

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION												
				AA	AE	AD	BA	BE	BD	AH	AJ	BH	BJ	AF	BF	
1	1	C-AD-7014035-0-0	7014035-00	FRAME ASSY	1	1	1	1	1	1	1	1	1	1	1	1
2	2		3014043-00	STORAGE MODULE DRIVE 3600RPM,120	1	-	-	1	-	-	1	-	1	-	-	-
3	3		3014043-01	STORAGE MODULE DRIVE 3600RPM,240	-	-	1	-	-	1	-	1	-	1	-	
4	4		3014043-02	STORAGE MODULE DRIVE 3600RPM,100	-	1	-	-	1	-	-	-	-	-	-	
5	5		9006568-00	NUT,HEX EXT TOOTH LCKWSHR5/16-18	2	2	2	2	2	2	2	2	2	2	2	
6	6		9006638-00	WASHER,LOCK INTERNAL STEEL	2	2	2	2	2	2	2	2	2	2	2	
7	7		9008146-00	WASHER,FLAT SST	9	9	9	9	9	9	9	9	9	9	9	
8	8		9007906-00	WASHER,HELICAL SPLIT STEEL	20	20	20	20	20	20	20	20	20	20	20	
9	9	D-IA-7412827-0-0	7412827-03	STRAP GROUND 3FT RP04	1	1	1	1	1	1	1	1	1	1	1	
10	10	C-IA-7013825-0-0	7013825-09	JUMPER ASSY	1	1	1	1	1	1	1	1	1	1	1	
11	11		1214191-00	SLIDE,CHASSIS ASSY16IN W/BRACKE	1	1	1	1	1	1	1	1	1	1	1	
12	12		9006418-01	SCREW,TAP PAN PHIL THD RL 8-	10	10	10	10	10	10	10	10	10	10	10	
13	13	B-MD-7418607-0-0	7418607-00	CLAMP CABLE	6	6	6	12	12	12	6	6	12	12	6	
14	14		ORM03-P	DISK PACK	1	1	1	1	1	1	1	1	1	1	1	
15	15		3617674-00	LABEL,SERIAL & POWER,UNIVERSAL	2	2	2	2	2	2	2	2	2	2	2	
16	16		9006565-00	NUT,HEX EXT TOOTH LCKWSHR 10-32	3	3	3	3	3	3	3	3	3	3	3	
17	17		9009706-00	WASHER,LOCK INTERNAL STEEL	6	6	6	6	6	6	6	6	6	6	6	
18	18	E-UA-BC06S-0-0	BC06S-15	MASS BUS CABLE	1	1	1	2	2	2	1	1	2	2	1	
19	19	A-DC-7416197-0-0	7416197-02	DECAL-UL LISTED EDP	2	2	-	2	2	-	2	-	2	-	-	
20	20		3613211-00	DECAL,CLEAR PREPRINTED CSA 1-1/4	2	2	2	2	2	2	2	2	2	2	2	
21	21	A-SP-3700653-0-0	3700653-01	PKG. DISK DRIVE RM02/RM03	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	REF	
22	22	D-IA-7009491-0-0	7009491-02	POWER SEQUENCE CABLE	1	1	1	1	1	1	1	1	1	1	1	
23	23	E-AD-7014010-0-0	7014010-00	MASS BUSS ADAPTER	1	-	-	-	-	-	1	-	-	-	-	
24	24	E-AD-7014010-0-0	7014010-01	MASS BUSS ADAPTER	-	-	1	-	-	-	-	1	-	-	-	
25	25	E-AD-7014010-0-0	7014010-02	MASS BUSS ADAPTER	-	-	-	1	-	-	-	-	1	-	-	
26	26	E-AD-7014010-0-0	7014010-03	MASS BUSS ADAPTER	-	-	-	-	-	1	-	-	-	1	-	
27	27	C-MD-7418609-0-0	7418609-00	BRACKET, SHIPPING	2	2	2	2	2	2	2	2	2	2	2	
28	28	D-IA-7014034-0-0	7014034-00	SIDE PANEL ASSY	2	2	2	2	2	2	2	2	2	2	2	
29	29	C-IA-7014148-0-0	7014148-00	REAR COVER ASSY	1	1	1	1	1	1	1	1	1	1	1	
30	30	D-IA-7012830-0-0	7012830-02	FRONT DOOR ASSY (DARK GREY)	1	1	1	1	1	1	-	-	-	-	1	

REVISION HISTORY		BASIC PART NO: ORM03		DRN:	B. HALE	DATE: 4-APR-77	D I G I T A L			
ENG!	ECO NUMBER	REV	SECTION A OF A	CHK'D:	D. SCHMIDT	DATE: 4-APR-77	TITLE PARTS LIST			
---	RM03-CX021A	K	SECTION, VARIATION INDEX				RM03 DISK DRIVE			
LC	RM03-CX022	L	[A] AA,AE,AD,BA,BE,BD,							
PR	RM03-CX027	M	AH,AJ,BH,BJ,AF,BF							
WH	RM03-CX028	N	[B]	DES.ENG.:	W. DUNHAM JR.	DATE: 4-APR-77				
RC	RM03-CX029	P	[C]							
PR	RM03-CX032	R	[C]				DOCUMENT NUMBER			
CD	RM03-CX031	S	[D]	RESP.ENG.:	W. DUNHAM JR.	DATE: 4-APR-77	SIZE	CODE	NUMBER	REV
			[E]	MFG.ENG.:	J. D. MILLER	DATE: 4-APR-77	K	PL	RM03-0-DBP	S
			[F]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:	FILE NAME:		EDIT #	
				D-UA-RM03-0-0		#B-DD-RM03-0	Z0906S.PLS		26	

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LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION												
				AA	AE	AD	BA	BE	BD	AH	AJ	BH	BJ	AF	BF	
31	31	9006075-01	SCREW,MACH PAN PHIL 10-	6	6	6	6	6	6	6	6	6	6	6	6	6
32	32	9007786-00	NUT,U-NUT RETAINER .240ID	13	13	13	13	13	13	13	13	13	13	13	13	13
33	33	C-MD-7416904-0-0	7416904-00 BRACKET	1	1	1	1	1	1	1	1	1	1	1	1	1
34	34	C-MD-7420336-0-0	7420336-00 RECEPTACLE BRKT	1	1	1	1	1	1	1	1	1	1	1	1	1
35	35	9009894-00	9009894-00 SCREW,SEMS HEX SLOT 10-	4	4	4	4	4	4	4	4	4	4	4	4	4
36	36	B-MD-7418891-0-0	7418891-00 SPACER, CHASSIS	4	4	4	4	4	4	4	4	4	4	4	4	4
37	37	9006073-03	9006073-03 SCREW,MACH TRUSS PHIL 10-	19	19	19	19	19	19	19	19	19	19	19	19	19
38	38	9007032-00	9007032-00 TIE,CABLE BUNDL.DIA 0-1-3/4"=101	2	2	2	2	2	2	2	2	2	2	2	2	2
39	39	1215911-00	1215911-00 CLAMP, CABLE,NYLON W/ADHESIVE MN	1	1	1	1	1	1	1	1	1	1	1	1	1
40	40	C-IA-7013825-0-0	7013825-10 WIRE JUMPER ASSY	1	1	1	1	1	1	1	1	1	1	1	1	1
41	41	9006231-09	9006231-09 SCREW,MACH HEX PLN 10-	1	1	1	1	1	1	1	1	1	1	1	1	1
42	42	9006041-01	9006041-01 SCREW,MACH PAN PHIL 8-	2	2	2	4	4	4	2	2	4	4	2	4	4
43	43	9007087-00	9007087-00 CLAMP,CABLE,SCREW MTD. 5/8 "	1	1	1	1	1	1	1	1	1	1	1	1	1
44	44	D-IA-7012830-0-0	7012830-03 FRONT DOOR ASSY (MULLEN BLUE)	-	-	-	-	-	-	1	1	1	1	-	-	-
45	45	C-MD-7420177-0-0	7420177-00 FRONT SUPPORT	1	1	1	1	1	1	1	1	1	1	1	1	1
46	46	D-MD-7420178-0-0	7420178-00 REAR SUPPORT	1	1	1	1	1	1	1	1	1	1	1	1	1
47	47	E-AD-7014010-0-0	7014010-04 MASS BUS ADAPTER (100V 50/60HZ S	-	1	-	-	-	-	-	-	-	-	-	1	-
48	48	E-AD-7014010-0-0	7014010-05 MASS BUS ADAPTER (100V 50/60HZ D	-	-	-	-	1	-	-	-	-	-	-	-	1
49	49	3014043-03	3014043-03 STORAGE MODULE DRIVE 3600RPM,100	-	-	-	-	-	-	-	-	-	-	-	1	1
50	50	1212972-02	1212972-02 SPRING,RECEPTACLE 1.04 WDX1.5	1	1	1	1	1	1	1	1	1	1	1	1	1
51	51	3615393-01	3615393-01 LABEL,RUB-ON,RM03	1	1	1	1	1	1	1	1	1	1	1	1	1
52	52	1214314-00	1214314-00 CONN,P+S 02SKT(1X02).100CC JUM	1	1	-	1	1	-	1	-	1	-	-	-	-
53	53	3618307-06	3618307-06 ASSY,04,02	1	1	-	1	1	-	1	-	1	-	-	-	-
54	54	3617880-01	3617880-01 LABEL,NON-COMPLIANT FCC	1	1	1	1	1	1	1	1	1	1	1	1	1
55	55	9007651-00	9007651-00 WASHER,LOCK EXTERNAL STEEL	2	2	2	2	2	2	2	2	2	2	2	2	2
56	56	7014133-00	7014133-00 GROUND WIRE ASSY	1	1	1	1	1	1	1	1	1	1	1	1	1
57	57	9007031-00	9007031-00 TIE,CABLE BUNDL.DIA 0- 3/4"=101	2	2	2	2	2	2	2	2	2	2	2	2	2

- 58 NOTE: -
- 59 NOTE: -
- 60 NOTE: -
- 61 NOTE: -
- 62 NOTE: -
- 63 NOTE: -
- 64 NOTE: -
- 65 NOTE: -

PART NO.	ACCESS
RM03-AA, 120V 60HZ	SINGLE
RM03-AE, 100V 60HZ	SINGLE
RM03-AD, 240V 50HZ	SINGLE
RM03-BA, 120V 60HZ	DUAL
RM03-BE, 100V 60HZ	DUAL
RM03-BD, 240V 50HZ	DUAL

- LEGEND -

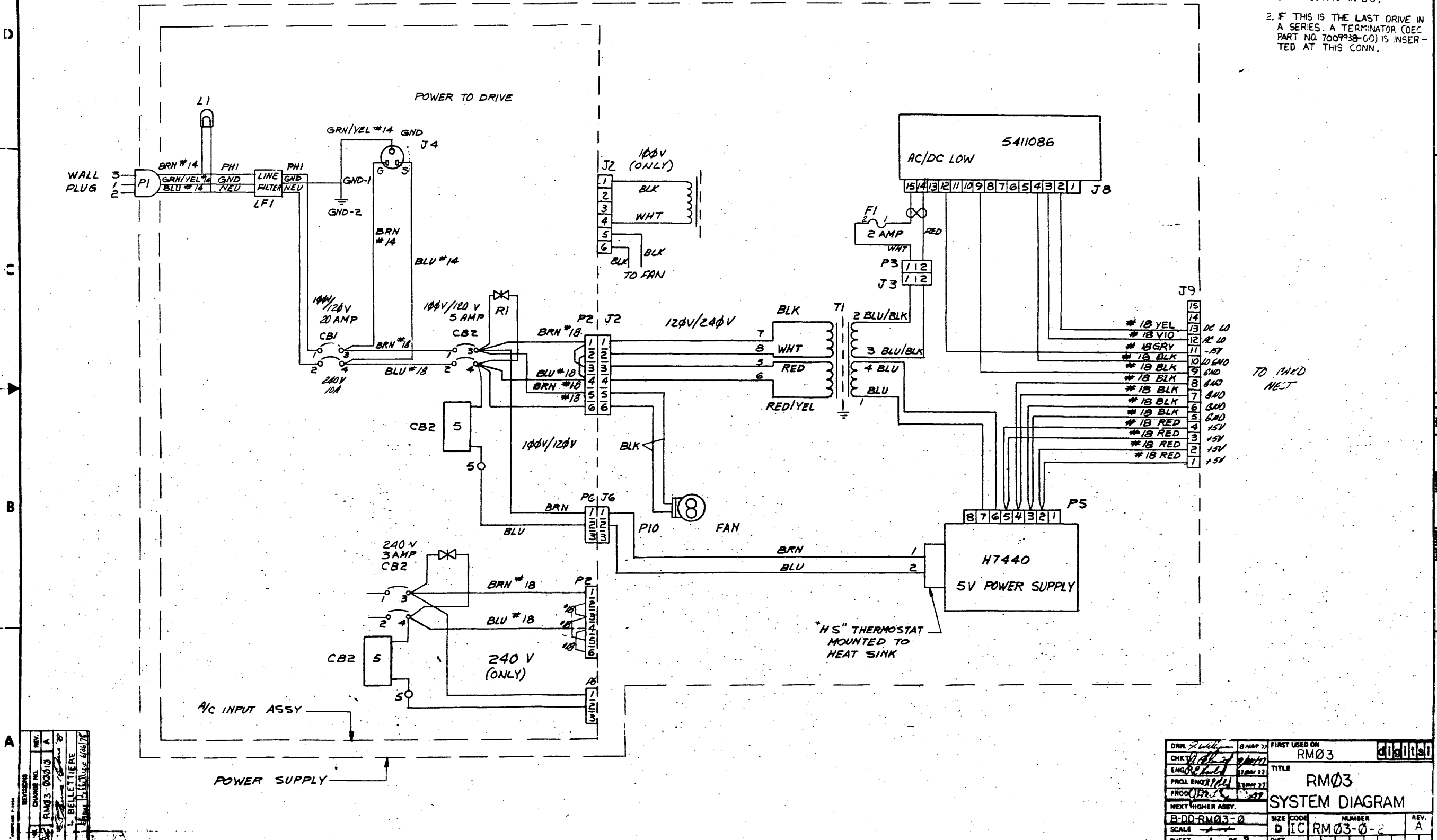
PART NO.	ACCESS
RM03-AH, 120V 60HZ	SINGLE
RM03-AJ, 240V 50HZ	SINGLE
RM03-BH, 120V 60HZ	DUAL
RM03-BJ, 240 50HZ	DUAL
RM03-AF, 100V 50HZ	SINGLE
RM03-BF, 100V 50HZ	DUAL

! D ! I ! G ! I ! T ! A ! L !	! T I T L E !	! S I Z E !	! C O D E !	! D O C U M E N T N U M B E R !	! R E V !
! ! ! ! ! ! ! !	! R M 0 3 D I S K D R I V E !	! ! ! ! ! ! ! !	! ! ! ! ! ! ! !	! ! ! ! ! ! ! !	! ! ! ! ! ! ! !
! ! ! ! ! ! ! !	! ! ! ! ! ! ! !	! ! ! ! ! ! ! !	! ! ! ! ! ! ! !	! ! ! ! ! ! ! !	! ! ! ! ! ! ! !
! ! ! ! ! ! ! !	! ! ! ! ! ! ! !	! ! ! ! ! ! ! !	! ! ! ! ! ! ! !	! ! ! ! ! ! ! !	! ! ! ! ! ! ! !

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NOTES:

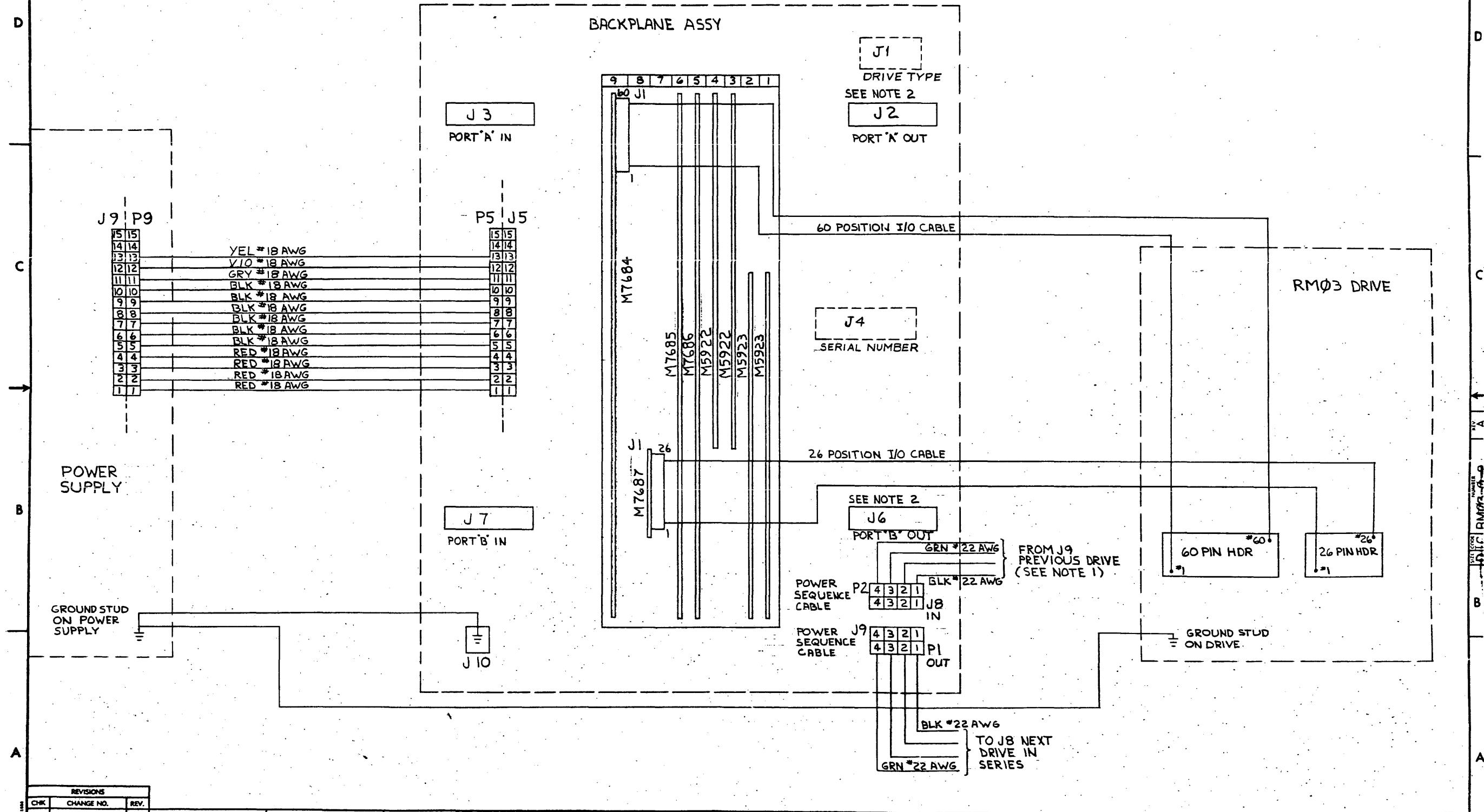
- IF THIS IS THE FIRST DRIVE IN A SERIES, INSTALL JUMPER: DEC # 7009490 IN J8.
- IF THIS IS THE LAST DRIVE IN A SERIES, A TERMINATOR (DEC PART NO. 7009938-00) IS INSERTED AT THIS CONN.



REV.	A
CHANGE NO.	1
DATE	11/15/77
BY	W. BELLETIERE
CHKD.	W. BELLETIERE
ENGR.	W. BELLETIERE
PROJ. ENGR.	W. BELLETIERE
PROD. ENGR.	W. BELLETIERE

DRN.	W. BELLETIERE	DATE	11/15/77	FIRST USED ON	RM03
CHKD.	W. BELLETIERE	DATE	11/15/77	TITLE	RM03 SYSTEM DIAGRAM
ENGR.	W. BELLETIERE	DATE	11/15/77	SCALE	D I C RM03-0-2
PROJ. ENGR.	W. BELLETIERE	DATE	11/15/77	SHEET	1 OF 2
PROD. ENGR.	W. BELLETIERE	DATE	11/15/77	DIST.	

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J9 P9		P5 J5
15 15		15 15
14 14		14 14
13 13	YEL #18 AWG	13 13
12 12	VIO #18 AWG	12 12
11 11	GRY #18 AWG	11 11
10 10	BLK #18 AWG	10 10
9 9	BLK #18 AWG	9 9
8 8	BLK #18 AWG	8 8
7 7	BLK #18 AWG	7 7
6 6	BLK #18 AWG	6 6
5 5	BLK #18 AWG	5 5
4 4	RED #18 AWG	4 4
3 3	RED #18 AWG	3 3
2 2	RED #18 AWG	2 2
1 1	RED #18 AWG	1 1

REVISIONS		
CHK	CHANGE NO.	REV.

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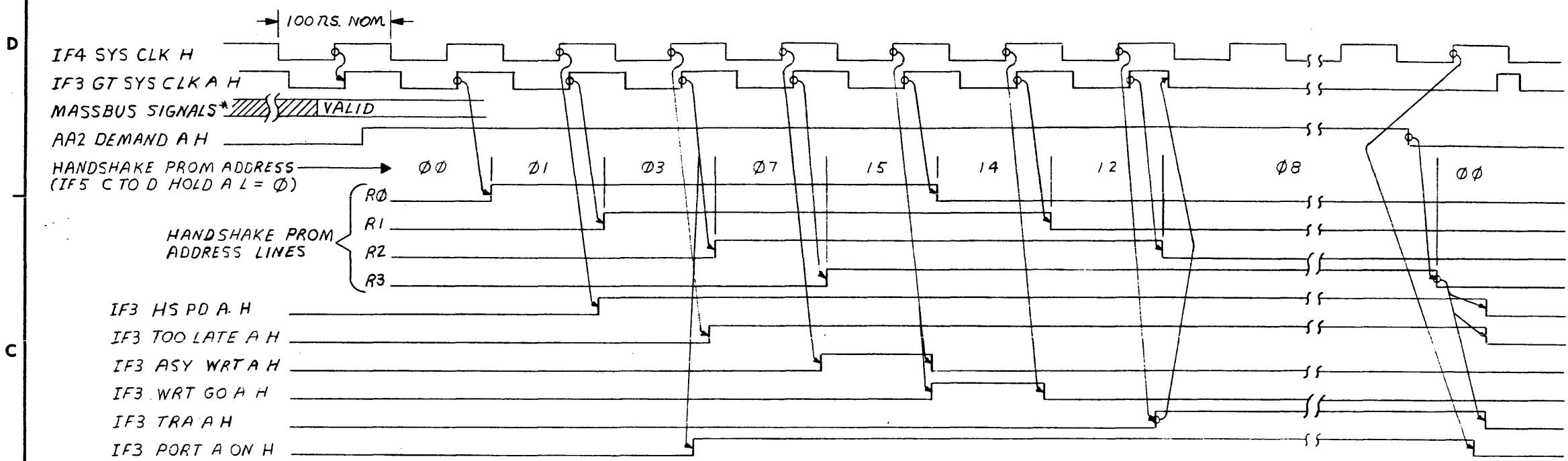
- 1 INDEX
- 2 HANDSHAKE TIMING
- 3 TIMING FOR ALL COMMANDS (COMMAND SEQUENCER), (SH 1 OF 3)
- 4 TIMING FOR ALL COMMANDS (COMMAND SEQUENCER), (SH 2 OF 3)
- 5 TIMING FOR ALL COMMANDS (COMMAND SEQUENCER/DATA), (SH 3 OF 3)
- 6 START OF DATA COMMAND ON SECTOR X+1 FOLLOWING DATA COMMAND ON SECTOR X
- 7 BASIC DATA TIMING (CLOCK GENERATION)
- 8 DATA TIMING FOR WRITE HEADER AND DATA (FORMAT)
- 9 READ HEADER AND DATA AND READ DATA TIMING.
- 10 TIMING FOR WRITE DATA OPERATION
- 11 TIMING FOR ECC DURING READ
- 12 TIMING FOR ECC CORRECTION

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DRN. RPA	1/27/78	FIRST USED ON	RM03	digital
CHK'D	EC	7/19/77	TITLE	INTERFACE
ENGR.	Keefe	4/5/78	TITLE	TIMING DIAGRAM
PROJ. ENGR.	H. Williams	4/5/78	SIZE	D TD
PROD. ENGR.	Williams	4/5/78	NUMBER	RM03-0-0
NEXT HIGHER ASSY.			REV.	A
SCALE			DIST.	
SHEET 1	OF 12			

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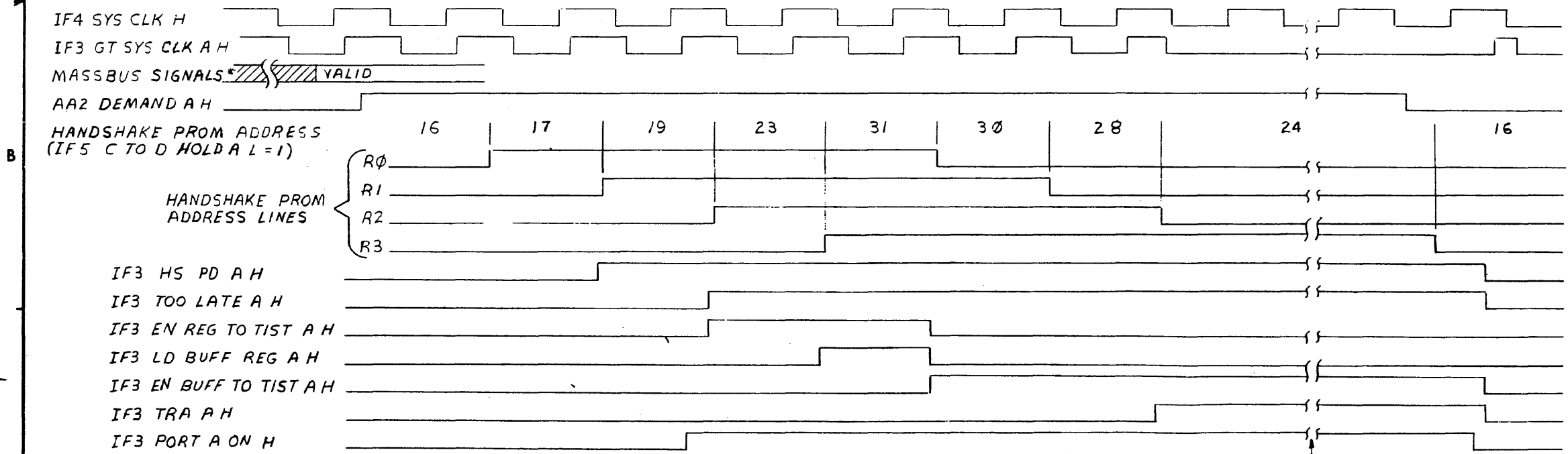


PORT A HANDSHAKE TIMING FOR WRITING RM03 REGISTERS

HANDSHAKE FROM ADDRESS (DECIMAL)

IF3 HS PD A H	00	01	03	07	15	14	12	08	00
IF3 TOO LATE A H	00	01	03	07	15	14	12	08	00
IF3 TRA A H	00	01	03	07	15	14	12	08	00
IF3 EN BUFF TO TIST A H	00	01	03	07	15	14	12	08	00
IF3 LD BUFF REG A H	00	01	03	07	15	14	12	08	00
IF3 EN REG TO TIST A H	00	01	03	07	15	14	12	08	00
IF3 WRT GO A H	00	01	03	07	15	14	12	08	00
IF3 ASY WRT A H	00	01	03	07	15	14	12	08	00

HANDSHAKE FROM MAP FOR WRITING A REGISTER



PORT A HANDSHAKE TIMING FOR READING RM03 REGISTERS

16	10	11	00	01	00
17	00	11	00	00	00
18	10	11	00	00	10
19	01	11	00	10	10
20	10	11	00	01	00
21	10	11	00	01	00
22	10	11	00	01	00
23	01	11	10	10	00
24	10	11	00	01	00
25	10	11	00	01	00
26	10	11	00	01	00
27	10	11	00	01	00
28	01	00	00	00	00
29	10	11	00	01	00
30	01	10	00	00	00
31	01	10	00	00	00

HANDSHAKE FROM MAP FOR READING A REGISTER

- NOTES:
1. TIMING IS SHOWN FOR PORT A. PORT B TIMING IS IDENTICAL.
 2. ALL PROM ADDRESSES NOT SHOWN ABOVE ARE UNUSED.

HANDSHAKE TIMING SHEET 1 of 1

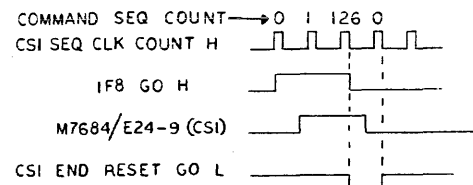
*MASSBUS SIGNALS REPRESENTED ARE AA1 ACONT 00-15, AA2 C TO D A H, AA2 DRY ADR 1H-2H-4H, AND AA2 REG SEL 1H-2H-4H-8H-16H.

TIME DURING WHICH CONTROLLER SEES ASSERTION OF TRANSFER (IF3 TRA A H) AND NEGATES DEMAND (AA2 DEMAND A H).

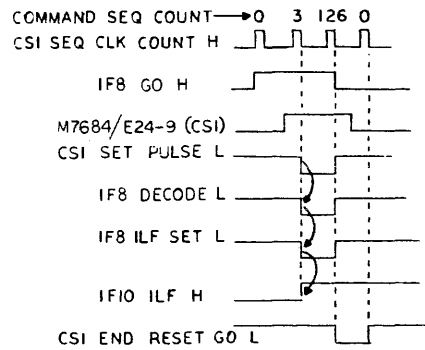
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
INTERFACE TIMING DIAGRAM	DTD RM03-0-0	2	A
SCALE	SHEET	OF	DIST.
1:1	2	12	

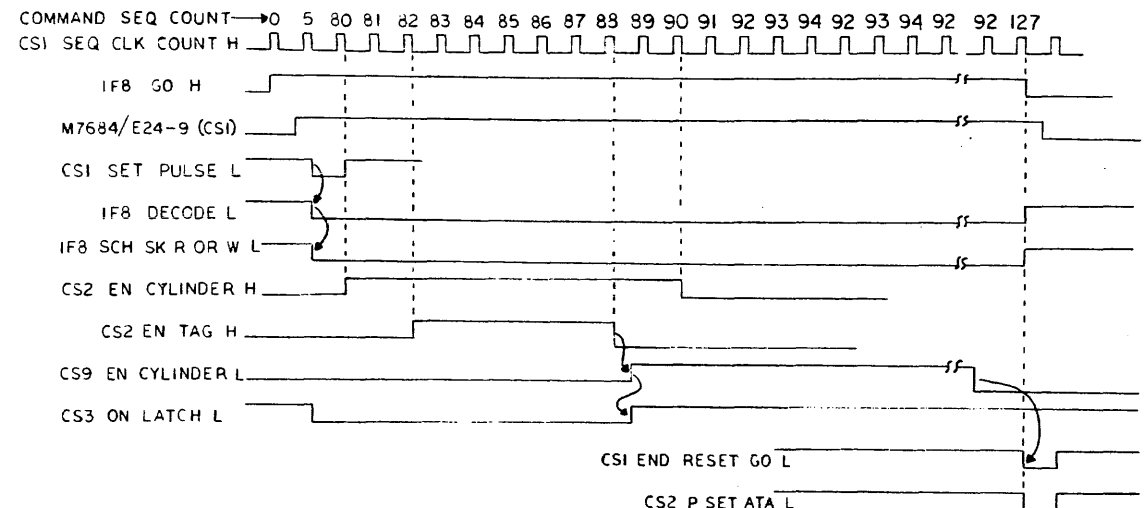
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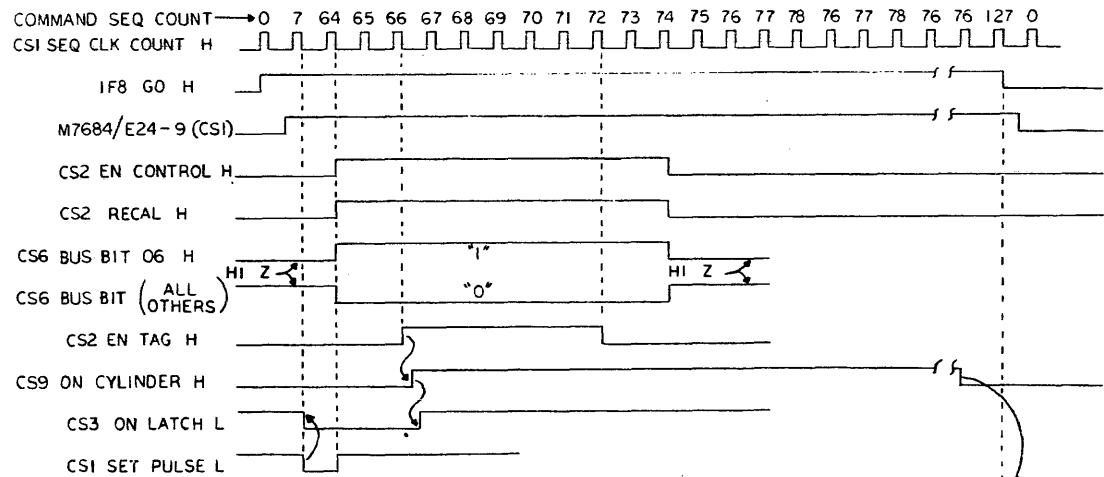
NOOP (01₈)



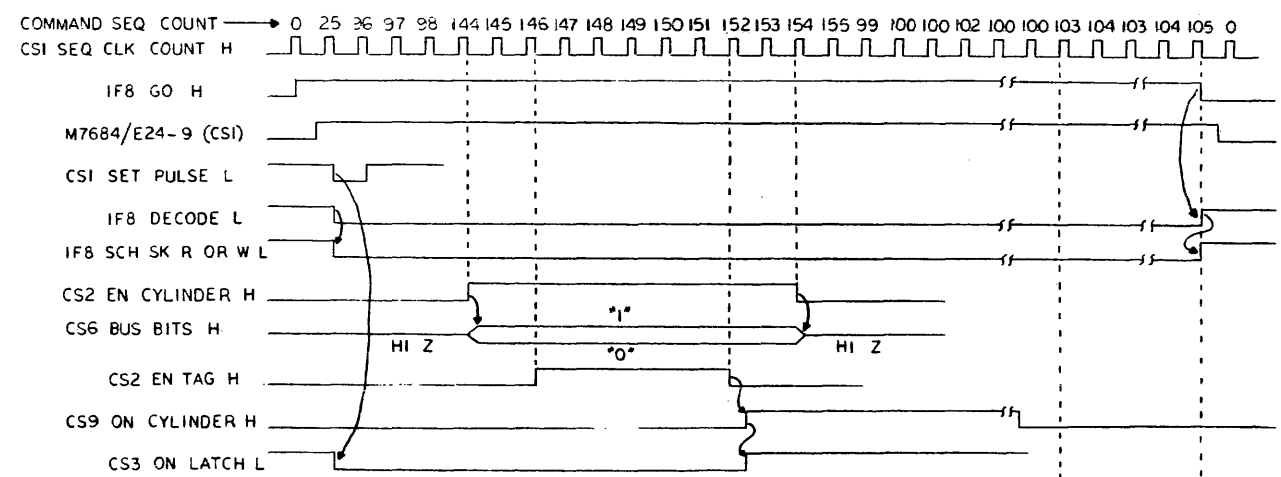
ILLEGAL (03₈)



SEEK (05₈)



RECALIBRATE (07₈)

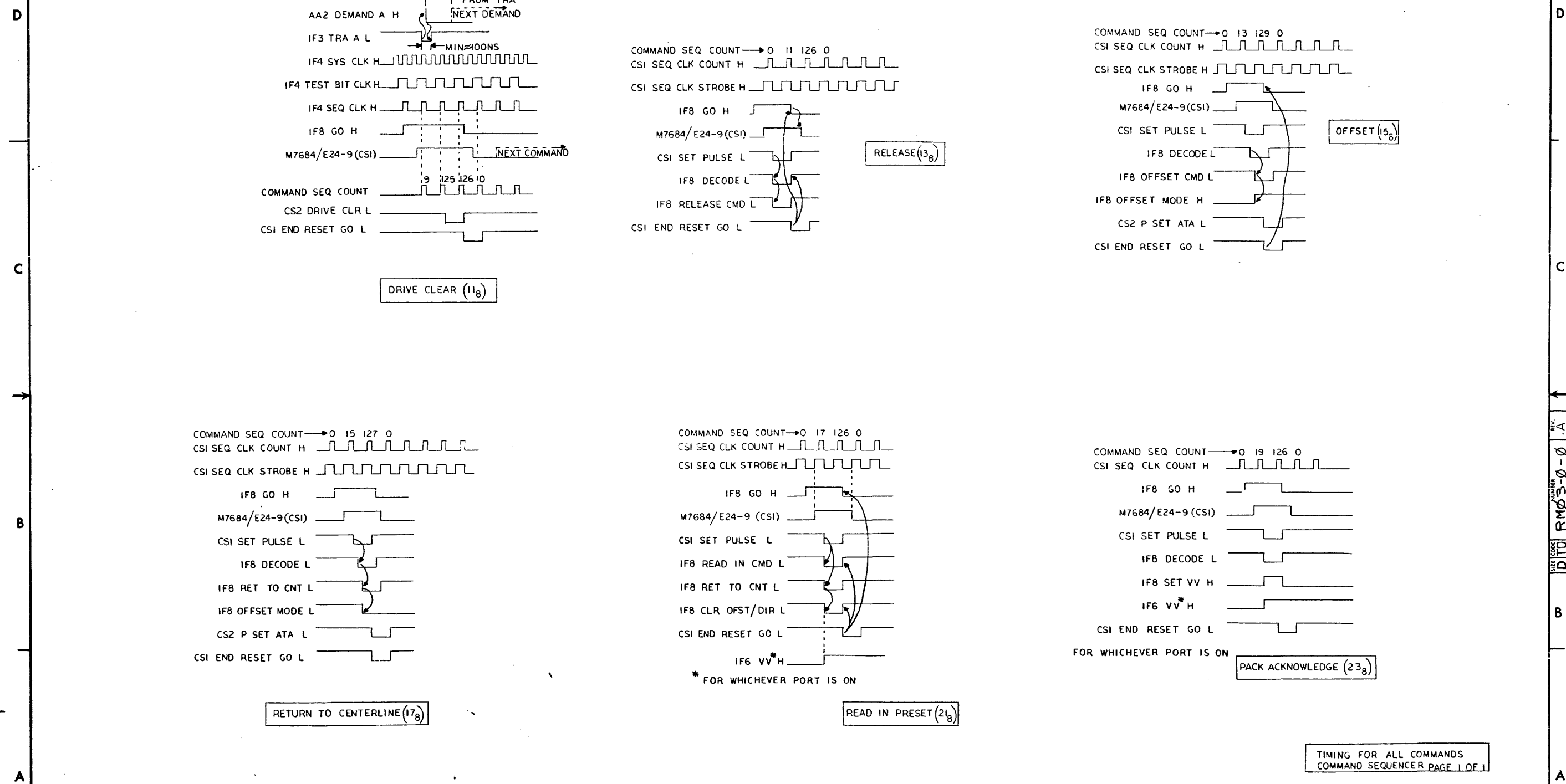


SEARCH (31₈)

TIMING FOR ALL COMMANDS
COMMAND SEQUENCER PAGE 1 OF 1

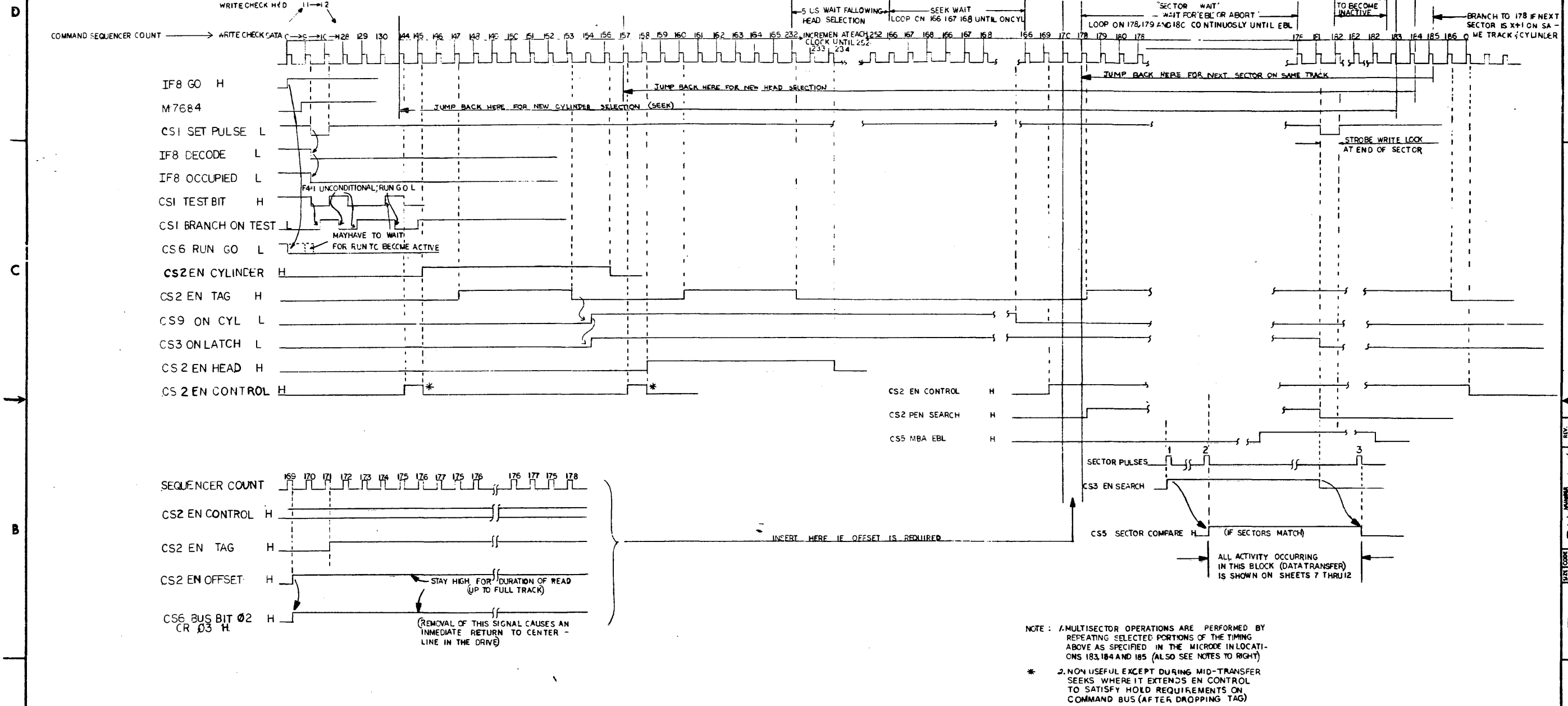
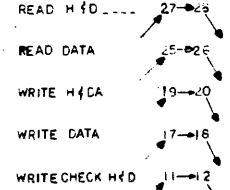
REVISIONS		
CHK	CHANGE NO.	REV.

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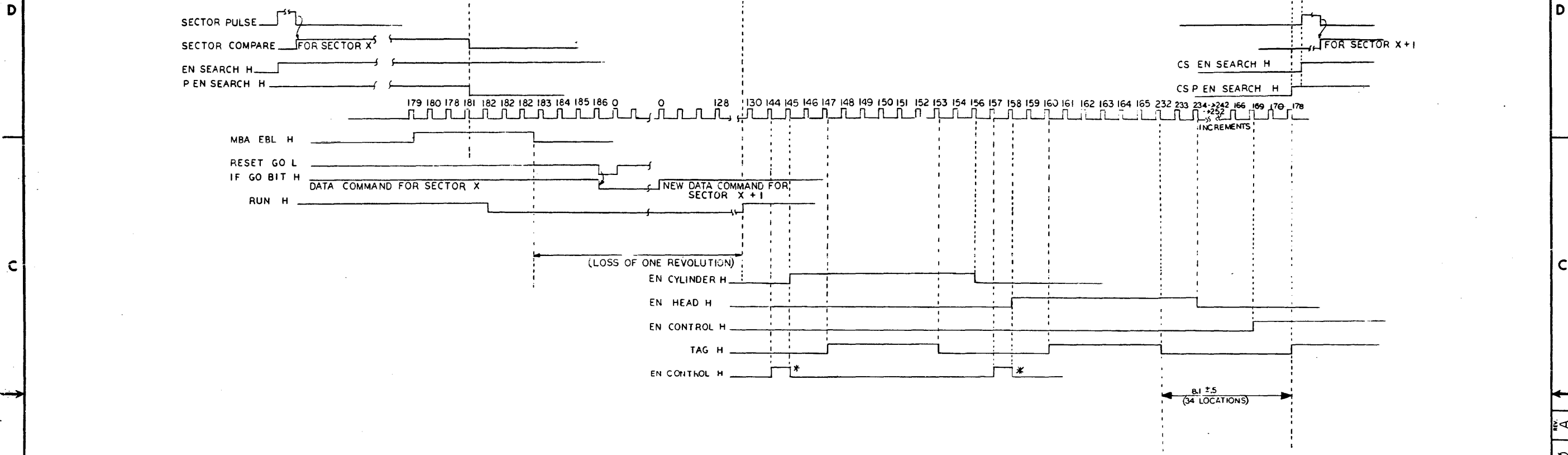


TIMING FOR ALL COMMANDS (COMMAND SEQUENCER/DATA) SHEET 3 OF 3

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SECTION	NUMBER	REV.
INTERFACE TIMING DIAGRAMS	D TD	RMØ3-Ø-Ø	A
SCALE	SHEET	OF	DIST.
	5	12	

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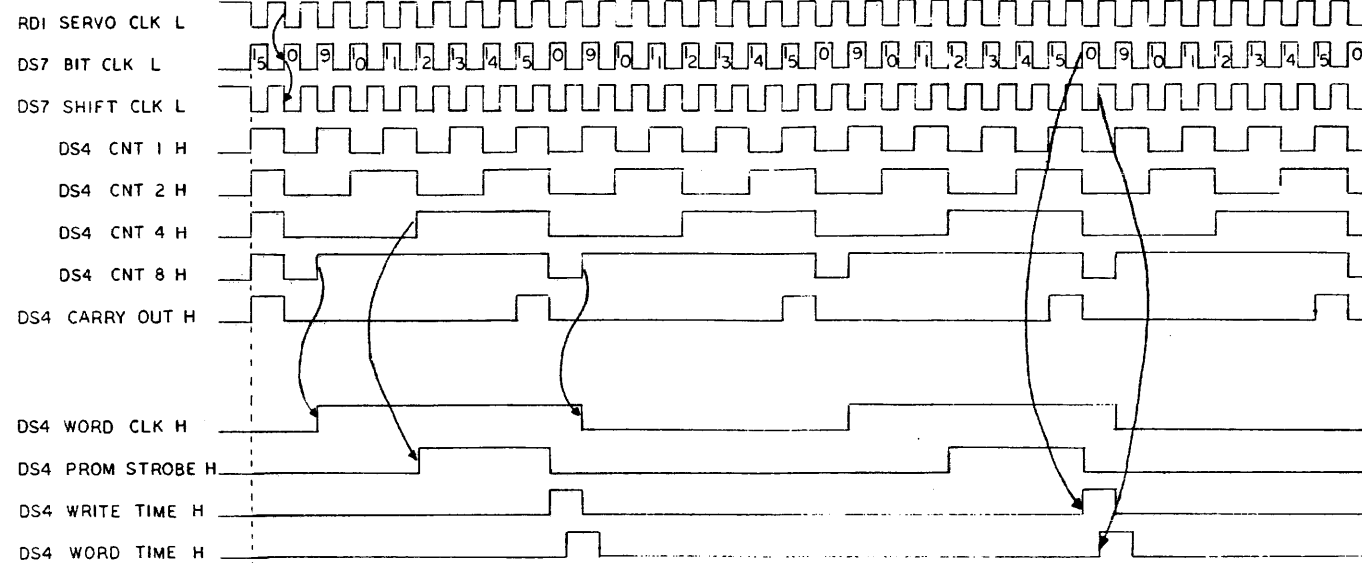
NOTES:
* NON USEFUL EXCEPT DURING MID-TRANSFER SEEKS WHERE IT EXTENDS EN CONTROL TO SATISFY HOLD REQUIREMENTS ON COMMAND BUS (AFTER DROPPING TAG)

TIMING FOR START OF DATA COMMAND ON SECTOR X+1 IMMEDIATELY FOLLOWING DATA COMMAND ON SECTOR X AND OFFSET TIMING
PAGE 1 OF 1

REVISIONS		
CHK	CHANGE NO.	REV.

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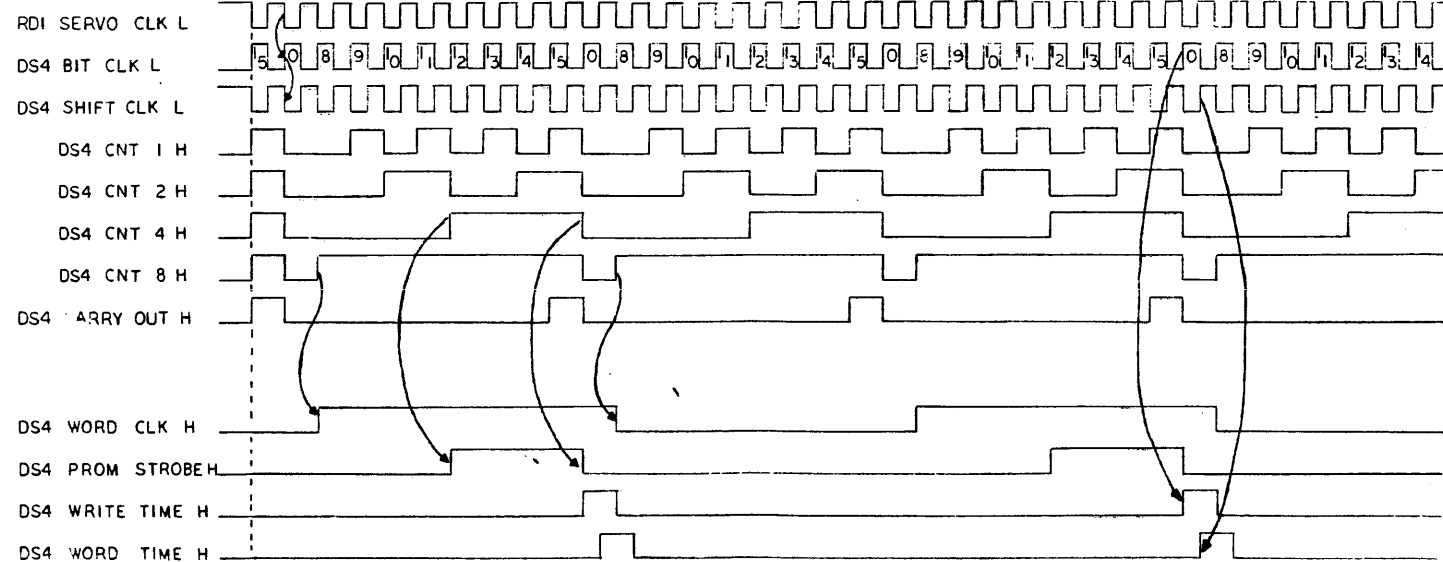
16 BIT MODE



NOTE

1. THESE TIMING DIAGRAMS DESCRIBE THE BASIC DATA TIMING GENERATED ON THE M7685 MODULE (SHEET DS4).
2. THE NUMBER ENCLOSED UNDER THE LEADING EDGE OF THE SIGNAL DS7 BIT CLOCK L (5) INDICATES THE COUNT VALUE OF E6 PRODUCED BY THE LEADING EDGE OF THAT PULSE.

