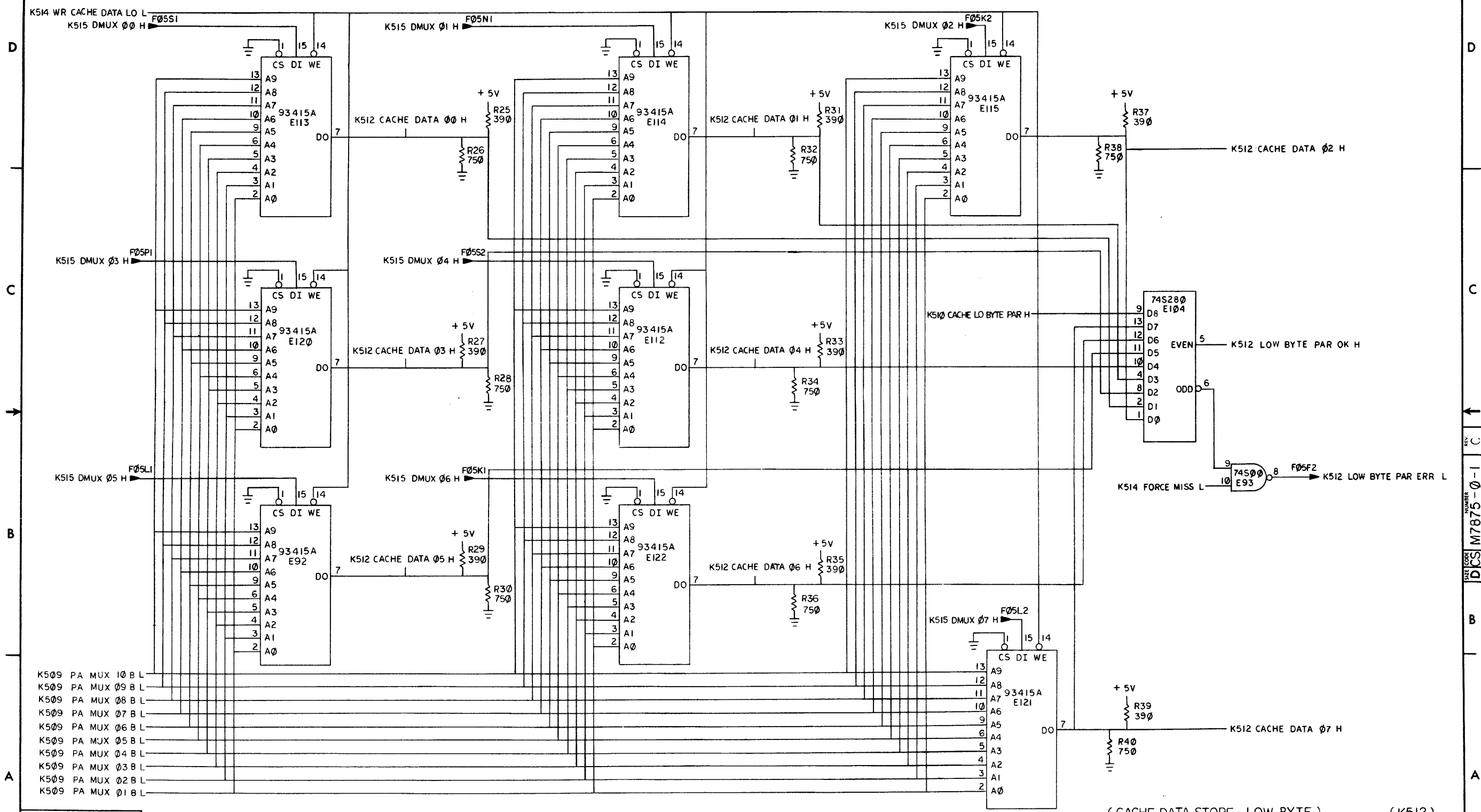


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	KT/CACHE	SIZE CODE	DCS	NUMBER	M7875-0-1	REV.	C
SCALE		SHEET	11 OF 15	DIST.			

REV. C  
NUMBER  
DCS M7875-0-1

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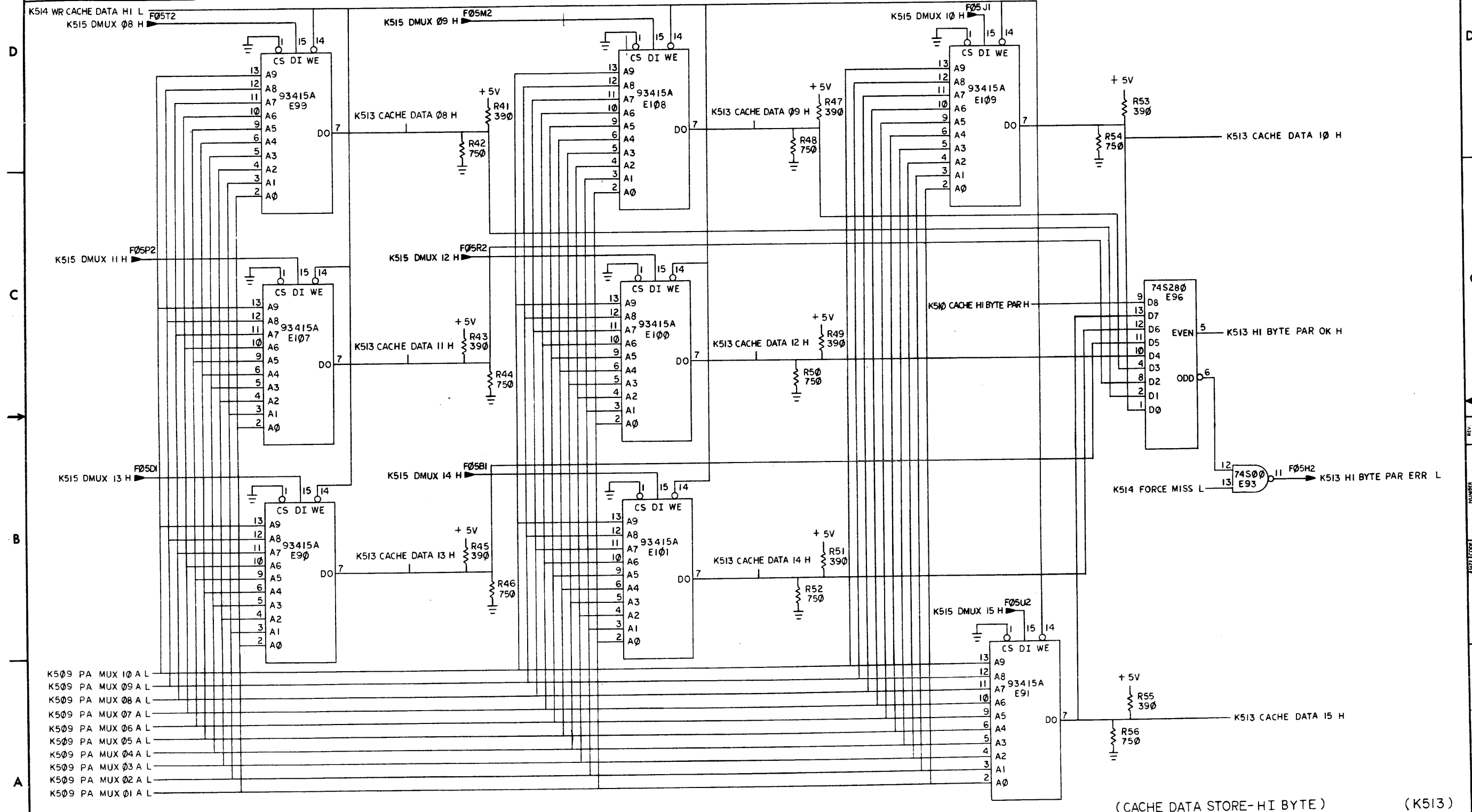
- K509 PA MUX 10 B L
- K509 PA MUX 09 B L
- K509 PA MUX 08 B L
- K509 PA MUX 07 B L
- K509 PA MUX 06 B L
- K509 PA MUX 05 B L
- K509 PA MUX 04 B L
- K509 PA MUX 03 B L
- K509 PA MUX 02 B L
- K509 PA MUX 01 B L

(CACHE DATA STORE- LOW BYTE) (K512)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	KT/ CACHE	SIZE CODE	DCS	NUMBER	M7875-0-1	REV.	C
SCALE	---	SHEET	12	OF 15	DIST.		

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- K509 PA MUX 10 A L
- K509 PA MUX 09 A L
- K509 PA MUX 08 A L
- K509 PA MUX 07 A L
- K509 PA MUX 06 A L
- K509 PA MUX 05 A L
- K509 PA MUX 04 A L
- K509 PA MUX 03 A L
- K509 PA MUX 02 A L
- K509 PA MUX 01 A L

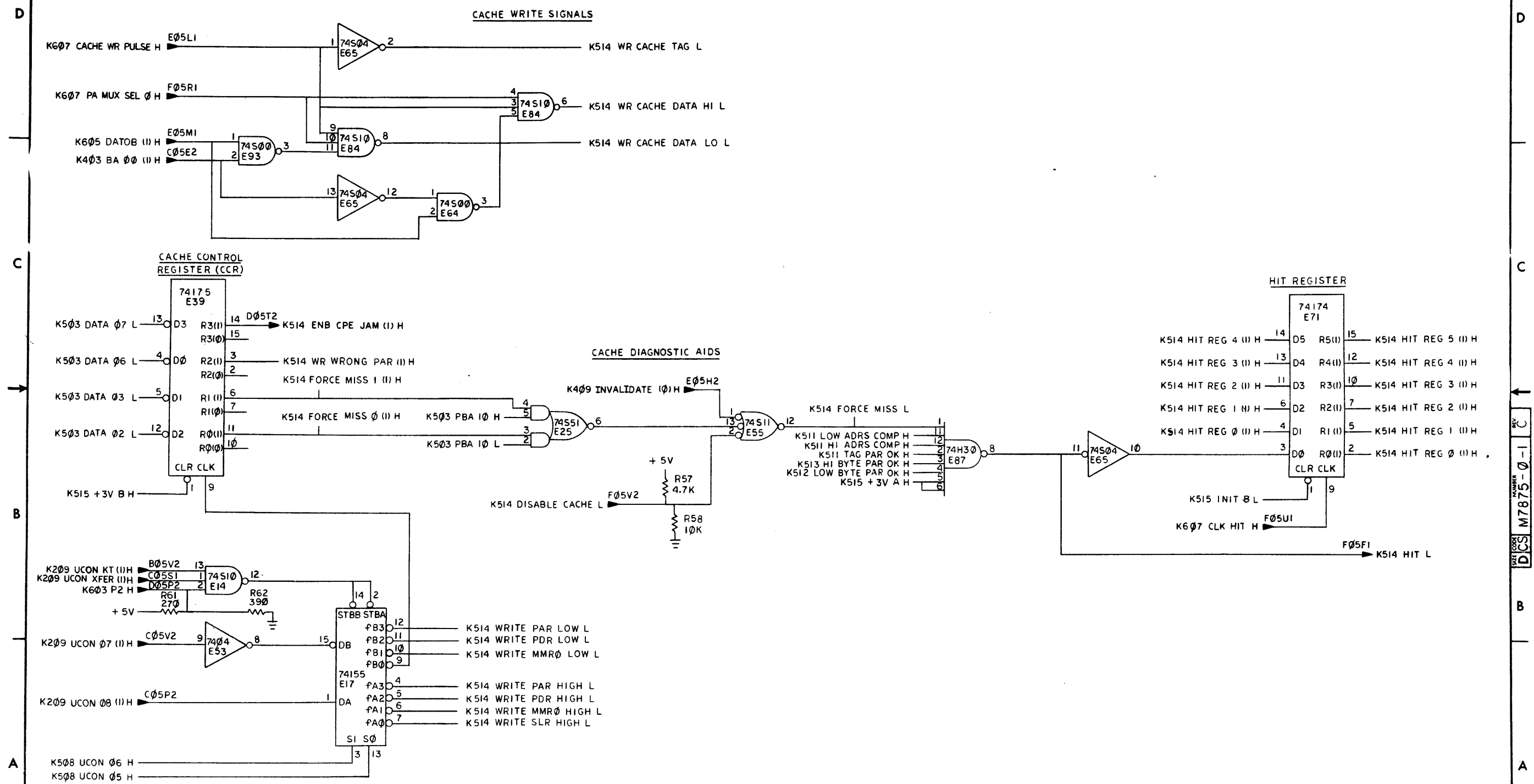
(CACHE DATA STORE-HI BYTE) (K513)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	KT/CACHE	SIZE CODE	D CS	NUMBER	M7875-0-1	REV.	C
SCALE		SHEET	13 OF 15	DIST.			

SIZE CODE DCS M7875-0-1 REV. C

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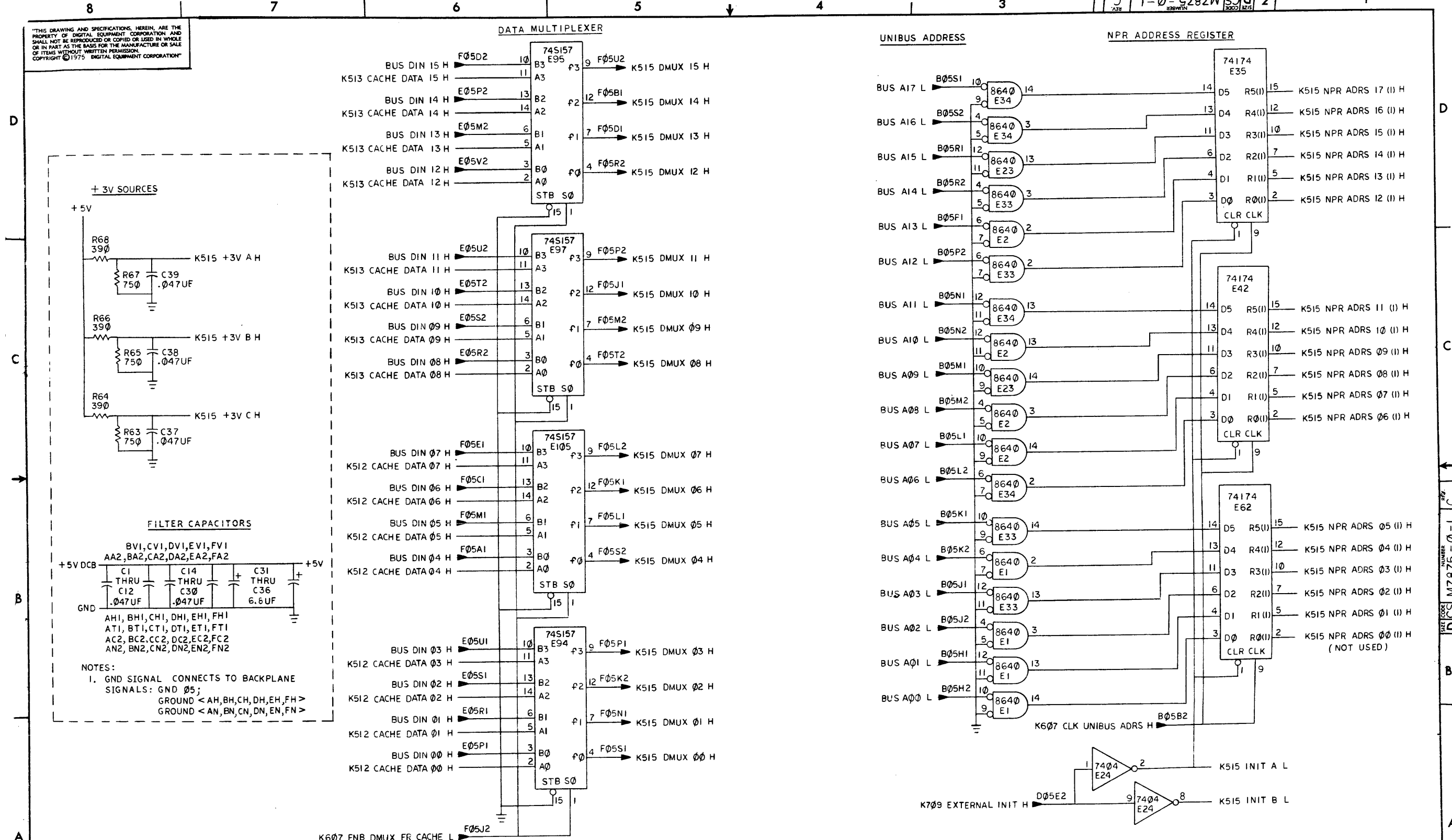
(CACHE CONTROL) (K514)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	KT/CACHE	SIZE CODE	D CS	NUMBER	M7875-0-1	REV.	C
SCALE		SHEET	14 OF 15	DIST.			

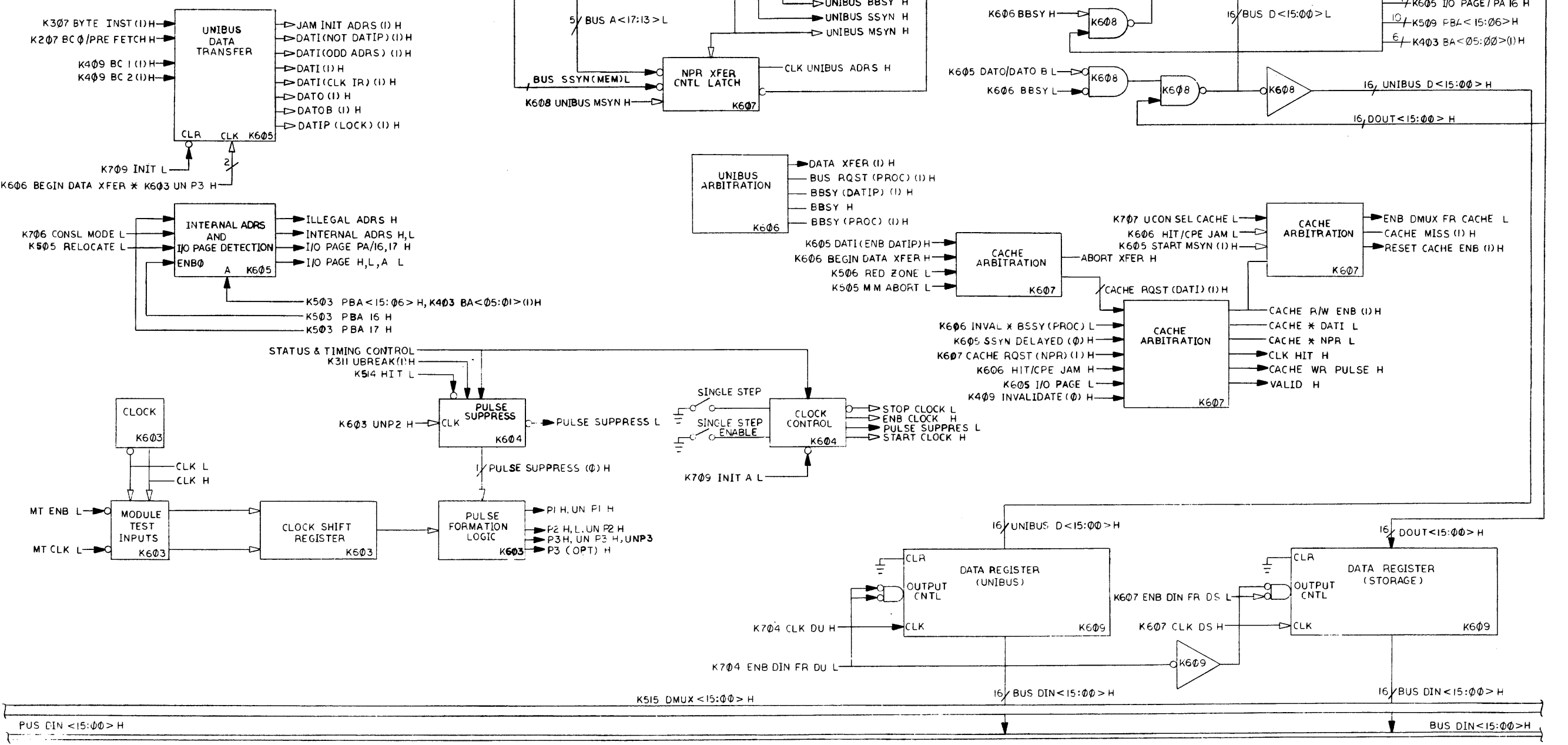


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REVISIONS			TITLE		SIZE CODE	NUMBER	REV.
CHK	CHANGE NO.	REV.	KT/CACHE		D CS	M7875-0-1	C
			SCALE	SHEET	15 OF 15	DIST.	

NOTES: 1. SIGNALS GENERATED WITHIN A BLOCK CARRY THE PRINT PREFIX OF THAT BLOCK, AND ARE NOT REWRITTEN WITH THE SIGNAL NAME.  
 2. \* INDICATES ADDITIONAL FUNCTIONAL INFORMATION PROVIDED UPON SHEET 2.  
 3. FILLED IN ARROWHEADS INDICATE MODULE PINS.



REV.	CHANGE NO.	DATE	BY	CHKD.	APP.
1	0000	11/15/76	J. O'LOUGHLIN	J. O'LOUGHLIN	J. O'LOUGHLIN
2	0001	11/15/76	J. O'LOUGHLIN	J. O'LOUGHLIN	J. O'LOUGHLIN
3	0002	11/15/76	J. O'LOUGHLIN	J. O'LOUGHLIN	J. O'LOUGHLIN
4	0003	11/15/76	J. O'LOUGHLIN	J. O'LOUGHLIN	J. O'LOUGHLIN
5	0004	11/15/76	J. O'LOUGHLIN	J. O'LOUGHLIN	J. O'LOUGHLIN
6	0005	11/15/76	J. O'LOUGHLIN	J. O'LOUGHLIN	J. O'LOUGHLIN
7	0006	11/15/76	J. O'LOUGHLIN	J. O'LOUGHLIN	J. O'LOUGHLIN
8	0007	11/15/76	J. O'LOUGHLIN	J. O'LOUGHLIN	J. O'LOUGHLIN

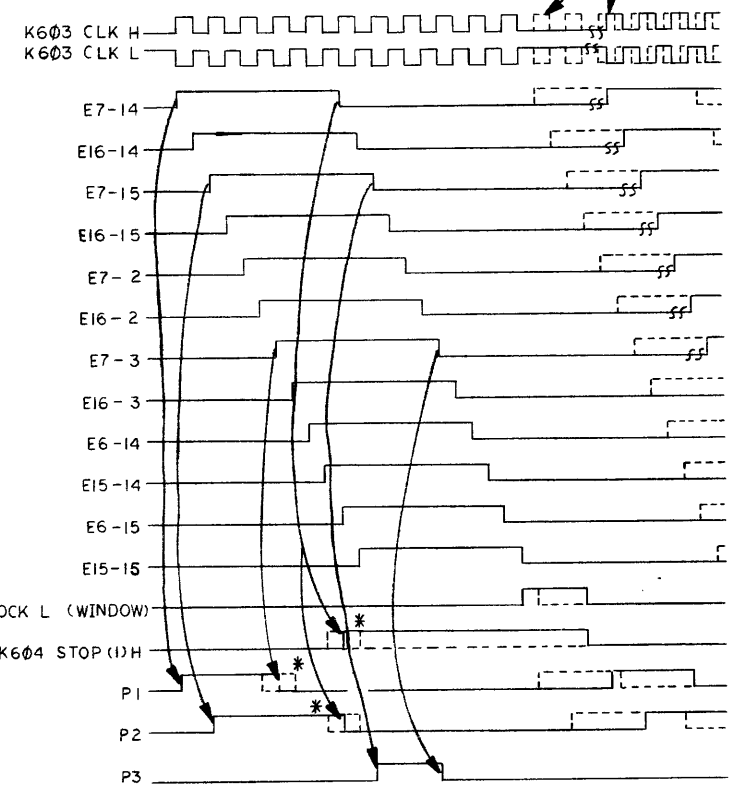
DRN. 772	FIRST USED ON	PDP 11/60	digital
CHKD. J. O'LOUGHLIN	TITLE	TIMING	
ENG. J. O'LOUGHLIN	PROJ. ENG. 772	11/15/76	
PROD. J. O'LOUGHLIN	NEXT HIGHER ASSY.		
B DD-M7876-0	SIZE CODE	D CS	NUMBER
SCALE 1-1	DIST.	M7876-0-1	REV. H
SHEET 1 OF 9			

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ECL CLOCK PULSE GENERATION

NEXT CYCLE (NO STOP) INDICATED BY DOTTED LINES

ASYNCHRONOUS CLK RESTART (IF STOP OCCURS) INDICATED BY SOLID LINES



\* EDGE (JUMPER) SELECT AND CLOCK PERIOD ADJUSTED PER SPECIFICATION A-SP-M7876-0-7.

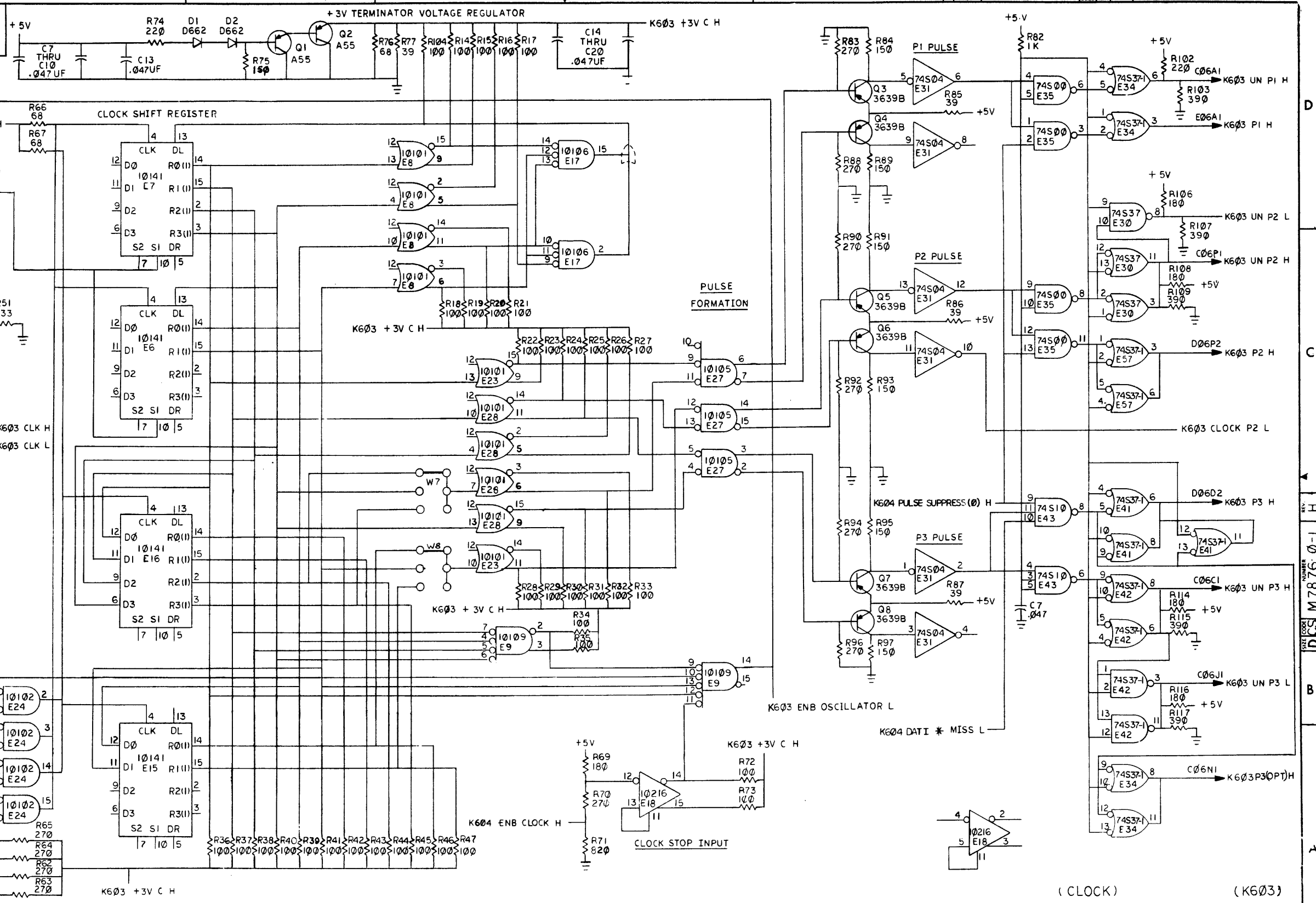
BUS CONTROL CODE TABLE	
INPUTS	OUTPUTS
A4-K307 BYTE INST. (1) H A3-K207 BC 0/PREFETCH H A2-K409 BC 1 (1) H A1-K409 BC 2 (1) H A0-END	
A4 A3 A2 A1 A0 X 0 0 0 0	K605 JAM INT ADRS (1) H K605 DATI (ENB DATIP) (1) H K605 DATI (CLK IP) (1) H
X 0 0 1 0	K605 DATIP (LOCK) (1) H K605 DATI (ENB DATIP) (1) H
0 0 1 0 0 0 1 0 1 0 X 1 1 1 0	K605 DATO (1) H
0 1 1 0 0	
X 0 1 1 0	
X 1 0 0 0	K605 JAM INT ADRS (1) H K605 DATI (ENB DATIP) (1) H K605 DATI (1) H
1 1 0 1 0 1 1 1 0 0	K605 DATOB (1) H K605 DATI (ENB DATIP) (1) H K605 DATI (ODD ADRS) (1) H

INTERNAL ADDRESS DETECTION		
INPUT E58, E49 K503 PBA<15:06>(1) H K409 BA<05:01>(1) H	OUTPUT E58, E49 ASSERTED L0	REGISTER
ADDRESS	M1 (1)	PSW
177776	M1 (1)	STACK LIMIT
177774	M1 (1)	UBREAK
177770	M1 (1)	CPU ERROR
177766	M1 (1)	HIT TAG
177752	M1 (1)	CACHE CONTROL
177746	M1 (1)	MEM ERROR
177744	M1 (1)	USER PAR
177640-56	M1 (1)	USER PDR
177600-16	M1 (1)	MMR2
177576	M1 (1)	MMR1
177574	M1 (1)	MMR0
177572	M1 (1)	WCS DATA
177544	M1 (1)	WCS ADDRESS
177542	M1 (1)	WCS STATUS
177540	M0 (1)	KERNEL PAR
172340-56	M0 (1)	KERNEL PDR
172300-16	M1 (1)	SWTCH/DISPLAY
177570	M1 (1)	

REVISIONS		
CHK	CHANGE NO.	REV.

(TABLES)		(K602)	
TITLE	TIMING	SIZE CODE	NUMBER
SCALE	SHEET 2 OF 9	DCS	M7876-0-1
DIST.		REV. H	

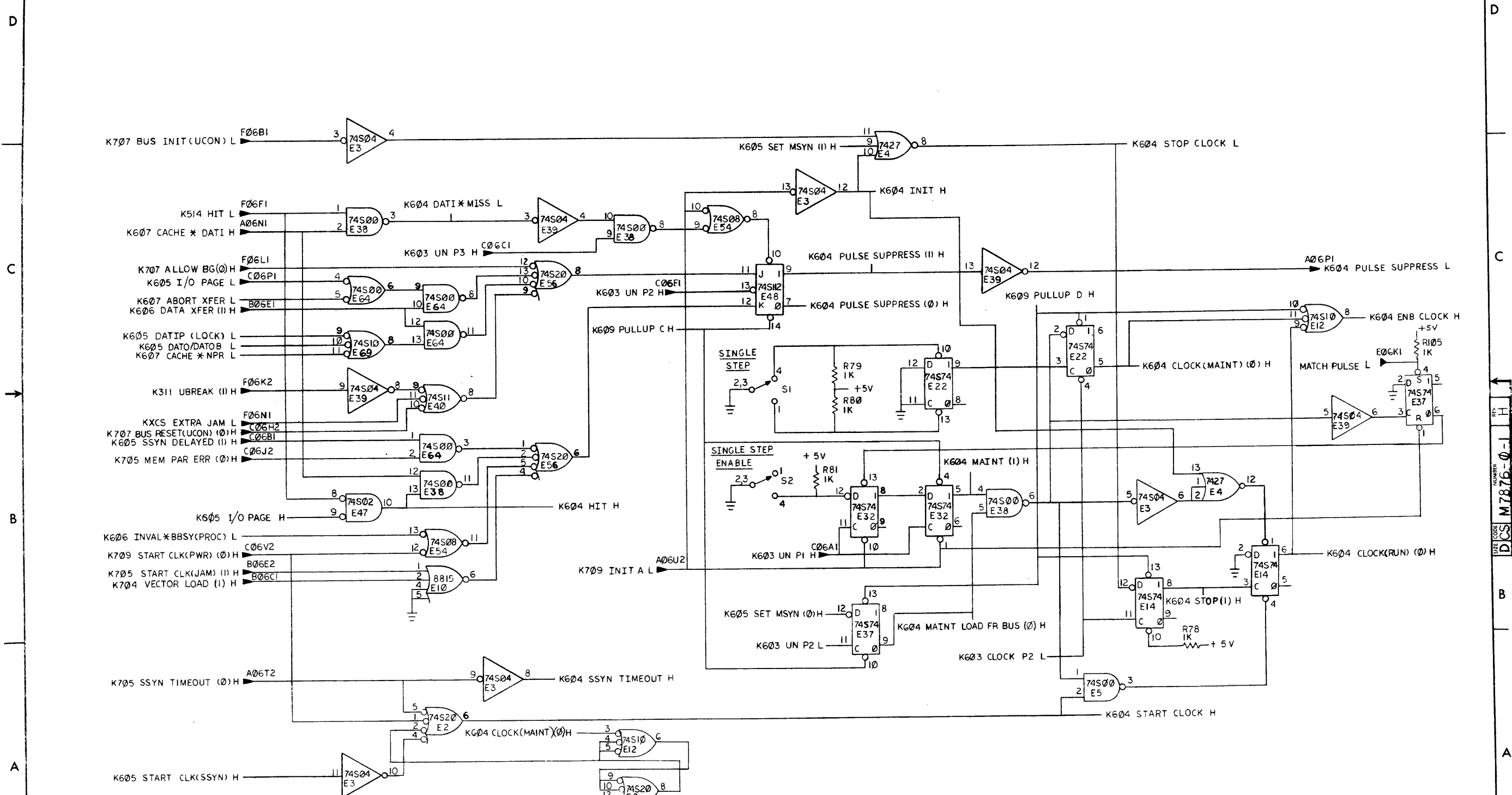
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CHK	CHANGE NO	REV.

TITLE	SIZE CODE	NUMBER	REV
TIMING	DCS M 7876-0-1	H	
SCALE	SHEET 3 OF 9	DIST.	

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CHK	CHANGE NO.	REV.

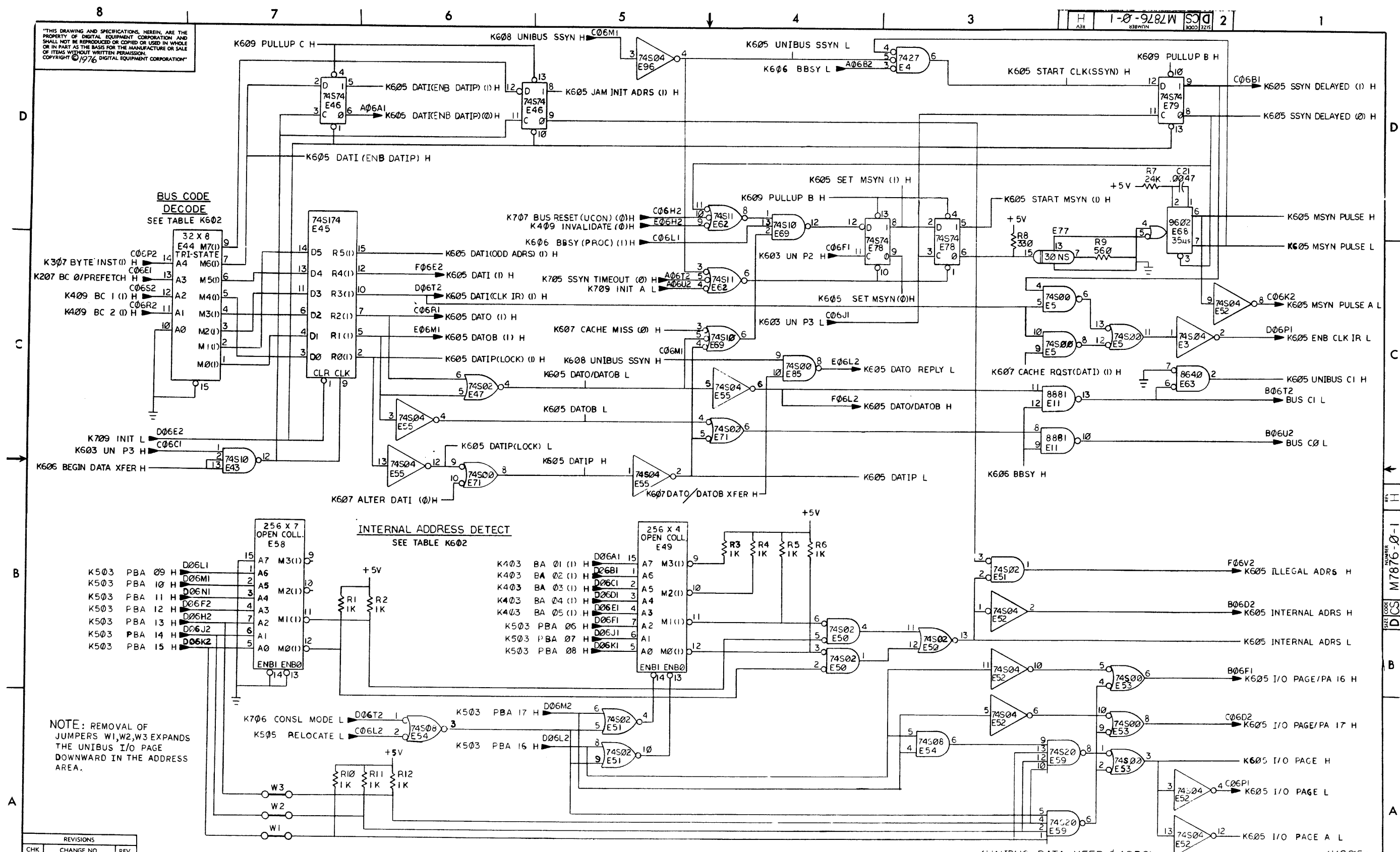
DEC FORM NO. RD 138

TITLE	SIZE CODE	NUMBER	REV.
TIMING	DCS	M7876-0-1	H

SCALE: # SHEET 4 OF 9

REV. H DCS M7876-0-1

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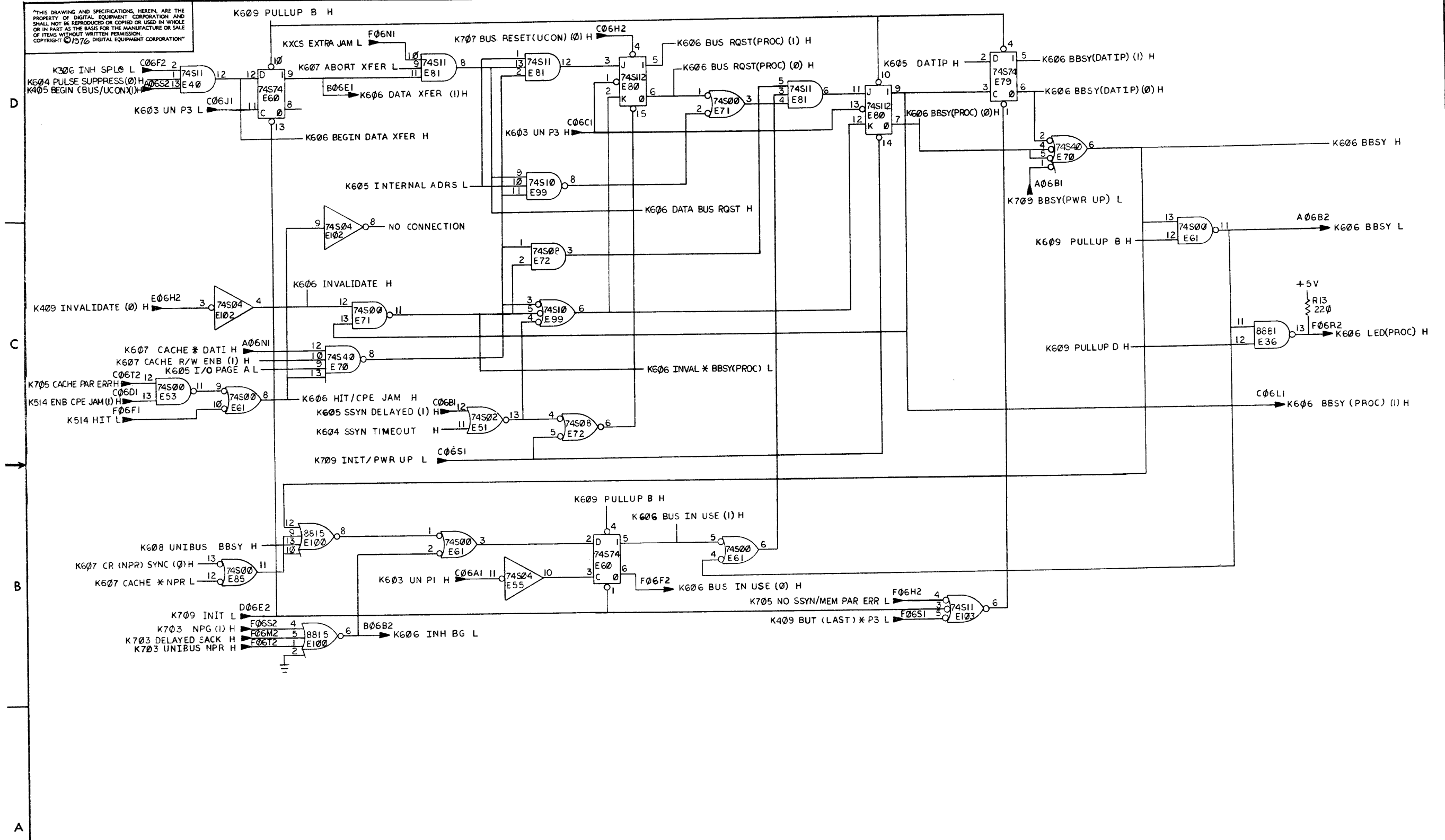
NOTE: REMOVAL OF JUMPERS W1, W2, W3 EXPANDS THE UNIBUS I/O PAGE DOWNWARD IN THE ADDRESS AREA.

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE CODE	NUMBER	REV.
TIMING		D CS	M7876-0-1	H
SCALE	SHEET	DIST.		
	5 OF 9			

REV. 1  
M7876-0-1

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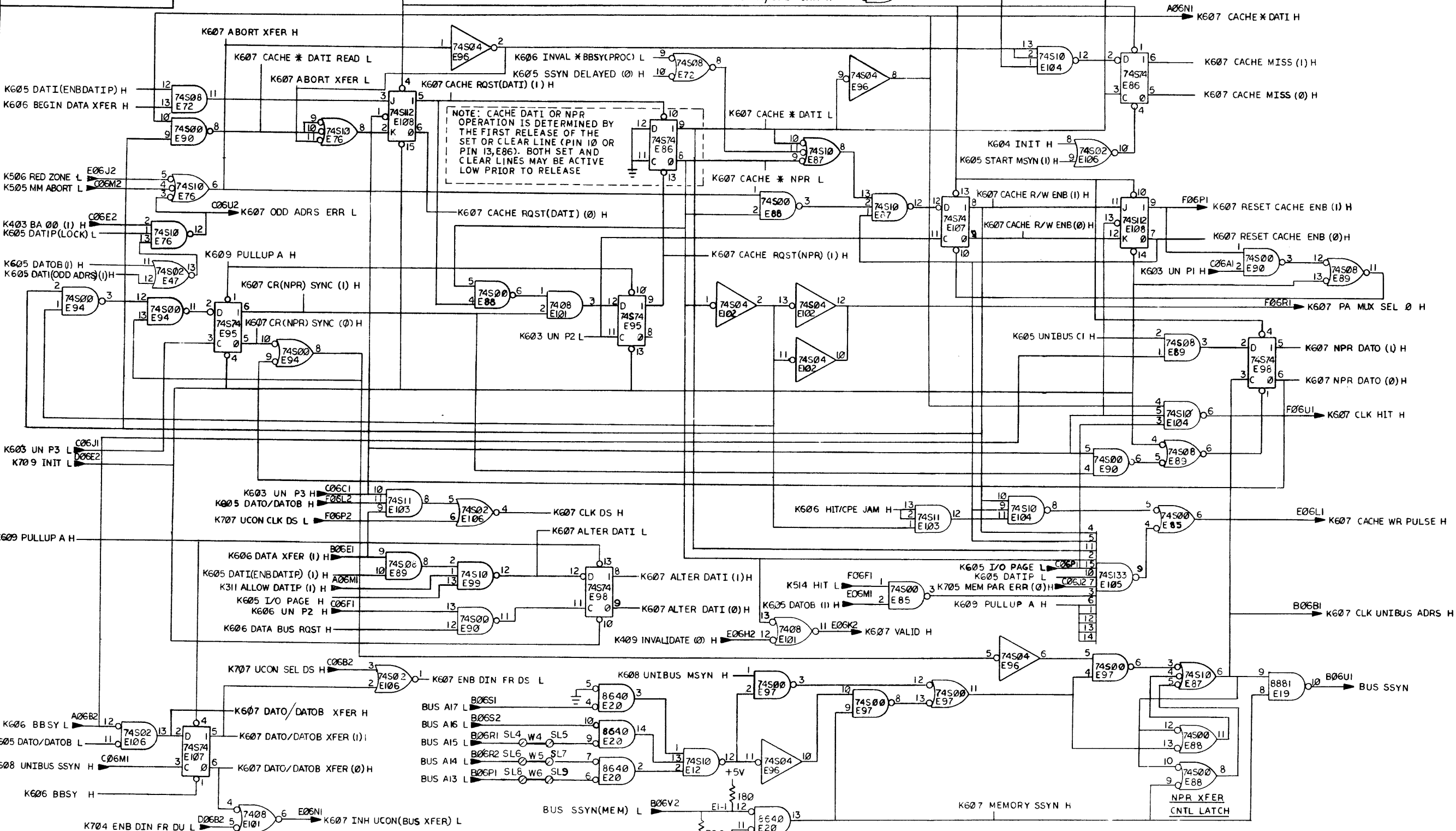


(UNIBUS ARBITRATION) (K606)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	DCS M7876-0-1	REV.	H
SCALE	SHEET 6 OF 9	DIST.	1

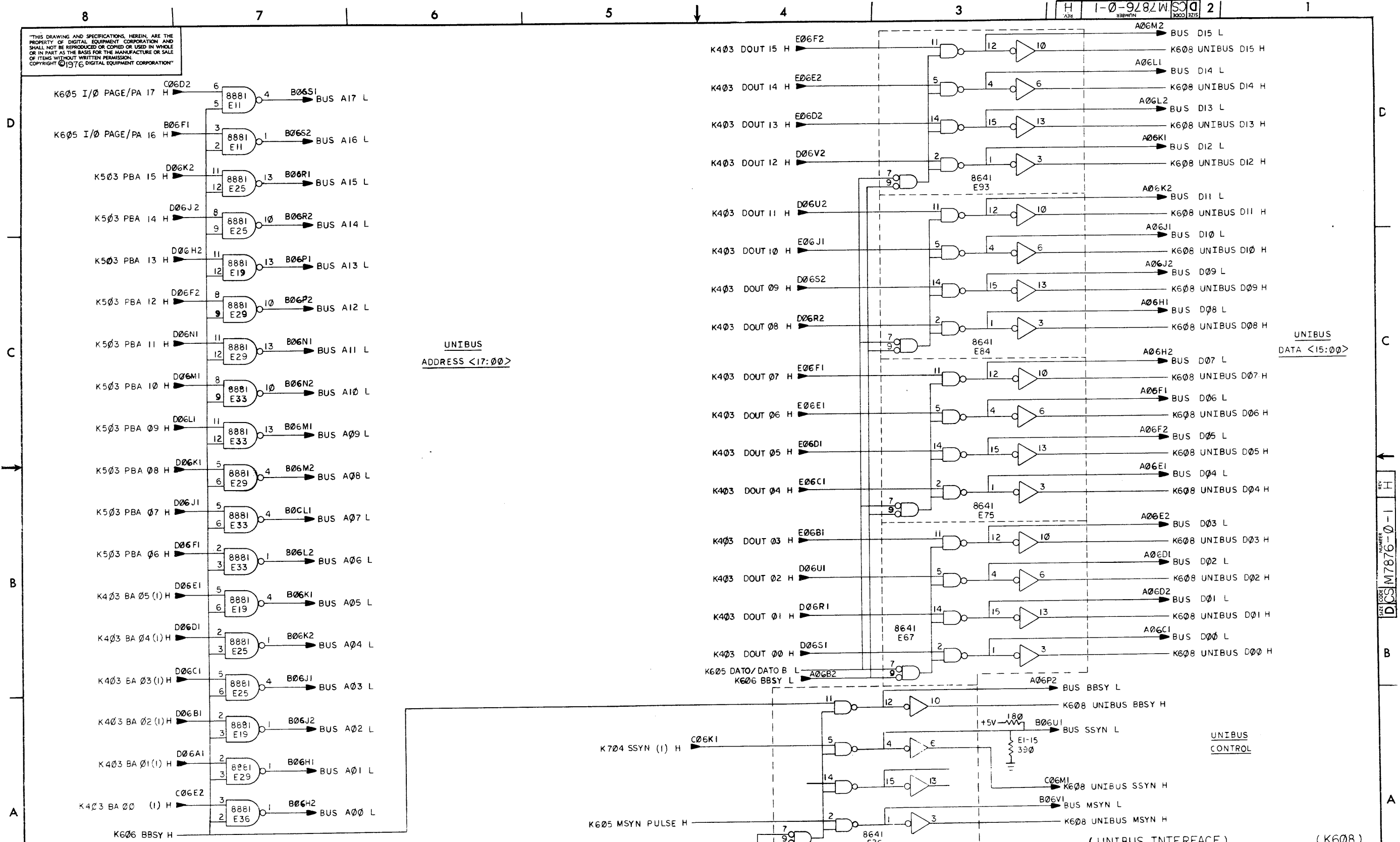
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REVISIONS		
CHK	CHANGE NO.	REV.