18 BIT MODE

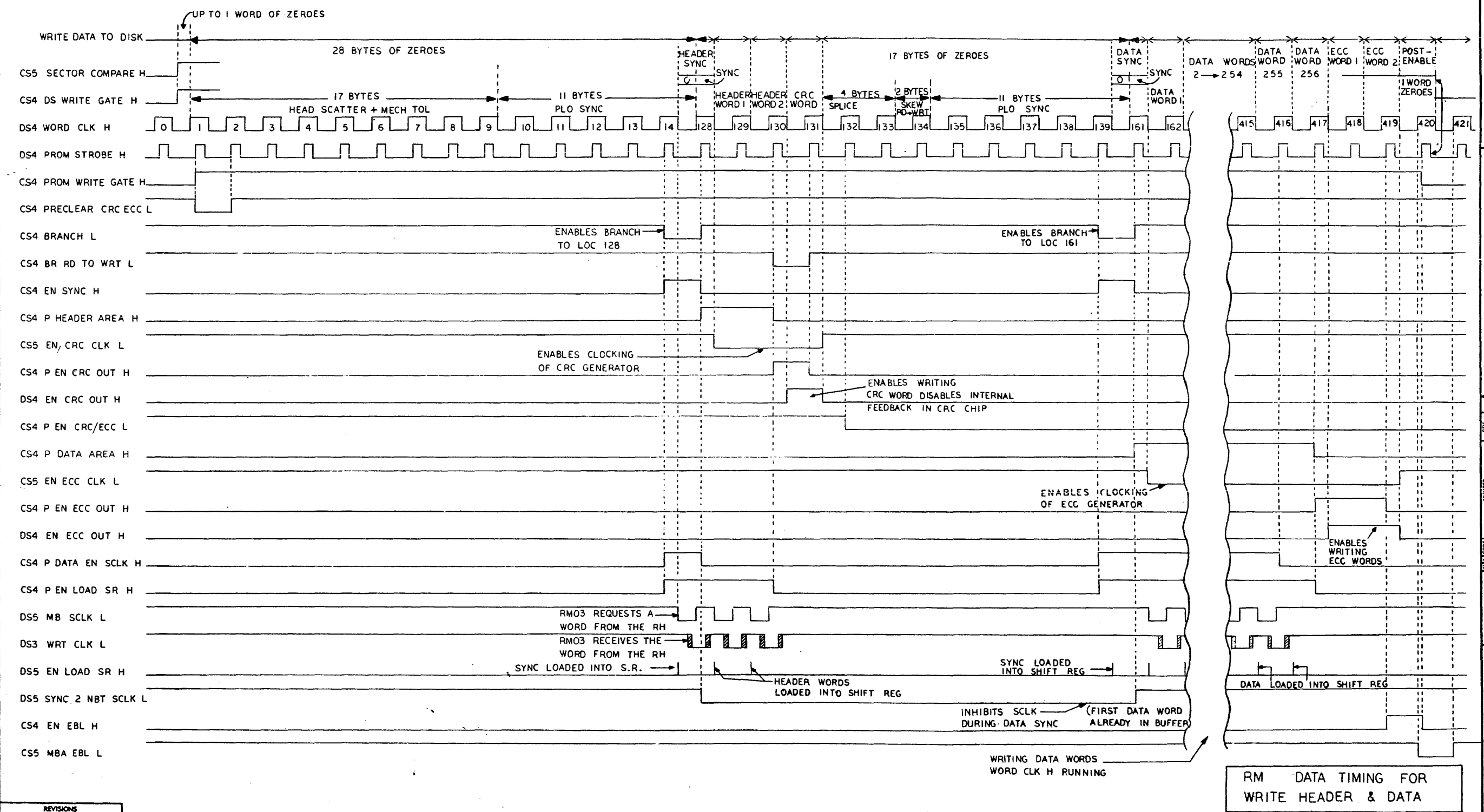


BASIC DATA TIMING
(CLOCK GENERATION) PAGE 1 OF 1

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	INTERFACE TIMING DIAGRAMS	SIZE CODE	DTD	NUMBER	RM03-0-0	REV.	A
SCALE		SHEET	7	OF	12	DIST.	

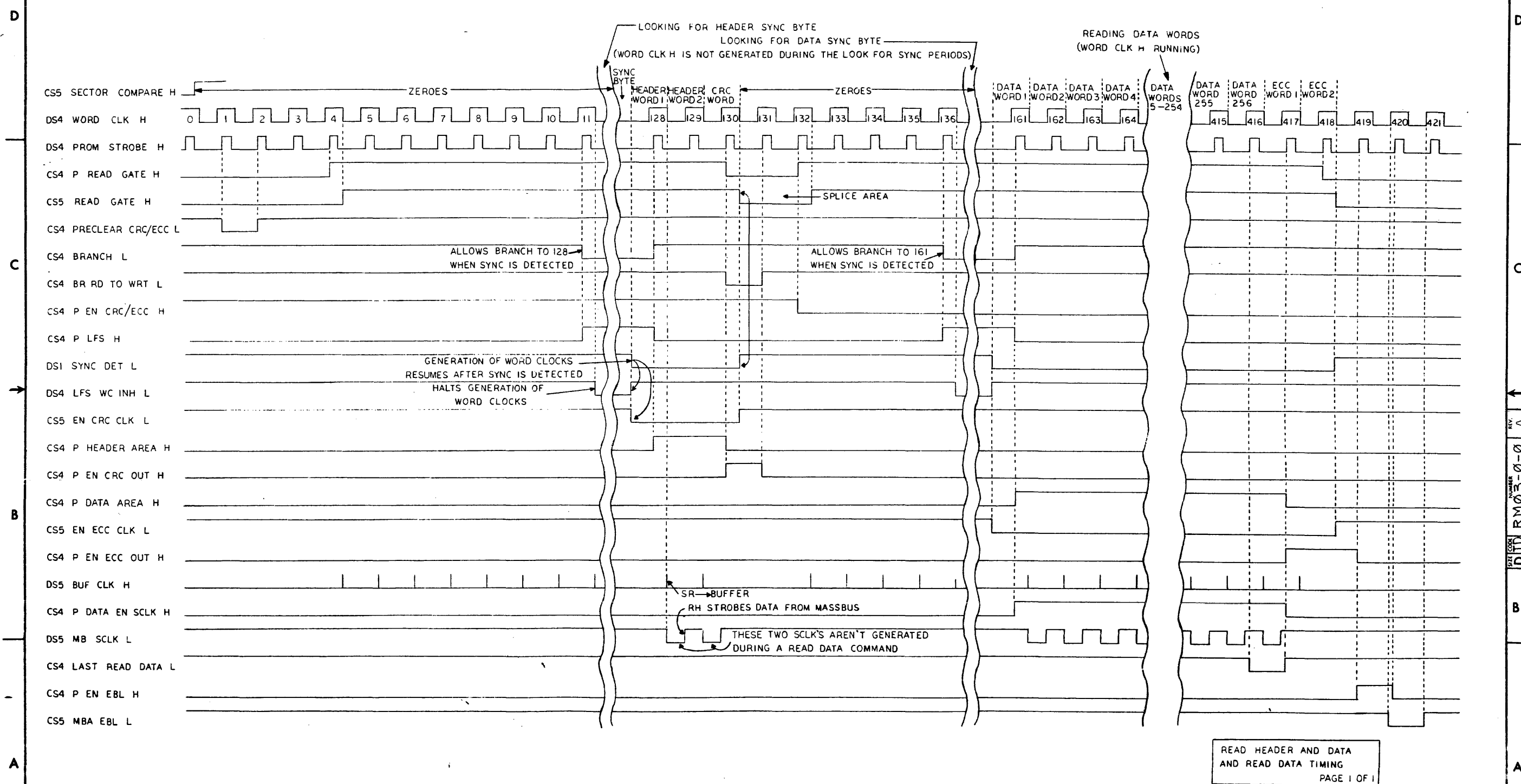
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RM DATA TIMING FOR WRITE HEADER & DATA

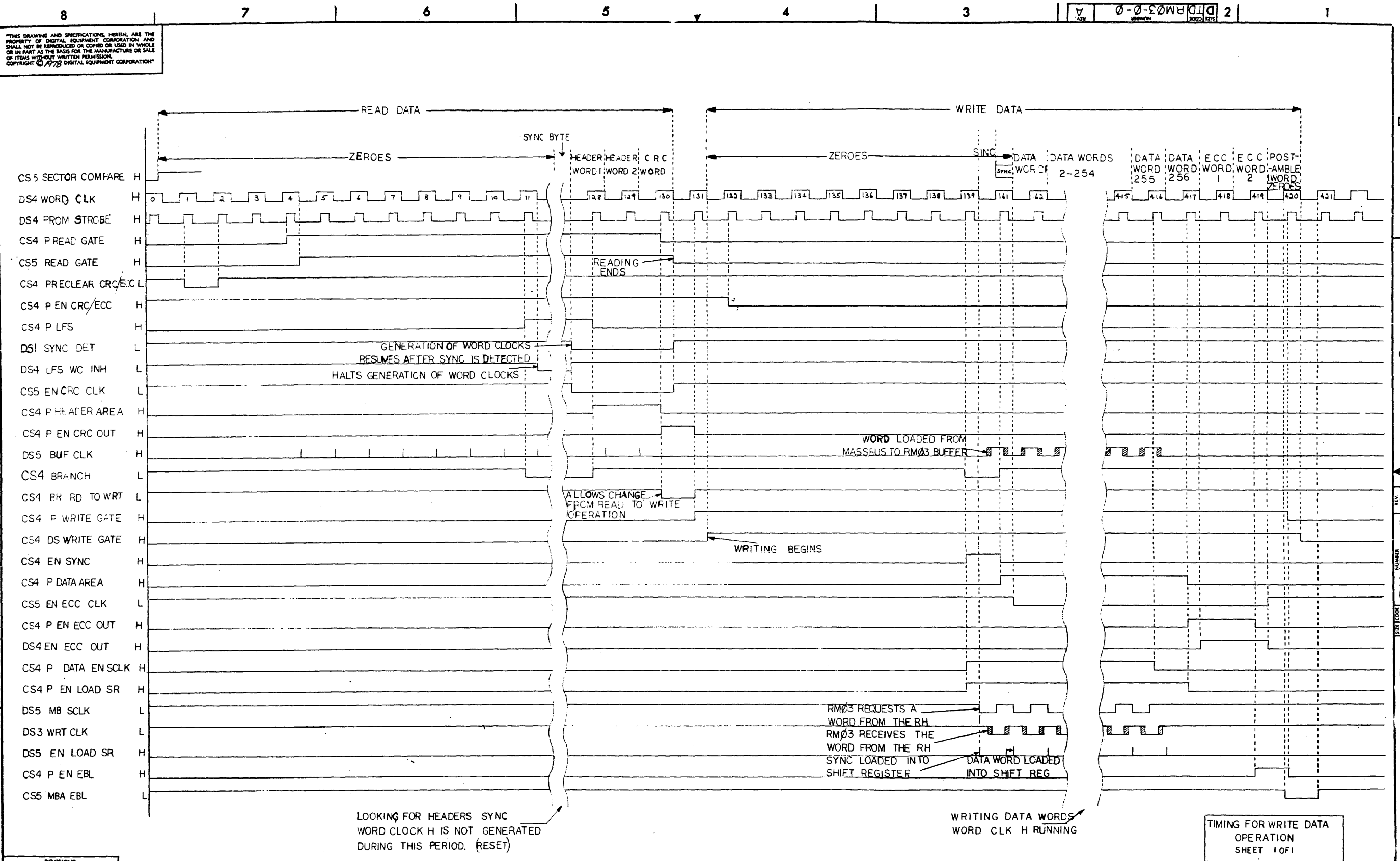
REVISIONS		
CHK	CHANGE NO.	REV.

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READ HEADER AND DATA AND READ DATA TIMING
PAGE 1 OF 1

REVISIONS		
CHK	CHANGE NO.	REV.

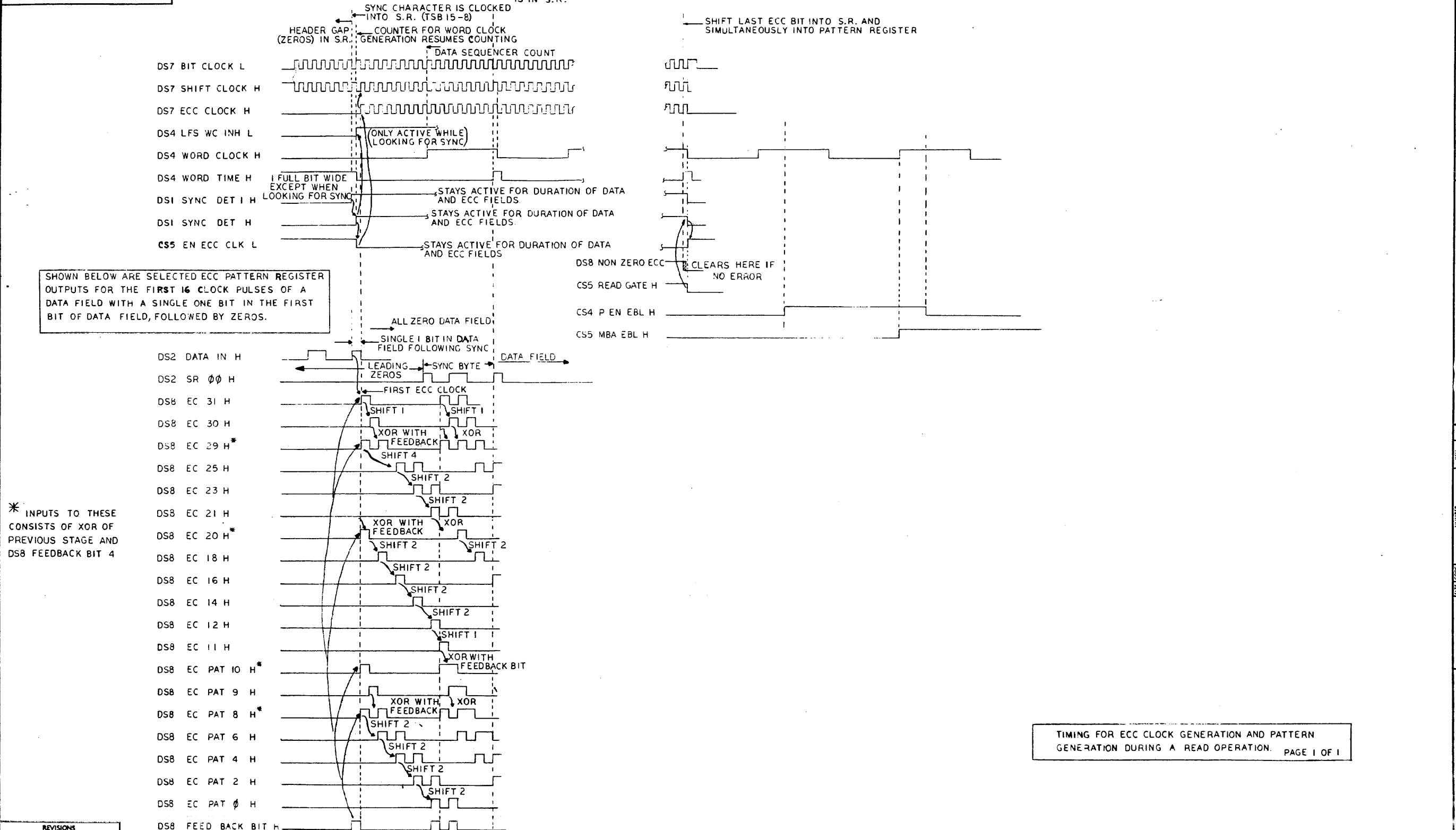


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	INTERFACE TIMING DIAGRAMS	SIZE CODE	DTD	NUMBER	RM03-0-0	REV.	A
SCALE	SHEET 10	OF 12	DIST.				

REV. A
DTD RM03-0-0

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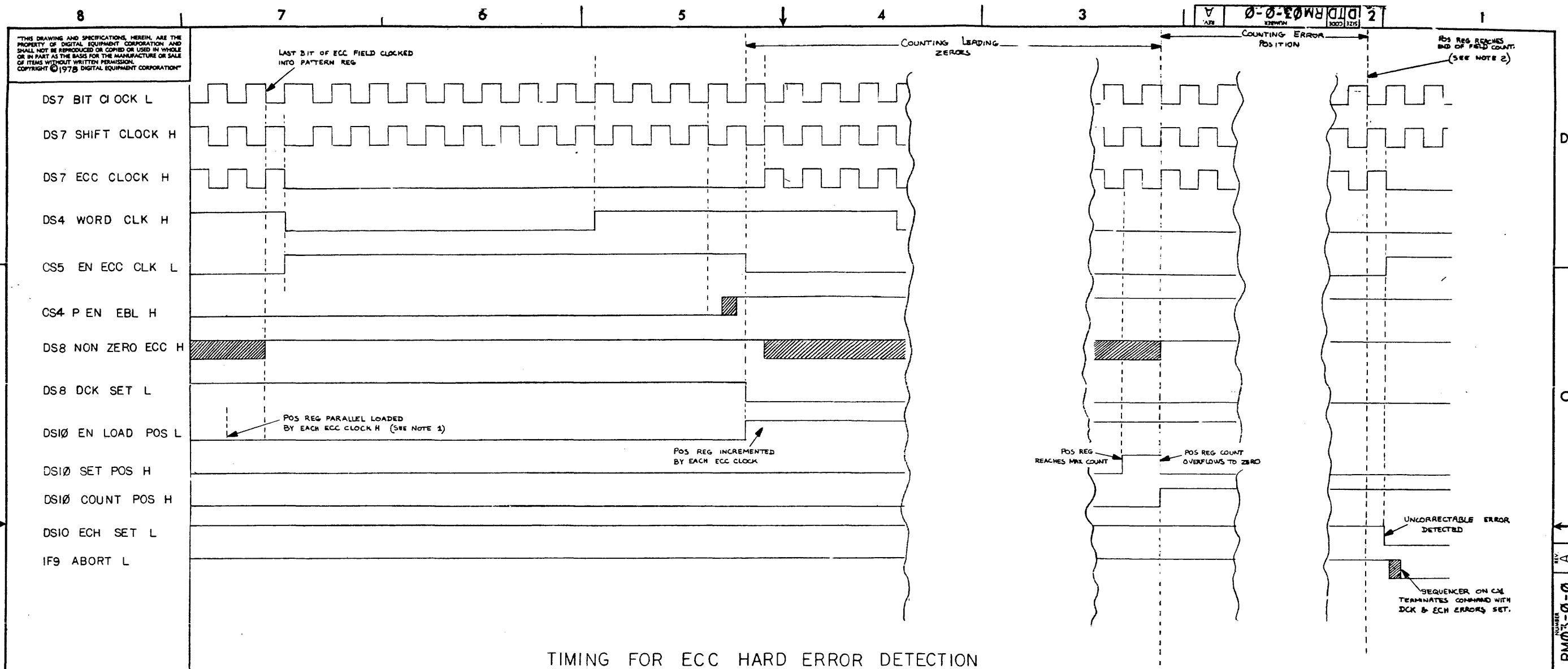
SHOWN BELOW ARE SELECTED ECC PATTERN REGISTER OUTPUTS FOR THE FIRST 16 CLOCK PULSES OF A DATA FIELD WITH A SINGLE ONE BIT IN THE FIRST BIT OF DATA FIELD, FOLLOWED BY ZEROS.

* INPUTS TO THESE CONSISTS OF XOR OF PREVIOUS STAGE AND DS8 FEEDBACK BIT 4

TIMING FOR ECC CLOCK GENERATION AND PATTERN GENERATION DURING A READ OPERATION. PAGE 1 OF 1

REVISIONS		
CHK	CHANGE NO.	REV.

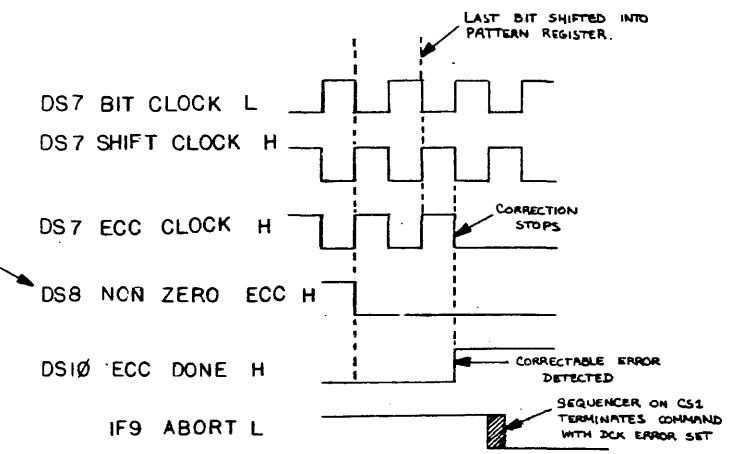
REV. A DTD RM03-0-0



TIMING FOR ECC HARD ERROR DETECTION

- NOTES: (1) THE POSITION REGISTER IS PARALLEL RELOADED TO:
- (a) 64066₍₈₎ FOR 16 BIT MODE.
 - (b) 65066₍₈₎ FOR 18 BIT MODE.
- (2) THE END OF FIELD COUNT FOR THE POSITION REGISTER IS:
- (a) 10040₍₈₎ FOR 16 BIT MODE.
 - (b) 11040₍₈₎ FOR 18 BIT MODE.

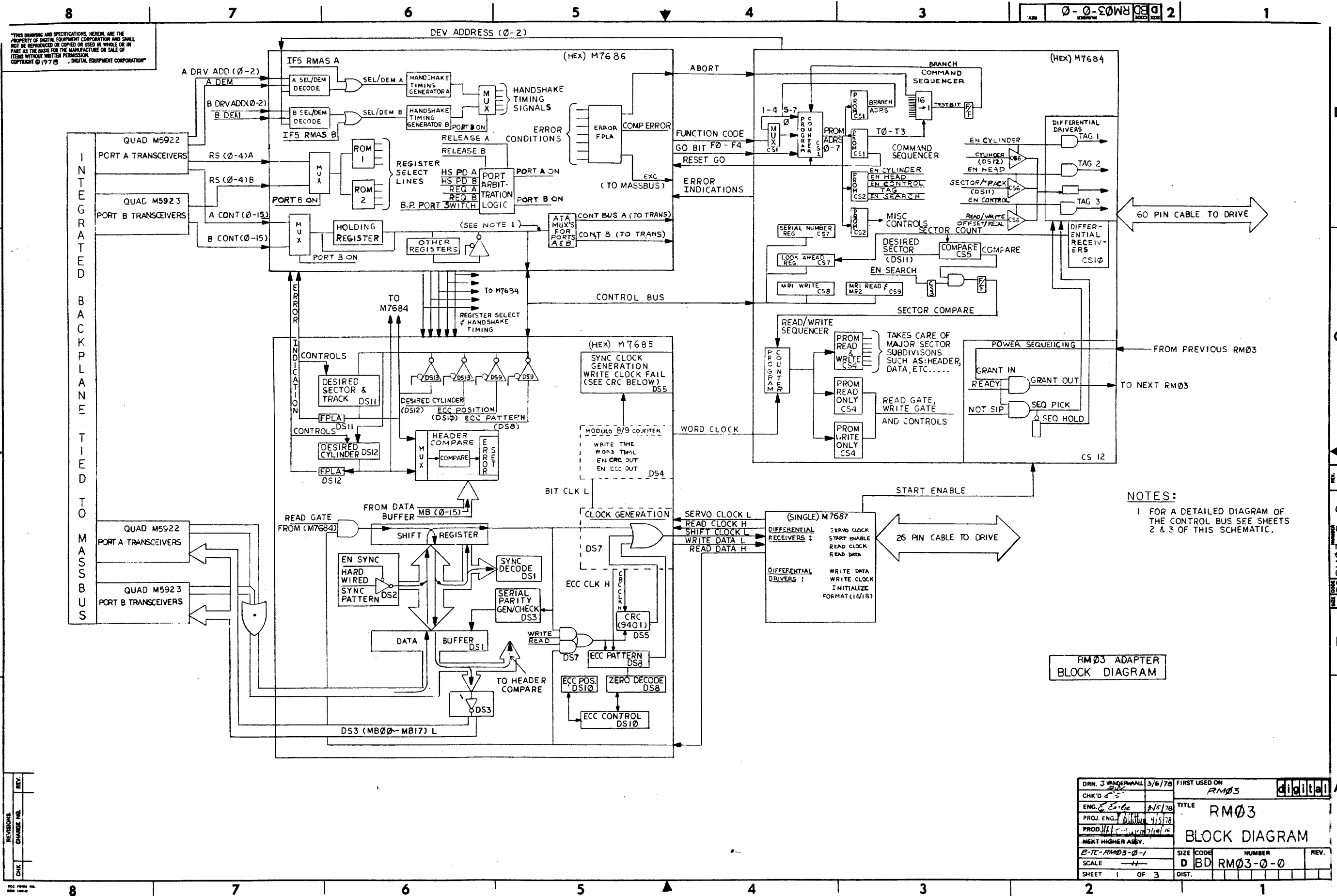
ASSUMING A ZERO ECC CORRECTABLE ERROR RESULT IS DETECTED DURING THE CORRECTION PERIOD TERMINATION IS AS SHOWN HERE.



ECC CORRECTION
SHEET 1 OF 1

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	INTERFACE TIMING DIAGRAM	SIZE CODE	D TD	NUMBER	RM03-0-0	REV.	A
SCALE	SHEET 12 OF 12	DIST.					



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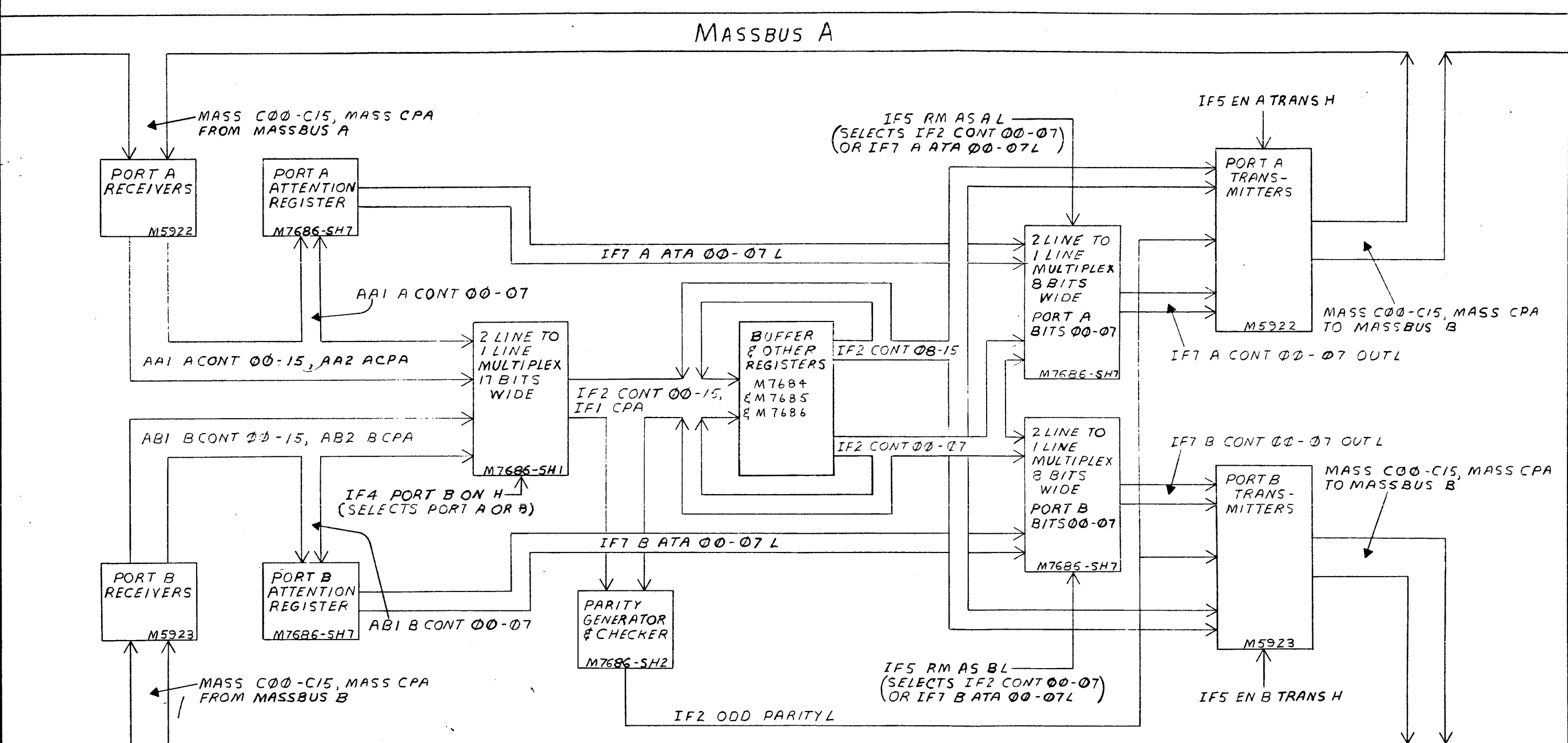
NOTES:
1 FOR A DETAILED DIAGRAM OF THE CONTROL BUS SEE SHEETS 2 & 3 OF THIS SCHEMATIC.

RM03 ADAPTER BLOCK DIAGRAM

DRN. J. VANDERWALL 3/6/78	FIRST USED ON	RM03
CHK'D [initials]	TITLE	RM03
ENG. [initials] 4/15/78	BLOCK DIAGRAM	
PROJ. ENG. [initials] 4/15/78	SIZE CODE	D BD
PROD. [initials] 4/15/78	NUMBER	RM03-0-0
NEXT HIGHER ASSY.	SCALE	1 OF 3
B-7C-RM03-0-1	SHEET	1 OF 3
REV. 1		

REV.	
CHANGE NO.	
CHK	

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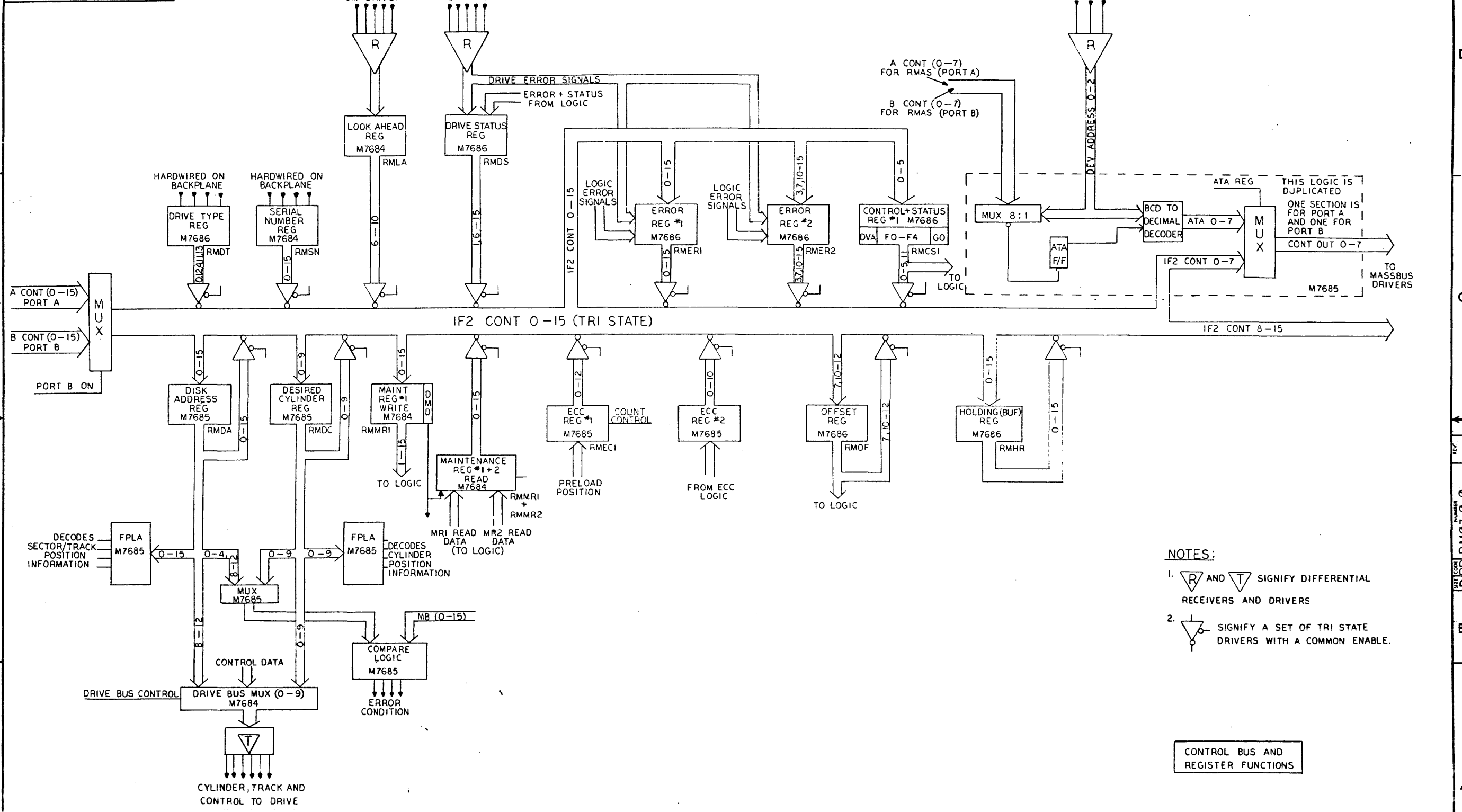


MASSBUS B

DUAL PORT CONTROL BUS PATH

REVISIONS			TITLE		SIZE CODE		NUMBER		REV.
CHK	CHANGE NO.	REV.	RM03 BLOCK DIAGRAM		D BD		RM03-0-0		
			SCALE	---	SHEET	2	OF	3	DIST.

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- NOTES:**
1. AND SIGNIFY DIFFERENTIAL RECEIVERS AND DRIVERS
 2. SIGNIFY A SET OF TRI STATE DRIVERS WITH A COMMON ENABLE.

CONTROL BUS AND REGISTER FUNCTIONS

REVISIONS		
CHK	CHANGE NO.	REV.

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REV. A
 SIZE CODE D
 RM03-0-0
 2000 SIZE 2

INDEX

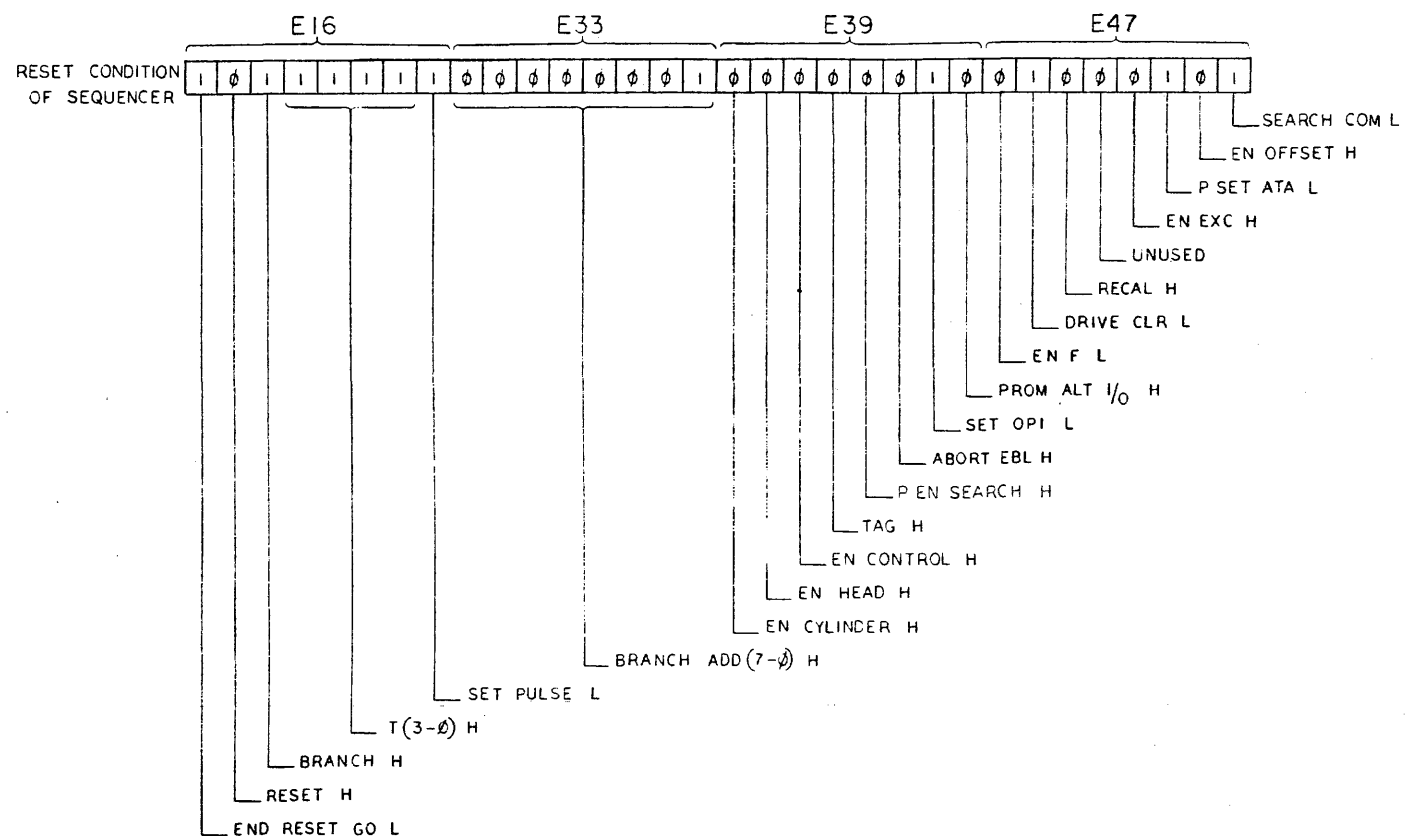
- PAGE 1. INDEX
- 2. CONTROL SEQUENCER (RESET CONDITION AND BRANCH CODES)
- 3. CONTROL SEQUENCER FLOW (PAGE 1-START)
- 4. CONTROL SEQUENCER FLOW (PAGE 2-ERROR START)
- 5. CONTROL SEQUENCER FLOW (PAGE 3-RECALIBRATE-SEEK-DRIVE CLEAR)
- 6. CONTROL SEQUENCER FLOW (PAGE 4-SEARCH)
- 7. CONTROL SEQUENCER FLOW (PAGE 5-DATA COMMANDS)
- 8. CONTROL SEQUENCER FLOW (PAGE 6-DATA OFFSET-DATA OPI-ABORT, EBL)
- 9. CONTROL SEQUENCER ROM LISTINGS (PAGE 1)
- 10. CONTROL SEQUENCER ROM LISTINGS (PAGE 2)
- 11. DATA SEQUENCER ROM LISTINGS

INDEX
 PAGE 1 OF 1

REV. A	REV. A
CHANGE NO.	1
CHK	L. BELLETIERE
DRN	L. BELLETIERE
DATE	10-31-78

DRN. Vincent 4/11/78	FIRST USED ON RM03	digital
CHK'D E.S. 4/11/78	TITLE RM03 FLOW DIAGRAMS	
ENG. Edge 4/12/78		
PROJ. ENG. [Signature]		
PROD. L. [Signature]		
NEXT HIGHER ASSY.		
B-70-RM03-0-01	SIZE CODE D	NUMBER RM03-0-0
SCALE		REV. A
SHEET 1 OF 13	DIST.	

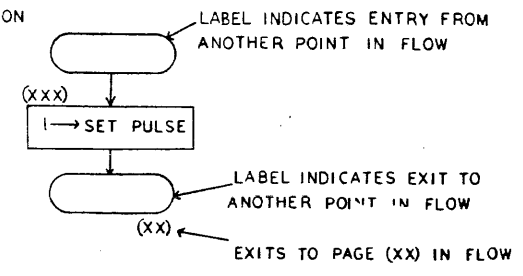
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TEST CODE OCTAL	BRANCH CONDITION
00	OCCUPIED L
01	ON CYLINDER L
02	ABORT L
03	UNIT READY L
04	NOT USED
05	F 4 L
06	ON LATCH L
07	RUN AND GO L
10	MBA EBL L
11	SECTOR COMPARE L
12	OFFSET MODE L
13	DATA COMMAND L
14	SEEK REQUIRED L
15	NEW TRACK REQUIRED L
16	CONTINUE L
17	UNCONDITIONAL BRANCH

NOTE:

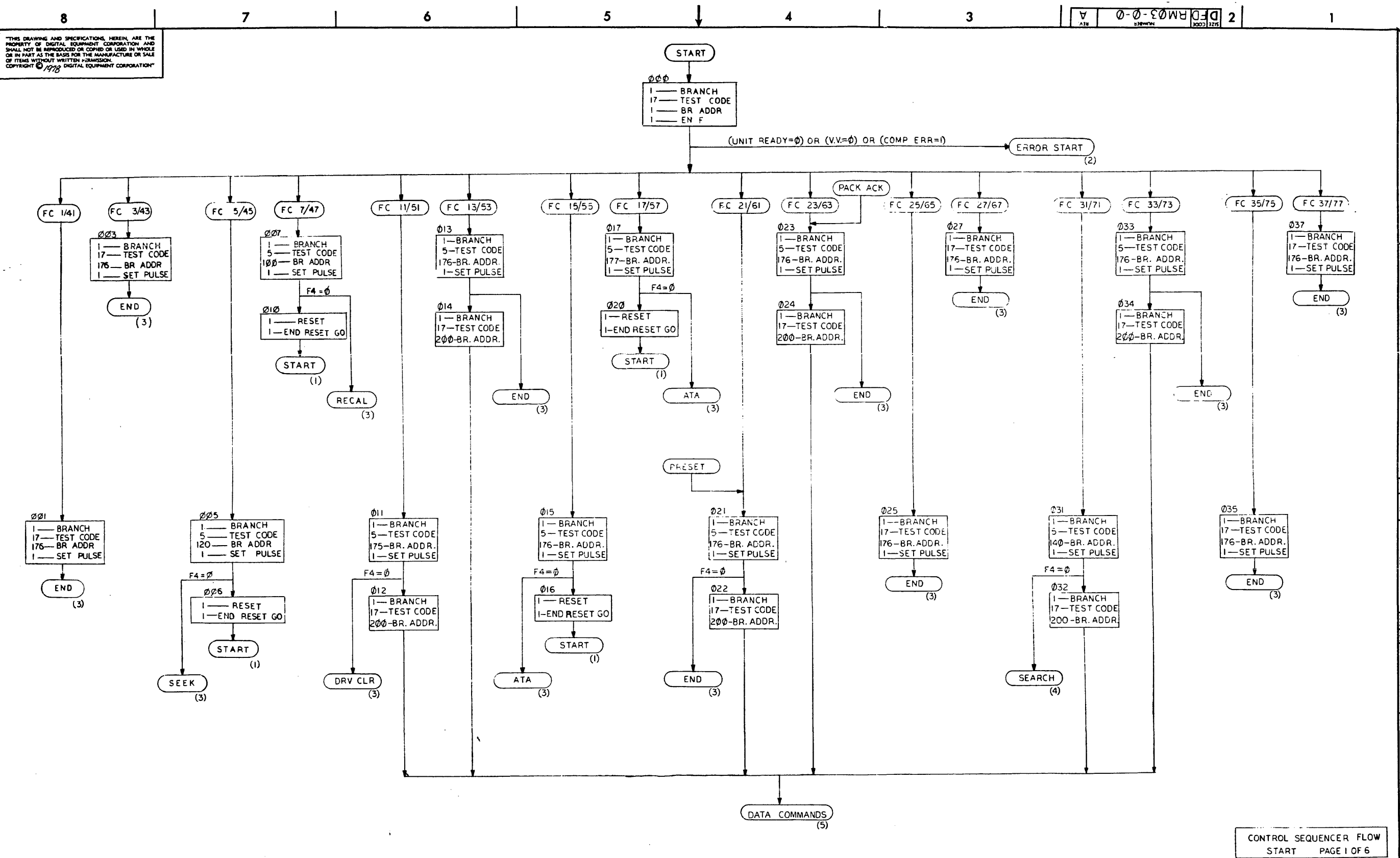
- (xxx) IS RGM LOCATION IN OCTAL OF THIS MICROWORD
- EXAMPLE I → SET PULSE, MEANS ASSERT THE SIGNAL 'SET PULSE L'
- PROM I/O IS NOT SHOWN IN FLOWS. ALL OTHER SIGNALS ASSERTED DURING ANY MICROCODE WORD ARE SHOWN IN THE FLOW FOR THAT WORD.
- ALL ADDRESSES, BRANCH ADDRESSES AND TEST CODES SHOWN IN THE FLOWS ARE IN OCTAL.



CONTROL SEQUENCER
 RESET CONDITION AND
 BRANCH CODES PAGE 1 OF 1

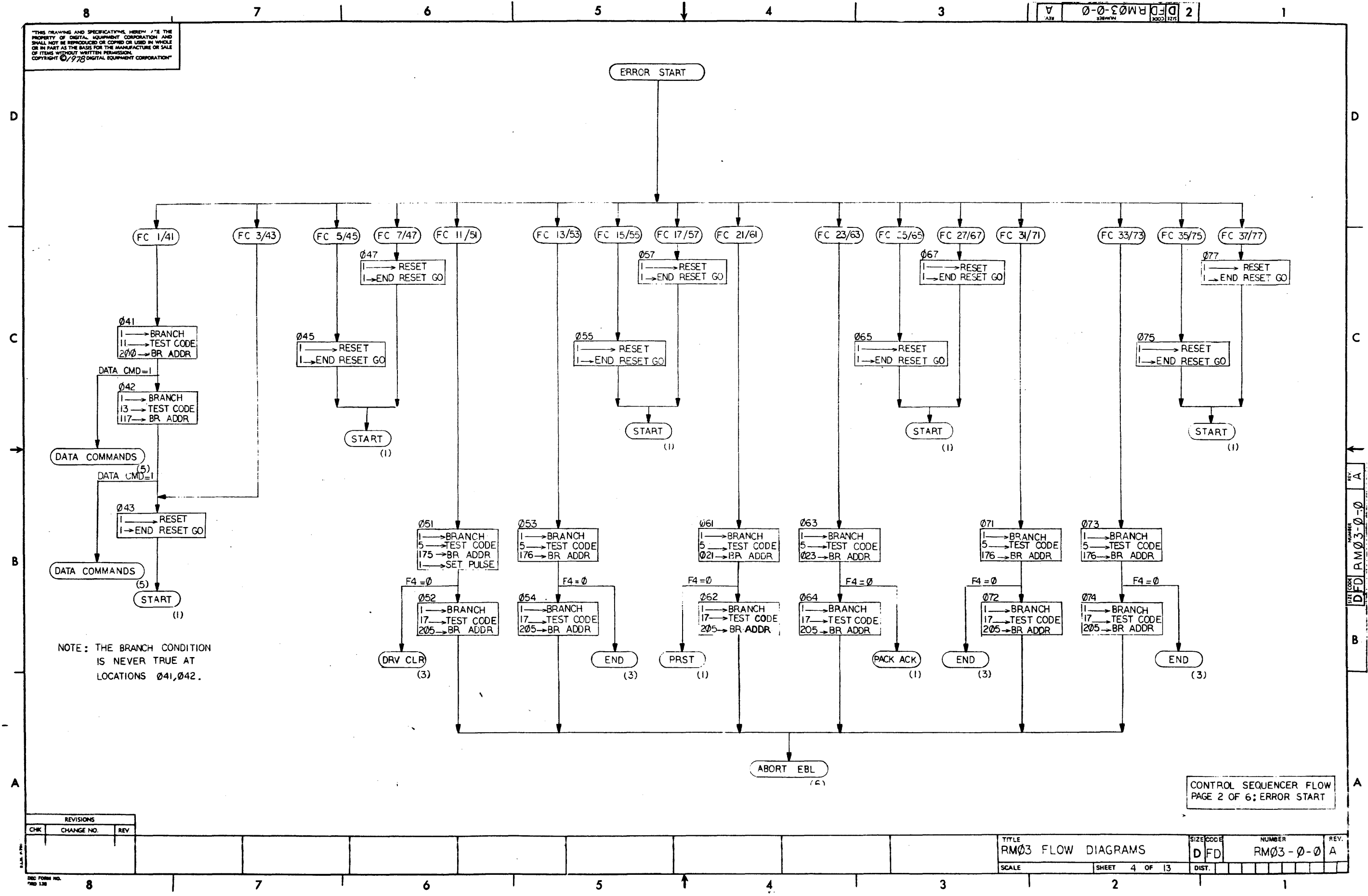
REVISIONS		
CHK	CHANGE NO.	REV.

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REVISIONS		
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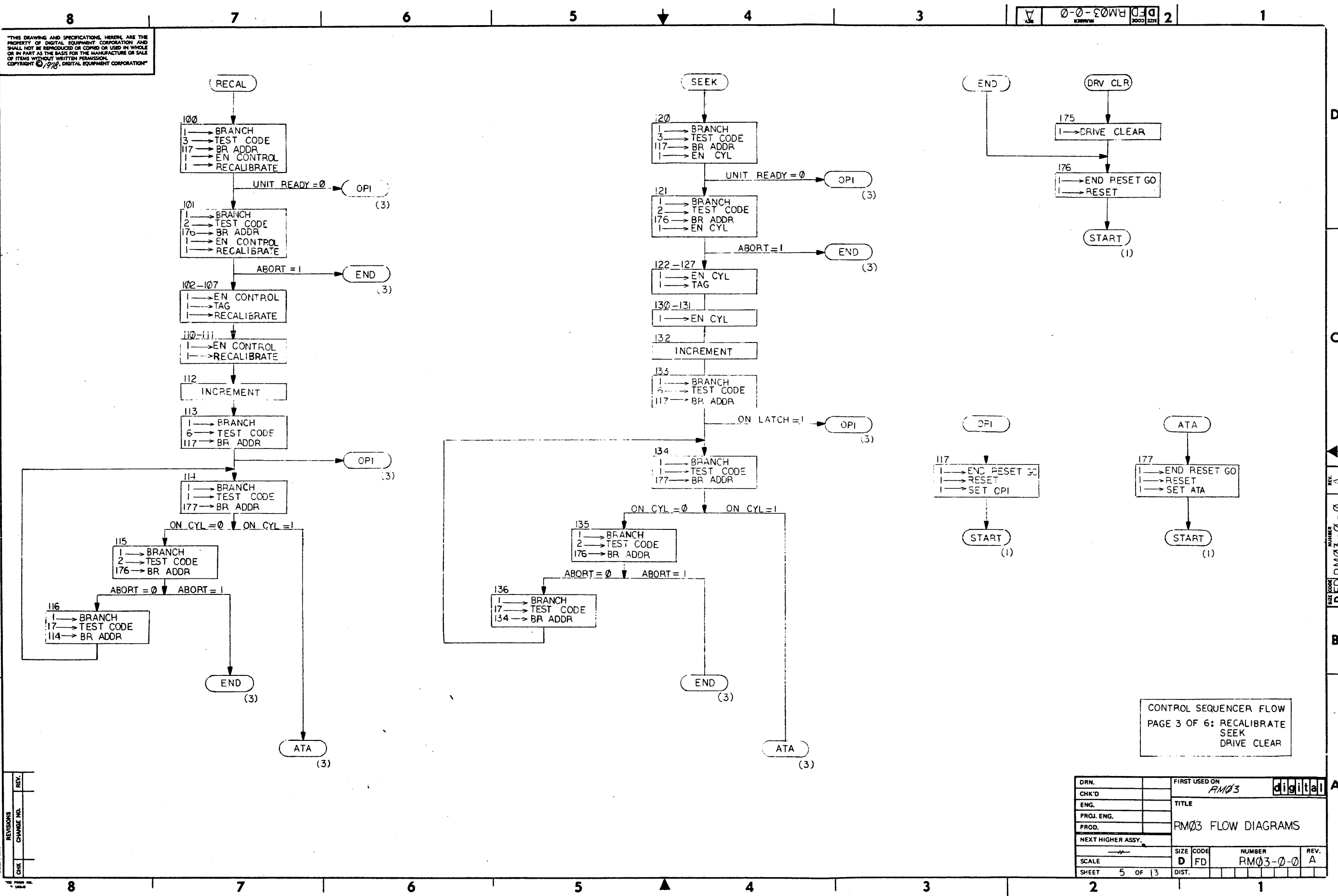
NOTE: THE BRANCH CONDITION IS NEVER TRUE AT LOCATIONS 041, 042.