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UNIBUS  
ADDRESS <17:00>

UNIBUS  
DATA <15:00>

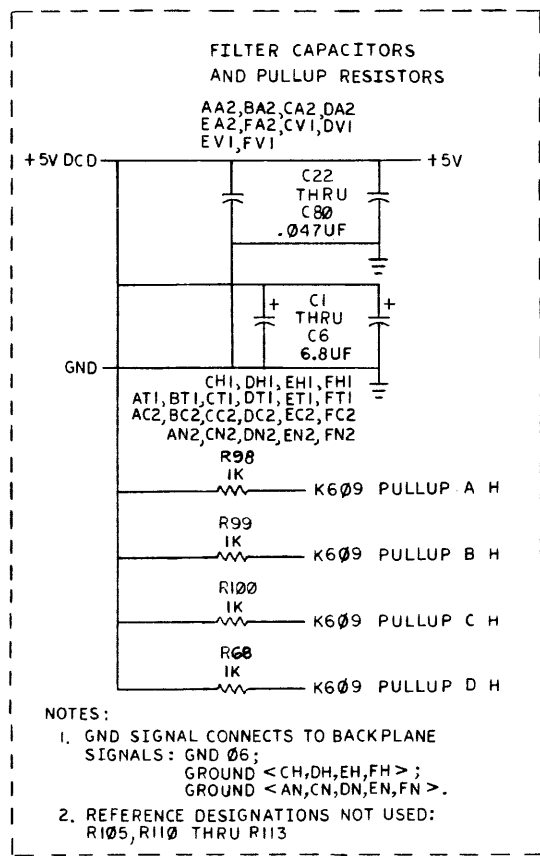
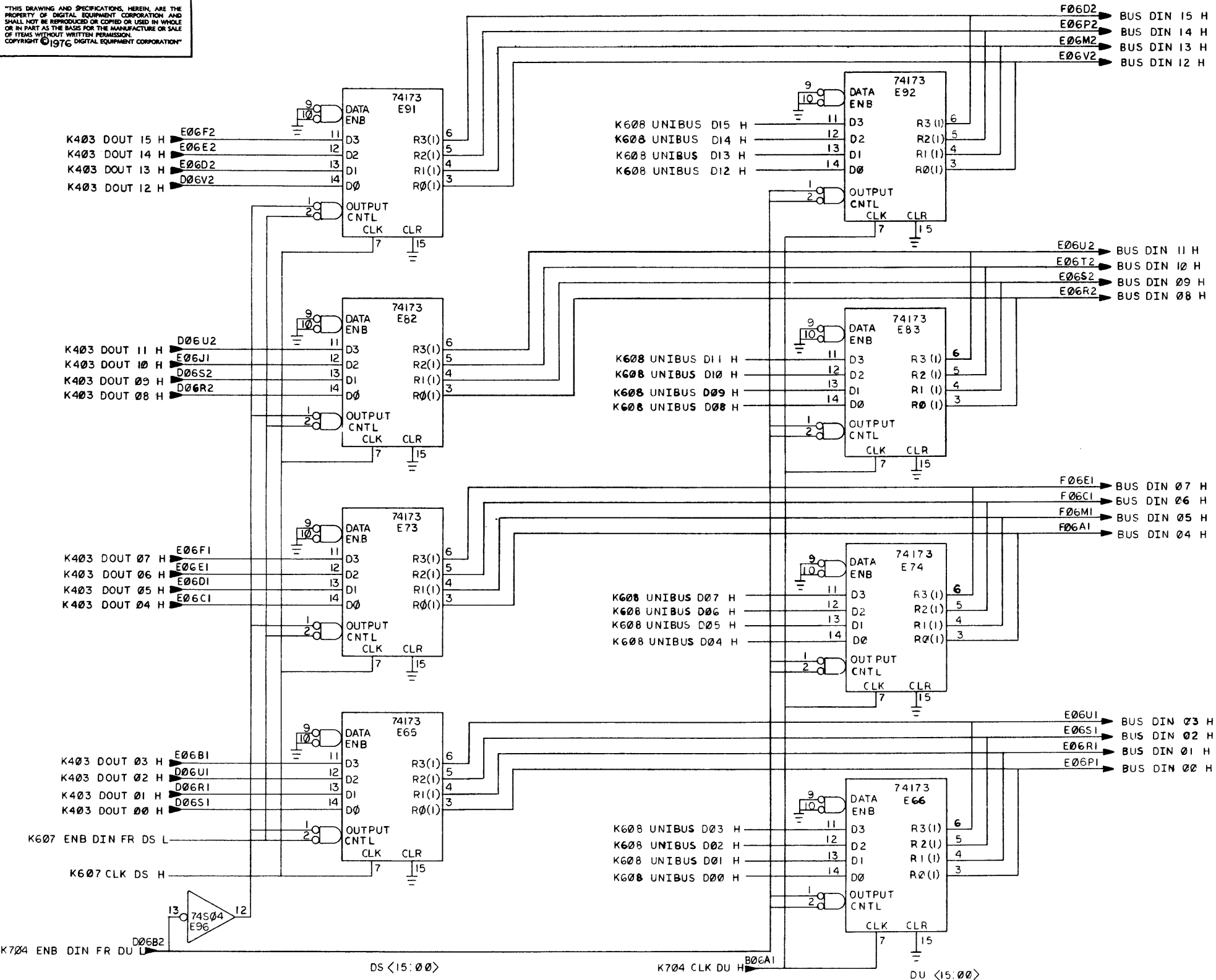
UNIBUS  
CONTROL

(UNIBUS INTERFACE) (K608)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	TIMING	SIZE CODE	D CS M7876-0-1	NUMBER	H	REV.	H
SCALE		SHEET	8 OF 9	DIST.			

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REVISIONS		
CHK	CHANGE NO.	REV.

DS <15:00>  
DATA (STORAGE) REGISTER

K704 CLK DU H B0CA1  
DU <15:00>  
DATA (UNIBUS) REGISTER

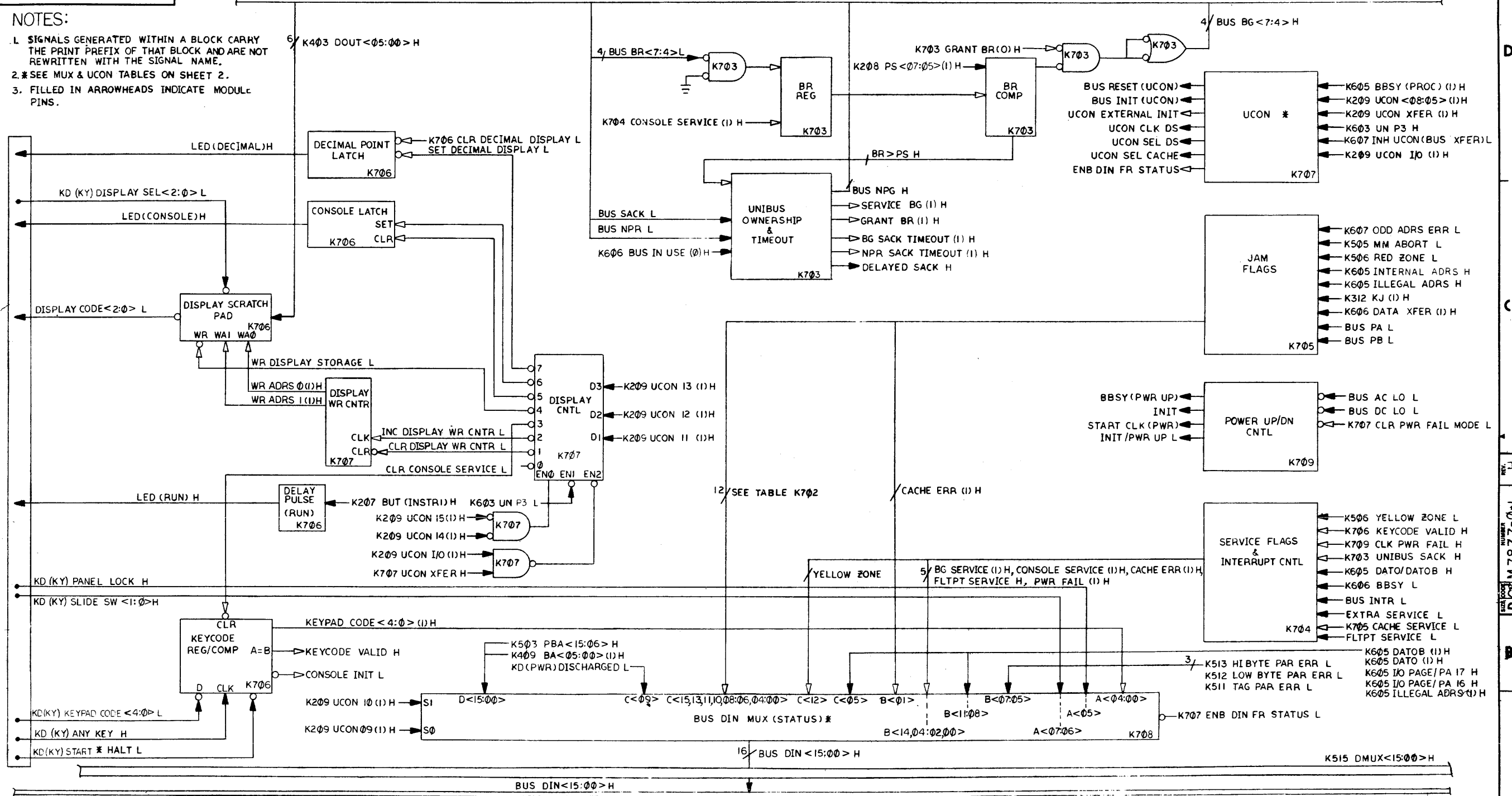
(DATA (STORAGE) & DATA (UNIBUS) REGISTERS) (K609)

TITLE	NUMBER	REV.
TIMING	D CS M7876-0-1	H
SCALE	SHEET 9 OF 9	DIST.

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NOTES:

1. SIGNALS GENERATED WITHIN A BLOCK CARRY THE PRINT PREFIX OF THAT BLOCK AND ARE NOT REWRITTEN WITH THE SIGNAL NAME.
2. \*SEE MUX & UCON TABLES ON SHEET 2.
3. FILLED IN ARROWHEADS INDICATE MODULE PINS.



REVISIONS

CHK	CHANGE NO.	REV.	DATE
...	...	...	...

(BLOCK DIAGRAM) (K701)

DRN	10-27-76	FIRST USED ON	PDP 11/60
CHK'D	11/15/76	TITLE	STATUS
ENG.	11/15/76	SIZE	D
PROJ. ENG.	11/15/76	CODE	CS
PROD.	11/15/76	NUMBER	M7877-0-1
NEXT HIGHER ASSY.		REV.	H
B-DD-M7877-0		SCALE	+
SHEET 1 OF 9		DIST.	

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UCON TABLE (STATUS)		
SIGNALS	STATUS FUNCTION	OTHER SIGNALS
UCON 15	K707 UCON SEL DSH K707 ENB DIN FR STATUS L ENB FOR CONSOLE DISPLAYS	K209 UCON 1/D(1) H K209 UCON 1/D(1) H K807 INH UCON(BUS XFER) L K209 UCON 14(1) H
UCON 14	K707 REMOTE LOAD L ENB FOR CONSOLE DISPLAYS	K209 UCON 15(1) H
UCON 13	CONSOLE DISPLAY DECODE	
UCON 12	K707 REMOTE SEL 1 L CONSOLE DISPLAY DECODE	
UCON 11	K707 REMOTE SEL 0 L CONSOLE DISPLAY DECODE	
UCON 10	S1-BUS DIN MUX	
UCON 09	S0-BUS DIN MUX	
UCON 08	K707 UCON SEL CACHE L	K209 UCON 1/D(1) H
UCON 07	K707-CLEAR ERROR SIGNALS K707-ALLOW BG L	K209 UCON 1/D(1) H K707 UCON XFER H
UCON 06	K707-CLEAR ERROR SIGNALS ALLOW BG L	
UCON 05	K707-CLEAR ERROR SIGNALS ALLOW BG L	
UCON 1-0	K707-REMOTE CONSOLE, CNTL REG, ENABLE CONSOLE SIGNALS, SELECT CACHE, DATA STORE REG. CONTROL	

BUS DIN	INPUT PORT			
	A	B	C	D
15	0	0	ODD ADRS ERR(1)H	PBA 05 H
14	0	BG SERVICE (1) H	0	PBA 14 H
13	0	0	SSYN TIMEOUT (1) H	PBA 13 H
12	0	NPR TIMEOUT (1) H	YELLOW ZONE (1) H	PBA 12 H
11	0	DATOB (1) H	RED ZONE (1) H	PBA 11 H
10	0	DATO (1) H	WCS PAR ERR H	PBA 10 H
09	0	1/D PAGE/ PA 17 H	KD(PWR) DISCHARGED L	PBA 09 H
08	0	1/D PAGE/ PA 16 H	MEM PAR ERR (1) H	PBA 08 H
07	SLIDE SW 1 L	HIBYTE PAR ERR L	SSYN TIMEOUT (1) H	PBA 07 H
06	SLIDE SW 0 L	LOWBYTE PAR ERR L	CACHE ERR (1) H	PBA 06 H
05	PANEL LOCK L	TAG PAR ERR L	ILLEGAL ADRS (1) H	BA 05 (1) H
04	KEYPAD CODE 4 (1) H	CONSOLE SERVICE (1) H	MM ABORT (1) H	BA 04 (1) H
03	KEYPAD CODE 3 (1) H	FLTPT SERVICE H	RED ZONE (1) H	BA 03 (1) H
02	KEYPAD CODE 2 (1) H	PWR FAIL (1) H	ODD ADRS ERR (1) H	BA 02 (1) H
01	KEYPAD CODE 1 (1) H	CACHE ERR (1) H	WCS PAR ERR H	BA 01 (1) H
00	KEYPAD CODE 0(1) H	YELLOW ZONE (1) H	U BREAK (1) H	DA 00 (1) H

74SI38 FUNCTION TABLE												
ENABLE		SELECT			OUTPUTS							
ENB	EN1	D3	D2	D1	F0	F1	F2	F3	F4	F5	F6	F7
X	H	X	X	X	H	H	H	H	H	H	H	H
L	X	X	X	X	H	H	H	H	H	H	H	H
H	L	L	L	L	L	H	H	H	H	H	H	H
H	L	L	L	H	H	L	H	H	H	H	H	H
H	L	L	H	L	H	H	L	H	H	H	H	H
H	L	L	H	H	H	H	L	H	H	H	H	H
H	L	L	L	L	H	H	H	H	L	H	H	H
H	L	L	L	H	H	H	H	H	H	L	H	H
H	L	L	L	L	H	H	H	H	H	H	L	H
H	L	L	L	H	H	H	H	H	H	H	H	H

EN1 = EN1 + EN2  
H = HIGH LEVEL, L = LOW LEVEL, X = IRRELEVANT

BUS REQUEST COMPARISON TABLE	
ROM ADDRESS INPUTS	BUS GRANT LINE ASSERTED (ASSERTED LO)
A7 K200 PS 05 (1) H	
A6 BR 5 H	
A5 BR 7 H	
A4 BR 4 H	
A3 BR 6 H	
A2 CONSOLE STATUS H	
A1 K200 PS 06 (1) H	
A0 K200 PS 07 (1) H	
XX HXX XXL	BG 7
XX HXX XLH	
LX HXX X0H	BG 6
XX LXH X0L	
XX LXH XLH	BG 5
XL LHL XXL	BG 4

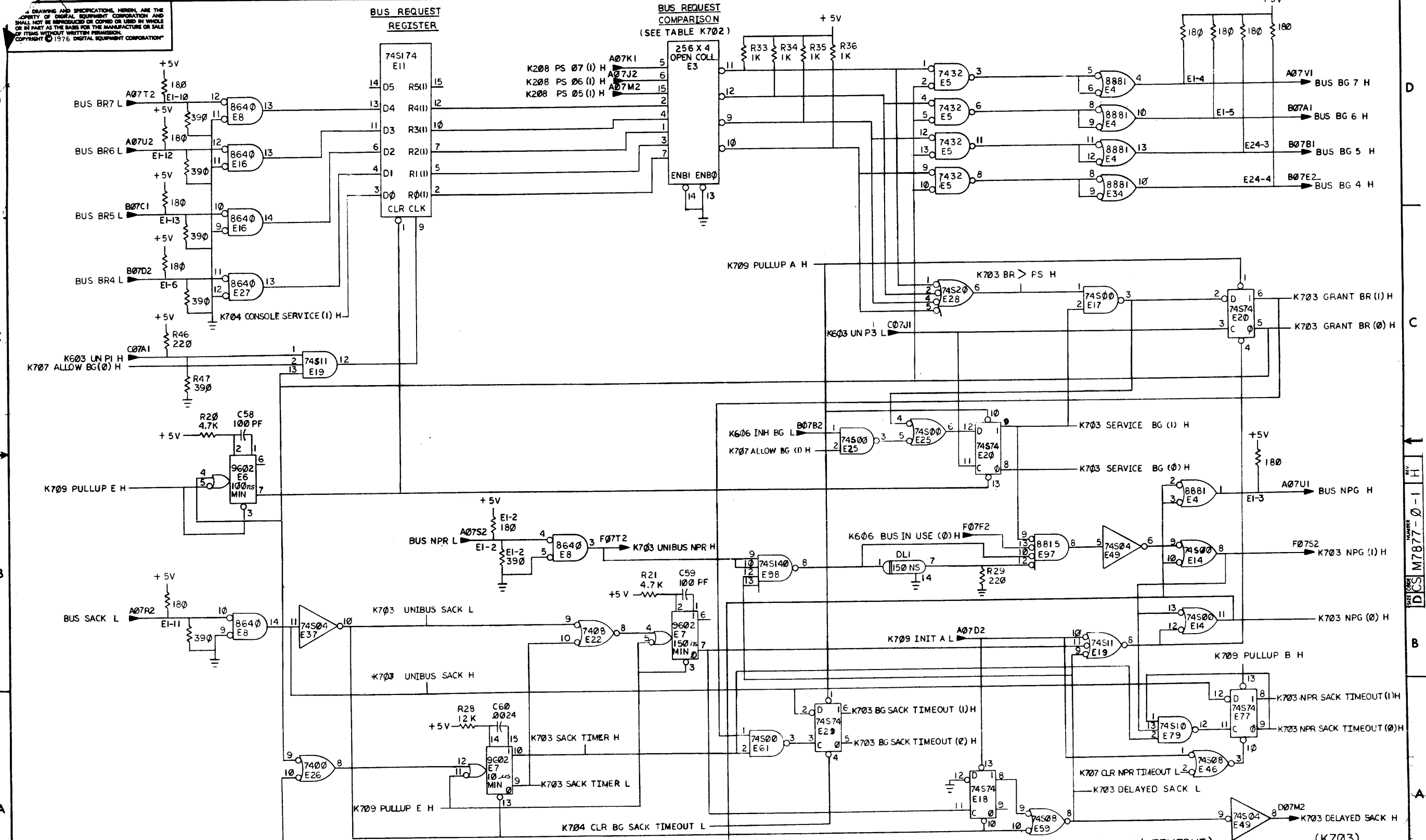
H HIGH LEVEL, L LOW LEVEL, X IRRELEVANT

REVISIONS		
CHK	CHANGE NO.	REV.

(TABLES)		(K702)	
TITLE	STATUS	SIZE CODE	NUMBER
SCALE	SHEET 2 OF 9	DCS	M7877-0-1
DIST.			REV. H

REV H  
NUMBER M7877-0-1  
SHEET CODE DCS

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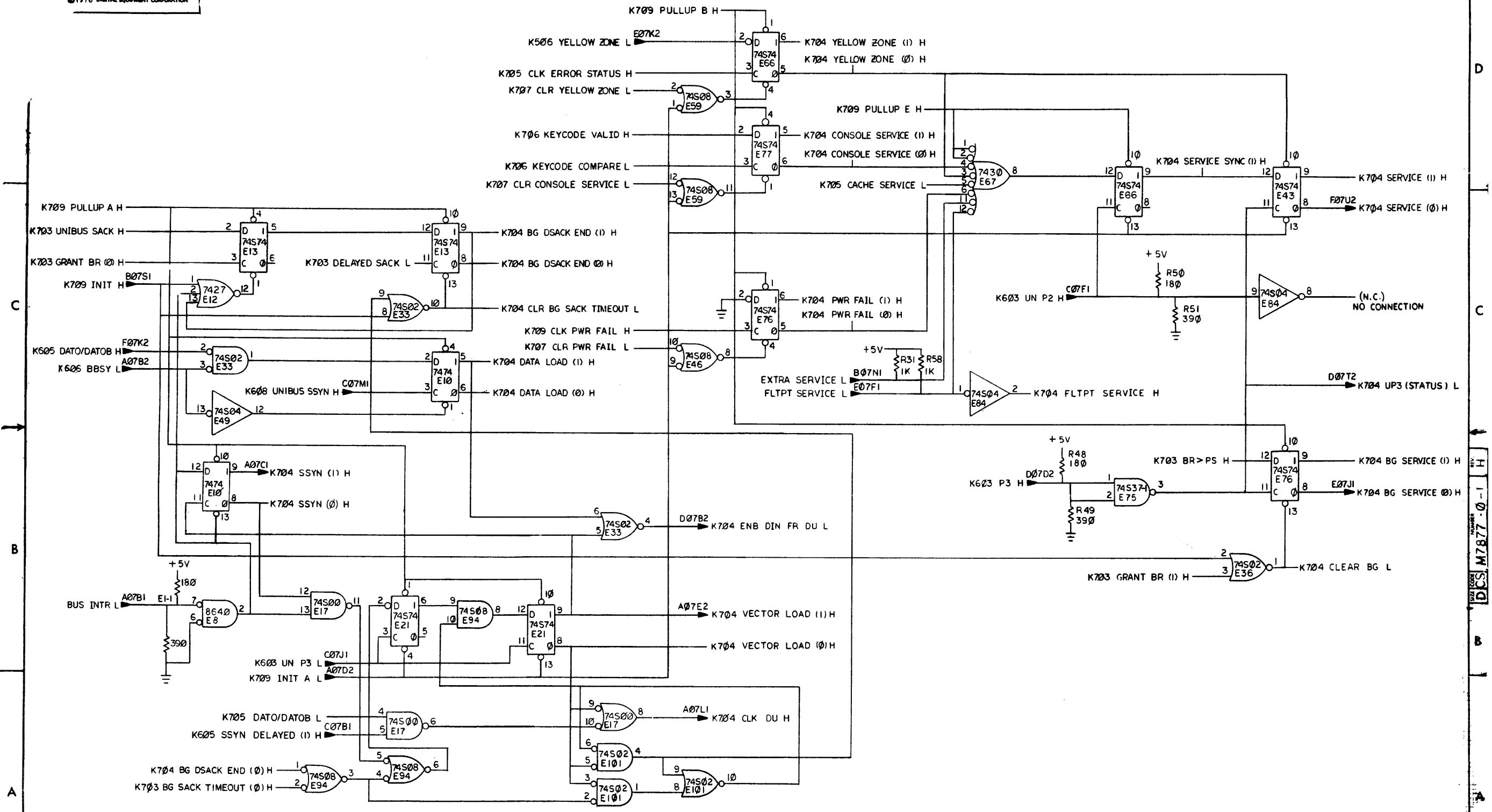
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE STATUS		SIZE CODE DCS	NUMBER M7877-0-1	REV. H
SCALE	SHEET 3 OF 9	DIST.	1	

REV. H  
NUMBER M7877-0-1  
DATE DCS

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1-0-2202W50 21

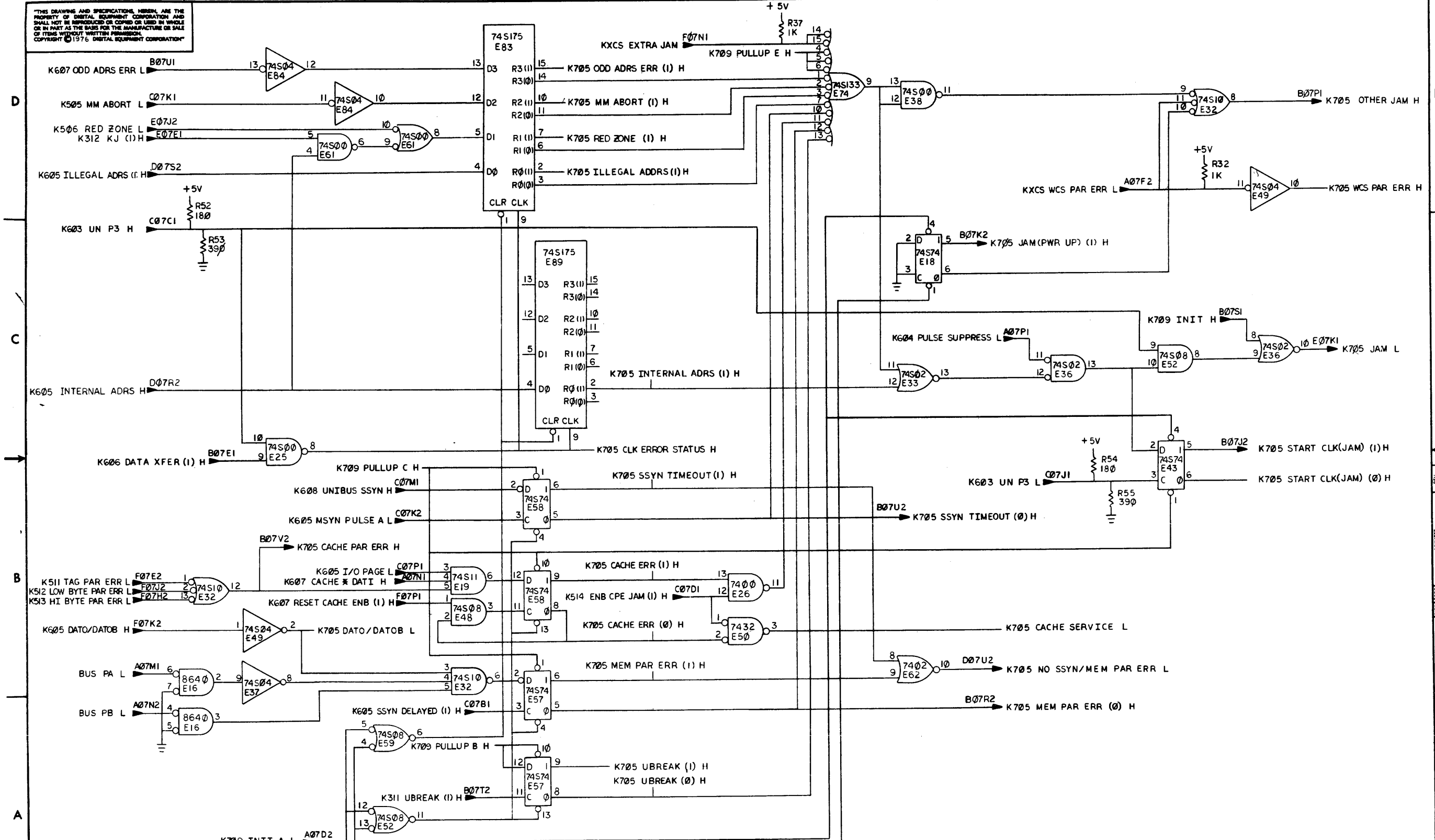


REVISIONS		
CHK	CHANGE NO.	REV.

(SERVICE FLAGS & INTERRUPT CNTL)		(K704)	
TITLE	STATUS	SIZE/CODE	NUMBER
SCALE	---	D CS	M7877-0-1
SHEET	4 OF 9	DIST.	

NUMBER  
 DCS M7877-0-1  
 REV. H

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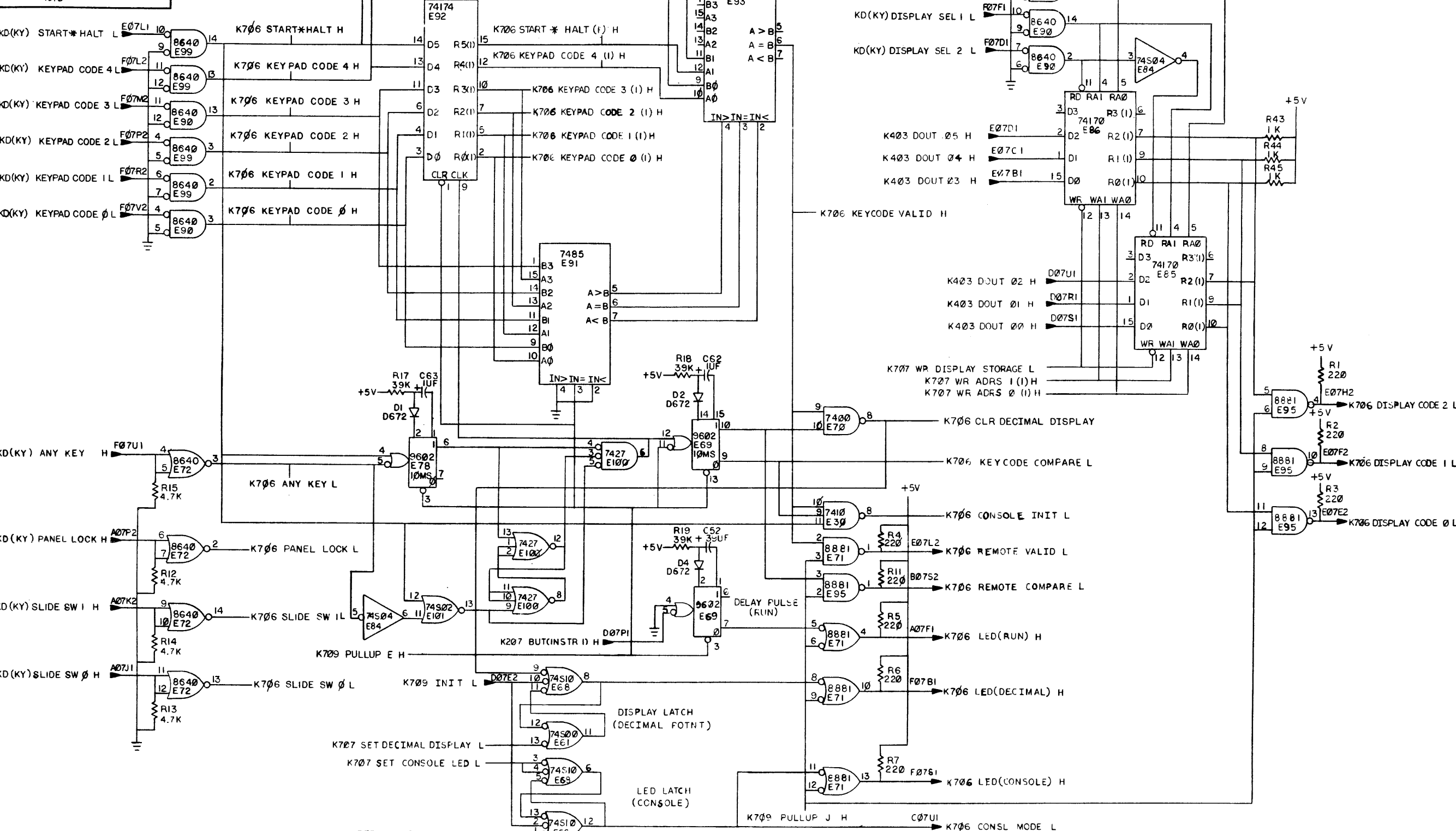


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		STATUS		SIZE CODE	NUMBER	REV.
SCALE		SHEET 5 OF 9		D CS	M7877-0-1	H

NUMBER  
 DCS M7877-0-1  
 REV. H

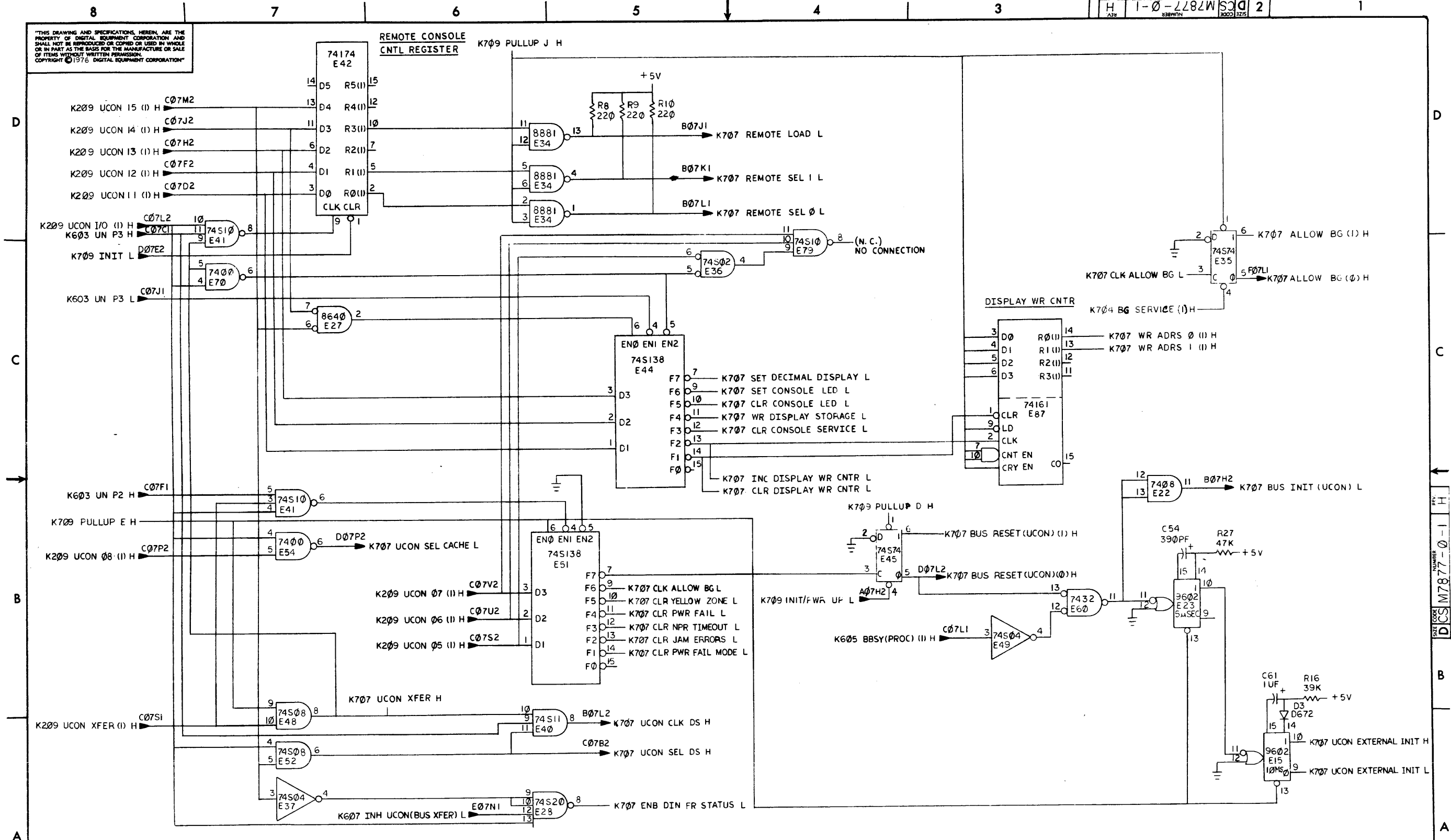
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REVISIONS		
CHK	CHANGE NO.	REV.



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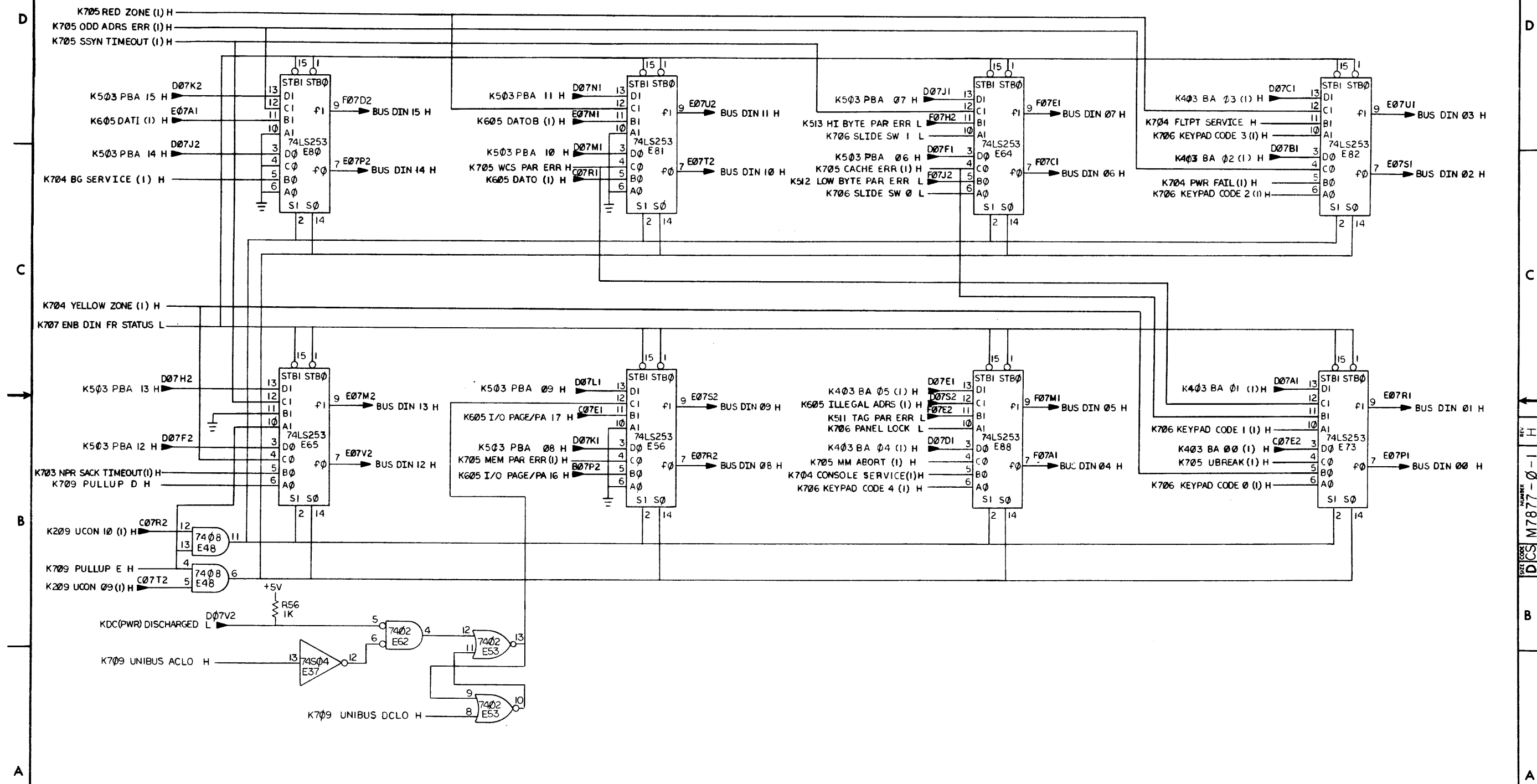
(UCON & REMOTE CONSOLE CNTL) (K707)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	STATUS	SIZE CODE	D CS	NUMBER	M7877-0-1	REV.	H
SCALE	---	SHEET	7 OF 9	DIST.			

REV. H NUMBER M7877-0-1

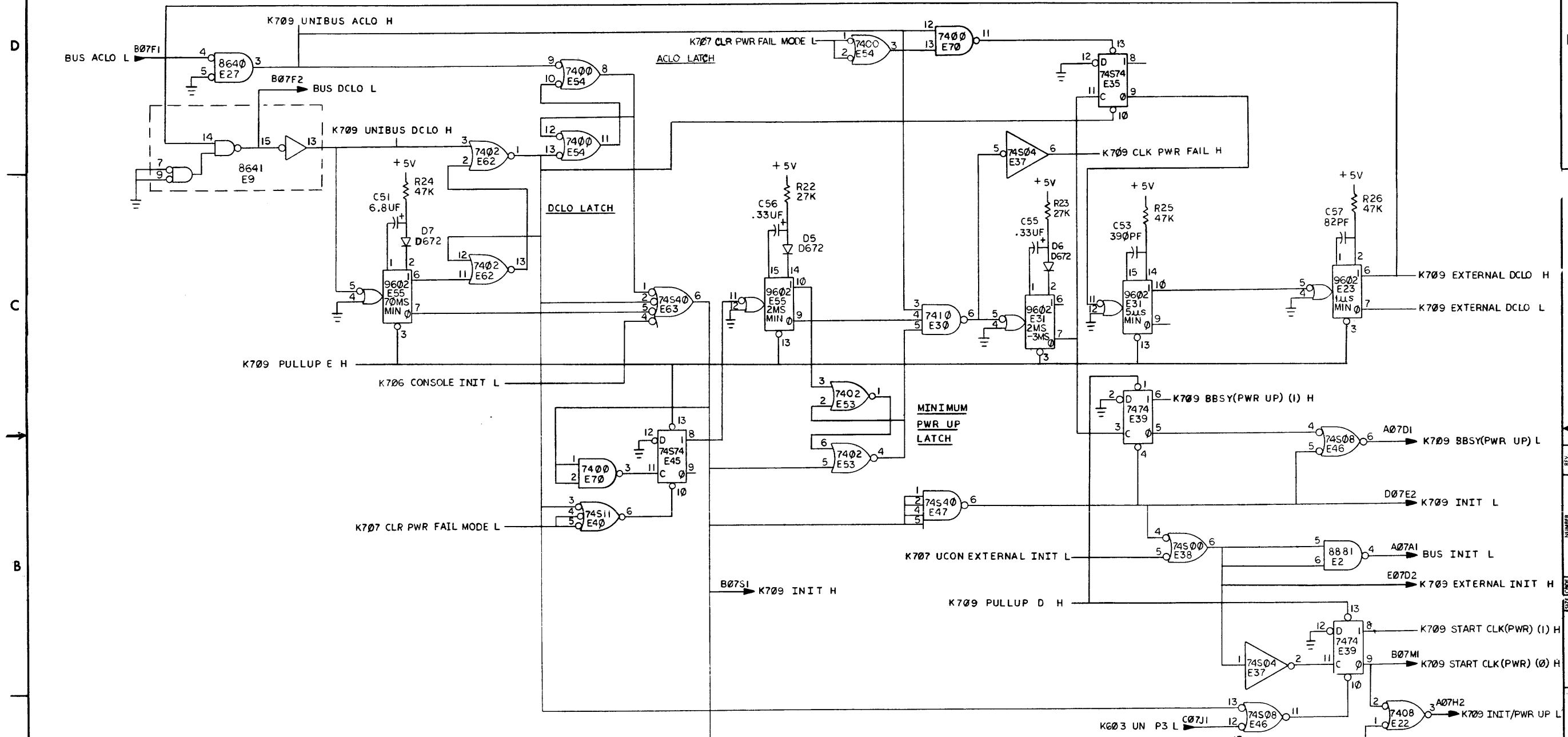
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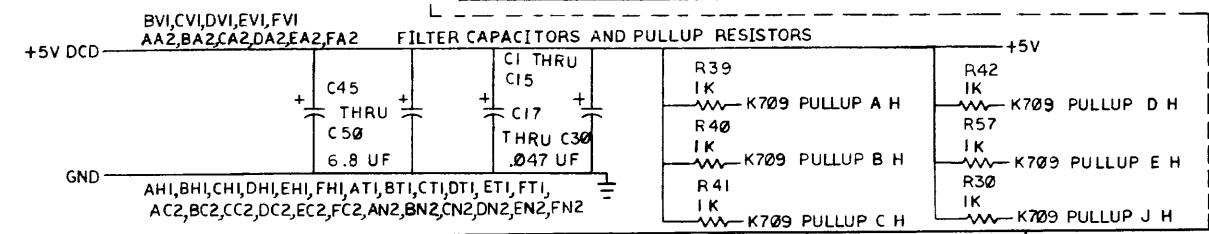
REVISIONS		
CHK	CHANGE NO.	REV.