CONTROL SEQUENCER FLOW PAGE 2 OF 6; ERROR START

REVISIONS		
CHK	CHANGE NO.	REV

TITLE	SIZE CODE	NUMBER	REV.
RM03 FLOW DIAGRAMS	DFD	RM03-0-0	A
SCALE	SHEET	DIST.	
	4 OF 13		

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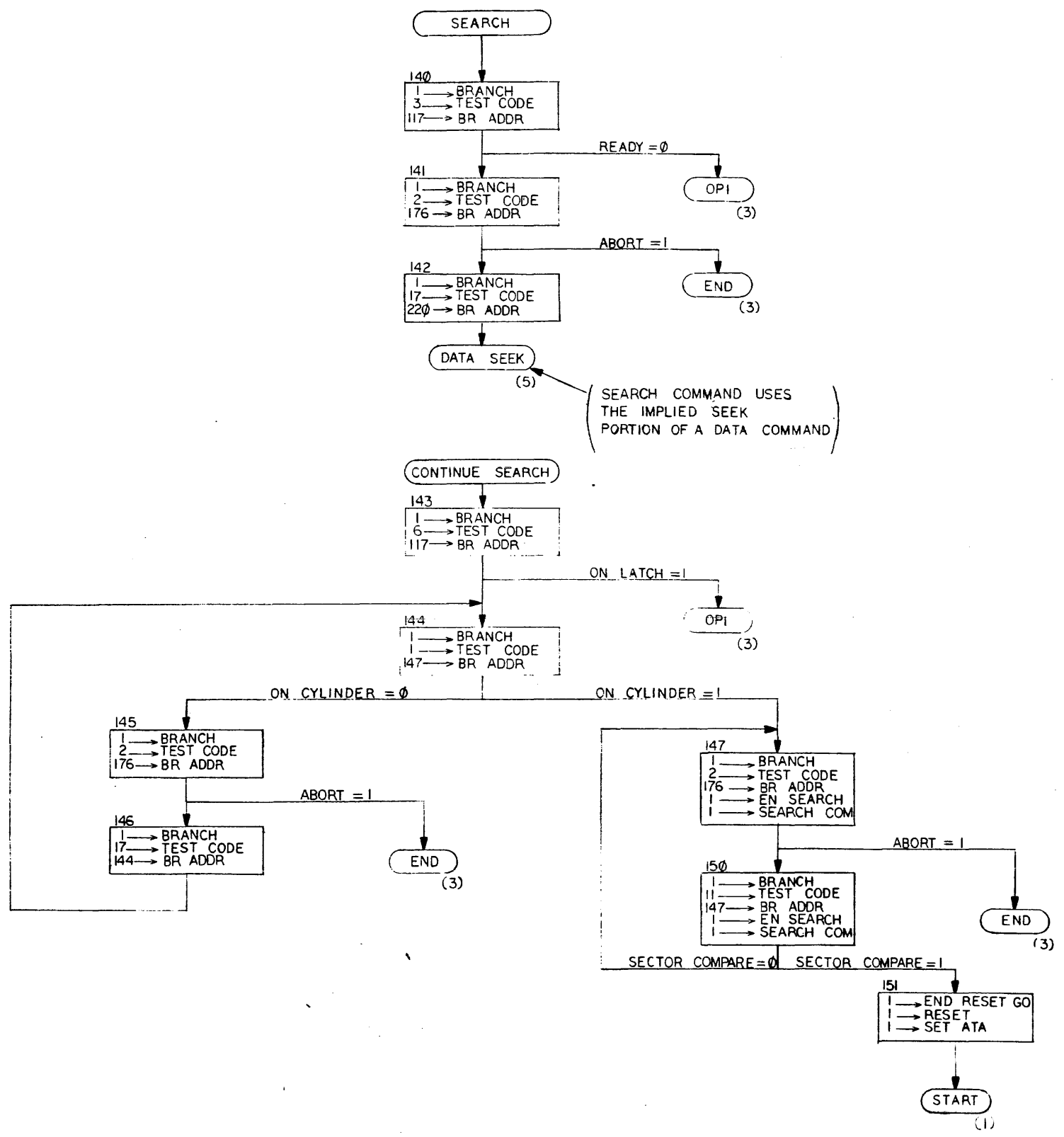


CONTROL SEQUENCER FLOW
PAGE 3 OF 6: RECALIBRATE
SEEK
DRIVE CLEAR

DRN.	FIRST USED ON	digital
CHK'D	RM03	
ENG.	TITLE	
PROJ. ENG.	RM03 FLOW DIAGRAMS	
PROD.	NEXT HIGHER ASSY.	
SCALE	SIZE CODE	NUMBER
SHEET 5 OF 13	D FD	RM03-0-0
	DIST.	REV. A

REVISIONS	REV.
CHANGE NO.	
CHK	

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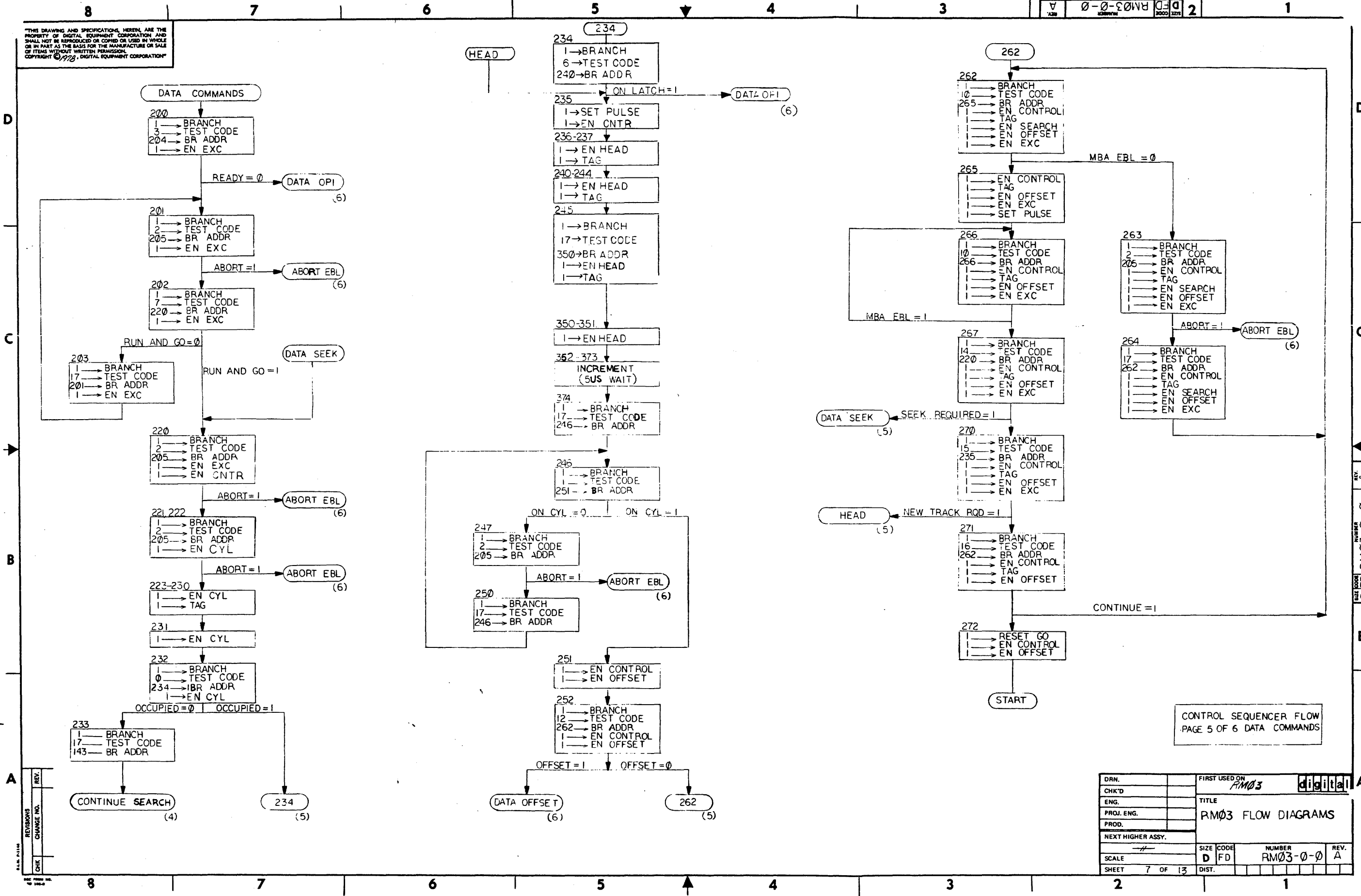
(SEARCH COMMAND USES THE IMPLIED SEEK PORTION OF A DATA COMMAND)

CONTROL SEQUENCER FLOW
 PAGE 4 OF 6: SEARCH

REV.	
CHANGE NO.	
CHK	

DRN.		FIRST USED ON	RM03	digital
CHK'D		TITLE	RM03 FLOW DIAGRAMS	
ENG.		PROJ. ENG.		
PROD.		PROD.		
NEXT HIGHER ASSY.		SIZE CODE	D FD	NUMBER
SCALE		SHEET	6 OF 13	DIST.

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CONTROL SEQUENCER FLOW
PAGE 5 OF 6 DATA COMMANDS

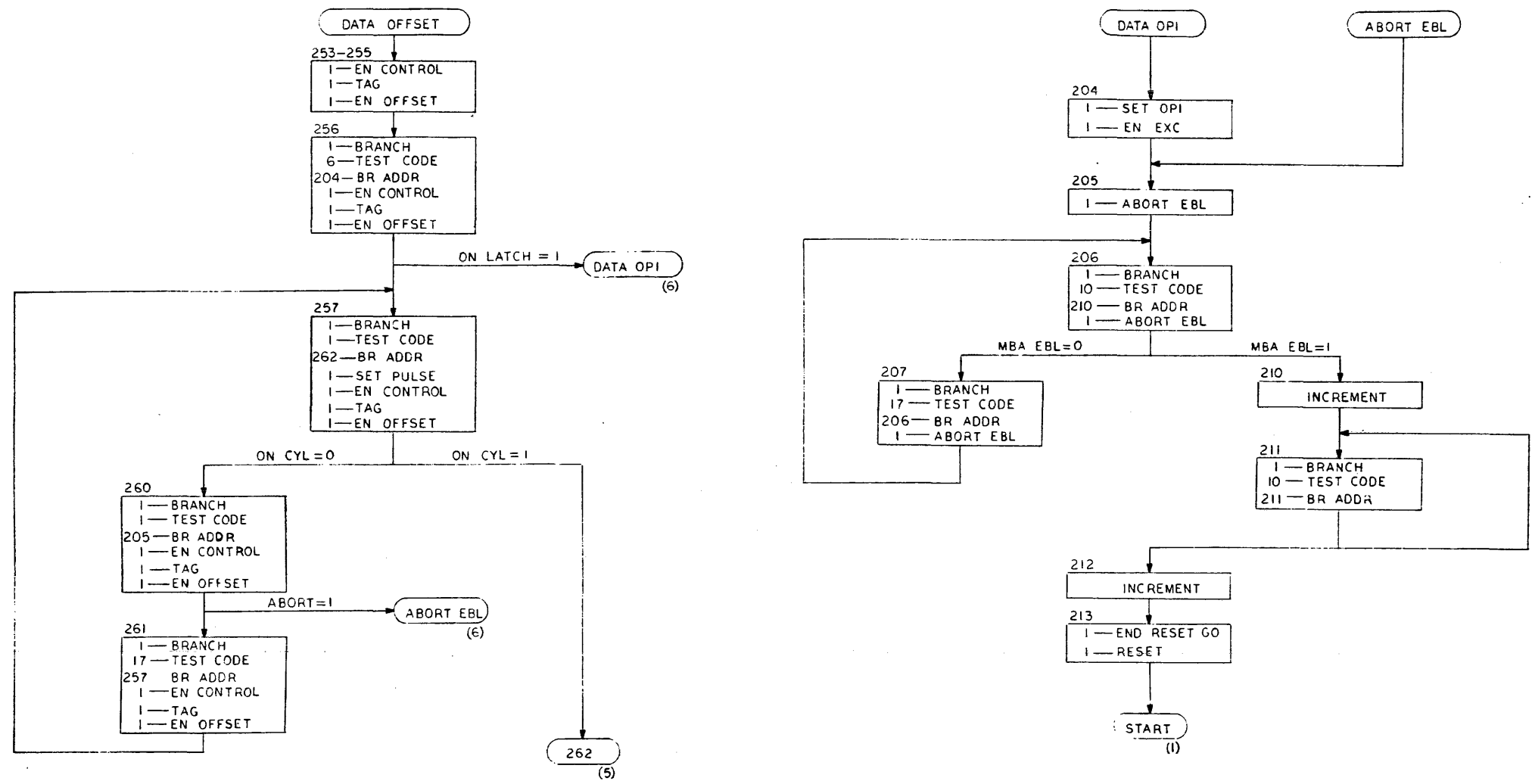
DRN.		FIRST USED ON	RM03	digital
CHK'D		TITLE	RM03 FLOW DIAGRAMS	
ENG.		PROJ. ENG.		
PROD.		PROD.		
NEXT HIGHER ASSY.		SIZE	CODE	NUMBER
		D	FD	RM03-0-0
SCALE		DIST.		
SHEET	7 OF 13			

REV.	
REVISIONS	
CHANGE NO.	
CHK	

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D
C
B
A

D
C
B
A

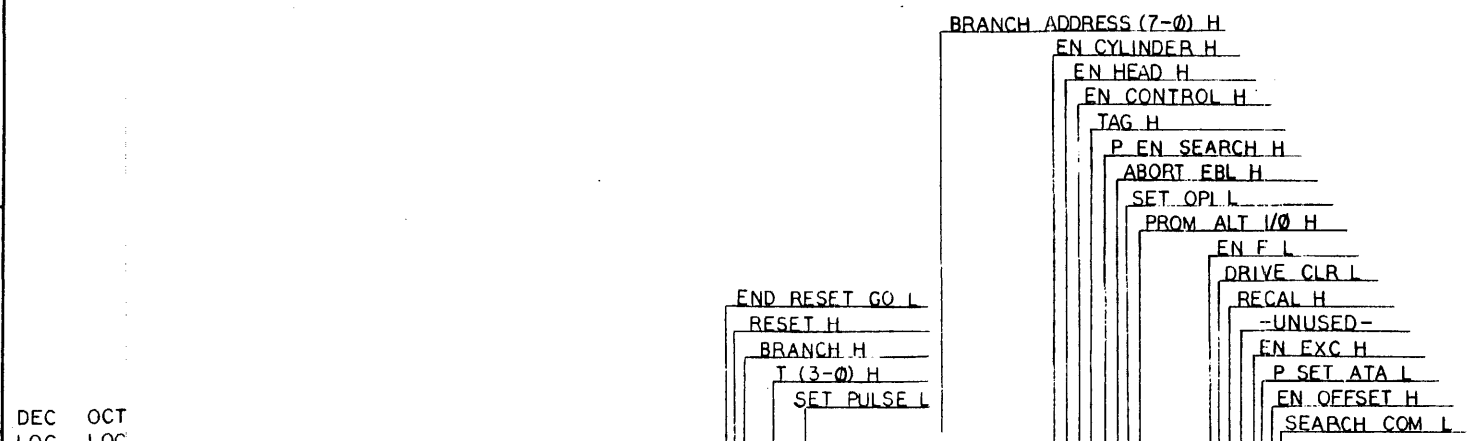


CONTROL SEQUENCER
FLOW
DATA OPI
DATA OFFSET
ABORT EBL PAGE 6 OF 6

REVISIONS		
CHK	CHANGE NO.	REV.

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CHK	REVISIONS
CHANGE NO.	REV.



DEC LOC	OCT LOC	START	BR	TO (FUNCTION CODE-F4)	00111111	001	00000001	00000010	01000101
0	000	START	BR	TO 126	00111111	001	00000001	00000010	01000101
1	001	NO-OP	X	RST	01000001	000	00000000	00000000	11000101
2	002	X	X	BR	TO 126	00111111	001	00000001	11000101
3	003	SEEK	X	RST	01000001	000	00000000	00000000	11000101
4	004	BR	TO 80 IF F4 IS 0	01010101	120	01010000	00000011	11000101	
5	005	RECAL	X	RST	01000001	000	00000000	00000010	11000101
6	006	BRT	TO 64 IF F4 IS 0	01010101	100	01000000	00000011	11000101	
7	007	DR CLR	WRT CHK	RST	01000001	000	00000000	00000010	11000101
8	010	DATA	BRT	TO 125 IF F4 IS 0	01010101	175	01111101	00000011	11000101
9	011	RELEASE	WRT CHK	BR	TO 128	01111111	200	10000000	00000101
10	012	H&D	BRT	TO 126 IF F4 IS 0	01010101	176	01111110	00000011	11000101
11	013	OFFSET	X	BR	TO 128	01111111	200	10000000	00000101
12	014	BRT	TO 127 IF F4 IS 0	01010101	177	01111111	00000011	11000101	
13	015	RTC	X	RST	01000001	000	00000000	00000010	11000101
14	016	BRT	TO 127 IF F4 IS 0	01010101	177	01111111	00000011	11000101	
15	017	READ IN	WRITE	RST	01000001	000	00000000	00000010	11000101
16	020	PRESET	DATA	BRT	TO 126 IF F4 IS 0	01010101	176	01111110	00000011
17	021	PACK	WRITE	BR	TO 128	01111111	200	10000000	00000101
18	022	ACK	H&D	BRT	TO 126 IF F4 IS 0	01010101	176	01111110	00000011
19	023	X	X	BR	TO 128	01111111	200	10000000	00000101
20	024	BR	TO 126	01111110	176	01111110	00000011	11000101	
21	025	RST	01000001	000	00000000	00000000	11000101		
22	026	X	X	BR	TO 126	00111111	176	01111110	00000011
23	027	SEARCH	READ	RST	01000001	000	00000000	00000010	11000101
24	030	DATA	BRT	TO 96 IF F4 IS 0	01010101	140	01100000	00000011	11000101
25	031	X	READ	BR	TO 128	01111111	200	10000000	00000101
26	032	H&D	BRT	TO 126 IF F4 IS 0	01010101	176	01111110	00000011	11000101
27	033	X	X	BR	TO 128	01111111	200	10000000	00000101
28	034	BR	TO 126	01111110	176	01111110	00000011	11000101	
29	035	RST	01000001	000	00000000	00000000	11000101		
30	036	X	X	BR	TO 126	00111111	176	01111110	00000011
31	037								

ALL COMMANDS START IN THIS BLOCK IF: IF9 SEQ SKIP L IS HIGH AND CS8 UNIT READY H IS HIGH
EXAMPLE:
PACK ACKNOWLEDGE (23₀=19)
START: 0 BR 23₀
19 BR 126
126 RST

X = ILLEGAL

32	040	NO-OP	X	RST	01000001	000	00000000	00000000	11000101
33	041	BR	(INC)* TO 128 IF DATA CMND	01101111	200	10000000	00000011	11000101	
34	042	X	X	BR	(INC)* TO 79 IF DATA CMND	01101111	117	01001111	00000010
35	043	RST	01000001	000	00000000	00000000	11000101		
36	044	SEEK	X						
37	045	RECAL	X						
38	046	DR CLR	WRT CHK	RST	01000001	000	00000000	00000010	11000101
39	047	DATA	BRT	TO 125 IF F4 IS 0	01010101	175	01111101	00000011	11000101
40	050	RELEASE	WRT CHK	BR	TO 133	01111111	205	10000101	00000010
41	051	H&D	BRT	TO 126 IF F4 IS 0	01010101	176	01111110	00000011	11000101
42	052	OFFSET	X	BR	TO 133	01111111	205	10000101	00000010
43	053	RST	01000001	000	00000000	00000000	11000101		
44	054	RTC	X						
45	055	READ IN	WRITE	RST	01000001	000	00000000	00000010	11000101
46	056	PRESET	DATA	BRT	TO 17 IF F4 IS 0	01010101	021	00010001	00000011
47	057	PACK	WRITE	BR	TO 133	01111111	205	10000101	00000010
48	060	ACK	H&D	BRT	TO 19 IF F4 IS 0	01010101	023	00010011	00000011
49	061	X	X	BR	TO 133	01111111	205	10000101	00000010
50	062	RST	01000001	000	00000000	00000000	11000101		
51	063	SEARCH	READ	RST	01000001	000	00000000	00000010	11000101
52	064	DATA	BRT	TO 126 IF F4 IS 0	01010101	176	01111110	00000011	11000101
53	065	X	READ	BR	TO 133	01111111	205	10000101	00000010
54	066	H&D	BRT	TO 126 IF F4 IS 0	01010101	176	01111110	00000011	11000101
55	067	X	X	BR	TO 133	01111111	205	10000101	00000010
56	070	RST	01000001	000	00000000	00000000	11000101		
57	071	SEARCH	READ	RST	01000001	000	00000000	00000010	11000101
58	072	DATA	BRT	TO 126 IF F4 IS 0	01010101	176	01111110	00000011	11000101
59	073	X	READ	BR	TO 133	01111111	205	10000101	00000010
60	074	H&D	BRT	TO 126 IF F4 IS 0	01010101	176	01111110	00000011	11000101
61	075	X	X	BR	TO 133	01111111	205	10000101	00000010
62	076	RST	01000001	000	00000000	00000000	11000101		
63	077	X	X						

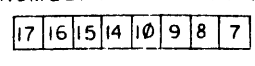
ALL COMMANDS START IN THIS BLOCK IF: IF9 SEQ SKIP L IS LOW
EXAMPLE:
PACK ACKNOWLEDGE
START:
0 BR 19+32
51 BR 19
19 BR 126
126 RST

* BRANCHING WILL NEVER OCCUR, IT WILL ALWAYS BE INCREMENTED

TITLE: RM03 FLOW DIAGRAMS
SCALE: 9 OF 13

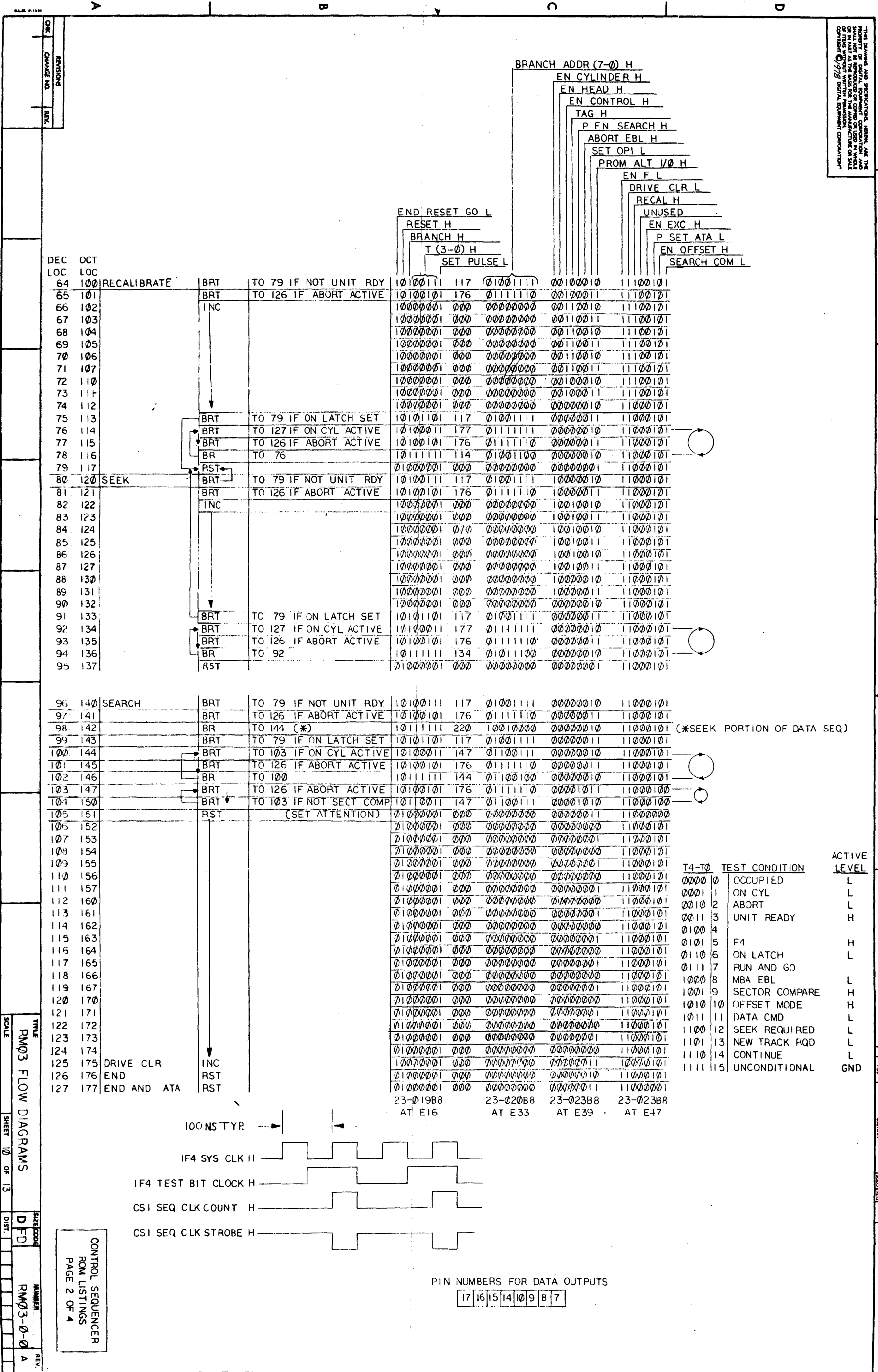
CONTROL SEQUENCER
ROM LISTINGS
PAGE 1 OF 4

PIN NUMBERS FOR DATA OUTPUTS



SIZE CODE	NUMBER	REV.
DFD	RM03-0-0	A

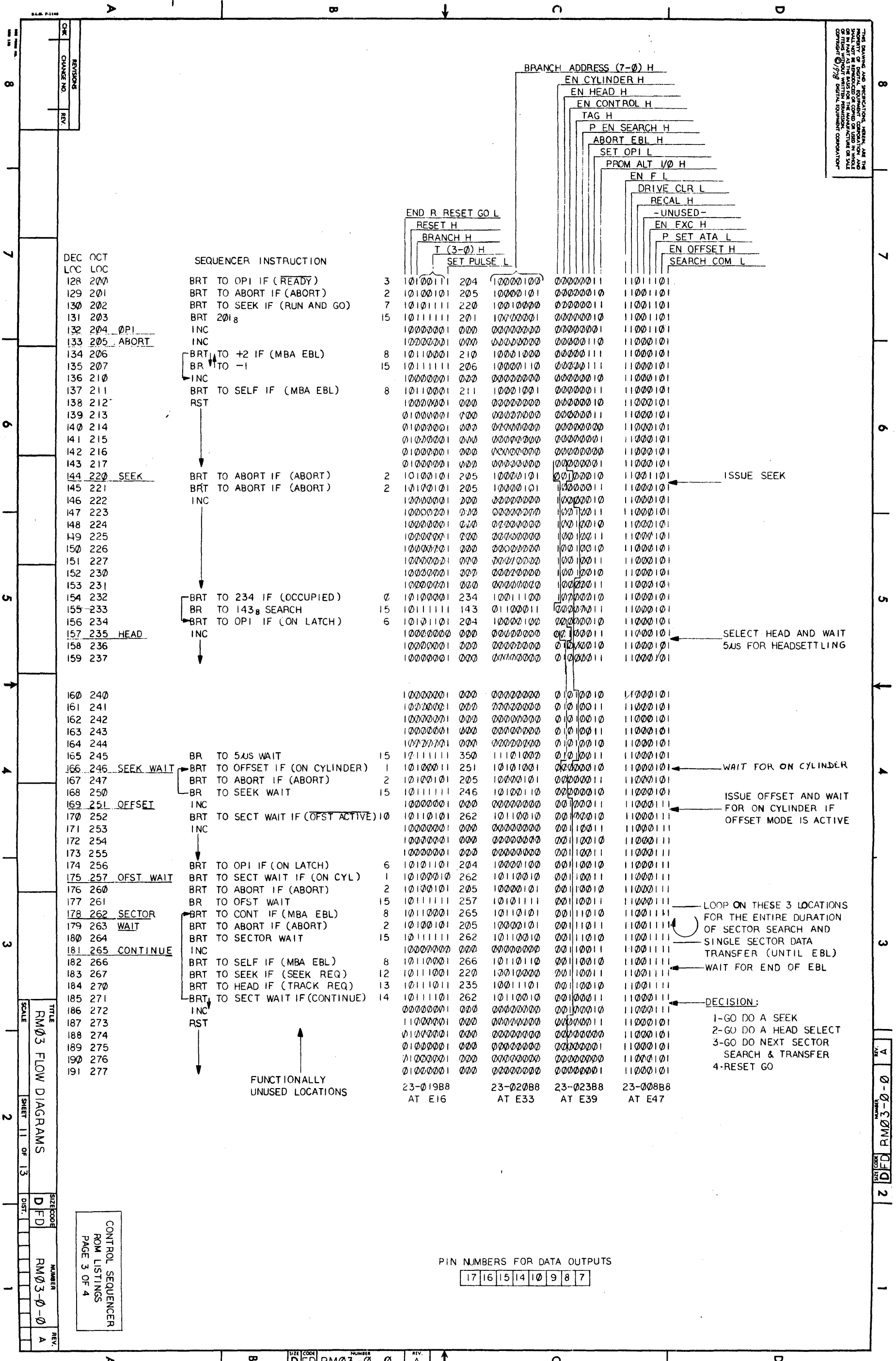
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REV. A
 NUMBER RM03-0-0
 SIZE CODE DFD
 SHEET 10 OF 13
 SCALE 1
 TITLE RM03 FLOW DIAGRAMS
 CONTROL SEQUENCER ROM LISTINGS PAGE 2 OF 4

8
7
6
5
4
3
2
1

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REVISIONS
 CHK CHANGE NO. REV.
 TITLE
 RM03 FLOW DIAGRAMS
 SIZE CODE
 DFD
 NUMBER
 RM03-0-0
 REV.
 A

CONTROL SEQUENCER
 FROM LISTINGS
 PAGE 3 OF 4

BRANCH ADDRESS (7-0) H
 EN CYLINDER H
 EN HEAD H
 EN CONTROL H
 TAG H
 P EN SEARCH H
 ABORT EBL H
 SET OPI L
 PROM ALT I/O H
 EN F L
 DRIVE CLR L
 RECAL H
 -UNUSED-
 EN EXC H
 P SET ATA L
 EN OFFSET H
 SEARCH COM L

END R RESET GO L
 RESET H
 BRANCH H
 T (3-0) H
 SET PULSE L

ISSUE SEEK

SELECT HEAD AND WAIT
 5μS FOR HEADSETTLING

WAIT FOR ON CYLINDER

ISSUE OFFSET AND WAIT
 FOR ON CYLINDER IF
 OFFSET MODE IS ACTIVE

LOOP ON THESE 3 LOCATIONS
 FOR THE ENTIRE DURATION
 OF SECTOR SEARCH AND
 SINGLE SECTOR DATA
 TRANSFER (UNTIL EBL)

WAIT FOR END OF EBL

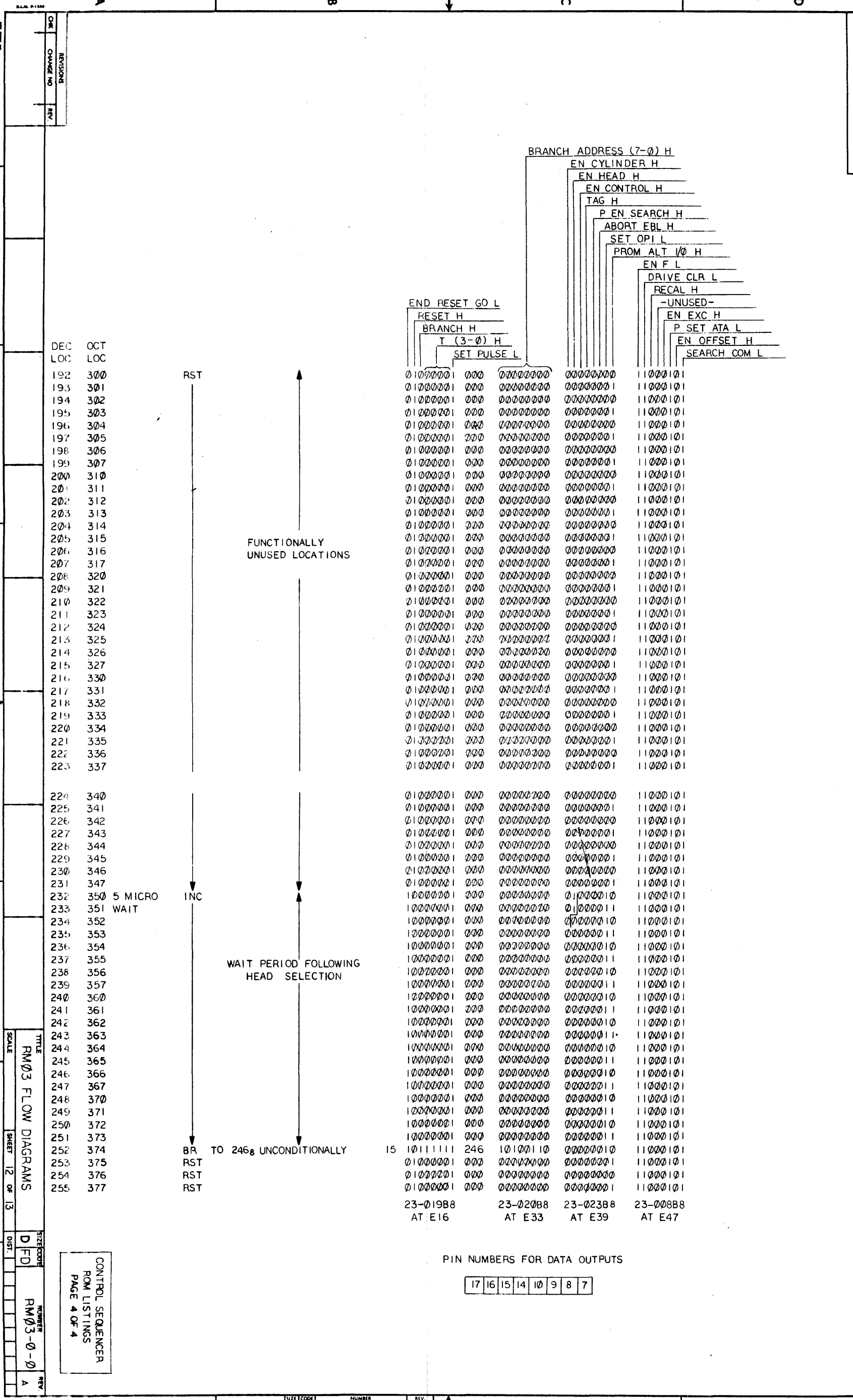
DECISION:

1-GO DO A SEEK
 2-GO DO A HEAD SELECT
 3-GO DO NEXT SECTOR
 SEARCH & TRANSFER
 4-RESET GO

2
 3
 4
 5
 6
 7
 8

DFD RM03-0-0 2

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DEC LOC	OCT LOC
192	300
193	301
194	302
195	303
196	304
197	305
198	306
199	307
200	310
201	311
202	312
203	313
204	314
205	315
206	316
207	317
208	320
209	321
210	322
211	323
212	324
213	325
214	326
215	327
216	330
217	331
218	332
219	333
220	334
221	335
222	336
223	337
224	340
225	341
226	342
227	343
228	344
229	345
230	346
231	347
232	350
233	351
234	352
235	353
236	354
237	355
238	356
239	357
240	360
241	361
242	362
243	363
244	364
245	365
246	366
247	367
248	370
249	371
250	372
251	373
252	374
253	375
254	376
255	377

RST

FUNCTIONALLY UNUSED LOCATIONS

5 MICRO WAIT

INC

WAIT PERIOD FOLLOWING HEAD SELECTION

BR TO 246₈ UNCONDITIONALLY

RST

RST

RST

END RESET GO L	RESET H	BRANCH H	T (3-0) H	SET PULSE L	BRANCH ADDRESS (7-0) H	EN CYLINDER H	EN HEAD H	EN CONTROL H	TAG H	P EN SEARCH H	ABORT EBL H	SET OPI L	PROM ALT I/O H	EN F L	DRIVE CLR L	RECAL H	-UNUSED-	EN EXC H	P SET ATA L	EN OFFSET H	SEARCH COM L	
01000001	0000	00000000	00000000	00000000	00000000	11000101																
01000001	0000	00000000	00000000	00000000	00000001	11000101																
01000001	0000	00000000	00000000	00000000	00000010	11000101																
01000001	0000	00000000	00000000	00000000	00000011	11000101																
01000001	0000	00000000	00000000	00000000	00000100	11000101																
01000001	0000	00000000	00000000	00000000	00000101	11000101																
01000001	0000	00000000	00000000	00000000	00000110	11000101																
01000001	0000	00000000	00000000	00000000	00000111	11000101																
01000001	0000	00000000	00000000	00000000	00001000	11000101																
01000001	0000	00000000	00000000	00000000	00001001	11000101																
01000001	0000	00000000	00000000	00000000	00001010	11000101																
01000001	0000	00000000	00000000	00000000	00001011	11000101																
01000001	0000	00000000	00000000	00000000	00001100	11000101																
01000001	0000	00000000	00000000	00000000	00001101	11000101																
01000001	0000	00000000	00000000	00000000	00001110	11000101																
01000001	0000	00000000	00000000	00000000	00001111	11000101																
01000001	0000	00000000	00000000	00000000	00010000	11000101																
01000001	0000	00000000	00000000	00000000	00010001	11000101																
01000001	0000	00000000	00000000	00000000	00010010	11000101																
01000001	0000	00000000	00000000	00000000	00010011	11000101																
01000001	0000	00000000	00000000	00000000	00010100	11000101																
01000001	0000	00000000	00000000	00000000	00010101	11000101																
01000001	0000	00000000	00000000	00000000	00010110	11000101																
01000001	0000	00000000	00000000	00000000	00010111	11000101																
01000001	0000	00000000	00000000	00000000	00011000	11000101																
01000001	0000	00000000	00000000	00000000	00011001	11000101																
01000001	0000	00000000	00000000	00000000	00011010	11000101																
01000001	0000	00000000	00000000	00000000	00011011	11000101																
01000001	0000	00000000	00000000	00000000	00011100	11000101																
01000001	0000	00000000	00000000	00000000	00011101	11000101																
01000001	0000	00000000	00000000	00000000	00011110	11000101																
01000001	0000	00000000	00000000	00000000	00011111	11000101																
23-019B8		23-020B8		23-023B8		23-008B8																
AT E16		AT E33		AT E39		AT E47																

PIN NUMBERS FOR DATA OUTPUTS

17	16	15	14	10	9	8	7
----	----	----	----	----	---	---	---

REVISIONS

CHK	CHANGE NO.	REV.

TITLE: RM03 FLOW DIAGRAMS

SIZE: D FD

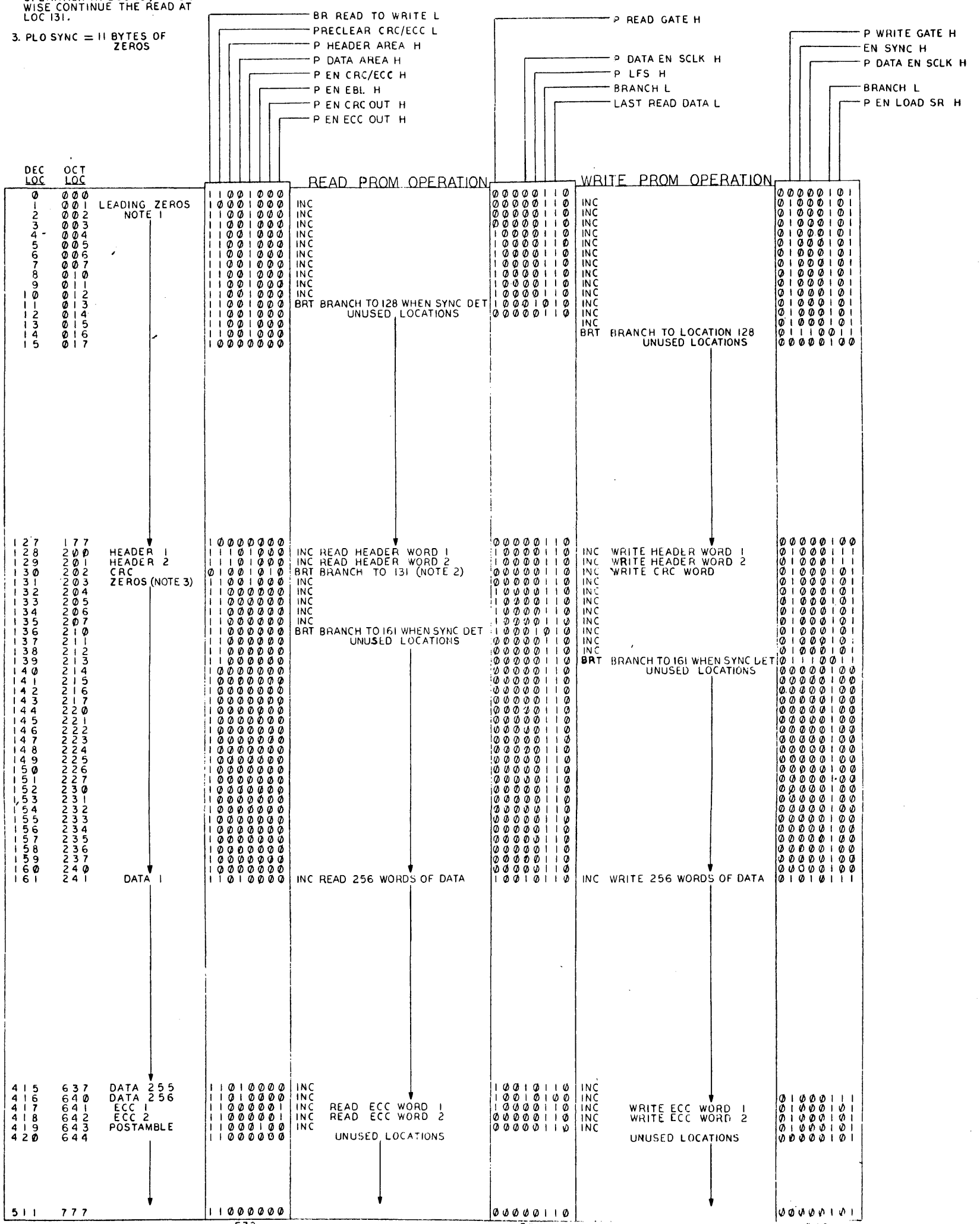
NUMBER: RM03-0-0

PAGE: 4 OF 4

CONTROL SEQUENCER ROM LISTINGS

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NOTE
 1. SECTOR LEADING ZEROS PREAMBLE EQUALS 17 BYTES FOR HEAD SCATTER AND 11 BYTES FOR PLO SYNC.
 2. IF THE COMMAND IS WRITE DATA, SWITCH TO WRITE PROM OPERATION AT LOC 131, OTHERWISE CONTINUE THE READ AT LOC 131.
 3. PLO SYNC = 11 BYTES OF ZEROS



DEC LOC	OCT LOC
0-2	0-2
3-4	3-4
5-6	5-6
7-8	7-8
9-10	9-10
11-12	11-12
13-14	13-14
15-16	15-16
17-18	17-18
19-20	19-20
21-22	21-22
23-24	23-24
25-26	25-26
27-28	27-28
29-30	29-30
31-32	31-32
33-34	33-34
35-36	35-36
37-38	37-38
39-40	39-40
41-42	41-42
43-44	43-44
45-46	45-46
47-48	47-48
49-50	49-50
51-52	51-52
53-54	53-54
55-56	55-56
57-58	57-58
59-60	59-60
61-62	61-62
63-64	63-64
65-66	65-66
67-68	67-68
69-70	69-70
71-72	71-72
73-74	73-74
75-76	75-76
77-78	77-78
79-80	79-80
81-82	81-82
83-84	83-84
85-86	85-86
87-88	87-88
89-90	89-90
91-92	91-92
93-94	93-94
95-96	95-96
97-98	97-98
99-100	99-100

E72 AND E81 ENABLE FOR A READ SEQUENCE (WRITE DATA JUMPS FROM READ SEQ TO WRITE SEQ AT LOCATION 130)

E72 AND E90 ENABLE FOR A WRITE SEQUENCE

MSA LSA
 17 16 15 14 10 9 8 7
 825115 OUTPUT PINS

REVISIONS

REV.	CHANGE NO.

NOTE

1. SECTOR LEADING ZEROS PREAMBLE EQUALS 17 BYTES FOR HEAD SCATTER AND 11 BYTES FOR PLO SYNC.

2. IF THE COMMAND IS WRITE DATA, SWITCH TO WRITE PROM OPERATION AT LOC 131, OTHERWISE CONTINUE THE READ AT LOC 131.

3. PLO SYNC = 11 BYTES OF ZEROS

BR READ TO WRITE L
 PRECLEAR CRC/ECC L
 P HEADER AREA H
 P DATA AREA H
 P EN CRC/ECC H
 P EN EBL H
 P EN CRC OUT H
 P EN ECC OUT H

P READ GATE H
 P DATA EN SCLK H
 P LFS H
 BRANCH L
 LAST READ DATA L

P WRITE GATE H
 EN SYNC H
 P DATA EN SCLK H
 BRANCH L
 P EN LOAD SR H

READ PROM OPERATION

WRITE PROM OPERATION

LEADING ZEROS NOTE 1

BRANCH TO 128 WHEN SYNC DET UNUSED LOCATIONS

BRANCH TO LOCATION 128 UNUSED LOCATIONS

INC READ HEADER WORD 1
 INC READ HEADER WORD 2
 BRT BRANCH TO 131 (NOTE 2)

INC WRITE HEADER WORD 1
 INC WRITE HEADER WORD 2
 WRITE CRC WORD

BRANCH TO 161 WHEN SYNC DET UNUSED LOCATIONS

BRANCH TO 161 WHEN SYNC LET UNUSED LOCATIONS

INC READ 256 WORDS OF DATA

INC WRITE 256 WORDS OF DATA

DATA 1

DATA 255
 DATA 256
 ECC 1
 ECC 2
 POSTAMBLE

INC READ ECC WORD 1
 INC READ ECC WORD 2
 UNUSED LOCATIONS

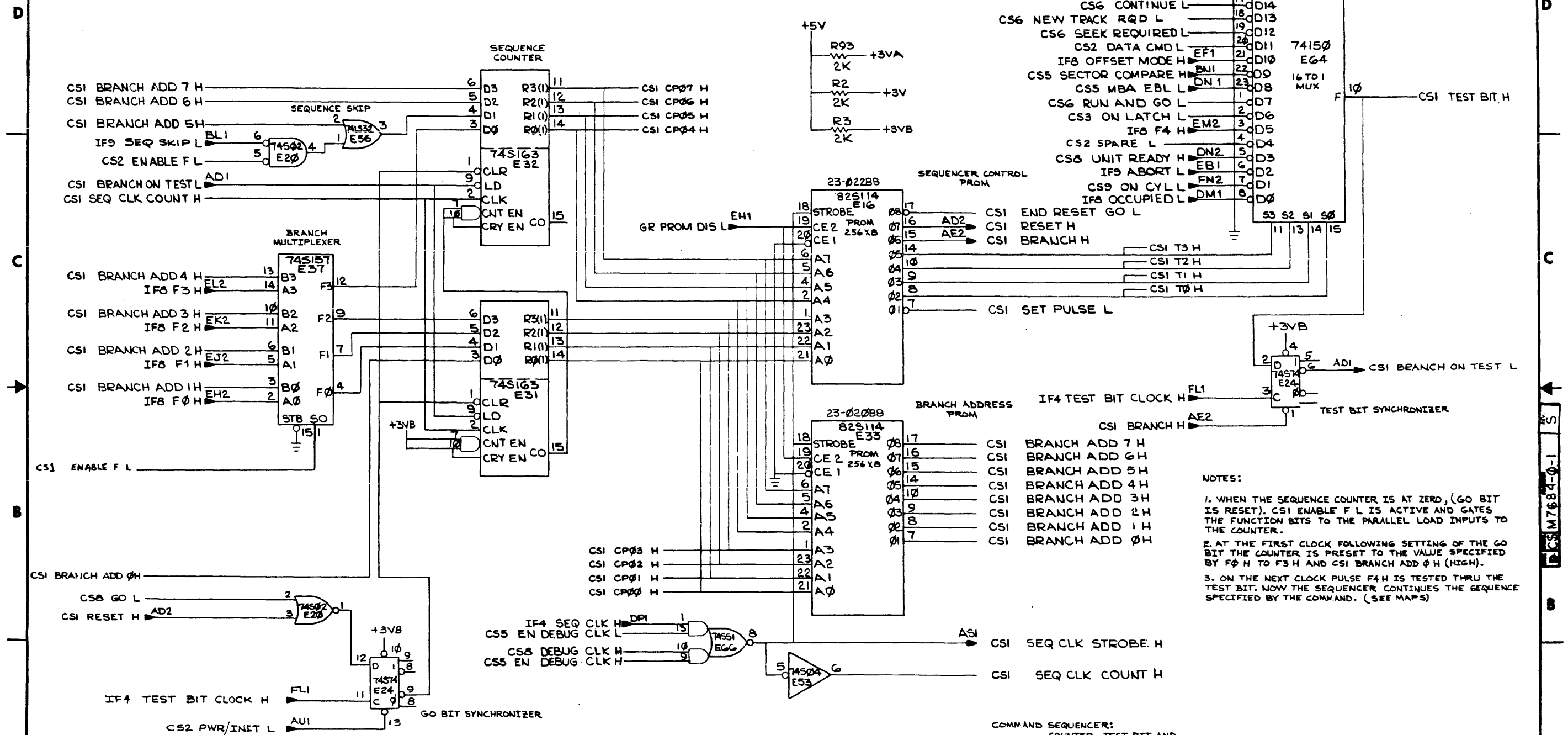
INC WRITE ECC WORD 1
 INC WRITE ECC WORD 2
 UNUSED LOCATIONS

DATA SEQUENCER OF ROM LISTINGS

DFD RM03-0-0

825115 OUTPUT PINS

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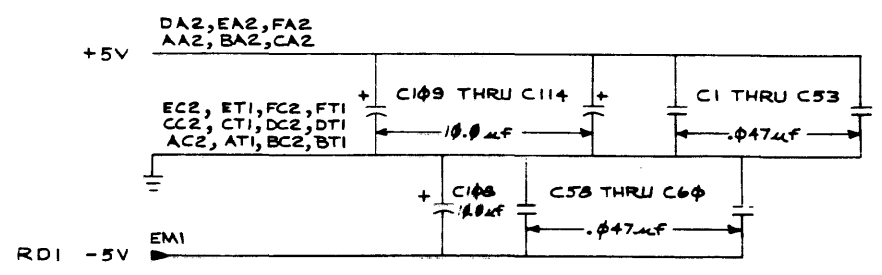
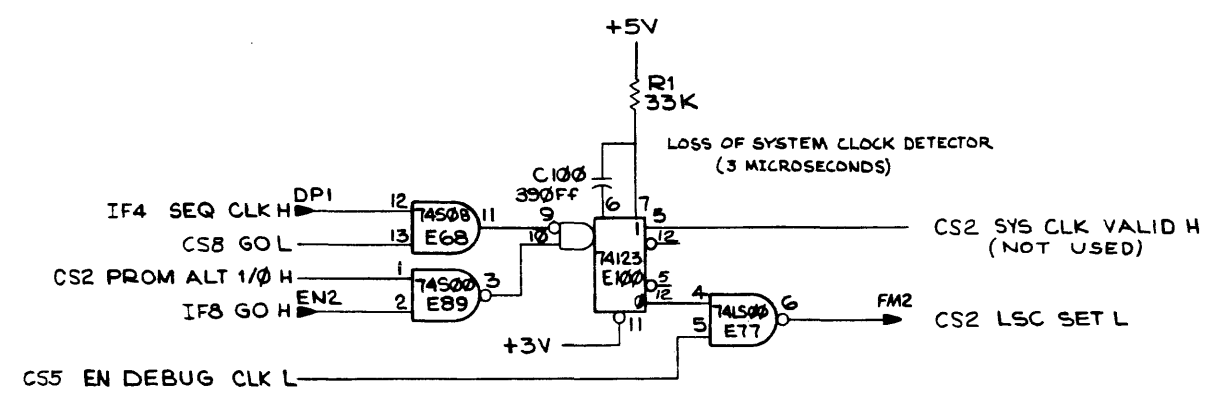
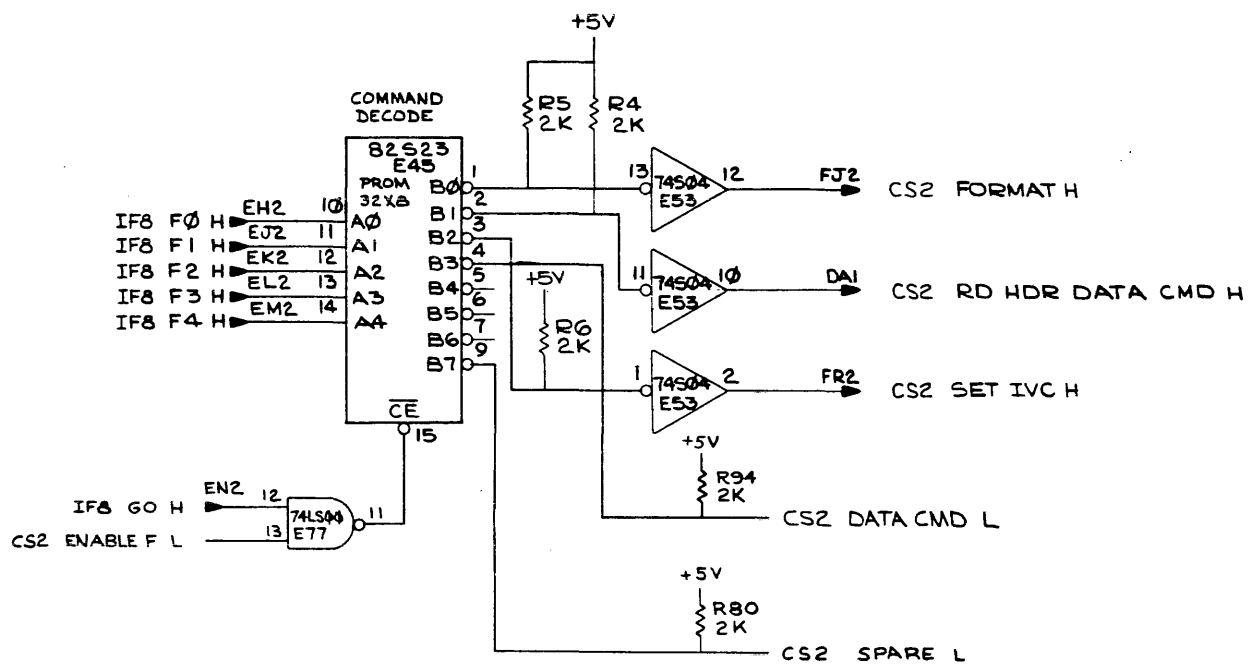
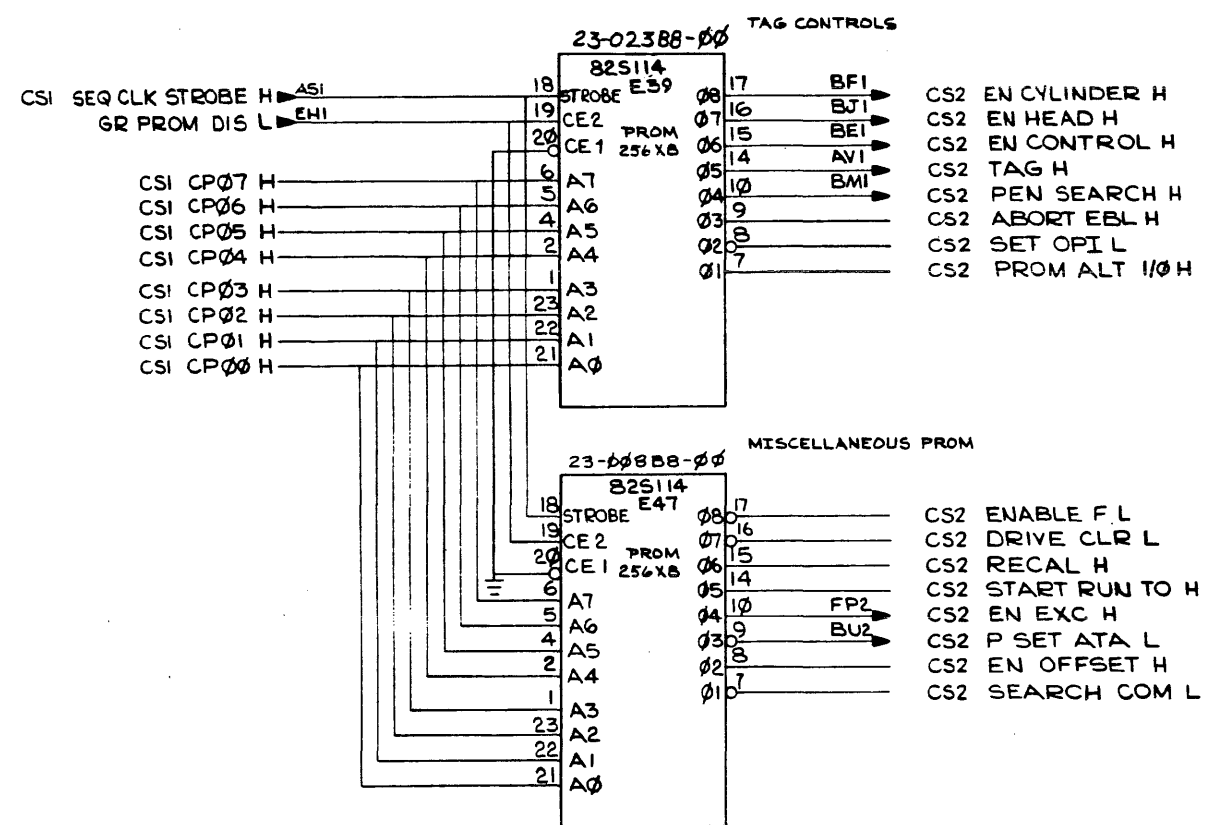
- NOTES:
1. WHEN THE SEQUENCE COUNTER IS AT ZERO, (GO BIT IS RESET), CSI ENABLE F L IS ACTIVE AND GATES THE FUNCTION BITS TO THE PARALLEL LOAD INPUTS TO THE COUNTER.
 2. AT THE FIRST CLOCK FOLLOWING SETTING OF THE GO BIT THE COUNTER IS PRESET TO THE VALUE SPECIFIED BY F0 H TO F3 H AND CSI BRANCH ADD 0 H (HIGH).
 3. ON THE NEXT CLOCK PULSE F4 H IS TESTED THRU THE TEST BIT. NOW THE SEQUENCER CONTINUES THE SEQUENCE SPECIFIED BY THE COMMAND. (SEE MAPS)

COMMAND SEQUENCER:
COUNTER, TEST BIT AND
BRANCH ADDRESS

REV.	CHG.	BY	DATE
1			
2			
3			
4			
5			
6			
7			
8			

DRN. 3-1-77	FIRST USED ON	RM03
CHKD. 3-3-77	TITLE	CONTROL (CSI)
ENGR. 4-3-77		
PROJ. ENGR. 6-5-77		
PROD. 6-13-77		
NEXT HIGHER ASSY.	SIZE CODE	NUMBER
B-DDM7684-0	D	CS M7684-0-1
SCALE 1	DIST.	
SHEET 1	OF 19	REV. S

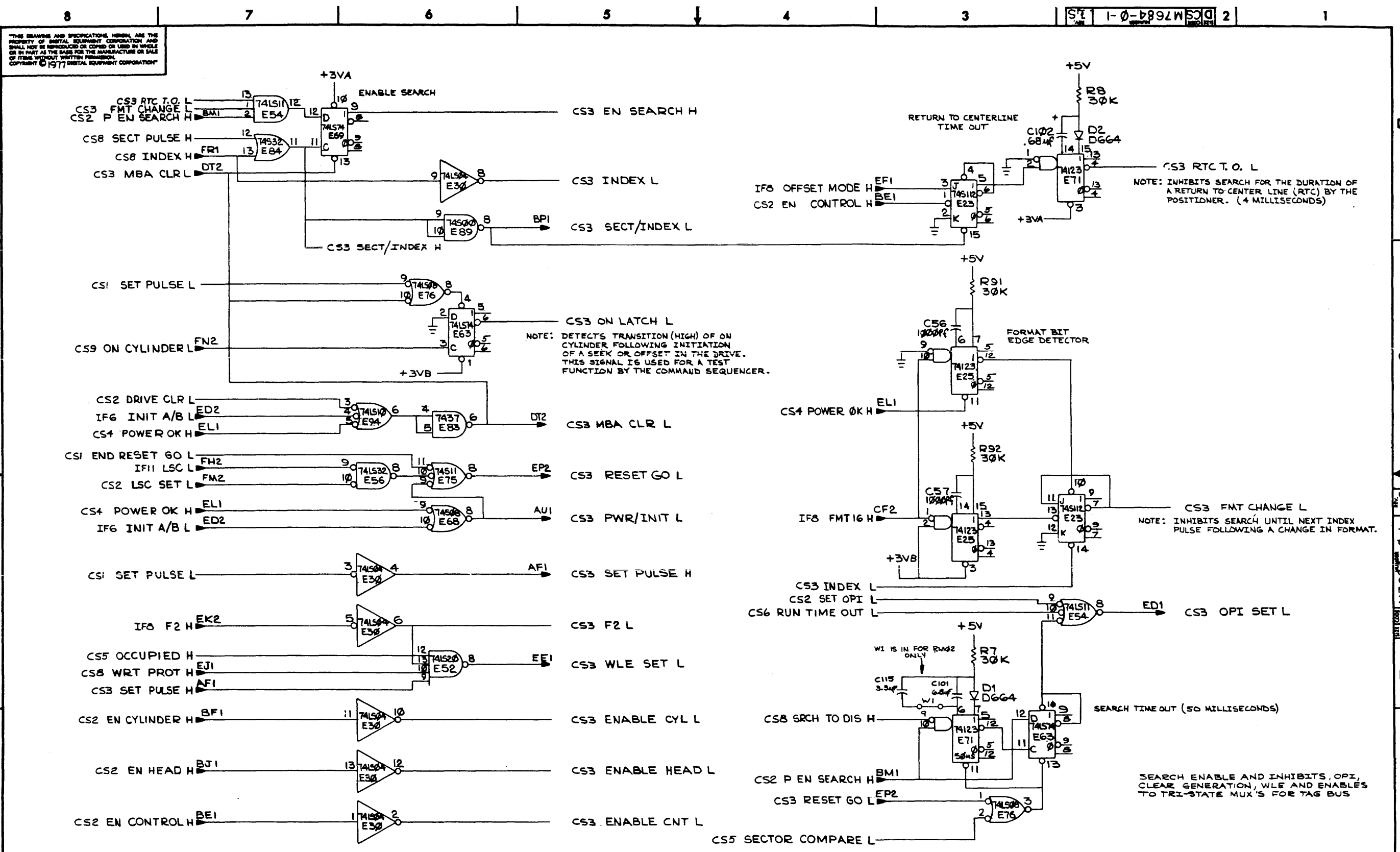
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COMMAND SEQUENCER: DRIVE CONTROLS (TAG) AND COMMAND DECODES

REVISIONS		
CHK	CHANGE NO.	REV.

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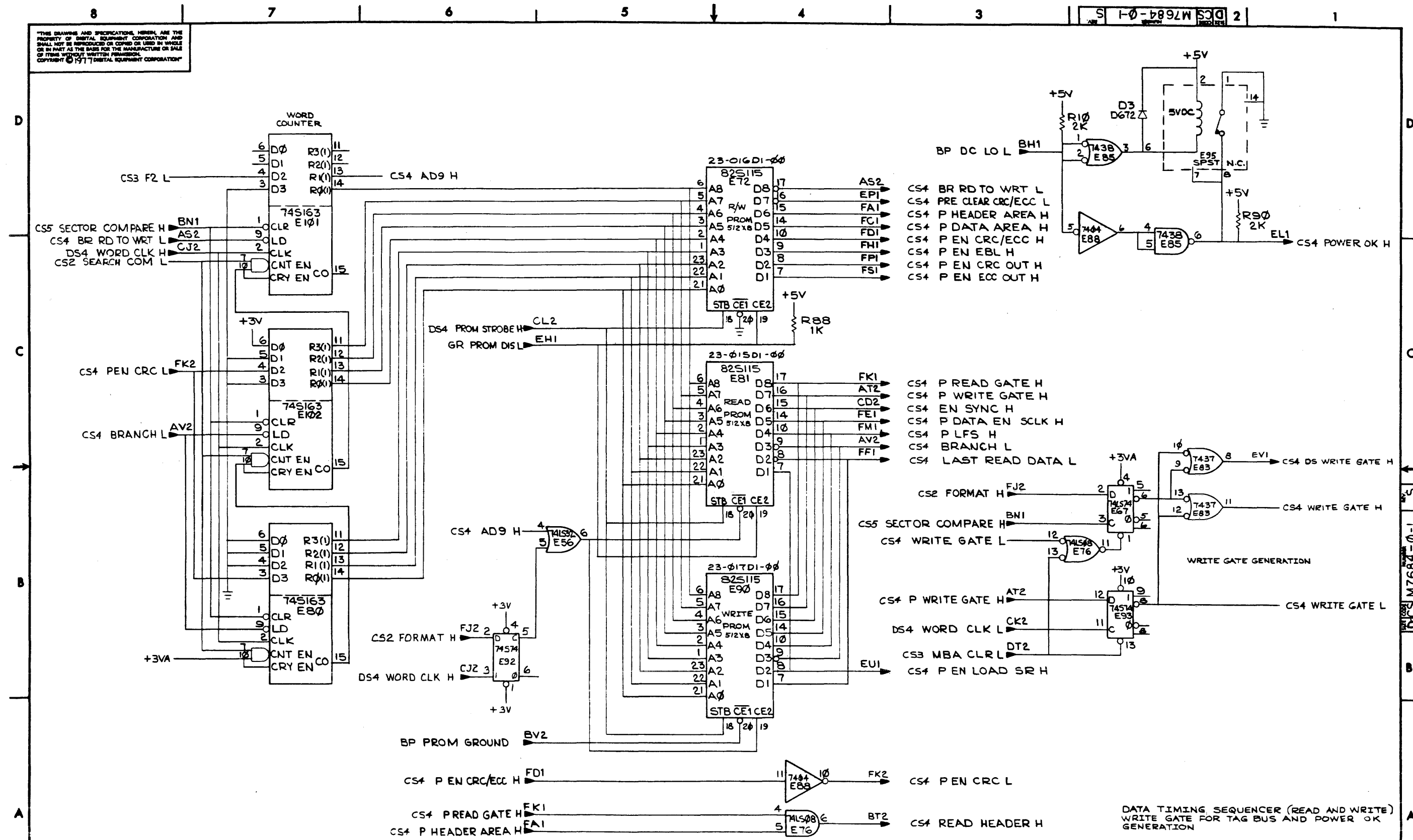


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	(CS3)	SIZE/SCALE	NUMBER	REV.
CONTROL SEQUENCER		DCS	M7684-0-1	NS
SCALE		SHEET	3 OF 19	DIST.

DCS M7684-0-1

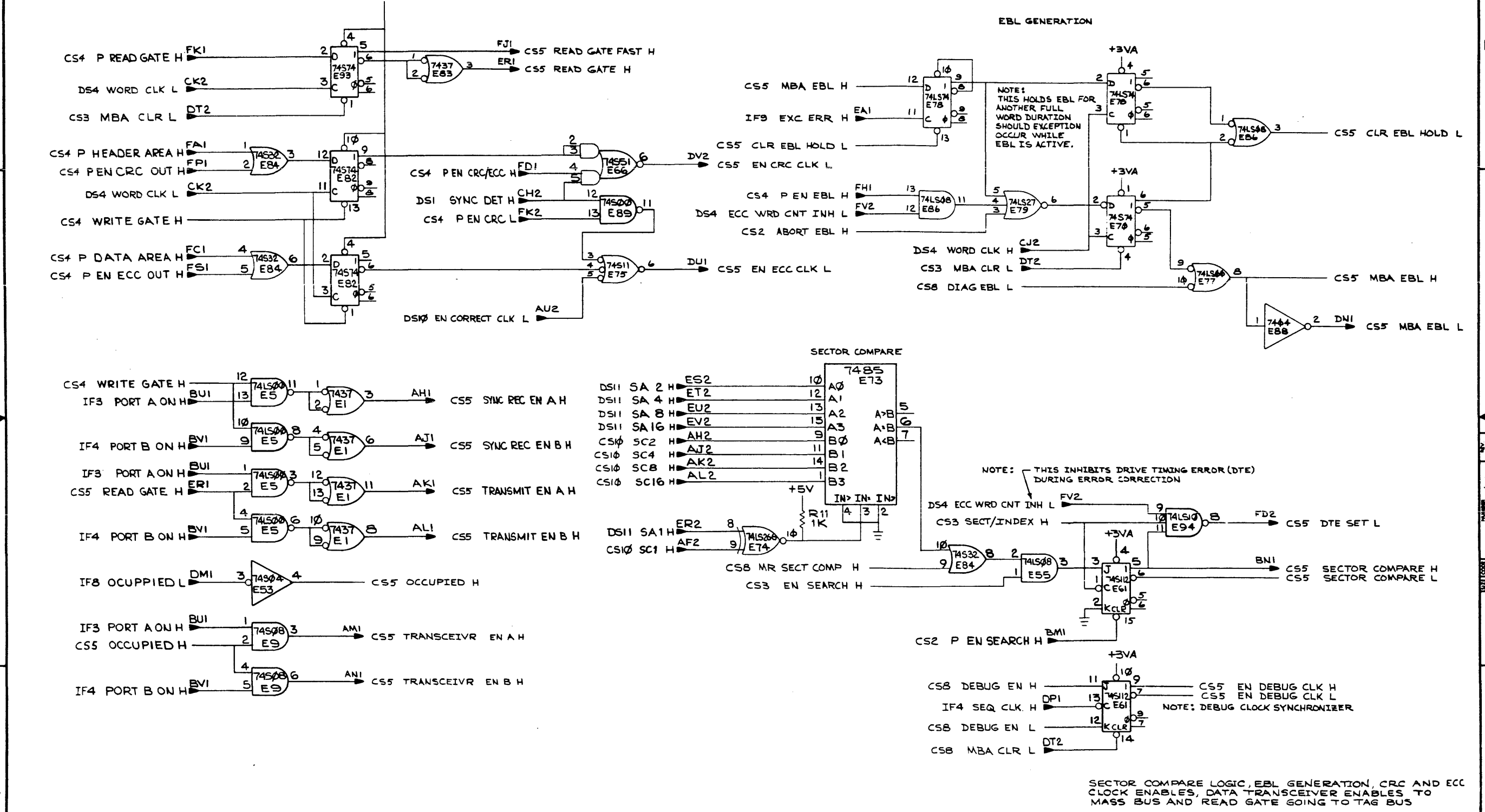
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DATA TIMING SEQUENCER (READ AND WRITE) WRITE GATE FOR TAG BUS AND POWER OK GENERATION

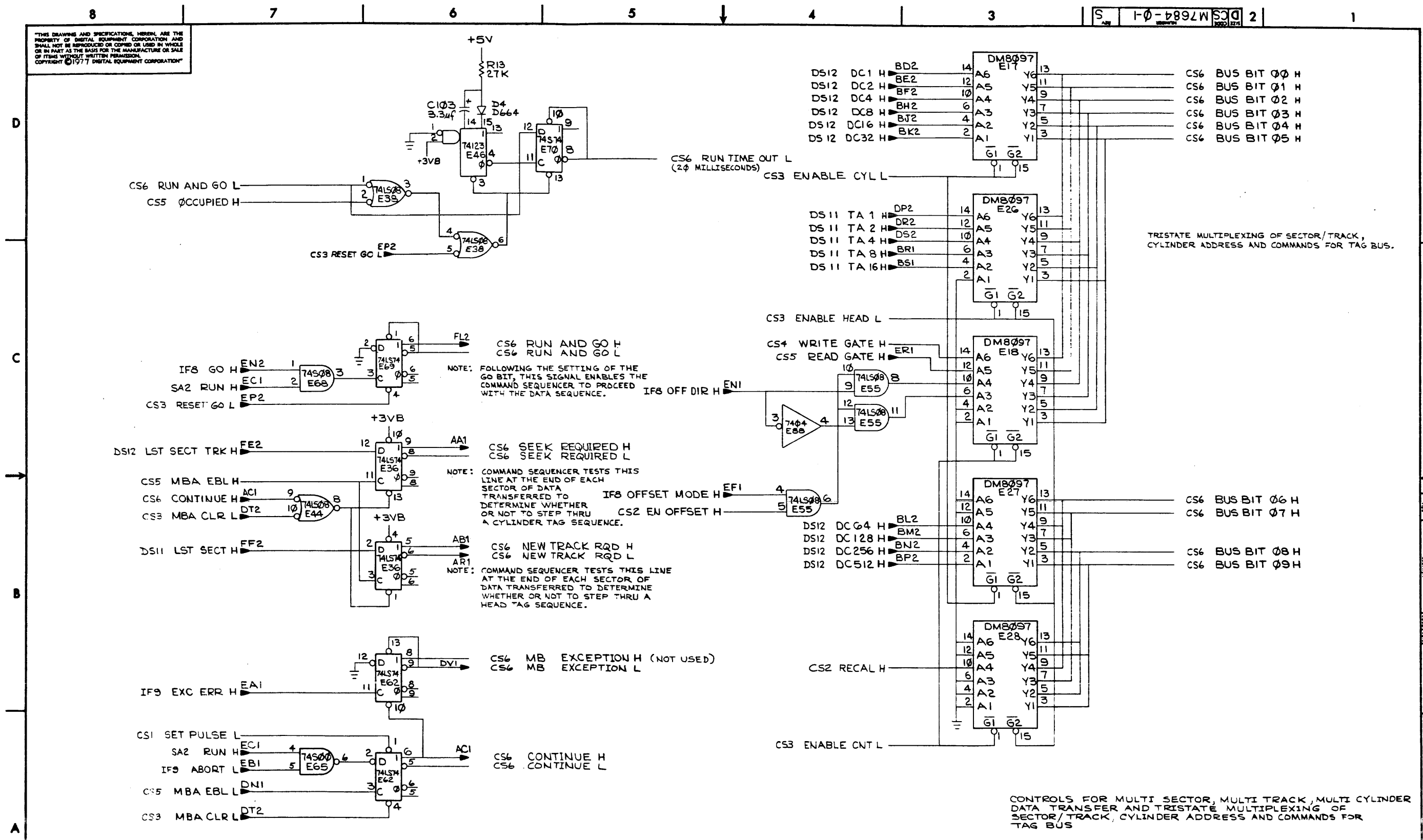
REVISIONS			TITLE		SIZE CODE	NUMBER	REV.
CHK	CHANGE NO.	REV.	CONTROL SEQUENCER (CS4)		DCS	M7684-0-1	S
			SCALE	SHEET 4 OF 19	DIST.		

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REVISIONS		
CHK	CHANGE NO.	REV.

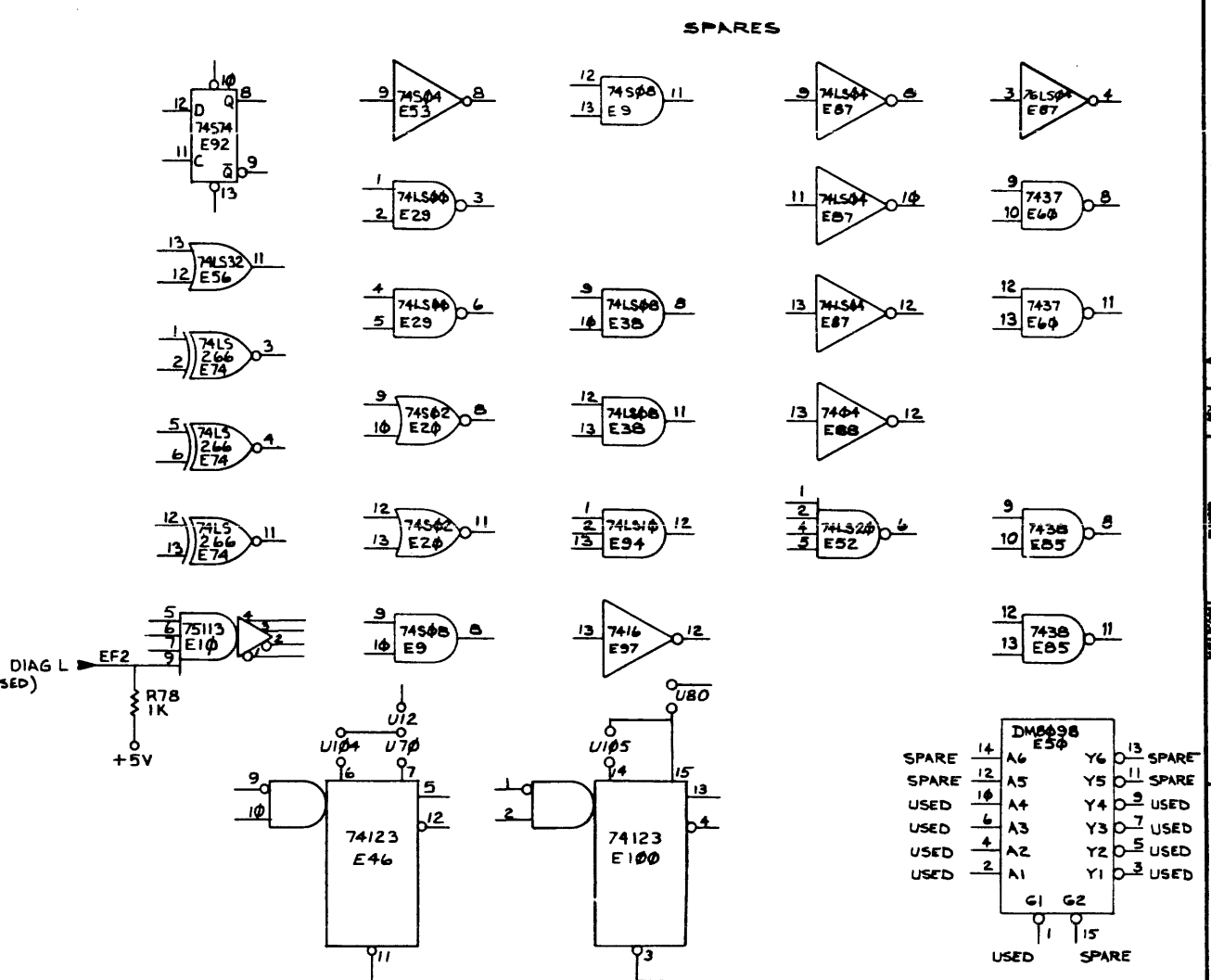
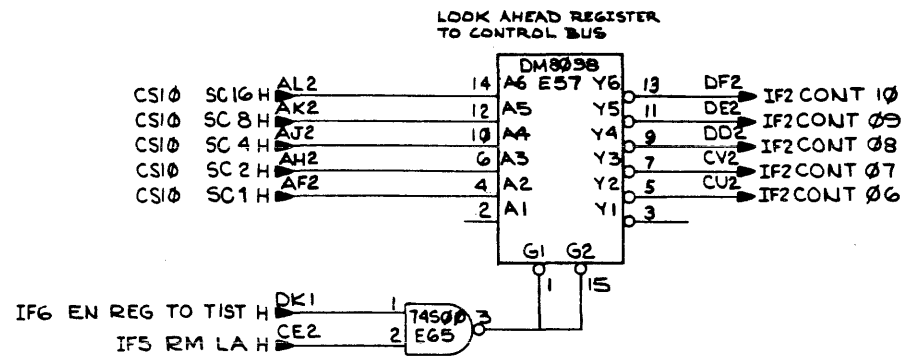
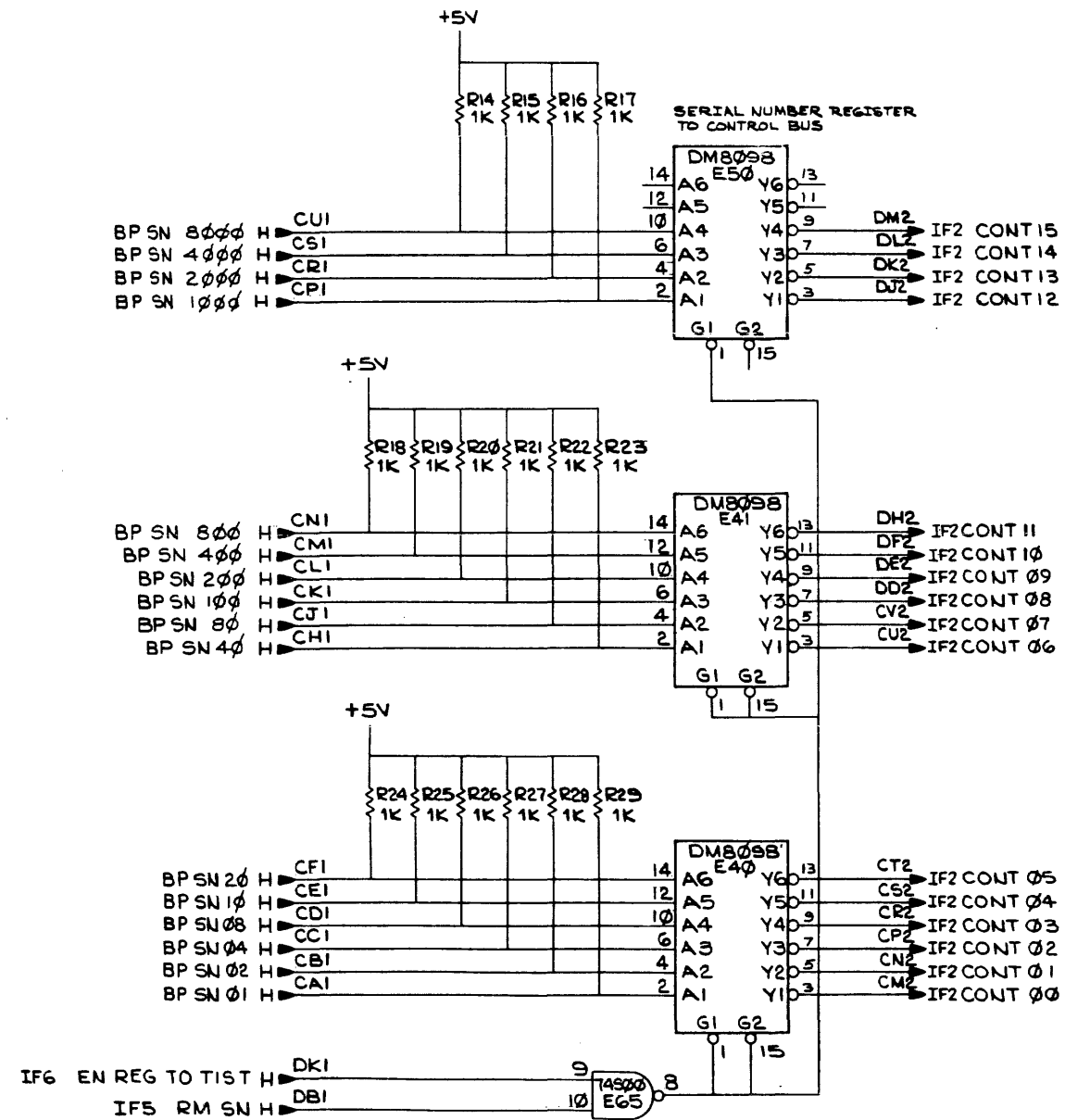
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REVISIONS		
CHK	CHANGE NO.	REV.

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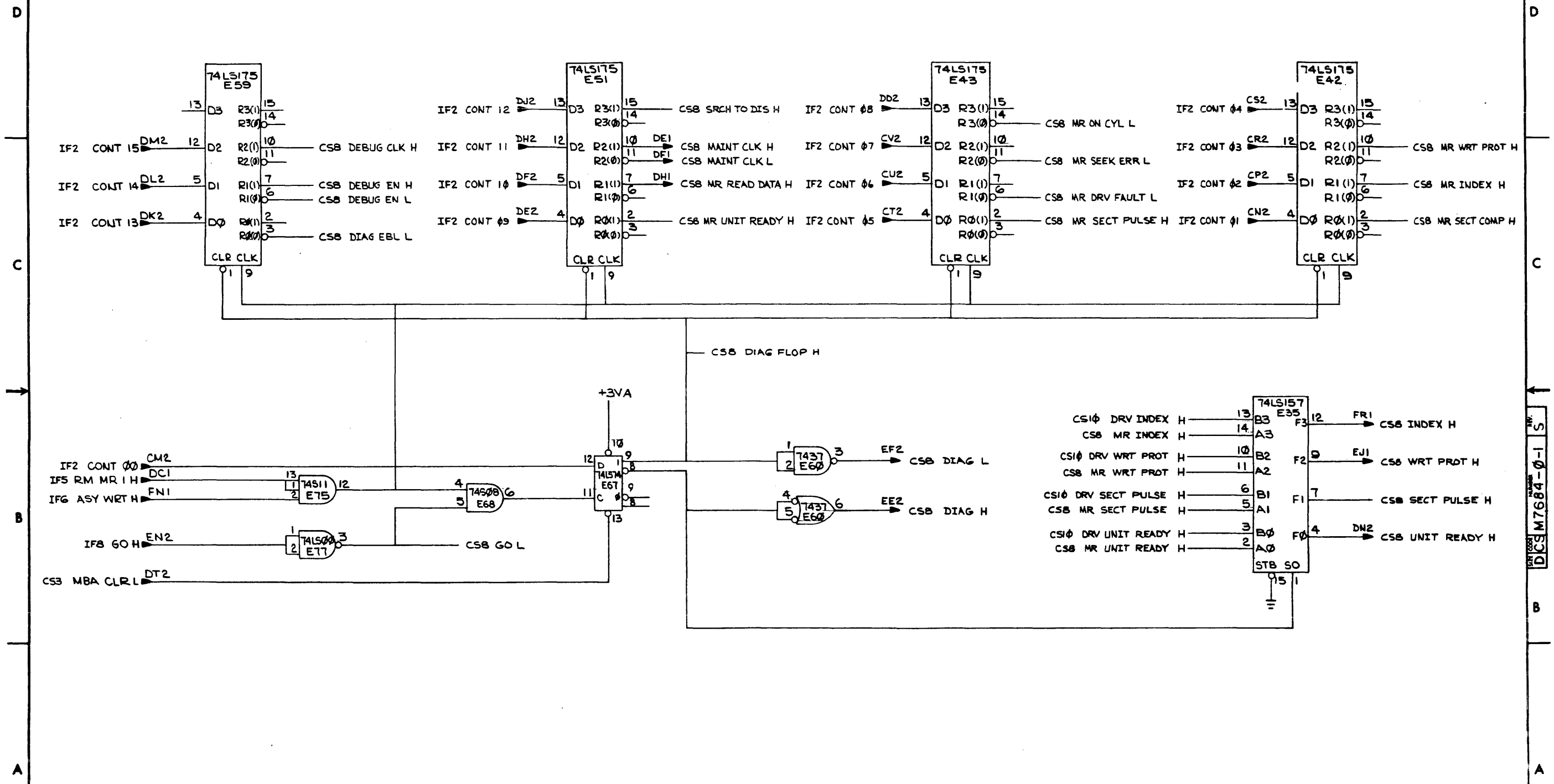
NOTE: ALL ETCH REV B MODULES AND A LIMITED NUMBER OF ETCH REV.C MODULES CONTAIN 56 OHM PULL UPS, R14 THRU R29. ECO NO.6 WAS NOT RETROACTIVE.



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		CONTROL SEQUENCER (CS7)	SIZE CODE	D CS M7684-0-1	NUMBER	REV.	S
SCALE		SHEET 7 OF 19		DIST.			

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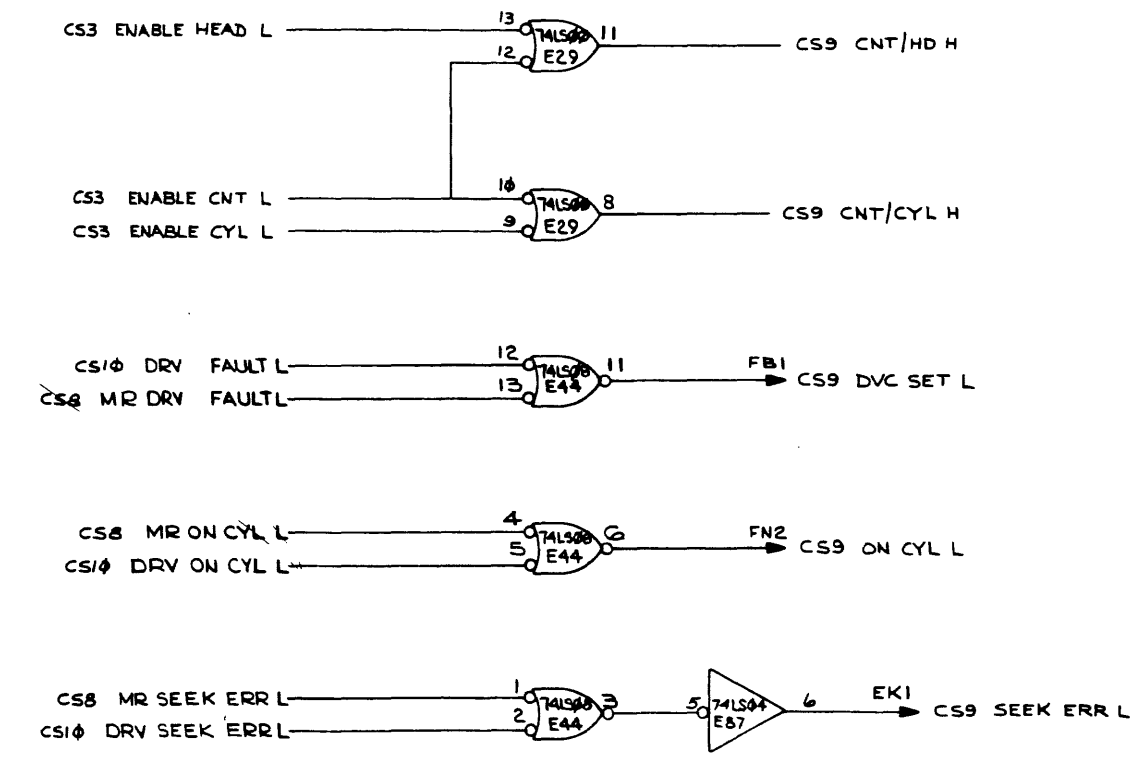
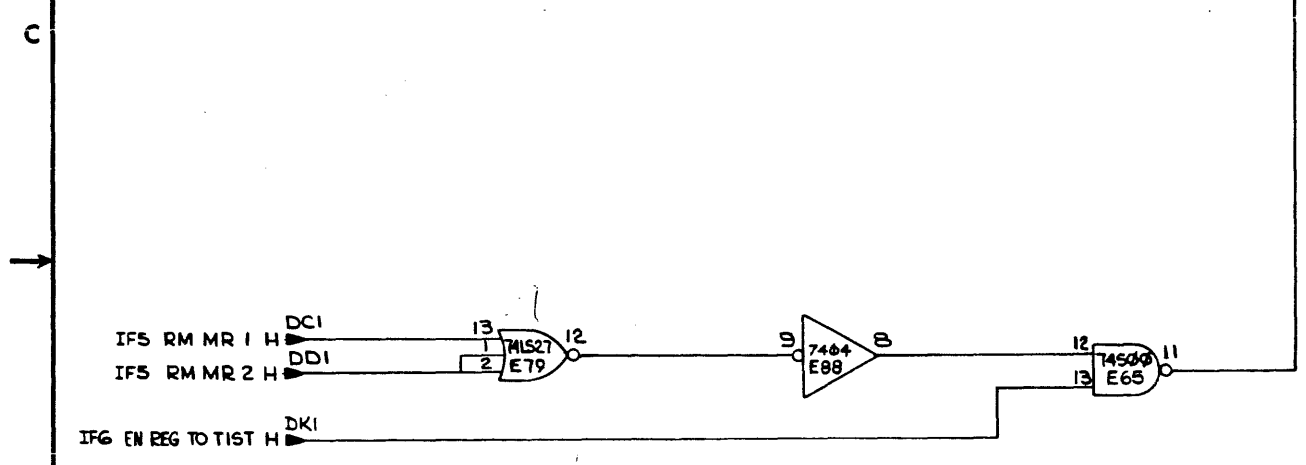
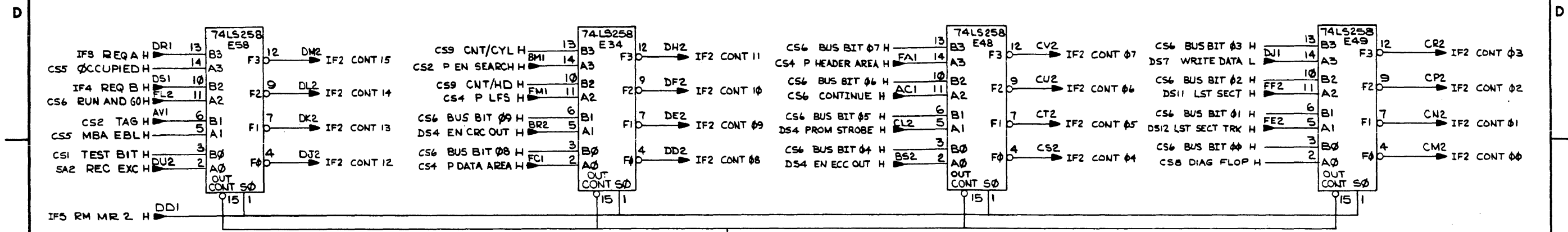


REVISIONS		
CHK	CHANGE NO.	REV.

(WR) MAINTENANCE REGISTER (WRITE ONLY)

TITLE	CONTROL SEQUENCER (CS8)	SIZE CODE	DCS	NUMBER	M7684-0-1	REV.	S
SCALE	+	SHEET	8	OF 19	DIST.		

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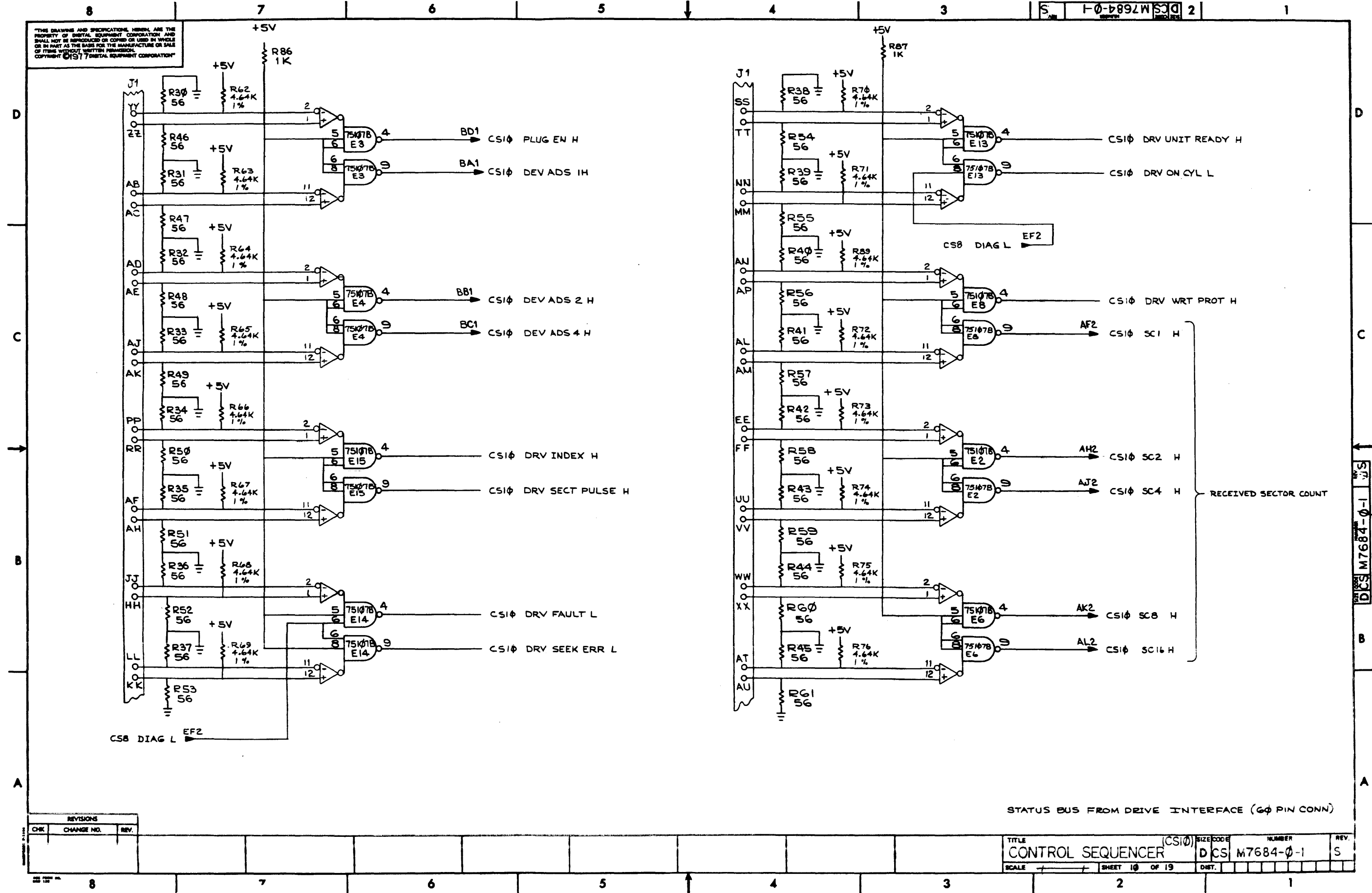
(MR1 & MR2) MAINTENANCE REGISTERS (READ ONLY)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CONTROL SEQUENCER (CS9)	SIZE CODE	D CS	NUMBER	M7684-0-1	REV.	S
SCALE		SHEET	9	OF	19	DIST.	

REV. 2 DCS M7684-0-1 S

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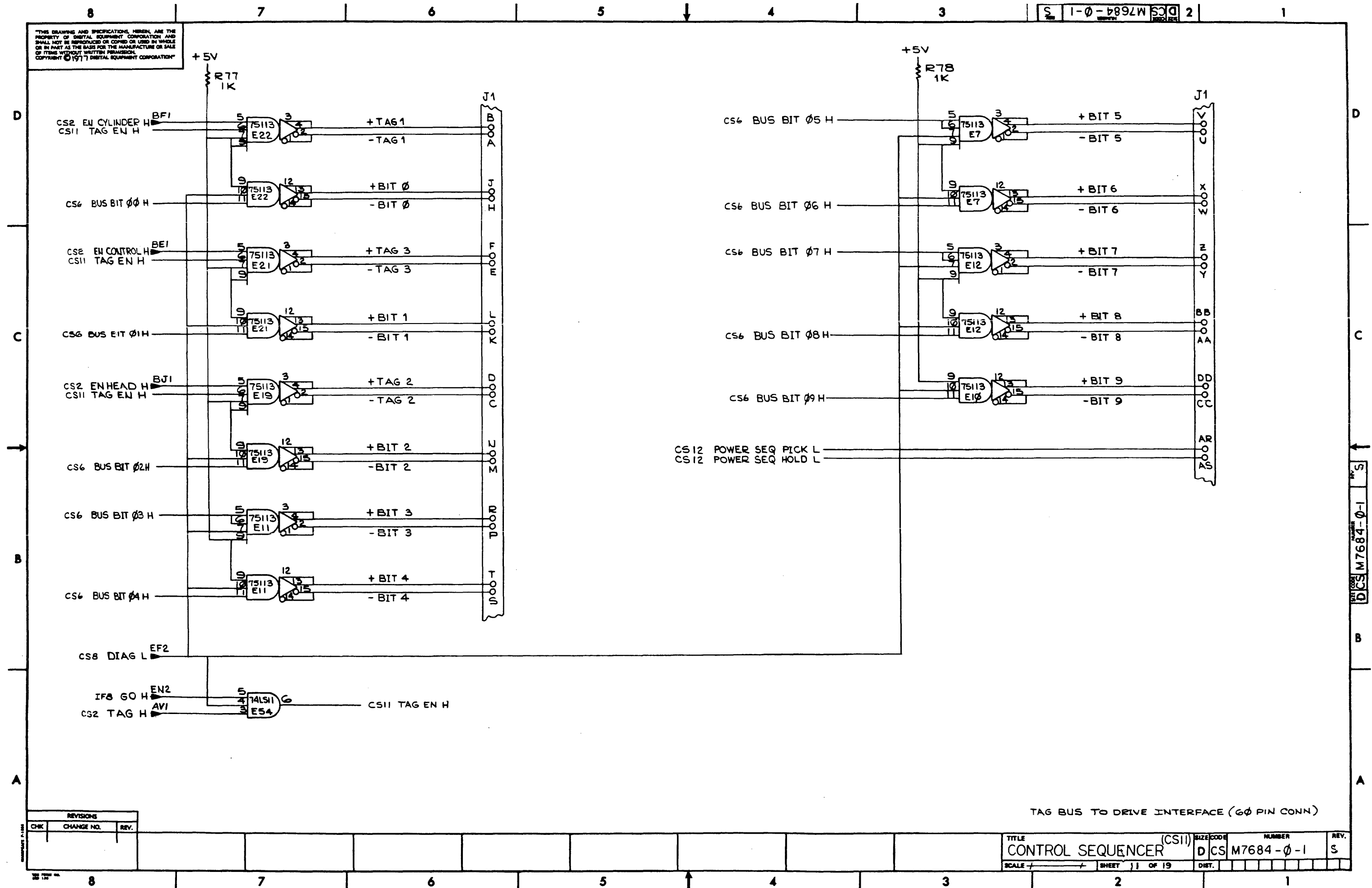


REVISIONS		
CHK	CHANGE NO.	REV.

STATUS BUS FROM DRIVE INTERFACE (6ϕ PIN CONN)

TITLE	CONTROL SEQUENCER (CSIϕ)	SIZE CODE	D CS	NUMBER	M7684-0-1	REV.	S
SCALE	+	SHEET	10	OF	19	DIST.	