(BUS DIN MUX (STATUS))		(K708)	
TITLE	STATUS	SIZE CODE	D CS
NUMBER	M7877-0-1	REV.	H
SCALE	1:1	SHEET	8 OF 9

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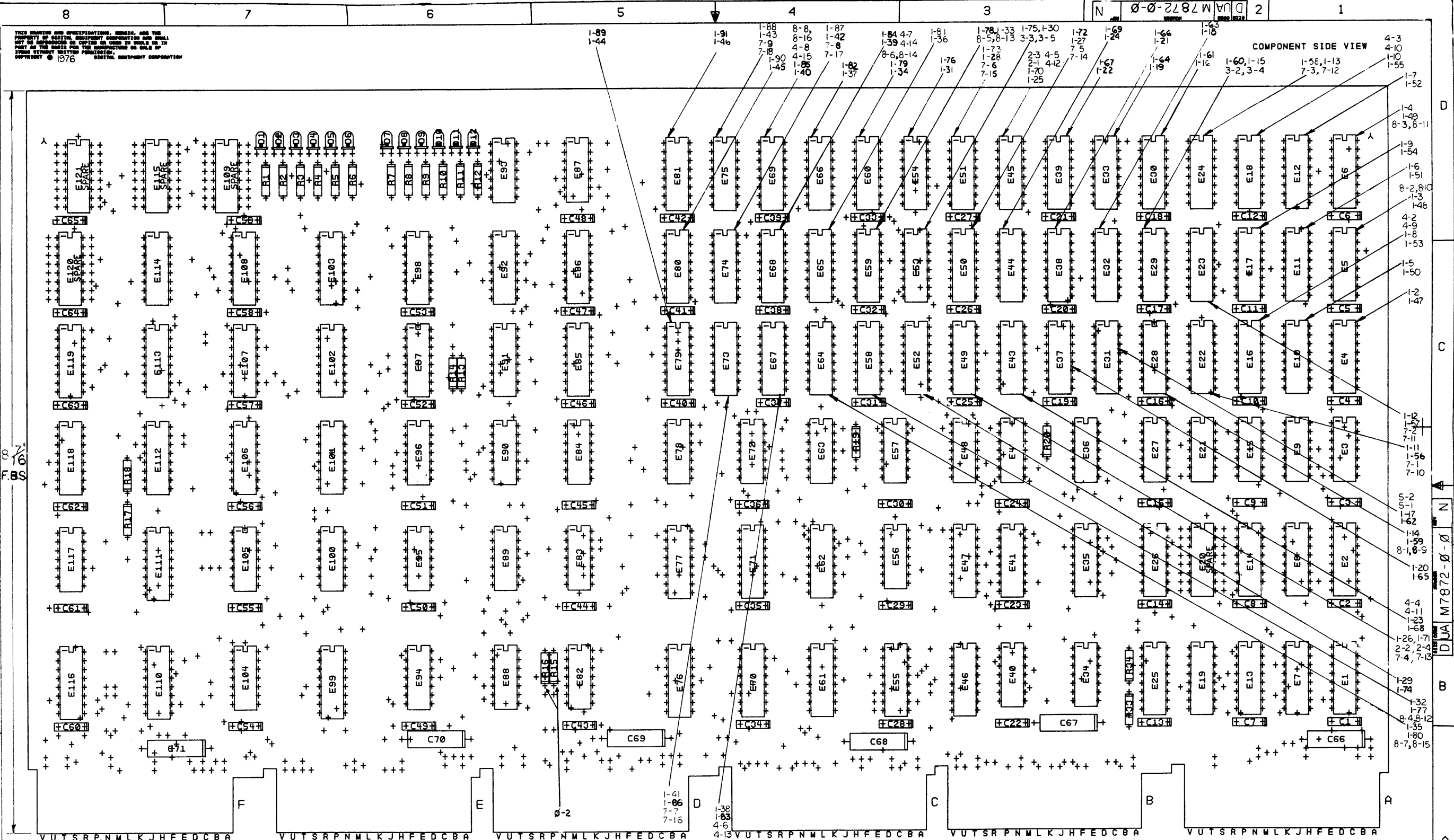
**NOTES:**  
 1. GND SIGNAL CONNECTS TO BACKPLANE SIGNALS: GND 07; GROUND <AH,BH,CH,DH,EH,FH>; GROUND <AN,BN,CN,DN,EN,FN>.



TITLE		STATUS		SIZE CODE	NUMBER	REV.
SCALE		SHEET 9 OF 9		D CS	M7877-0-1	H

REVISIONS		
CHK	CHANGE NO.	REV.

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 DIGITAL EQUIPMENT CORPORATION  
 COPYRIGHT © 1976



NOTES:  
 0-1. MAKE ETCH CUT FROM E71-1 TO FEED-THRU BY C36 AS SHOWN ON SHEET 3.  
 0-2. R15, R16 NOT INSERTED.  
 (SEE SHEET 4)

CHK	CHANGE NO	REV	DATE	BY	APP
01	M7872-1	L			
02	M7872-2	E	4 MAR 77	D. IVES	
03	M7872-3	F			
04	M7872-4	H			
05	M7872-5	J			
06	M7872-6	K			
07	M7872-7	L			
08	M7872-8	M			
09	M7872-9	N			
10	M7872-10	O			

ETCH REV.	DESIGN DATA BASE REV.

SIGNATURES		DATE	digital
DRN. <i>F. J. ...</i>			
CHK'D. <i>F. J. ...</i>			
ENG. <i>F. J. ...</i>			
PROD. <i>F. J. ...</i>			
SCALE 2:1			
SHT. 1 OF 4			
NEXT HIGHER ASSY. B-DD-M7872-0			
TITLE U WORD			
SIZE CODE D UA	NUMBER M7872-0-0		

DIGITAL EQUIPMENT CORPORATION				QUANTITY / VARIATION										NOTES:				
PARTS LIST																		
MADE BY F. MALANSON		CHECKED F. SEIDMAN																
DATE 11 MAR 76		DATE 26 MAR 76																
ENG <i>M.W. Scott</i>		PROD <i>R.K. Peter</i>																
DATE 11/10/76		DATE 11/10/76																
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION											REF DESIGNATION				
1	D-MD-5011838-0-0	5011838	ETCHED CIRCUIT BOARD	1														
2		1012784	CAPACITOR .047 UF	65														C1 THRU C65
3		1005306	CAPACITOR, 6.8 uf, 35V, 10%	6														C66 thru C71
4		1110864	DIODE, LED	12														D1 thru D12
5		1300309	RESISTOR, 390, 1/4W, 5%	3														R14, R18, R33 (SEE NOTES ON PAGE 4)
6		1301322	RESISTOR, 180, 1/4W, 5%	4														R34,R13,R17
7		1300365	RESISTOR, 1K, 1/4W, 5%	2														R19,R20
8		1300295	RESISTOR, 330 OHM, 1/4W, 5%	12														R1 thru R12
9		1910550	I.C. DEC 74S174	5														E1,E2,E46,E86,E92
10		1910548	I.C. DEC 74S157	5														E7,E8,E19,E77,E35
11		1910537	I.C. DEC 74S11	1														E34
12		1910549	I.C. DEC 74S158	2														E25,E26
13		1910552	I.C. DEC 74S194	9														E13,E14,E41,E47,E61,E70,E76,E62,E71
14		1910534	I.C. DEC 74S04	2														E56,E78
15		1909686	I.C. DEC 7404	2														E87,E93
16		1910956	I.C. DEC 74S151	1														E112
17		1910539	I.C. DEC 74S20	1														E40
18		1912389	I.C. DEC 74S08	6														E72,E82,E94,E95,E96,E104
19		1910532	I.C. DEC 74S00	2														E105,E83
20		1910536	I.C. DEC 74S10	3														E100,E117,E84
21		1910651	I.C. DEC 74175	3														E101,E118,E116
22		1910652	I.C. DEC 74174	5														E106,E85,E97,E91,E110

E.C.O. NO.	00001	00002	00003	00004	00005	00006	00007	00008
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				SHEET 1 OF 4	INSERTION PARTS LIST DATA BASE REV			

DIGITAL EQUIPMENT CORPORATION

PARTS LIST

QUANTITY / VARIATION

NOTES:

MADE BY F. MALANSON	CHECKED F. SEIDMAN	SECTION
DATE 11 MAR 76	DATE 26 MAR 76	
ENG M.W. Sullivan	PROD R.V. Sullivan	ISSUED SECTION
DATE 11/10/76	DATE 11/10/76	

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M7872-Ø	QUANTITY / VARIATION												REF DESIGNATION
23		1912646	I.C. DEC 74LS253	8													E98,E1Ø2,E1Ø3,E1Ø7,E1Ø8,E111,E113,E114
24		1912746	I.C. DEC 74S37	7													E15,E21,E42,E3,E9,E27,E36
25		1910546	I.C. DEC 74S14Ø	3													E48,E57,E63
26		1911271	I.C. DEC 74298	1													E99
27		1909713	I.C. DEC 8815	2													E88,E89
28		1912746-01	I.C. DEC 74S37-1	1													E9Ø
29		23152A1-ØØ	I.C. DEC 32 x 8 TRI-STATE ROM/PROM	1													E55
30		23275A9-ØØ	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1													E119
31																	
32			I.C. SPARE	5													E2Ø,E1Ø9,E115, ,E12Ø,E121
33		9006732	EYELET	12													
34		1210711-02	ASSY, HANDLE	1													
35		1212385-02	SOCKET, 16 PIN LOW PROFILE	45													E4,E5,E6,E1Ø,E11,E12,E16,E17,E18,E22,E23,E24,E28,E29,E3Ø,E31,E32,E33,E37,E38,E39,E43,E44,E45,E49,E5Ø,E51,E52,E53,E54,E58,E59,E6Ø,E64,E65,E66,E67,E68,E69,E73,E74,E75,E79,E8Ø,E81
36		23287A9-ØØ	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1													E4
37		23716A9-ØØ	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1													E5
38		23717A9-ØØ	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1													E6
39		2329ØA9-ØØ	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1													E1Ø
40		23291A9-ØØ	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1													E11
41		23292A9-ØØ	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1													E12
42		23568A9-ØØ	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1													E16

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	TITLE	U WORD										

ASSY NO.	SIZE	CODE	NUMBER	REV
D-UA-M7872-Ø-Ø	B	PL	M7872-Ø-Ø	M
SHEET 2	OF 4	INSERTION PARTS LIST DATA BASE REV		

DIGITAL EQUIPMENT CORPORATION				QUANTITY / VARIATION										NOTES:								
PARTS LIST																						
MADE BY F. MALANSON		CHECKED F. SEIDMAN																				
DATE 11 MAR 76		DATE 26 MAR 76																				
ENG <i>M.W. [unclear]</i>		PROD <i>[unclear]</i>																				
DATE <i>11/1/76</i>		DATE <i>11/10/76</i>																				
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M7872-0																		REF. DESIGNATION
43		23294A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E17
44		23569A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E18
45		23704A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E22
46		23705A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E23
47		23706A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E24
48		23715A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E28
49		23528A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E29
50		23301A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E30
51		23338A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E31
52		23303A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E32
53		23304A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E33
54		23305A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E37
55		23306A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E38
56		23307A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E39
57		23570A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E43
58		23379A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E44
59		23571A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E45
60		23707A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E49
61		23708A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E50
62		23709A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E51
63		23314A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E52
64		23529A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM	1																		E53

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											SHEET 3 OF 4		DST							

DIGITAL EQUIPMENT CORPORATION				QUANTITY / VARIATION												NOTES:			
PARTS LIST				M7872-0															
MADE BY F. MALANSON		CHECKED F. SEIDMAN			SECTION														
DATE 11 MAR 76		DATE 26 MAR 76																	
ENG #1 W. Stehler		PROD K. J. Feltus			ISSUED SECTION														
DATE 11/10/76		DATE 11/10/76																	
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION														REF. DESIGNATION		
65		23316A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM														E54		
66		23718A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM														E58		
67		23719A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM														E59		
68		23720A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM														E60		
69		23733A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM													E64			
70		23321A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM													E65			
71		23734A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM													E66			
72		23572A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM													E67			
73		23573A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM													E68			
74		23574A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM													E69			
75		23710A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM													E73			
76		23711A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM													E74			
77		23712A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM													E75			
78		23329A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM													E79			
79		23330A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM													E80			
80		23331A9-00	I.C. DEC 512 x 4 TRI-STATE PROM/ROM													E81			
																NOTES: 1. R15, R16 NOT INSERTED 2. REFERENCE DESIGNATIONS NOT USED: R21 thru R32			

E.C.O. NO.

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SHEET 4 OF 4						DST									

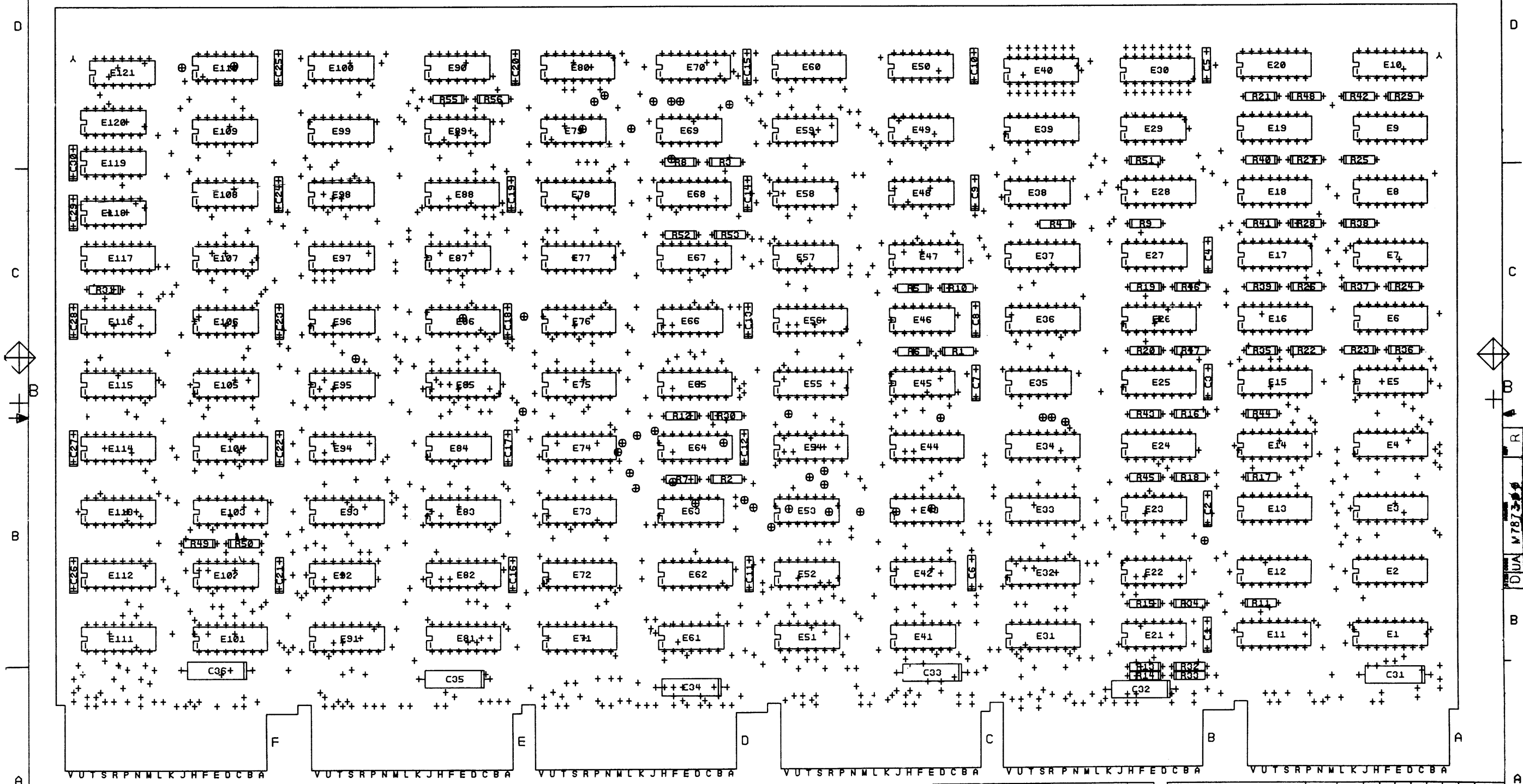


DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	REVISIONS																																																																																																																																														
				C	D	E	F	H	J	K	L	M	N																																																																																																																																					
		M7872-Ø	MODULE (U WORD)	C	D	E	F	H	J	K	L	M	N																																																																																																																																					
		50-11838	ETCHED BOARD	D	C	D	D	D	D	D	D	D	D																																																																																																																																					
D-CS=M7872-Ø-1	1Ø		CIRCUIT SCHEMATIC	C	D	D	D	D	D	K	L	M	N																																																																																																																																					
K-PL-M7872-Ø-DBP	3		PARTS LIST DATA BASE	C	D	E	F	H	J	K	L	M	N																																																																																																																																					
B-MH-M7872-Ø-6	1		MODULE HISTORY	*	A	B	C	D	E	F	H	J	K																																																																																																																																					
D-UA-M7872-Ø-Ø	3		UNIT ASSEMBLY	C	D	E	F	H	J	K	L	M	N																																																																																																																																					
D-MD-5011838-Ø-Ø	5		MECHANICAL DRAWING	D	D	D	D	D	D	D	D	D	D																																																																																																																																					
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DEMINS LISTING	-		MODULE TEST TECHNIQUE	REF	-	-	-	-	-	-	-	-	-																																																																																																																																					
* CS REVS E,F,H AND J DO NOT EXIST. THEY HAVE BEEN JUMPED OVER TO MAKE UA, CS AND MODULE REVS MATCH.																																																																																																																																																		
<b>NOTES:</b>																																																																																																																																																		
1. THE MODULE REVISION REFLECTS CHANGES IN THE HARDWARE AND IS SEPARATE FROM THE CIRCUIT SCHEMATIC REVISION WHICH REFLECTS BOTH HARDWARE AND DOCUMENT CHANGES.																																																																																																																																																		
2. THIS DRAWING DIRECTORY DOCUMENTS THE RELATIONSHIP BETWEEN REVISIONS, THE CS REV UPON THE ETCHED BOARD IS NOT TO BE USED.																																																																																																																																																		
				<table border="1"> <thead> <tr> <th>DATE</th> <th>CHG NO</th> <th>REV.</th> <th>ORIG.</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> <th>H</th> <th>J</th> <th>K</th> <th>L</th> </tr> </thead> <tbody> <tr> <td>2-77</td> <td></td> <td></td> <td>M7872-1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3-77</td> <td></td> <td></td> <td>M7872-2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4-77</td> <td></td> <td></td> <td>M7872-3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4-77</td> <td></td> <td></td> <td>M7872-4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>7-77</td> <td></td> <td></td> <td>M7872-5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>9-77</td> <td></td> <td></td> <td>M7872-6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>12-77</td> <td></td> <td></td> <td>M7872-7</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1-78</td> <td></td> <td></td> <td>M7872-8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>9-78</td> <td></td> <td></td> <td>M7872-9</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>													DATE	CHG NO	REV.	ORIG.	B	C	D	E	F	H	J	K	L	2-77			M7872-1										3-77			M7872-2										4-77			M7872-3										4-77			M7872-4										7-77			M7872-5										9-77			M7872-6										12-77			M7872-7										1-78			M7872-8										9-78			M7872-9									
DATE	CHG NO	REV.	ORIG.	B	C	D	E	F	H	J	K	L																																																																																																																																						
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TW

COMPONENT SIDE VIEW

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NOTES:

CHANGE NO	REV	DATE	BY	CHKD
1	1	10/20/77	M. J. Stecklair	
2	1	11/10/77	J. F. O'Loughlin	
3	1	11/10/77	D. Don Randall	

ETCH REV.	H
DESIGN DATA BASE REV.	H

SIGNATURES	DATE
DRN.	10-20-77
CHK'D.	11/10/77
ENG. M.W.S. STECKLAIR	11/10/77
PROJ. ENG. J.F. O'LOUGHLIN	11/10/77
PROD. DON RANDALL	11/10/77
SCALE 2/1	
SHT. 1 OF 3	
NEXT HIGHER ASSY. B-DD-M7873-0-6	

digital		TITLE	
DECODE		SIZE	CODE
NUMBER	REV	0	UA
M7873-0-0	R		

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
1	D-MD-5011879-0-0	5011879-00	M7873	1	
2		1012784-00	.047 MFD 50V -20+80 CER	30	C1-C30
3		1005306-00	6.8MFD 35V 10% S.TANT	6	C31-C36
4	BLANK			0	
5		1301322-00	180 1/4W 5% CC	3	R3,R5,R50
6		1301424-00	680 1/4W 5% CC	1	R11
7		1300417-00	2.2 K 1/4W 5% CC	21	R12-R29,R52,R55,R9
8		1300365-00	1 K 1/4W 5% CC	23	R30-R48,R51,R53,R56,R4
9		1300309-00	390 1/4W 5% CC	3	R8,R10,R49
10		1910532-00	74S00 NAND GATE-QUAD 2INS	10	E21,E45,E46,E52,E58,E108,E110, CONT E50,E87,E29
11		1910534-00	74S04 INVERTER GATE-HEX 1I	6	E27,E35,E38,E63,E97,E119
12		1912389-00	74S08 AND GATE-QUAD 2IN,PO	4	E41,E59,E95,E102
13		1910536-00	74S10 NAND GATE-TRIPLE 3IN	6	E61,E69,E84,E90,E98,E109
14		1910537-00	74S11 AND GATE-TRIPLE 3INP	3	E53,E79,E96
15		1910539-00	74S20 NAND GATE-DUAL 4INPU	2	E99,E100
16		1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	3	E22,E23,E51
17		1911712-00	74S51 AND-OR GATE-INVERT D	2	E57,E94
18		1910542-00	74S64 A-C-I GATE 4-2-3-2	6	E42,E105,E106,E107,E118,E120
19		1910544-00	74S74 FF-D DUAL,EDGE TRIGG	2	E48,E92
20		1912089-00	74S85 CMPRTR-4BIT MAGNITUD	3	E81,E91,E111
21		1910011-00	DEC 7486 X-OR GATE-QUAD 2INPU	2	E49,E89
22		1911983-00	74S133 NAND GATE-POSITIVE 1	2	E116,E117
23		1911675-00	74S138 DECODER/DEMUX 3-8 LIN	2	E104,E115
24		1911676-00	74S139 DECODER-DUAL TWO-INP	1	E39
25		1910956-00	74S151 MUX 1 OF 8	3	E68,E71,E76
26		1910547-00	74S153 MUX 1 OF 4 (DUAL)	1	E28
27		1910548-00	74S157 MUX 1 OF 2 (QUAD)	1	E72
28		1910549-00	74S158 MUX 1 OF 2 (QUAD)	3	E55,E70,E82

REVISION HISTORY		BASIC PART NO: Z0375		DRN:	R,BARILONE	DATE:	18-MAY-78	D I G I T A L			
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	B,PUZZO	DATE:	18-MAY-78	TITLE PARTS LIST			
---	INITIAL	R	SECTION VARIATION INDEX					DECODE			
			[A] 00								
			[B]								
			[C]	DES.ENG:	M,STECKLAIR	DATE:	18-MAY-78				
			[D]								
			[E]								
			[F]	RESP.ENG.:	M,STECKLAIR	DATE:	18-MAY-78	DOCUMENT NUMBER			
			[H]					SIZE:	CODE:	NUMBER	REV
			[J]					K	PL	M7873-0-DBP	R
			[K]	MFG.ENG.:	R,PETERS	DATE:	18-MAY-78				
			[L]								
			[M]	ASSEMBLY NUMBER:				FILE NAME:			
			[N]	D-UA-M7873-0-0				M7073.PLS			
								EDIT #			
								4			

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TW

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
29	29		1910550-00	74S174 FF-D HEX	7	E33,E36,E65,E31,E32,E101,E112
30	30		1910957-00	74S175 FF-D QUAD COMMON CLO	7	E34,E37,E43,E93,E103,E113,E114
31	31		1910552-00	74S194 SHIFT REG.,4BIT RIGH	1	E73
32	32		1912728-00	74S251 MUX 1 OF 8 TRI-STA	8	E44,E54,E64,E56,E67,E74,E75,E77
33	33		23319A2-00	A2-02,A2-04	1	E83
34	34		1912746-01	74S37-1BUFFER-GATE	1	E66
35	35		23192A9-00	A9-01	1	E78
36	36		23193A9-00	A9-01	1	E88
37	37	BLANK		SPARE I.C.	2	E30,E40
38	38		9006732-00	EYELET, ROLLED FLANGE, .121 OD X	12	
39	39		1210711-02	HANDLE,MODULE,HEX	1	
40	40		23194A9-00	A9-01	1	E85
41	41		23195A9-00	A9-01	1	E86
42	42		23196A9-00	A9-01	1	E60
43	43		23197A9-00	A9-01	1	E47
44	44		23198A9-00	A9-01	1	E80
45	45		23199A9-00	A9-01	1	E62
46	46		23721A9-00	A9-01	1	E1
47	47		23489A9-00	A9-01	1	E2
48	48		23575A9-00	A9-01	1	E3
49	49		23491A9-00	A9-01	1	E4
50	50		23492A9-00	A9-01	1	E5
51	51		23714A9-00	A9-01	1	E6
52	52		23576A9-00	A9-01	1	E7
53	53		23495A9-00	A9-01	1	E8
54	54		23496A9-00	A9-01	1	E9
55	55		23497A9-00	A9-01	1	E10
56	56		23498A9-00	A9-01	1	E11
57	57		23499A9-00	A9-01	1	E12
58	58		23713A9-00	A9-01	1	E13
59	59		23722A9-00	A9-01	1	E14
60	60		23502A9-00	A9-01	1	E15
61	61		23723A9-00	A9-01	1	E16
62	62		23504A9-00	A9-01	1	E17
63	63		23505A9-00	A9-01	1	E18
64	64		23506A9-00	A9-01	1	E19
65	65		23507A9-00	A9-01	1	E20
66	66		23508A9-00	A9-01	1	E24
67	67		23509A9-00	A9-01	1	E25
68	68		23510A9-00	A9-01	1	E26
69	69		1212385-02	*** THIS ITEM IS NOT USED ***	-	
70	70		1912388-00	74S02 NOR GATE-QUAD 2IN,PO	1	E121

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							DECODE		K	PL	M7073-0-DDP	R

TW

AUTOMATED BY PRTLST,3J(25)

PARTS LIST

SHEET A3 OF A3

LINE ITEM DOCUMENT NUMBER

PART NUMBER

DESCRIPTION

QTY PER VARIATION  
00

REFERENCE DESIGNATOR

0 NOTE: R1,R2,R6,R7 NOT INSERTED.

1 NOTE: REFERENCE DESIGNATIONS NOT USED:R54.

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							DECODE		K	PL	H7073-0-DBP	R

-111

DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	REVISIONS															
				E	F	H	J	K	L	M	N	P	P						
		M7873-Ø	MODULE (DECODE)	E	F	H	J	K	L	M	N	P	P						
		5011879	ETCHED BOARD	F	F	F	F	F	F	F	F	H	H						
D-CS-M7873-Ø-1	13		CIRCUIT SCHEMATIC	E	F	F	H	H	L*	M	N	P	R						
K-PL-M7873-Ø-DBP	2		PARTS LIST DATA BASE	E	F	H	J	K	L	M	N	P	R						
B-MH-M7873-Ø-6	1		MODULE HISTORY	*	A	B	C	D	E	F	H	J	K						
D-UA-M7873-Ø-Ø	4		UNIT ASSEMBLY	E	F	H	J	K	L	M	N	P	R						
D-MD-5011879-Ø-Ø	5		MECHANICAL DRAWING	F	F	F	F	F	F	F	F	H	H						
K-PC-M7873-Ø-DBC			P.C. DESIGN DATA BASE	F	F	F	F	F	F	F	F	H	H						
DEMINS LISTING	-		MODULE TEST TECHNIQUE	REF	-	-	-	-	-	-	-	-	-						
*CS REVS J AND K DO NOT EXIST. THEY HAVE BEEN JUMPED OVER TO MAKE UA,CS,AND MODULE REV'S MATCH.																			

**NOTES:**  
 1. THE MODULE REVISION REFLECTS CHANGES IN THE HARDWARE AND IS SEPARATE FROM THE CIRCUIT SCHEMATIC REVISION WHICH REFLECTS BOTH HARDWARE AND DOCUMENT CHANGES.  
 2. THIS DRAWING DIRECTORY DOCUMENTS THE RELATIONSHIP BETWEEN REVISIONS, THE CS REV UPON THE ETCHED BOARD IS NOT TO BE USED.

REVISIONS		B	C	D	E	F	H	J	K	L
DATE	CHG NO.	ORIG.								
2-77	00001	B								
4-77	00002	C								
7-77	00003	D								
8-77	00004	E								
9-77	00005	F								
12-77	00006	H								
1-78	00007	J								
6-78	TWØØ8	K								
Ø-78	TWØØ9	L								

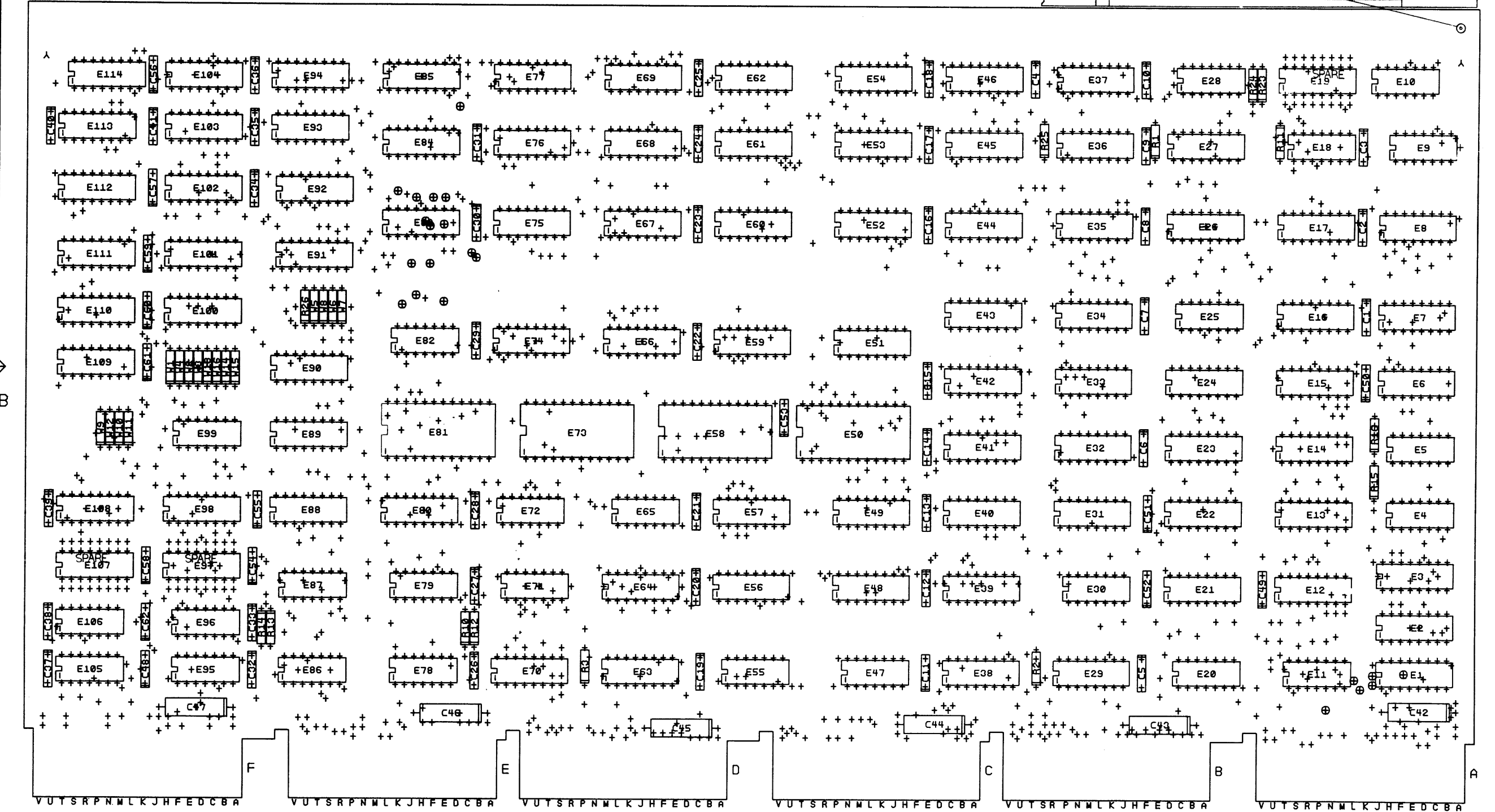
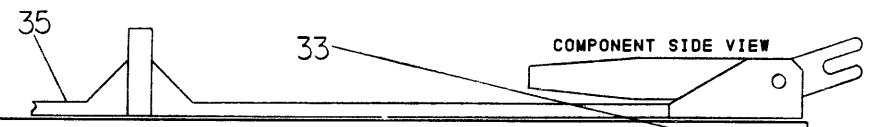
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USED ON OPTION/MODEL	DRN	11/10/76	TITLE
kd11-K	170		DECODE
	CHK'D	11/10/76	
	ENG	11/10/76	SIZE CODE
	PROD.	11/10/76	B DD
			NUMBER
			M7873-Ø
			REV.
			L.
			SHEET 1 OF 1

TW

THIS DRAWING AND SPECIFICATIONS, GENERAL AND THE  
 PARTS OR ASSEMBLY THEREOF, SHALL BE HELD  
 AS UNCLASSIFIED INFORMATION UNLESS IT IS  
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 NATURE WHICH WOULD BE DANGEROUS TO THE  
 NATIONAL DEFENSE IF DISCLOSED TO AN  
 UNAUTHORIZED PERSON.



NOTES:

1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.

2. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.

3. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.

4. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.

CHG. NO.	REV.	DATE	BY	CHK'D.
17874-0-0	D			
17874-0-0	C			
17874-0-0	B			
17874-0-0	A			

ETCH REV.	DATE	BY
D		
D		

SIGNATURES	DATE	TITLE
DRN.		digital
CHK'D.		
ENC.		
PROJ. ENG.		
PROD. D. RANGALL	5/79	DATA PATH
SCALE 2/1		
SHT. 1 OF 3		
NEXT HIGHER ASSY. 8-DD-M7874-0		

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
					00	
1	1	D-MD-5012170-0-0	5012170-00	ETCH BOARD (M7874	1	
2	2	BLANK			0	
3	3		1005306-00	6.8MFD 35V 10% S.TANT	6	C42-C47
4	4		1012784-00	.047 MFD 50V -20+80 CER	56	C1-C41,C48-C62
5	5	BLANK			0	
6	6	BLANK			0	
7	7		1910531-00	DEC 74S181 ALU-4BIT	4	E50,E58,E73,E81
8	8		1910532-00	74S00 NAND GATE-QUAD 2IN	3	E9,E87,E10
9	9		1910534-00	74S04 INVERTER GATE-HEX 1I	9	E20,E71,E72,E78,E79,E82,E95,
						CONT E105,E106
10	10		1910536-00	74S10 NAND GATE-TRIPLE 3IN	1	E28
11	11		1910542-00	74S64 A-O-I GATE 4-2-3-2	2	E47,E55
12	12		1910546-00	74S140 NAND GATE-DUAL 4INPU	4	E5,E25,E96,E99
13	13		1910547-00	74S153 MUX 1 OF 4 (DUAL)	8	E12-E15,E104,E93,E113,E114
14	14		1910548-00	74S157 MUX 1 OF 2 (QUAD)	6	E69,E83,E84,E85,E94,E103
15	15		1910549-00	74S158 MUX 1 OF 2 (QUAD)	2	E38,E7
16	16		1910550-00	74S174 FF-D HFX	10	E2,E3,E6,E26,E29,E39,E48,E56,
						CONT E70,E57
17	17		1910552-00	74S194 SHIFT REG.,4BIT RIGH	9	E21-E24,E35,E36,E45,E52,E53
18	18		1910544-00	74S74 FF-D DUAL,EDGE TRIGG	2	E18,E65
19	19		1910956-00	74S151 MUX 1 OF 8	2	E63,E77
20	20		1910957-00	74S175 FF-D QUAD COMMON CLO	8	E8,E16,E51,E59,E64,E66,E74,E80
21	21		1911641-00	SN 74S257 MUX,QUAD 2 TO 1	4	E27,E37,E44,E46
22	22		1911676-00	74S139 DECODER-DUAL TWO-INP	1	E1
23	23		1911712-00	74S51 AND-OR GATE-INVERT D	2	E11,E86
24	24		1912097-00	SN 74S182 LOOK AND CARRY GEN	1	E49
25	25		1912388-00	74S02 NOR GATE-QUAD 2IN,PO	1	E4
26	26		1912389-00	74S08 AND GATE-QUAD 2IN,PO	1	E30
27	27		1912660-00	74S253 MUX 1 OF 4 (DUAL)	8	E54,E60,E61,E62,E67,E68,E75,E76

REVISION HISTORY		BASIC PART NO: M7874		DPRN: E. DANCAUSE		DATE: 18-MAY-78		D I G I T A L			
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	R. PUZZO	DATE:	18-MAY-78	TITLE PARTS LIST			
---	INIT	D	SECTION VARIATION INDEX	CHK'D:	R. PUZZO <td>DATE:</td> <td>18-MAY-78</td> <td colspan="4">DATA PATH</td>	DATE:	18-MAY-78	DATA PATH			
			(A) 00	DES.ENG:	L. CONDON	DATE:	18-MAY-78	DOCUMENT NUMBER			
			(B)	RESP.ENG.:	L. CONDON	DATE:	18-MAY-78	SIZE	CODE	NUMBER	REV
			(C)	MFG.ENG.:	R. PETERS	DATE:	18-MAY-78	K	PL	M7874-0-DBP	D
			(D)	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:		EDIT #	
			(E)					M7874D,PLS		7	
			(F)								
			(G)								
			(H)								
			(I)								
			(J)								
			(K)								
			(L)								
			(M)								
			(N)								

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AUTOMATED BY PR1LST.2D(13)

P A R T S L I S T

SHEET A2 OF A2

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
28	28	1912661-00	74S189 MEMORY READ/WRITE	20	E31-E34,E40-E43,E88,E89,E92,E98, CONT E100,E101,E102,E108-E112
29	29	BLANK		0	
30	30	23151A1-00	A1-07	1	E17
31	31	1913294-00	93S16 COUNTER,SYNCH UP BIN	2	E90,E91
32	32	9009185-00	JUMPER, WIPE, INSULATED, BLACK B	16	W1-W16
33	33	9000024-01	EYELET, ROULED FLANGE, .121 OD X	12	
34	34	BLANK	I.C. SPARE	0	
35	35	1210711-02	HANDLE,MODULE,HEX	1	
36	36	9105740-55	*** THIS ITEM IS NOT USED ***	-	
37	37	BLANK		0	
38	38	1300247-00	120 1/4W 5% CC	1	R10
39	39	1301322-00	180 1/4W 5% CC	1	R15
40	40	1301972-00	270 1/4W 5% CC	2	R12,R23
41	41	1300309-00	390 1/4W 5% CC	2	R16,R24
42	42	1300365-00	1 K 1/4W 5% CC	6	R1-R3,R11,R25,R26

- 0 NOTE: R13,R14 NOT INSERTED
- 1 NOTE: REFERENCE DESIGNATIONS NOT USED:R4-R9,R17-R22
- 2 NOTE: E19,E97,E107 ARE SPARE I.C. S

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							DATA PATH		K	PL	M7874-0-DBP	D

DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	REVISIONS																			
		M7874-Ø	MODULE (DATA PATH)	B	C	D																	
		5012170	ETCHED BOARD	C	C	D																	
D-CS-M7874-Ø-DEP	1Ø		CIRCUIT SCHEMATIC	B	C	D																	
K-PL-M7874-Ø-ØBP	2		PARTS LIST	B	C	D																	
B-MH-M7874-Ø-6	1		MODULE HISTORY	*	A	B																	
D-UA-M7874-Ø-Ø	3		UNIT ASSEMBLY	B	C	D																	
D-MD-M7874-Ø-Ø	5		MECHANICAL DRAWING	C	C	D																	
M7874-Ø-L			P.C. DESIGN DATA BASE	E	C	D																	
M7874-Ø-PL			INSERTION P/L DATA BASE	B	B	C																	
DENINS LISTING	-		MODULE TEST TECHNIQUE	REF	REF	REF																	

**NOTES:**

1. THE MODULE REVISION REFLECTS CHANGES IN THE HARDWARE AND IS SEPARATE FROM THE CIRCUIT SCHEMATIC REVISION WHICH REFLECTS BOTH HARDWARE AND DOCUMENT CHANGES.
2. THIS DRAWING DIRECTORY DOCUMENTS THE RELATIONSHIP BETWEEN REVISIONS, THE CS REV UPON THE ETCHED BOARD IS NOT TO BE USED.

REVISIONS	DATE	CHG NO.	REV.	ORIG.																			
				A	B	C																	
	4-77	00001	B																				
	5-78	00002	C																				

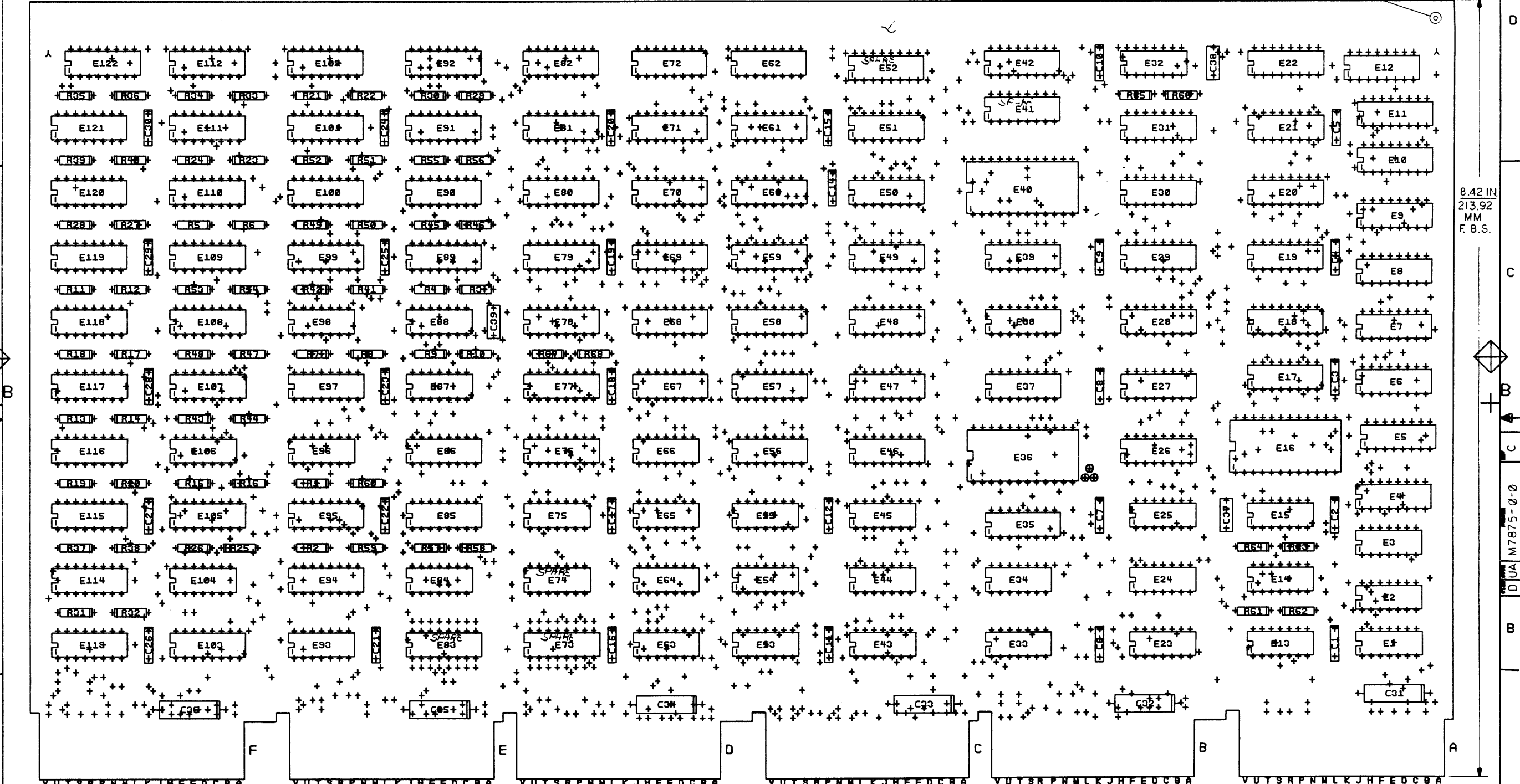
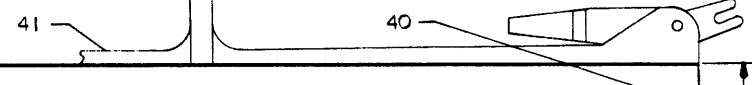
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USED ON OPTION/MODEL	DRN. <i>J. F. Loughlin</i>	11/10/76	TITLE	DATA PATH
KD11-K	CHK'D <i>J. F. Loughlin</i>	11/10/76	SIZE CODE	B DD
	ENG. <i>[Signature]</i>	11/10/76	NUMBER	M7874-Ø
	PROD. <i>[Signature]</i>	11/10/76	REV.	C
			SHEET	1 OF 1

D U A M7875-2-0 2 1

COMPONENT SIDE VIEW



8.42 IN  
213.92  
MM  
F. B. S.

D U A M7875-2-0

THIS DRAWING IS UNCLASSIFIED, DATE 04/11/01 BY SP7 BTJ/bgl/STP  
UNLESS INDICATED OTHERWISE, ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE INDICATED.  
DATE 10/21/87 BY BTJ/bgl/STP

NOTES:


CHANGE NO	REV	DATE	BY	CHK'D	APP'D
1	C				
2	D				
3	E				

ETCH REV.	D-P2
P.C. DESIGN DATA BRSE REV.	DL-D.1

SIGNATURES	DATE
DRN. TC SURETTE	8-31-76
CHK'D. SEIDMAN	9-30-76
ENC. D. IVINS	10-15-76
PROJ. ENG. J. OLCUCHEN	10-15-76
PROD. S. RANDAL	10-15-76

digital			
TITLE			
KT/CACHE			
SCALE	2 / 1	SIZE CODE	NUMBER
SHT.	1 OF 3	D U A	M7875-2-0
NEXT HIGHER ASSY. B-DD-W7975-0			
REV	C		

MS# 260744

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
				00	
1	D-MD-5011655-0-0	5011655-00	M7875	1	
2		1005306-00	6.8MFD 35V 10% S.TANT	6	C31-C36
3		1012784-00	.047 MFD 50V -20+80 CER	32	C1-C12,C14-C30,C37-C39
4		1300447-00	4.7 K 1/4W 5% CC	3	R59,R60,R57
5		1300309-00	390 1/4W 5% CC	31	R3,R5,R8,R9,R11,R13,R15,R17,R19, CONT R21,R23,R25,R27,R29,R31,R33,R35, CONT R37,R39,R41,R43,R45,R47,R49,R51, CONT R53,R55,R64,R66,R68,R62
6		1301401-00	750 1/4W 5% CC	30	R4,R6,R7,R10,R12,R14,R16,R18, CONT R20,R22,R24,R26,R28,R30,R32,R34, CONT R36,R38,R40,R42,R44,R46,R48,R50, CONT R52,R54,R56,R63,R65,R67
7		1909686-00	7404 INVERTER GATE-HEX 1I	4	E24,E63,E66,E53
8		1905579-00	DEC 7440 NAND GATE-DUAL 4INPU	1	E3
9		1905547-00	7474 FF-D DUAL,EDGE TRIGG	1	E32
10		1910224-00	DEC 7485 COMPARATOR-4BIT	4	E7,E9,E10,E11
11		1910656-00	74155 DECODER-2 OF 4(DUAL)	1	E17
12		1910655-00	74157 MUX 2 TO 1 QUAD	1	E4
13		1910652-00	74174 FF-D HEX	8	E42,E46,E47,E50,E69,E35,E62,E71
14		1910651-00	DEC 74175 FF-D QUAD	5	E8,E12,E37,E39,E5
15		1910532-00	74S00 NAND GATE-QUAD 2INS	3	E13,E64,E93
16		1910534-00	74S04 INVERTER GATE-HEX 1I	1	E65
17		1910536-00	74S10 NAND GATE-TRIPLE 3IN	4	E14,E43,E54,E84
18		1910537-00	74S11 AND GATE-TRIPLE 3INP	1	E55
19		1910539-00	74S20 NAND GATE-DUAL 4INPU	1	E44
20		1909059-00	DEC 74H30 NAND GATE-SINGLE 8IN	1	E87
21		1300479-00	10 K 1/4W 5% CC	3	R1,R2,R58
22		1301972-00	270 1/4W 5% CC	1	R61
23	BLANK			0	

REVISION HISTORY		BASIC PART NO: M7875		DRN:	D.BILODEAU	DATE: 18-MAY-78	DIGITAL				
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	F.SEIDMAN	DATE: 18-MAY-78	TITLE	PARTS LIST			
	INITIAL	C	SECTION VARIATION INDEX				KT/CACHE				
			(A) 00								
			(B)								
			(C)	DES.ENG:	D.C.IVES	DATE: 18-MAY-78					
			(D)								
			(E)								
			(F)	RESP.ENG.:	D.C.IVES	DATE: 18-MAY-78		DOCUMENT NUMBER			
			(H)				SIZE	CODE	NUMBER	REV	
			(J)								
			(K)	MFG.ENG.:	D.C.IVES	DATE: 19-MAR-79	K	PL	M7875-0-DBP	C	
			(L)								
			(M)	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:		EDIT #	
			(N)	D-UA-M7875-0-0				Z0366.PLS		4	

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LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
24	24	1911712-00	74S51 AND-OR GATE-INVERT D	1	E25
25	25	1912389-00	74S08 AND GATE-QUAD 2IN,PO	2	E45,E15
26	26	1912089-00	74S85 CMPRTR-4BIT MAGNITUD	2	E76,E78
27	27	1910548-00	74S157 MUX 1 OF 2 (QUAD)	5	E27,E94,E95,E97,E105
28	28	1910549-00	74S158 MUX 1 OF 2 (QUAD)	7	E79,E80,E38,E81,E82,E26,E72
29	29	1910531-00	DEC 74S181 ALU-4BIT	3	E16,E36,E40
30	30	1912097-00	SN 74S182 LOOK AND CARRY GEN	1	E30
31	31	1912661-00	74S189 MEMORY READ/WRITE	7	E18,E19,E28,E29,E22,E57,E58
32	32	1911573-00	74S280 PARITY GEN/CHKR,9BIT	6	E88,E98,E106,E75,E104,E96
33	33	1912646-00	LS253 MUX 1 OF 4 (DUAL)	8	E51,E56,E49,E48,E31,E6,E20,E21
34	34	1912647-00	LS257 MUX 1 OF 2 (QUAD)	4	E77,E60,E61,E68
35	35	1911469-00	DEC 8640 RECEIVER,BUS,QUAD,U	5	E34,E23,E33,E1,E2
36	36	1912459-01	MEMORY READ/WRITE,10	27	E119,E117,E103,E116,E118,E102, CONT E89,E110,E85,E86,E113,E120,E92, CONT E114,E112,E122,E115,E121,E99, CONT E107,E90,E108,E100,E101,E109, CONT E91,E111
37	37	23286A9-00	A9-01	1	E70
38	38	23285A9-00	A9-01	1	E59
39	39	23149A1-00	A1-07	1	E67
40	40	9000024-01	EYELET, ROLLED FLANGE, .121 OD X	12	
41	41	1210711-02	HANDLE,MODULE,HEX	1	

0 NOTE: E41,E52,E74,E83,E73 ARE SPARE I.C.'S.

D I G I T A L										TITLE										SECTION A OF A										SIZE				CODE				DOCUMENT NUMBER				REV			
										KI/CACHE																				K				PL				M7875-0-DBP				C			

DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	REVISIONS																			
		M7875-Ø	MODULE (KT/CACHE)	B	C																		
		5011655	ETCHED BOARD	C	D																		
B-DD-M7875-Ø	1		DRAWING DIRECTORY	A	B																		
B-CS-M7875-Ø-1	15		CIRCUIT SCHEMATIC	B	C																		
K-PL-M7875-Ø-ØBP	2		PARTS LIST DATA BASE	B	C																		
B-MH-7875-Ø-6	1		MODULE HISTORY	*	A																		
D-UA-M7875-Ø-Ø	3		UNIT ASSEMBLY	B	C																		
D-MD-M7875-Ø-Ø	5		MECHANICAL DRAWING	C	D																		
K-PC-M7875-Ø-DBC			P.C. DESIGN DATA BASE	C	D																		
DEMINS LISTING	-		MODULE TEST TECHNIQUE	REF																			

**NOTES:**

1. THE MODULE REVISION REFLECTS CHANGES IN THE HARDWARE AND IS SEPARATE FROM THE CIRCUIT SCHEMATIC REVISION WHICH REFLECTS BOTH HARDWARE AND DOCUMENT CHANGES.
2. THIS DRAWING DIRECTORY DOCUMENTS THE RELATIONSHIP BETWEEN REVISIONS, THE CS REV UPON THE ETCHED BOARD IS NOT TO BE USED.