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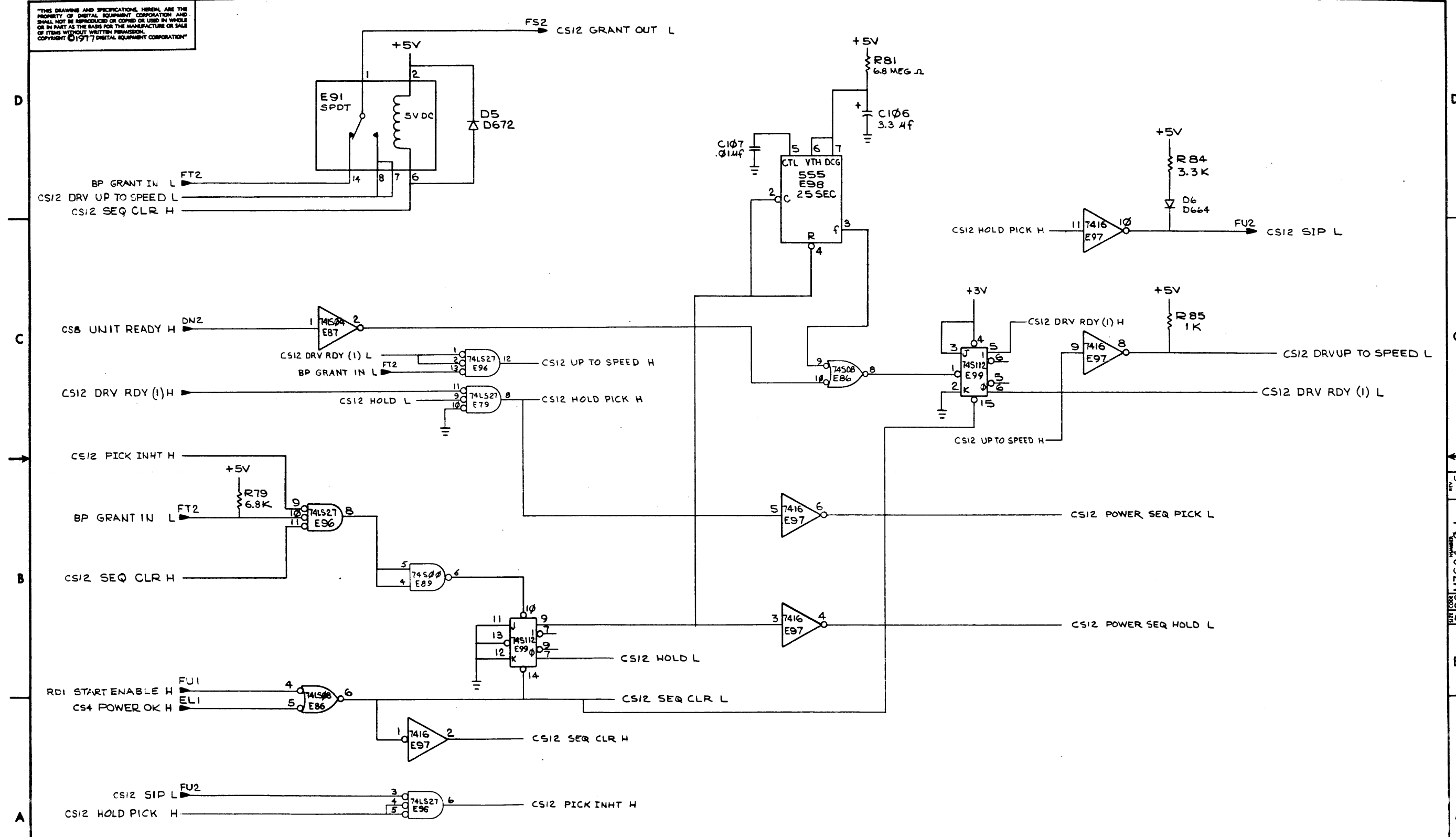


TAG BUS TO DRIVE INTERFACE (60 PIN CONN)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CONTROL SEQUENCER (CS11)	SIZE CODE	D CS	NUMBER	M7684-0-1	REV.	S
SCALE		SHEET	11	OF 19			

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POWER UP SEQUENCE

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CS12	SIZE CODE	NUMBER	REV.
CONTROL SEQUENCER	D	CS	M7684-0-1	S
SCALE	SHEET 12 OF 19	DIST.		

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AA1	CS6 SEEK REQUIRED H	BA1	CS8 DEV ADS 1 H	CA1	BP SN 01 H	DA1	CS2 RD HDR DATA CMD H	EA1	IF9 EXC ERR H	FA1	CS4 P HEADER AREA H
AB1	CS6 NEW TRACK REQ'D H	BB1	CS8 DEV ADS 2 H	CB1	BP SN 02 H	DB1	IF5 RM SN H	EB1	IF9 ABORT L	FB1	CS9 DVC SET L
AC1	CS6 CONTINUE H	BC1	CS8 DEV ADS 4 H	CC1	BP SN 04 H	DC1	IF5 RM MR 1 H	EC1	SA2 RUN H	FC1	CS4 P DATA AREA H
AD1	CSI BRANCH ON TEST L	BD1	CS8 PLUG EN H	CD1	BP SN 08 H	DD1	IF5 RM MR 2 H	ED1	CS3 OPI SET L	FD1	CS4 P EN CRC/ECC H
AE1	SPARE	BE1	CS2 EN CONTROL H	CE1	BP SN 10 H	DE1	CS8 MAINT CLK H	EE1	CS3 WLE SET L	FE1	CS4 P DATA EN SCLK H
AF1	CS3 SET PULSE H	BF1	CS2 EN CYLINDER H	CF1	BP SN 20 H	DF1	CS8 MAINT CLK L	EF1	IF8 OFFSET MODE H	FF1	CS4 LAST READ DATA L
AH1	CS5 SYNC REC EN A H	BH1	BP DC LO L	CH1	BP SN 40 H	DH1	CS8 MR READ DATA H	EH1	GR PROM DIS L	FH1	CS4 P EN EBL H
AJ1	CS5 SYNC REC EN B H	BJ1	CS2 EN HEAD H	CJ1	BP SN 80 H	DJ1	DS7 WRITE DATA L	EJ1	CS8 WRT PROT H	FJ1	CS5 READ GATE FAST H
AK1	CS5 TRANSMIT EN A H	BK1	(NOT USED) IF8 DECODE L	CK1	BP SN 100 H	DK1	IF6 EN REG TO TIST H	EK1	CS9 SEEK ERR L	FK1	CS4 P READ GATE H
AL1	CS5 TRANSMIT EN B H	BL1	IF9 SEQ SKIP L	CL1	BP SN 200 H	DL1	SPARE	EL1	CS4 POWER OK H	FL1	IF4 TEST BIT CLOCK H
AM1	CS5 TRNSCEIVR EN A H	BM1	CS2 P EN SEARCH H	CM1	BP SN 400 H	DM1	IF8 OCCUPIED L	EM1	RDI -5V	FM1	CS4 P LFS H
AN1	CS5 TRNSCEIVR EN B H	BN1	CS5 SECTOR COMPARE H	CN1	BP SN 800 H	DN1	CS5 MBA EBL L	EN1	IF8 OFF DIR H	FN1	IF6 ASY WRT H
AP1	SPARE	BP1	CS3 SECT/INDEX L	CP1	BP SN 1000 H	DP1	IF4 SEQ CLK H	EPI	CS4 PRECLEAR CRC/ECC L	FPI	CS4 P EN CRC OUT H
AR1	CS6 NEW TRACK REQD L	BR1	DS11 TA 8 H	CR1	BP SN 2000 H	DR1	IF3 REQ A H	ERI	CS5 READ GATE H	FRI	CS8 INDEX H
AS1	CSI SEQ CLK STROBE H	BS1	DS11 TA 16 H	CS1	BP SN 4000 H	DS1	IF4 REQ B H	ES1	SPARE	FS1	CS4 P EN ECC OUT H
AT1	GND	BT1	GND	CT1	GND	DT1	GND	ET1	GND	FT1	GND
AU1	CS3 PWR/INIT L	BUI	IF3 PORT A ON H	CUI	BP SN 8000 H	DUI	CS5 EN ECC CLOCK L	EUI	CS4 P EN LOAD SR H	FUI	RDI START ENABLE H
AV1	CS2 TAG H	BVI	IF4 PORT B ON H	CV1	SPARE	DVI	CS6 MB EXCEPTION L	EVI	CS4 DS WRITE GATE H	FVI	SPARE

AA2	+5V	BA2	+5V	CA2	+5V	DA2	+5V	EA2	+5V	FA2	+5V
AB2	-15V	BB2	-15V	CB2	-15V	DB2	-15V	EB2	-15V	FB2	-15V
AC2	GND	BC2	GND	CC2	GND	DC2	GND	EC2	GND	FC2	GND
AD2	CSI RESET H	BD2	DS12 DC 1 H	CD2	CS4 EN SYNC H	DD2	IF2 CONT 08	ED2	IF6 INIT A/B L	FD2	CS5 DTE SET L
AE2	CSI BRANCH H	BE2	DS12 DC 2 H	CE2	IF5 RM LA H	DE2	IF2 CONT 09	EE2	CS8 DIAG H	FE2	DS12 LST SECT TRK H
AF2	CSI0 SC 1 H	BF2	DS12 DC 4 H	CF2	IF8 FMT 16 H	DF2	IF2 CONT 10	EF2	CS8 DIAG L	FF2	DS11 LST SECT H
AH2	CSI0 SC 2 H	BH2	DS12 DC 8 H	CH2	DS1 SYNC DET H	DH2	IF2 CONT 11	EH2	IF8 F0 H	FH2	IF11 LSC L
AJ2	CSI0 SC 4 H	BJ2	DS12 DC 16 H	CJ2	DS4 WORD CLK H	DJ2	IF2 CONT 12	EJ2	IF8 F1 H	FJ2	CS2 FORMAT H
AK2	CSI0 SC 8 H	BK2	DS12 DC 32 H	CK2	DS4 WORD CLK L	DK2	IF2 CONT 13	EK2	IF8 F2 H	FK2	CS4 P EN CRC L
AL2	CSI0 SC 16 H	BL2	DS12 DC 64 H	CL2	DS4 PROM STROBE H	DL2	IF2 CONT 14	EL2	IF8 F3 H	FL2	CS6 RUN AND GO H
AM2	SPARE	BM2	DS12 DC 128 H	CM2	IF2 CONT 00	DM2	IF2 CONT 15	EM2	IF8 F4 H	FM2	CS2 LSC SET L
AN2	SPARE	BN2	DS12 DC 256 H	CN2	IF2 CONT 01	DN2	CS8 UNIT READY H	EN2	IF8 GO H	FN2	CS9 ON CYL L
AP2	SPARE	BP2	DS12 DC 512 H	CP2	IF2 CONT 02	DP2	DS11 TA1 H	EP2	CS3 RESET GO L	FP2	CS2 EN EXC H
AR2	SPARE	BR2	DS4 EN CRC OUT H	CR2	IF2 CONT 03	DR2	DS11 TA2 H	ER2	DS11 SA 1 H	FR2	CS2 SET IVC H
AS2	CS4 BR RD TO WRT L	BS2	DS4 EN ECC OUT H	CS2	IF2 CONT 04	DS2	DS11 TA4 H	ES2	DS11 SA 2 H	FS2	CS12 GRANT OUT L
AT2	CS4 P WRITE GATE H	BT2	CS4 READ HEADER H	CT2	IF2 CONT 05	DT2	CS3 MBA CLR L	ET2	DS11 SA 4 H	FT2	BP GRANT IN L
AU2	DS10 EN CORRECT CLK L	BU2	CS2 P SET ATA L	CU2	IF2 CONT 06	DU2	SA2 REC EXC H	EU2	DS11 SA 8 H	FU2	CS12 SIP L
AV2	CS4 BRANCH L	BV2	BP PROM GROUND	CV2	IF2 CONT 07	DV2	CS5 EN CRC CLOCK L	EV2	DS11 SA 16 H	FV2	DS4 ECC WRD CNT INH L

I/O SIGNAL LIST

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CONTROL SEQUENCER (CS 13)	SIZE CODE	D CS	NUMBER	M7684-0-1	REV.	S
SCALE	SHEET 13 OF 19		DIST.				

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AA1 CS6 SEEK REQUIRED H	BA1 CS8 DEV ADS 1 H	CA1 BP SN 01 H	DA1 CS2 RD HDR DATA CMD H	EA1 IF9 EXC ERR H	FA1 CS4 P HEADER AREA H
AB1 CS6 NEW TRACK REQ'D H	BB1 CS8 DEV ADS 2 H	CB1 BP SN 02 H	DB1 IF5 RM SN H	EB1 IF9 ABORT L	FB1 CS9 DVC SET L
AC1 CS6 CONTINUE H	BC1 CS8 DEV ADS 4 H	CC1 BP SN 04 H	DC1 IF5 RM MR 1 H	EC1 SA2 RUN H	FC1 CS4 P DATA AREA H
AD1 CS1 BRANCH ON TEST L	BD1 CS8 PLUG EN H	CD1 BP SN 08 H	DD1 IF5 RM MR 2 H	ED1 CS3 OPI SET L	FD1 CS4 P EN CRC/ECC H
AE1 SPARE	BE1 CS2 EN CONTROL H	CE1 BP SN 10 H	DE1 CS8 MAINT CLK H	EE1 CS3 WLE SET L	FE1 CS4 P DATA EN SCLK H
AF1 CS3 SET PULSE H	BF1 CS2 EN CYLINDER H	CF1 BP SN 20 H	DF1 CS8 MAINT CLK L	EF1 IF8 OFFSET MODE H	FF1 CS4 LAST READ DATA L
AH1 CS5 SYNC REC EN A H	BH1 BP DC LO L	CH1 BP SN 40 H	DH1 CS8 MR READ DATA H	EH1 GR PROM DIS L	FH1 CS4 P EN EBL H
AJ1 CS5 SYNC REC EN B H	BJ1 CS2 EN HEAD H	CJ1 BP SN 80 H	DJ1 DS7 WRITE DATA L	EJ1 CS8 WRT PROT H	FJ1 CS5 READ GATE FAST H
AK1 CS5 TRANSMIT EN A H	BK1 (NOT USED) IF8 DECODE L	CK1 BP SN 100 H	DK1 IF6 EN REG TO TIST H	EK1 CS9 SEEK ERR L	FK1 CS4 P READ GATE H
AL1 CS5 TRANSMIT EN B H	BL1 IF9 SEQ SKIP L	CL1 BP SN 200 H	DL1 SPARE	EL1 CS4 POWER OK H	FL1 IF4 TEST BIT CLOCK H
AM1 CS5 TRNSCEIVR EN A H	BM1 CS2 P EN SEARCH H	CM1 BP SN 400 H	DM1 IF8 OCCUPIED L	EM1 RDI -5V	FM1 CS4 P LFS H
AN1 CS5 TRNSCEIVR EN B H	BN1 CS5 SECTOR COMPARE H	CN1 BP SN 800 H	DN1 CS5 MBA EBL L	EN1 IF8 OFF DIR H	FN1 IF6 ASY WRT H
AP1 SPARE	BP1 CS3 SECT/INDEX L	CP1 BP SN 1000 H	DP1 IF4 SEQ CLK H	EP1 CS4 PRECLEAR CRC/ECC L	FP1 CS4 P EN CRC OUT H
AR1 CS6 NEW TRACK REQD L	BR1 DS11 TA 8 H	CR1 BP SN 2000 H	DR1 IF3 REQ A H	ER1 CS5 READ GATE H	FR1 CS8 INDEX H
AS1 CS1 SEQ CLK STROBE H	BS1 DS11 TA 16 H	CS1 BP SN 4000 H	DS1 IF4 REQ B H	ES1 SPARE	FS1 CS4 P EN ECC OUT H
AT1 GND	BT1 GND	CT1 GND	DT1 GND	ET1 GND	FT1 GND
AU1 CS3 PWR/INIT L	BUI IF3 PORT A ON H	CUI BP SN 8000 H	DUI CS5 EN ECC CLOCK L	EUI CS4 P EN LOAD SR H	FUI RDI START ENABLE H
AV1 CS2 TAG H	BVI IF4 PORT B ON H	CV1 SPARE	DVI CS6 MB EXCEPTION L	EVI CS4 DS WRITE GATE H	FVI SPARE

AA2 +5V	BA2 +5V	CA2 +5V	DA2 +5V	EA2 +5V	FA2 +5V
AB2 -15V	BB2 -15V	CB2 -15V	DB2 -15V	EB2 -15V	FB2 -15V
AC2 GND	BC2 GND	CC2 GND	DC2 GND	EC2 GND	FC2 GND
AD2 CS1 RESET H	BD2 DS12 DC 1 H	CD2 CS4 EN SYNC H	DD2 IF2 CONT 08	ED2 IF6 INIT A/B L	FD2 CS5 DTE SET L
AE2 CS1 BRANCH H	BE2 DS12 DC 2 H	CE2 IF5 RM LA H	DE2 IF2 CONT 09	EE2 CS8 DIAG H	FE2 DS12 LST SECT TRK H
AF2 CS10 SC 1 H	BF2 DS12 DC 4 H	CF2 IF8 FMT 16 H	DF2 IF2 CONT 10	EF2 CS8 DIAG L	FF2 DS11 LST SECT H
AH2 CS10 SC 2 H	BH2 DS12 DC 8 H	CH2 DS1 SYNC DET H	DH2 IF2 CONT 11	EH2 IF8 F0 H	FH2 IF11 LSC L
AJ2 CS10 SC 4 H	BJ2 DS12 DC 16 H	CJ2 DS4 WORD CLK H	DJ2 IF2 CONT 12	EJ2 IF8 F1 H	FJ2 CS2 FORMAT H
AK2 CS10 SC 8 H	BK2 DS12 DC 32 H	CK2 DS4 WORD CLK L	DK2 IF2 CONT 13	EK2 IF8 F2 H	FK2 CS4 P EN CRC L
AL2 CS10 SC 16 H	BL2 DS12 DC 64 H	CL2 DS4 PROM STROBE H	DL2 IF2 CONT 14	EL2 IF8 F3 H	FL2 CS6 RUN AND GO H
AM2 SPARE	BM2 DS12 DC 128 H	CM2 IF2 CONT 00	DM2 IF2 CONT 15	EM2 IF8 F4 H	FM2 CS2 LSC SET L
AN2 SPARE	BN2 DS12 DC 256 H	CN2 IF2 CONT 01	DN2 CS8 UNIT READY H	EN2 IF8 GO H	FN2 CS9 ON CYL H
AP2 SPARE	BP2 DS12 DC 512 H	CP2 IF2 CONT 02	DP2 DS11 TA1 H	EP2 CS3 RESET GO L	FP2 CS2 EN EXC H
AR2 SPARE	BR2 DS4 EN CRC OUT H	CR2 IF2 CONT 03	DR2 DS11 TA2 H	ER2 DS11 SA 1 H	FR2 CS2 SET IVC H
AS2 CS4 BR RD TO WRT L	BS2 DS4 EN ECC OUT H	CS2 IF2 CONT 04	DS2 DS11 TA4 H	ES2 DS11 SA 2 H	FS2 CS12 GRANT OUT L
AT2 CS4 P WRITE GATE H	BT2 CS4 READ HEADER H	CT2 IF2 CONT 05	DT2 CS3 MBA CLR L	ET2 DS11 SA 4 H	FT2 BP GRANT IN L
AU2 DS10 EN CORRECT CLK L	BU2 CS2 P SET ATA L	CU2 IF2 CONT 06	DU2 SA2 REC EXC H	EU2 DS11 SA 8 H	FU2 CS12 SIP L
AV2 CS4 BRANCH L	BV2 BP PROM GROUND	CV2 IF2 CONT 07	DV2 CS5 EN CRC CLOCK L	EV2 DS11 SA 16 H	FV2 DS4 ECC WRD CNT INH L

I/O SIGNAL LIST

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	(CS 13)	SIZE CODE	NUMBER	REV.
CONTROL SEQUENCER	D CS	M7684-0-1	S	
SCALE	SHEET 13	OF 19	DIST.	

REV S
M7684-0-1
D CS

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DEC PART NUMBER: 23-01601 ORIGINATOR: IRENE BELLETTIERE BINARY DATA "1" = HIGH SHEET 1 OF 4
LEFT COLUMN OF BIN DATA IS MSB (PIN 17 OF IC) DATE ORIGINATED: 5-4-77 BINARY DATA "0" = LOW

Table with 16 columns: DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN. Rows contain hex/oct and bin data for various components.

DEC PART NUMBER: 23-01601 ORIGINATOR: IRENE BELLETTIERE BINARY DATA "1" = HIGH SHEET 3 OF 4
LEFT COLUMN OF BIN DATA IS MSB (PIN 17 OF IC) DATE ORIGINATED: 5-4-77 BINARY DATA "0" = LOW

Table with 16 columns: DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN. Rows contain hex/oct and bin data for various components.

DEC PART NUMBER: 23-01601 ORIGINATOR: IRENE BELLETTIERE BINARY DATA "1" = HIGH SHEET 2 OF 4
LEFT COLUMN OF BIN DATA IS MSB (PIN 17 OF IC) DATE ORIGINATED: 5-4-77 BINARY DATA "0" = LOW

Table with 16 columns: DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN. Rows contain hex/oct and bin data for various components.

DEC PART NUMBER: 23-01601 ORIGINATOR: IRENE BELLETTIERE BINARY DATA "1" = HIGH SHEET 4 OF 4
LEFT COLUMN OF BIN DATA IS MSB (PIN 17 OF IC) DATE ORIGINATED: 5-4-77 BINARY DATA "0" = LOW

Table with 16 columns: DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN. Rows contain hex/oct and bin data for various components.

COMMON READ/WRITE CONTROLS FROM P. 72 (CS4)
TITLE: 512 X 8
ROM/PROM PATTERN SPEC
23-01601

REVISIONS table with columns: CHK, CHANGE NO., REV.

Table with columns: TITLE (CONTROL SEQUENCER), SIZE CODE (D CS), NUMBER (M7684-0-1), REV. (S). Includes SHEET 15 OF 19 and SCALE.

D CS M7684-C-1

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DEC PART NUMBER: 23-01601 ORIGINATOR: IRENE BELLETTIERE SHEET 1 OF 4
LEFT COLUMN OF BIN DATA IS MSB (PIN 17 OF IC) DATE ORIGINATED: 5-4-77 BINARY DATA "1" = HIGH BINARY DATA "0" = LOW

Table with 16 columns: DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN. Rows contain binary data for pins 0-31.

DEC PART NUMBER: 23-01601 ORIGINATOR: IRENE BELLETTIERE SHEET 2 OF 4
LEFT COLUMN OF BIN DATA IS MSB (PIN 17 OF IC) DATE ORIGINATED: 5-4-77 BINARY DATA "1" = HIGH BINARY DATA "0" = LOW

Table with 16 columns: DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN. Rows contain binary data for pins 32-63.

DEC PART NUMBER: 23-01601 ORIGINATOR: IRENE BELLETTIERE SHEET 3 OF 4
LEFT COLUMN OF BIN DATA IS MSB (PIN 17 OF IC) DATE ORIGINATED: 5-4-77 BINARY DATA "1" = HIGH BINARY DATA "0" = LOW

Table with 16 columns: DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN. Rows contain binary data for pins 64-95.

DEC PART NUMBER: 23-01601 ORIGINATOR: IRENE BELLETTIERE SHEET 4 OF 4
LEFT COLUMN OF BIN DATA IS MSB (PIN 17 OF IC) DATE ORIGINATED: 5-4-77 BINARY DATA "1" = HIGH BINARY DATA "0" = LOW

Table with 16 columns: DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN. Rows contain binary data for pins 96-127.

COMMON READ/WRITE CONTROLS FROM AF E 72 (CS4)
TITLE: 312 X 0
ROW/FROM PATTERN SPEC
23-01601

Table with 3 columns: CHK, CHANGE NO., REV.

Table with 4 columns: TITLE (CONTROL SEQUENCER), SIZE CODE (D CS), NUMBER (M7684-0-1), REV. (S). Includes scale and sheet information.

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DEC PART NUMBER: 23-01701, ORIGINATOR: IRENE BELLETTIERE, DATE ORIGINATED: 3-4-77, SHEET 1 OF 4. Table with columns: DEC HEX OCT, OCT HEX BIN, LOC LOC LOC, DAT DAT DAT, etc.

DEC PART NUMBER: 23-01701, ORIGINATOR: IRENE BELLETTIERE, DATE ORIGINATED: 3-4-77, SHEET 3 OF 4. Table with columns: DEC HEX OCT, OCT HEX BIN, LOC LOC LOC, DAT DAT DAT, etc.

DEC PART NUMBER: 23-01701, ORIGINATOR: IRENE BELLETTIERE, DATE ORIGINATED: 3-4-77, SHEET 2 OF 4. Table with columns: DEC HEX OCT, OCT HEX BIN, LOC LOC LOC, DAT DAT DAT, etc.

DEC PART NUMBER: 23-01701, ORIGINATOR: IRENE BELLETTIERE, DATE ORIGINATED: 3-4-77, SHEET 4 OF 4. Table with columns: DEC HEX OCT, OCT HEX BIN, LOC LOC LOC, DAT DAT DAT, etc.

WRITE CONTROL PROM AT E30 (CS+)
TITLE
512 X 8
ROM/PROM PATTERN SPEC
23-01701

REVISIONS table with columns: CHK, CHANGE NO., REV.

DCS M7684-0-1

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DEC PART NUMBER: 23-00088 ORIGINATOR: IRPME BELLETTIERE BINARY DATA "1" = HIGH SHEET 1 OF 2
LEFT COLUMN OF BIN DATA IS MSB (PIN 17 OF IC) DATE ORIGINATED: 5-2-77 BINARY DATA "0" = LOW

Table with 12 columns: DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT. Rows contain binary data for pins 00 to 117.

DEC PART NUMBER: 23-00088 ORIGINATOR: IRPME BELLETTIERE BINARY DATA "1" = HIGH SHEET 2 OF 2
LEFT COLUMN OF BIN DATA IS MSB (PIN 17 OF IC) DATE ORIGINATED: 5-2-77 BINARY DATA "0" = LOW

Table with 12 columns: DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT. Rows contain binary data for pins 128 to 257.

DEC PART NUMBER: 23-00088 ORIGINATOR: IRPME BELLETTIERE BINARY DATA "1" = HIGH SHEET 1 OF 2
LEFT COLUMN OF BIN DATA IS MSB (PIN 17 OF IC) DATE ORIGINATED: 5-2-77 BINARY DATA "0" = LOW

Table with 12 columns: DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT. Rows contain binary data for pins 00 to 117.

DEC PART NUMBER: 23-00088 ORIGINATOR: IRPME BELLETTIERE BINARY DATA "1" = HIGH SHEET 2 OF 2
LEFT COLUMN OF BIN DATA IS MSB (PIN 17 OF IC) DATE ORIGINATED: 5-2-77 BINARY DATA "0" = LOW

Table with 12 columns: DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT, DEC HEX OCT LOC LOC LOC, OCT HEX BIN DAT DAT DAT. Rows contain binary data for pins 128 to 257.

COMMAND SEQUENCER MISCELLANEOUS AT E47 (CS2)
TITLE
23-00088
NON/PPOM PATTERN SPEC

TAG CONTROLS AT E39 (CS2)
TITLE
23-00088
NON/PPOM PATTERN SPEC

Table with 3 columns: CHK, CHANGE NO., REV. for revisions.

Table with 5 columns: TITLE (CONTROL SEQUENCER), DCS, NUMBER (M7684-0-1), SCALE, SHEET (17 OF 19), REV. (S).

DCS M7684-0-1 S

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DEC PART NUMBER: 23-02000 ORIGINATOR: IRENE BELLETTIERE BINARY DATA "1" = HIGH SHEET 1 OF 3
LEFT COLUMN OF BIN DATA IS MSB (PIN 17 OF IC) DATE ORIGINATED: 8-25-77 BINARY DATA "0" = LOW

Table with columns: DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN. Rows contain binary data for pins 00 to 31.

DEC PART NUMBER: 23-02000 ORIGINATOR: IRENE BELLETTIERE BINARY DATA "1" = HIGH SHEET 1 OF 3
LEFT COLUMN OF BIN DATA IS MSB (PIN 17 OF IC) DATE ORIGINATED: 8-25-77 BINARY DATA "0" = LOW

Table with columns: DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN. Rows contain binary data for pins 00 to 31.

DEC PART NUMBER: 23-02000 ORIGINATOR: IRENE BELLETTIERE BINARY DATA "1" = HIGH SHEET 2 OF 3
LEFT COLUMN OF BIN DATA IS MSB (PIN 17 OF IC) DATE ORIGINATED: 8-25-77 BINARY DATA "0" = LOW

Table with columns: DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN. Rows contain binary data for pins 120 to 199.

DEC PART NUMBER: 23-02000 ORIGINATOR: IRENE BELLETTIERE BINARY DATA "1" = HIGH SHEET 2 OF 3
LEFT COLUMN OF BIN DATA IS MSB (PIN 17 OF IC) DATE ORIGINATED: 8-25-77 BINARY DATA "0" = LOW

Table with columns: DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN, DEC HEX OCT, OCT HEX BIN. Rows contain binary data for pins 120 to 199.

SEQUENCER CONTROL PROM AT E16 (CS1)
TITLE: 256 X 8 ROM/PROM PATTERN SPEC
23-02208

BRANCH ADDRESS AT E33 (CS1)
TITLE: 256 X 8 ROM/PROM PATTERN SPEC
23-02000

REVISIONS table with columns: CHK, CHANGE NO., REV.

CONTROL SEQUENCER (CS1B) SHEET 18 OF 19 DIST. NUMBER M7684-0-1 REV. S

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DEC PART NUMBER: 23-204A1 ORIGINATOR: IRENE BELLETTIENE BINARY DATA "1" = HIGH SHEET 1 OF 1
 LEFT COLUMN OF BIN DATA IS MSB (PIN 50 OF IC) DATE ORIGINATED: 4-29-77 BINARY DATA "0" = LOW

DEC LOC	HEX LOC	OCT LOC	OCT HEX BIN DAT DAT DAT	DEC LOC	HEX LOC	OCT LOC	OCT HEX BIN DAT DAT DAT	DEC LOC	HEX LOC	OCT LOC	OCT HEX BIN DAT DAT DAT	DEC LOC	HEX LOC	OCT LOC	OCT HEX BIN DAT DAT DAT
0	00	00	017 0F 00001111	1	01	01	013 0B 00010111	2	02	02	013 0B 00010111	3	03	03	013 0B 00201011
4	04	04	017 0F 00011111	5	05	05	013 0B 00010111	6	06	06	013 0B 00010111	7	07	07	013 0B 00010111
8	08	08	017 0F 00011111	9	09	09	017 0F 00011111	10	0A	0A	013 0B 00010111	11	0B	0B	013 0B 00010111
12	0C	0C	013 0B 00010111	13	0D	0D	013 0B 00010111	14	0E	0E	013 0B 00010111	15	0F	0F	013 0B 00010111
16	10	10	013 0B 00010111	17	11	11	013 0B 00010111	18	12	12	013 0B 00010111	19	13	13	013 0B 00010111
20	14	14	003 03 00000011	21	15	15	003 03 00000011	22	16	16	013 0B 00010111	23	17	17	013 0B 00010111
24	18	18	003 03 00000011	25	19	19	002 02 00000010	26	1A	1A	013 0B 00010111	27	1B	1B	013 0B 00010111
28	1C	1C	003 03 00000011	29	1D	1D	001 01 00000001	30	1E	1E	013 0B 00010111	31	1F	1F	013 0B 00010111

COMMAND DECODE AT E45 (CS2)

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
TITLE 32 X 8 ROM/PROM PATTERN SPEC 23-204A1

REVISIONS		
CHK	CHANGE NO.	REV.

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
1	D-MD-5012484-0-0	5012484-00	M7684	1	
2		1012784-00	.047 MFD 50V +80-20% CER	58	C1-C55,C58-C60
3		1005306-00	6.8MFD 35V 10% S.TANT	1	C101
4		1005334-00	3.3MFD 20V 10% S.TANT	3	C103,C106,C115
5		1009964-00	.68 MFD 35V 10% S.TANT	1	C102
6		1000042-00	1000.0 MMF 100V 5%200PPM MICA	2	C56,C57
7		1001631-00	390.0 MMF 100V 5%200PPM MICA	1	C100
8		1100114-00	D 664 QSA75PCB PIV= 25V SP	4	D1,D2,D4,D6
9		1105275-00	D 672 TR= 15NS PIV= 60V SI	2	D3,D5
10		1216988-02	HANDLE,MODULE,HEX TWO EJECTORS	1	
11		1302602-00	56.0 .25 W 5.0 % CF	32	R30-R61
12		1300365-00	1.0 K .25 W 5.0 % CF	23	R11,R14-R29,R77,R78,R85-R88
13		1302388-00	2.0 K .25 W 5.0 % CF	10	R2-R6,R10,R90,R93,R94,R80
14		1302394-00	30.0 K .25 W 5.0 % CF	4	R7,R8,R91,R92
15		1313349-00	33.0 K .25 W 5.0 % CF	1	R1
16		1305346-00	27.0 K .25 W 5.0 % CF	1	R13
17		1304856-00	4.64 K .25 W 1.0 % RN55D-F10	16	R62-R76,R89
18		1301423-00	6.80 K .25 W 5.0 % CF	1	R79
19		1302666-00	*** THIS ITEM IS NOT USED ***	-	
20		1300439-00	3.30 K .25 W 5.0 % CF	1	R84
21		9000024-01	EYELET,ROLLED 0.1210DX0.192	12	
22		2300888-00	B8-01	1	E47
23		1910091-00	DEC 7437 AND GATE-QUAD 2IN,BU	3	E1,E60,E83
24		1911219-00	7438 NAND GATE-QUAD 2IN,B	1	E85
25		1909928-00	7416 INVERTER GATE-HEX 1I	1	E97
26		1910224-00	DEC 7485 COMPARATOR-4BIT	1	E73
27		1910436-00	DEC 74123 ONE SHOT-DUAL,RETRIG	4	E25,E46,E71,E100
28		1910153-00	DEC 74150 MUX 1 OF 16	1	E64
29		1910268-01	DEC 75107B-01 RECEIVER,LINE,DUA	8	E2,E3,E4,E6,E8,E13,E14,E15
30		1911341-00	75113 DRIVER,LINE,DUAL,MA	7	E7,E10,E11,E12,E19,E21,E22

REVISION HISTORY			BASIC PART NO: M7684		DRN: JVV		DATE: 13-FEB-78		DIGITAL			
ENGI	ECO NUMBER	REV	SECTION A OF A		CHK'D: RSW		DATE: 13-FEB-78		TITLE PARTS LIST			
IB	100008	K	SECTION VARIATION INDEX						CONTROL SEQUENCER			
IK	100009	L	[A] 00									
IC	100010	M	[B]									
II	100011	N	[C]		DES.ENG: I.BELLETTIER		DATE: 13-FEB-78					
IB	100012	P	[D]						DOCUMENT NUMBER			
IW	M7684-CX013	R	[E]		RESP.ENG.: I.BELLETTIERE		DATE: 13-FEB-78					
IW	M7684-CX014	S	[F]						SIZE CODE NUMBER REV			
IPR	M7684-CX015	T	[G]						K PL M7684-0-DBP T			
			[H]		IMP.G.ENG.: J.MILLER		DATE: 13-FEB-78					
			[I]									
			[J]		ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:		EDIT #	
			[K]		ID-UA-M7684-0-0		# B-DD-M7684-0		Z1028T.PLS		28	
			[L]									
			[M]									
			[N]									

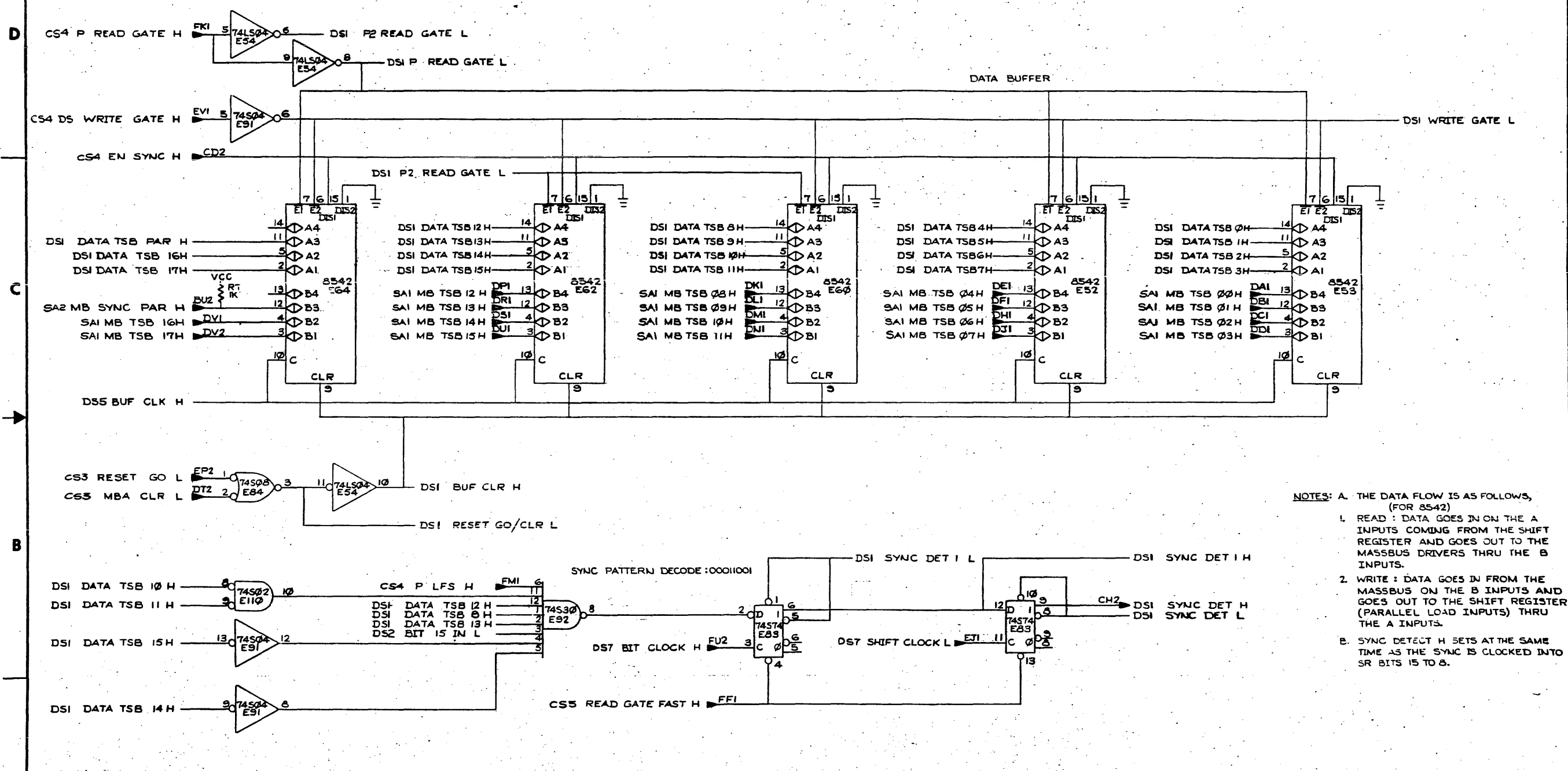
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RPM
7 OCT
82

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
31	31	1911527-00	8097 BUFFER GATE-HEX 2INP	5	E17,E18,E26,E27,E28
32	32	1914087-00	8098 BUFFER GATE-HEX 2IN,	4	E40,E41,E50,E57
33	33	1910532-00	74S00 NAND GATE-QUAD 2IN	2	E65,E89
34	34	1912388-00	74S02 NOR GATE-QUAD 2IN,PO	1	E20
35	35	1910534-00	74S04 INVERTER GATE-HEX 1I	1	E53
36	36	1912389-00	74S08 AND GATE-QUAD 2IN,PO	2	E9,E68
37	37	1910537-00	74S11 AND GATE-TRIPLE 3INP	1	E75
38	38	1911712-00	74S51 AND-OR GATE-INVERT D	1	E66
39	39	1910544-00	74S74 FF-D DUAL,EDGE TRIGG	5	E24,E70,E82,E92,E93
40	40	1910545-00	74S112 FF-JK DUAL,EDGE TRIG	3	E23,E61,E99
41	41	1910548-00	74S157 MUX 1 OF 2 (QUAD)	1	E37
42	42	1914082-00	74S163 COUNTER,SYNCH UP/DOW	5	E31,E32,E80,E101,E102
43	43	1913340-00	74S32 OR GATE-QUAD 2IN	1	E84
44	44	1912847-00	LS157 MUX 1 OF 2(QUAD)	1	E35
45	45	1912799-00	LS00 NAND-GATE-QUAD 2IN,P	3	E5,E29,E77
46	46	1912803-00	LS04 INVERTER GATE,HEX	2	E30,E87
47	47	1912805-00	LS08 AND GATE-QUAD 2IN,PO	5	E38,E44,E55,E76,E86
48	48	1912807-00	LS10 NAND GATE-TRIPLE 3IN	1	E94
49	49	1912808-00	LS11 AND GATE-TRIPLE 3IN	1	E54
50	50	1912810-00	LS20 NAND GATE-DUAL 4IN	1	E52
51	51	1912813-00	LS27 NOR GATE-TRIPLE 3IN	2	E79,E96
52	52	1912816-00	LS32 OR GATE-QUAD 2IN,POS	1	E56
53	53	1912824-00	LS74 FF-D DUAL,EDGE TRIGG	6	E36,E62,E63,E67,E69,E78
54	54	1912853-00	LS175 FF-D QUAD	4	E42,E43,E51,E59
55	55	1911944-00	555CN TIMER,FUNCT.BLOCK	1	E98
56	56	23017D1-00	D1-02	1	E90
57	60	1912859-00	LS258 MUX 1 OF 2 (DUAL),	4	E34,E48,E49,E58
58	58	1912862-00	LS266 X-NOR GATE-QUAD,OPN,	1	E74
59	59	23022B8-00	B8-01	1	E16
60	60	23016D1-00	D1-02	1	E72
61	61	23204A1-00	A1-03,A1-04,A1-05	1	E45
62	62	1209941-11	*** THIS ITEM IS NOT USED ***	-	
63	63	23015D1-00	D1-02	1	E81
64	64	1909686-00	7404 INVERTER GATE-HEX 1I	1	E88
65	65	1214224-00	RLY,REED, 15V COIL,SPDT	1	E91
66	66	9105740-55	*** THIS ITEM IS NOT USED ***	-	
67	67	9107256-11	*** THIS ITEM IS NOT USED ***	-	
68	68	23020B8-00	B8-01	1	E33
69	69	23023B8-00	B8-01	1	E39
70	70	1214413-00	RLY,REED, 5V COIL,SPST	1	E95
71	71	9009185-00	JUMPER, WIRE, INSULATED, BLACK B	1	W1
72	72	1005965-00	*** THIS ITEM IS NOT USED ***	-	
73	73	1001610-00	.01 MFD 50V +80-20% Z5U CER	1	C107
74	74	1017472-00	10 MFD 35V +50-10% AL EL	7	C108-C114
75	75	1312934-00	6.80 M .25 W 5.0 % CF	1	R81
76	76	1216832-04	PCB,HEADER 60POS(2X30).100CC 90D	1	J1

DI	GI	IT	AL	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
				CONTROL SEQUENCER				N7684-0-DBP	T

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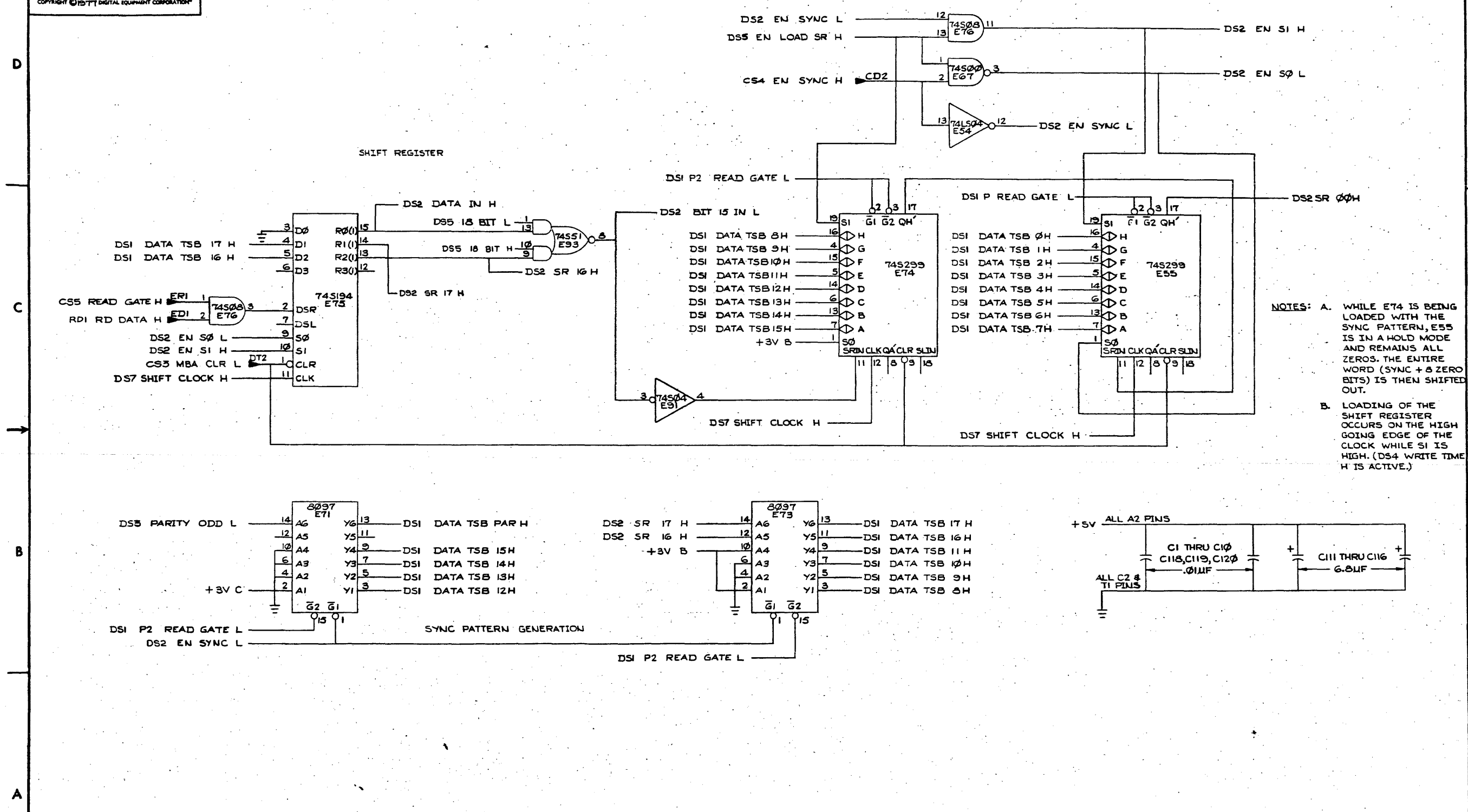


NOTES: A. THE DATA FLOW IS AS FOLLOWS, (FOR 8542)
 1. READ : DATA GOES IN ON THE A INPUTS COMING FROM THE SHIFT REGISTER AND GOES OUT TO THE MASSBUS DRIVERS THRU THE B INPUTS.
 2. WRITE : DATA GOES IN FROM THE MASSBUS ON THE B INPUTS AND GOES OUT TO THE SHIFT REGISTER (PARALLEL LOAD INPUTS) THRU THE A INPUTS.
 B. SYNC DETECT H SETS AT THE SAME TIME AS THE SYNC IS CLOCKED INTO SR BITS 15 TO 8.

REV.	CHANGE NO.	DATE	BY	CHKD.
1	00001		A. MUNT	
2	00002		J. BELLETTIERE	
3	00003		J. BELLETTIERE	
4	00004	27 NOV 77	C. BLATCHLEY	
5	00005		J. BELLETTIERE	

DATA BUFFER AND SYNC DETECT		FIRST USED ON	
DRN. S. Gentry	3-16-77	RM03	digital
CHKD. J. Munt	5-4-77	TITLE	
ENG. J. Belletiere	6-6-77	DATA SEQUENCER (DS#)	
PROL. ENG. J. Belletiere	6-6-77	SIZE	NUMBER
PROD. J. Belletiere	6-13-77	D CS	M7685-0-1
NEXT HIGHER ASSY.		SCALE	REV.
B-00-M7685-0		1/1	C
SHEET	OF 15	DIST.	

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NOTES: A. WHILE E74 IS BEING LOADED WITH THE SYNC PATTERN, E55 IS IN A HOLD MODE AND REMAINS ALL ZEROS. THE ENTIRE WORD (SYNC + 8 ZERO BITS) IS THEN SHIFTED OUT.
 B. LOADING OF THE SHIFT REGISTER OCCURS ON THE HIGH GOING EDGE OF THE CLOCK WHILE SI IS HIGH. (DS4 WRITE TIME H IS ACTIVE.)