REVISIONS	DATE	CHG NO.	REV.	ORIG
	5-78	TWØØ1	B	

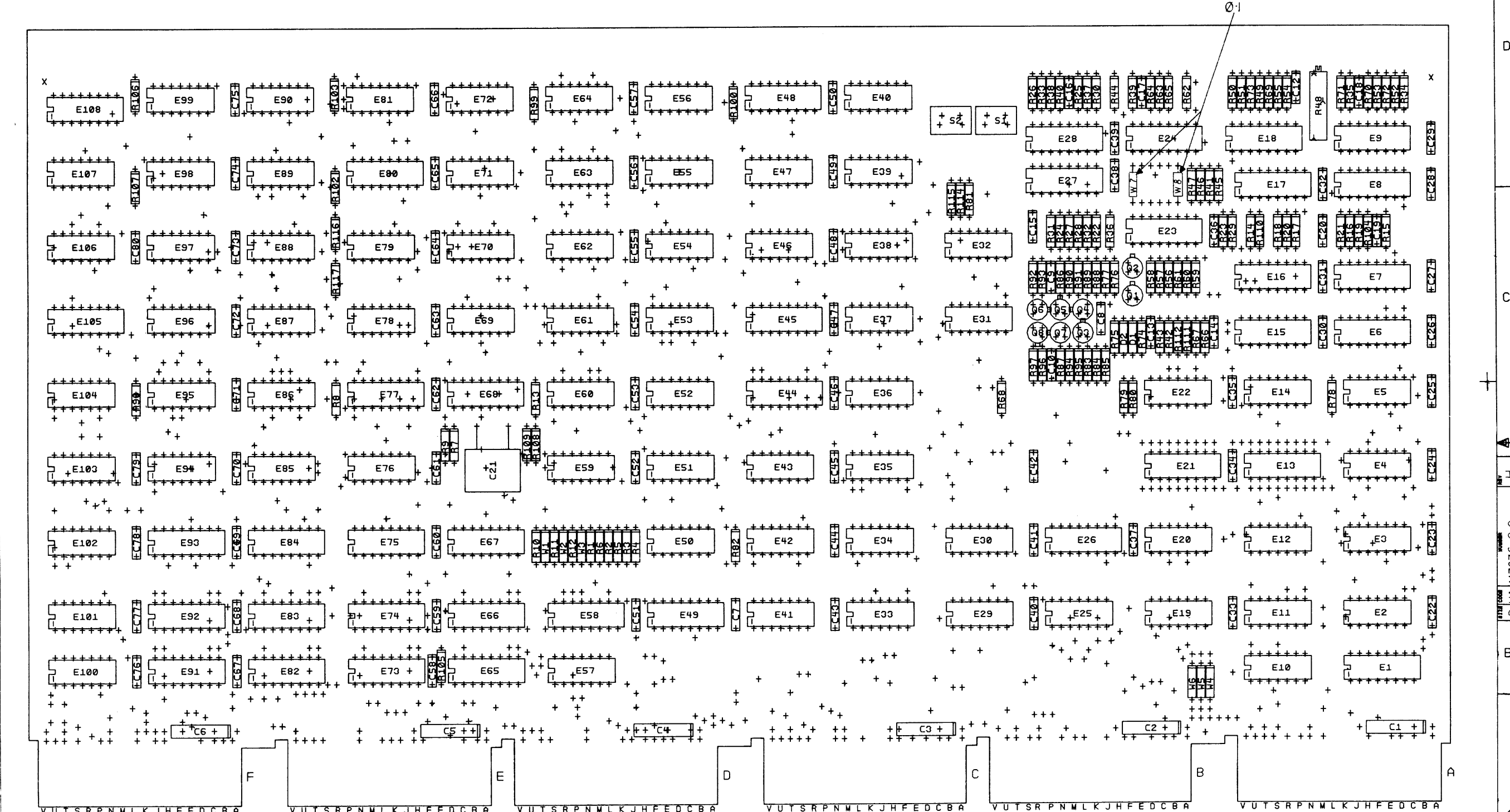
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USED ON OPTION/MODEL	DRN. <i>F. O'Laughlin</i>	11/10/76	TITLE	KT/CACHE
KD11-K	CHK'D <i>F. O'Laughlin</i>	11/10/76	SIZE CODE	BDD
	ENG. <i>D.C. Jones</i>	11/10/76	NUMBER	M7875-Ø
	PROD. <i>Don Randall</i>	11/10/76	REV.	B
			SHEET	1 OF 1

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COMPONENT SIDE VIEW



NOTES: 0-1: INSERT W7, W8 ALTHOUGH NOT IN INSERTION P/L DATA BASE.


CHG	NO	REV

ETCH REV. F-PI
P.C. DESIGN DATA BASE REV. F

SIGNATURES	DATE
DRN. <i>J. F. Smart</i>	5-3-77
CHK'D. <i>J. F. Smart</i>	5-3-77
ENG. <i>W. S. ...</i>	5-14-77
PROJ. ENG. <i>W. S. ...</i>	6-14-77
PROD.	

digital	
TIMING	
SIZE	CODE
NUMBER	REV
d U A M 7 8 7 6 - 0 - 0	H

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:				
MADE BY DATE		CHECKED DATE		SECTION												MS 116448 CS REV F ETCH REV F-P2		
F. SMART 3 MAY 77		F. SMART 3 MAY 77																
ENG DATE		PROD DATE		ISSUED SECTION												REF DESIGNATION		
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M7876-Ø-Ø														
1	D-MD-5011884-Ø-Ø	5011884	ETCHED BOARD	1														C21
2		1001383	CAPACITOR, .0047UF, 100V	1														C7-C10, C13-C20, C22-C80
3		1012784	CAPACITOR, .047UF, 50V	71														C1-C6
4		1005306	CAPACITOR, 6.8UF, 35V, 10%	6														D1, D2
		1100113	DIODE, D662	2														R7
		1304837	RESISTOR, 24K, 1/4 W, 5%	1														R8
		1300295	RESISTOR, 330, 1/4 W, 5%	1														R9
		1301890	RESISTOR, 560, 1/4 W, 5%	1														R1-R6, R10, R11, R12, R52, R53, R79, R80, R81, R98, R99, R100, R68, R82, R78, R105
		1300365	RESISTOR, 1K, 1/4 W, 5%	21														R13, R74, R102
		1300271	RESISTOR, 220, 1/4 W, 5%	3														R103, R107, R109, R115, R117
		1300309	RESISTOR, 390, 1/4 W, 5%	5														R58, R61, R71, R112
		1301775	RESISTOR, 820, 1/4 W, 5%	4														R66, R67, R76, R49
		1300219	RESISTOR, 68, 1/4 W, 5%	4														R85, R86, R87, R77
		1302377	RESISTOR, 39, 1/4 W, 5%	4														R57, R60, R62, R63, R64, R65, R70, R83, R88, R90, R92, R94, R96, R111
		1301972	RESISTOR, 270, 1/4 W, 5%	14														

E.C.O. NO.

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TITLE  
TIMING

ASSY NO.  
D-UA-7876-Ø-Ø

SIZE  
**B**

CODE  
**PL**

NUMBER  
M7876-Ø-Ø

REV.  
H

SHEET 1 OF 5

INSERTION PARTS LIST DATA BASE REV



DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:						
MADE BY DATE		F. SMART 3 MAY 77		CHECKED DATE		F. SMART 3 MAY 77		SECTION												
ENG DATE		PROD DATE		ISSUED SECTION																
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M7876-0-0														REF DESIGNATION		
16		1302975	RESISTOR, 82.5, 1/4 W, 1%	2														R50, R54		
17		1303038	RESISTOR, 133, 1/4 W, 1%	2														R51, R55		
18		1301322	RESISTOR, 180, 1/4 W, 5%	8														R56, R59, R69, R106, R108, R114, R110, R116		
19		1300250	RESISTOR, 150, 1/4 W, 5%	7														R75, R84, R89, R91, R93, R95, R97		
20		1300229	RESISTOR, 100, 1/4 W, 5%	37														R14-R47, R72, R73, R104		
21		1005820	CAPACITOR, 22PF	1														C12		
22		1309143-06	POT, 500, 3/4 W, 10%	1														R48		
23		1502762-00	TRANSISTOR, 3639B	6														Q3, Q4, Q5, Q6, Q7, Q8		
24		1510706-00	TRANSISTOR, A55	2														Q1, Q2		
25		1210209	SWITCH, TOGGLE	2														S1, S2		
26		1610033	DELAY LINE, 100NS, 9 TAPS	1														E77		
27		1911398	I.C. DEC 10101	3														E8, E23, E28		
28		1911402	I.C. DEC 10105	1														E27		
29		1911405	I.C. DEC 10109	1														E9		
30		1911403	I.C. DEC 10106	1														E17		
31		1911501	I.C. DEC 10141	4														E6, E7, E15, E16		

E.C.O. NO.	"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 ©1977 DIGITAL EQUIPMENT CORPORATION"			TITLE TIMING	ASSY NO. D-UA-M7876-0-0	SIZE B	CODE PL	NUMBER M7876-0-0	REV. H
	SHEET 2 OF 5					INSERTION PARTS LIST DATA BASE REV			

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:									
MADE BY DATE		CHECKED DATE		F. SMART 3 MAY 77		F. SMART 3 MAY 77		SECTION															
ENG DATE		PROD DATE				ISSUED SECTION																	
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION		M7876-0-0																		REF DESIGNATION
32		1913220	I.C. DEC 10216		1																		E18
33		1911399	I.C. DEC 10102		1																		E24
34		1912746	I.C. DEC 74S37		1																		E30
35		1911330	I.C. DEC 74173		8																		E65,E66,E73,E74,E82,E83,E91,E92
36		1911579	I.C. DEC 8641		5																		E26,E67,E75,E84,E93
37		1910550	I.C. DEC 74S174		1																		E45
38		1910541	I.C. DEC 74S40		1																		E70
39		1910951	I.C. DEC 9602		1																		E68
40		1909705	I.C. DEC 8881		6																		E11,E19,E25,E29,E33,E36
41		1911469	I.C. DEC 8640		2																		E20,E63
42		1910532	I.C. DEC 74S00		12																		E5,E35,E38,E53,E61,E64,E71,E88,E85,E90,E94,E97
43		1910534	I.C. DEC 74S04		7																		E31,E39,E52,E55,E96,E102,E3
44		1910155	I.C. DEC 7408		1																		E101
45		1910545	I.C. DEC 74S112		3																		E48,E80,E108
46		1910537	I.C. DEC 74S11		4																		E40,E62,E81,E103

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TITLE  
TIMING

ASSY NO.  
D-UA-M7876-0-0

SIZE CODE NUMBER  
B PL M7876-0-0

REV.  
H

SHEET 3 OF 5

INSERTION PARTS LIST DATA BASE REV

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:						
MADE BY DATE		F. SMART 3 MAY 77		CHECKED DATE		F. SMART 3 MAY 77		SECTION		M7876-0-0										
ENG DATE		PROD DATE		ISSUED SECTION																
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION																	
47		1910539	I.C. DEC 74S20	3															E56, E59, E2	
48		1909713	I.D. DEC 8815	2															E100, E10	
49		1912746-1	I.C. DEC 74S37-1	4															E34, E41, E42, E57	
50		1910878	I.C. DEC 7427	1															E4	
51		1912389	I.C. DEC 74S08	3															E54, E72, E89	
52		1910536	I.C. DEC 74S10	7															E12, E43, E87, E76, E99, E104, E69	
53		1911983	I.C. DEC 74S133	1															E105	
54		1912388	I.C. DEC 74S02	4															E47, E50, E51, E106	
55		1910544-0	I.C. DEC 74S74	11															E14, E22, E60, E78, E86, E95, E98, E107, E37, E46, E79	
56		23374A2-00	I.C. DEC 256 X 4 OPEN COLL. PROM/ROM	1															E49	
57		23316A2-00	I.C. DEC 256 X 4 OPEN COLL. PROM/ROM	1															E58	
58		1910544-1	I.C. DEC 74S74-60	1															E32	
59		9000024-01	EYELET	12																
60		1210711-02	ASSY/HANDLE	1																

E.C.O. NO.

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TITLE  
TIMING

ASSY NO.  
D-UA-M7876-0-0  
SHEET 4 OF 5

SIZE CODE  
B PL  
NUMBER  
M7876-0-0  
INSERTION PARTS LIST DATA BASE REV

REV.  
H

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:							
MADE BY DATE		F. SMART 3 MAY 77		CHECKED DATE		F. SMART 3 MAY 77		SECTION		M7876-0-0												REF DESIGNATION	
ENG DATE		PROD DATE				ISSUED SECTION																	
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION		QTY	UNIT	VAR	VAR	VAR	VAR	VAR	VAR	VAR	VAR	VAR	VAR	VAR	VAR					
61		9009185	JUMPER, INSULATED		6													W1-w8,					
62			SPARE I.C.		2													E13,E21.					
63		23150A1-00	I.C. DEC 32 X 8 TRISTATE PROM/ROM		1													E44					
64		1312628	RESISTOR PACK		1													E1					

E.C.O. NO.

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								SHEET 5 OF 5			INSERTION PARTS LIST DATA BASE REV							

DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	REVISIONS															
		M7876-Ø	MODULE (TIMING)	D	E	F	H	H											
		5011884	ETCHED BOARD	E	E	E	F	F											
D-CS-M7876-Ø-1	9		CIRCUIT SCHEMATIC	D	E	E	F	H											
B-PL-M7876-Ø-Ø	5		PARTS LIST	D	E	F	H	H											
B-MH-M7876-Ø-6	1		MODULE HISTORY	*	A	B	C	D											
D-UA-M7876-Ø-Ø	3		UNIT ASSEMBLY	D	E	F	H	H											
D-MD-5011884-Ø-Ø	5		MECHANICAL DRAWING	E	E	E	F	F											
M7876-Ø-L			P.C. DESIGN DATA BASE	E	E	E	F	F											
M7876-Ø-PL			INSERTION P/L DATA BASE	D	D	D	E	E											
DEMINS LISTING	-		MODULE TEST TECHNIQUE	REF															

**NOTES:**

1. THE MODULE REVISION REFLECTS CHANGES IN THE HARDWARE AND IS SEPARATE FROM THE CIRCUIT SCHEMATIC REVISION WHICH REFLECTS BOTH HARDWARE AND DOCUMENT CHANGES.
2. THIS DRAWING DIRECTORY DOCUMENTS THE RELATIONSHIP BETWEEN REVISIONS, THE CS REV UPON THE ETCHED BOARD IS NOT TO BE USED.

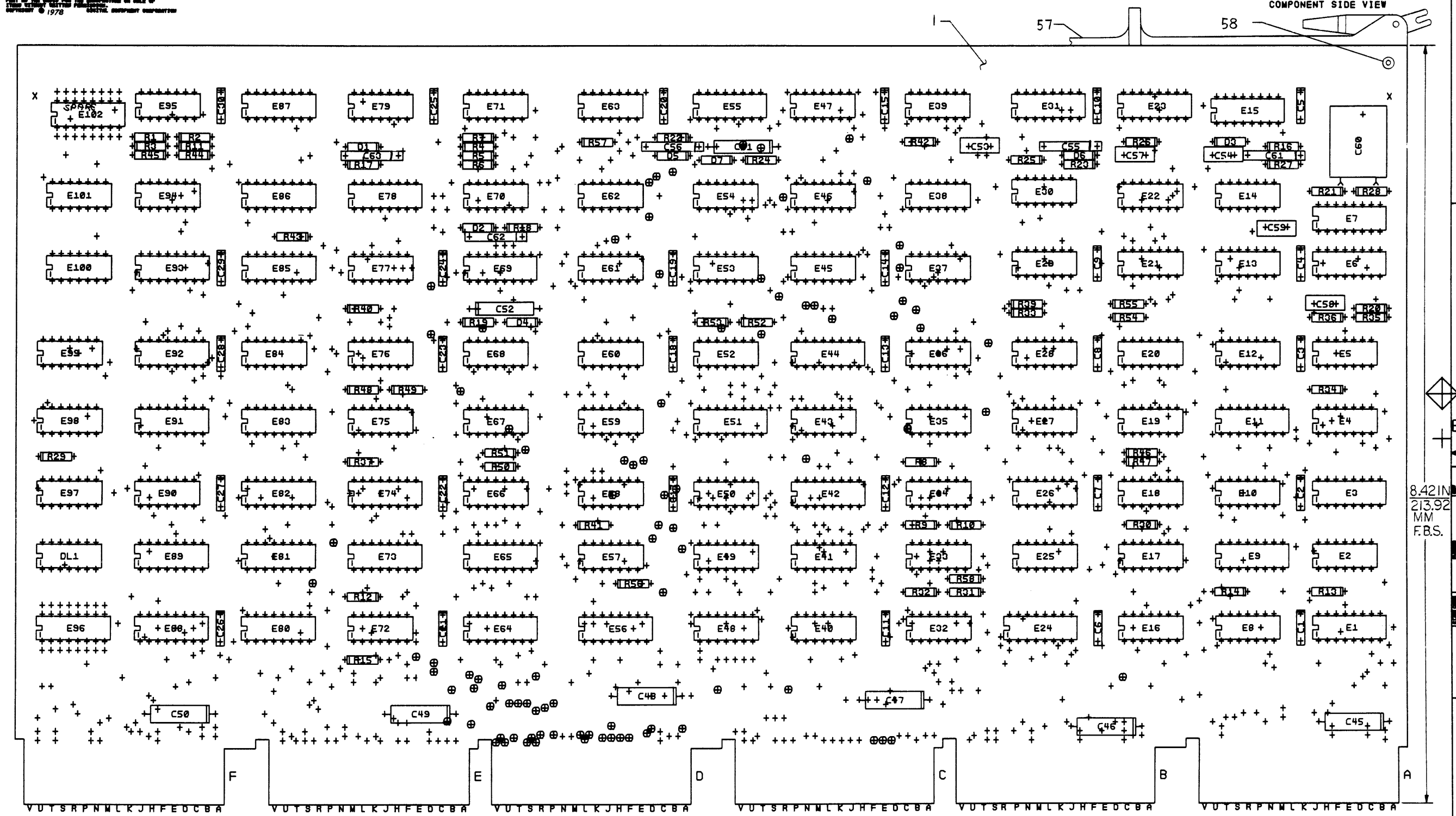
REVISIONS		DATE	CHG NO.	REV
	ORIG.			B
		2-77	00001	C
		4-77	00002	D
		5-77	00003	E
		9-77	00004	

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USED ON OPTION/MODEL	DRN. <i>[Signature]</i>	11/10/76	TITLE	
KD11-K	CHK'D <i>[Signature]</i>	11/10/76	TIMING	
	ENG. <i>[Signature]</i>	11/10/76	SIZE CODE	BDD
	PROD. <i>[Signature]</i>	11/10/76	NUMBER	M7876-Ø
			REV.	E
			SHEET	1 OF 1

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8.421 IN  
213.92 MM  
F.B.S.

NOTES:

CHANGE NO	REV	DATE	BY
1	1	4-27-78	H
2	1	5-2-78	H
3	1	11-10-76	H
4	1	11-10-76	H
5	1	11-10-76	H

ETCH REV. D-P2  
P.C. DESIGN DATA BASE REV. D-P2

SIGNATURES	DATE
DRN <i>George Tynas</i>	4-27-78
CHK'D. <i>Paul Silk</i>	5-2-78
ENG. M. STECKLAIR	11-10-76
PROJ. ENG. D. RANDALL	11-10-76
PROD. E. RANDALL	11-10-76

digital	
TITLE STATUS BOARD	
SCALE 2:1	SIZE CODE NUMBER
SHT. 1 OF 3	d UAM7877-0-0 H
NEXT HIGHER ASSY. B-0D-M7877-0	

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
				00	
1	D-MU-5011885-0-0	5011885-00	M7877	1	
2		1012784-00	.047 MFD 50V -20+80 CER	29	C1-C15,C17-C30
3		1005306-00	6.8MFD 35V 10% S.TANT	7	C45-C51
4		1000076-00	39 MFD 10V 10% 150D S.TA	1	C52
5		1001631-00	390.0 MMF 100V 5%200PPM DM15S	2	C53,C54
6		1005328-00	.33 MFD 20V 10% 150D S.TA	2	C55,C56
7		1000015-00	82.0 MMF 100V 5%200PPM DM15S	1	C57
8		1000016-00	100.0 MMF 100V 5%200PPM DM15S	2	C58,C59
9		1001636-00	2400.0 MMF 100V 5%200PPM DM19S	1	C60
10		1001776-00	1 MFD 35V 10% S.TANT	3	C61-C63
11		1105275-00	D 672 TR= 15NS PIV= 60V SI	7	D1-D7
12		1300271-00	220 1/4W 5% CC	13	R1-R11,R29,R46
13		1302514-00	39 K 1/4W 5% CC	4	R16-R19
14		1300447-00	4.7 K 1/4W 5% CC	6	R12-R15,R20,R21
15		1305346-00	27 K 1/4W 5% CC	2	R22,R23
16		1302177-00	47 K 1/4W 5% CC	4	R24-R27
17		1300488-00	12 K 1/4W 5% CC	1	R28
18		1300365-00	1 K 1/4W 5% CC	18	R30-R37,R39-R45,R56-R58
19		1312628-00	P NETWORK 14-176.5 14-375	2	E1,E24
20		1612463-00	DELAY= 150NS,10TAPS	1	DL1
21		1301322-00	180 1/4W 5% CC	4	R48,R50,R52,R54
22		1300309-00	390 1/4W 5% CC	5	R47,R49,R51,R53,R55
23		1905575-00	7400 NAND GATE-QUAD 2IN	3	E26,E54,E70
24		1910532-00	74S00 NAND GATE-QUAD 2INS	5	E17,E25,E61,E14,E38
25		1909004-00	DEC 7402 NOR GATE-QUAD 2IN	2	E53,E62
26		1912388-00	74S02 NOR GATE-QUAD 2IN,PO	3	E33,E36,E101
27		1910534-00	74S04 INVERTER GATE-HEX 1I	3	E37,E49,E84
28		1910155-00	DEC 7408 AND GATE,POS,QUAD 2I	1	E22
29		1912389-00	74S08 AND GATE-QUAD 2IN,PO	5	E46,E48,E52,E59,E94

REVISION HISTORY			BASIC PART NO: Z0384		DRN:	I. REYNOLDS	DATE:	05-JUL-78	DIGITAL			
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	B. PUZZO	DATE:	05-JUL-78	TITLE	PARTS LIST			
---	INITIAL	H	SECTION VARIATION INDEX	DES. ENG: <td>M. W. STECKLAIR <td>DATE: <td>05-JUL-78 <td>STATUS</td> <td colspan="4"></td> </td></td></td>	M. W. STECKLAIR <td>DATE: <td>05-JUL-78 <td>STATUS</td> <td colspan="4"></td> </td></td>	DATE: <td>05-JUL-78 <td>STATUS</td> <td colspan="4"></td> </td>	05-JUL-78 <td>STATUS</td> <td colspan="4"></td>	STATUS				
			[A] 00	RESP. ENG.: <td>M. W. STECKLAIR <td>DATE: <td>05-JUL-78 <td>DOCUMENT NUMBER</td> <td colspan="4"></td> </td></td></td>	M. W. STECKLAIR <td>DATE: <td>05-JUL-78 <td>DOCUMENT NUMBER</td> <td colspan="4"></td> </td></td>	DATE: <td>05-JUL-78 <td>DOCUMENT NUMBER</td> <td colspan="4"></td> </td>	05-JUL-78 <td>DOCUMENT NUMBER</td> <td colspan="4"></td>	DOCUMENT NUMBER				
			[B]	MFG. ENG.: <td>M. W. STECKLAIR <td>DATE: <td>05-JUL-78 <td>SIZE CODE NUMBER REV</td> <td>K</td> <td>PL</td> <td>M7877-0-DBP</td> <td>H</td> </td></td></td>	M. W. STECKLAIR <td>DATE: <td>05-JUL-78 <td>SIZE CODE NUMBER REV</td> <td>K</td> <td>PL</td> <td>M7877-0-DBP</td> <td>H</td> </td></td>	DATE: <td>05-JUL-78 <td>SIZE CODE NUMBER REV</td> <td>K</td> <td>PL</td> <td>M7877-0-DBP</td> <td>H</td> </td>	05-JUL-78 <td>SIZE CODE NUMBER REV</td> <td>K</td> <td>PL</td> <td>M7877-0-DBP</td> <td>H</td>	SIZE CODE NUMBER REV	K	PL	M7877-0-DBP	H
			[C]	ASSEMBLY NUMBER: <td>D-UA-M7877-0-0 <td>FILE NAME: <td>M7877.PLS</td> <td>EDIT #</td> <td colspan="4">2</td> </td></td>	D-UA-M7877-0-0 <td>FILE NAME: <td>M7877.PLS</td> <td>EDIT #</td> <td colspan="4">2</td> </td>	FILE NAME: <td>M7877.PLS</td> <td>EDIT #</td> <td colspan="4">2</td>	M7877.PLS	EDIT #	2			
			[D]									
			[E]									
			[F]									
			[G]									
			[H]									
			[J]									
			[K]									
			[L]									
			[M]									
			[N]									

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LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
30	30		1905576-00	7410 NAND GATE-TRIPLE 3IN	1	E30
31	31		1910536-00	74S10 NAND GATE-TRIPLE 3IN	4	E41,E68,E79,E32
32	32		1910537-00	74S11 AND GATE-TRIPLE 3INP	2	E19,E40
33	33		1910539-00	74S20 NAND GATE-DUAL 4INPU	1	E28
34	34		1910878-00	7427 NOR GATE-TRIPLE 3IN	2	E12,E100
35	35		1905578-00	7430 NAND GATE-SINGLE 8IN	1	E67
36	36		1911521-00	7432 OR GATE-QUAD 2IN, PO	3	E5,E50,E60
37	37		1910541-00	74S40 NAND GATE-DUAL 4IN,B	2	E47,E63
38	38		1905547-00	7474 FF-D DUAL,EDGE TRIGG	2	E10,E39
39	39		1910544-00	74S74 FF-D DUAL,EDGE TRIGG	11	E13,E18,E21,E29,E35,E43,E45,E57, E58,E76,E77
40	40		1910224-00	DEC 7485 COMPARATOR-4BIT	2	CONT E91,E93
41	41		1911983-00	74S133 NAND GATE-POSITIVE 1	1	E74
42	42		1911675-00	74S138 DECODER/DEMUX 3-8 LIN	2	E44,E51
43	43		1910650-00	74161 COUNTER,SYNCHR. UP	1	E87
44	44		1910657-00	74174 FF-D HEX	2	E42,E92
45	45		1910550-00	74S174 FF-D HEX	1	E11
46	46		1910957-00	74S175 FF-D QUAD COMMON CLO	2	E83,E89
47	47		1912646-00	LS253 MUX 1 OF 4 (DUAL)	8	E56,E64,E65,E73,E80,E82,E88,E81
48	48		1910546-00	74S140 NAND GATE-DUAL 4INPU	1	E98
49	49		1912746-01	74S37-1 BUFFER-GATE	1	E75
50	50		1910738-00	DEC 74170 MEMORY READ/WRITE	2	E85,E86
51	51		1911469-00	DEC 8640 RECEIVER,BUS,QUAD,U	6	E8,E16,E27,E72,E90,E99
52	52		1911579-00	8641 TRANSCEIVER,BUS,QUA	1	E9
53	53		1909713-00	DEC 8815 NOR GATE-DUAL 4IN	1	E97
54	54		1909705-00	DEC 8881 NAND GATE-QUAD 2IN O	5	E4,E34,E95,E2,E71
55	55		1910951-00	9602 ONE SHOT-DUAL	8	E6,E7,E15,E23,E31,E55,E69,E78
56	56		23318A2-00	A2-02,A2-04	1	E3
57	57		1210711-02	HANDLE,MODULE,HEX	1	
58	58		9000024-01	EYELET, ROLLED FLANGE, .121 OD X	12	
59	59		1910544-01	74S74-60GG-D DUAL,EDGE TRIG	2	E20,E66

\* NOTE: SPARE I.C. LOCATIONS ARE:E96,E102.

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							STATUS		K	PL	M7877-0-DBP	H



DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	REVISIONS															
				B	C	D	E	F	H										
		M7877-Ø	MODULE (STATUS)	B	C	D	E	F	H										
		5011885	ETCHED BOARD	C	C	C	C	C	D										
D-CS-M7877-Ø-1	9		CIRCUIT SCHEMATIC	B	C	D	E	F	H										
K-PL-M7877-Ø-DBP	2		PARTS LIST	B	C	D	E	F	H										
B-MH-M7877-Ø-6	1		MODULE HISTORY	*	A	B	C	D	E										
D-UA-M7877-Ø-Ø	3		UNIT ASSEMBLY	B	C	D	E	F	H										
D-MD-5011885-Ø-Ø	5		MECHANICAL DRAWING	C	C	C	C	C	D										
M7877-Ø-L			P.C. DESIGN DATA BASE	C	C	C	C	C	D										
M7877-Ø-PL			INSERTION P/L DATA BASE	B	B	B	B	B	C										
DEMINS LISTING	-		MODULE TEST TECHNIQUE	REF	REF	REF	REF	REF	REF										

**NOTES:**

1. THE MODULE REVISION REFLECTS CHANGES IN THE HARDWARE AND IS SEPARATE FROM THE CIRCUIT SCHEMATIC REVISION WHICH REFLECTS BOTH HARDWARE AND DOCUMENT CHANGES.
2. THIS DRAWING DIRECTORY DOCUMENTS THE RELATIONSHIP BETWEEN REVISIONS, THE CS REV UPON THE ETCHED BOARD IS NOT TO BE USED.

REVISIONS		DATE	CHG NO	REV
	ORIG	-		-
	00001	2-77		B
	00002	5-77		C
	00003	7-77		D
	00004	9-77		E
	TW005	7-78		F

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USED ON OPTION/MODEL	DRN. 70/long hb	11/10/76	TITLE
KD11-K	CHK'D 70/long hb	11/10/76	STATUS
	ENG. 70/long hb	11/10/76	SIZE CODE
	PROD. Jim Randall	11/10/76	NUMBER
			BDD M7877-Ø
			REV.
			SHEET 1 OF 1

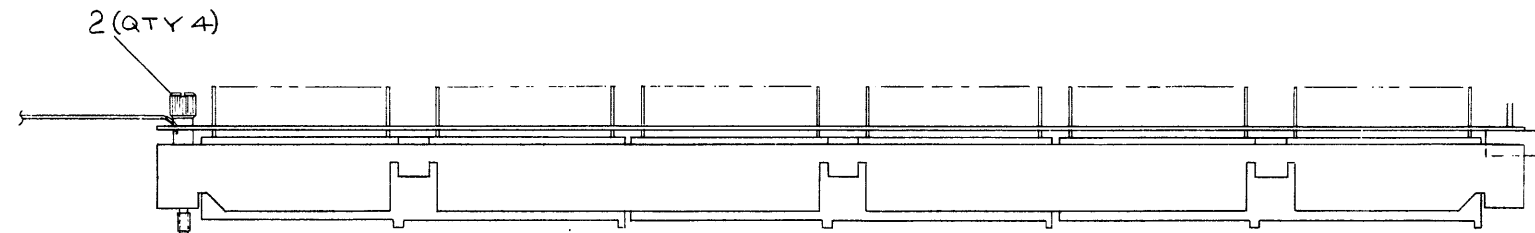
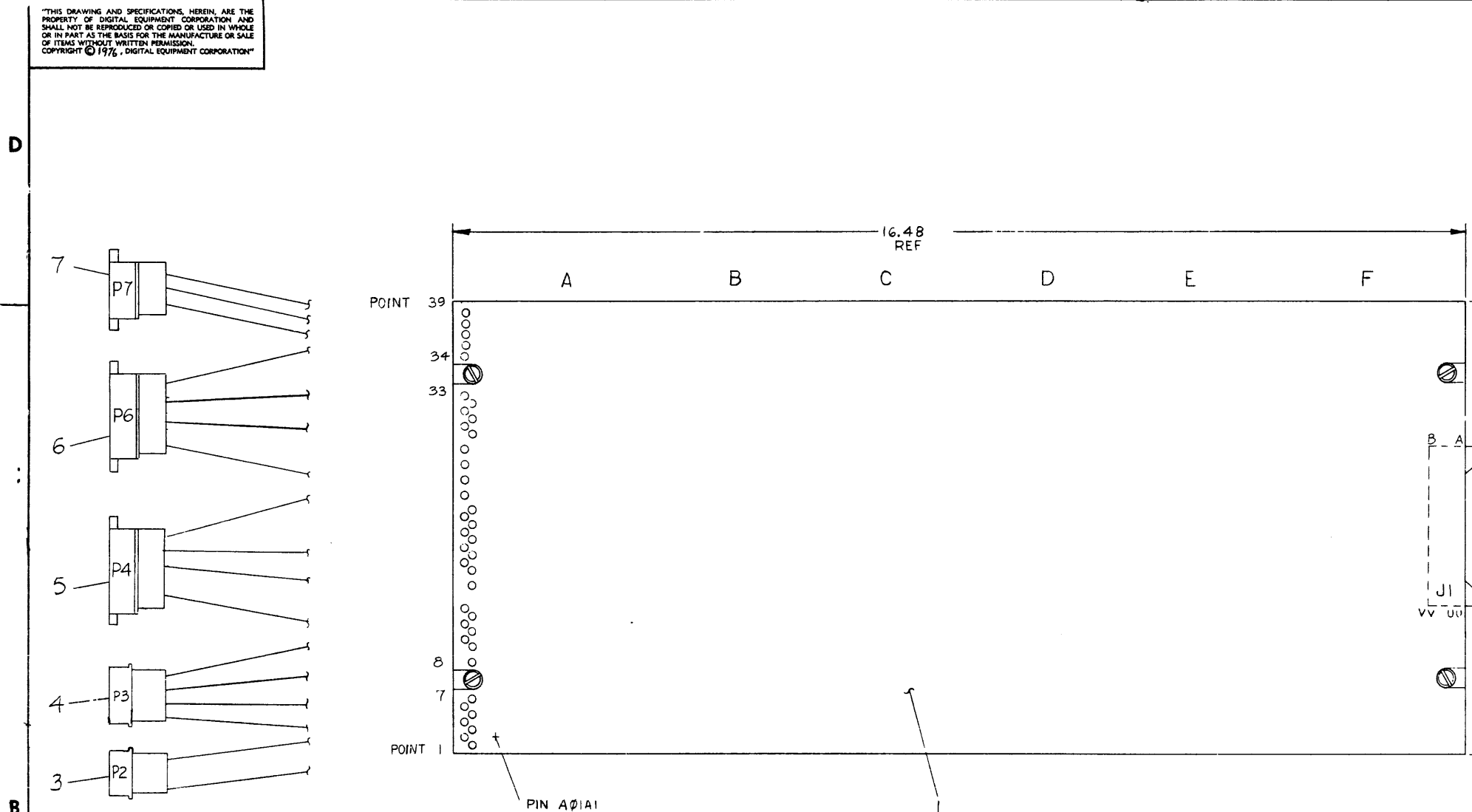
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NOTES:  
1. REVISION LEVELS OF COMPONENT PARTS ARE CORRELATED ON B-DD-KDII-K.

+5 VDCB	B	A	GROUND BERG
REMOTE SEL	L D	C	REMOTE LOAD L
REMOTE 2 L	F	E	REMOTE SEL 1 L
REMOTE VALID L	J	H	REMOTE I L
GROUND BERG	L	K	REMOTE COMPARE H.
SLIDE SW	I H	N	+5VDCB
SW CLOSURE	I L	R	SLIDE SW $\phi$ H
LED(BATT OK)	H	T	SW CLOSURE $\phi$ L
LED(CONSOLE)	H	V	LED (PROG) H
LED(USER)	H	X	LED (RUN) H
LED(DECIMAL)	H	Z	GROUND BERG
DISPLAY CODE	I L	BB	AA DISPLAY CODE 2 L
PANEL LOCK	H	DD	CC DISPLAY CODE $\phi$ L
DISPLAY SEL	I L	FF	EE DISPLAY SEL 2 L
+5 VDCB	I J	HH	HH DISPLAY SEL $\phi$ L
ANY KEY	H	LL	KK GROUND BERG
KEYPAD CODE	4 L	INN	MM START*HALT L
KEYPAD CODE	2 L	IRR	PP KEYPAD CODE 3 L
KEYPAD CODE	$\phi$ L	TT	SS KEYPAD CODE 1 L
GROUND BERG	I V	UU	+5VDCB

DETAIL A  
SCALE: NONE

SEE DETAIL A



1	HARNESS #5 (P7)	C-IA-7012958-0-0	7
1	HARNESS #4 (P6)	C-IA-7012955-0-0	6
1	HARNESS #3 (P4)	C-IA-7012957-0-0	5
1	HARNESS #2 (P3)	C-IA-7012954-0-0	4
1	HARNESS #1 (P2)	C-IA-7012956-0-0	3
4	SCREW, CAPTIVE PANEL	C-MD-7415639-0-0	2
1	WIRED ASSY (KDII-K)	D-IA-7012980-0-0	1

THIRD ANGLE PROJECTION		FIRST USED ON	
REMOVE BURRS AND BREAK SHARP CORNERS		KDII-K	
DO NOT SCALE DWG.		NEXT HIGHER ASSY.	
MATERIAL SEE PARTS LIST		SIZE	CODE
FINISH		D	IA
SHEET 1 OF 2		DIST.	7012953-0-0
		REV.	C

REV.	CHANGE NO.	CHK.
A	1	N. Vowles 16-FEB-77
B	1	J. O'LOUGHLIN
C	1	D. Ives 28-MAR-77
D	1	J. O'LOUGHLIN

REV. C  
NUMBER  
D-IA-7012953-0-0

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WIRE TABLE

ITEM NO	DESCRIPTION	FROM			TO			BACK PANEL SIGNALS	
		AWG	COLOR	POINT	CONNECTION	TERM	POINT		CONNECTION
P2	18 WHT		4	P2-1	-	8	ITEM # 1	SOLDER	SW CLOSURE φ L
	18 BLK		3	P2-3		15			SW CLOSURE 1 L
P3	14 RED		13	P3-1		5			+5V DCA
			14	P3-2		12			+5V DCB
			15	P3-3		13			+5V DCB
			16	P3-4		6			+5V DCA
			17	P3-5		7			+5V DCA
	RED		18	P3-6		14			+5V DCB
	BLK		19	P3-7		9			GND PWR DISTRIBUTION
			20	P3-8		10			
			21	P3-9		11			
			22	P3-10		18			
			23	P3-11		19			
	P4			24	P3-12		20		
BLK			12	P4-1		32			GND PWR DISTRIBUTION
RED			11	P4-3		29			+5V FLT PT
BLK			10	P4-4		33			GND PWR DISTRIBUTION
RED			9	P4-6		30			+5V FLT PT
BLK			8	P4-7		34			GND PWR DISTRIBUTION
P6	RED		7	P4-9		31			+5V FLT PT
	RED		12	P6-1		16			+5V DCD
	RED		13	P6-2		17			+5V DCD
	GRY		14	P6-3		4			+15V DC
	14 BLK		15	P6-4		3			GND PWR DISTRIBUTION
	18 BRN		16	P6-5		1			LED (BATT OK) H
	14 BLK		17	P6-6		21			GND PWR DISTRIBUTION
	14 BLK		18	P6-7		22			GND PWR DISTRIBUTION
	18 GRN		19	P6-8		2			DISCHARGED L
	18 ORN		20	P6-9		25			DC ON
	14 BLK		21	P6-10		24			GND PWR DISTRIBUTION
	14 BLU		22	P6-11		38			-15V DC
P7	14 BLK		8	P7-1		23			GND PWR DISTRIBUTION
	18 BRN		7	P7-2		39			LTC L
	18 VIO		6	P7-3		36			BUS DC LO L
	18 YEL		5	P7-4		37	ITEM # 1	SOLDER	BUS AC LO L
					26				SPARE
					27				SPARE
					28				SPARE
					35				SPARE

REVISIONS		
CHK	CHANGE NO.	REV.

4

3

REV. B  
NUMBER KD11-K-1  
SIZE CODE WL K

2


1

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WIRE LIST FORMAT (BY COLUMN HEADING)

- 1. RUN NAME - CONTAINS THE SIGNAL NAME AS IT APPEARS IN THE CIRCUIT SCHEMATICS MINUS THE PRINT PREFIX.
- 2. PIN NAME - THREE TYPES OF NOTATION FOR ALL PINS IN A GIVEN RUN:
  - A) STANDARD PINS-(ROWS A-F, SLOTS 1-14), THE AREA WHERE THE MODULE IS INSTALLED,
  - B) J1 PINS-(BERG HEADER PINS ONLY), CONSIST OF J, 2 ZERO-FILLED POSITIONS, 1, AND A ONE OR TWO PIN DESIGNATION (EX. J001A, J001AA).
  - C) J2 PINS-(POWER DISTRIBUTION CONNECTIONS ONLY), SAME FORMAT AS J1 PINS EXCEPT THE LAST TWO CHARACTERS ARE THE CONNECTION NUMBER (EX. J00205, J00215).
- 3. BAY ORDER - SPECIFIES THE RUN CONNECTION SEQUENCE, IF A STAR (\*) IS NEXT TO THE BAY ORDER NUMBER THEN THE RUN HAS BEEN FORCED TO BE IN THAT ORDER.
- 4. Q COLUMN - HOW THE CONNECTION FROM THE PIN NAME ON THAT LINE TO THE PIN NAME ON THE NEXT LINE IS MADE:
  - A) BLANK SPACE-30 GAUGE WIRE
  - B) "H"-120 OHM TWISTED PAIR
  - C) "K"-J1 OR J2 PINS
  - D) "P"-ETCH CONNECTIONS
- 5. DRAW - ADDITIONAL (WITH Q) INFORMATION ABOUT THE CONNECTION FROM THE PIN NAME ON THAT LINE TO THE PIN NAME ON THE FOLLOWING LINE:
  - A) WR-30 GAUGE WIRE
  - B) TW-120 OHM TWISTED PAIR
  - C) ETCH 1-SIDE 1 ETCH (NEXT TO CONNECTOR BLOCKS)
  - D) ETCH 2-SIDE 2 ETCH (PIN SIDE)
  - E) PWR-POWER (INNER) LAYER
  - F) GND-GROUND (INNER) LAYER
  - G) TSTP T-MODULE TEST POINT ONLY
- 6. REMARKS - 12 CHARACTER CIRCUIT SCHEMATIC REFERENCE:
  - A) SPC-SMALL PERIPHERAL CONTROLLER SLOTS
  - B) PWR DIST-POWER DISTRIBUTION BOARD
  - C) CONSOLE PWR-CONSOLE (BERG) POWER
  - D) CONSOLE GND-CONSOLE (BERG) GROUND
  - E) XCS-(SLOT 1), EITHER WCS, DCS, OR ECS
  - F) IO UNIBUS-THE UNIBUS WITH SIGNALS FOR DMA AND INTERRUPTING DEVICES.
  - G) MEM UNIBUS-THE UNIBUS SECTION FOR MEMORY ONLY.
  - H) CS PAGES WITH (\*) FOR SOURCE-EX. K603, 04\*,07 MEANS THE SIGNAL IS ON CS'S K603, K604 (SOURCE), AND K607. WHEN THE NUMBER OF PAGES CAN'T BE REPRESENTED WITH 12 OR LESS CHARACTERS FIRST THE LEADING ZERO'S ARE DROPPED (K603,4\*,7,8) AND THEN THE FIRST THREE CHARACTERS (3,4\*7,8,9,). THE MODULE REFERENCED CAN BE DETERMINED BY THE SLOT PORTION OF PIN NAME

REVISIONS	REV.	A	B
	CHANGE NO.	KD11-K-00001	KD11-K-00002
CHK			

FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP11/60		PARTS LIST		
CAUTION:				
THE PRODUCTION AND FIELD INFORMATION FOR THE KD11-K HAS BEEN GENERATED FROM FOUR SEPARATE FILES. ECO ORIGINATORS AND THOSE UPDATING THE FILES MUST READ A-SP-KD11-K-2 FOR PROPER PROCEDURE.		DRN.	DATE	TITLE
		B. Blodgett	6-14-76	WIRE LIST KD11-K
		CHK'D.	DATE	
		ENG.	DATE	
		PROJ. ENG.	DATE	
		PROD.	DATE	
NEXT HIGHER ASSEMBLY				
D-IA-7012980-0-0		SIZE	CODE	NUMBER
SCALE		K	WL	KD11-K-1
SHEET 1 OF 1		REV.	B	

4

3



2

1

# DRAWING DIRECTORY

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## CUSTOMER PRINT SET INDEX

SEQUENCE

77

77

SEQUENCE

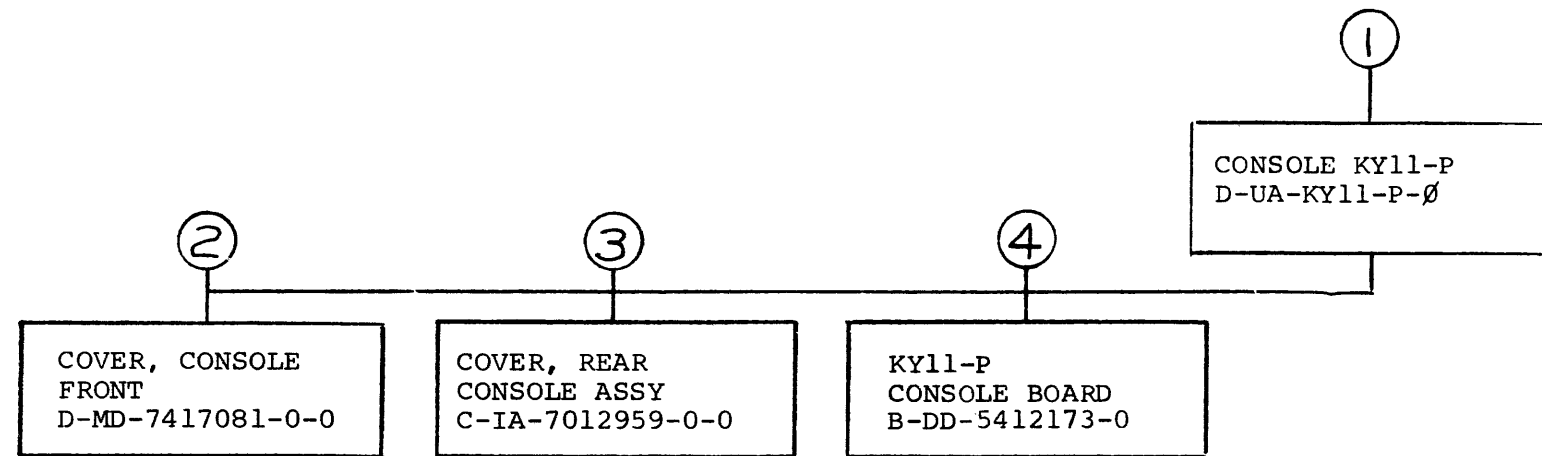
77

THIS IS PRINT SET   

UNIT VARIATIONS		PRINT SET
VAR	TITLE	
KY11-P	PROGRAMMERS CONSOLE	

REVISIONS		USED ON OPTION/MODEL	DRN.	DATE	TITLE	SIZE	CODE	NUMBER	REV
DATE	CHG. NO.		D. HEALY	JUL 76					
		1160W	CHK'D.	DATE					
		11/60	D. HEALY	DEC 76					
			PROJ ENG.	1 FEB 77					
			PROD.	1 FEB 77	B	DD	KY11-P		
			FIELD SERV	-DATE-	DIST				
		SHEET 1 OF 3							

EN-01062-1A-16-R972-1(325)



TITLE	SHEET 2 OF 3	SIZE CODE	NUMBER	REV
CONSOLE KY11-P		B	KY11-P	

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1	D-UA-KY11-P-Ø	CONSOLE KY11-P	M				
	D-MD-7416868-0-0	CASTING CONSOLE	M				
	C-MD-7416956-0-0	STRAP GROUND	M				
	D-UA-BCØ5L-Ø-Ø	CABLE, BCØ5L	E/M				
2	D-MD-7417081-0-0	COVER, CONSOLE FRONT	M				
	B-SS-7417081-0-1	SILK SCREEN	M				
	B-SS-7417081-0-2	SILK SCREEN	M				
	B-SS-7417081-0-3	SILK SCREEN	M				
	B-SS-7417081-0-4	SILK SCREEN	M				
3	C-IA-7012959-0-0	COVER, REAR CONSOLE ASSY	M				
	C-MD-7417080-0-0	COVER, REAR CONSOLE	M				
	C-MD-7417088-0-0	COVER, SWITCH PROTECTION	M				
	B-MD-7417165-0-0	SHIELD, BACK PANEL	M				
4	B-DD-5412173-0	CONSOLE BOARD KY11-P	E/M				

TYPE: E ELECTRICAL  
M MECHANICAL  
E/M ELECTRO/MECHANICAL



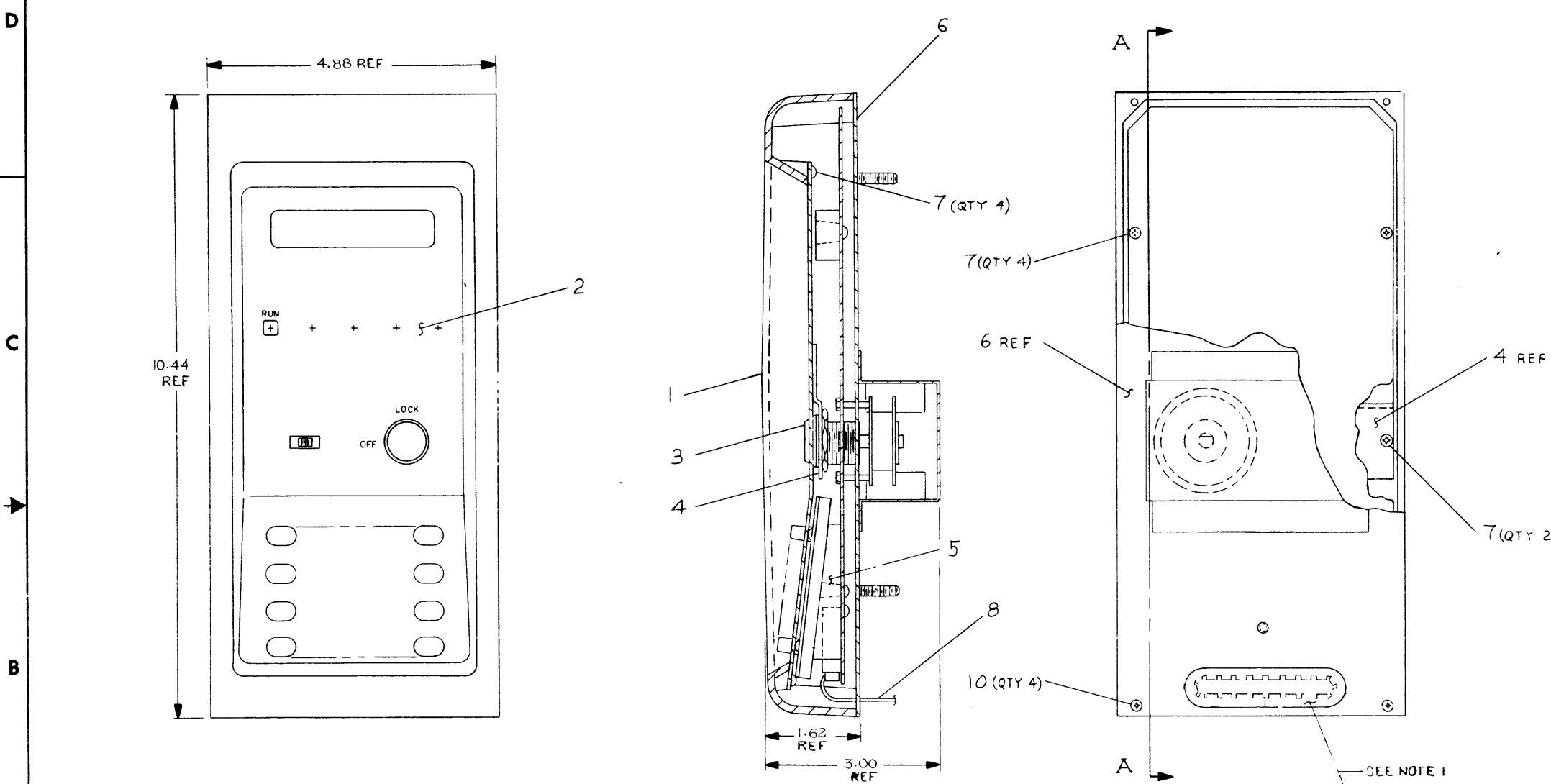
TITLE	CONSOLE KY11-P	SHEET 3 OF 3	SIZE	CODE	NUMBER	REV
			B	DD	KY11-P	

EN-01062-2C-16-R376-(325)

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NOTES:

- ITEM #9 GROMMET STRIP TO EXTEND COMPLETELY AROUND SLOT IN ITEM #6.



SECTION A-A  
SCALE: 1/1

QTY	DESCRIPTION	DWG./PART NO.	ITEM NO.
4	SCR. PHL FL. HD. #4-90X.25	9006009 02	10
1	GROMMET CATERPILLAR	9007036	9
1	CABLE, BC05L	D-UA-BC05L-C-φ	8
10	SCR, PHL, PAN HD #4-40X.25	9008301-1	7
1	COVER, REAR CONSOLE ASSY	C-1A-7012959-0-C	6
1	CONSOLE BOARD (KYII-P)	D-UA-5412173-0-0	5
1	STRAP, GND	C-MD-7416956-0-0	4
1	SWITCH, KEYLOK	1213283	3
1	COVER, CONSOLE FRONT	D-MD-7417081-0-0	2
1	CASTING, CONSOLE	D-MD-7416868-1-0	1

THIRD ANGLE PROJECTION	DRN. <i>[Signature]</i> 23 MAR 76	FIRST USED ON	digital
	CHK'R <i>[Signature]</i> 7 JUL 76	PDP 11/02	
REMOVE BURRS AND BREAK SHARP CORNERS	ENG. <i>[Signature]</i>	TITLE CONSOLE (KYII-P) UNIT ASSY	
DO NOT SCALE DWG	PROJ. ENG. <i>[Signature]</i> 22 MAR 76	NEXT HIGHER ASSY.	
MATERIAL SEE PARTS LIST	PROD. <i>[Signature]</i> 2 NOV 76	E-UA-1160-0-7	SIZE CODE D UA
FINISH		SCALE 1/1	NUMBER KYII-P-0
		SHEET 2 OF 2	REV A

REV.	CHG. NO.	BY
1	00001	A

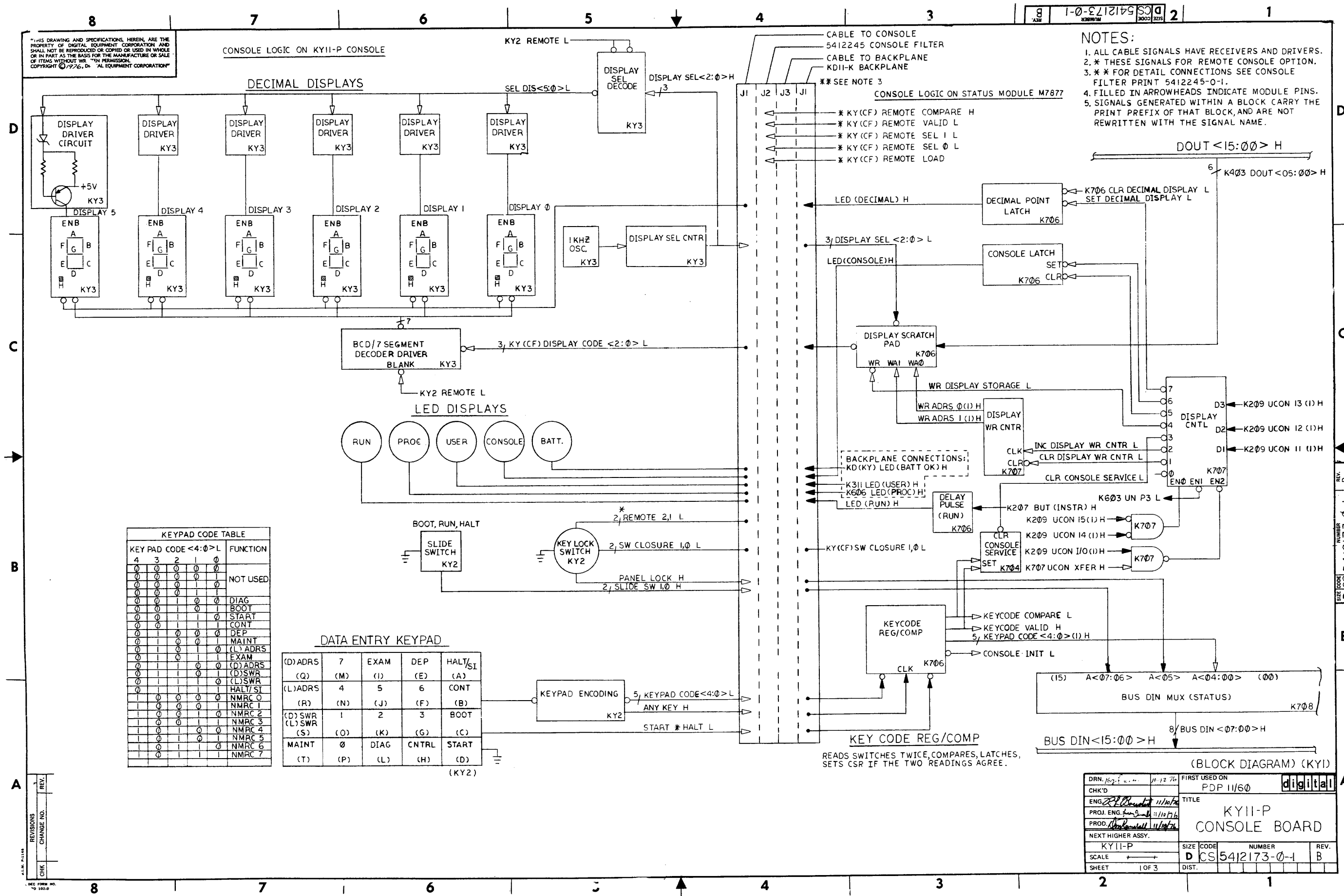
CHK: *[Signature]*  
B. HALL  
11/17/77

REV. A  
NUMBER  
KYII-P-0  
DUA



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- NOTES:**
1. ALL CABLE SIGNALS HAVE RECEIVERS AND DRIVERS.
  2. \* THESE SIGNALS FOR REMOTE CONSOLE OPTION.
  3. \*\* FOR DETAIL CONNECTIONS SEE CONSOLE FILTER PRINT 5412245-0-1.
  4. FILLED IN ARROWHEADS INDICATE MODULE PINS.
  5. SIGNALS GENERATED WITHIN A BLOCK CARRY THE PRINT PREFIX OF THAT BLOCK, AND ARE NOT REWRITTEN WITH THE SIGNAL NAME.



**KEYPAD CODE TABLE**

KEY PAD CODE <4:0> L	FUNCTION
0000	NOT USED
0001	NOT USED
0002	NOT USED
0003	NOT USED
0004	DIAG
0005	BOOT
0006	START
0007	CONT
0008	DEP
0009	MAINT
0010	(L) ADRS
0011	EXAM
0012	(D) ADRS
0013	(D) SWR
0014	(L) SWR
0015	HALT/ST
0016	NMRC 0
0017	NMRC 1
0018	NMRC 2
0019	NMRC 3
0020	NMRC 4
0021	NMRC 5
0022	NMRC 6
0023	NMRC 7

**DATA ENTRY KEYPAD**

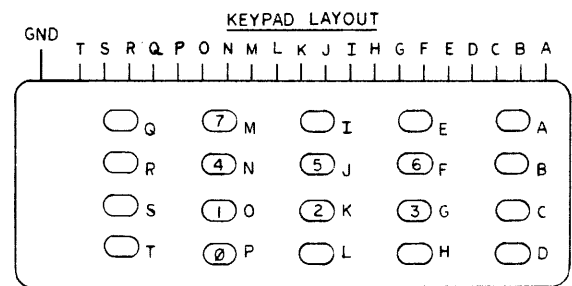
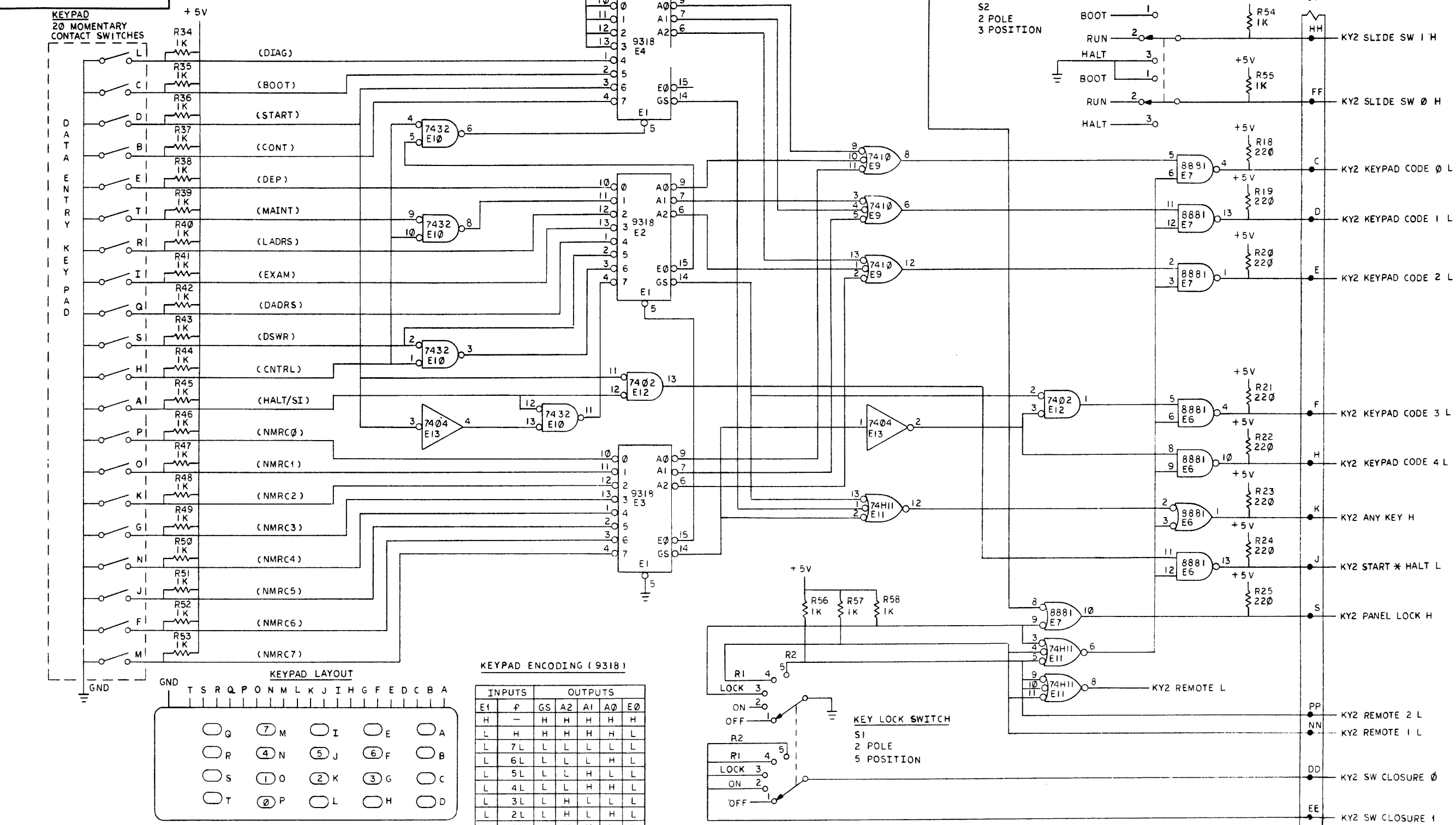
(D) ADRS	7	EXAM	DEP	HALT/ST
(Q)	(M)	(I)	(E)	(A)
(L) ADRS	4	5	6	CONT
(R)	(N)	(J)	(F)	(B)
(D) SWR	1	2	3	BOOT
(L) SWR	(S)	(O)	(K)	(G)
(C)	(C)	(C)	(C)	(C)
MAINT	0	DIAG	CNTRL	START
(T)	(P)	(L)	(H)	(D)

**(BLOCK DIAGRAM) (KY1)**

DRN: 11/12/76	FIRST USED ON: PDP 11/60	digital
CHK'D:	TITLE: KY11-P CONSOLE BOARD	
ENG: R. P. Bennett 11/10/76	PROJECT: 11/10/76	SIZE: D
PROD: Bennett 11/10/76	SCALE: 1 OF 3	CODE: CS
NEXT HIGHER ASSY:	SHEET: 1 OF 3	NUMBER: 5412173-0-1
REV: 1	CHG: 1	REV: B

REV. 1  
CHG. 1

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**KEYPAD ENCODING (9318)**

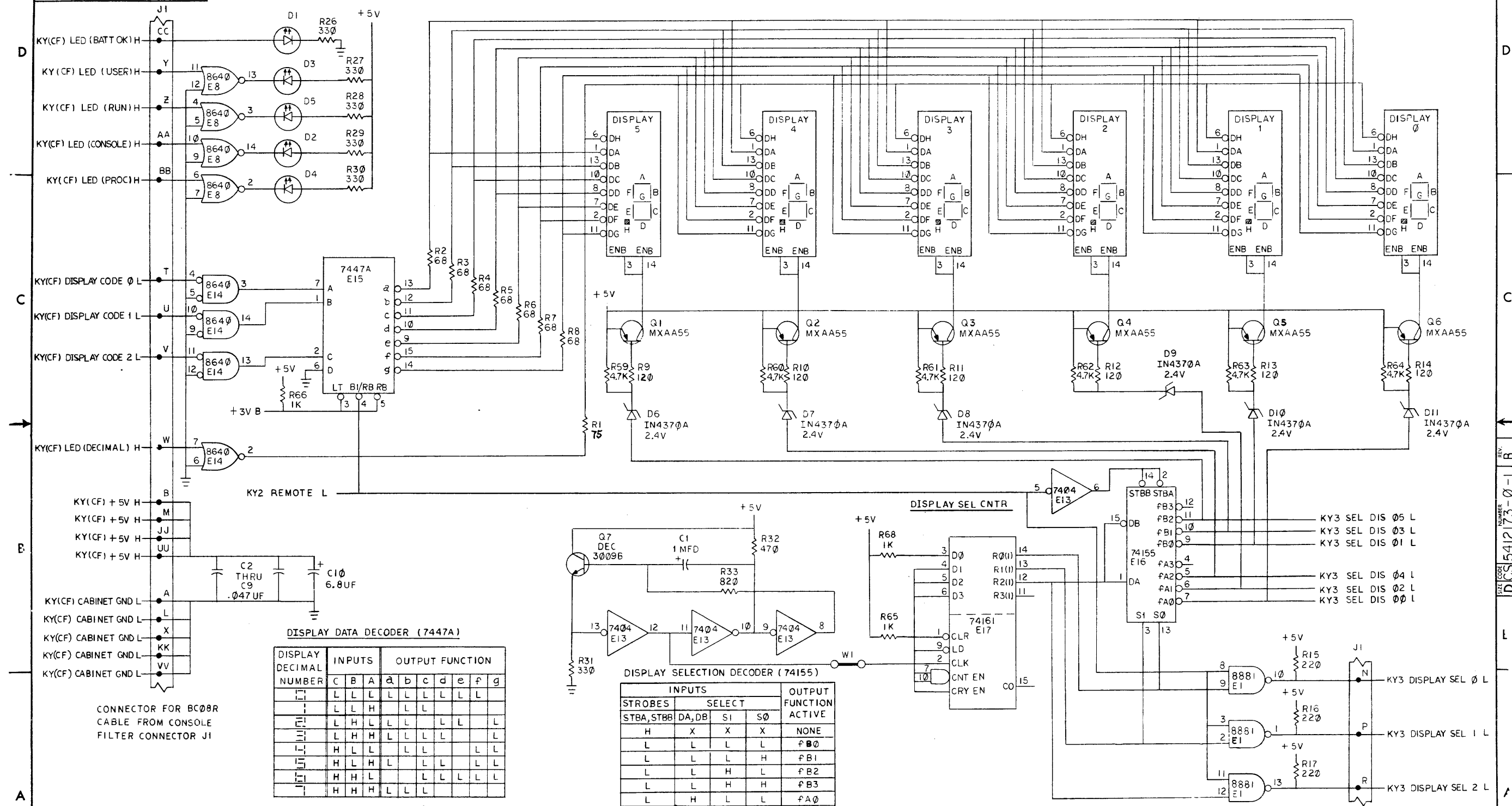
INPUTS		OUTPUTS					
E1	F	GS	A2	A1	A0	E0	
H	-	H	H	H	H	H	H
L	H	H	H	H	H	L	L
L	7L	L	L	L	L	L	L
L	6L	L	L	L	L	H	L
L	5L	L	L	L	H	L	L
L	4L	L	L	H	H	L	L
L	3L	L	H	L	L	L	L
L	2L	L	H	L	H	L	L
L	1L	L	H	H	L	L	L
L	0L	L	H	H	H	L	L

REVISIONS

CHK	CHANGE	REV.

FILE NO. DCS 5412173-0-1 B

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**DISPLAY DATA DECODER (7447A)**

DISPLAY DECIMAL NUMBER	C	B	A	a	b	c	d	e	f	g
0	L	L	L	L	L	L	L	L	L	L
1	L	L	H	L	L	L	L	L	L	L
2	L	H	L	L	L	L	L	L	L	L
3	L	H	L	L	L	L	L	L	L	L
4	H	L	L	L	L	L	L	L	L	L
5	H	L	H	L	L	L	L	L	L	L
6	H	H	L	L	L	L	L	L	L	L

NOTE: OUTPUT FUNCTION "L" INDICATES WHICH SEGMENT OF THE DISPLAY IS ACTIVE.

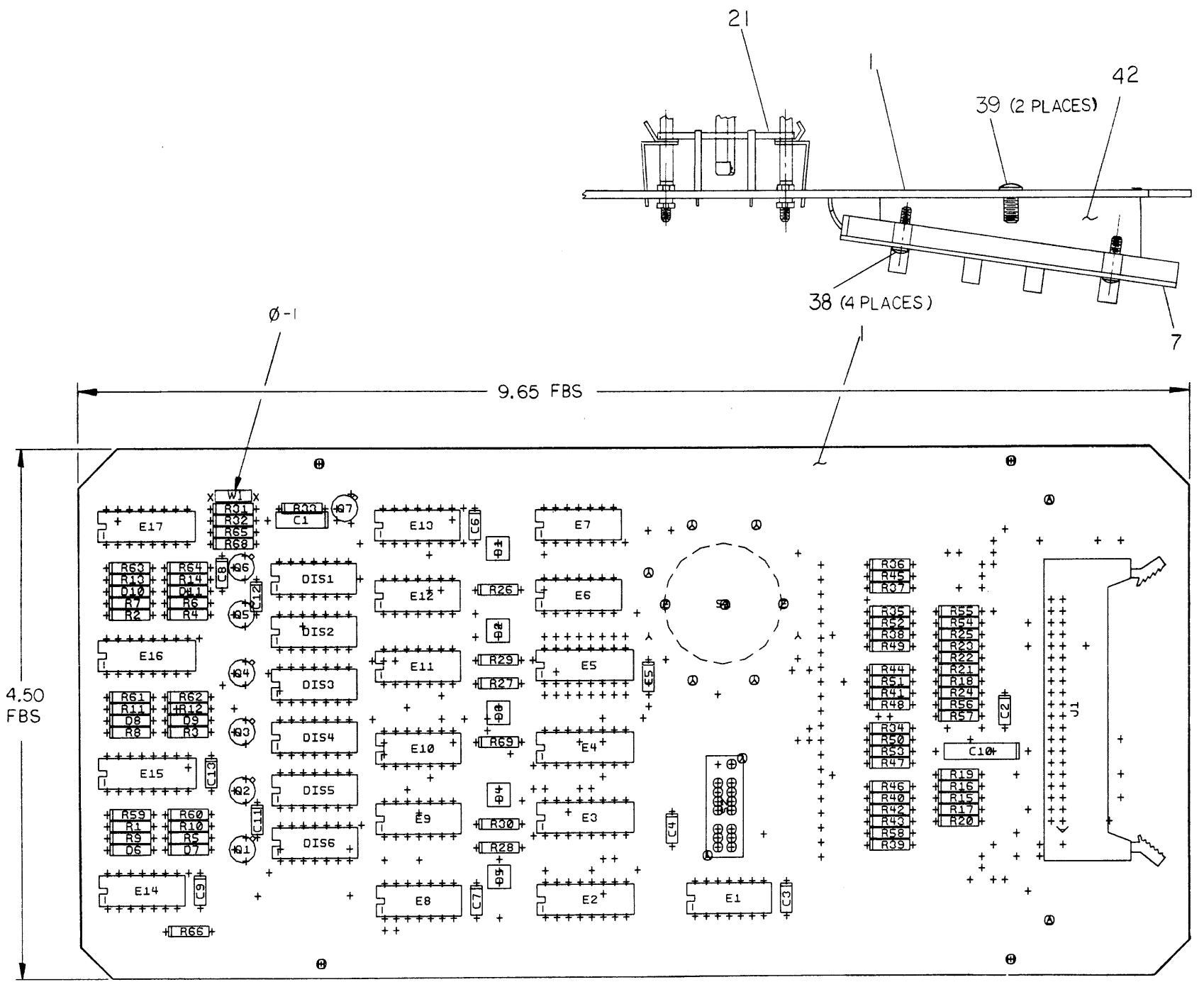
**DISPLAY SELECTION DECODER (74155)**

INPUTS		SELECT			OUTPUT FUNCTION ACTIVE
STROBES	STBA, STBB	DA, DB	SI	S0	
H	X	X	X	X	NONE
L	L	L	L	L	FB0
L	L	L	L	H	FB1
L	L	L	H	L	FB2
L	L	L	H	H	FB3
L	H	L	L	L	FA0
L	H	L	L	H	FA1
L	H	H	L	L	FA2
L	H	H	H	H	FA3

**REVISIONS**

CHK	CHANGE NO.	REV.

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D  
C  
B  
A

D  
C  
B  
A

NOTES:  
 Ø-1 INSERT W1 ALTHOUGH NOT IN INSERTION P/L DATA BASE

CHANGE NO	REV	DATE
5412173-0001	C	

ETCH REV. C
P.C. DESIGN DATA BASE REV. C

SIGNATURES	DATE	digital
DRN. P. J. Anderson	5-2-77	
CHK'D. J. F. ...	11/14/76	TITLE K111-P CONSOLE BOARD
ENG. J. K. ...	11/14/76	
PROD. ...	11/14/76	
SCALE 2:1		
SHT. 1 OF 3		SIZE CODE NUMBER REV
NEXT HIGHER ASSY. B 00-64 2173-0		D UA 5412173-0-0 C

DIGITAL EQUIPMENT CORPORATION				QUANTITY / VARIATION												NOTES:
PARTS LIST																
MADE BY D. BILODEAU		CHECKED B. PUZZO														
DATE 21 FEB 76		DATE 10 JUNE 76														
ENG RICHARD BOUDROT		PROD <i>R.K. Petti</i>														
DATE 23 JUNE 76		DATE 11/11/76														
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION													REF DESIGNATION
1	D-MD-5012172-0-0	5012172	ETCH BOARD	5412173-0												
2		101776	CAPACITOR 1.0 uf, 35V, 10% TANT	1												C1
3		1012784	CAPACITOR, .047uf	10												C2 thru C9, C11, C12
4		1005306	CAPACITOR, 6.8uf, 35V, 10% TANT	1												C10
5		1101938	DIODE, ZENER 2.4V, 5%, 4370A	6												D6 thru D11
6		1110864	DIODE, LIGHT EMITTING	5												D1 thru D5
7		1211856-05	KEYBOARD, 20 KEY MATRIX	1												SEE ITEM 7 ON UA DRAWING
8		1211813-01	SOCKET, 14 PIN	6												used under DIS1 thru DIS6
9		1302379	RESISTOR, 75 OHM, 1/4W, 5%	1												R1
10		1300219	RESISTOR, 68 OHM, 1/4W, 5%	7												R2 thru R8
11		1300247	RESISTOR, 120 OHM, 1/4W, 5%	6												R9 thru R14
12		1300271	RESISTOR, 220 OHM, 1/4W, 5%	11												R15 thru R25
13		1300295	RESISTOR, 330 OHM, 1/4W, 5%	6												R26 thru R31
14		1300316	RESISTOR, 470 OHM, 1/4W, 5%	1												R32
15		1301775	RESISTOR, 820 OHM, 1/4W, 5%	1												R33
16		1300365	RESISTOR, 1K OHM, 1/4W, 5%	29												R34 thru R58, R65, R66, R68, R69
17		1300447	RESISTOR, 4.7K, 1/4W, 5%	6												R59 thru R64
18		1510706-00	TRANSISTOR, MXAA55	6												Q1 thru Q6
19		1503100	TRANSISTOR, DEC 3009B	1												Q7
20		1213285	SWITCH, 4 POLE, 3 POS (MSS-4300G)	1												S2
21		1213284-00	SWITCH, ROTARY	1												S1, SEE ITEM 21 ON UA DRAWING
22		1911297	7 SEGMENT DISPLAY	6												DIS0 thru DIS5

E.C.O. NO.  
00001

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TITLE  
KY11-P CONSOLE BOARD

ASSY NO.  
SHEET 1 OF 2

SIZE CODE NUMBER REV  
B PL 5412173-0-0 C

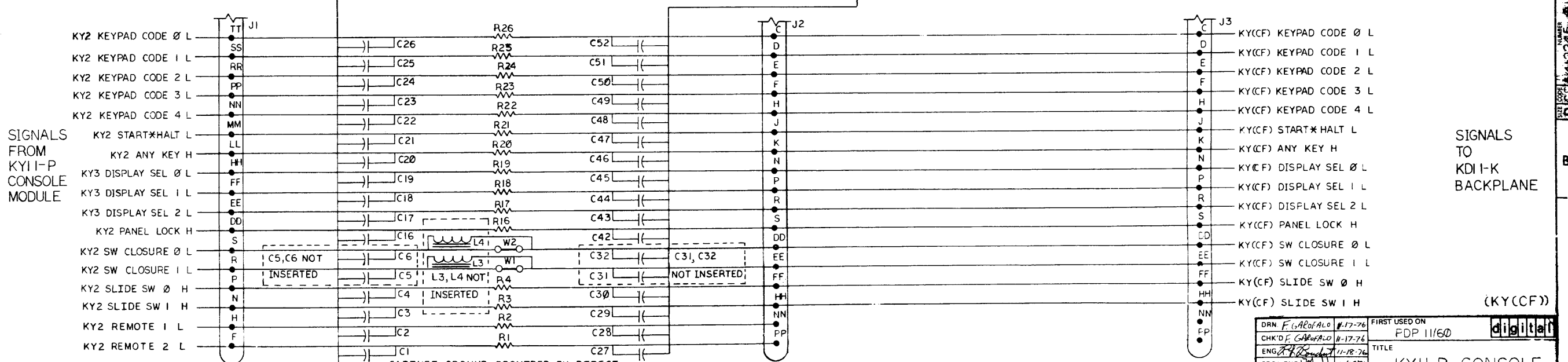
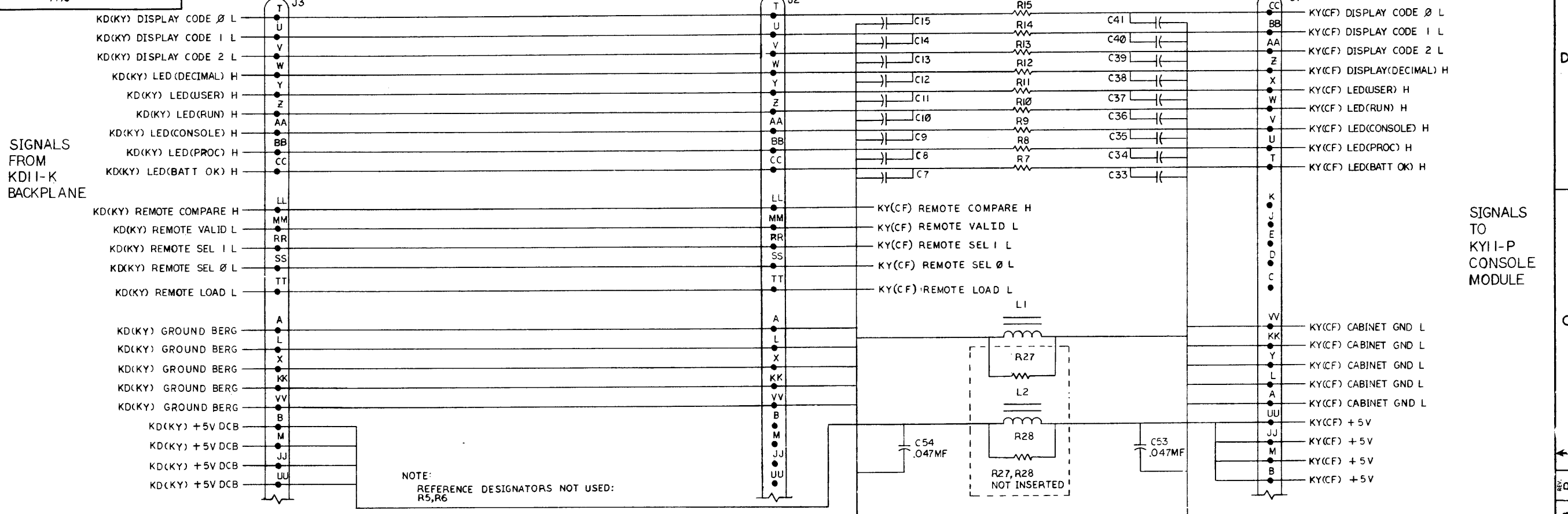
INSERTION PARTS LIST DATA BASE REV B

DIGITAL EQUIPMENT CORPORATION				QUANTITY / VARIATION										NOTES:			
PARTS LIST																	
MADE BY D. BILODEAU		CHECKED B. PUZZO															
DATE 21 FEB 76		DATE 10 JUNE 76															
ENG <i>R.B.</i> RICHARD BUDROT		PROD <i>R.K. P.</i>															
DATE 23 JUNE 76		DATE <i>11/12/75</i>															
ITEM NO	DRAWING NO.	PART NO.	DESCRIPTION											REF DESIGNATION			
23		1909705	I.C. DEC 8881	3													E1,E6,E7
24		1910454	I.C. DEC 9318	3													E2,E3,E4
25		1911469	I.C. DEC 8640	2													E8,E14
26		1905576	I.C. DEC 7410	1													E9
27		1911521	I.C. DEC 7432	1													E10
28		1909267	I.C. DEC 74H11	1													E11
29		1909004	I.C. DEC 7402	1													E12
30		1909686	I.C. DEC 7404	1													E13
31		1911295	I.C. DEC 7447A	1													E15
32		1910656	I.C. DEC 74155	1													E16
33		1910650	I.C. DEC 74161	1													E17
34			I.C SPARE 16 PIN	1													E5
35		1209941-02	CONNECTOR, RIGHT ANGLE HEADER, 40 PIN	1													J1
36		1209941-03	CONNECTOR, RIGHT ANGLE HEADER LEFT LATCH	1													J1 ASSEMBLY
37		1209941-04	CONNECTOR, RIGHT ANGLE HEADER RIGHT LATCH	1													J1 ASSEMBLY
38		9006401-04	SCREW, NYLON #4-40X3/8 SLTD BINDER HD	4													SEE ITEM 38 ON UA DRAWING
39		9006022-01	SCREW, #6-32 x 3/8 PHILLIPS	2													SEE ITEM 39 ON UA DRAWING
40		9009185	JUMPER	1													W1
41		7416954	SUPPORT, KEYBOARD	2													SEE ITEM 42 ON UA DRAWING

E.C.O. NO.

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					SHEET 2 OF 2		INSERTION PARTS LIST DATA BASE REV B				

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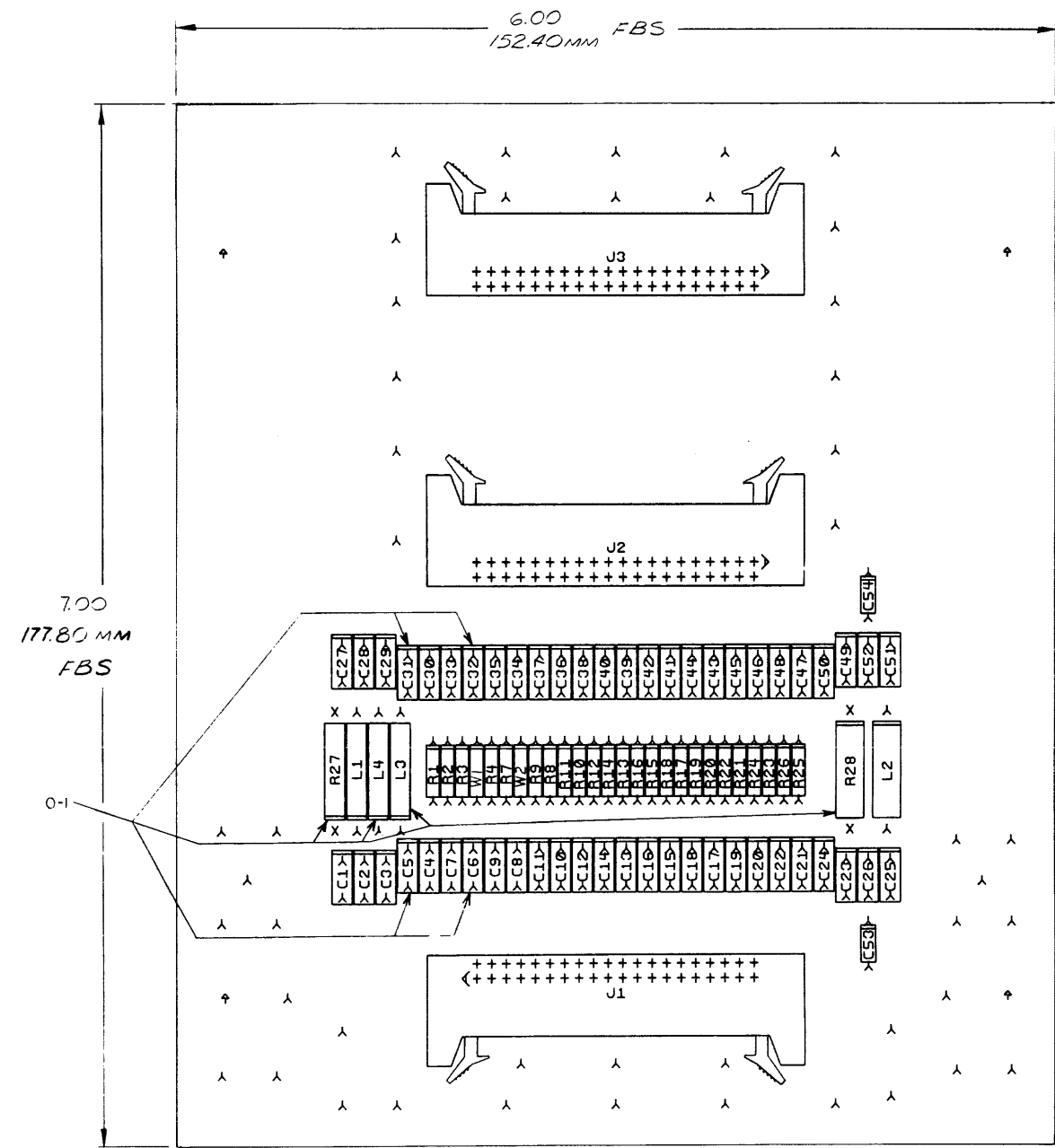


REVISIONS		
CHK	CHANGE NO.	REV.

DRN F. GARFALO #17-76	FIRST USED ON	digital
CHK'D F. GARFALO #17-76	FDP 11/60	
ENG. J. R. ... #11-18-76	TITLE	KYII-P CONSOLE FILTER BD
PROJ. ENG. ... #11/18/76		
PROD. ... #11/18/76		
NEXT HIGHER ASSY.		
B-DD-5412245-01	SIZE CODE	REV
SCALE	D C S 5412245-01	B
SHEET	OF	

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COMPONENT SIDE VIEW



NOTES:  
 0-1 PARTS NOT INSERTED: C5, C6, C31, C32, R27, R28, L3, L4.

CHK CHANGE NO	REV	DATE	BY	APP
1	1			
2	1			
3	1			

ETCH REV. C
P.C. DESIGN DATA BASE REV. C

SIGNATURES	DATE
DRN. [Signature]	11-15-76
CHK'D. [Signature]	11-16-76
ENG. [Signature]	11-18-76
PROJ. ENG. [Signature]	11/18/76
PROD. [Signature]	11-18-76

digital	
TITLE KY11-P CONSOLE FILTER BD	
SIZE CODE	NUMBER
d UA	5412245-0-0
REV	C



DIGITAL EQUIPMENT CORPORATION

PARTS LIST

MADE BY <i>J. F. Laughton</i>	CHECKED <i>J. F. Laughton</i>	SECTION
DATE <i>11/18/76</i>	DATE <i>11/18/76</i>	
ENG <i>R. L. Boudrot</i>	PROD <i>J. M. Laughton</i>	ISSUED SECTION
DATE <i>11/18/76</i>	DATE <i>11-18-76</i>	

QUANTITY / VARIATION

NOTES:

- PARTS NOT INSERTED: C5, C6  
C31, C32, R27, R28, L3, L4
- REFERENCE DESIGNATORS NOT  
USED: R5, R6

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QUANTITY / VARIATION										REF DESIGNATION			
				5412245-0													
1	D-MD-5012244-0-0	5012244	ETCH BOARD	1													
2		1000019	CAPACITOR, 150pf, 100V DM	48													C1 THRU C4, C7 THRU C30, C33 THRU C52
3		1012784	CAPACITOR, .047uf	2													C53, C54
4		1209941-02	CONNECTOR, RIGHT ANGLE HEADER, 40 PIN	3													J1, J2, J3
5		1209941-03	CONNECTOR, RIGHT ANGLE HEADER, LEFT LATCH	3													J1, J2, J3 ASSEMBLIES
6		1209941-04	CONNECTOR, RIGHT ANGLE HEADER, RIGHT LATCH	3													J1, J2, J3 ASSEMBLIES
7		1300365	RESISTOR, 1K, 1/4W, 5%	24													R1 THRU R4, R7 THRU R26
8		1611257-01	CHOKE, CERAMIC BEAD	2													L1, L2
9		9009185	JUMPER	2													W1, W2

E.C.O. NO. 10000

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TITLE  
KY11-P CONSOLE FILTER BD

ASSY NO.  
D-UA-5412245-0-0  
SHEET 1 OF 1

SIZE CODE NUMBER  
B PL 5412245-0-0  
INSERTION PARTS LIST DATA BASE REV B

REV.  
C

DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	REVISIONS	
				REV.	DATE
		5412245-0	MODULE (KY11-P CONSOLE FILTER BD)	B	B
		5012244	ETCHED BOARD	C	C
B-DD-5412245-0	1		DRAWING DIRECTORY	A	B
D-CS-5412245-0-1	1		CIRCUIT SCHEMATIC	B	B
B-PL-5412245-0-0	1		PARTS LIST	B	C
B-MH-5412245-0-6	1		MODULE HISTORY	*	A
D-UA-5412245-0-0	3		UNIT ASSEMBLY	B	C
D-MD-5412245-0-0	3		MECHANICAL DRAWING	C	C
5412245-0-L			P.C. DESIGN DATA BASE	C	C
5412245-0-PL			INSERTION P/L DATA BASE	B	B
			MODULE TEST		

**NOTES:**

1. THE MODULE REVISION REFLECTS CHANGES IN THE HARDWARE AND IS SEPARATE FROM THE CIRCUIT SCHEMATIC REVISION WHICH REFLECTS BOTH HARDWARE AND DOCUMENT CHANGES.
2. THIS DRAWING DIRECTORY DOCUMENTS THE RELATIONSHIP BETWEEN REVISIONS, THE CS REV UPON THE ETCHED BOARD IS NOT TO BE USED.