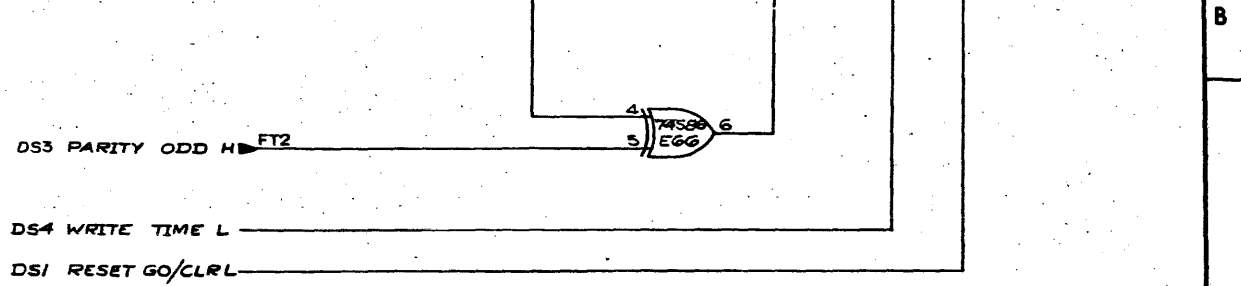
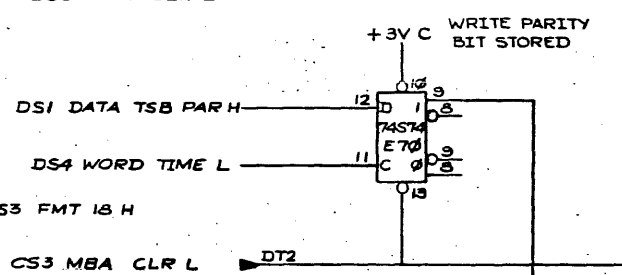
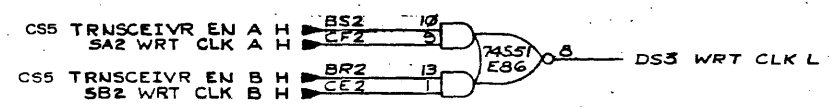
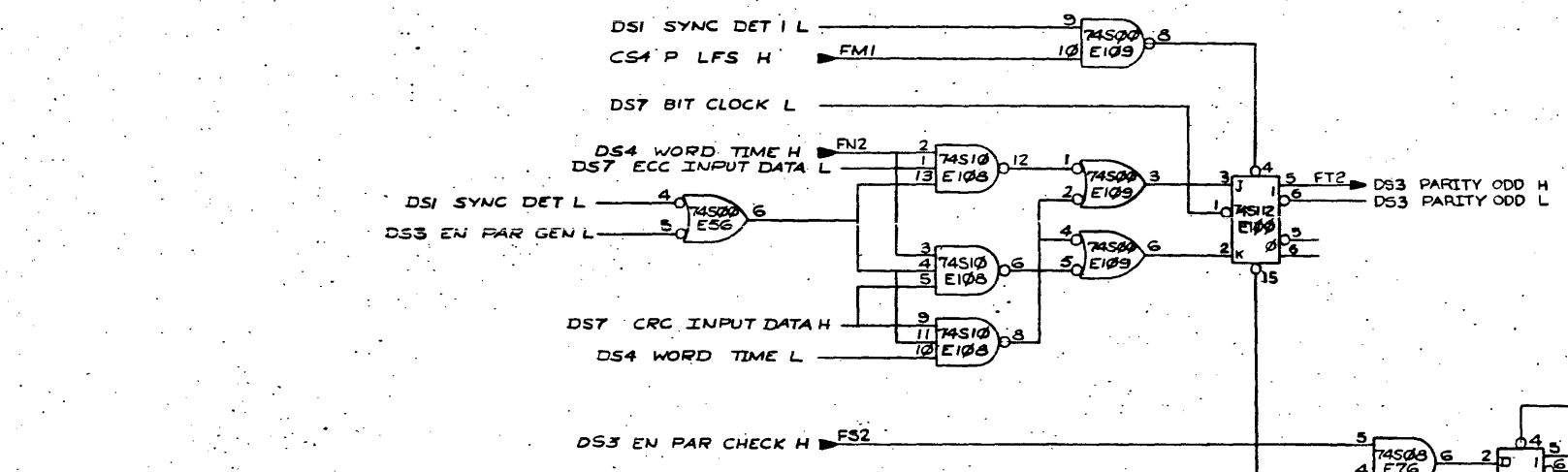
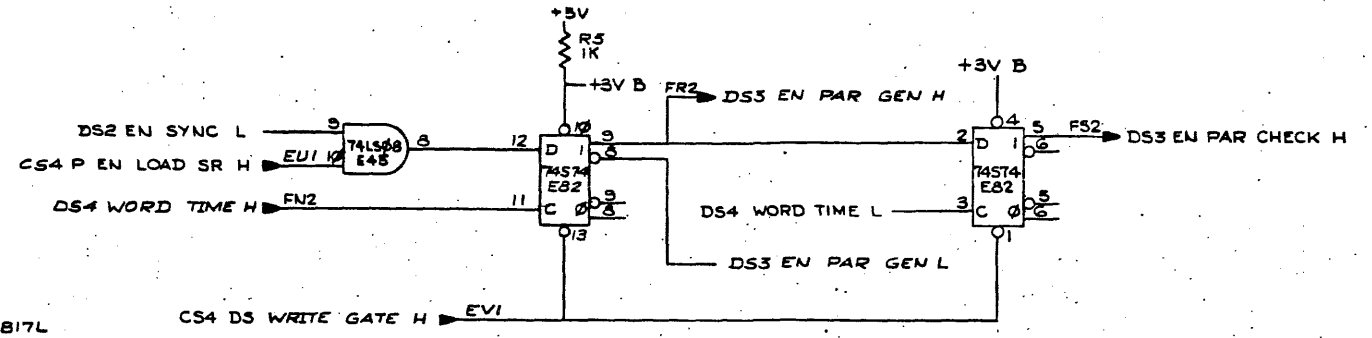
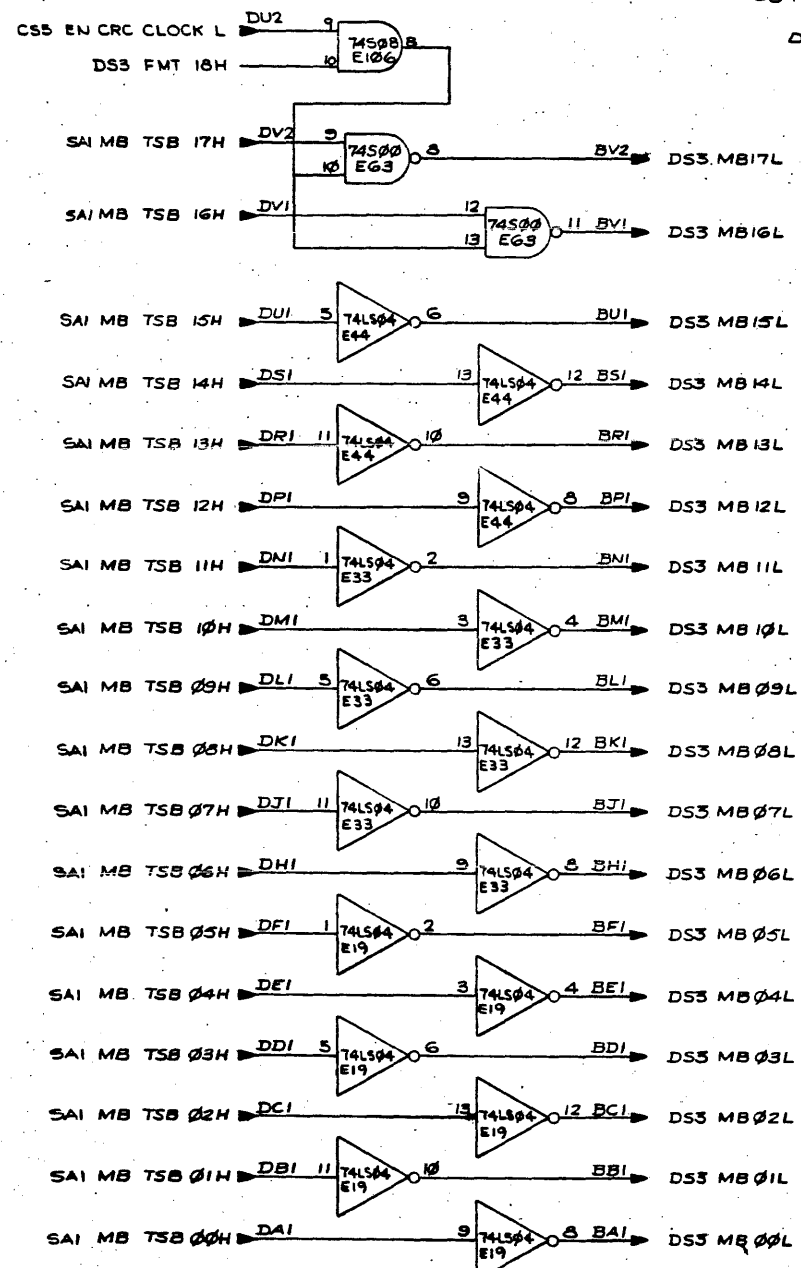
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		NUMBER		REV.
DATA SEQUENCER (DS2)		M 7685-0-1		C
SCALE	SHEET	OF	DST.	
	2	15		

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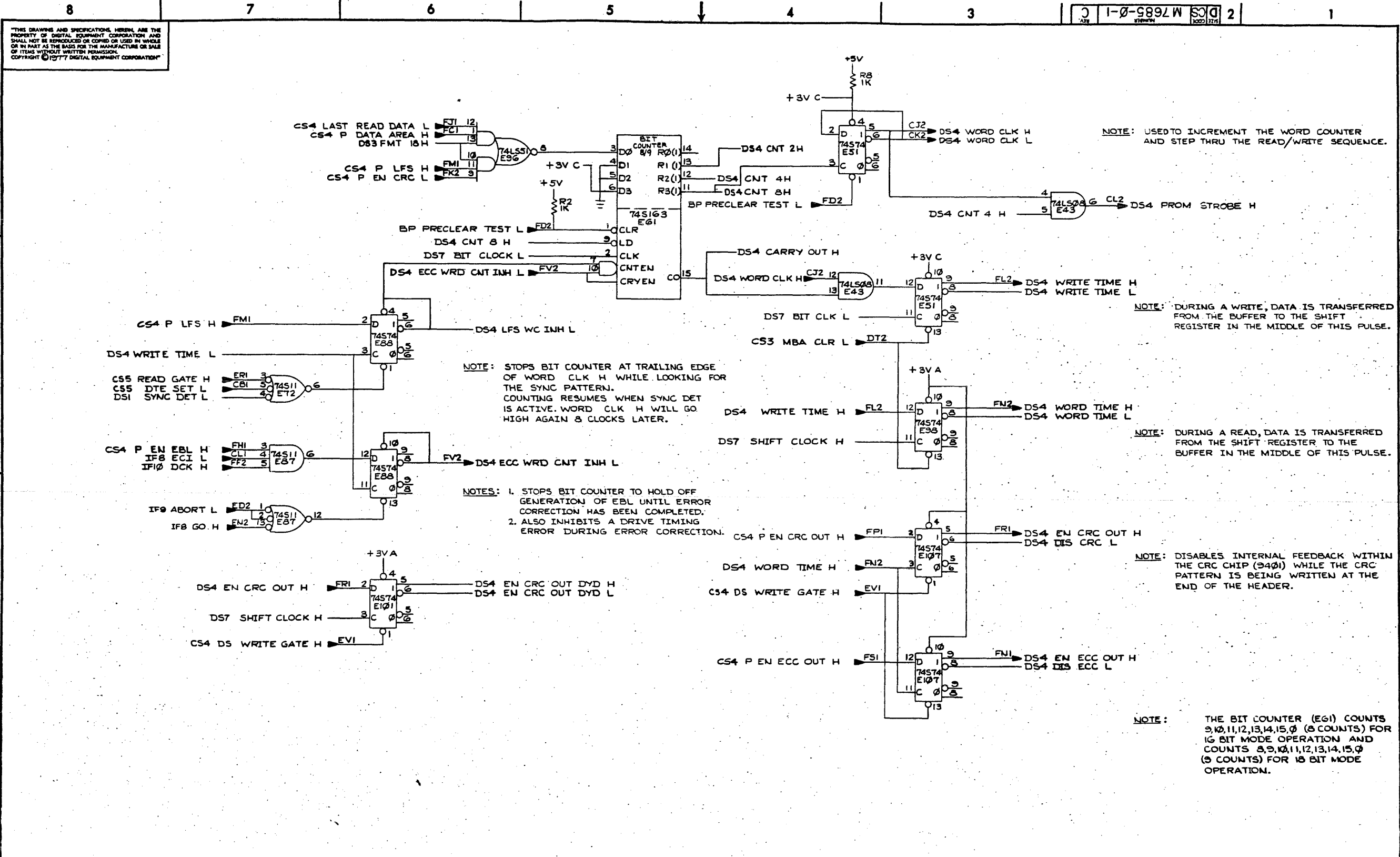
D
C
B
A

D
C
B
A



REVISIONS		
CHK	CHANGE NO.	REV.

PARITY & DATA BUS			
TITLE	SIZE CODE	NUMBER	REV.
(DS3) DATA SEQUENCER	DCS	M 7685-0-1	C
SCALE	SHEET 3	OF 5	DIST.

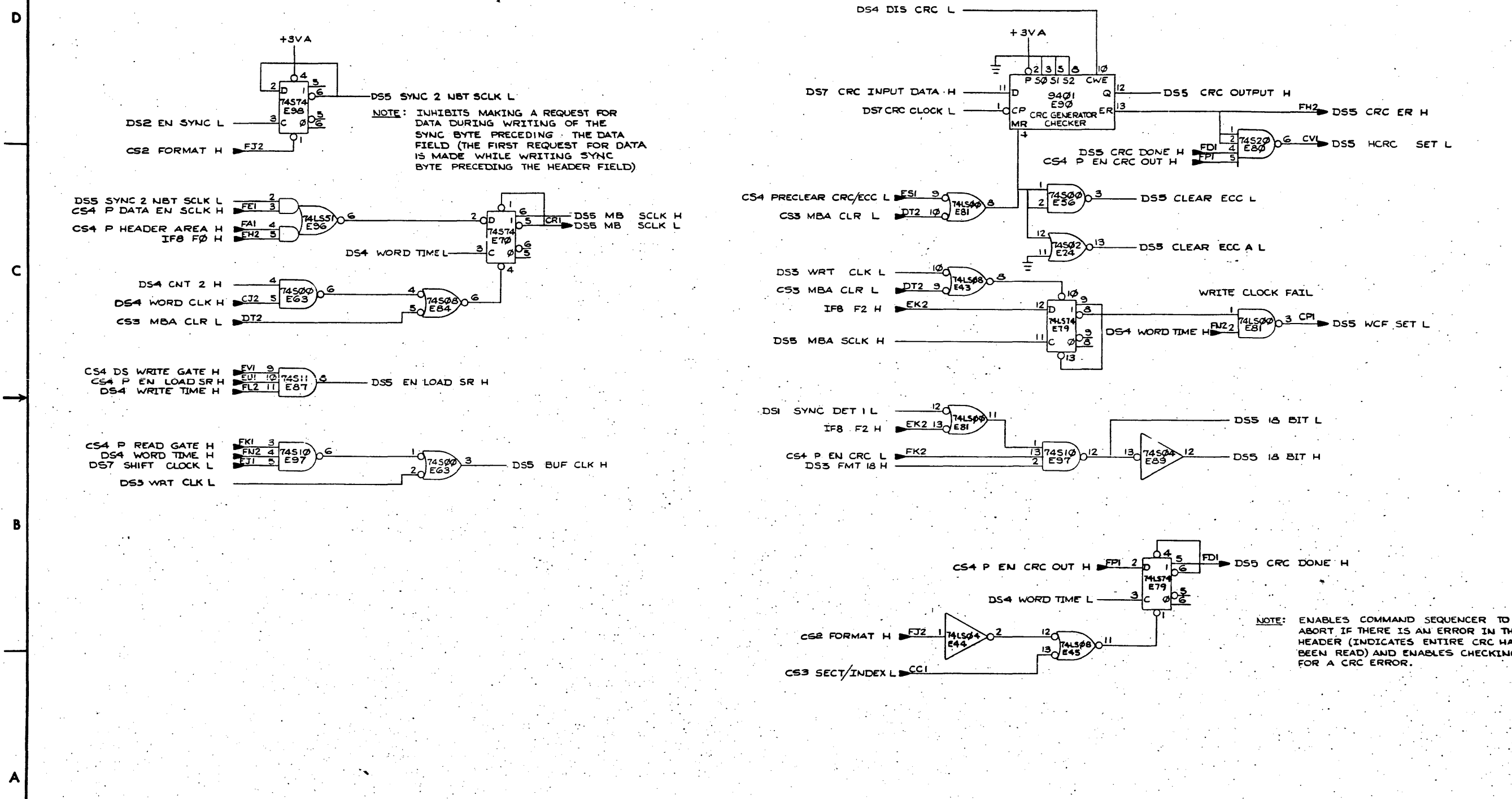


REVISIONS		
CHR	CHANGE NO.	REV.

WORD CLOCK/TIMING

TITLE	(DS4) DATA SEQUENCER	SIZE CODE	D CS	NUMBER	M 7685-0-1	REV.	C
SCALE	1/1	SHEET	4	OF	5	DIST.	

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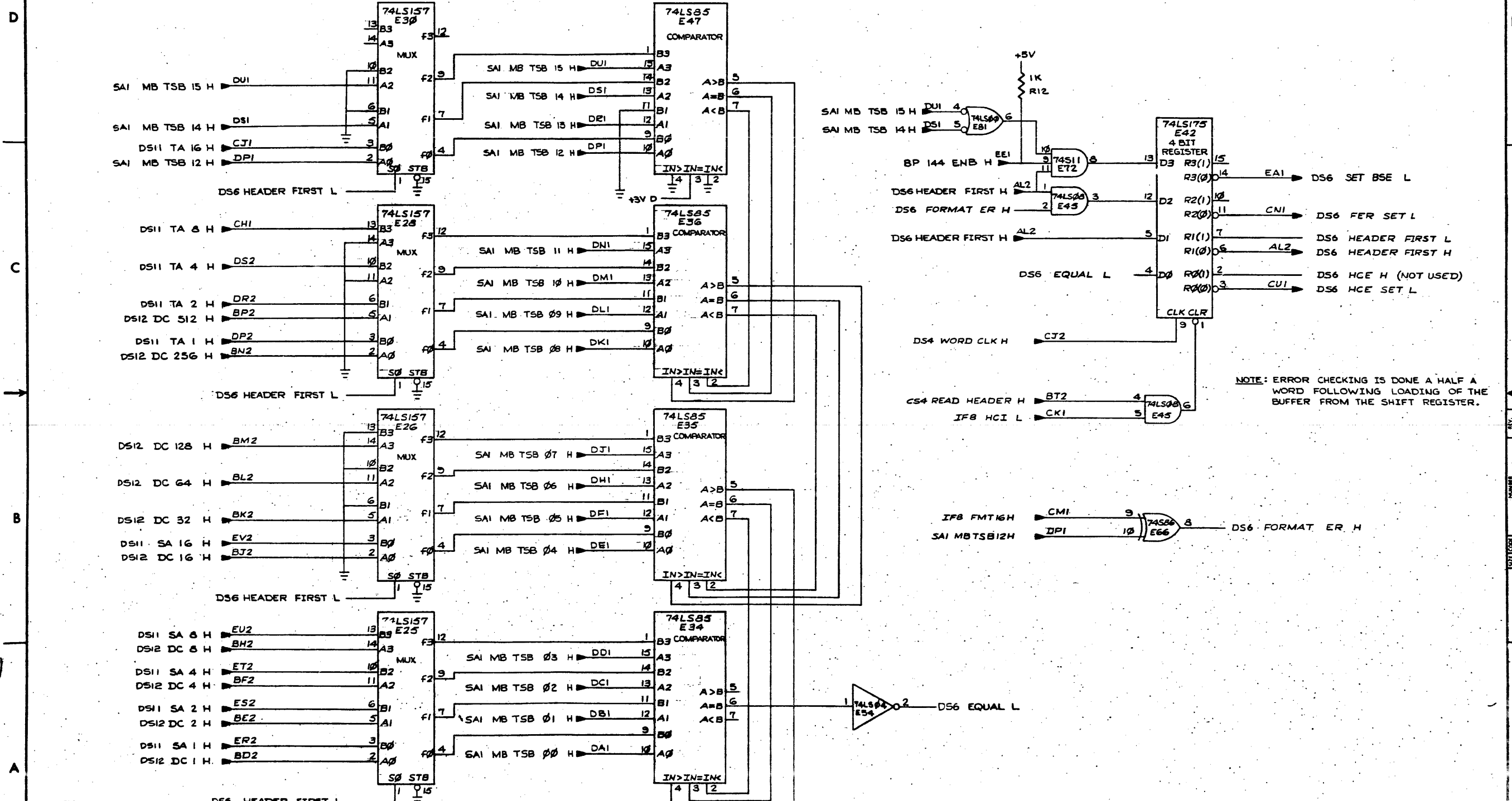


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		(DS5)		SIZE CODE	NUMBER	REV.
SCLK/CRC/WCF		DATA SEQUENCER		D CS	M 7685-0-1	C
SCALE	SHEET	OF				
	5	15				

REV. C
M 7685-0-1

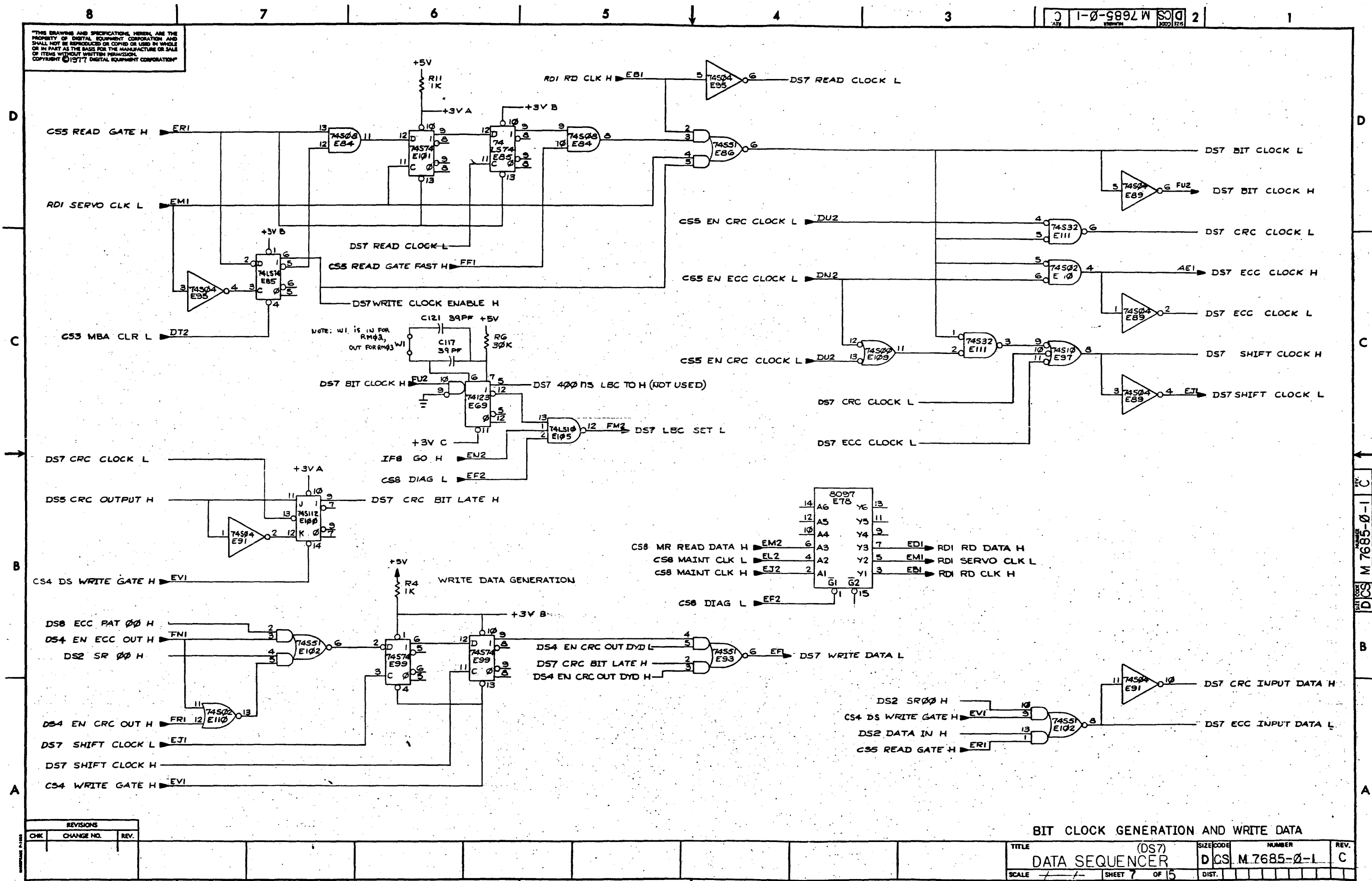
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REVISIONS		
CHK	CHANGE NO	REV

TITLE		SIZE/SCALE	NUMBER	REV.
DATA SEQUENCER (DS6)		DCS	M 7685-0-1	C
SCALE	SHEET	OF	DIST.	
	6	5		

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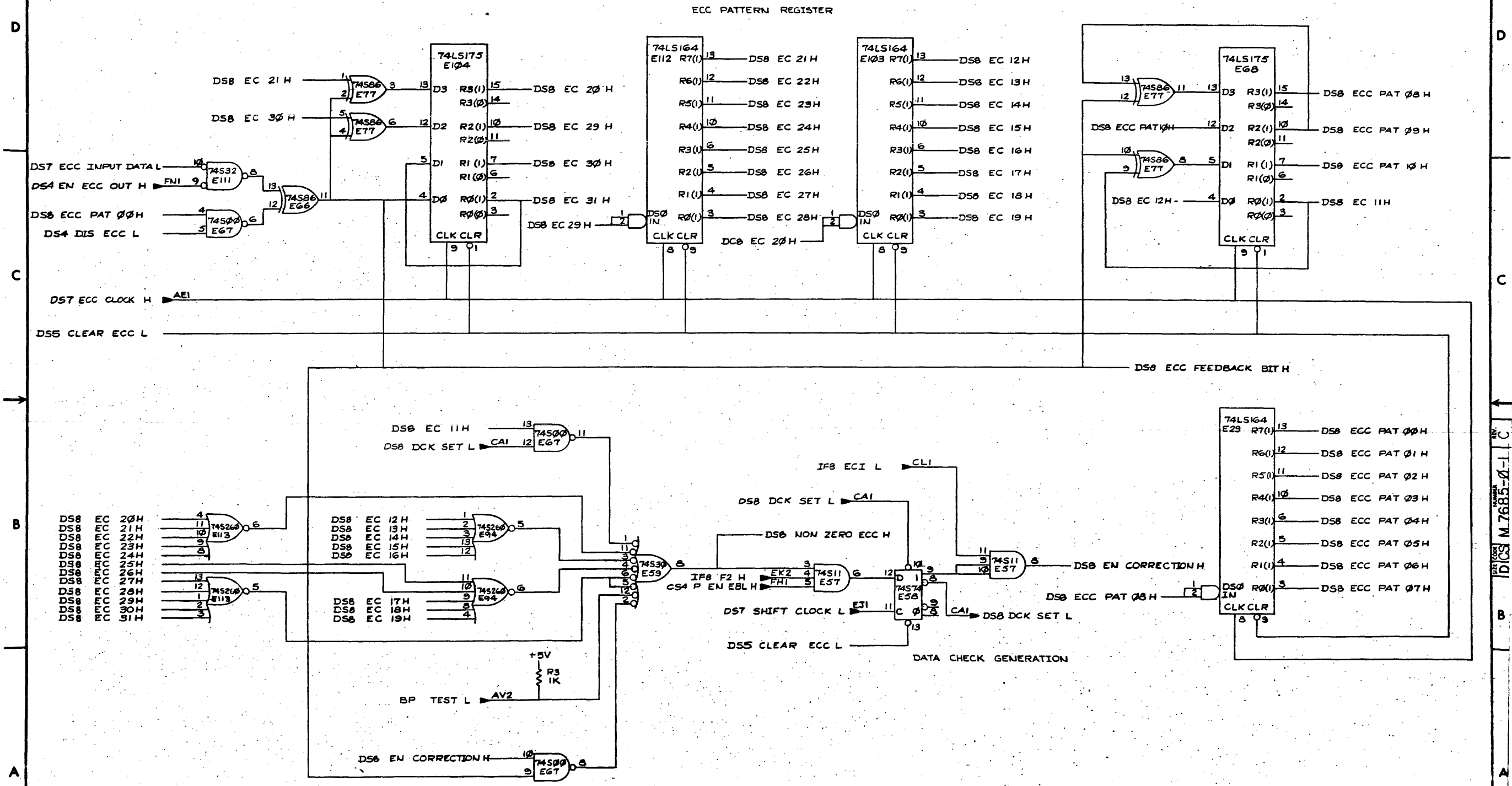


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		(DS7) DATA SEQUENCER		SIZE CODE	NUMBER	REV.
SCALE		SHEET 7 OF 15		DCS	M.7685-0-1	C

DCS M 7685-0-1

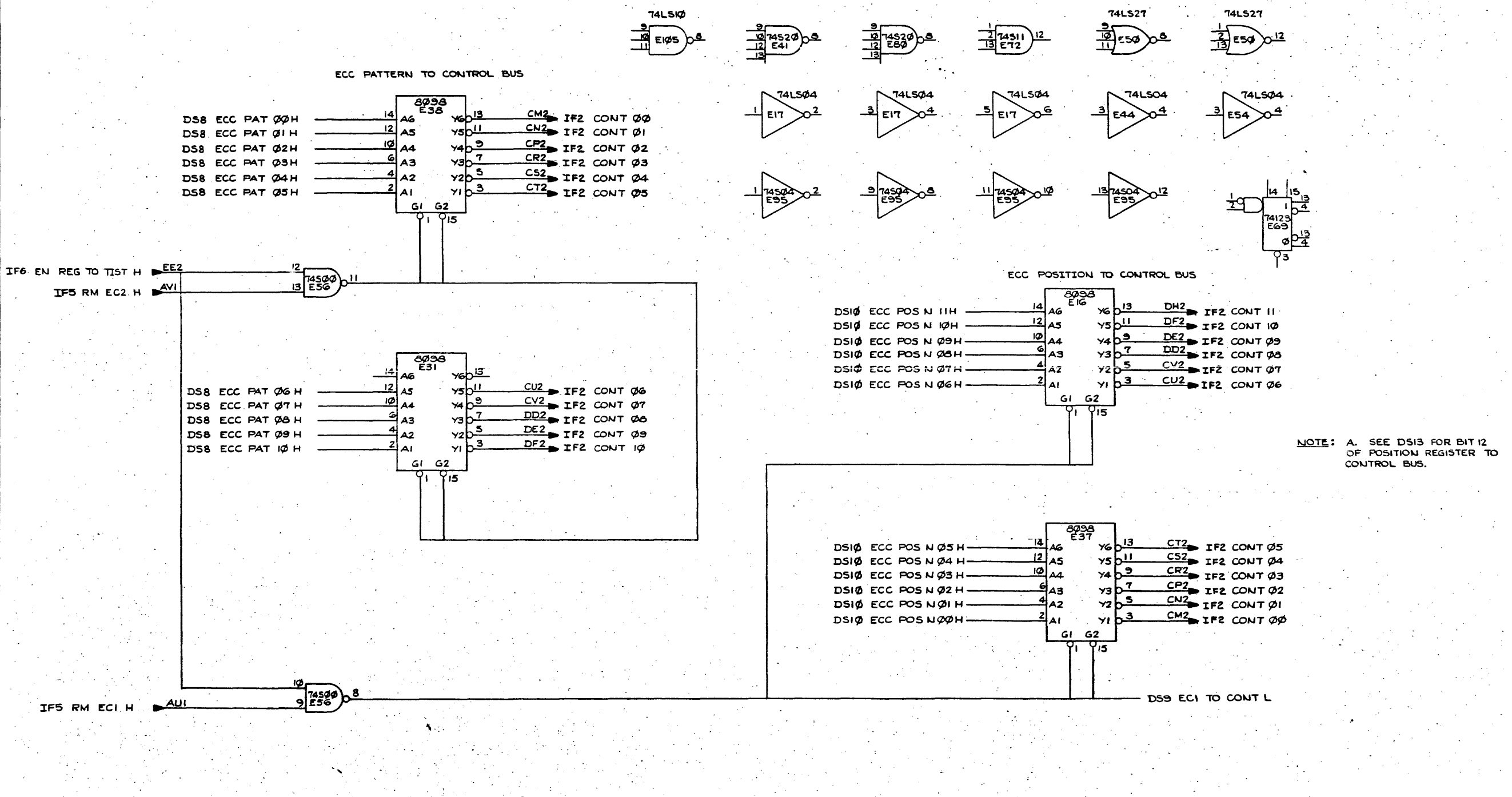
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REVISIONS		
CHK	CHANGE NO.	REV.

ECC PATTERN REGISTER AND DCK GENERATION		TITLE	SIZE CODE	NUMBER	REV.
		DATA SEQUENCER (DS8)	DCS	M 7685-0-1	C
		SCALE	SHEET	OF	
			8	5	

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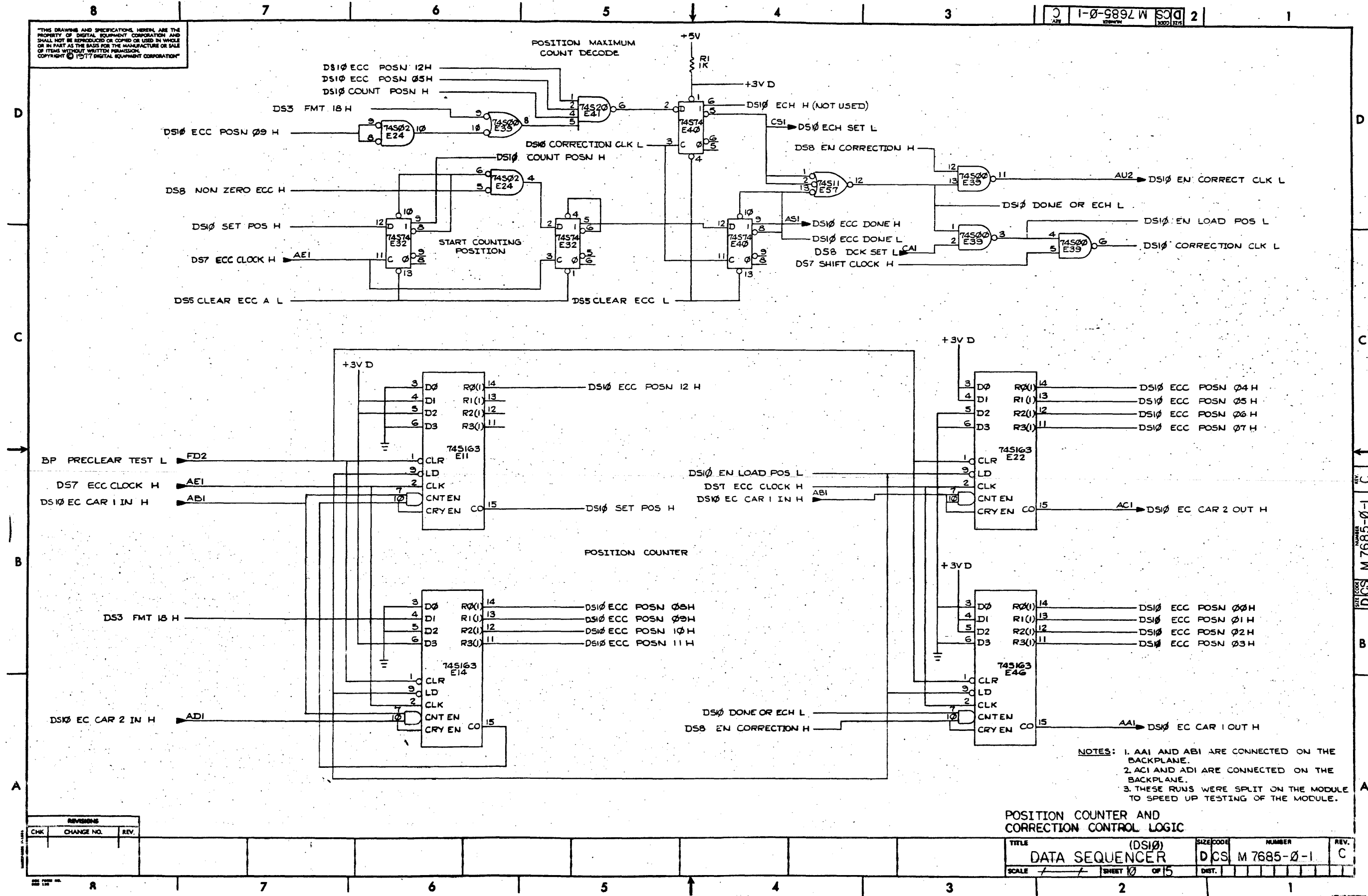


NOTE: A. SEE DS13 FOR BIT 12 OF POSITION REGISTER TO CONTROL BUS.

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE (DS9) DATA SEQUENCER		SIZE CODE DCS	NUMBER M 7685-0-1	REV. C
SCALE	SHEET 9 OF 15	DIST.		

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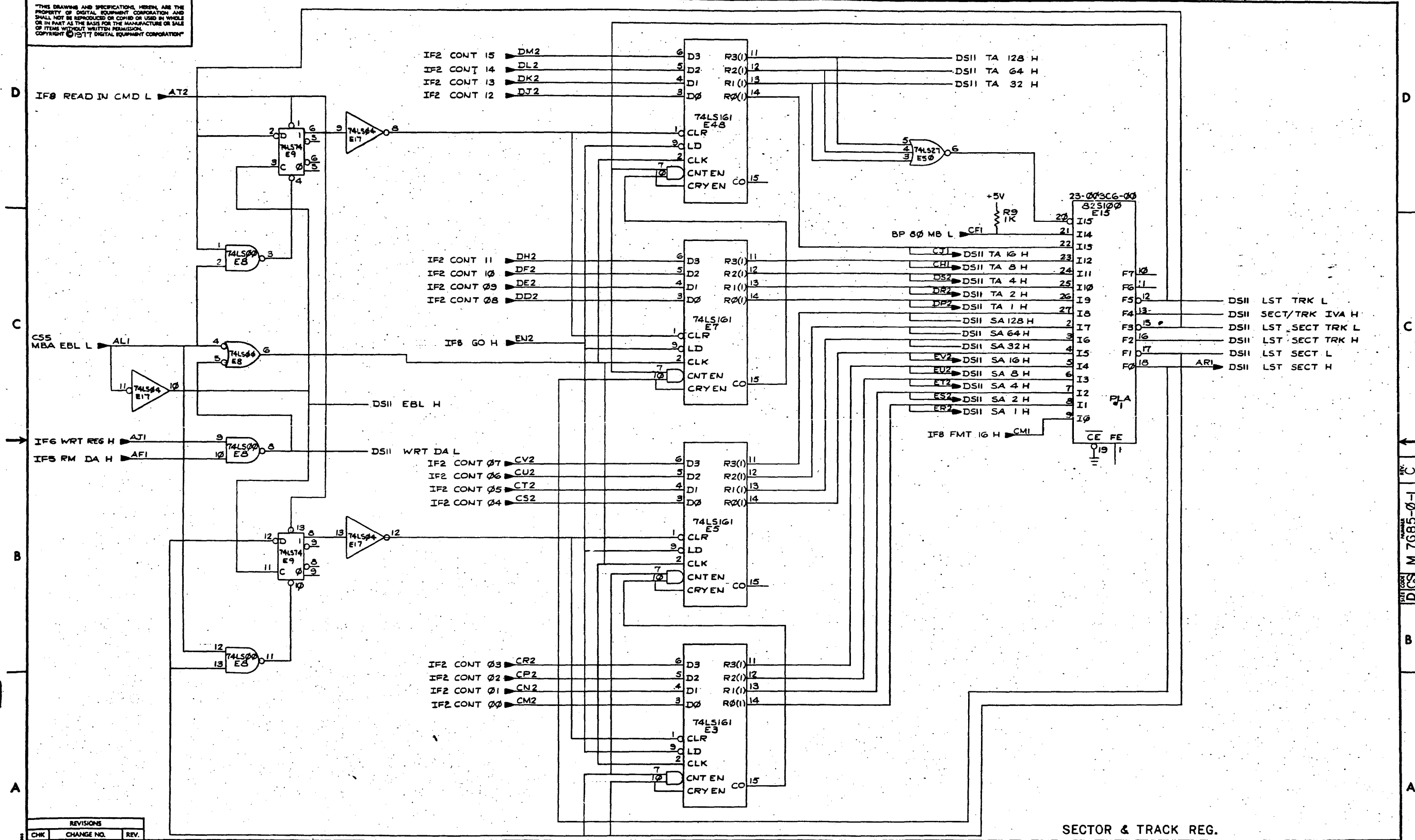
NOTES: 1. AAI AND ABI ARE CONNECTED ON THE BACKPLANE.
 2. ACI AND ADI ARE CONNECTED ON THE BACKPLANE.
 3. THESE RUNS WERE SPLIT ON THE MODULE TO SPEED UP TESTING OF THE MODULE.

POSITION COUNTER AND CORRECTION CONTROL LOGIC

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	(DS10) DATA SEQUENCER	SIZE CODE	NUMBER	REV.
SCALE	7 7	SHEET	10 OF 15	DIST.
DCS M 7685-0-1		C		

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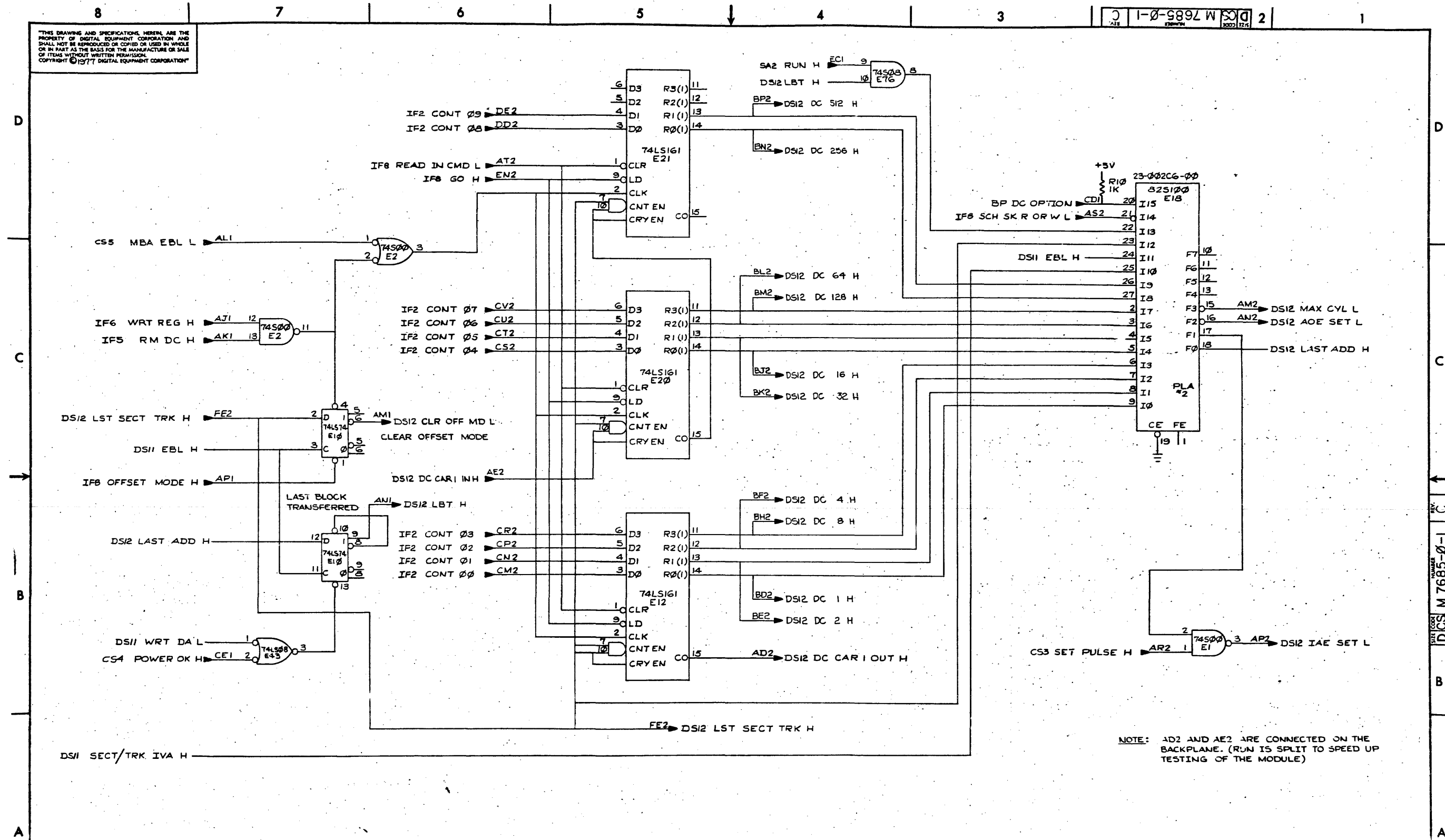
SECTOR & TRACK REG.

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	(DSII) DATA SEQUENCER	SIZE/COOE	NUMBER	REV.
SCALE	7/7	SHEET	11 OF 15	C

DIGITAL EQUIPMENT CORPORATION
M 7685-0-1

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NOTE: AD2 AND AE2 ARE CONNECTED ON THE BACKPLANE. (RUN IS SPLIT TO SPEED UP TESTING OF THE MODULE)

REVISIONS		
CHK	CHANGE NO	REV

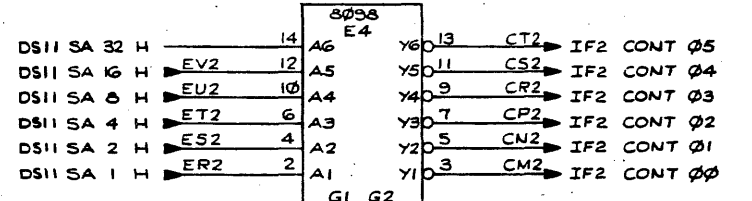
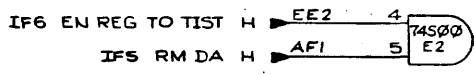
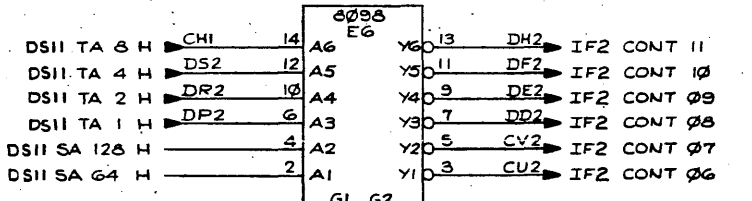
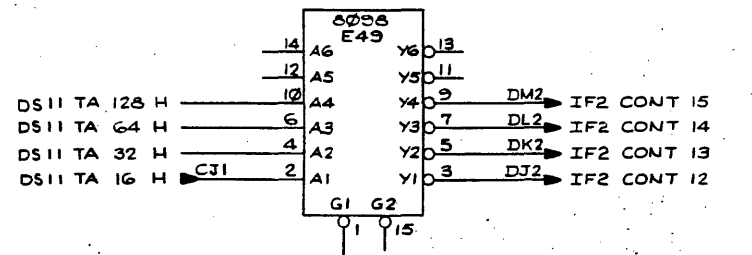
TITLE		DESIRED CYLINDER REG.		NUMBER		REV.	
DATA SEQUENCER		D CS M 7685-0-1		C		C	
SCALE		SHEET 12 OF 15		DST.			

REV. C DCS M 7685-0-1

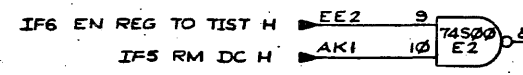
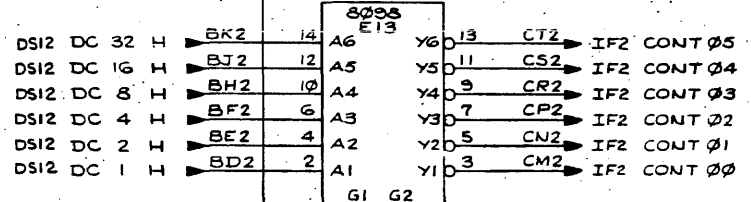
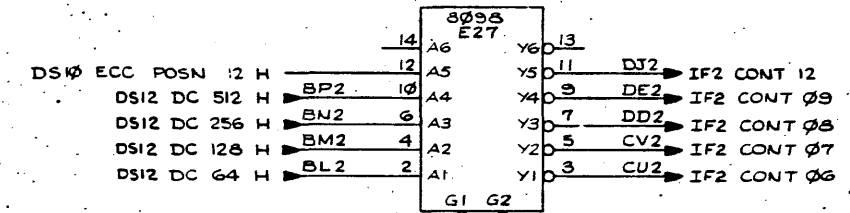
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1-0-5892 W 2

SECTOR/TRACK TO CONTROL BUS



DESIRED CYLINDER TO CONTROL BUS



REVISIONS		
CHK	CHANGE NO.	REV.

SECT/TRACK/DC GATED TO CONTROL BUS

TITLE	(DS13) DATA SEQUENCER	SIZE CODE	NUMBER	REV.
SCALE	1/16"	D CS	M7685-0-1	C
SHEET 13 OF 15		DIST.		

DRAWING NUMBER DCS M7685-0-1

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1-0-6897 WSCD 2

AA1	DS10 EC CAR 1 OUT H	BA1	DS3 MB 00 L	CA1	DS9 DCK SET L	DA1	SAI MB TSB 01 H	EAI	DS6 SET BSE L	FA1	CS4 P HEADER AREA H
AB1	DS10 EC CAR 1 IN H	BB1	DS3 MB 01 L	CB1	CS5 DTE SET L	DB1	SAI MB TSB 01 H	EB1	ROI RD CLK H	FB1	SPARE
AC1	DS10 EC CAR 2 OUT H	BC1	DS3 MB 02 L	CC1	CS3 SECT/INDEX L	DC1	SAI MB TSB 02 H	EC1	SA2 RUN H	FC1	CS4 P DATA AREA H
AD1	DS10 EC CAR 2 IN H	BD1	DS3 MB 03 L	CD1	BP DC OPTION	DD1	SAI MB TSB 03 H	ED1	ROI RD DATA H	FD1	DS5 CRC DONE H
AE1	DS7 ECC CLOCK H	BE1	DS3 MB 04 L	CE1	CS4 POWER OK H	DE1	SAI MB TSB 04 H	EE1	BP 44 ENB H	FE1	CS4 P DATA EN SCLK H
AF1	IF5 RM DA H	BF1	DS3 MB 05 L	CF1	BP 80 MB L	DF1	SAI MB TSB 05 H	EF1	DS7 WRITE DATA L	FF1	CS5 READ GATE FAST H
AH1	SPARE	BH1	DS3 MB 06 L	CH1	DS11 TA 8 H	DH1	SAI MB TSB 06 H	EH1	SPARE	FH1	CS4 P EN EBL H
AJ1	IF6 WRT REG H	BJ1	DS3 MB 07 L	CJ1	DS11 TA 16 H	DJ1	SAI MB TSB 07 H	EJ1	DS7 SHIFT CLOCK L	FJ1	CS4 LAST READ DATA L
AK1	IF8 HCI L	BK1	DS3 MB 08 L	CK1	IF8 HCI L	DK1	SAI MB TSB 09 H	EK1	SPARE	FK1	CS4 P READ GATE H
AL1	CS5 MBA EBL L	BL1	DS3 MB 09 L	CL1	IF8 ECI L	DL1	SAI MB TSB 09 H	EL1	SPARE	FL1	SPARE
AM1	DS12 CLR OFF MD L	BM1	DS3 MB 10 L	CM1	IF8 FMT 16 H	DM1	SAI MB TSB 10 H	EM1	ROI SERVO CLK L	FM1	CS4 P LFS H
AN1	DS12 LBT H	BN1	DS3 MB 11 L	CN1	DS6 FER SET L	DN1	SAI MB TSB 11 H	EN1	SPARE	FN1	DS4 EN ECC OUT H
AP1	IF8 OFFSET MODE H	BP1	DS3 MB 12 L	CP1	DS5 WCF SET L	DP1	SAI MB TSB 12 H	EP1	DS3 SYNC PAR SET H	FP1	CS4 P EN CRC OUT H
AR1	DS11 LST SECT H	BR1	DS3 MB 13 L	CR1	DS5 MB SCLK L	DR1	SAI MB TSB 13 H	ER1	CS5 READ GATE H	FR1	DS4 EN CRC OUT H
AS1	DS10 ECC DONE H	BS1	DS3 MB 14 L	CS1	DS10 ECH SET L	DS1	SAI MB TSB 14 H	ES1	CS4 PRECLEAR CRC/ECC L	FS1	CS4 P EN ECC OUT H
AT1	GND	BT1	GND	CT1	GND	DT1	GND	ET1	GND	FT1	GND
AU1	IF5 RM ECI H	BU1	DS3 MB 15 L	CU1	DS6 HCE SET L	DUI	SAI MB TSB 15 H	EUI	CS4 P EN LOAD SR H	FUI	SPARE
AV1	IF5 RM EC2 H	BV1	DS3 MB 16 L	CV1	DS5 HCRC SET L	DVI	SAI MB TSB 16 H	EVI	CS4 DS WRITE GATE H	FVI	SPARE

AA2	+5V	BA2	+5V	CA2	+5V	DA2	+5V	EAI	+5V	FA2	+5V
AB2	-15V	BB2	-15V	CB2	-15V	DB2	-15V	EB2	-15V	FB2	-15V
AC2	GND	BC2	GND	CC2	GND	DC2	GND	EC2	GND	FC2	GND
AD2	DS12 DC CAR 1 OUT H	BD2	DS12 DC 1 H	CD2	CS4 EN SYNC H	DD2	IF2 CONT 08	ED2	IF9 ABORT L	FD2	BP PRECLEAR TEST L
AE2	DS12 DC CAR 1 IN H	BE2	DS12 DC 2 H	CE2	SB2 WRT CLK B H	DE2	IF2 CONT 09	EE2	IF6 EN REG TO TIST H	FE2	DS12 LST SECT TRK H
AF2	SPARE	BF2	DS12 DC 4 H	CF2	SA2 WRT CLK A H	DF2	IF2 CONT 10	EF2	CS8 DIAG L	FF2	IF10 DCK H
AH2	SPARE	BH2	DS12 DC 8 H	CH2	DS1 SYNC DET H	DH2	IF2 CONT 11	EH2	IF8 F0 H	FH2	DS5 CRC ER H
AJ2	SPARE	BJ2	DS12 DC 16 H	CJ2	DS4 WORD CLK H	DJ2	IF2 CONT 12	EJ2	CS8 MAINT CLK H	FJ2	CS2 FORMAT H
AK2	SPARE	BK2	DS12 DC 32 H	CK2	DS4 WORD CLK L	DK2	IF2 CONT 13	EK2	IF8 F2 H	FK2	CS4 P EN CRC L
AL2	DS6 HEADER FIRST H	BL2	DS12 DC 64 H	CL2	DS4 PROM STROBE H	DL2	IF2 CONT 14	EL2	CS8 MAINT CLK L	FL2	DS4 WRITE TIME H
AM2	DS2 MAX CYL L	BM2	DS12 DC 128 H	CM2	IF2 CONT 00	DM2	IF2 CONT 15	EM2	CS8 MR READ DATA H	FM2	DS7 LBC SET L
AN2	DS12 AOE SET L	BN2	DS12 DC 256 H	CN2	IF2 CONT 01	DN2	CS5 EN ECC CLOCK L	EN2	IF8 GO H	FN2	DS4 WORD TIME H
AP2	DS12 IAE SET L	BP2	DS12 DC 512 H	CP2	IF2 CONT 02	DP2	DS11 TA 1 H	EP2	CS3 RESET GO L	FP2	SPARE
AR2	CS3 SET PULSE H	BR2	CS5 TRNSCEIVR EN B H	CR2	IF2 CONT 03	DR2	DS11 TA 2 H	ER2	DS11 SA 1 H	FR2	DS3 EN PAR GEN H
AS2	IF8 SCH SK R OR W L	BS2	CS5 TRNSCEIVR EN A H	CS2	IF2 CONT 04	DS2	DS11 TA 4 H	ES2	DS11 SA 2 H	FS2	DS3 EN PAR CHECK H
AT2	IF8 READ IN CMD L	BT2	CS4 READ HEADER H	CT2	IF2 CONT 05	DT2	CS3 MBA CLR L	ET2	DS11 SA 4 H	FT2	DS3 PARITY ODD H
AU2	DS10 EN CORRECT CLK L	BU2	SA2 MB SYNC PAR H	CU2	IF2 CONT 06	DUI	CS5 EN CRC CLOCK L	EUI	DS11 SA 8 H	FUI	DS7 BIT CLOCK H
AV2	BP TEST L	BV2	DS3 MB 17 L	CV2	IF2 CONT 07	DVI	SAI MB TSB 17 H	EVI	DS11 SA 16 H	FV2	DS4 ECC WRD CNT INH L

REVISIONS		
CHK	CHANGE NO.	REV.