REVISIONS		DATE	CHG NO.	REV.
ORIG		6-7700001		A
				B

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USED ON OPTION/MODEL	DRN	11/18/76	TITLE
KY11-P	CHK	11/18/76	KY11-P CONSOLE FILTER BD
	ENG	11/18/76	SIZE CODE
	PROD.	11/18/76	B DD
			NUMBER
			5412245-0
			REV.
			B
			SHEET 1 OF 1

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# FIELD MAINTENANCE PRINT SET

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## TABLE OF CONTENTS

FIELD MAINT. PRINT SET M9301  
 BOOTSTRAP/TERMINATOR M9301  
 DRAWING DIRECTORY M9301

B-TC-M9301-0-3  
 D-CS-M9301-0-1  
 B-DD-M9301-0

### UNIT VARIATIONS COVERED BY THIS PRINT SET

M9301 - YA
M9301 - YB
M9301 - YC
M9301 - YD
M9301 - YF
M9301 - YH
M9301 - YE
M9301 - YJ

**Field Maintenance  
 Print Set MP00196**

**Digital Equipment  
 Corporation**

EN-01124-16-N675-(327)

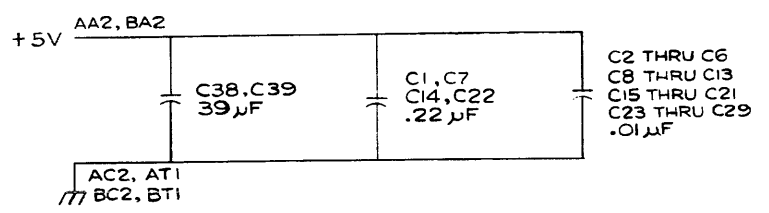
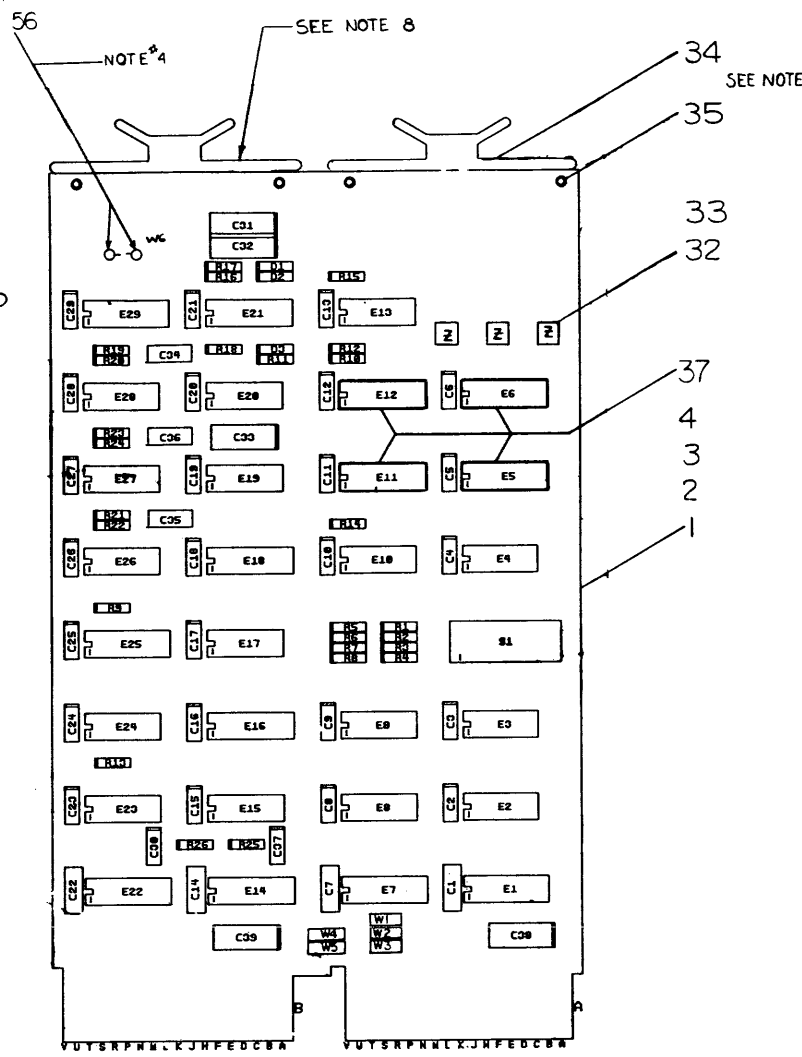
REV. NO.	CHG. NO.	ORIGINATED	USED ON OPTION/MODEL			DRN. W. HAMEL	DATE 8-3-76	TITLE: FIELD MAINTENANCE PRINT SET M9301	SIZE B	CODE TC	NUMBER M9301-0-3	REV. C	<b>digital</b>							
			DATE	REV.																
1	M9301-00006																			
		ORIGINATED																		
		M9301-00007 A																		
2	M9301-00008 B																			
4	M9301-00011 C																			

CHK'D *E. Remond* 7 SEP 76  
 PROJ. ENG. *John B. Ken* 9/7/76  
 FIELD SERV. DATE

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**NOTES:**

1. IN PDP11/04, 11/09 AND PDP11/34, 11/39 SYSTEMS WITHOUT BATTERY BACKUP, TP1 SHOULD NOT BE CONNECTED TO THE POWER SUPPLY BATTERY STATUS SIGNAL UNLESS BOOTS ON ALL POWER RESTARTS ARE DESIRED.
2. IN ALL PDP11 SYSTEMS WHOSE PROCESSOR MODULE DOES NOT CONTAIN GRANT PULL-UP RESISTORS, EITHER THE M9301 MUST BE POSITIONED IN THE TERMINATOR SLOT AT THE END OF THE UNIBUS FURTHEST FROM THE PROCESSOR OR JUMPERS W1 THRU W5 MUST BE INSTALLED, SO THE M9301 CAN BE INSERTED IN THE TERMINATOR SLOT NEXT TO THE PROCESSOR.
3. ON PDP11 SYSTEMS CONTAINING A BUS REPEATER OPTION, THE M9301 MUST BE INSTALLED ON THE PROCESSOR SIDE OF THE REPEATER. SEE NOTE 2 FOR OTHER RESTRICTIONS.
4. JUMPER W6 SHOULD ONLY BE INSTALLED IN 11/55 AND 11/70 COMPUTERS WHOSE BACKPLANES HAVE BEEN MODIFIED FOR THIS MODULE. CONNECTOR PIN B01 IN THESE MODIFIED BACKPLANES WILL NOT BE TIED TO GROUND.
5. EARLIER VERSIONS USED PLASTIC SWITCH COVER (PN 1211184-06) TO PREVENT INADVERTENT PROGRAMING OF S1.
6. 11/40'S WITH RK06 REQUIRE CS REVISION P OR LATER.
7. 1001610-00 AND 1001610-01 ARE INTERCHANGEABLE.
8. ON VARIATIONS YA, YB AND YF THIS HANDLE IS REMOVED.



REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	X-Y COORDINATE HOLE LOCATION	K-CO-M9301-0-4	1	
REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	ASSY/DRILLING HOLE LAYOUT	D-AH-M9301-0-5	2	
REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	MODULE ECO HISTORY	B-MH-M9301-0-6	3	
1	1	1	1	1	1	1	1	1	1	1	ETCHED CIRCUIT BOARD	5011208	4	
4	4	4	4	4	4	4	4	4	4	4	C1, C7, C14, C22	1002274-01	5	
25	25	25	25	25	25	25	25	25	25	25	C2 THRU C6, C8 THRU C13, C15 THRU C21, C23 THRU C29	CAP .01 µF 100V 20%	1001610-01	6
2	2	2	2	2	2	2	2	2	2	2	C30, C37	CAP .001 µF 250V 20%	1000043	7
4	4	4	4	4	4	4	4	4	4	4	C32, C33, C38, C39	CAP 39 µF 10V 10%	1000076	8
3	3	3	3	3	3	3	3	3	3	3	C34, C35, C36	CAP 270 pF 100V 5%	1000022	9
3	3	3	3	3	3	3	3	3	3	3	D1, D2, D3	DIODE D664 1N3606	1100114	10
8	8	8	8	8	8	8	8	8	8	8	R1 THRU R8	RES 10K 1/4W 5%	1300479	11
2	2	2	2	2	2	2	2	2	2	2	R9, R12	RES 1K 1/4W 5%	1300365	12
4	4	4	4	4	4	4	4	4	4	4	R11, R13, R14, R18	RES 4.7K 1/4W 5%	1300447	13
2	2	2	2	2	2	2	2	2	2	2	R16, R17	RES 30K 1/4W 5%	1302394	14
3	3	3	3	3	3	3	3	3	3	3	R19, R21, R23	RES 47 Ω 1/4W 5%	1300202	15
3	3	3	3	3	3	3	3	3	3	3	R20, R22, R24	RES 2K 1/4W 5%	1302388	16
2	2	2	2	2	2	2	2	2	2	2	R25, R26	RES 383 Ω 1/4W 1%	1305125	17
2	2	2	2	2	2	2	2	2	2	2	E1, E22	28 RES DIVIDER NETWORK	13-12628-00	18
2	2	2	2	2	2	2	2	2	2	2	E7, E14	25 RES DIVIDER NETWORK	13-12628-01	19
8	8	8	8	8	8	8	8	8	8	8	E2, E3, E8, E9, E15, E23, E27, E28	I.C. DEC 8881	1909705	20
2	2	2	2	2	2	2	2	2	2	2	E4, E10	I.C. DEC 7402	1909004	21
1	1	1	1	1	1	1	1	1	1	1	E13	I.C. DEC 7474	1905547	22
3	3	3	3	3	3	3	3	3	3	3	E16, E18, E25	I.C. DEC 8837	1911116	23
1	1	1	1	1	1	1	1	1	1	1	E17	I.C. DEC 7420	1905577	24
2	2	2	2	2	2	2	2	2	2	2	E19, E24	I.C. DEC 314A	1909704	25
1	1	1	1	1	1	1	1	1	1	1	E20	I.C. DEC 8640	1911469	26
1	1	1	1	1	1	1	1	1	1	1	E21	I.C. DEC 9602	1910951	27
1	1	1	1	1	1	1	1	1	1	1	E26	I.C. DEC 7437	1910091	28
1	1	1	1	1	1	1	1	1	1	1	E29	I.C. DEC 7476	1905585	29
1	1	1	1	1	1	1	1	1	1	1	S1	SWITCH, DIP, 10 POLE	1211164-06	30
<b>SWITCH COVER</b>												1211164-06	31	
3	3	3	3	3	3	3	3	3	3	3	EYELET (FASTON)	9009000	32	
3	3	3	3	3	3	3	3	3	3	3	TP1, TP2, TP3	TAB (FASTON)	9007112	33
2	2	2	2	2	2	2	2	2	2	2	HANDLE FLIP/CHIP MAGENTA	9008337-06	34	
4	4	4	4	4	4	4	4	4	4	4	EYELET	9006732	35	
1	1	1	1	1	1	1	1	1	1	1	C31	CAP 1 µF 35V 10%	1001776	36

M9301-YX  
M9301-YJ  
M9301-YE  
M9301-YH  
M9301-YF  
M9301-YD  
M9301-YC  
M9301-YB  
M9301-YA  
M9301

IC TYPE	GND	+5V
I.C. DEC 314	1	8
I.C. DEC 7476	13	5
I.C. DEC 8640	1	8
I.C. DEC 8837	8	16
I.C. DEC 9602	8	16

IC PIN LOCATIONS

REV	DATE	BY	DESCRIPTION
1	11/04	J. SOFIO	DESIGN
2	11/04	J. SOFIO	CHANGE NO. 00002
3	11/04	J. SOFIO	CHANGE NO. 00003
4	11/04	J. SOFIO	CHANGE NO. 00004
5	11/04	J. SOFIO	CHANGE NO. 00005
6	11/04	J. SOFIO	CHANGE NO. 00006
7	11/04	J. SOFIO	CHANGE NO. 00007
8	11/04	J. SOFIO	CHANGE NO. 00008
9	11/04	J. SOFIO	CHANGE NO. 00009
10	11/04	J. SOFIO	CHANGE NO. 00010
11	11/04	J. SOFIO	CHANGE NO. 00011
12	11/04	J. SOFIO	CHANGE NO. 00012
13	11/04	J. SOFIO	CHANGE NO. 00013
14	11/04	J. SOFIO	CHANGE NO. 00014
15	11/04	J. SOFIO	CHANGE NO. 00015
16	11/04	J. SOFIO	CHANGE NO. 00016
17	11/04	J. SOFIO	CHANGE NO. 00017
18	11/04	J. SOFIO	CHANGE NO. 00018
19	11/04	J. SOFIO	CHANGE NO. 00019
20	11/04	J. SOFIO	CHANGE NO. 00020
21	11/04	J. SOFIO	CHANGE NO. 00021
22	11/04	J. SOFIO	CHANGE NO. 00022
23	11/04	J. SOFIO	CHANGE NO. 00023
24	11/04	J. SOFIO	CHANGE NO. 00024
25	11/04	J. SOFIO	CHANGE NO. 00025
26	11/04	J. SOFIO	CHANGE NO. 00026
27	11/04	J. SOFIO	CHANGE NO. 00027
28	11/04	J. SOFIO	CHANGE NO. 00028
29	11/04	J. SOFIO	CHANGE NO. 00029
30	11/04	J. SOFIO	CHANGE NO. 00030
31	11/04	J. SOFIO	CHANGE NO. 00031
32	11/04	J. SOFIO	CHANGE NO. 00032
33	11/04	J. SOFIO	CHANGE NO. 00033
34	11/04	J. SOFIO	CHANGE NO. 00034
35	11/04	J. SOFIO	CHANGE NO. 00035
36	11/04	J. SOFIO	CHANGE NO. 00036
37	11/04	J. SOFIO	CHANGE NO. 00037
38	11/04	J. SOFIO	CHANGE NO. 00038
39	11/04	J. SOFIO	CHANGE NO. 00039
40	11/04	J. SOFIO	CHANGE NO. 00040

**PARTS LIST**

FIRST USED ON OPTION MODEL: 11/04

ETCH BOARD REV: F

DRN: J. VINCENT	DATE: 4/9/75	<p>TITLE: UNIBUS TERMINATOR/BOOTSTRAP</p> <p>SIZE CODE: DCS NUMBER: M9301-0-1 REV: W</p>
CHK'D: R. COOK	DATE: 5/28/75	
ENG: T. DUBANIEUR	DATE: 6/23/75	
PROJ. ENG: J. BLOEM	DATE: 6/19/75	
PROD: R. PETERSON	DATE: 6/30/75	
NEXT HIGHER ASSY:		

SEMICONDUCTOR CONVERSION CHART

SHEET 1 OF 5

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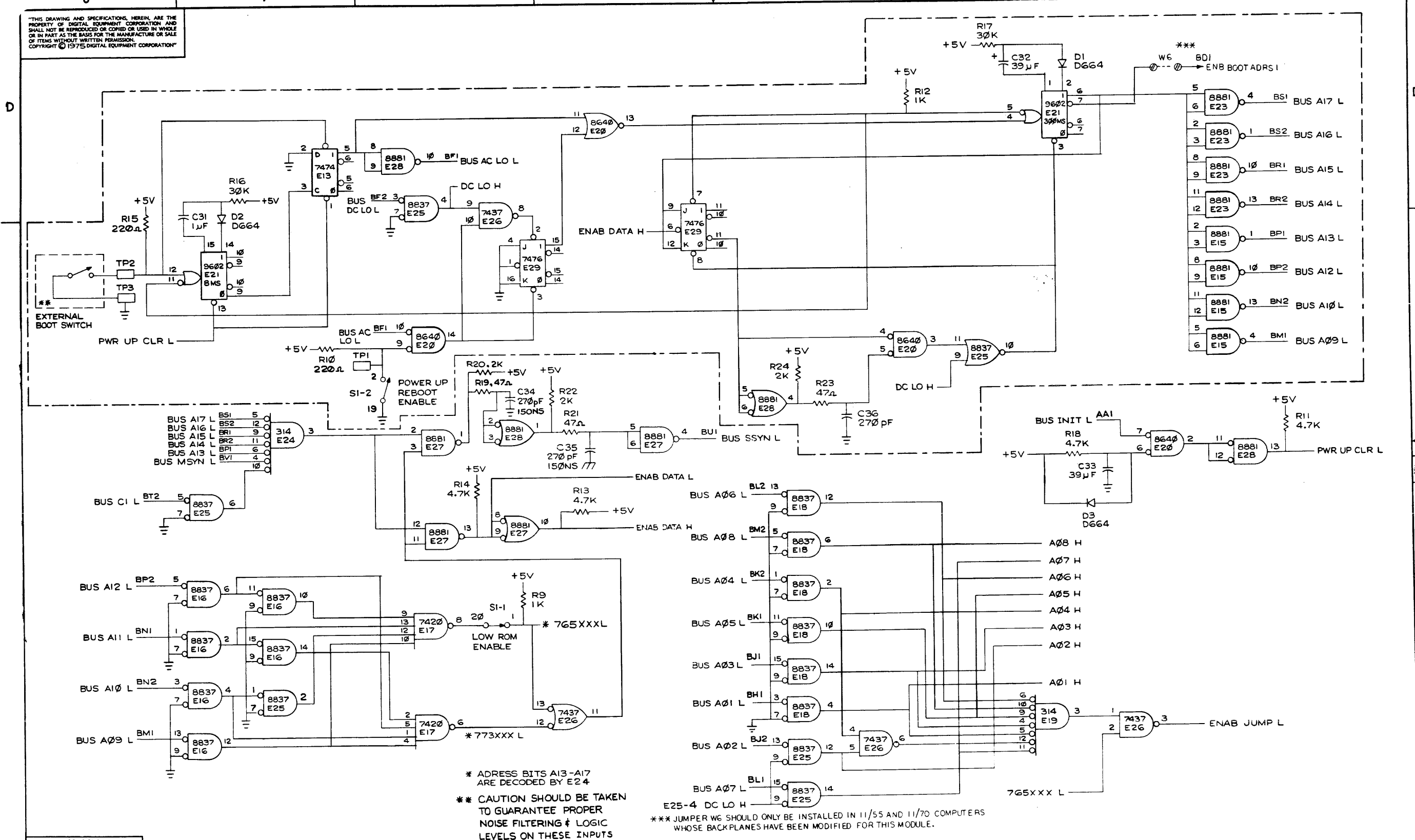
REWORK INSTRUCTIONS  
FIELD SERVICE DEPOT: REMOVE THE INNER HANDLE LOCATED ABOVE C31 BY DRILLING OUT THE TWO EYELETS WITH A .125 INCH DRILL.

QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
4	4	4	4	4	4	4	4	4	4	E5, E6, E11, E12	SOCKET, 16 PIN, I.C.	1211813	37
0	0	0	0	0	0	0	0	0	1	E5	I.C. DEC TRI-STATE 2048 ROM	23034A9	38
0	0	0	0	0	0	0	0	0	1	E6	I.C. DEC TRI-STATE 2048 ROM	23035A9	39
0	0	0	0	0	0	0	0	0	1	E11	I.C. DEC TRI-STATE 2048 ROM	23036A9	40
0	0	0	0	0	0	0	0	0	1	E12	I.C. DEC TRI-STATE 2048 ROM	23037A9	41
0	0	0	0	0	0	0	0	0	1	E5	I.C. DEC TRI-STATE 2048 ROM	23038A9	42
0	0	0	0	0	0	0	0	0	1	E6	I.C. DEC TRI-STATE 2048 ROM	23039A9	43
0	0	0	0	0	0	0	0	0	1	E11	I.C. DEC TRI-STATE 2048 ROM	23040A9	44
0	0	0	0	0	0	0	0	0	1	E12	I.C. DEC TRI-STATE 2048 ROM	23041A9	45
0	0	0	0	0	0	0	0	0	1	E5	I.C. DEC TRI-STATE 2048 ROM	23042A9	46
0	0	0	0	0	0	0	0	0	1	E6	I.C. DEC TRI-STATE 2048 ROM	23043A9	47
0	0	0	0	0	0	0	0	0	1	E11	I.C. DEC TRI-STATE 2048 ROM	23044A9	48
0	0	0	0	0	0	0	0	0	1	E12	I.C. DEC TRI-STATE 2048 ROM	23045A9	49
0	0	0	0	0	0	0	0	0	1	E5	I.C. DEC TRI-STATE 2048 ROM	23046A9	50
0	0	0	0	0	0	0	0	0	1	E6	I.C. DEC TRI-STATE 2048 ROM	23047A9	51
0	0	0	0	0	0	0	0	0	1	E11	I.C. DEC TRI-STATE 2048 ROM	23123A9	52
0	0	0	0	0	0	0	0	0	1	E12	I.C. DEC TRI-STATE 2048 ROM	23049A9	53
0	0	0	5	0	0	5	0	0	0	W1 THRU W5	JUMPER, WIRE, WHITE INSULATION	9009185	54
2	2	2	2	2	2	2	2	2	2	R10, R15	RES 220Ω, 1/4W, 5%	1300271	55
2	2	2	2	2	2	2	2	2	2		SPLIT LUG	9006735	56
0	0	0	0	0	0	0	0	0	0	E5	I.C. DEC TRI-STATE 2048 ROM	23480A9	57
0	0	0	0	0	0	0	0	0	0	E6	I.C. DEC TRI-STATE 2048 ROM	23481A9	58
0	0	0	0	0	0	0	0	0	0	E11	I.C. DEC TRI-STATE 2048 ROM	23482A9	59
0	0	0	0	0	0	0	0	0	0	E12	I.C. DEC TRI-STATE 2048 ROM	23483A9	60
0	0	0	1	0	0	0	0	0	0	E5	I.C. DEC TRI-STATE 2048 ROM	23332A9	61
0	0	0	1	0	0	0	0	0	0	E6	I.C. DEC TRI-STATE 2048 ROM	23333A9	62
0	0	0	1	0	0	0	0	0	0	E11	I.C. DEC TRI-STATE 2048 ROM	23334A9	63
0	0	0	1	0	0	0	0	0	0	E12	I.C. DEC TRI-STATE 2048 ROM	23335A9	64
0	0	1	0	0	0	0	0	0	0	E5	I.C. DEC TRI-STATE 2048 ROM	23538A9	65
0	0	1	0	0	0	0	0	0	0	E6	I.C. DEC TRI-STATE 2048 ROM	23539A9	66
0	0	1	0	0	0	0	0	0	0	E11	I.C. DEC TRI-STATE 2048 ROM	23540A9	67
0	0	1	0	0	0	0	0	0	0	E12	I.C. DEC TRI-STATE 2048 ROM	23541A9	68
0	1	0	0	0	0	0	0	0	0	E5	I.C. DEC TRI-STATE 2048 ROM	23520A9	69
0	1	0	0	0	0	0	0	0	0	E6	I.C. DEC TRI-STATE 2048 ROM	23521A9	70
0	1	0	0	0	0	0	0	0	0	E11	I.C. DEC TRI-STATE 2048 ROM	23522A9	71
0	1	0	0	0	0	0	0	0	0	E12	I.C. DEC TRI-STATE 2048 ROM	23523A9	72
AR	AR	AR	AR	AR	AR	AR	AR	AR	AR		WIRE 30 GA.	9105740-55	73
1	0	0	0	0	0	0	0	0	0	E5	I.C. DEC TRI-STATE 2048 ROM	23744A9	74
1	0	0	0	0	0	0	0	0	0	E6	I.C. DEC TRI-STATE 2048 ROM	23745A9	75
1	0	0	0	0	0	0	0	0	0	E11	I.C. DEC TRI-STATE 2048 ROM	23746A9	76
1	0	0	0	0	0	0	0	0	0	E12	I.C. DEC TRI-STATE 2048 ROM	23747A9	77
AR	AR	AR	AR	AR	AR	AR	AR	AR	AR		CEMENT PERMABOND	9009157	78

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE UNIBUS TERMINATOR/BOOTSTRAP SIZE CODE D CS NUMBER M9301-0-1 REV. W  
SCALE SHEET 2 OF 5 DIST.

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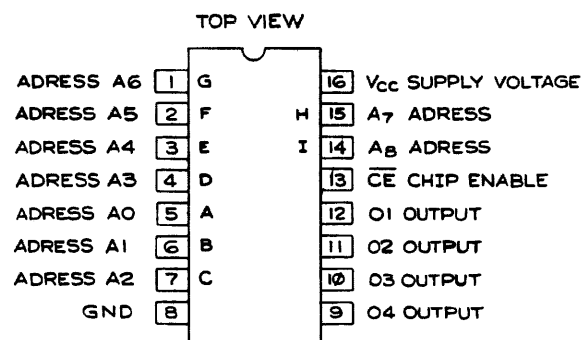
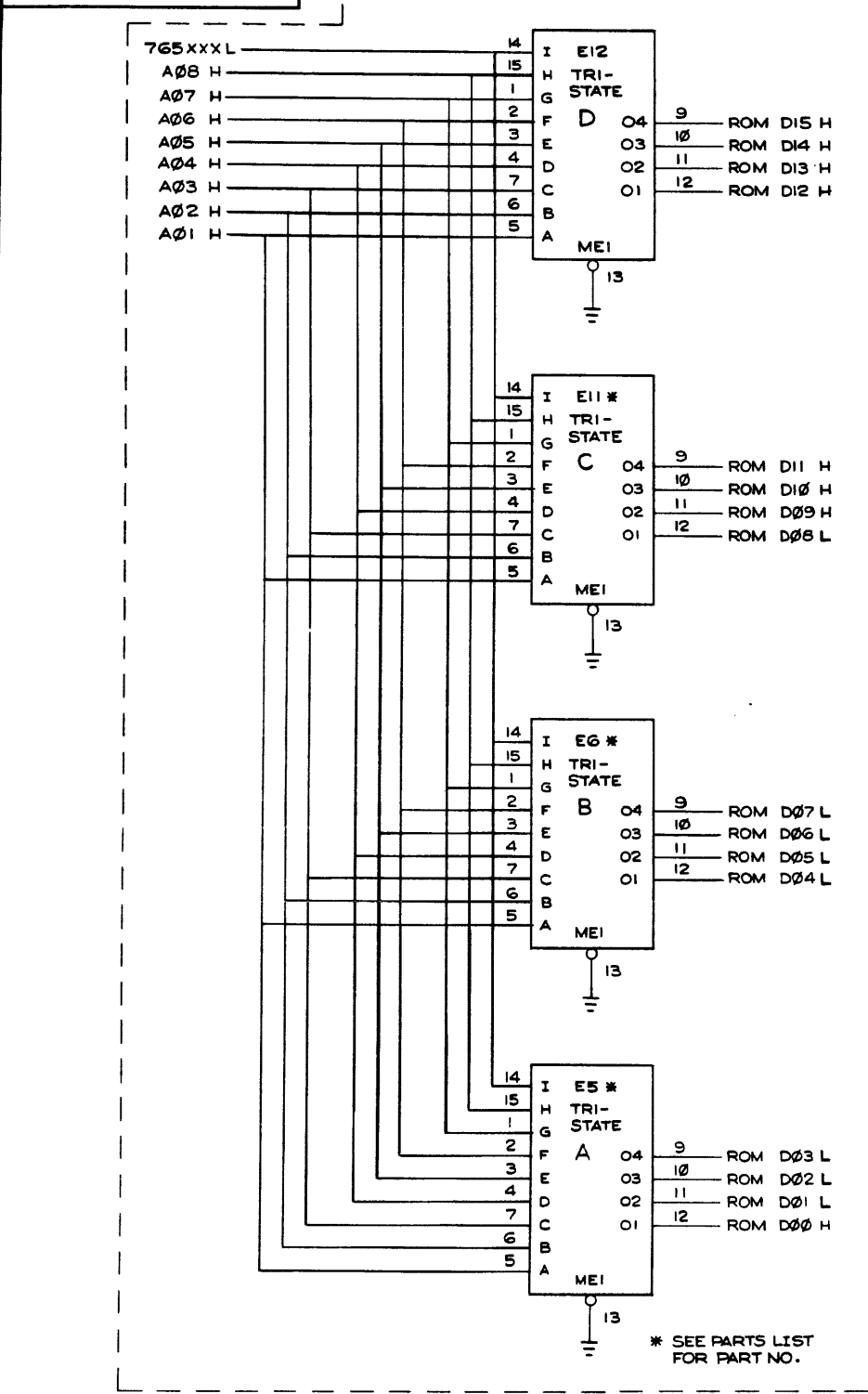


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	UNIBUS TERMINATOR/BOOTSTRAP	SIZE CODE	D CS	NUMBER	M9301-0-1	REV.	W
SCALE		SHEET	3	OF	5	DIST.	

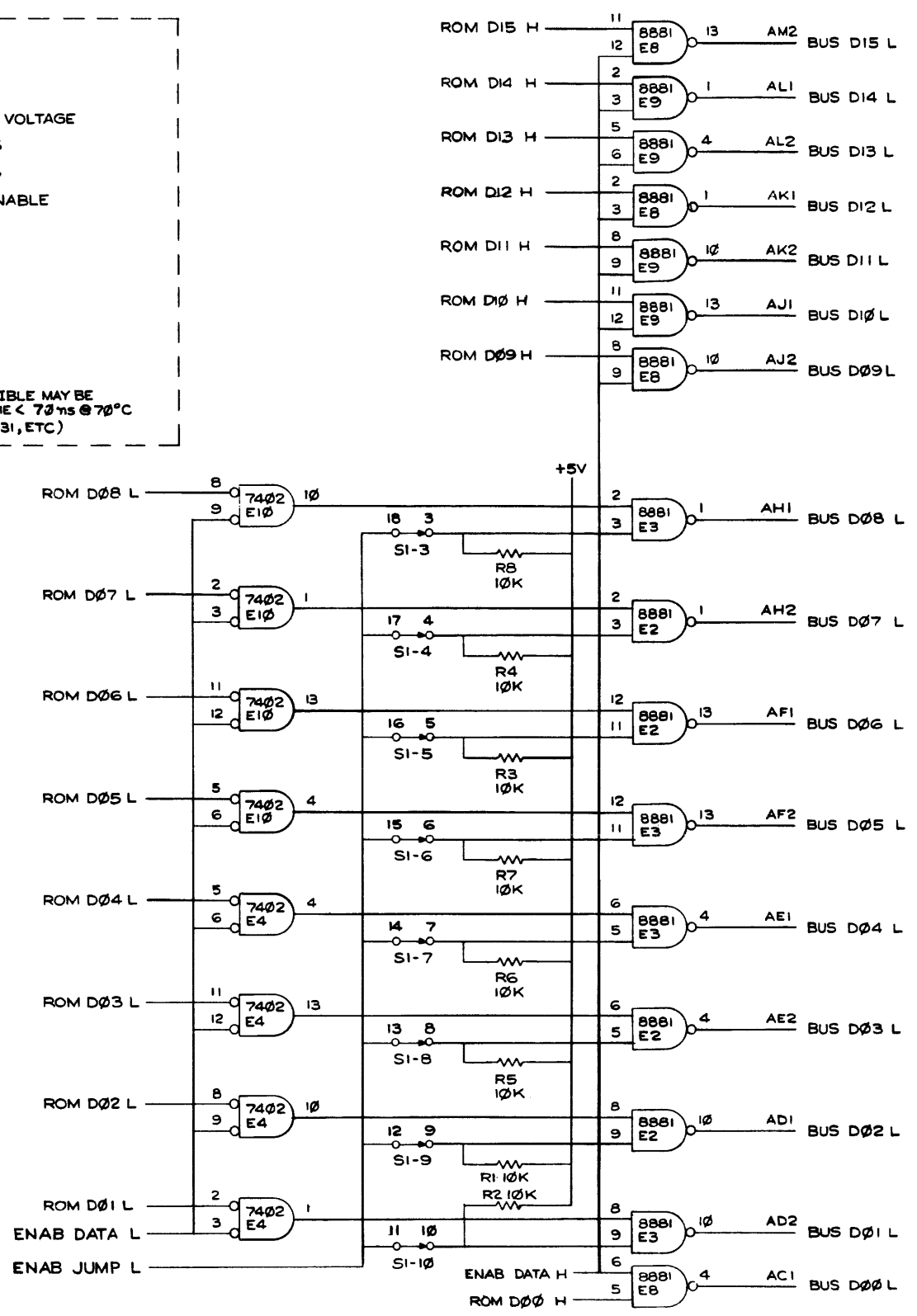
REV. W  
NUMBER M9301-0-1  
SIZE CODE DCS

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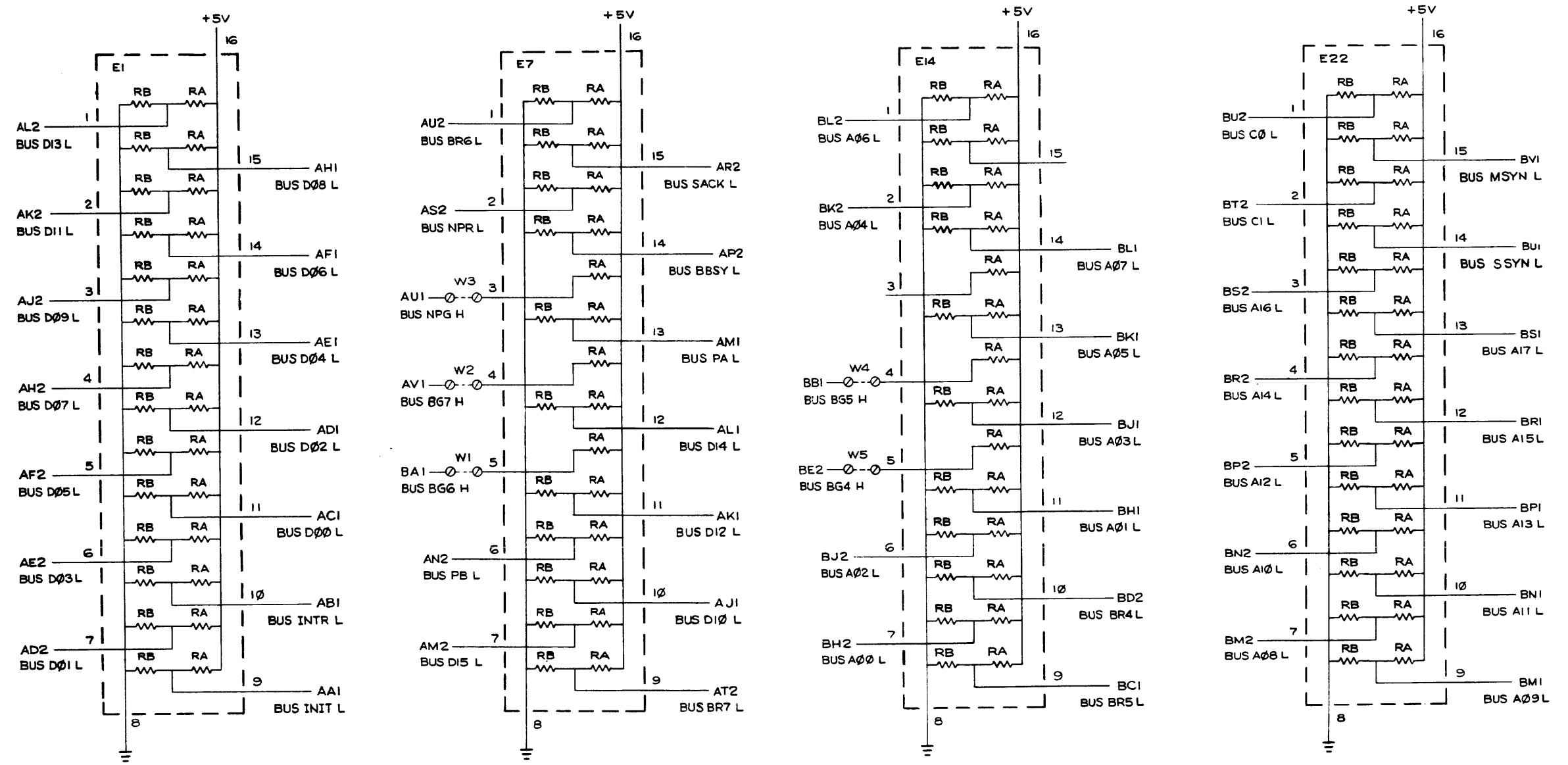
3. BLANK PROMS HAVE DEC PART NO. 23-000A901
4. BIPOLAR 2048 (512 X 4) BIT PROMS PIN COMPATIBLE MAY BE USED WITH TRI-STATE OUTPUTS AND ACCESS TIME < 70 ns @ 70°C (INTERSIL 5624, MMI 6306, SIGNETICS 82531, ETC)

ADDRESS RANGE	
765000 - 765776	LOW ROM
773000 - 773776	HIGH ROM

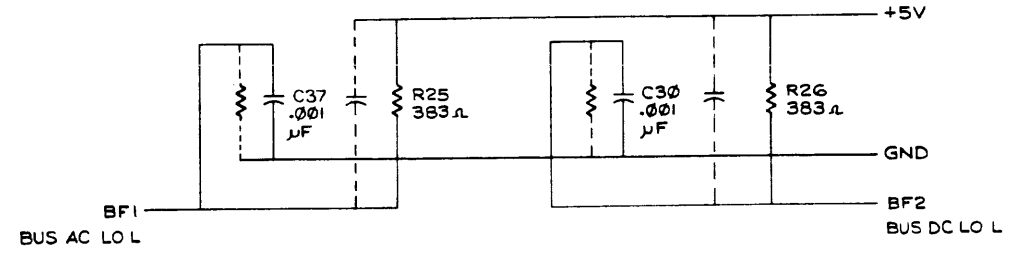


REVISIONS		
CHK	CHANGE NO.	REV.

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- NOTES :**
1. ALL RA RESISTORS SHOWN ARE  $176.5\Omega, \pm 2\%$
  2. ALL RB RESISTORS SHOWN ARE  $375\Omega, \pm 2\%$
  3. JUMPERS W1 THRU W5 ARE ONLY INSERTED ON THE M9301-YC AND M9301-YH IF USED IN AN 11/70 COMPUTER.



REVISIONS		
CHK	CHANGE NO.	REV.



# DRAWING DIRECTORY

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## CUSTOMER PRINT SET INDEX

THIS IS PRINT SET

NOTE:  
FOR FEILD MAINTENANCE  
PRINT SET, REFER TO:  
B-TC-M9301-0-3

SEQUENCE  $\gamma\Gamma$

SEQUENCE  $\gamma\Gamma$

UNIT VARIATIONS		PRINT SET			
VAR	TITLE				
M9301-YA	UNIBUS TERMINATOR/BOOTSTRAP				
M9301-YB	UNIBUS TERMINATOR/BOOTSTRAP				
M9301-YC	UNIBUS TERMINATOR/BOOTSTRAP				
M9301-YD	UNIBUS TERMINATOR/BOOTSTRAP				
M9301-YE	UNIBUS TERMINATOR/BOOTSTRAP				
M9301-YF	UNIBUS TERMINATOR/BOOTSTRAP				
M9301-YG	UNIBUS TERMINATOR/BOOTSTRAP				
M9301-YH	UNIBUS TERMINATOR/BOOTSTRAP				
M9301-YI	UNIBUS TERMINATOR/BOOTSTRAP				
M9301-YJ	UNIBUS TERMINATOR/BOOTSTRAP				
M9301-YK	UNIBUS TERMINATOR/BOOTSTRAP				
M9301-YL	UNIBUS TERMINATOR/BOOTSTRAP				

REVISIONS		CHG. NO.	REV
DATE	8-76	M9301-6	-
	ORIGINATED		
	M9301-7	A	
	M9301-8	B	
	M9301-9	C	
	M9301-10	D	
	M9301-11	E	
	M9301-12	F	
	M9301-13	H	
	M9301-14	J	
	M9301-15	K	
	M9301-16	L	

USED ON OPTION/MODEL		DRN.	DATE	TITLE			
11/34		W. Hamel	3AUG76	UNIBUS TERMINATOR/BOOTSTRAP			
11/04		CHK'D. E. Remond	3AUG76				
		PROJ ENG. John E. ...	9-7-76				
		PROD.	DATE	SIZE	CODE	NUMBER	REV
				B	DD	M9301-0	L
		FIELD SERV.	DATE	DIST			
SHEET 1 OF 2							

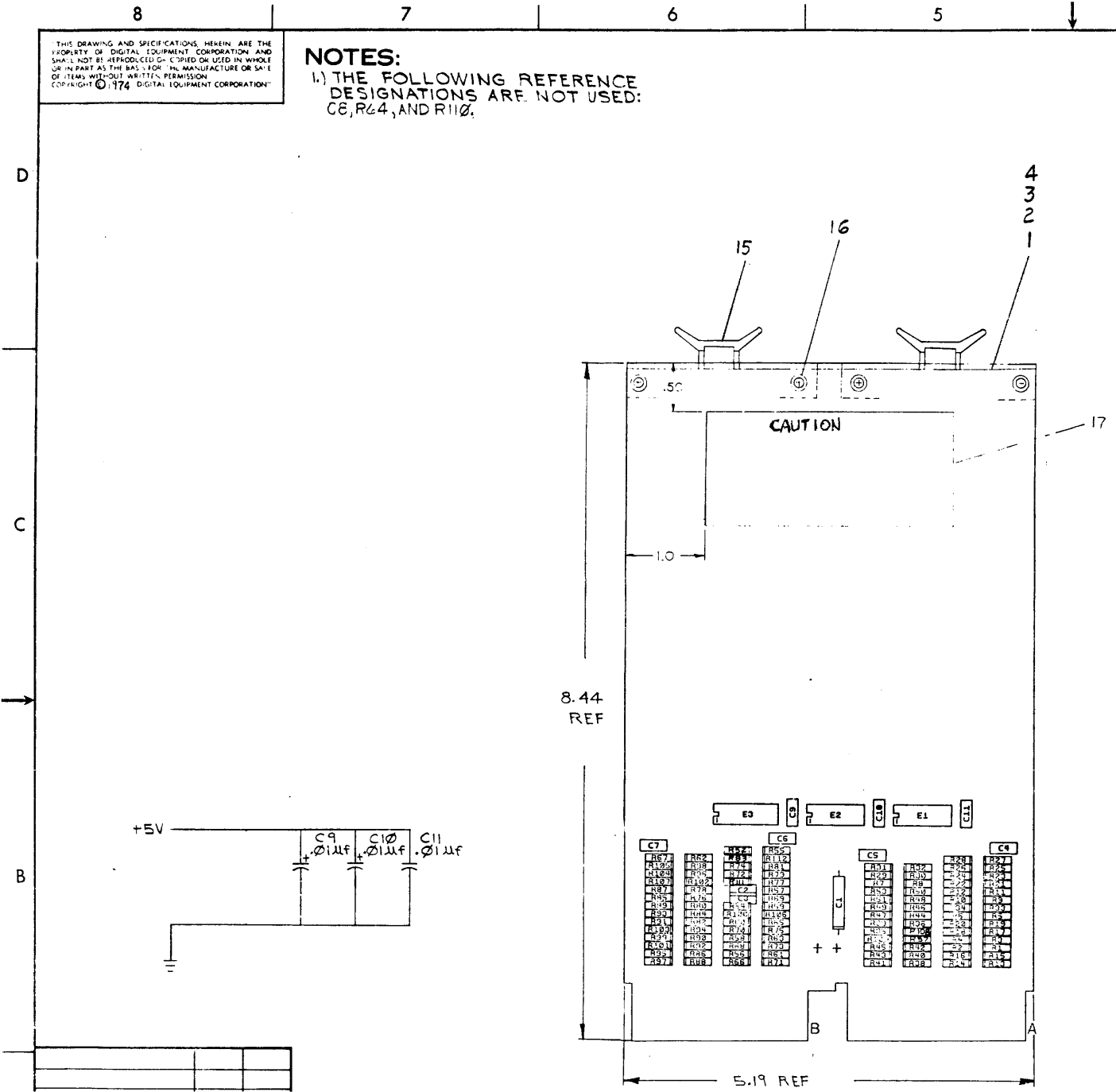
EN-01062-1A-16-R972-(325)

T-106



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**NOTES:**  
1.) THE FOLLOWING REFERENCE DESIGNATIONS ARE NOT USED: C6, R64, AND R110.



IC TYPE	GND	+5V
IC DEC 8837	6	16
GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE.		
IC PIN LOCATIONS		

REF	X-Y HOLE COORDINATE HOLE LOCATION	K-CO-M9302-0-4	1
REF	ASSY/DRILLING HOLE LAYOUT	D-AH-M9302-0-5	2
REF	MODULE ECO HISTORY	B-MH-M9302-0-6	3
1	ETCHED CIRCUIT BOARD	50-1311	4
3	C9, C10, C11	CAP .01 uF 100V 20% DISC	5
1	C1	CAP 39 uF 10V 10%	6
1	<del>C2</del>	<del>CAP 0.01 uF 35V 10%</del>	<del>7</del>
4	C4 THRU C7	CAP .22 uF 50V X%	8
2	C2, C3	CAP .001 uF 250V 20% DISC	9
56	R2, R4, R6, R8, R10, R12, R14, R16, R18, R20, R22, R24, R26, R28, R30, R32, R34, R36, R38, R40, R42, R44, R46, R48, R50, R52, R54, R56, R58, R60, R62, R64, R66, R68, R70, R72, R74, R76, R78, R80, R82, R84, R86, R88, R90, R92, R94, R96, R98, R100, R102, R104, R106, R108, R110	RES 383 OHM 1/4W 1%	10
54	R1, R3, R5, R7, R9, R11, R13, R15, R17, R19, R21, R23, R25, R27, R29, R31, R33, R35, R37, R39, R41, R43, R45, R47, R49, R51, R53, R55, R57, R59, R61, R63, R65, R67, R69, R71, R73, R75, R77, R79, R81, R83, R85, R87, R89, R91, R93, R95, R97, R99, R101, R103 THRU R107, R109, R112	RES 178 OHM 1/4W 1%	11
1	E2	I.C. DEC 7430	12
1	E1	I.C. DEC 8881	13
1	E3	I.C. DEC 8837	14
2		HANDLE, FLIP-CHIP (MAGENTA)	15
4		EYELETS	16
1		DECAL	17

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO

DRN.	DATE	CHKD.	DATE	ENG.	DATE	PROJ. ENG.	DATE	PROD.	DATE
J. Maple	10/7/74								

DEC NO.	EIA NO.	DEC NO.	EIA NO.

SCALE	SHEET	OF
1	1	2

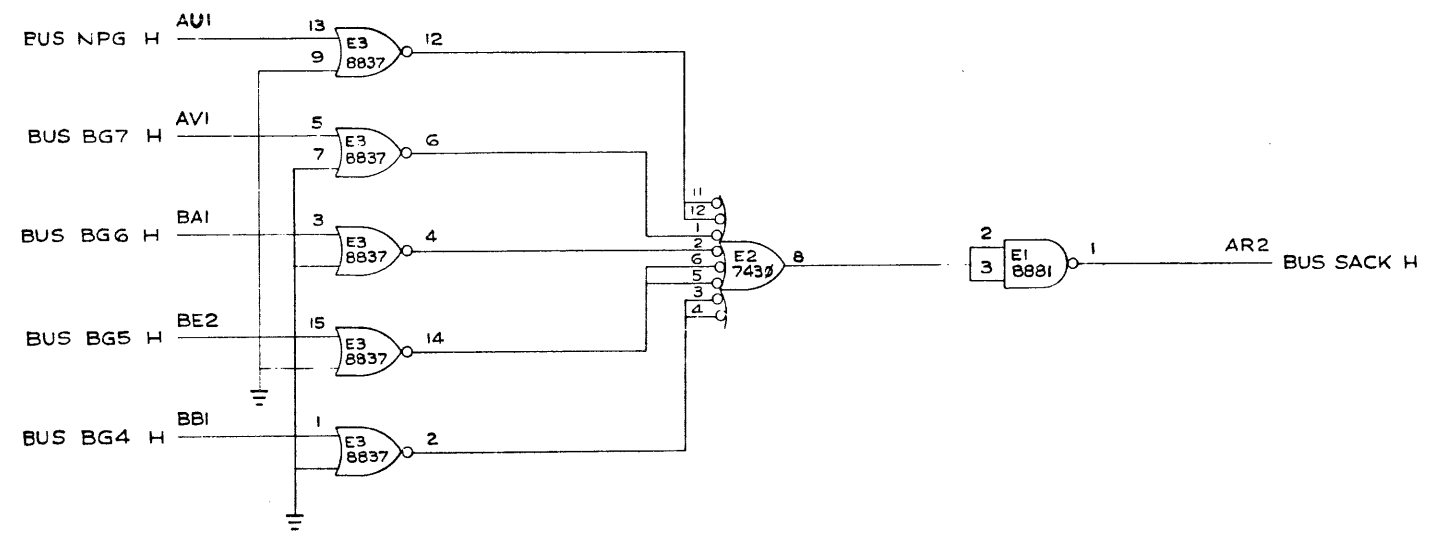
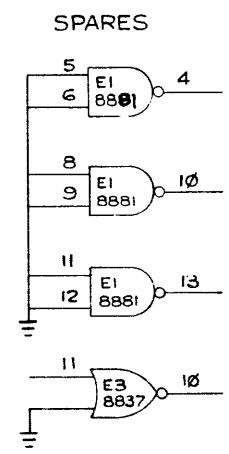
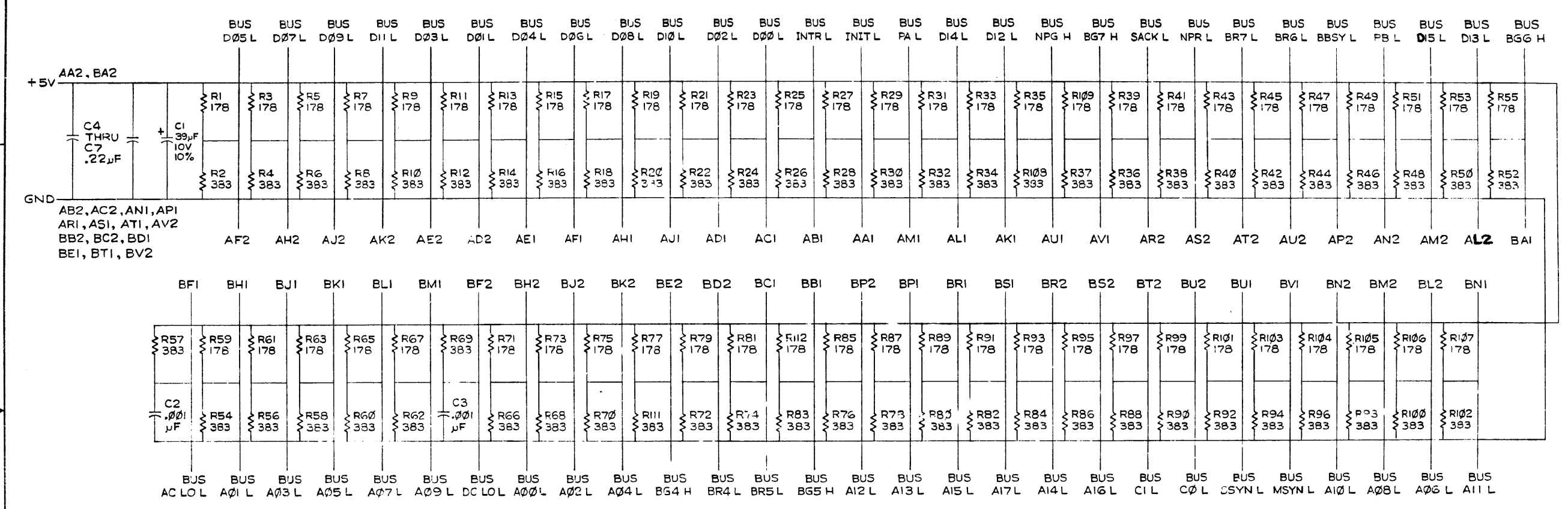
SIZE/CODE	NO. BER	REV.
DCS	M9302-0-1	C.

TITLE
UNIBUS TERMINATOR

DCS M9302-0-1 C B

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REVISIONS		
CHK	CHANGE NO	REV

TITLE	UNIBUS TERMINATOR	SIZE CODE	D CS	NUMBER	M9302-0-1	REV.	C
SCA E		SHEET	2	OF	2	DIST	

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# FIELD MAINTENANCE PRINT SET

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FIELD MAINTENANCE PRINT SET DL11-W  
 SERIAL LINE/LINE CLOCK  
 SLU/RTC OPTION  
 SLU/RTC OPTION  
 CABLE ASSY (KL8-E)  
 CABLE MODEM BC05C  
 CABLE ASSY  
 INSTALLATION PROCEDURE

B-TC-DL11-W-1  
 A-PL-DL11-W-0  
 D-CS-M7856-0-1  
 K-CS-M7856-0-9  
 D-IA-7008360-0-0  
 D-UA-BC05C-0-0  
 D-UA-BC03L-0-0  
 A-SP-DL11-W-2

UNIT VARIATIONS COVERED BY THIS PRINT SET
DL11-W
DL11-WA
DL11-WB
DL11-WC

### DL11-W Field Maintenance Print Set

### Digital Equipment Corporation

PRINT SET ORDER NO.  
MP00106

REVISIONS				USED ON OPTION/MODEL	DRN.	DATE	TITLE: FIELD MAINTENANCE PRINT SET DL11-W	digital				
					<i>D. Nealy</i>	26 MAR 76						
	CHG. NO.	DL11W-1	A		<i>D. Nealy</i>	26 MAR 76						
		DL11W-2	B		<i>R.B. Pratt</i>	29-MAR 1976						
DATE		8-77			FIELD SERV.	DATE						
					<i>M. Evans</i>	14-April 1976						

EN-01124-16-N676-(227)

**DIGITAL EQUIPMENT CORPORATION**  
MAYNARD, MASSACHUSETTS  
**PARTS LIST**

<b>MADE BY</b> D. HEALY	<b>CHECKED</b> D. HEALY	<b>SECTION</b>
<b>DATE</b> 25 MAR 76	<b>DATE</b> 25 MAR 76	1
<b>ENG</b> R.E. BRATT	<b>PROD</b> K. MACDONALD	<b>ISSUED SECT.</b>
<b>DATE</b> 1 APR 76	<b>DATE</b> 7-APR-76	1

**QUANTITY / VARIATION**

ITEM NO.	DWG NO. / PART NO.	DESCRIPTION	DL11-W	DL11-WA	DL11-WB	DL11-WC												
1	D-CS-M7856-Ø=1	SLU/RTC OPTION	1	1	1	1												
2	D-1A-7008360-1-0	CABLE ASSY (KL8-E)	-	1	-	-												
3	D-UA-BCØ5C-25-0	CABLE MODEM BCØ5C	-	-	1	-												
4	D-UA-BC03L-10-0	CABLE ASSY	-	-	-	1												
5	2376ØA9 *	BOOTSTRAP ROM	1	1	-	1												
6	9906228 *	BOX ROM	1	1	-	1												
7	D-CS-H315-0-1	MODEM TEST CONNECTOR (SEE NOTE 3.)	-	-	1	1												
		* 1. THE ROM AND ROM BOX WILL BE ADDED AT FA+T.																
		2. THE ROM AND ROM BOX ARE TO BE SHIPPED ONLY IF																
		AN LT33 OPTION IS SHIPPED WITH A UNIBUS 11 SYS-																
		TEM.																
		3. ONE H315 PER PDP-11 SYS. OR ONE PER																
		DL-11/WB OR WC LOOSE PIECE/ADD ON.																

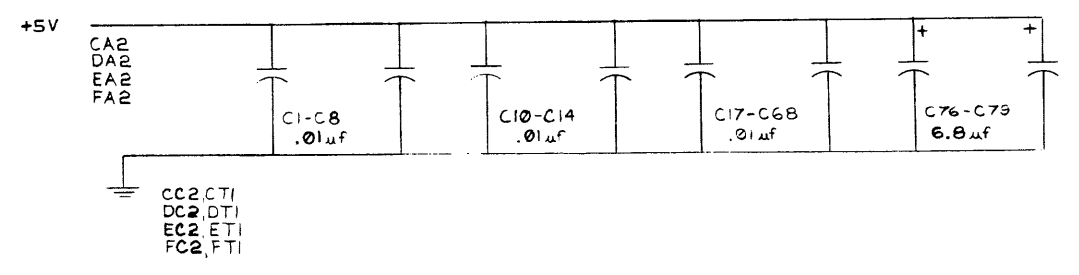
<b>TITLE</b> SERIAL LINE/LINE CLOCK DL11-W	<b>ASSY NO.</b> NONE	<b>SIZE</b> A	<b>CODE</b> PL	<b>NUMBER</b> DL11-W-Ø	<b>REV.</b> D	<b>ECO NO.</b> D11W MK005
<b>SHEET</b> 1 OF 1		<b>DIST.</b>				

*MK*

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**NOTES:**

H 1-0-9582W 50 2



IC 8641	8	16
IC -84	1	8
IC 88-7	8	16
IC -14A	1	8
IC 7412	8	16
IC 74157	8	16
IC 74153	8	16
IC 749-	10	5
IC 7492	10	5
IC 74151	8	16
IC 74175	8	16
IC UART	1	3
IC 8097	8	16
IC TYPE	GND	+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.
PARTS LIST				
ETCH BOARD REV. E				
FIRST USED ON OPTION MODEL		DATE 2/23/78		
DRN. <i>D. Dingledine</i>		DATE 3-2-78		
CHK'D. <i>L. J. ...</i>		DATE 3-2-78		
ENG. <i>L. J. ...</i>		DATE 3-2-78		
PROJ. ENG. <i>L. J. ...</i>		DATE 3-2-78		
PROD. <i>L. J. ...</i>		DATE 3-2-78		
NEXT HIGHER ASSY				
DEC NO.	EIA NO.	DEC NO.	EIA NO.	REV.
SCALE				
SHEET OF 8				

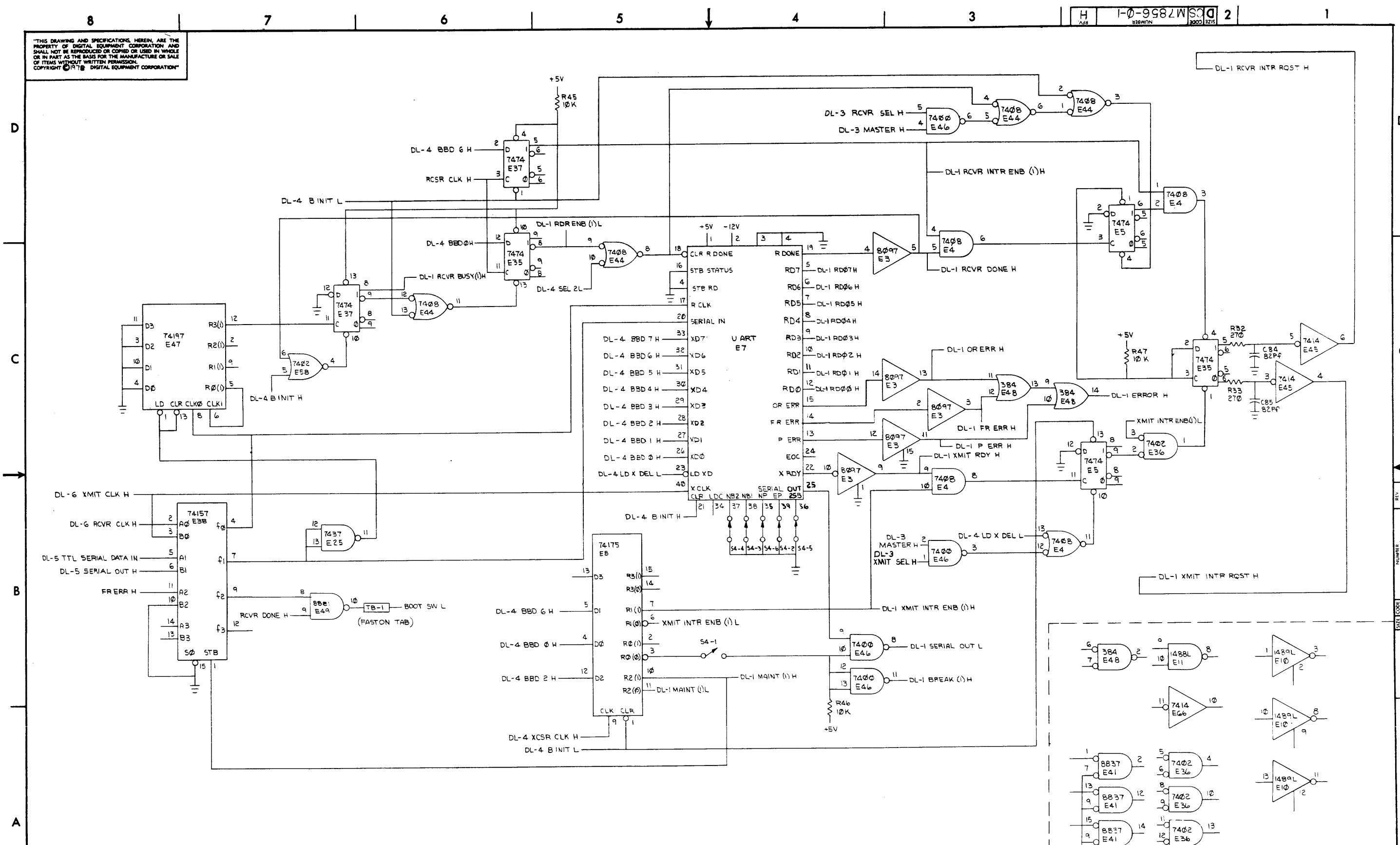
**digital**

TITLE: **SLU/RTC OPTION**

SIZE CODE: **D CS** NUMBER: **M7856-0-1** REV: **H**

SEMICONDUCTOR CONVERSION CHART

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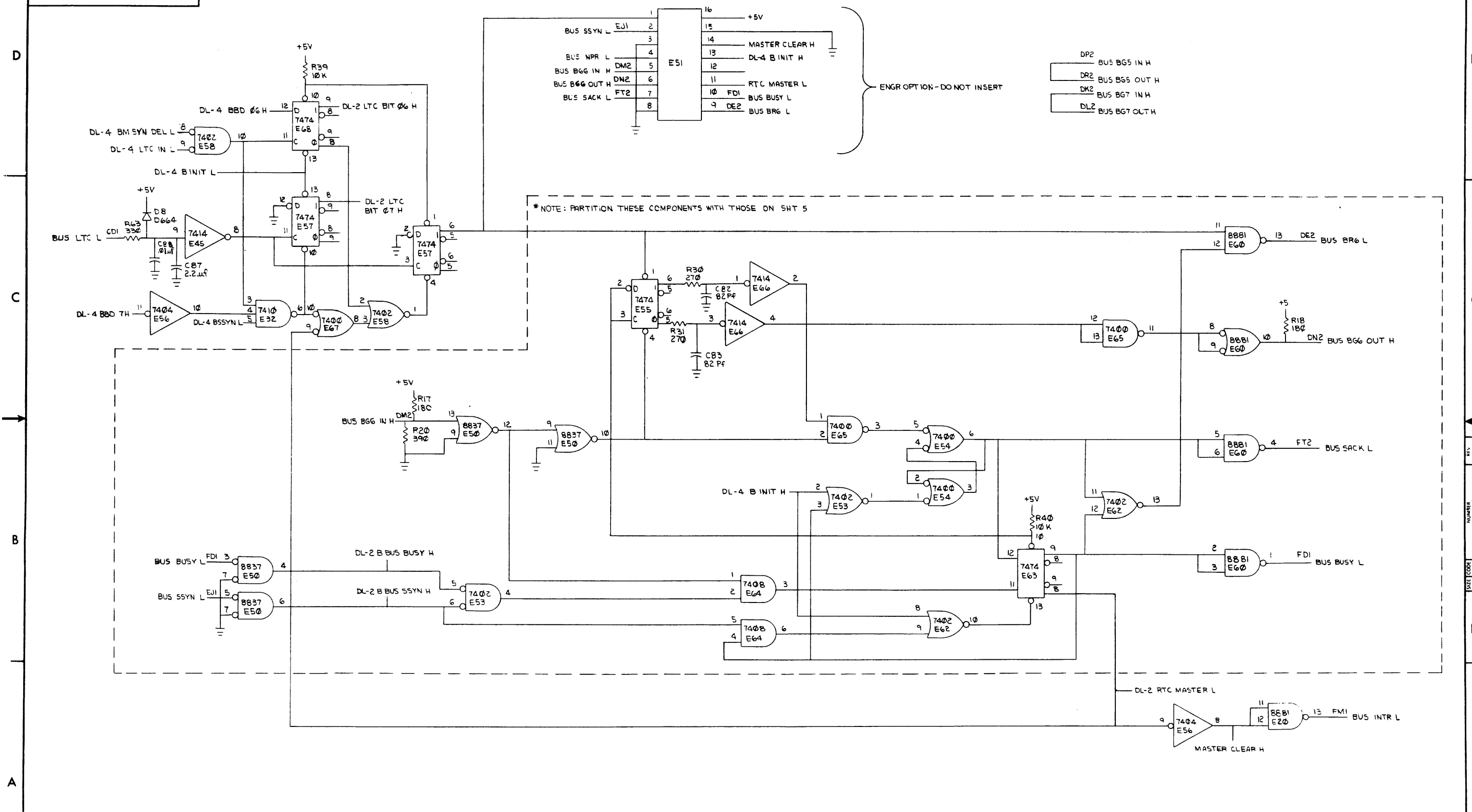


REVISIONS		
CHK	CHANGE NO.	REV

TITLE	SLU/RTO OPTION (DL-1)	SIZE CODE	DOS	NUMBER	M7856-0-1	REV.	H
SCALE	+	SHEET	2	OF	8	DIST.	



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\*NOTE: PARTITION THESE COMPONENTS WITH THOSE ON SHT 5

ENGR OPTION - DO NOT INSERT

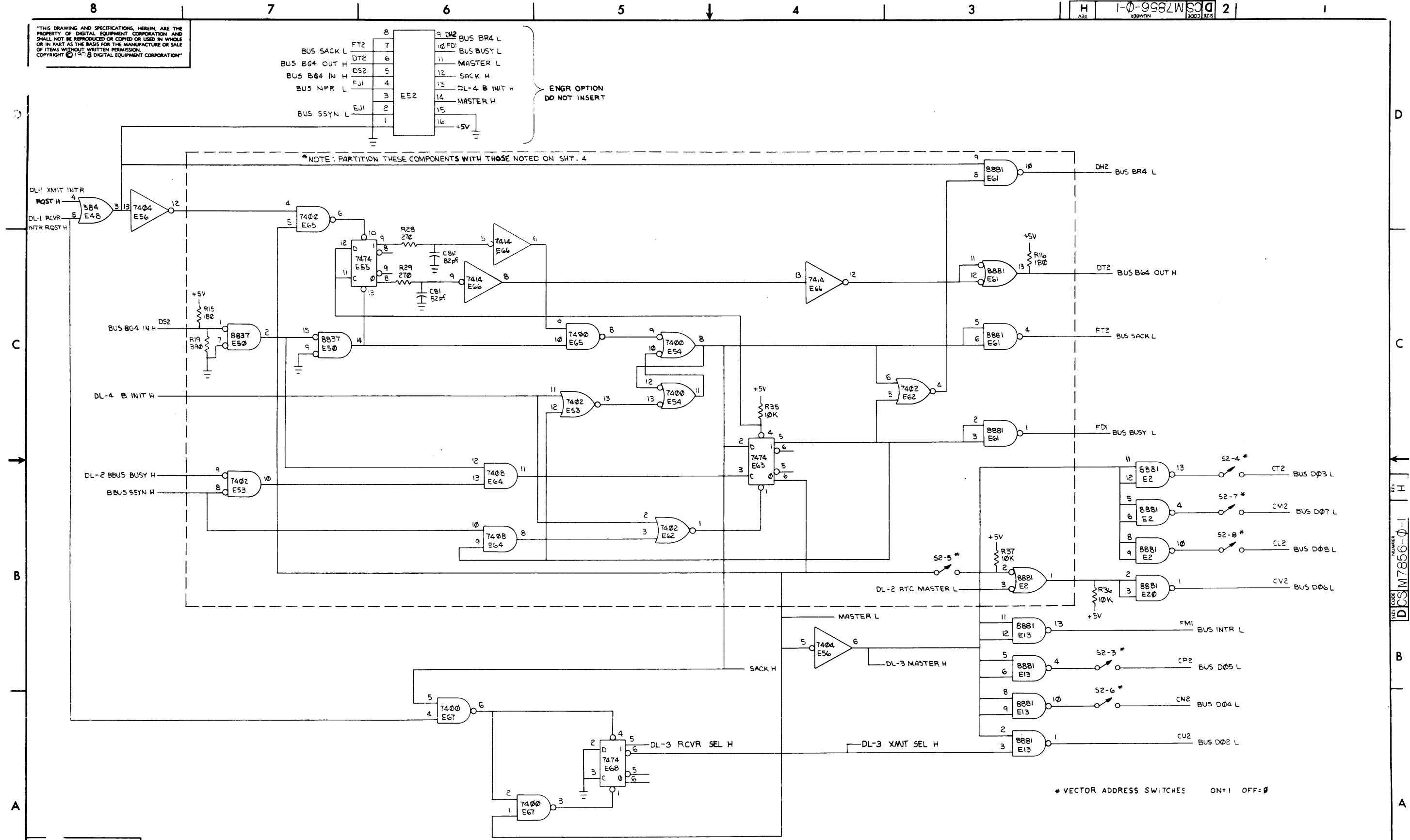
REVISIONS		
CHK	CHANGE NO	REV

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BUS SACK L	FT2	7	9	DM2	BUS BR4 L
BUS B64 OUT H	DT2	6	10	FD1	BUS BUSY L
BUS B64 IN H	DS2	5	11		MASTER L
BUS NPR L	FJ1	4	12		SACK H
		3	13		DL-4 B INIT H
		2	14		MASTER H
BUS SSYN L	EJ1	1	15		
			16		+5V

ENGR OPTION  
DO NOT INSERT

\*NOTE: PARTITION THESE COMPONENTS WITH THOSE NOTED ON SHT. 4



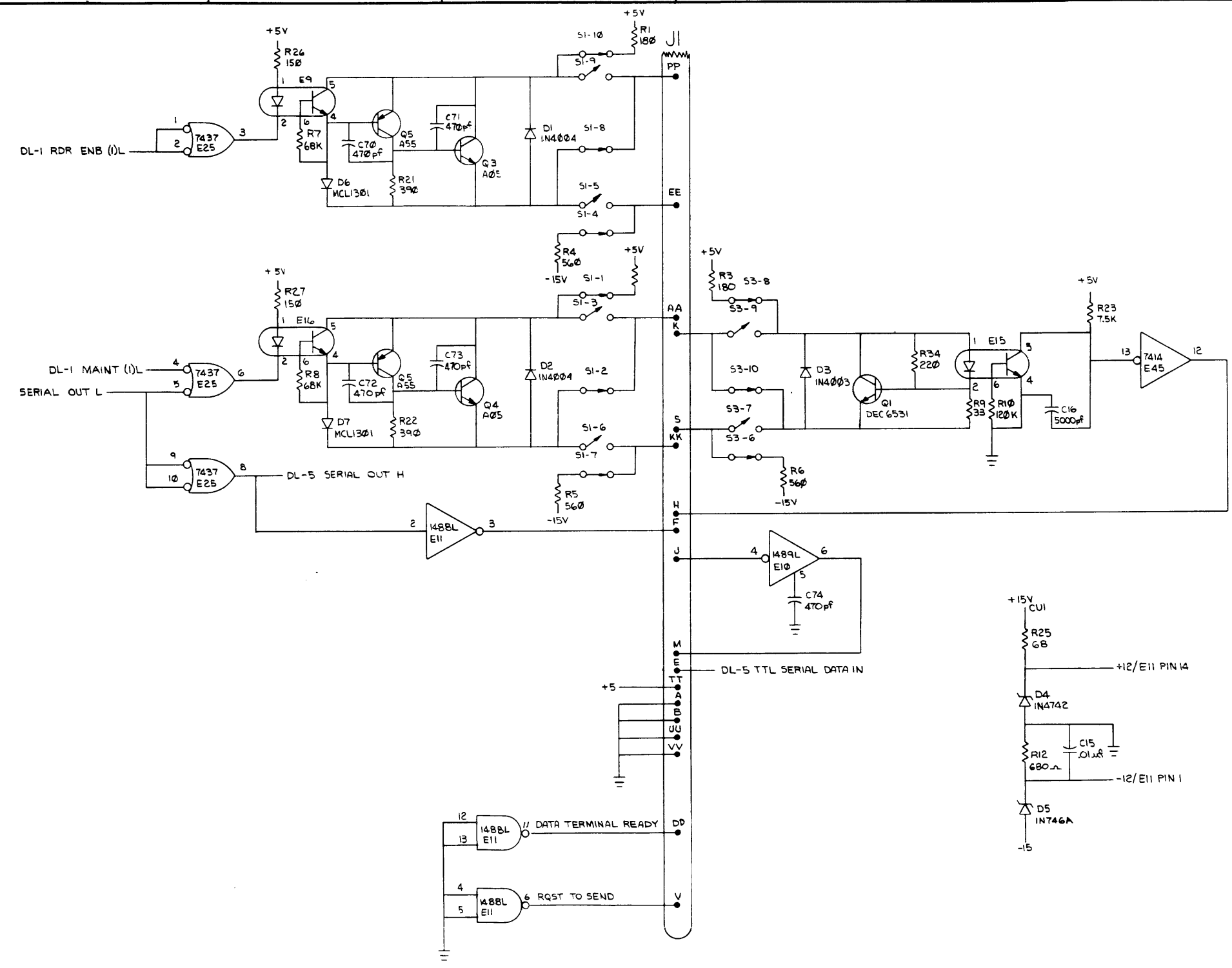
\* VECTOR ADDRESS SWITCHES ON=1 OFF=0

CHK	CHANGE NO	REV



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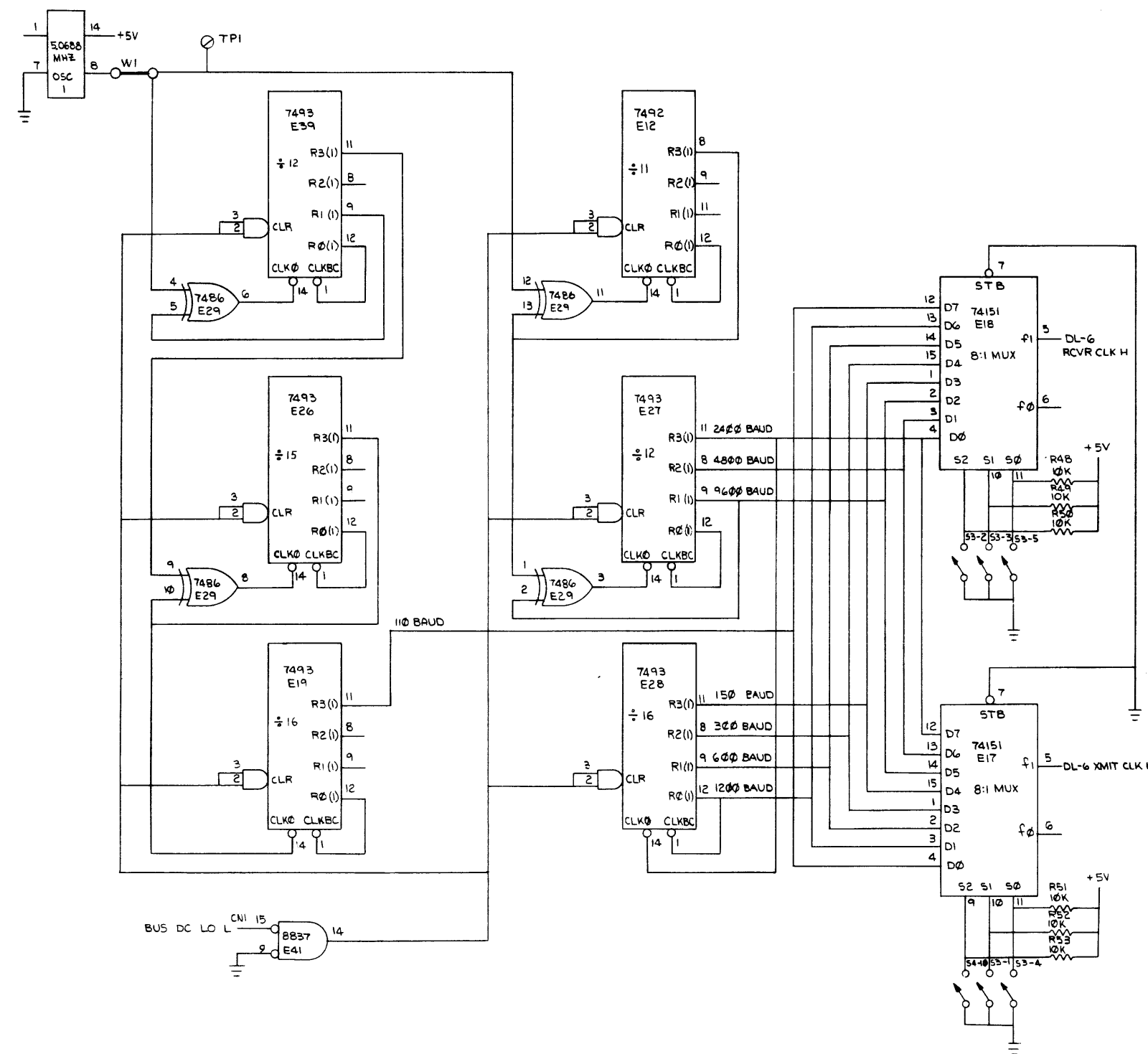
NOTE:  
 1. SWITCHES ARE SHOWN IN ACTIVE MODE.  
 2. D7, D6 ARE MCL1301 1 MA CONSTANT CURRENT DIODES.



REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO. DRD 138

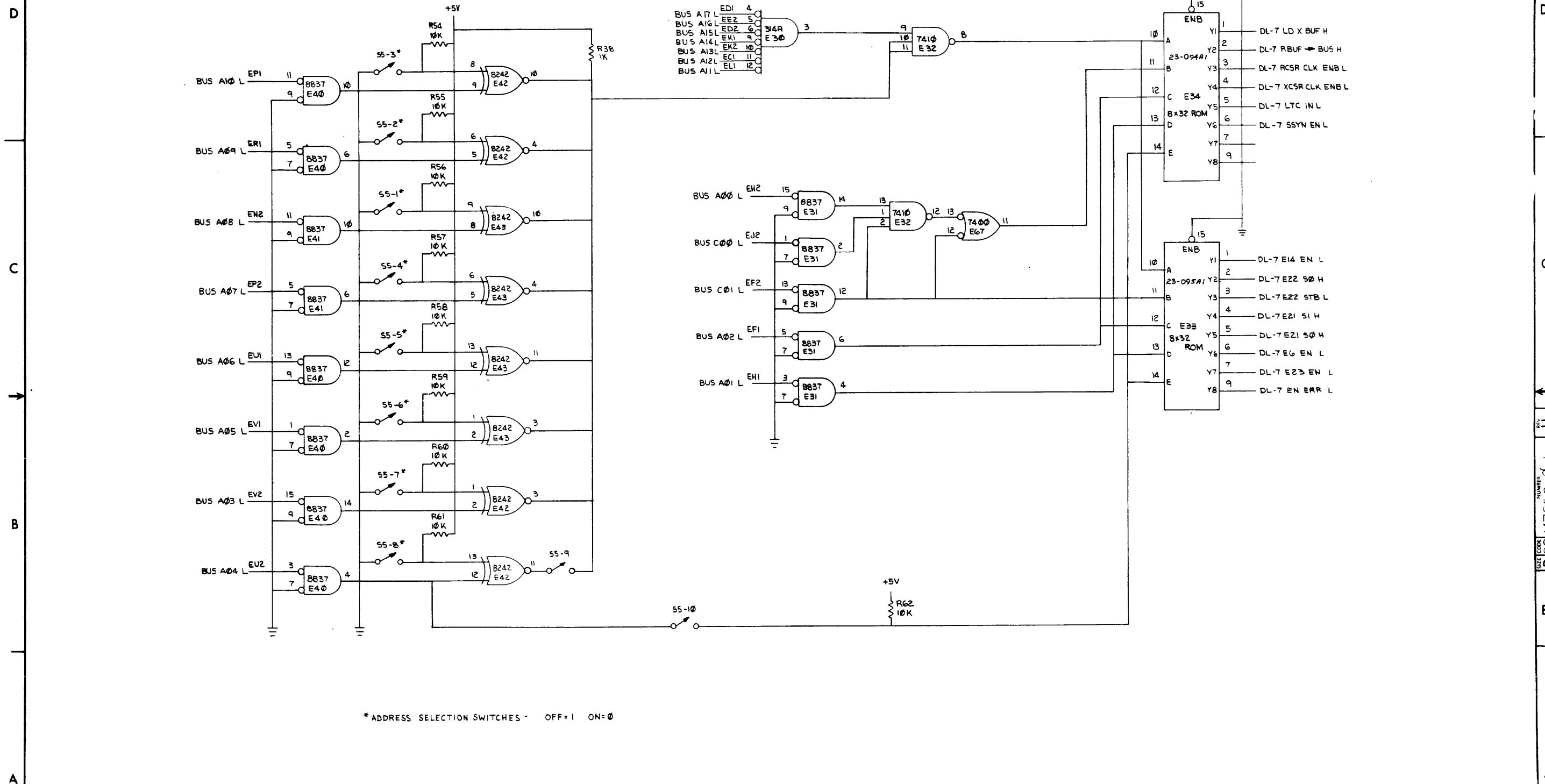
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BAUD RATE	RCVR			XMIT		
	S3-2	S3-3	S3-5	S4-10	S3-1	S3-4
110	OFF	OFF	OFF	ON	ON	ON
150	ON	OFF	OFF	OFF	ON	ON
300	OFF	ON	ON	ON	OFF	OFF
600	OFF	ON	OFF	ON	OFF	ON
1200	OFF	OFF	ON	ON	ON	OFF
2400	ON	ON	ON	OFF	OFF	ON
4800	ON	ON	OFF	OFF	OFF	ON
9600	ON	OFF	ON	OFF	ON	OFF

REVISIONS		
CHK	CHANGE NO	REV.

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REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
SLU/RTC OPTION (DL-7)	D CS	M7856-0-1	H
SCALE	SHEET	DIST.	
++	8 OF 8		

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REV.	6-0-9987W	SIZE CODE	KCS	2
	NUMBER			



(FOR 23094A1-A07 & 23095A1-A07)

	DESCRIPTION	DWG./PART NO.	ITEM NO.				
	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES						
ANGLES ±0° 30'	CLASS OF ACCURACY (CHECK ONE)	NOMINAL DIMENSION RANGE INCHES					
SURFACE QUALITY IN MICROINCHES		OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.0	OVER 4.0 TO 12.0	OVER 12.0 TO 40.0	OVER 40.0 TO 80.0
✓	MEDIUM <input type="checkbox"/>	±.004	±.008	±.012	±.016	±.024	±.04
	PREFERRED <input type="checkbox"/>	±.012	±.016	±.025	±.04	±.063	±.1

THIRD ANGLE PROJECTION	DRN. <i>9-20-75</i>	FIRST USED ON
	CHK'D <i>9-20-75</i>	DL11-W <b>digital</b>
REMOVE BURRS AND BREAK SHARP CORNERS	ENG. <i>9-20-75</i>	TITLE
DO NOT SCALE DWG	PROJ. ENG. <i>9-20-75</i>	ROM LISTING
	PROD. <i>9-20-75</i>	
MATERIAL	NEXT HIGHER ASSY.	
FINISH	D-CS-M7856-0-1	SIZE CODE NUMBER REV.
	SCALE <i>1:1</i>	K CS M7856-0-9
	SHEET 1 OF 3	DIST.

REVISIONS	CHANGE NO.	REV.
CHK		

## ROM PATTERN SPEC

1 DEC PART NUMB: 2309401-A07  
ORIGINATOR: BOB PRATT  
DATE OF ORIGIN: 2/28/75

DECIMAL LOC	OCTAL LOC	BINARY DATA	OCTAL DATA
0	00	00111100	074
1	01	00111100	074
2	02	00111100	074
3	03	00111100	074
4	04	00111100	074
5	05	00111100	074
6	06	00111100	074
7	07	00111100	074
8	10	00111100	074
9	11	00111100	074
10	12	00111100	074
11	13	00111100	074
12	14	00001100	014
13	15	00111100	074
14	16	00011100	034
15	17	00111100	074
16	20	00011000	030
17	21	00111100	074
18	22	00011100	034
19	23	00111100	074
20	24	00010100	024
21	25	00111100	074
22	26	00011100	034
23	27	00111100	074
24	30	00011100	034
25	31	00111100	074
26	32	00011100	034
27	33	00111100	074
28	34	00011101	035
29	35	00111100	074
30	36	00011100	034
31	37	00111100	074



## ROM PATTERN SPEC

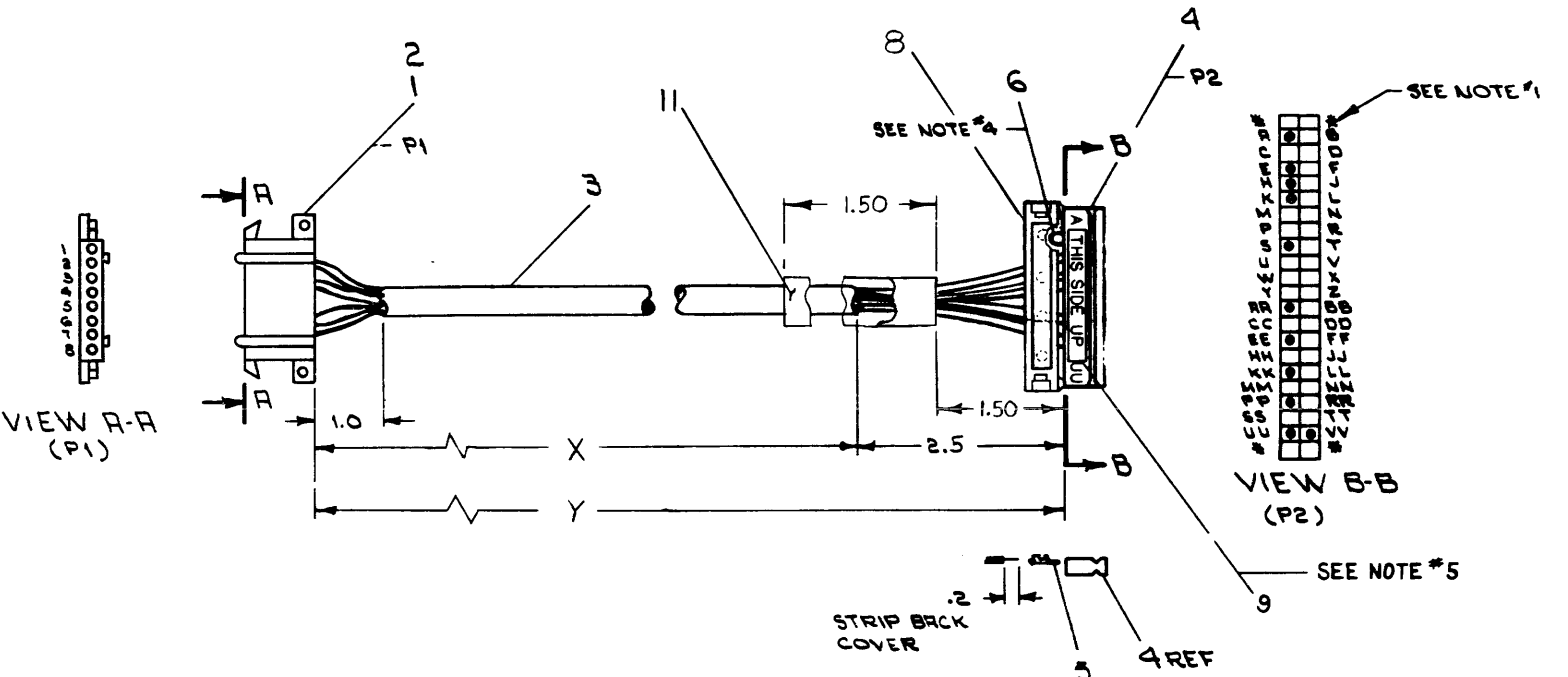
1 DEC PART NUMB: 23-095A1-A07  
 ORIGINATOR: BOB PRATT  
 DATE OF ORIGIN: 2/28/75

DECIMAL LOC	OCTAL LOC	BINARY DATA	OCTAL DATA
0	00	11111111	377
1	01	11111111	277
2	02	11111111	577
3	03	11111111	377
4	04	11111111	377
5	05	11111111	377
6	06	11111111	377
7	07	11111111	377
8	10	11111111	377
9	11	11111111	377
10	12	11111111	377
11	13	11111111	377
12	14	11011111	337
13	15	11111111	377
14	16	11111111	377
15	17	11111111	377
16	20	10001111	217
17	21	11111111	377
18	22	11111111	377
19	23	11111111	377
20	24	11010001	321
21	25	11111111	377
22	26	11111111	377
23	27	11111111	377
24	30	01000010	102
25	31	11111111	377
26	32	11111111	377
27	33	11111111	377
28	34	11111111	377
29	35	11111111	377
30	36	11111111	377
31	37	11111111	377

WIRE TABLE				FROM			TO		
ITEM NO.	AWG	COLOR	PAIR NO.	CONNECTION	WITH	CONNECTION	WITH		
3	22	BLK	1	P1-2	2	P2-KK	5		
3		RED		P1-3	2	P2-S			
3,7		SHIELD		SEE NOTE #2	-	P2-R(NOTE #3)			
3		BLK	2	P1-4	2	P2-EE			
3		WHT		P1-5	2	P2-RR			
3,7		SHIELD		SEE NOTE #2	-	P2-U(NOTE #3)			
3		BLK	3	P1-6	2	P2-PP			
3		GRN		P1-7	2	P2-K			
3,7		SHIELD		SEE NOTE #2	-	P2-V(NOTE #3)			
6	22	BLK	-	P2-E	5	P2-H	5		

LEGEND	
VARIATION	LENGTH
	X Y
7008360-0	29.5 IN ± 1.0 27 IN ± 1.0
7008360-1	45.5 IN ± 1.0 48 IN ± 1.0
7008360-9	8 FT 11.5 IN ± 2 IN 9 FT 2 IN ± 2 IN

- NOTES:**
- \* ASTERISKS INDICATE CAVITIES NOT USED OR DESIGNATED BY LETTERS.
  - DRAIN WIRES TO BE CUT BACK TO OUTER INSULATION ON P1 END OF CABLE ONLY. SHIELDS TO BE CUT BACK TO OUTER INSULATION ON BOTH ENDS OF CABLES.
  - DRAIN WIRES ON P2 END OF CABLE TO BE EACH ENCLOSED WITH ITEM #7 (TUBING) FROM END OF CABLE JACKET TO POINT WHERE THEY ENTER P2 CONNECTOR.
  - ITEM #6 (WIRE) TO BE APPROXIMATELY ONE (1) INCH LONG.
  - PLACE ITEM #9 ("THIS SIDE UP" STICKER) ON LETTERED SIDE OF ITEM #4 (BERG HOUSING) AS SHOWN.



QTY.	DESCRIPTION	PART NO.	ITEM NO.
1	LABEL, CABLE IDENT	3616073	11
	AIR TUBING, SHRINK	9107252-00	10
1	LABEL, THIS SIDE UP	3611567	9
1	STRAIN RELIEF	1211166	8
	AIR TUB. THINWALL, NAT	910267-11	7
	AIR WIRE #22 AWG STRD TEF BLK	9107330-00	6
11	SOCKET, CRIMP #47216	1210089-07	5
1	HOUSING, BERG #65043-D15	1210918-15	4
	AIR CABLE, BELDEN #877-3PR SHLD	9107725-0	3
6	CONTACT MATE-N-LOCK (FEMALE)	1209379-03	2
1	CONN. MATE-N-LOCK (FEMALE)	1209340-00	1

CHK	REV.	CHANGE NO.	DATE
	1	KLSE-00002 A	10/21/71
	2	J. MCNAMARA	5/13/71
	3	KLBE-00006 B	
	4	E. CLARK	3-10-73
	5	7008360-00001 C	
	6	ALLAIN 10-28-73	
	7	B. REGAN	
	8	7008360-00002 D	
	9	REGAN	
	10	REGAN 3/21/74	
	11	7008360-00003 E	
	12	R. REAN 10/2/74	
	13	BCB5MF-00001 F	
	14	M.E. LEWANDOWSKI	1-22-76
	15	7008360-00004 H	
	16	J. MCNAMARA	10/2/74
	17	7008360-MIL005 J	
	18	R. HARRINGTON	5-28-77
	19	7008360-00005 K	
	20	7008360-00006 L	

FIRST USED ON OPTION/MODEL: PDP-8E

DO NOT SCALE DRAWING UNLESS OTHERWISE SPECIFIED

UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES

TOLERANCES: ANGLES: .0005

FINISH: REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL: SEE PARTS LIST

NEXT HIGHER ASSY: A-ML-KLB-E-0

SCALE: NONE

SHEET: OF

DATE: 10/21/71

DATE: 10/21/71

DATE: 4-8-71

DATE: 1-1-72

DATE: 1/19/71

digital EQUIPMENT CORPORATION

CABLE ASSEMBLY (KLB-E)

SIZE CODE: NUMBER: DIA 7008360-0-0

REV: J

DIA 7008360-0-0

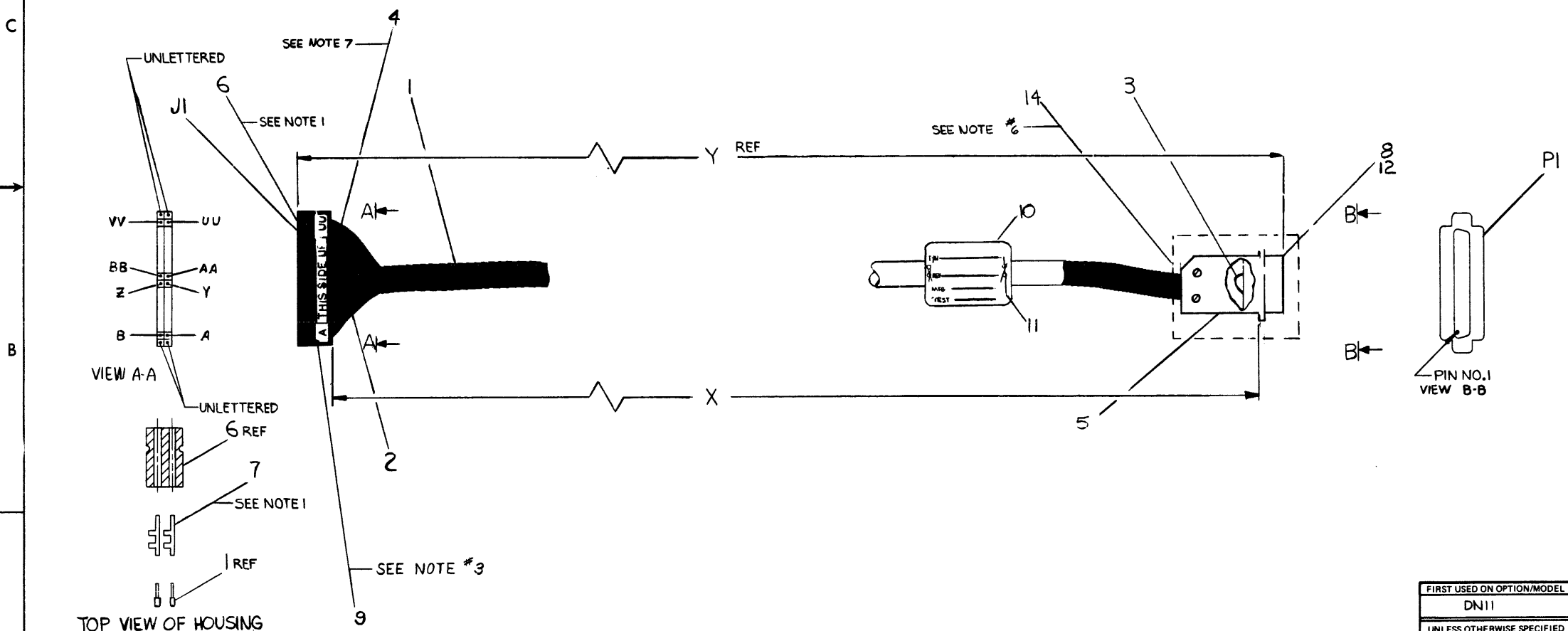
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WIRE TABLE						
ITEM NO.	DESCRIPTION	FROM		TO		WITH
		CONNECTION	WITH	CONNECTION	WITH	
1	26 BLU/WHT	PI-1	* 12	J1-VV		7
	WHT/BLU	PI-2	8	J1-F		
	ORN/WHT	PI-3		J1-J		
	WHT/ORN	PI-4		J1-V		
	GRN/WHT	PI-5		J1-T		
	WHT/GRN	PI-6	8	J1-Z		
	BRN/WHT	PI-7	** 12	J1-UU		
	WHT/BRN	PI-8	8	J1-BB		
	SLA/WHT	PI-9		J1-Y		
	WHT/SLA	PI-10		J1-W		
	BLU/RED	PI-11		J1-FF		
	RED/BLU	PI-12		J1-JJ		
	ORN/RED	PI-13		J1-D		
	SLA/RED	PI-14		J1-LL		
1	26 SLA/GRN	PI-15	8	J1-N		7

NUMBER	VARIATION	
	DIM X	DIM Y (PRE-CUT)
BC05C-25	25'±3"	25'1.8"
BC05C-50	50'±2%	50'1.8"
BC05C-09	9'±3"	9'1.8"
BC05C-1F	18'±1"	19.8"

- NOTES:**
- MANUFACTURING SHOULD USE MACHINE CRIMPER TOOL FOR CRIMPING PINS (ITEM #7) MUST BE HT68 FROM BERG ELECT
  - ONLY DEC PART #1210918-15 MAY BE USED AS J1.
  - PLACE ITEM #9 ("THIS SIDE UP" STICKER) ON LETTERED SIDE OF ITEM #6 (BERG HOUSING) AS SHOWN.
  - USE ITEM #13 (9107302-11) IN TWO PLACES (PI-1, PI-7) TO PREVENT SHORTING
  - USE ITEM #12 (9107295-11) ON ALL REMAINING SOLDER CUPS TO PREVENT SHORTING
  - DUE TO ± TOLERANCES WITH DIFFERENT VENDORS THE HOOD (ITEM #5) MAY VARY IN OUTSIDE DIAMETER CAUSING POTENTIAL STRAIN RELIEF GRIPPING PROBLEM. SHOULD THIS CONDITION BE PRESENT USE ITEM #4 (9107834) AT JUNCTION OF CABLE AND HOOD.
  - PLACE ITEM #4 (9107256) OVER SHIELD WIRE J1-A, J1-B, PI-1, PI-7.