I/O SIGNAL LIST

TITLE	(DS14) DATA SEQUENCER	SIZE CODE	NUMBER	REV.
SCALE	1/1	SHEET	4 OF 5	D CS M 7685-0-1 C

DIGITAL EQUIPMENT CORPORATION				QUANTITY / VARIATION								NOTES:
PARTS LIST												USED ON: OPTION / MODEL RM03
MADE BY S. BELTZER		CHECKED Paul Kendrick										SECTION 1
DATE 12-20/76		DATE 2/10/77										ISSUED SECTION 1
ENG <i>Gene Bellette</i>		PROD <i>J. Miller</i>										
DATE 10 June 1977		DATE 6-13-77										
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	REF								REF DESIGNATION
	D-CS-M7685-0-1		DATA SEQUENCER (C.S.)	REF								
	D-UA-M7685-0-0		UNIT ASSY.	REF								
	B-DD-M7685-0		DWG. DIRECTORY	REF								
	D-MD-5012485-0-0		DRILL AND ETCH DWG.	REF								
1		5012485	ETCH BOARD	1								
2		10-01610-01	CAP, .01 UF 100V (DISC.)	113								C1 thru C110, C118 thru C120
3		10-05306-00	CAP, 6.8 UF 35V 10% (TANT)	6								C111 thru C116
4		10-00010-00	CAP, 39 PF 100V 5% DM	2								C117, C121
5		12-10711-02	HANDLE, ASSY.	1								
6		90-00024-01	EYELET	12								
7		13-00365-00	RES, 1K 1/4W 5%	11								R1 thru R5, R7, R8, R9, R10, R11, R12
8		13-02394-00	RES, 30K 1/4W 5%	1								R6
9		19-12799-00	I.C. 74LS00	2								E8, E81
10		19-10532-00	I.C. 74S00	7								E1, E2, E39, E56, E63, E67, E109
11		19-12388-00	I.C. 74S02	1								E110
12		19-12803-00	I.C. 74LS04	5								E17, E19, E33, E44, E54
13		19-10534-00	I.C. 74S04	3								E89, E91, E95
14		19-12805-00	I.C. 74LS08	2								E43, E45
15		19-12389-00	I.C. 74S08	3								E76, E84, E106
16		19-10536-00	I.C. 74S10	2								E97, E108
17		19-10537-00	I.C. 74S11	3								E57, E87, E72
18		19-12801-00	I.C. 74LS02	1								E24

E.C.O. NO.
0001
0002

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SHEET 1 OF 3						INSERTION PARTS LIST DATA BASE REV A						

DIGITAL EQUIPMENT CORPORATION

PARTS LIST

QUANTITY / VARIATION

NOTES:

USED ON: OPTION / MODEL
RM03

MADE BY S. BELTZER	CHECKED P. KENDRICK	SECTION 1
DATE 12/20/76	DATE 2.10/77	
ENG Gene Belliere	PROD Jomilla	ISSUED SECTION 1
DATE 10 June 1977	DATE 6-13-77	

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QUANTITY	VARIATION	REF DESIGNATION
19		19-10539-00	I.C. 74S20	2		E41, E80
20		19-14086-00	I.C. 74S30	2		E59, E92
21		19-13340-00	I.C. 74S32	1		E111
22		19-12820-00	I.C. 74LS51	1		E96
23		19-11712-00	I.C. 74S51	3		E86, E93, E102
24		19-10544-00	I.C. 74S74	12		E32, E40, E51, E58, E70, E82, E83, E88, E98, E101, E107, E99
25		19-12824-00	I.C. 74LS74	4		E9, E10, E79, E85
26		19-12828-00	I.C. 74LS85	4		E34, E35, E36, E47
27		19-12096-00	I.C. 74S86	2		E66, E77
28		19-10545-00	I.C. 74S112	1		E100
29		19-10436-00	I.C. 74123	1		E69
30		19-12847-00	I.C. 74LS157	4		E25, E26, E28, E30
31		19-14082-00	I.C. 74S153	5		E11, E14, E22, E46, E61
32		19-12850-00	I.C. 74LS164	3		E29, E103, E112
33		19-12853-00	I.C. 74LS175	3		E42, E68, E104
34		19-10552-00	I.C. 74S194	1		E75
35		19-14085-00	I.C. 74S260	2		E94, E113
36		19-14084-00	I.C. 74S299	2		E55, E74
37		19-11527-00	I.C. DM8097	3		E71, E73, E78
38		19-14087-00	I.C. DM8098	9		E4, E6, E13, E16, E27, E31, E37, E38, E49
39		19-14083-00	I.C. DM8542	5		E52, E53, E60, E62, E64

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TITLE
DATA SEQUENCER

ASSY NO.
D-UA-M7685-0-0
SHEET 2 OF 3

SIZE CODE NUMBER REV.
B PL M7685-0-0 C

INSERTION PARTS LIST DATA BASE REV A

DIGITAL EQUIPMENT CORPORATION				QUANTITY / VARIATION										NOTES:			
PARTS LIST														USED ON: OPTION/MODEL RMO3			
MADE BY S. BELTZER		CHECKED PAUL KENDRICK												REF DESIGNATION			
DATE 12-20-70		DATE 2/10/77															
ENG James Robinson		PROD Jomiller															
DATE 10 June 1977		DATE 6-13-77															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION														
40		19-13474-00	I.C. 9401	1													E90
41		19-12807	I.C. 74LS10	1													E105
42		19-12849	I.C. 74LS161	7													E3, E5, E7, E12, E20, E21, E48
43		23-00306-01	I.C. 82S100	1													E15
44			I.C. SPARE LOCATIONS	2													E23, E65, E66
45		19-12813	I.C. 74LS27	1													E50
46		91-05740-55	WIRE #30 AWG, GRN	A/E													
47		23-00206-00	I.C. 82S100	1													E18
48		90-09185	JUMPER	1													W1

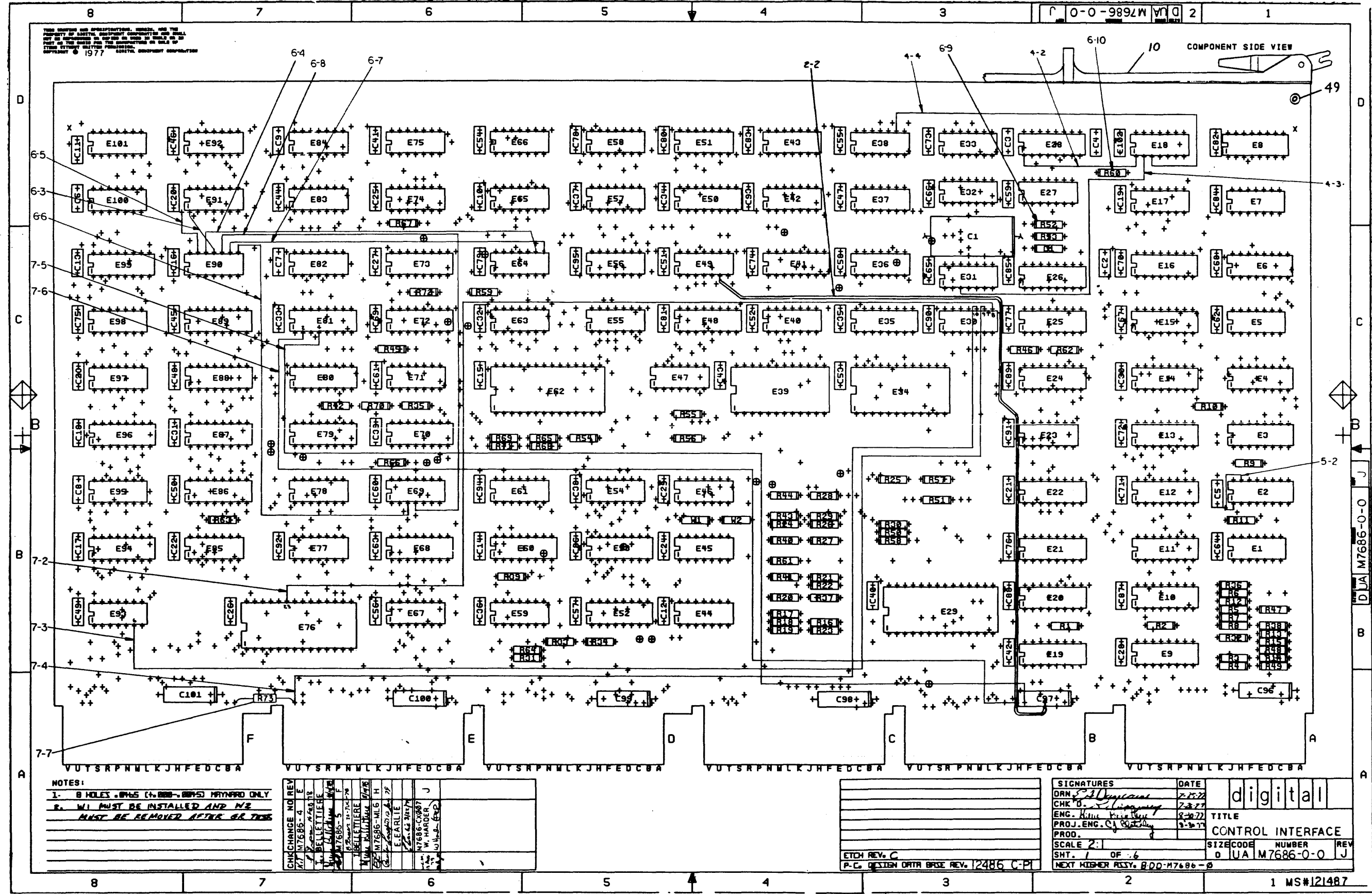
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				SHEET 3 OF 3		INSERTION PARTS LIST DATA BASE REV A			

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0-0-9892 M 2

COMPONENT SIDE VIEW



NOTES:
 1. 8 HOLES .075 (4 HOLES .075) MINIMUM ONLY
 2. W1 MUST BE INSTALLED AND W2 MUST BE REMOVED AFTER 6K TEST

CHANGE NO	REV	DATE	BY	CHK	DESCRIPTION
1	1	7/77	W. HARDER		INITIAL RELEASE
2	1	7/77	W. HARDER		INITIAL RELEASE
3	1	7/77	W. HARDER		INITIAL RELEASE
4	1	7/77	W. HARDER		INITIAL RELEASE
5	1	7/77	W. HARDER		INITIAL RELEASE
6	1	7/77	W. HARDER		INITIAL RELEASE
7	1	7/77	W. HARDER		INITIAL RELEASE
8	1	7/77	W. HARDER		INITIAL RELEASE
9	1	7/77	W. HARDER		INITIAL RELEASE
10	1	7/77	W. HARDER		INITIAL RELEASE

ETCH REV. C	P.C. DESIGN DATA BASE REV. 12486 C-PI
-------------	---------------------------------------

SIGNATURES	DATE	TITLE
DAN [Signature]	7-25-77	digital
CHK [Signature]	7-27-77	
ENG. [Signature]	8-20-77	
PROJ. ENG. [Signature]	9-30-77	
PROD.		
SCALE 2:1		SIZE CODE NUMBER
SHT. 1 OF 6		0 UA M7686-0-0 J
NEXT HIGHER ASSY. BDD-M7686-0		

digital

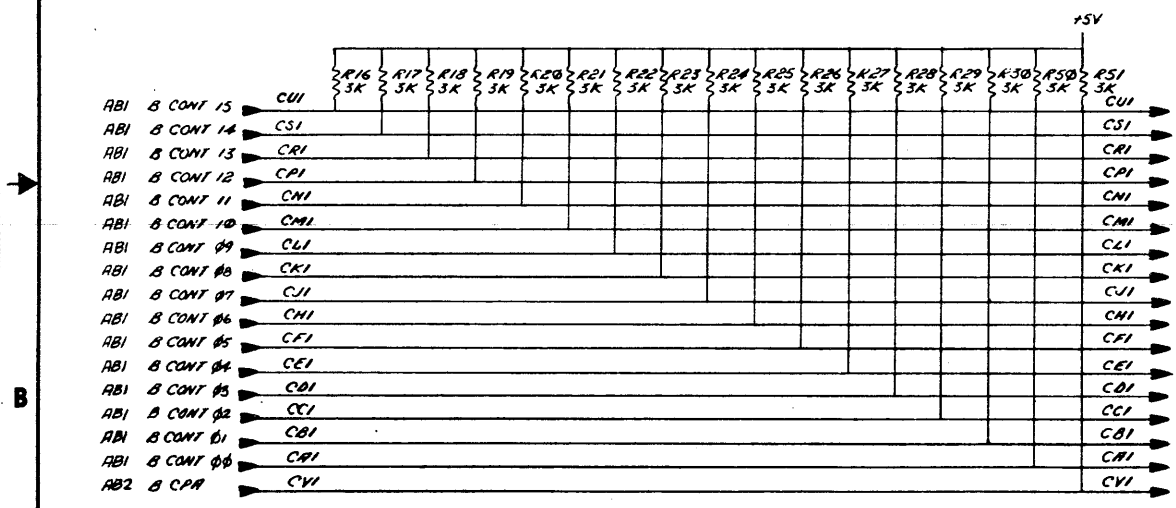
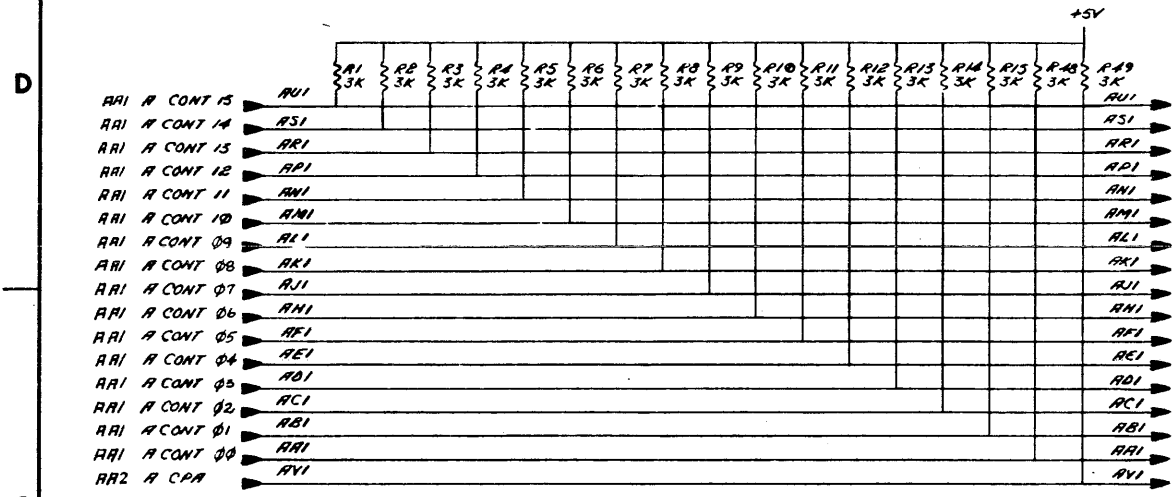
TITLE CONTROL INTERFACE

SIZE CODE NUMBER 0 UA M7686-0-0 J

1 MS#121487

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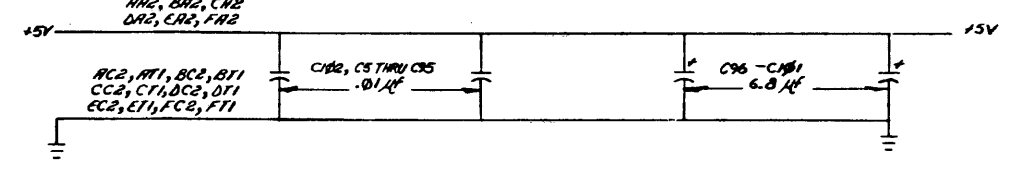
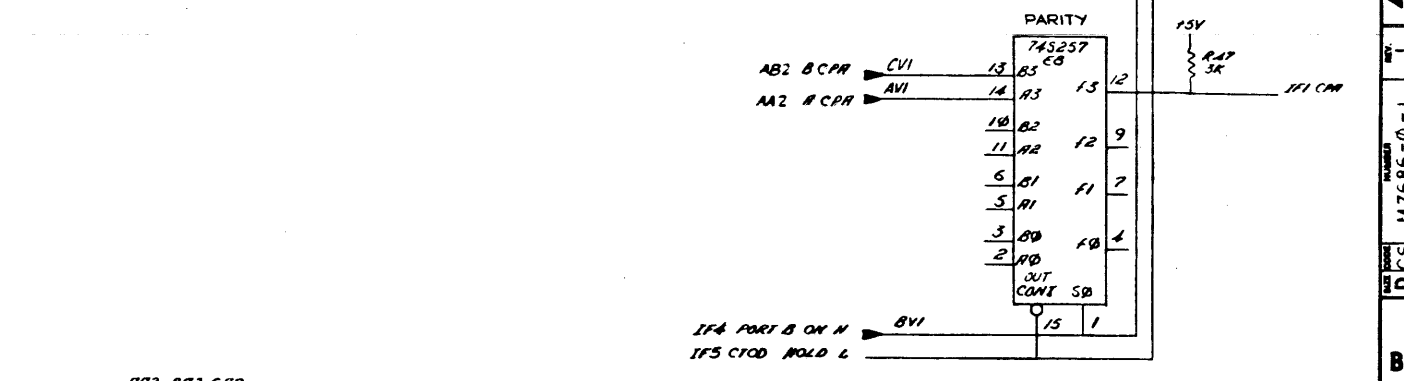
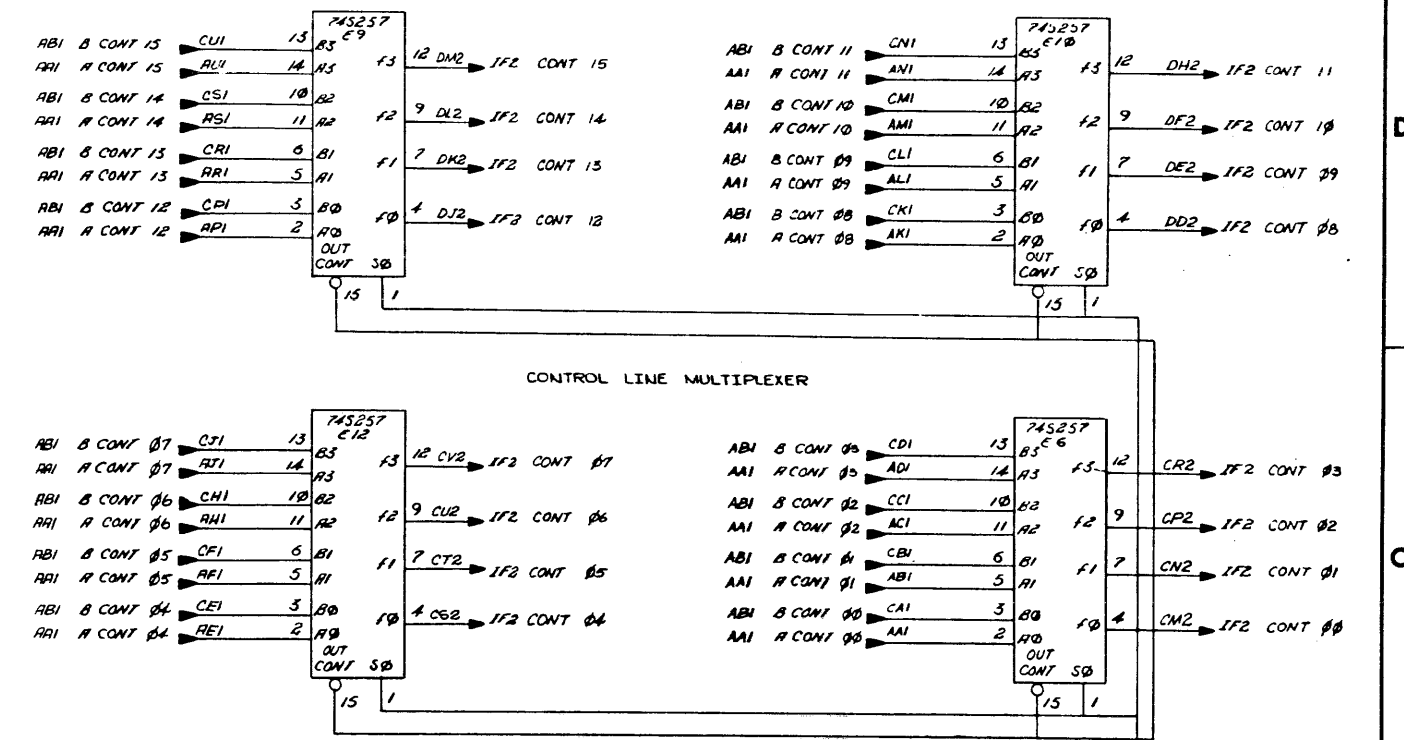
1-0-9892W
REV 0000
2



DM1, B12, B12, C11, E12, B12, B02

SPARE PINS

REV.	BY	CHKD	DATE
1	C. B. ATCHLEY		3/1/77
2	C. B. ATCHLEY		3/1/77
3	C. B. ATCHLEY		3/1/77
4	C. B. ATCHLEY		3/1/77
5	C. B. ATCHLEY		3/1/77
6	C. B. ATCHLEY		3/1/77
7	C. B. ATCHLEY		3/1/77
8	C. B. ATCHLEY		3/1/77
9	C. B. ATCHLEY		3/1/77
10	C. B. ATCHLEY		3/1/77
11	C. B. ATCHLEY		3/1/77
12	C. B. ATCHLEY		3/1/77
13	C. B. ATCHLEY		3/1/77
14	C. B. ATCHLEY		3/1/77
15	C. B. ATCHLEY		3/1/77
16	C. B. ATCHLEY		3/1/77
17	C. B. ATCHLEY		3/1/77
18	C. B. ATCHLEY		3/1/77
19	C. B. ATCHLEY		3/1/77
20	C. B. ATCHLEY		3/1/77
21	C. B. ATCHLEY		3/1/77
22	C. B. ATCHLEY		3/1/77
23	C. B. ATCHLEY		3/1/77
24	C. B. ATCHLEY		3/1/77
25	C. B. ATCHLEY		3/1/77
26	C. B. ATCHLEY		3/1/77
27	C. B. ATCHLEY		3/1/77
28	C. B. ATCHLEY		3/1/77
29	C. B. ATCHLEY		3/1/77
30	C. B. ATCHLEY		3/1/77
31	C. B. ATCHLEY		3/1/77
32	C. B. ATCHLEY		3/1/77
33	C. B. ATCHLEY		3/1/77
34	C. B. ATCHLEY		3/1/77
35	C. B. ATCHLEY		3/1/77
36	C. B. ATCHLEY		3/1/77
37	C. B. ATCHLEY		3/1/77
38	C. B. ATCHLEY		3/1/77
39	C. B. ATCHLEY		3/1/77
40	C. B. ATCHLEY		3/1/77
41	C. B. ATCHLEY		3/1/77
42	C. B. ATCHLEY		3/1/77
43	C. B. ATCHLEY		3/1/77
44	C. B. ATCHLEY		3/1/77
45	C. B. ATCHLEY		3/1/77
46	C. B. ATCHLEY		3/1/77
47	C. B. ATCHLEY		3/1/77
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49	C. B. ATCHLEY		3/1/77
50	C. B. ATCHLEY		3/1/77

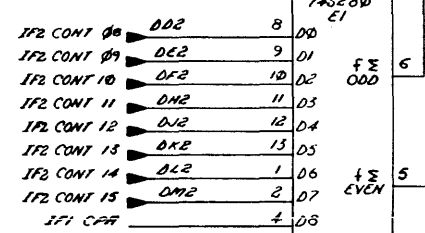
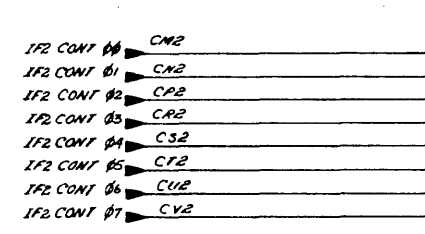


CONTROL LINES AND INPUT MULTIPLEXERS

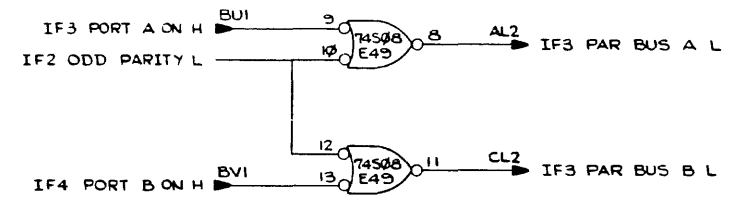
DRN: 3/1/77	FIRST USED ON: RM03
CHK'D: 3/1/77	TITLE: CONTROL INTERFACE (IFI)
ENGR: 3/1/77	PROJ ENGR: 3/1/77
PROD: 3/1/77	NEXT HIGHER ASSY: B-DD-M7686-0
SCALE: NONE	SIZE CODE: DCS
SHEET: 1	OF 14
DIST.	NUMBER: M7686-0-1
	REV: J

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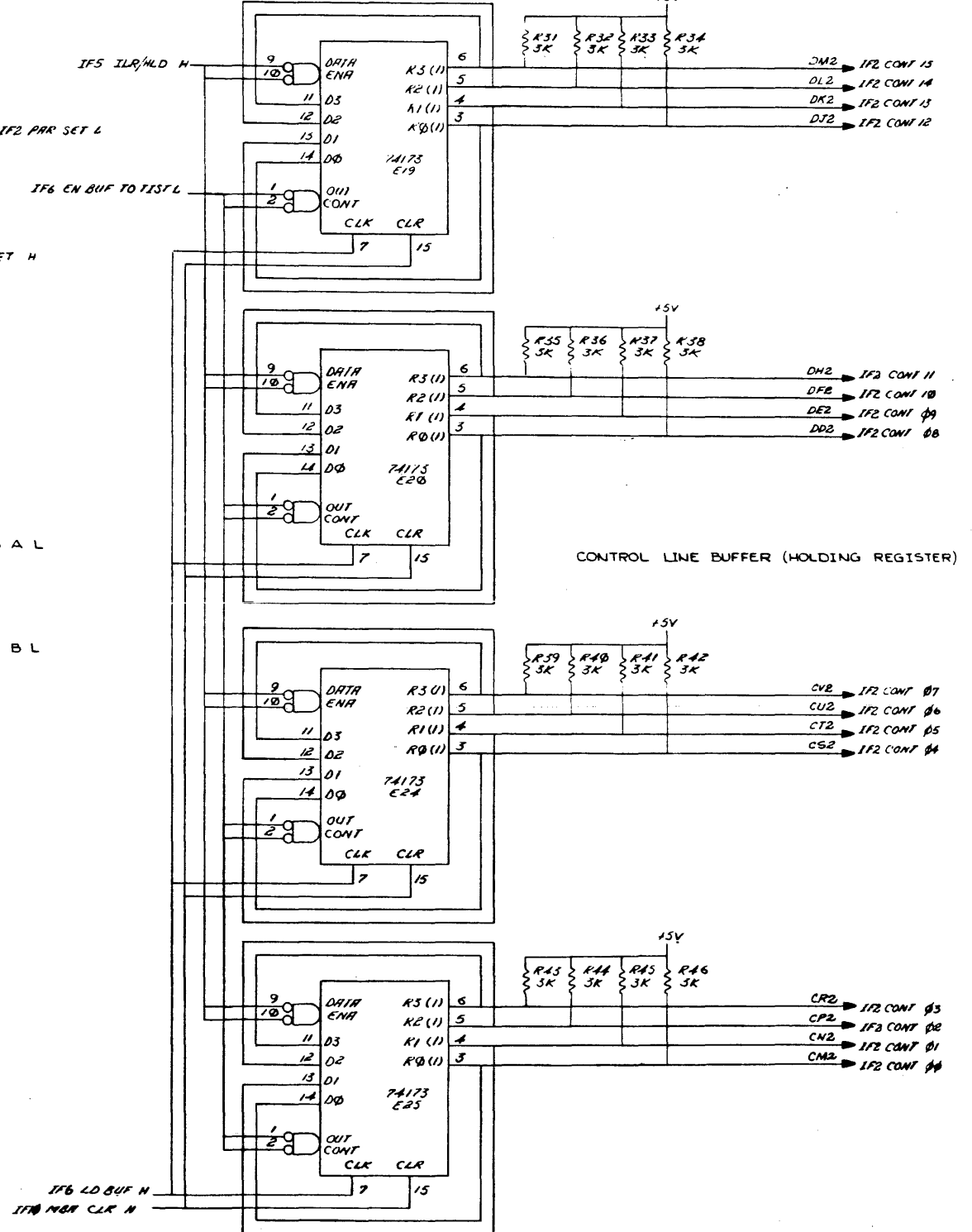
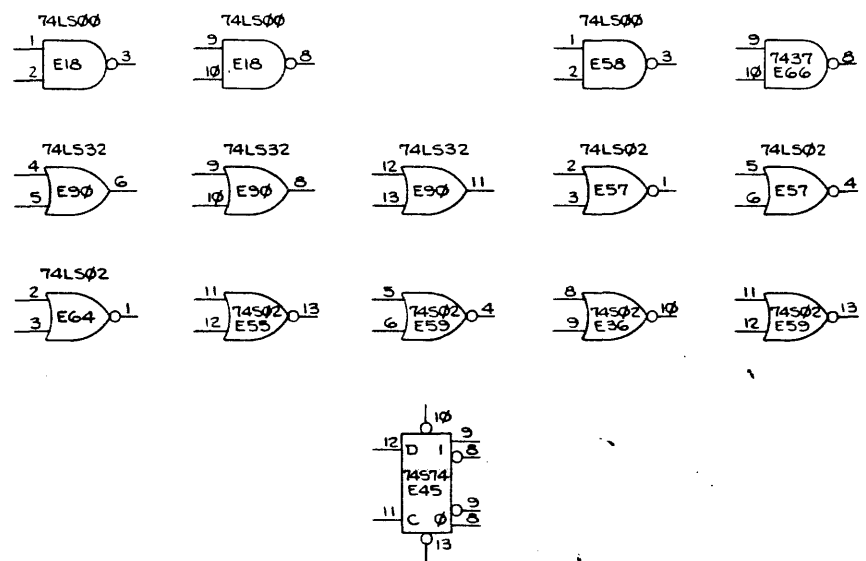
1-0-989 LW 33 D 2



PARITY GENERATOR AND CHECKER



SPARES

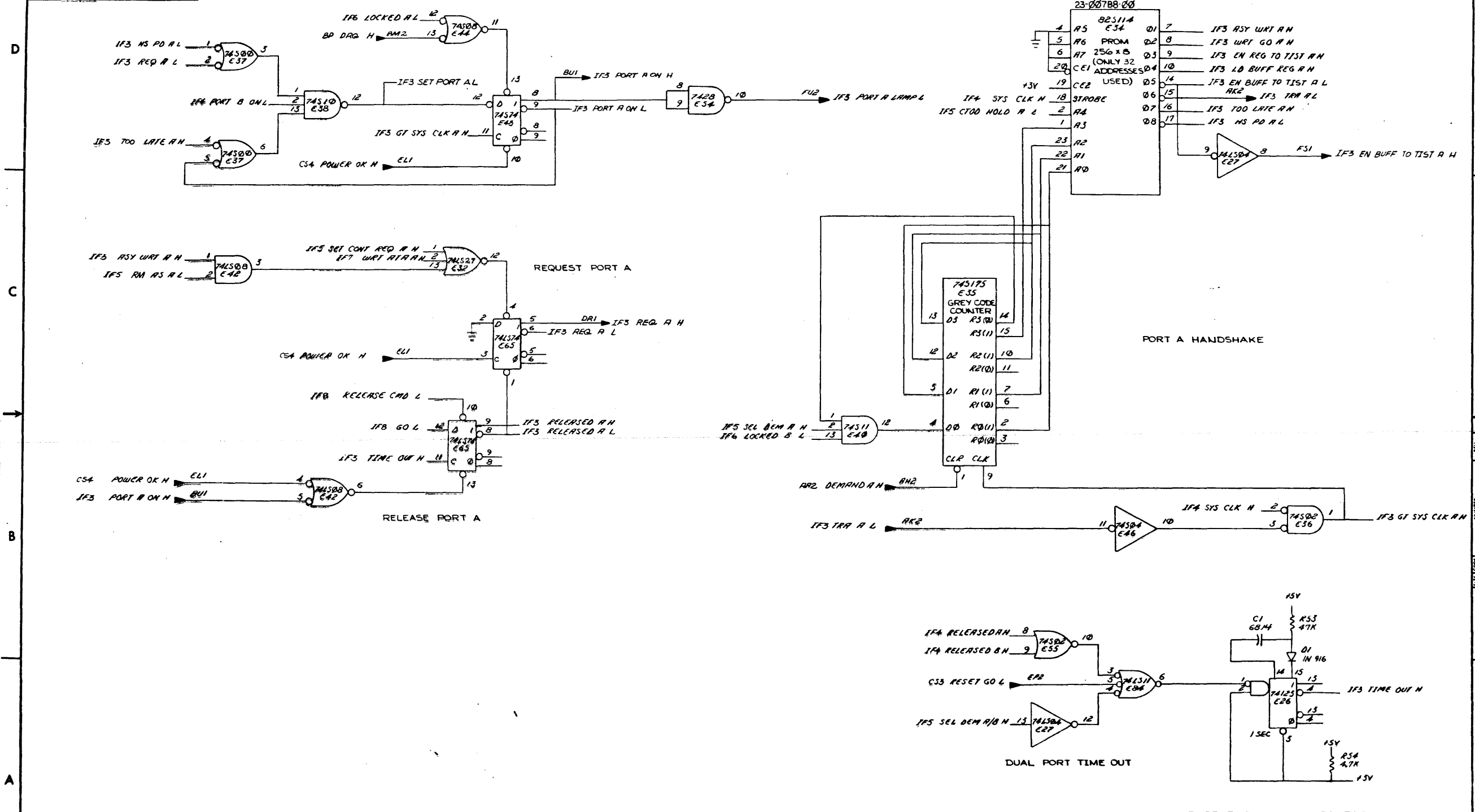


PARITY GEN/CHECK AND CONTROL LINE BUFFER

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	(IF2)	SIZE CODE	NUMBER	REV.
CONTROL INTERFACE	DCS	M7686-0-1	J	
SCALE	NONE	SHEET 2 OF 14	DIST.	

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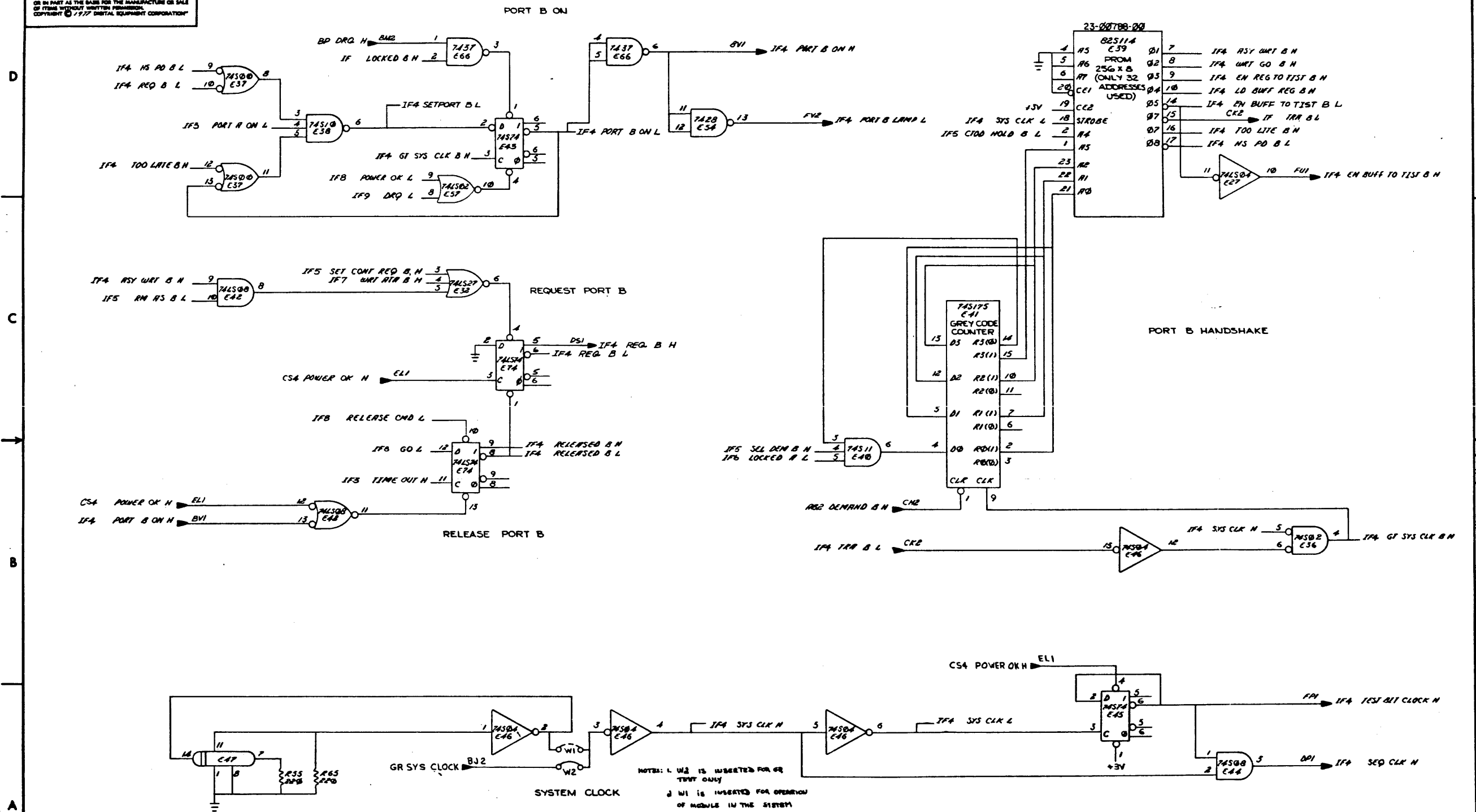
REVISIONS		
CHK	CHANGE NO.	REV.

PORT A HANDSHAKE SELECTION, AND REQUEST CIRCUITS.
DUAL PORT TIME OUT

TITLE	(IF3) CONTROL INTERFACE	SIZE CODE	D CS	NUMBER	M7686-0-1	REV.	J
SCALE	NONE	SHEET	3	OF	14	DIST.	

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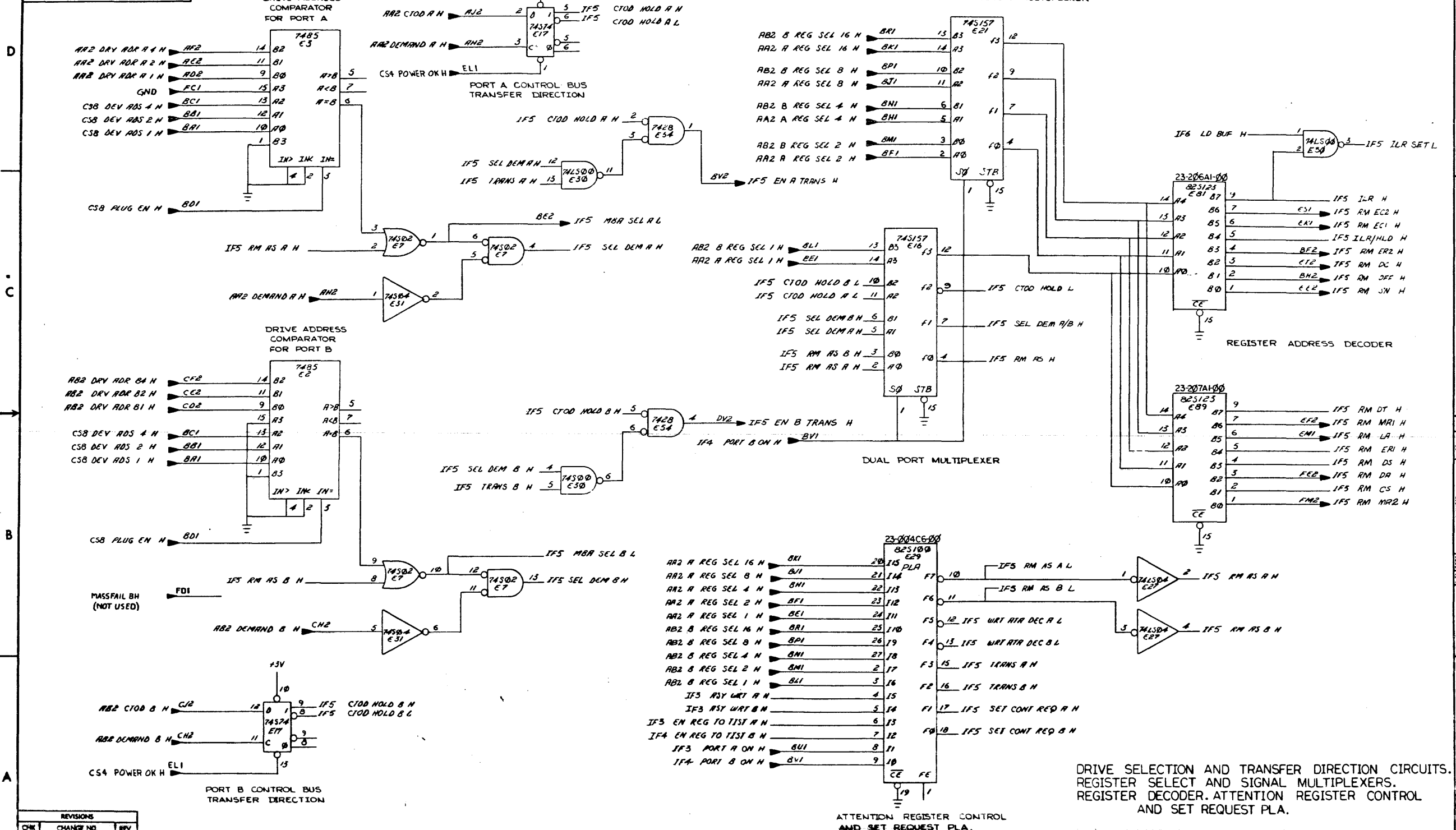
1-0-989LW 2



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE CONTROL INTERFACE (IF4)		SIZE CODE DCS	NUMBER M7686-0-1	REV. J
SCALE NONE	SHEET 4	OF 14	DWT.	CZ 1

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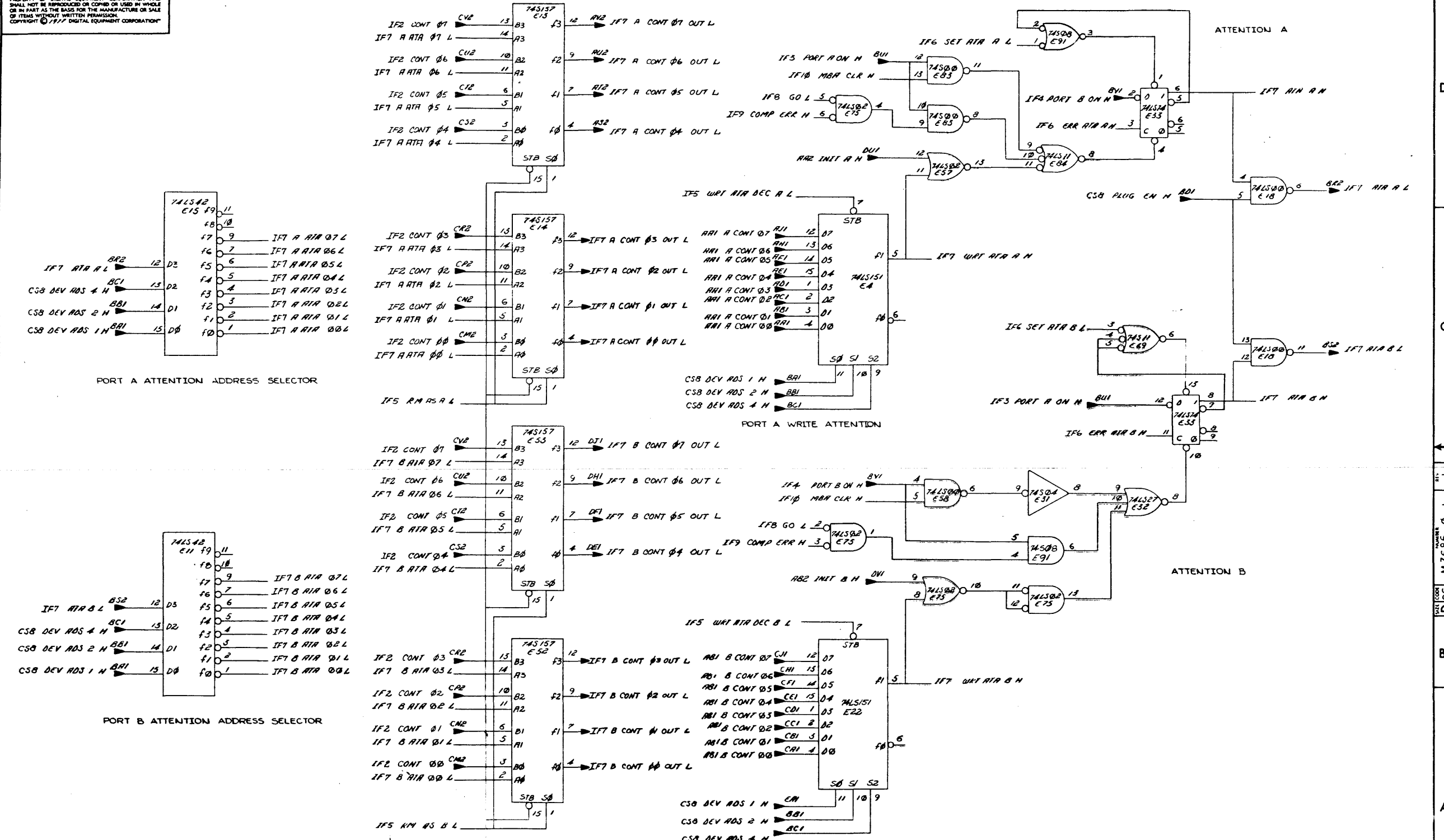
REV	CHG	NO	REV

DRIVE SELECTION AND TRANSFER DIRECTION CIRCUITS. REGISTER SELECT AND SIGNAL MULTIPLEXERS. REGISTER ADDRESS DECODER. ATTENTION REGISTER CONTROL AND SET REQUEST PLA.

TITLE	(IF5) CONTROL INTERFACE	SIZE CODE	DCS	NUMBER	M7686-0-1	REV.	J
SCALE	NONE	SHEET	5	OF 14			

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D
C
B
A



REVISIONS		
CHK	CHANGE NO.	REV.

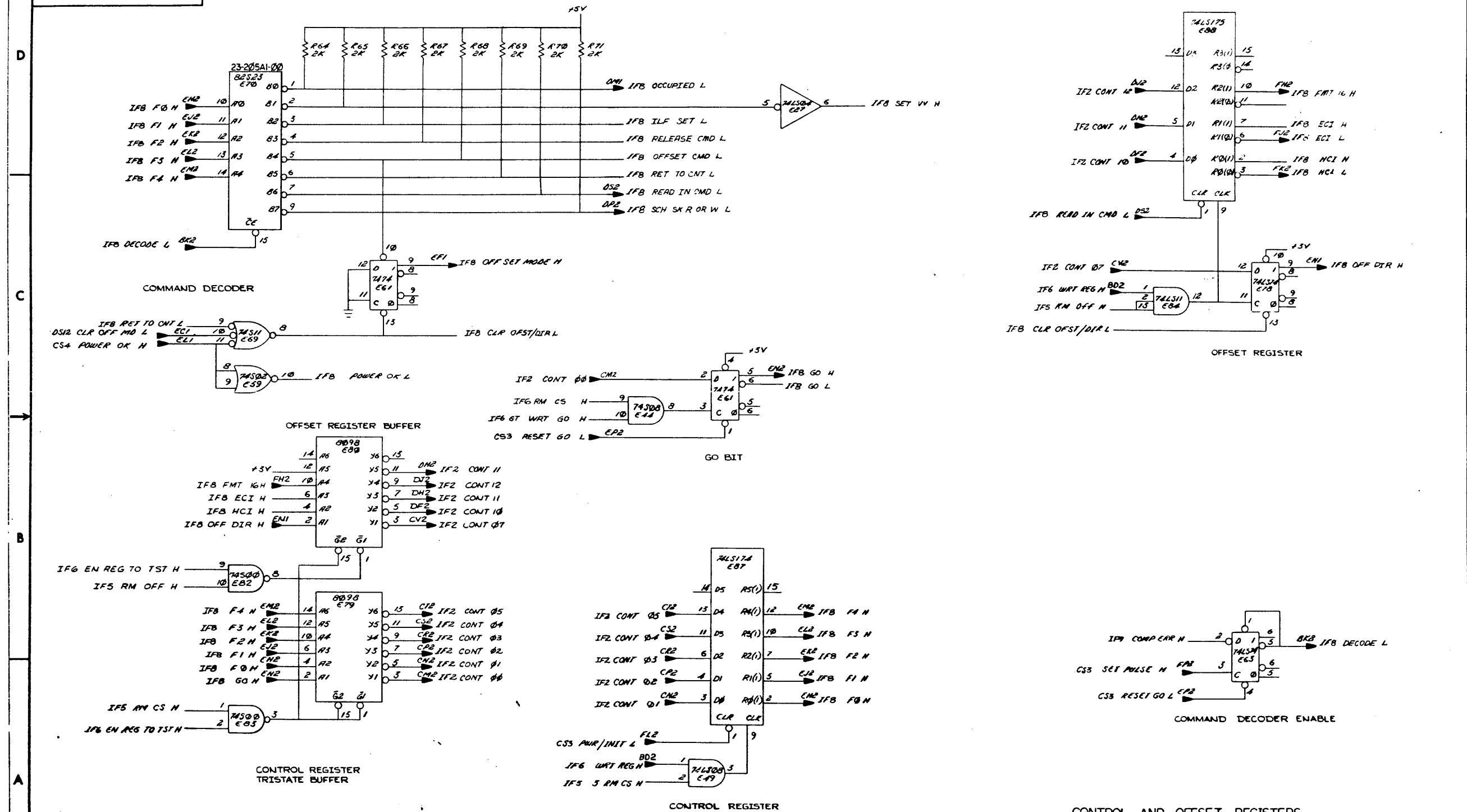
CONTROL/ATTENTION OUTPUT MULTIPLEXER (BITS 00-07) PORT B WRITE ATTENTION

ATTENTION REGISTERS AND MULTIPLEXERS

TITLE	(IF 7)	SIZE/CODE	NUMBER	REV
CONTROL INTERFACE		DCS	M7686-0-1	J
SCALE	NONE	SHEET	7 OF 14	DIST.