MB \* DENOTES THREE WIRES ARE SOLDERED INTO THE PI-1 SOLDER CUP  
 \*\* DENOTES THREE WIRES ARE SOLDERED INTO THE PI-7 SOLDER CUP



QTY.	DESCRIPTION	PART NO.	ITEM NO.
1	HOOD	121049350	15
A/R	TAPE, DOUBLE SIDED	9007834	14
1	MALE SCREW	1210493-51	13
2	PIN CONTACT	1215241	12
2	TIE WRAPS	9007031	11
1	CABLE LABEL	9009532	10
1	LABEL, THIS SIDE UP	3611567	9
23	PIN 24-28 AWG	1210493-43	8
29	SOCKET, *HT-68	1210089-5	7
1	HOUSING, *20383 BERG	1210918-15	6
1	SHELL AND INSERT MALE	1210493-31	5
A/R	TUBING, *22 AWG TEF BLK	9107256-00	4
A/R	WIRE, *26 AWG STRD TEF BLK	9107636-00	3
A/R	WIRE, *26 AWG STRD TEF RED	9107636-22	2
A/R	CABLE, 25 CONDUCTOR *26 AWG	9107736	1

REV	CHANGE NO.	DATE	BY
A	0001	7-14-78	R. SMITH
B	0002	7-14-78	R. SMITH
C	0003	10-29-78	B. REGAN
D	0004	12/01/78	V. BASTINANI
E	0005	8-9-78	R. SMITH
F	0006	5/17/77	R. SMITH
G	0007	28 MAR 78	R. HARRINGTON
H	0008	6-15-78	R. HARRINGTON
I	0009	28 JUN 78	R. HARRINGTON

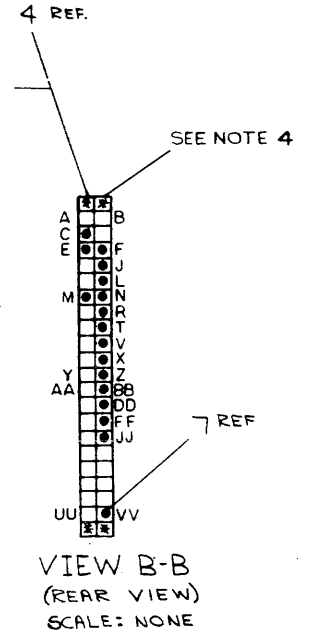
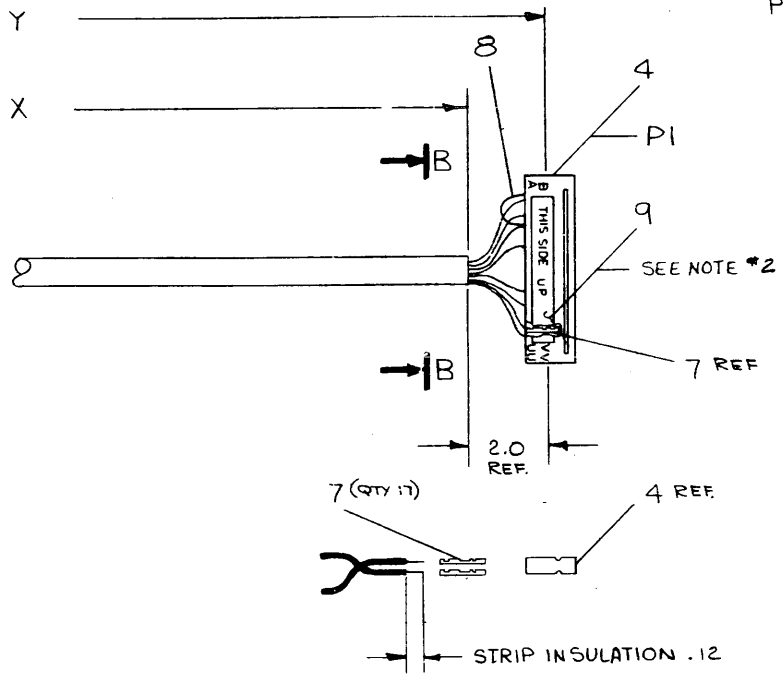
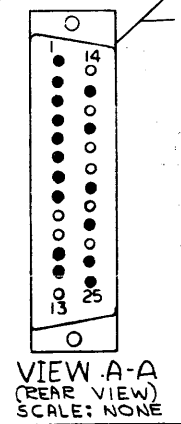
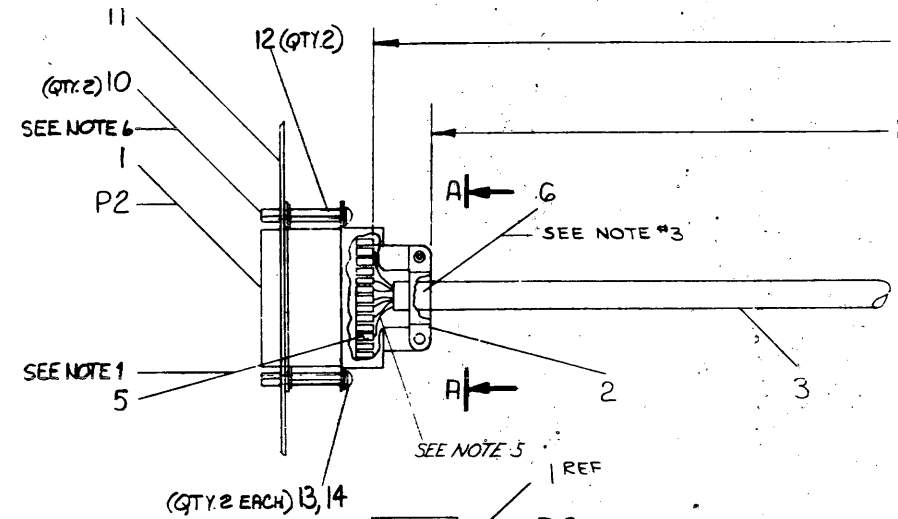
FIRST USED ON OPTION/MODEL	DN11	QTY.	DESCRIPTION	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN: S Roberts DATE: 11/17/71	CHKD: R. Cook DATE: 11/17/71	ENG: R. Smith DATE: 11/17/71	PBD, ENG: R. Smith DATE: 11/17/71	PROG: R. Smith DATE: 11/17/71
DECIMALS	ANGLES	PARTS LIST			
.XXX - .005	± 0° 30'	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			
.XX - .02		TITLE: CABLE, MODEM BC05C			
.X - .1		SIZE CODE: DUA NUMBER: BC05C-0-0 H REV: H			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓	MATERIAL: --	NEXT HIGHER ASSY: --			
	FINISH: --	SCALE: NONE SHEET: 1 OF 1			

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WIRE TABLE						
ITEM NO	DESCRIPTION	FROM	TO	WITH	CONNECTION	WITH
3	22	BLK	PI-VV	7	P2-7	SOLDER
		GRN/WHT	PI-C		P2-25	
		GRN/BLK	PI-JJ		P2-12	
		ORN/BLK	PI-FF		P2-11	
		RED	PI-DD		P2-20	
		GRN	PI-BB		P2-8	
		BLU/WHT	PI-Z		P2-6	
		ORN	PI-X		P2-22	
		BLU	PI-V		P2-4	
		WHT	PI-T		P2-5	
		BLU/BLK	PI-R		P2-17	
		BLK/WHT	PI-N		P2-15	
		RED/WHT	PI-L		P2-24	
		WHT/BLK	PI-J		P2-3	
3		RED/BLK	PI-F		P2-2	SOLDER
8		BLK	PI-E	7	PI-M	7
8	22	BLK	P2-1	SOLDER	P2-7	SOLDER

LEGEND		
NUMBER	VARIATION	
	DIM "X"	DIM "Y" PRECUT
BC03L-10	10FT ± 2IN	10FT, 5IN
BC03L-5	5FT ± 2IN	5FT, 5IN
BC03L-1K	1FT 9IN ± 1IN	2FT
BC03L-01	1FT ± 1IN	1FT, 3IN

- NOTES
- EACH SOLDERED CONN ON P2 SHALL BE INSULATED WITH A .25 PIECE OF SHRINK TUBING (ITEM #5)
  - PLACE ITEM #9 (THIS SIDE UP STICKER) ON LETTERED SIDE OF ITEM #4 (CONN HOUSING) AS SHOWN.
  - FOR STRAIN RELIEF WRAP 2 TURNS OF TAPE (ITEM #6) AROUND CABLE (ITEM #3) AS SHOWN.
  - PINS MARKED \* IN VIEW B-B ARE NOT USEABLE
  - WIRES COMING FROM CENTER OF PLUG CONN SHOULD BE 5/8" LG., ALL OTHERS SHOULD BE CONFINED INTO HOOD OF CONN SO THAT THEY'RE NOT BUNCHED.
  - PLACE LOCK WASHER (SUPPLIED WITH ITEM #10) BETWEEN SPACER AND CONNECTOR FLANGE. DISCARD NUT (QTY 2) SUPPLIED WITH ITEM #10.



QTY	DESCRIPTION	DWG/PART NO.	ITEM NO.
2	WASHER, LOCK #4	9006688	14
2	SCR, PHL PAN HD #4-40 X .25	9008301-1	13
2	SPACER, THREADED, HEX	9008833	12
1	PLATE, CONN. MTG.	B-MD-7414/172-00	11
2	SCREW LOCK ASSY	9008451-00	10
1	LABEL (THIS SIDE UP)	3611567	9
3IN	WIRE, STRANDED #22 AWG IPVC (BLK)	9107350-00	8
17	SOCKET, CRIMP	1210089-07	7
A/R	TAPE, DOUBLE SIDED .50 WD.	9007834	6
16	TUBING, HEAT SHRINK .12	9107253-09	5
1	CONN, 44 POS, HSG.	1210918-15	4
A/R	CABLE, 15 COND, 22 AWG.	9107672-00	3
1	HOOD, CONN.	1212516-00	2
1	CONNECTOR, PLUG, FILTERED	1214031-00	1

REV	DESCRIPTION	DATE
1	REVISED TO ADD PINS 13, 14	10/13/75
2	REVISED TO ADD PINS 13, 14	10/13/75
3	REVISED TO ADD PINS 13, 14	10/13/75
4	REVISED TO ADD PINS 13, 14	10/13/75
5	REVISED TO ADD PINS 13, 14	10/13/75
6	REVISED TO ADD PINS 13, 14	10/13/75
7	REVISED TO ADD PINS 13, 14	10/13/75
8	REVISED TO ADD PINS 13, 14	10/13/75

THIRD ANGLE PROJECTION

REMOVE BURRS AND BREAK SHARP CORNERS

DO NOT SCALE DWG

MATERIAL SEE PARTS LIST

FINISH

DESCRIPTION: FILTERED CABLE ASSY BC03L

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

CLASS OF ACCURACY (CHECK ONE)	NOMINAL L.	OVER	UNDER
MEDIUM	±.004	±.008	±.012
PREFERRED	±.012	±.018	±.025

QUANTITY & VARIATION

SCALE: 1/1

SHEET 1 OF 1

DIST.

MP-BC03L-00

**DIGITAL EQUIPMENT CORPORATION**  
MAYNARD, MASSACHUSETTS

**ENGINEERING SPECIFICATION**

TITLE DL11-W Installation Procedure DATE 2-28-77

REVISIONS					
REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY DATE
A	ECO CHANGE	0002	B. CRAMM	8-77	B. Pratt 8-77

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ENG Bob Pratt  
DEC 16-1022-1079-N071  
DRA 107

APPD L.N. *B. Pratt*

SIZE CODE A SP

NUMBER DL11-W-2

REV A

SHEET 1 OF 8

**ENGINEERING SPECIFICATION**

TITLE DL11-W Installation Procedure

- Mode 1:** Both the serial line unit and the real-time clock sections can be addressed. Due to common address selection logic, operation in this mode requires that the serial line unit addresses be restricted to 77756X. The line clock address is 777546.
- Mode 2:** Only the serial line unit section can be addressed. Address selection ranges from 74000 to 77777. Line clock is disabled and does not respond to address 777546.
- Mode 3:** Only the line clock section can be addressed at 777546. The serial line unit section does not respond to any address.

ADDRESS AND MODE SELECTION

Address Bit	A10	A09	A08	A07	A06	A05	A04	A03	N/A	N/A
Switch	S5-3	S5-2	S5-1	S5-4	S5-5	S5-6	S5-8	S5-7	S5-9	S5-10
Mode 1	Off	Off	Off	On	Off	Off	Off	On	Off	On
Mode 2*	Off	Off	Off	On	Off	Off	Off	On	On	Off
Mode 3	Off	Off	Off	On	Off	Off	On	On	On	On

\*Address 77756X selected for serial line interface. Other addresses may be selected using SWITCH-OFF = 1 and SWITCH-ON = 0.

**Note:** Remove R63 from DL11-W's operated in Mode 2 to allow proper operation of a line frequency clock or DL11-W operated in Mode 1 or Mode 3.

Address assignments for serial lines are normally made in the ranges from 77650X to 77667X and from 77561X to 77617X.

**B. Vector Address Assignments:**

The line clock, if enabled, has a fixed vector address of 100 and cannot be changed. The serial line assignments are to floating vectors produced in the form XX0 (Receiver) and XX4 (Transmitter) where XX ranges from 00 to 77.

For a DL11-W used as the console device, the vector is 060/064. Additional DL11-W's vector addresses are floating.

DEC FORM NO DEC 16-1022-1022-N370  
DRA 108

SIZE CODE A SP

NUMBER DL11-W-2

REV A

SHEET 3 OF 8

**ENGINEERING SPECIFICATION**

TITLE DL11-W Installation Procedure

DL11-W Installation Procedure

Installation of the M7856 module consists of the following preparations:

- 1) Switch selection of the address mode and register addresses.
- 2) Switch selection of vector address.
- 3) Switch selection of data format.
- 4) Switch selection of receiver and transmitter baud rates.
- 5) Switch selection of operation mode for the current loops.
- 6) Additional switch selections for compatibility.
- 7) Installation of G8000 in systems where +15V is not available.

**NOTE:** The notation used to indicate a particular switch is as follows: SX-Y where X denotes the particular switch pack and Y denotes the individual switch in the pack. The switch pack is labeled on the P. C. board with an SX(WS2) and the individual switches are labeled on the switch pack as are the on-off positions.

**A. Register Address Assignments:**

The DL11-W can respond to addresses with the following format:

17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0

Selects 1 of 4 Registers

Byte Control

The DL11-W can be operated in one of three different address selection modes. Normally, a DL11-W used as console terminal control would operate in the first mode, whereas additional DL11-W's would be operated in the second mode. The third mode is not normally used, but is included here for completeness.

DEC FORM NO DEC 16-1022-1022-N370  
DRA 108

SIZE CODE A SP

NUMBER DL11-W-2

REV A

SHEET 2 OF 8

**ENGINEERING SPECIFICATION**

TITLE DL11-W Installation Procedure

V8	V7	V6	V5	V4	V3	V2	V1	V0
				0/1	0	0	0	0

Switch Selectable for Serial Line

Vector Bit V8 V7 V6 V5 V4 V3

Switch S2-8 S2-7 S2-5 S2-3 S2-6 S2-4

060/064 Off Off Off On On Off

On = 1, Off = 0

**C. Selection of Data Format:**

1. Data Bits

Switches S4-3 and S4-4 control the number of data bits in the serial character as follows:

S4-4	S4-3	# of Data Bits
On	On	5
On	Off	6
Off	On	7
Off	Off	8

2. Parity

Parity is controlled by switches S4-2 and S4-6 as follows:

S4-2	S4-6	Parity
Off	Off	Off
On	Off	Off
Off	On	Even
On	On	Odd

3. Stop Bits

Switch S4-5 controls the number of stop bits selected in the serial character as follows:

DEC FORM NO DEC 16-1022-1022-N370  
DRA 108

SIZE CODE A SP

NUMBER DL11-W-2

REV A

SHEET 4 OF 8

**ENGINEERING SPECIFICATION** CONTINUATION SHEET

TITLE DLL1-W Installation Procedure

S4-5 # of Stop Bits  
 On 1  
 Off 2 (or 1.5 if 5 data bits are selected)

**D. Baud Rate Selection:**

Receiver and Transmitter baud rates are independent, so any combination may be selected.

Baud Rate Switch Selections

Baud Rate	Receiver	Transmitter
110	On	On
150	Off	On
300	Off	Off
600	On	Off
1200	Off	On
2400	On	Off
4800	On	Off
9600	On	Off

**E. Current Loop Operation Mode:**

Normally, current loops should be in active mode, unless interfaced to another active loop, such as to another DLL1.

Active - Passive Mode Selection

Transmitter	S1-1	S1-2	S1-3	S1-6	S1-7
Active	On	On	Off	Off	On
Passive	Off	Off	On	On	Off
Receiver	S3-6	S3-7	S3-8	S3-9	S3-10
Active	On	Off	On	Off	On
Passive	Off	On	Off	On	Off
Reader Enable	S1-4	S1-5	S1-8	S1-9	S1-10
Active	On	Off	On	Off	On
Passive	Off	On	Off	On	Off

**ENGINEERING SPECIFICATION** CONTINUATION SHEET

TITLE DLL1-W Installation Procedure

**F. Compatibility Selection:**

Switches S4-1 and S4-7 allow the DLL1-W to be configured to replace DLL1-A, B, C, and D options in most applications.

DLL1-W Compatibility Switches

Selectable	Switch	Description
Break Bit	S4-1	Enabled in the ON position. Should be disabled (switch OFF) if replacing a DLL1-A, or DLL1-B. Should be enabled (switch ON) if replacing a DLL1-C or DLL1-D.
Error Bits	S4-7	Error bit reporting is enabled in the ON position. Should be disabled if replacing DLL1-A or DLL1-B, and should be enabled if replacing DLL1-C or DLL1-D.

Note: Both EIA level and current loop signals are available at the berg connector on the module. No selection is necessary. The proper cable will pick up the correct signals.

**G. G8000 Installation:**

For DLL1-W EIA operation, a positive voltage is required between 9 and 15 volts to operate the EIA drivers. For PDP-11/20 and PDP-11/15 systems with the H720 power supply, a G8000 module must be installed to provide this voltage. Using a filter network, this module converts the full-wave rectified "+8V" signal to a positive DC voltage.

1. Install G8000 into slot A02 or DD11-A.
2. Wire A03V2 to A02V2.
3. Wire A02N2 to CXXU1 where XX is the slot location of the M7856.

**ENGINEERING SPECIFICATION** CONTINUATION SHEET

TITLE DLL1-W Installation Procedure

**H. DLL1-W Systems with +15V Available Using DD11-A**

There is a special situation of using a DD11-A to mount a DLL1-W in systems with +15V available. These systems have +15V available, and it appears at pin A03V2 of the DD11-A when using power harness such as 7009177, 7008855, or 7008909. In this situation, no G8000 is necessary, and +15V can be wired directly from A03V2 to CXXU1, where XX is the slot number of the DLL1.

I. When using the DLL1-W in an 11/05 processor pin CXXU1 has +15V available on it so no G8000 or no jumpers are required.

**J. INSTALLATION**

The DLL1-W module plugs into an SPC slot. A wire must be installed to pick up the LTC L signal from the power supply and apply it to the line frequency input of the DLL1-W.  
 When installed, the LTC L input to the DLL1-W is located on pin CDI. Connect a length of 30 AWG wire from pin CDI on the backplane to the pin on the backplane, as designated in Table 1-1, for each application.

Table 1-1 LTC L Connection

PDP Computer	Processor	Pin Number
11/04	KD11-D (4 slot)	C02D1, C03D1, C04D1
11/04	KD11-D (9 slot)	C02D1, C03D1, C04D1, C05D1, C06D1, C07D1, C08D1, or C09D1
11/05	KA11-A w/8K memory	C01D1, C02D1, C03D1, C04D1, or F08V2
11/05	KD11-A w/16K memory	C01D1 or F08V2
11/20	KA11	A13P2 or B12R1
11/34	KD11-E	C03D1, C04D1, C05D1, C06D1, C07D1, C08D1, or C09D1
11/35	KD11-A	F03R1 or C09D1
11/40	KD11-A	F03R1 or C09D1
11/45	KB11-A	C26D1, C27D1, or C28D1
11/55	KB11-D	C26D1, C27D1, or C28D1
11/70	KB11-B	C40D1, C41D1, C42D1, C43D1, or C44D1
11/70	KB11-C	C40D1, C41D1, C42D1, C43D1, or C44D1
	DD11-B Peripheral Mounting Panel	C01D1, C02D1, C03D1, or C04D1
	DD11-D Peripheral Mounting Panel	C01D1, C02D1, C03D1, C04D1, C05D1, C06D1, C07D1, C08D1, C09D1, A03P2
	DD11-A Peripheral Mounting Panel	

NOTE: A wire connection is not necessary for backplane pin numbers ending in D1. LTC L is already connected to the line frequency input of the DLL1-W.

**ENGINEERING SPECIFICATION** CONTINUATION SHEET

TITLE DLL1-W Installation Procedure

K. Installation  
 The DLL1-W module plugs into an SPC slot. A wire must be installed to pick up the DCIOL signal from the power supply and apply it to the DCIOL input of the DLL1-W.

When installed, the DCIOL input to the DLL1-W is located on pin CNI. Connect a length of 30 AWG wire from pin CNI on the backplane to the pin on the backplane, as designated in Table 1-2 for each application.

Table 1-2 DCIOL Connection

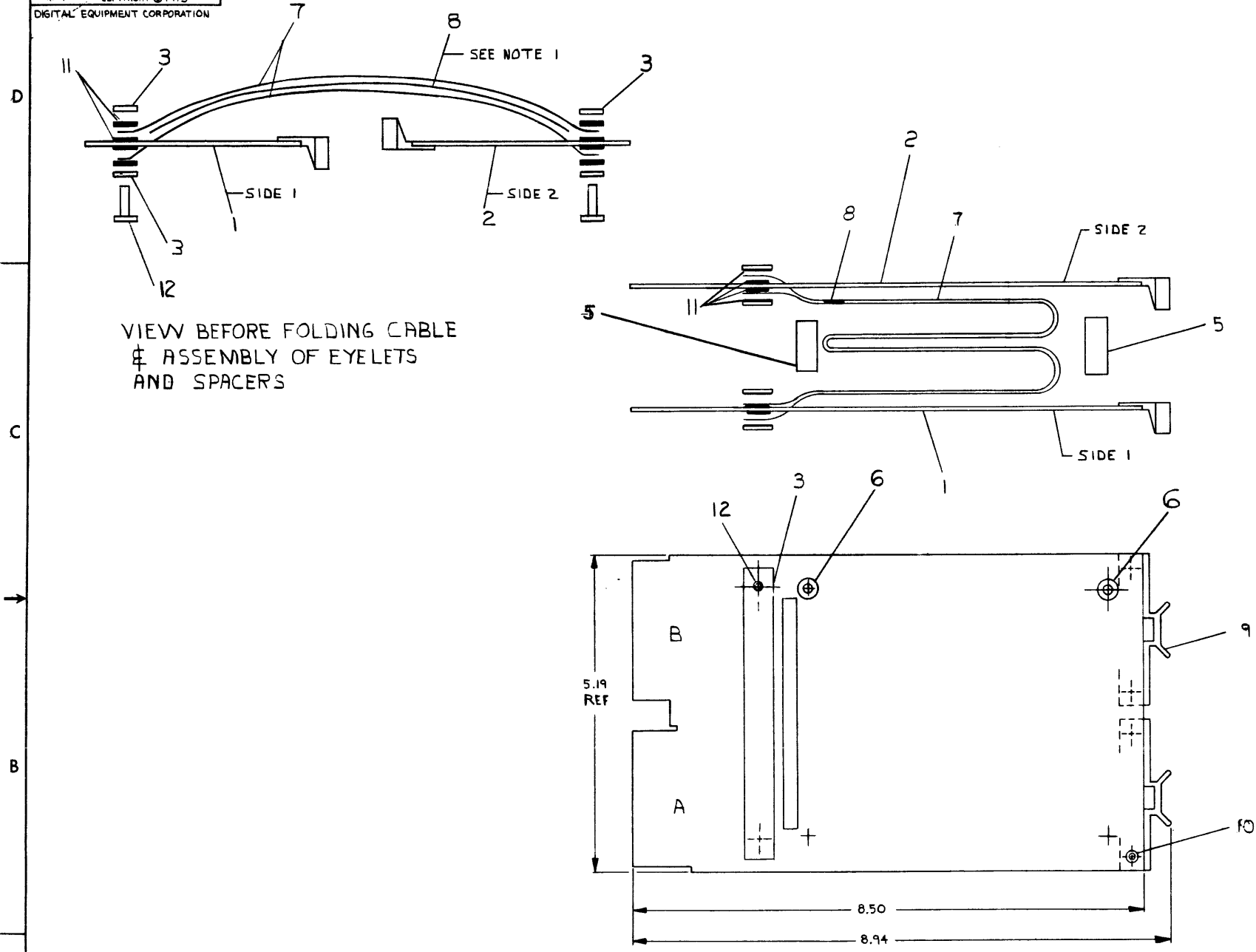
PDP Computer	Processor	Pin Number
11/04*	KD11-D (4 slot)	C03N1, C04N1
11/04*	KD11-D (9 slot)	C03N1 thru C09N1
11/05*	KA11-A w/8K Memory	C01N1, C02N1, C03N1, C04N1
11/05*	KD11-A w/16K Memory	C01N1
11/20	KA11	B11F2, B14F2, A13S2, A08S2, A03P2, B04D2, F06B2
11/34*	KD11-E	C03N1 thru C09N1
11/35	KD11-A	B09F2
11/40	KD11-A	B09F2
11/45*	KB11-A	C26N1, C26N1, C28N1
11/55*	KB11-D	C26N1, C26N1, C28N1
11/70*	KB11-B	C40N1, C41N1, C42N1, C43N1, C44N1
11/70*	KB11-C	C40N1, C41N1, C42N1, C43N1, C44N1
	DD11-B Peripheral Mounting Panel	C01N1 thru C04N1
	DD11-D Peripheral Mounting Panel	C01N1 thru C09N1
	DD11-A Peripheral Mounting Panel	B01F2, B04F2, A03S2

\*NOTE: A wire connection is not necessary for backplane pin numbers ending in N1 DCIOL. Is already connected to the input of the DLL1-W.

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NOTES:

1. FOAM (ITEM#8) TO BE PLACED BETWEEN CABLES (ITEM#7) AND ALL FOLDS.
2. FLEX PRINTS TO BE BOUND TOGETHER BY WRAPPING WITH BLACK ELECTRICAL TAPE (ITEM#11), EVERY 8 INCHES.



QTY.	DESCRIPTION	PART NO.	ITEM NO.
4	EYELET	9006745	12
A/R	TAPE, ADHESIVE TRANSFER	9009347-01	11
8	EYELET	9006732	10
4	HANDLE, FLIP-CHIP MAGENTA	9008337-06	9
A/R	FOAM, GRAY	9008881	8
2	CABLE, FLEXPRINT (2'LG)	1700002-01	7
4	EYELET	9008223	6
4	SPACER	B-MD-7413488-0-0	5
A/R	BLACK ELECTRICAL TAPE	9009507	4
4	CLAMP, CABLE	B-MD-7413489-0-0	3
1	ETCHED CIRCUIT BOARD	D-CS-5411579-0-1	2
1	ETCHED CIRCUIT BOARD	D-CS-5411577-0-1	1

FIRST USED ON OPTION/MODEL		PARTS LIST	
PDP/11		DRN	DATE
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		CHK'D	DATE
DECIMALS	ANGLES	ENG	DATE
xxx - .005	± 0° 30'	PROJ. ENG.	DATE
xx - .02		PROD.	DATE
x - .1			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		NEXT HIGHER ASSY.	
MATERIAL		SEE PARTS LIST	
FINISH		SCALE	NONE
		SHEET	OF

**digital** EQUIPMENT CORPORATION  
MAYNARD MASSACHUSETTS

TITLE  
CABLE, UNIBUS  
(JUMPER)

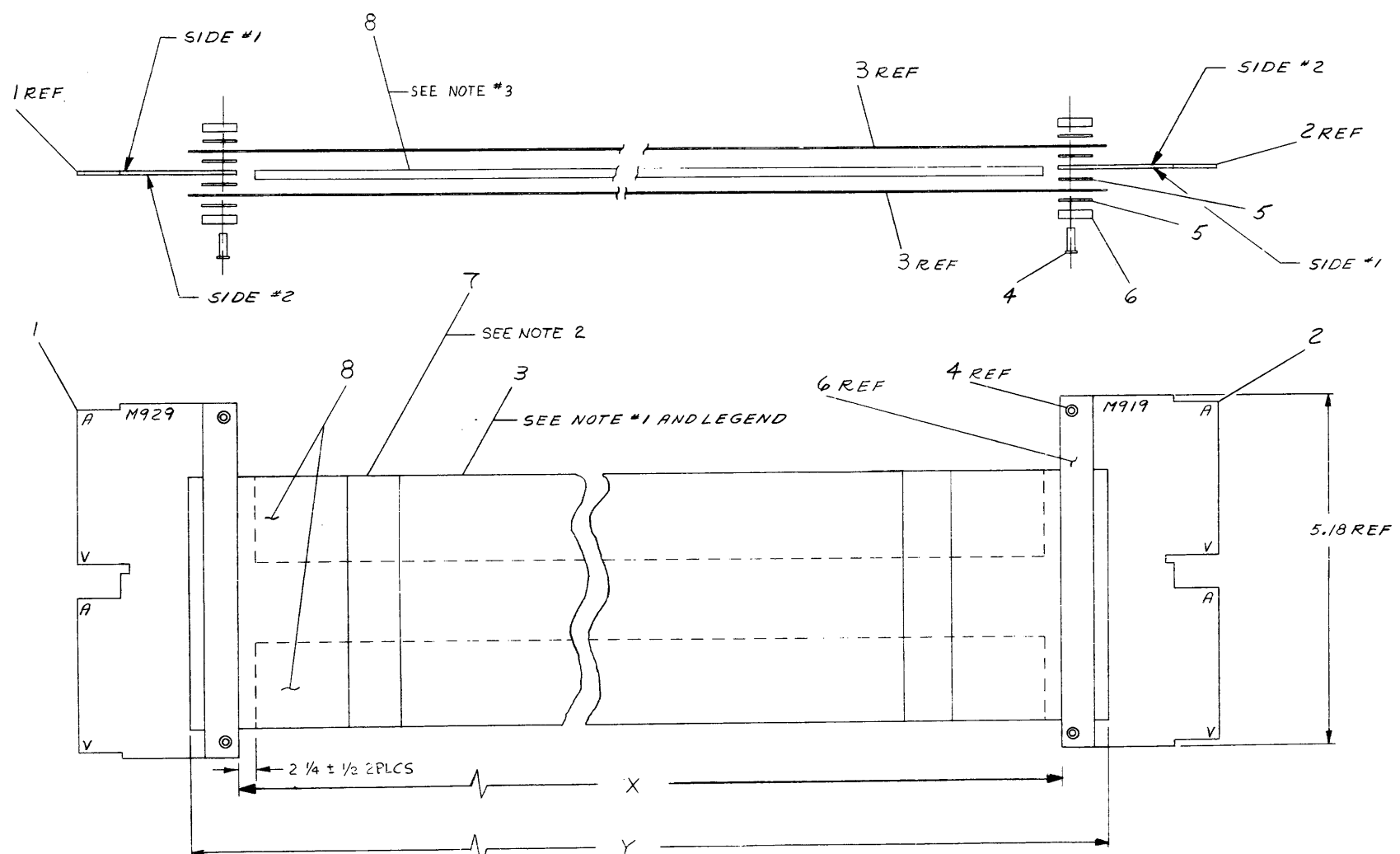
SIZE CODE: D LA M9202-0-0  
NUMER: B

REV.	CHG. NO.	DATE	BY	APP.
A	00001	15 April 77	K. SARGENT	
B	00002	19 April 77	K. SARGENT	
B	00002	18 May 78	D. VONAU	

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**NOTES:**

- VARIATIONS AND LENGTHS SHOWN IN LEGEND ARE STANDARD. OTHER THAN STANDARD VARIATIONS WILL BE SPECIFIED BY ALPHANUMERIC DESIGNATION. FOR LENGTHS OTHER THAN FOOT INCREMENTS FROM ONE (1) FOOT THRU NINE (9) FEET, ELEVEN (11) INCHES.  
 A=1" G=7"  
 B=2" H=8"  
 C=3" J=9"  
 D=4" K=10"  
 E=5" L=11"  
 F=6"  
 EXAMPLE: BC11A-3D=3'4". LENGTHS WILL BE IN FOOT INCREMENTS FROM TEN (10) FEET ON, AND WILL BE SPECIFIED BY THE CORRESPONDING NUMERICAL DESIGNATION. EXAMPLE: BC11A-11=11 FEET. THE TOLERANCE ON DIMENSION "A" WILL BE 2% OF THE FOOT INCREMENT.
- FLEXPRINTS TO BE BOUND TOGETHER BY WRAPPING WITH ELECTRICAL TAPE (ITEM 7) EVERY 18 INCHES.
- INSTALL 2 PIECES OF FOAM TAPE (ITEM 8) BETWEEN FLEX PRINT CABLES AS SHOWN.



QTY.	DESCRIPTION	PART NO.	ITEM NO.
8	GRAY FOAM - 3" WIDE	9008881-01	8
7	ELECTRICAL TAPE	3009260	7
6	CLAMP, CABLE	C-SC-12076A-00	6
5	TAPE #4032 1/4" X 3 11/16" L6	9007834-01	5
4	EYELET GS-4-11 TIMSON	9006750	4
3	CABLE "FLEXPRINT"	170002-01	3
2	EXT. BUS CONN	A-PL-M919-0-0	2
1	BUS CONN	A-PL-M929-0-0	1

REV	CHG	NO.	DATE	BY	APP	DESCRIPTION
A		0001	5-1-70	BLASI		INITIAL DESIGN
B		0002	5-1-70	BLASI		REVISED TO 1/2" PLCS
C		0003	5-1-71	BLASI		REVISED TO 1/4" PLCS
D		0004	8-8-72	BLASI		REVISED TO 1/2" PLCS
E		0005	6-1-73	BLASI		REVISED TO 1/4" PLCS
F		0006	11-3-75	BLASI		REVISED TO 1/2" PLCS
G		0007	11-7-75	BLASI		REVISED TO 1/4" PLCS
H		0007	1/2-78	BLASI		REVISED TO 1/2" PLCS

FIRST USED ON OPTION/MODEL PDPII

DO NOT SCALE DRAWING UNLESS OTHERWISE SPECIFIED

TOLERANCES: DECIMALS ± .005, FRACTIONS ± 1/64, ANGLES ± 0°30'

FINAL SURFACE QUALITY: REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL: + + +

FINISH: + + +

DATE: 11/14/69  
 DATE: 11/19/69  
 DATE: 11/26/69  
 DATE: 11/26/69

digital EQUIPMENT CORPORATION  
 WILMINGTON, MASSACHUSETTS

TITLE: CABLE ASSY (BC11A)

SIZE CODE: DUA BC11A-0-0  
 NUMBER: H

SCALE: 1/1  
 SHEET: 2 OF 2



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LEGEND

NUMBER	DIM"X" VARIATION	DIM"Y"(PRE-CUT) REF.
BC11A-02	2'0"±0.5"	2'1.5"
BC11A-03	3'0"±1.0"	3'1.5"
BC11A-04	4'0"±1.0"	4'1.5"
BC11A-05	5'0"±1.0"	5'1.5"
BC11A-06	6'0"±1.0"	6'1.5"
BC11A-07	7'0"±2.0"	7'1.5"
BC11A-08	8'0"±2.0"	8'1.5"
BC11A-09	9'0"±2.0"	9'1.5"
BC11A-10	10'0"±2.0"	10'1.5"
BC11A-11	11'0"±3.0"	11'1.5"
BC11A-12	12'0"±3.0"	12'1.5"
BC11A-13	13'0"±3.0"	13'1.5"
BC11A-14	14'0"±3.0"	14'1.5"
BC11A-15	15'0"±4.0"	15'1.5"
BC11A-16	16'0"±4.0"	16'1.5"
BC11A-17	17'0"±4.0"	17'1.5"
BC11A-18	18'0"±4.0"	18'1.5"
BC11A-19	19'0"±5.0"	19'1.5"
BC11A-20	20'0"±5.0"	20'1.5"
BC11A-21	21'0"±5.0"	21'1.5"
BC11A-22	22'0"±5.0"	22'1.5"
BC11A-23	23'0"±6.0"	23'1.5"
BC11A-24	24'0"±6.0"	24'1.5"
BC11A-25	25'0"±6.0"	25'1.5"
BC11A-0F	0'6"±0.5"	0'7.5"
BC11A-8F	8'6"±2.0"	8'7.5"

D

D

C

C

B

B

A

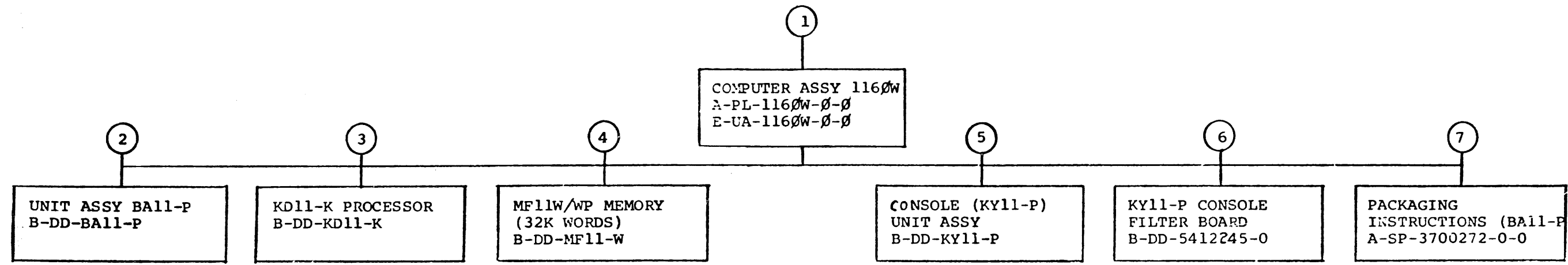
A

H  
BC11A-0-0  
DUA

REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE CODE	NUMBER	REV.
CABLE ASSY (BC11A)	DUA	BC11A-0-0	H
SCALE	SHEET 2 OF 2	DIST	





TITLE	SIZE	CODE	NUMBER	REV
COMPUTER ASSY 116ØW	D	DD	116ØW-Ø	B
SHEET 2 OF 3				

*COPY*



**DIGITAL EQUIPMENT CORPORATION**  
MAYNARD, MASSACHUSETTS  
**PARTS LIST**

MADE BY	B. BLODGETT	CHECKED	D. HEALY	SECTION
DATE	7 JUN 76	DATE	30 JUN 76	1
ENG	<i>J. J. Dougherty</i>	PROD	<i>R. K. Peter</i>	ISSUED SECT.
DATE	9 DEC 1976	DATE	9 Dec. 76	1

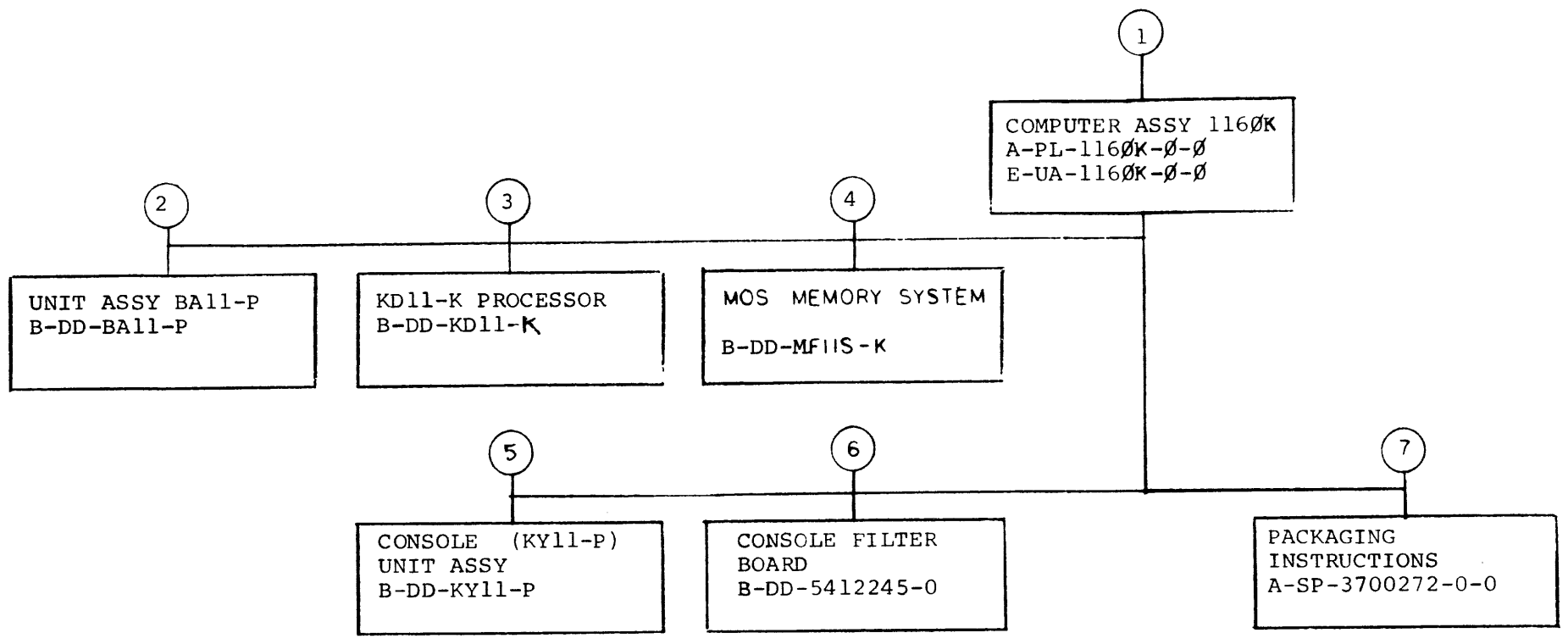
QUANTITY / VARIATION

ITEM NO.	DWG NO. / PART NO.	DESCRIPTION	1160W-AA	1160W-AB														
1	E-UA-BALL-PA-Ø	UNIT ASSY BALL-P (12ØV)	1	-														
2	E-UA-BALL-PB-Ø	UNIT ASSY BALL-P (24ØV)	-	1														
3	A-PL-KD11-K-Ø	KD11-K PROCESSOR	1	1														
4	D-UA-MF11-WP-Ø	MF11W/WP MEMORY (32K WORDS)	1	1														
5	D-UA-KY11-P-Ø	CONSOLE (KY11-P) UNIT ASSY	1	1														
6	D-UA-5412245-0-0	KY11-P CONSOLE FILTER BOARD	1	1														
7	D-UA-BC11A-Ø8-Ø	CABLE ASSY (BC11-A)	1	1														
8	D-UA-BCØ6R-Ø6-Ø	BCØ6R, I/O CABLE	1	1														
9	A-SP-BALL-P-2	BALL-P VOLTAGE CONVERSION PROCEDURE	REF	REF														
10	A-SP-11/6Ø-Ø-2	COMPUTER SPECIFICATION (PDP11/6Ø)	REF	REF														
11	D-MU-MM11-W-MU	MODULE UTILIZATION	REF	REF														
12	D-MU-KD11-K-MU	MODULE UTILIZATION	REF	REF														
13	A-SP-3700272-0-0	PACKAGING INSTRUCTIONS (BALL-P)	1	1														

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.	ECO. NO.
COMPUTER ASSY 1160W	E-UA-1160W-Ø-Ø	A	PL	1160W-Ø-Ø	C	1160W-00003
	SHEET 1 OF 1	DIST.				

*COPY*





TITLE	SHEET	OF	SIZE	CODE	NUMBER	REV
COMPUTER ASSY 1160K	2	3	B		1160K-0	





**DIGITAL EQUIPMENT CORPORATION  
MAYNARD, MASSACHUSETTS  
PARTS LIST**

MADE BY B. BLODGETT	CHECKED D. HEALY	SECTION 1
DATE 7 JUN 76	DATE 30 JUN 76	ISSUED SECT. 1
ENG DATE <i>J. Buzynski 10 May 77</i>	PROD DATE <i>R. K. Peterson 22 May 77</i>	

QUANTITY VARIATION

ITEM NO.	DWG NO./PART NO.	DESCRIPTION	1160K-AA	1160K-AB											
1	E-UA-BALL-PK-Ø	UNIT ASSY BALL-P (12ØV)	1	-											
2	E-UA-BALL-PL-Ø	UNIT ASSY BALL-P (24ØV)	-	1											
3	A-PL-KD11-K-Ø	KD11-K PROCESSOR	1	1											
4	A-PL-MF11S-KF	MOS MEMORY SYSTEM	1	1											
5	D-UA-BC11A-Ø2-Ø	CABLE ASSY (BC11A)	1	1											
6	D-UA-KY11-P-Ø	CONSOLE (KY11-P) UNIT ASSY	1	1											
7	D-UA-5412245-Ø-Ø	KY11-P CONSOLE FILTER BOARD	1	1											
8	D-UA-BCØ6R-Ø6-Ø	BCØ6R, I/O CABLE	1	1											
9	A-SP-BALL-P-2	BALL-P VOLTAGE CONVERSION PROCEDURE	REF	REF											
10	A-SP-11/6Ø-Ø-2	COMPUTER SPECIFICATION (PDP11/6Ø)	REF	REF											
11	D-MU-MF11S-K-2	MODULE UTILIZATION	REF	REF											
12	D-MU-KD11-K-MU	MODULE UTILIZATION	REF	REF											
13	A-SP-37ØØ272-Ø-Ø	PACKAGING INSTRUCTIONS (BALL-P)	1	1											
14	A-PS-361321Ø-ØØ	LABEL ADHESIVE BACKED ELEC. DATA	1	1											

TITLE COMPUTER ASSY 116ØK	ASSY NO. D-UA-116ØK-Ø-Ø	SIZE <b>A</b>	CODE <b>PL</b>	NUMBER 116ØK-Ø-Ø	REV <b>A</b>	ECO NO. 116ØK-TWØØ1
SHEET 1 OF 1		DIST				

*TW*