DCS M7686-0-1

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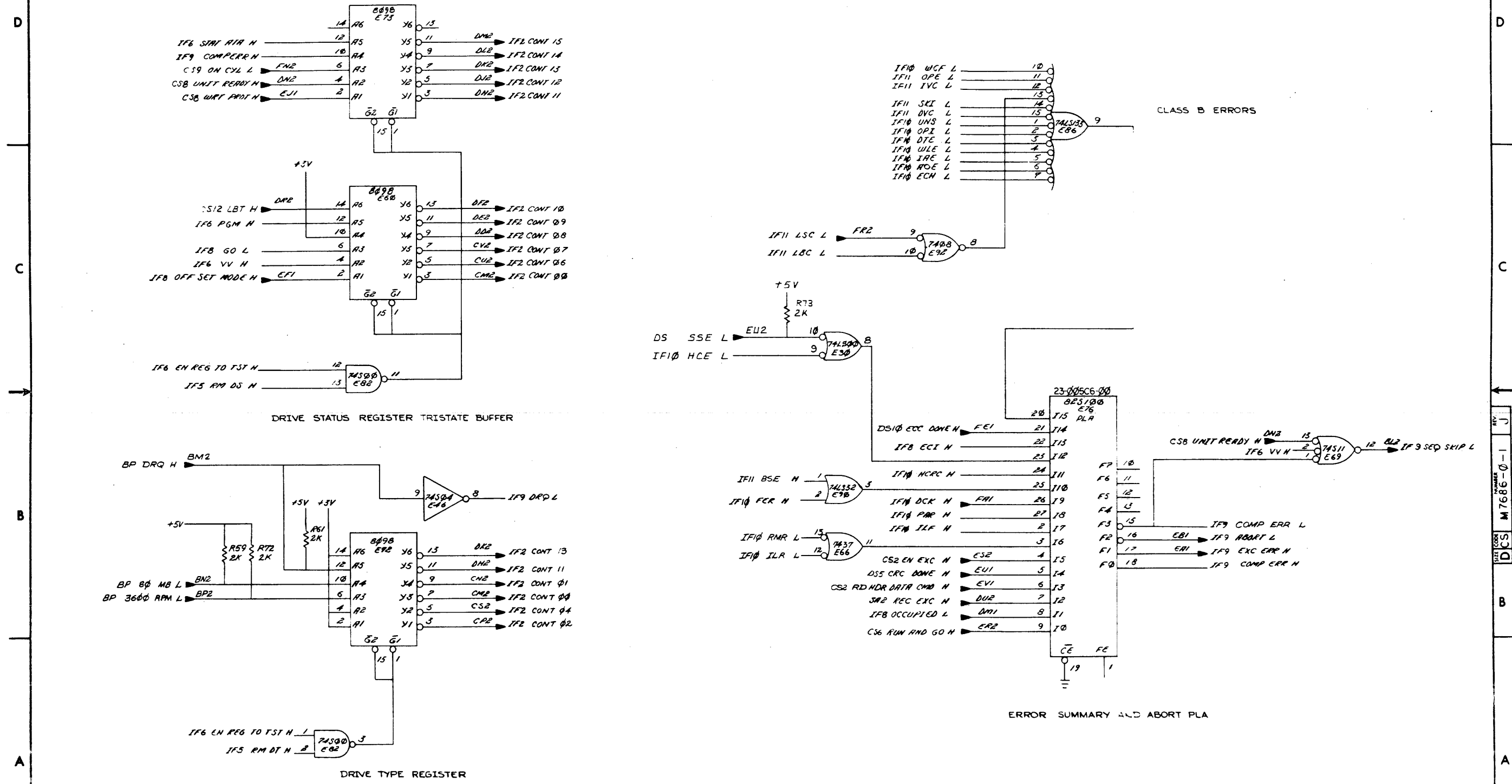


CONTROL AND OFFSET REGISTERS. COMMAND DECODE.

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	(IFB) CONTROL INTERFACE	SIZE CODE	DCS	NUMBER	M7686-0-1	REV.	J
SCALE	NONE	SHEET	8	OF 14	DIST.		

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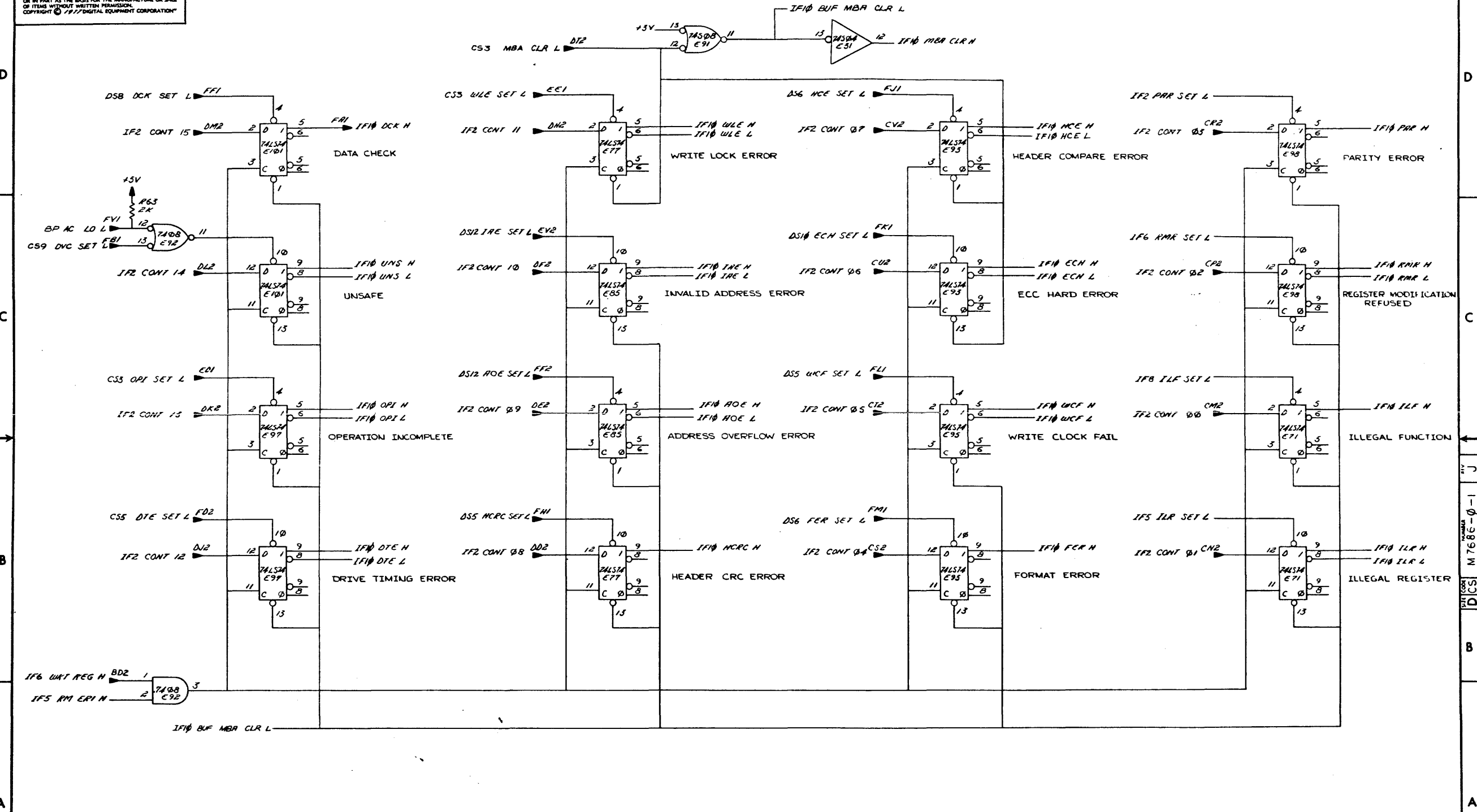
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	(IF9) CONTROL INTERFACE	SIZE CODE	D CS	NUMBER	M7686-0-1	REV.	J
SCALE	NONE	SHEET	9 OF 14	DIST.			

REV. J NUMBER M7686-0-1 SHEET 9 OF 14 DIST. DCS

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1-8-9892M DCS 2



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		(IF10)		SIZE	CODE	NUMBER	REV.
CONTROL INTERFACE		CONTROL INTERFACE		D	CS	M7686-0-1	J
SCALE	NONE	SHEET	10 OF 14	DIST.			

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AA1 AAI A CONT 00
 AB1 AAI A CONT 01
 AC1 AAI A CONT 02
 AD1 AAI A CONT 03
 AE1 AAI A CONT 04
 AF1 AAI A CONT 05
 AH1 AAI A CONT 06
 AJ1 AAI A CONT 07
 AK1 AAI A CONT 08
 AL1 AAI A CONT 09
 AM1 AAI A CONT 10
 AN1 AAI A CONT 11
 AP1 AAI A CONT 12
 AR1 AAI A CONT 13
 AS1 AAI A CONT 14
 AT1 GND
 AU1 AAI A CONT 15
 AV1 AA2 A CPA

BA1 CS8 DEV ADS 1 H
 BB1 CS8 DEV ADS 2 H
 BC1 CS8 DEV ADS 4 H
 BD1 CS8 PLUG EN H
 BE1 AA2 A REG SEL 1 H
 BF1 AA2 A REG SEL 2 H
 BH1 AA2 A REG SEL 4 H
 BJ1 AA2 A REG SEL 8 H
 BK1 AA2 A REG SEL 16 H
 BL1 AB2 B REG SEL 1 H
 BM1 AB2 B REG SEL 2 H
 BN1 AB2 B REG SEL 4 H
 BP1 AB2 B REG SEL 8 H
 BR1 AB2 B REG SEL 16 H
 BS1 BP LOCK PORT A L
 BT1 GND
 BU1 IF3 PORT A ON H
 BV1 IF4 PORT B ON H

CA1 ABI B CONT 00
 CB1 ABI B CONT 01
 CC1 ABI B CONT 02
 CD1 ABI B CONT 03
 CE1 ABI B CONT 04
 CF1 ABI B CONT 05
 CH1 ABI B CONT 06
 CJ1 ABI B CONT 07
 CK1 ABI B CONT 08
 CL1 ABI B CONT 09
 CM1 ABI B CONT 10
 CN1 ABI B CONT 11
 CP1 ABI B CONT 12
 CR1 ABI B CONT 13
 CS1 ABI B CONT 14
 CT1 GND
 CU1 ABI B CONT 15
 CV1 AB2 B CPA

DA1 IF7 B CONT 00 OUT L
 DB1 IF7 B CONT 01 OUT L
 DC1 IF7 B CONT 02 OUT L
 DD1 IF7 B CONT 03 OUT L
 DE1 IF7 B CONT 04 OUT L
 DF1 IF7 B CONT 05 OUT L
 DH1 IF7 B CONT 06 OUT L
 DJ1 IF7 B CONT 07 OUT L
 DK1 IF6 EN REG TO TIST H
 DL1 DSG SSE L
 DM1 IF8 OCCUPIED L
 DN1 CS5 MBA EBL L
 DP1 IF4 SEQ CLK H
 DR1 IF3 REQ A H
 DS1 IF4 REQ B H
 DT1 GND
 DU1 AA2 INIT A H
 DV1 AB2 INIT B H

EAI IF9 EXC ERR H
 EB1 IF9 ABORT L
 EC1 DS12 CLR OFF MD L
 ED1 CS3 OPI SET L
 EE1 CS3 WLE SET L
 EF1 IF8 OFFSET MODE H
 EH1 DS6 SET BSE L
 EJ1 CS8 WRT PROT H
 EK1 CS9 SEEK ERR H
 EL1 CS4 POWER OK H
 EM1 IF5 RM LA H
 EN1 IF8 OFF DIR H
 EP1 DS3 SYNC PAR SET H
 ER1 IF5 RM ECI H
 ES1 IF5 RM EC2 H
 ET1 GND
 EU1 DS5 CRC DONE H
 EV1 CS2 RD HDR DATA CMD H

FA1 IF10 DCK H
 FB1 CS9 DVC SET L
 FC1 GND
 FD1 MASS FAIL B H
 FE1 DS10 ECC DONE H
 FF1 DS8 DCK SET L
 FH1 DS5 HCR SET L
 FJ1 DS6 HCE SET L
 FK1 DS10 ECH SET L
 FL1 DS5 WCF SET L
 FM1 DS6 FER SET L
 FN1 IF6 ASY WRT H
 FP1 IF4 TEST BIT CLOCK H
 FR1 CS2 SET IVC H
 FS1 IF3 EN BUF TO TIST A H
 FT1 GND
 FU1 IF4 EN BUF TO TIST B H
 FV1 BP AC LO L

AA2 +5V
 AB2 -15V
 AC2 GND
 AD2 AA2 DRV ADR A1 H
 AE2 AA2 DRV ADR A2 H
 AF2 AA2 DRV ADR A4 H
 AH2 AA2 DEMAND A H
 AJ2 AA2 CTOD A H
 AK2 IF3 TRA A L
 AL2 IF3 PAR BUS A L
 AM2 IF7 A CONT 01 OUT L
 AN2 IF7 A CONT 02 OUT L
 AP2 IF7 A CONT 03 OUT L
 AS2 IF7 A CONT 04 OUT L
 AT2 IF7 A CONT 05 OUT L
 AU2 IF7 A CONT 06 OUT L
 AV2 IF7 A CONT 07 OUT L

BA2 +5V
 BB2 -15V
 BC2 GND
 BD2 IF6 WRT REG H
 BE2 IF5 MBA SEL A L
 BF2 IF5 RM ER2 H
 BH2 IF5 RM OF H
 BJ2 GR SYS CLOCK
 BK2 IF8 DECODE L
 BL2 IF9 SEQ SKIP L
 BM2 BP DRQ H
 BN2 BP 80 MB L
 BP2 BP 3600 RPM L
 BR2 IF7 ATA A L
 BS2 IF7 ATA B L
 BT2 BP LOCK PORT B L
 BU2 CS2 P SET ATA L
 BV2 IF5 EN A TRANS H

CA2 +5V
 CB2 -15V
 CC2 GND
 CD2 AB2 DRV ADR B 1 H
 CE2 AB2 DRV ADR B 2 H
 CF2 AB2 DRV ADR B 4 H
 CH2 AB2 DEMAND B H
 CJ2 AB2 CTOD B H
 CK2 IF4 TRA B L
 CL2 IF3 PAR BUS B L
 CM2 IF2 CONT 00
 CN2 IF2 CONT 01
 CP2 IF2 CONT 02
 CR2 IF2 CONT 03
 CS2 IF2 CONT 04
 CT2 IF2 CONT 05
 CU2 IF2 CONT 06
 CV2 IF2 CONT 07

DA2 +5V
 DB2 -15V
 DC2 GND
 DD2 IF2 CONT 08
 DE2 IF2 CONT 09
 DF2 IF2 CONT 10
 DH2 IF2 CONT 11
 DJ2 IF2 CONT 12
 DK2 IF2 CONT 13
 DL2 IF2 CONT 14
 DM2 IF2 CONT 15
 DN2 CS8 UNIT READY H
 DP2 IF8 SCH SK R OR W L
 DR2 DS11 LBT H
 DS2 IF8 READ IN CMD L
 DT2 CS3 MBA CLR L
 DU2 SA2 REC EXC H
 DV2 IF5 EN B TRANS H

EA2 +5V
 EB2 -15V
 EC2 GND
 ED2 IF6 INIT A/B L
 EE2 IF5 RM SN H
 EF2 IF5 RM MR 1 H
 EH2 IF8 F0 H
 EJ2 IF8 F1 H
 EK2 IF8 F2 H
 EL2 IF8 F3 H
 EM2 IF8 F4 H
 EN2 IF8 F0 H
 EP2 CS3 RESET GO L
 ER2 CS6 RUN AND GO H
 ES2 CS2 EN EXC H
 ET2 IF5 RM DC H
 EU2 SPARE
 EV2 DS12 1AE SET L

FA2 +5V
 FB2 -15V
 FC2 GND
 FD2 CS5 DTE SET L
 FE2 IF5 RM DA H
 FF2 DS12 AOE SET L
 FH2 IF8 FMT 16 H
 FJ2 IF8 ECI L
 FK2 IF8 HCL L
 FL2 CS3 PWR/INIT L
 FM2 IF5 RM MR2 H
 FN2 CS9 ON CYL L
 FP2 CS3 SET PULSE H
 FR2 IF11 LSC L
 FS2 DS7 LBC SET L
 FT2 CS2 LSC SET L
 FU2 IF3 PORT A LAMP L
 FV2 IF4 PORT B LAMP L

REVISIONS		
CHK	CHANGE NO.	REV.

(I/O SIGNAL LIST)

TITLE	(IF12)	SIZE CODE	NUMBER	REV.
CONTROL INTERFACE	DCS	M7686-0-1	J	
SCALE	NONE	SHEET 12 OF 14	DIST.	

DCS M7686-0-1 J

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INPUT VARIABLE		OUTPUT FUNCTION		ACTIVE LEVEL																																																																																																						
IN	OUT	DO NOT CARE	PROD. TERM. PRESENT IN P ₁	PROD. TERM. PRESENT IN P ₂	NOT ACTIVE																																																																																																					
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23-004C6 AT E29
ATTENTION REGISTER CONTROL
AND SET REQUEST

INPUT VARIABLE		OUTPUT FUNCTION		ACTIVE LEVEL																																																																																																						
IN	OUT	DO NOT CARE	PROD. TERM. PRESENT IN P ₁	PROD. TERM. PRESENT IN P ₂	NOT ACTIVE																																																																																																					
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23-005C6 AT E76
ERROR SUMMARY AND ABORT

INPUT VARIABLE		OUTPUT FUNCTION		ACTIVE LEVEL																																																																																																						
IN	OUT	DO NOT CARE	PROD. TERM. PRESENT IN P ₁	PROD. TERM. PRESENT IN P ₂	NOT ACTIVE																																																																																																					
H	L	(dash)	A	(dash)	H L																																																																																																					
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23-006C6 AT E62
INIT, ATTENTION AND RMR SET

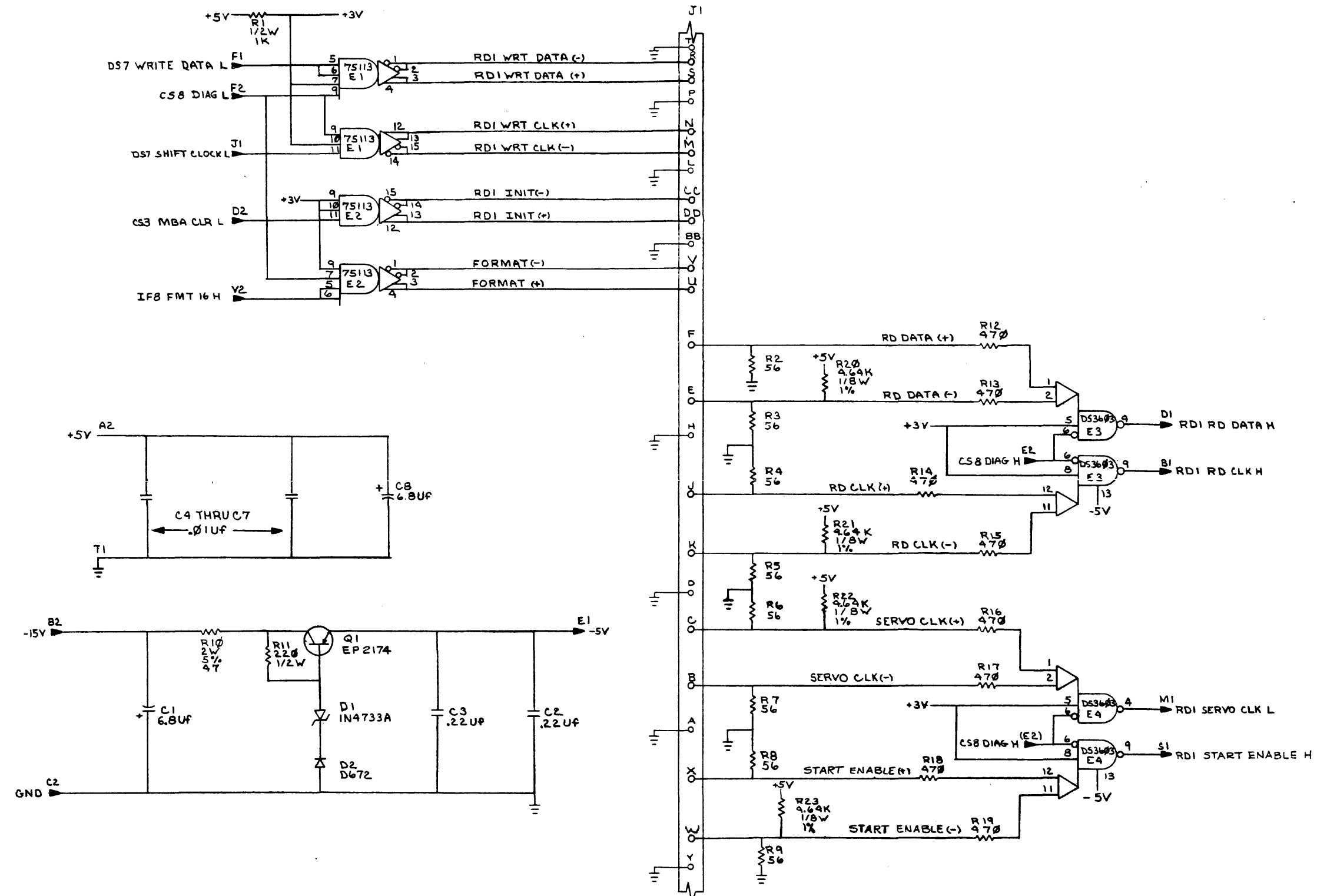
REVISIONS		
CHK	CHANGE NO.	REV.

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
31	31	1912697-00	LS174 FF-D HEX W/CLEAR	1	E87
32	32	1912799-00	LS00 NAND-GATE-QUAD 2IN,P	3	E58,E18,E30
33	33	1912801-00	LS02 NOR-GATE-QUAD 2IN	3	E57,C64,E75
34	34	1912803-00	LS04 INVERTER GATE-HEX 1I	1	E27
35	35	1912805-00	LS08 AND GATE-QUAD 2IN,PO	1	E42
36	36	1912808-00	LS11 AND GATE-TRIPLE 3IN	1	E84
37	37	1912813-00	LS27 NOR GATE-TRIPLE 3IN	1	E32
38	38	1912819-00	LS42 DECODER,BCD-DECIMAL	2	E11,E15
39	39	1912824-00	LS74 FF-D DUAL,EDGE TRIGG	18	E23,E51,E67,E71,E93,E95,E77,E97, CONT E85,E98,E78,E100,E56,E101,E63, CONT E74,E65,E33
40	40	1912839-00	LS133 NAND GATE-POS	1	E86
41	41	1912844-00	LS151 MUX 1 OF 8 & DATA	2	E4,E22
42	42	1912853-00	LS175 FF-D QUAD	1	E88
43	43	1913312-00	7428P NOR GATE-QUAD 2IN POS	1	E54
44	44	23004C6-00	C6-01	1	E29
45	45	23007B8-00	B8-01	2	E34,E39
46	46	23206A1-00	A1-07	1	E81
47	47	23205A1-00	A1-03,A1-04,A1-05	1	E70
48	48	1914087-00	8098 BUFFER GATE-HEX 2IN,	9	E60,E68,E72,E73,E79,E80,E94,E96, CONT E99
49	49	9000024-01	EYELET, ROLLED FLANGE, .121 OD X	12	
50	50	1912816-00	LS32 OR GATE-QUAD 2IN,POS	1	E90
51	51	1905547-00	7474 FF-D DUAL,EDGE TRIGG	1	E61
52	52	1910155-00	DEC 7408 AND GATE,POS,QUAD 2I	1	E92
53	53	1910091-00	DEC 7437 AND GATE-QUAD 2IN,BU	1	E66
54	54	9105740-55	WIRE(WRAP)30AWG UL1423	A/R	
55	55	5012486-00	M7686	1	
56	56	23005C6-00	C6-01	1	E76
57	57	23207A1-00	A1-07	1	E89
58	58	23006C6-00	C6-01	1	E62
59	59	9009185-00	JUMPER, WIRE, INSULATED, BLACK B	1	J2
60	60	1300479-00	10 K 1/4W 5% CC	2	R52,R60

D I G I T A L				TITLE	SECTION A OF A		SIZE	CODE	DOCUMENT NUMBER	REV
				CONTROL INTERFACE			K	PL	M7686-0-DBP	J

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1-0-2892W 2



REV.	1	DATE	11/17/77
CHK'D	W. J. BULLETT	BY	W. J. BULLETT
DESIGNED	W. J. BULLETT	DATE	5/11/77
APPROVED	W. J. BULLETT	DATE	5/11/77
DRN.	W. J. BULLETT	DATE	1-26-77
CHK'D	W. J. BULLETT	DATE	1/14/77
ENG.	W. J. BULLETT	DATE	5/11/77
PROJ. ENG.	W. J. BULLETT	DATE	5/11/77
PROD.	W. J. BULLETT	DATE	5/11/77
NEXT HIGHER ASSY.			
B-DD-M7687-0			
SCALE	1	DIST.	
SHEET	1	OF	1

DRN.	W. J. BULLETT	DATE	1-26-77	FIRST USED ON	RM03
CHK'D	W. J. BULLETT	DATE	1/14/77	TITLE	DRIVE DATA INTERFACE
ENG.	W. J. BULLETT	DATE	5/11/77	SIZE CODE	D CS M7687-0-1
PROJ. ENG.	W. J. BULLETT	DATE	5/11/77	NUMBER	
PROD.	W. J. BULLETT	DATE	5/11/77	REV.	C
NEXT HIGHER ASSY.					
B-DD-M7687-0					
SCALE	1	DIST.			
SHEET	1	OF	1		

DIGITAL EQUIPMENT CORPORATION				PARTS LIST										QUANTITY / VARIATION		NOTES:	
MADE BY JVV		CHECKED <i>Jim McGowan</i>		SECTION 1												USED ON: OPTION / MODEL RM03	
DATE 12/16/76		DATE 2/2/77															
ENG <i>Gene Belletine</i>		PROD <i>Mal...</i>		ISSUED SECTION 1													
DATE 5/11/77		DATE 5/11/77															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	REF													REF DESIGNATION
	D-MD-5012487-0-0		DRILL & ETCH DRAWING	REF													
	D-UA-M7687-0-0		UNIT ASSY.	REF													
	B-DD-M7687-0		DWG. DIRECTORY	REF													
	D-CS-M7687-0-1		CIRCUIT SCHEMATIC	REF													
1		5012487	ETCHED CIRCUIT BOARD	1													
2		10-05306-00	CAP, 6.8 UF 10% 35V	2													C8, C1
3		10-10274-00	CAP, 0.22 UF 50V	2													C2, C3
4		10-01610-01	CAP, .01 UF 100V DISC	4													C4, C5, C6, C7
5		10-00082-00	CAP 68UF 15V 10%	1													C1
6		11-05275-00	DIODE, D672	1													D2
7		11-09943-00	DIODE, IN4733A	1													D1
8		13-00274-00	RES, 220 1/2W 5%	1													R11
9		13-00364-00	RES, 1K 1/2W 5%	1													R1
10		13-14023-00	RES, 47 2W 5%	1													R10
11		13-00316-00	RES, 470 1/4W 5%	8													R12 thru R19
12		13-02602-00	RES, 56 1/4W 5%	8													R2 thru R9
13		13-01802-00	RES 4.64K 1/8K 1% MF	4													R20 thru R23
14		15-12589-00	TRANS, PNP, 40W, 60V, 3A	1													Q1
15		19-11341-00	I.C. DEC 75113	2													E1, E2
16		19-14091-00	I.C. DS3603	2													E3, E4
17		90-06010-04	SCREW BHM#4-40 x 5-16 LG	1													

E.C.O. NO. 18 000012 M7687-C CX 0003	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 DRIVE DATA INTERFACE	ASSY NO. D-UA M7687-0-0	SIZE CODE B PL	NUMBER M7687-0-0	REV. C
EN-01140A-16-R276(325) DRB 125	SHEET 1 OF 2	INSERTION PARTS LIST DATA BASE REV A				

DIGITAL EQUIPMENT CORPORATION

PARTS LIST

QUANTITY / VARIATION

NOTES:

USED ON / OPTION / MODEL
RM03

MADE BY DATE	JVV 12-16-76	CHECKED DATE	<i>D. Goodman</i> 15 APR 77	SECTION	1
ENG DATE	<i>Gene Belliveau</i> 5/11/77	PROD DATE	<i>[Signature]</i> 5/12/77	ISSUED SECTION	1

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QTY	UNIT	REF DESIGNATION
18		90-06557-00	KEPNUT #4-40	1		
19		90-06732-00	EYELET	2		
20		90-08337-06	HANDLE, FLIP CHIP - MAGENTA	1		
21		12-09941-09	CONNECTOR 26 PIN	1		J1
22		90-08268-00	THERMAL COMPOUND	AR		
23		90-06004-04	SCREW BHM #2-56 x 7/16 IG	2		
24		90-06555-00	NUT, HEX	2		
25		90-06631-00	WASHER, INTLK #2	2		
26		12-09941-03	LATCH, LEFT	1		
27		12-09941-04	LATCH, RIGHT	1		

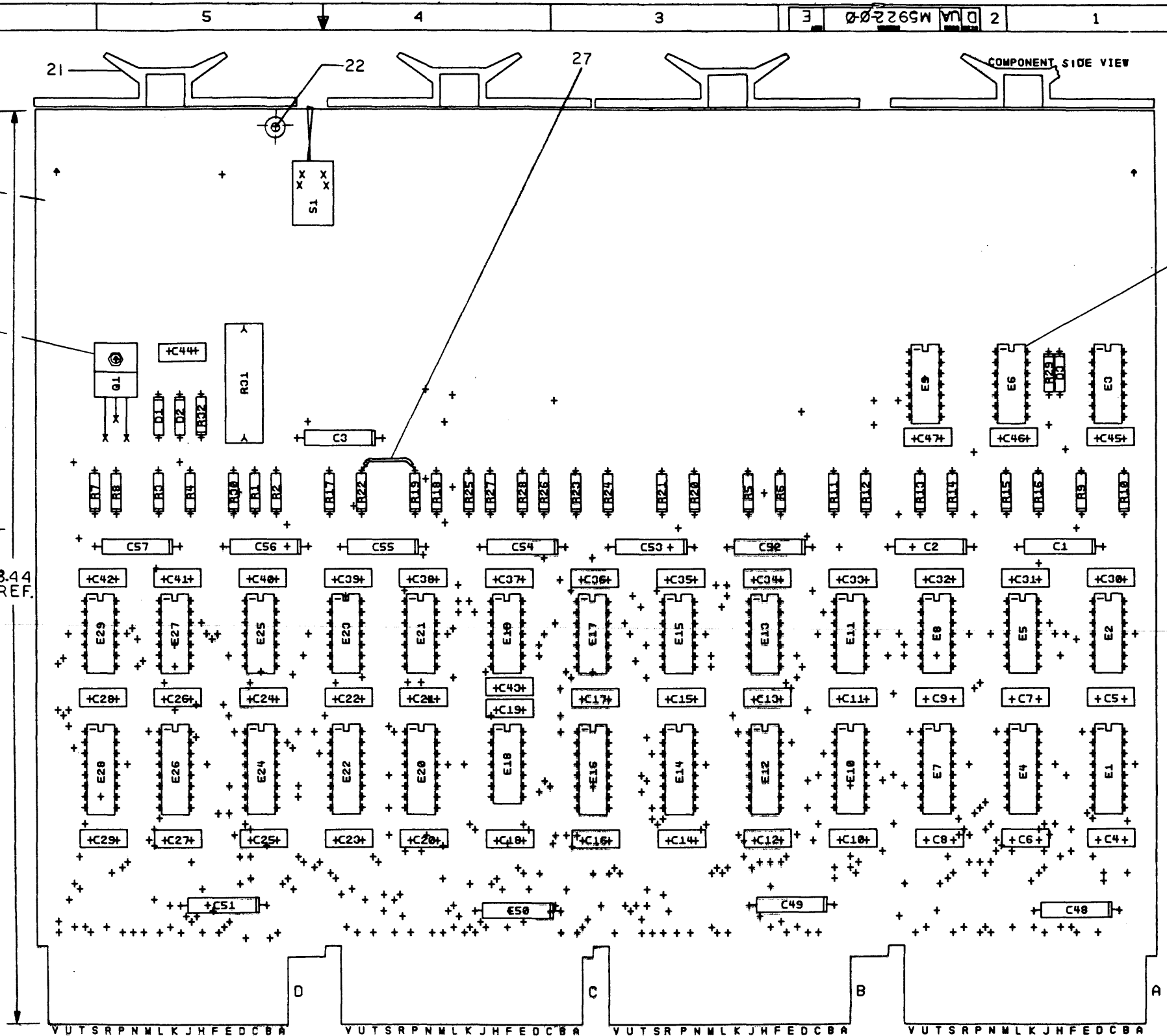
ECO. NO.

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		SHEET 2 OF 2	INSERTION PARTS LIST DATA BASE REV			

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REWORK INSTRUCTIONS

ECO # 1
COMPONENT DELETE SIDE 1:
1-1 DELETE E6 (P/N 1909666-00)
COMPONENT ADD SIDE 1:
1-2 ADD E6 (P/N 1911324-00)



NOTES:

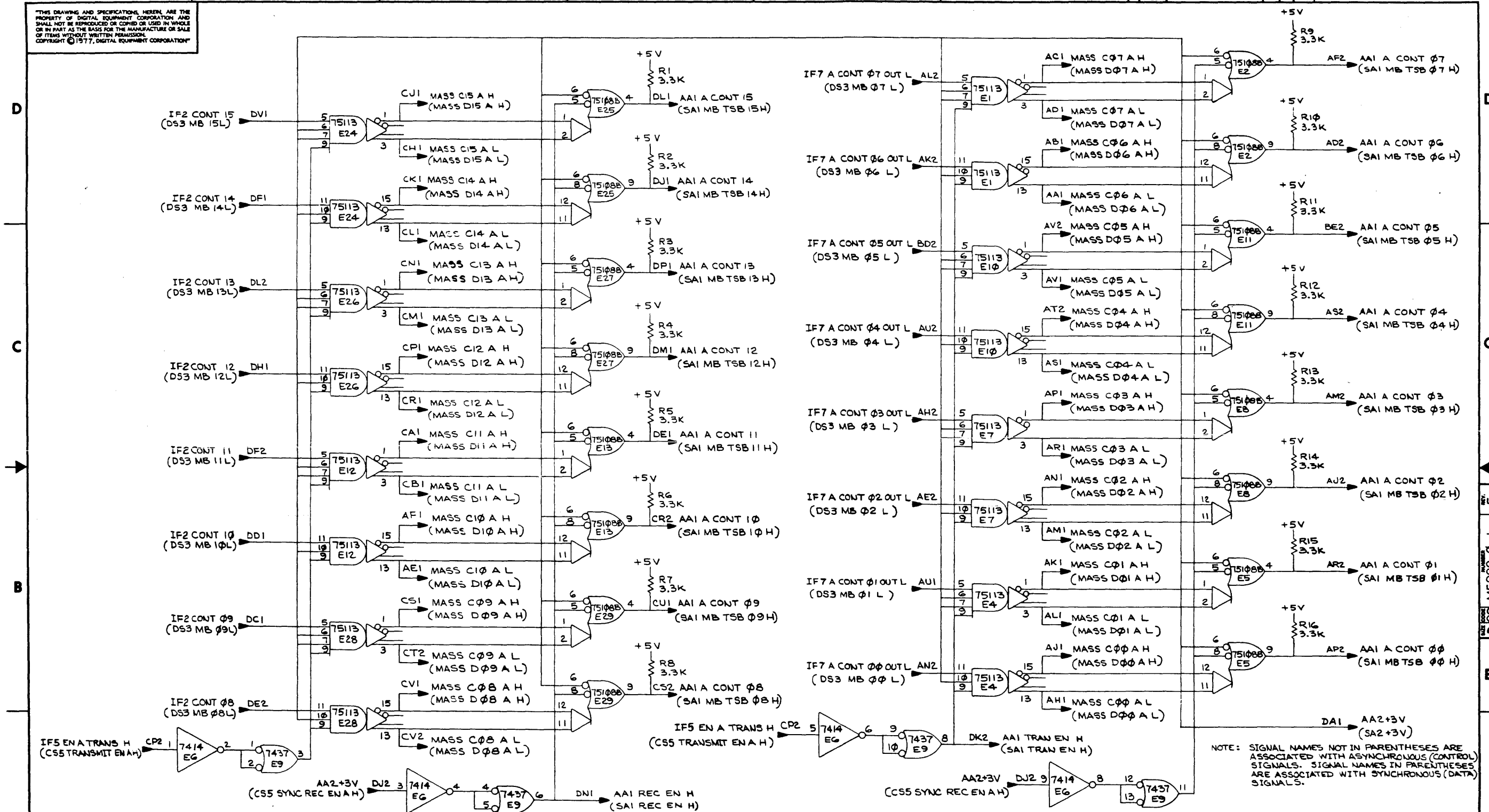
CHANGE NO.	REV.	DATE	BY	CHK'D.
1	D	2-16-77	R. P. [Signature]	[Signature]
2	D	2-18-77	[Signature]	[Signature]
3	D	1-10-77	[Signature]	[Signature]
4	D	1-10-77	[Signature]	[Signature]
5	D	1-10-77	[Signature]	[Signature]
6	D	1-10-77	[Signature]	[Signature]
7	D	1-10-77	[Signature]	[Signature]
8	D	1-10-77	[Signature]	[Signature]

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

SIGNATURES		DATE	digital
DRN. [Signature]	[Signature]	2-16-77	
CHK'D. [Signature]	[Signature]	2-18-77	TITLE MASS BUS TRANSCEIVER PORT A
ENG. [Signature]	[Signature]	1-10-77	
PROJ. ENG. [Signature]	[Signature]	1-10-77	SIZE CODE NUMBER REV D UA M5922-0-0 E
SCALE 2:1	[Signature]	5/8/77	
SHT. 1 OF 3			
NEXT HIGHER ASSY.			

CZ 1 MS#104518

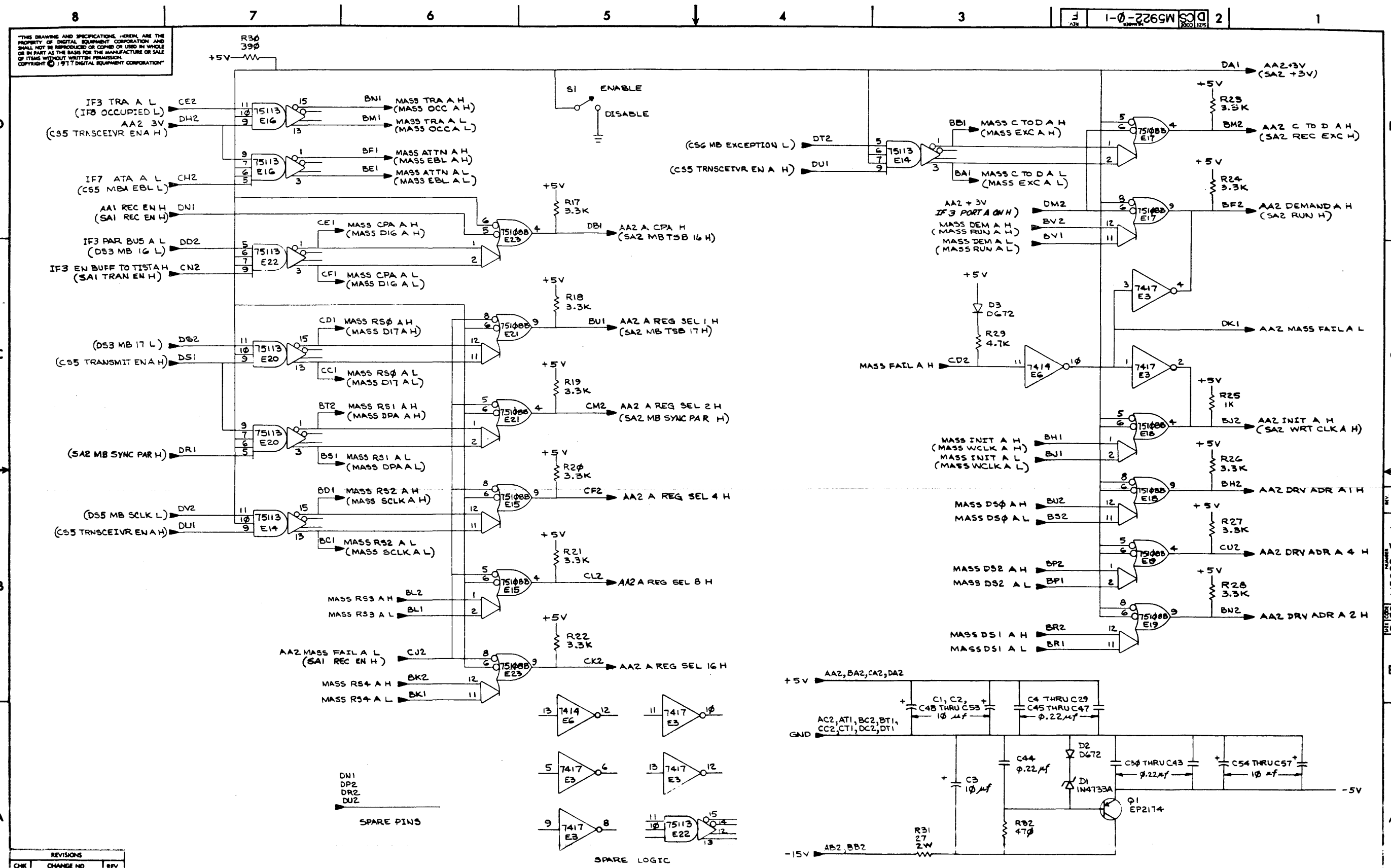
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NOTE: SIGNAL NAMES NOT IN PARENTHESES ARE ASSOCIATED WITH ASYNCHRONOUS (CONTROL) SIGNALS. SIGNAL NAMES IN PARENTHESES ARE ASSOCIATED WITH SYNCHRONOUS (DATA) SIGNALS.

REV.	BY	DATE	DESCRIPTION
D	M.L.O.	11/17/77	REVISED
E	L. BELLETTIERE	5/12/78	REVISED
F	M5922-CX002		REVISED
	L. CAPPABIANCA		REVISED
	K. DAVIS	11/09/80	REVISED
	C. QUINIGAN	11/09/80	REVISED

DRN. 1-0-2265W	3/8/77	FIRST USED ON RM03	Digital
CHKD BY M.L.O.	11/17/77	TITLE MASS BUS TRANSCEIVER PORT A	
ENG. P.L.	12/04/77	SIZE CODE NUMBER	
PROJ. ENG. S.P.	11/09/77	SCALE DCS M5922-0-1	
PROJ. M.L.	5/12/78	REV. F	
NEXT HIGHER ASSY.		SHEET 1 OF 2	



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REVISIONS		
CHK	CHANGE NO.	REV

TITLE	MASS BUS TRANSCEIVER PORT A	SIZE CODE	D CS	NUMBER	M5922-0-1	REV	F
SCALE		SHEET	2 OF 2	DIST.			

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
				00	
1	D-CS-M5922-0-1		CIRCUIT SCHEMATIC	REF	
2	D-UA-M5922-0-0		UNIT ASSEMBLY	REF	
3	B-DD-M5922-0-0		DWG. DIRECTORY	REF	
4	D-MD-5012462-0-0		DRILL & ETCH DWG.	REF	
5		5012462-00	M5922	1	
6		1017472-00	10 MFD 35V +50-10% AL EL	13	C1,C2,C3,C48-C57
7		1010274-00	.22 MFD 50V +80-20% Z5U CER	44	C4-C47
8		1105275-00	D 672 TR= 15NS PIV= 60V SI	2	D2,D3
9		1109943-00	1N 4733A VZ= 5.1 5% 1W Y	1	D1
10		1300316-00	470.0 .25 W 5.0 % CC	1	R32
11		1300439-00	3.30 K .25 W 5.0 % CC	27	R1-R24,R26,R27,R28
12		1300447-00	4.70 K .25 W 5.0 % CC	1	R29
13		1305624-00	27.0 2.0 W10.0 % CC	1	R31
14		1300309-00	390.0 .25 W 5.0 % CC	1	R30
15		1512589-00	PNP 40W SI 60 25	1	Q1
16		1911324-00	7414 INVERTER,HEX 1IN SCH	1	E6
17		1909929-00	7417 BUFFER GATE-HEX 1INP	1	E3
18		1910091-00	DEC 7437 AND GATE-QUAD 2IN,BU	1	E9
19		1910725-00	75108B RECEIVER,LINE,DUAL,	14	E2,E5,E8,E11,E13,E15,E17,E18, CONT E19,E21,E23,E25,E27,E29
20		1911341-00	75113 DRIVER,LINE,DUAL,MA	12	E1,E4,E7,E10,E12,E14,E16,E20, CONT E22,E24,E26,E28
21		9008337-06	HANDLE, FLIP CHIP, MAGENTA	4	
22		9006732-00	EYELET, ROLLED FLANGE, .121 OD X	8	
23		9006010-01	SCREW,PAN,PHIL 4-40X 5/16 SS	1	
24		9006557-00	NUT,KEP 4-40X 1/4 AF	1	
25		9008268-00	COMPOUND, THERMAL JOINT	A/R	
26		1210209-00	SW,TG,SPDT,.01A@6V,ON/ON,SUBMIN	1	S1
27		9105740-55	WIRE(WRAP)30AWG UL1423	A/R	
28		1300365-00	1.0 K .25 W 5.0 % CC	1	R25

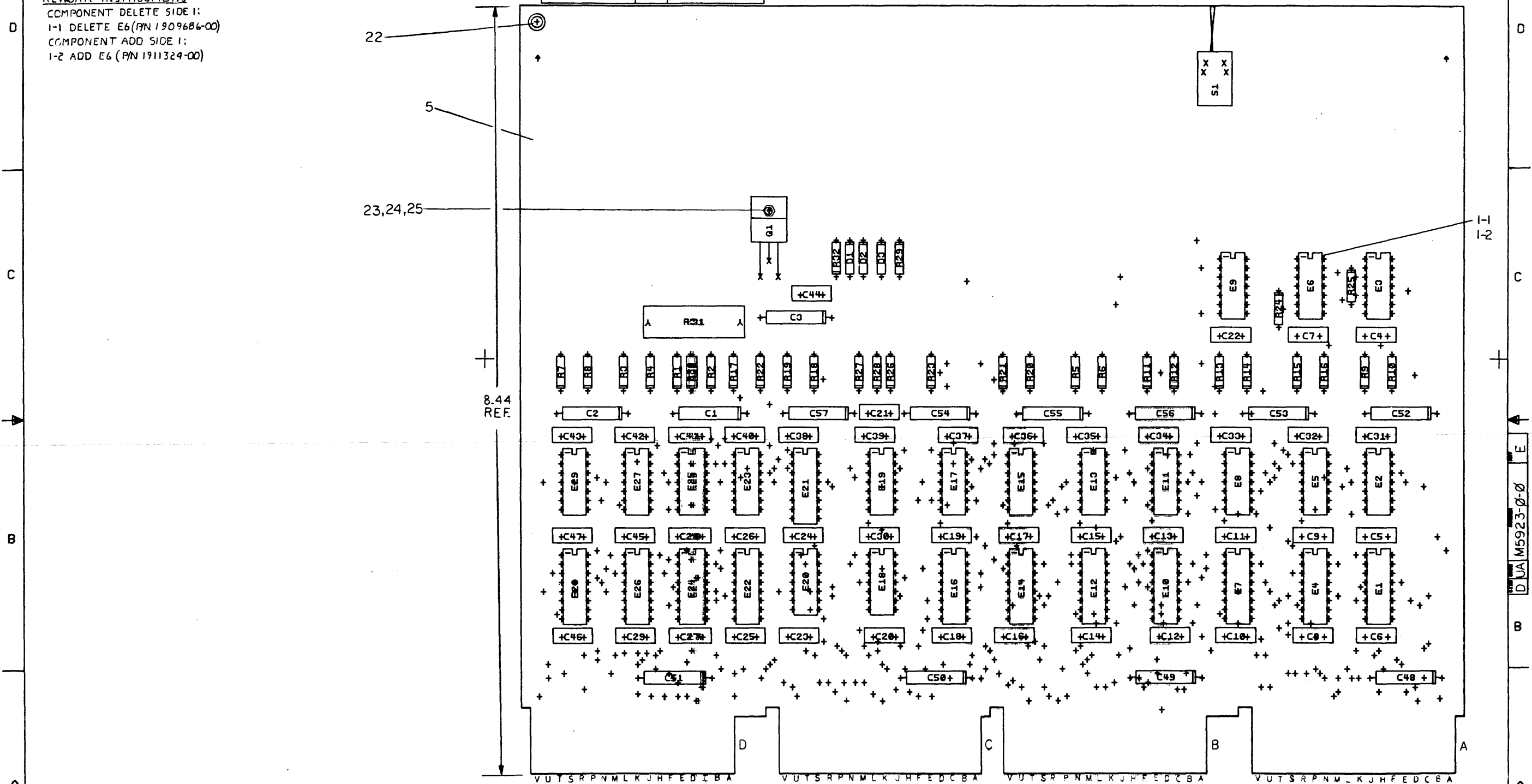
REVISION HISTORY		BASIC PART NO: M5922		DRN: R. SULLIVAN		DATE: 17-JUL-78		DIGITAL	
ENG	ECD NUMBER	REV	SECTION A OF A	CHK'D:	C.BEVERLIE	DATE:	17-JUL-78	TITLE	PARTS LIST
ER	00001	D	SECTION.VARIATION INDEX	DES.ENG:	RV	DATE:	17-JUL-78		
LC	M5922-CX002	E	[A] 00	RESP.ENG.:	RV	DATE:	17-JUL-78		
CD	M5922-CX003	F	[B]	MFG.ENG.:	MR	DATE:	17-JUL-78		
	<i>W.C.M. 24 Nov 80</i>		[C]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:			
			[D]	D-UA-M5922-0-0		RMO3			
			[E]					FILE NAME:	Z0846F.PLS
			[F]					EDIT #:	6
			[G]						
			[H]						
			[I]						
			[J]						
			[K]						
			[L]						
			[M]						
			[N]						

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REWORK INSTRUCTIONS
 COMPONENT DELETE SIDE 1:
 1-1 DELETE E6 (P/N 1909686-00)
 COMPONENT ADD SIDE 1:
 1-2 ADD E6 (P/N 1911324-00)

COMPONENT SIDE VIEW



NOTES:

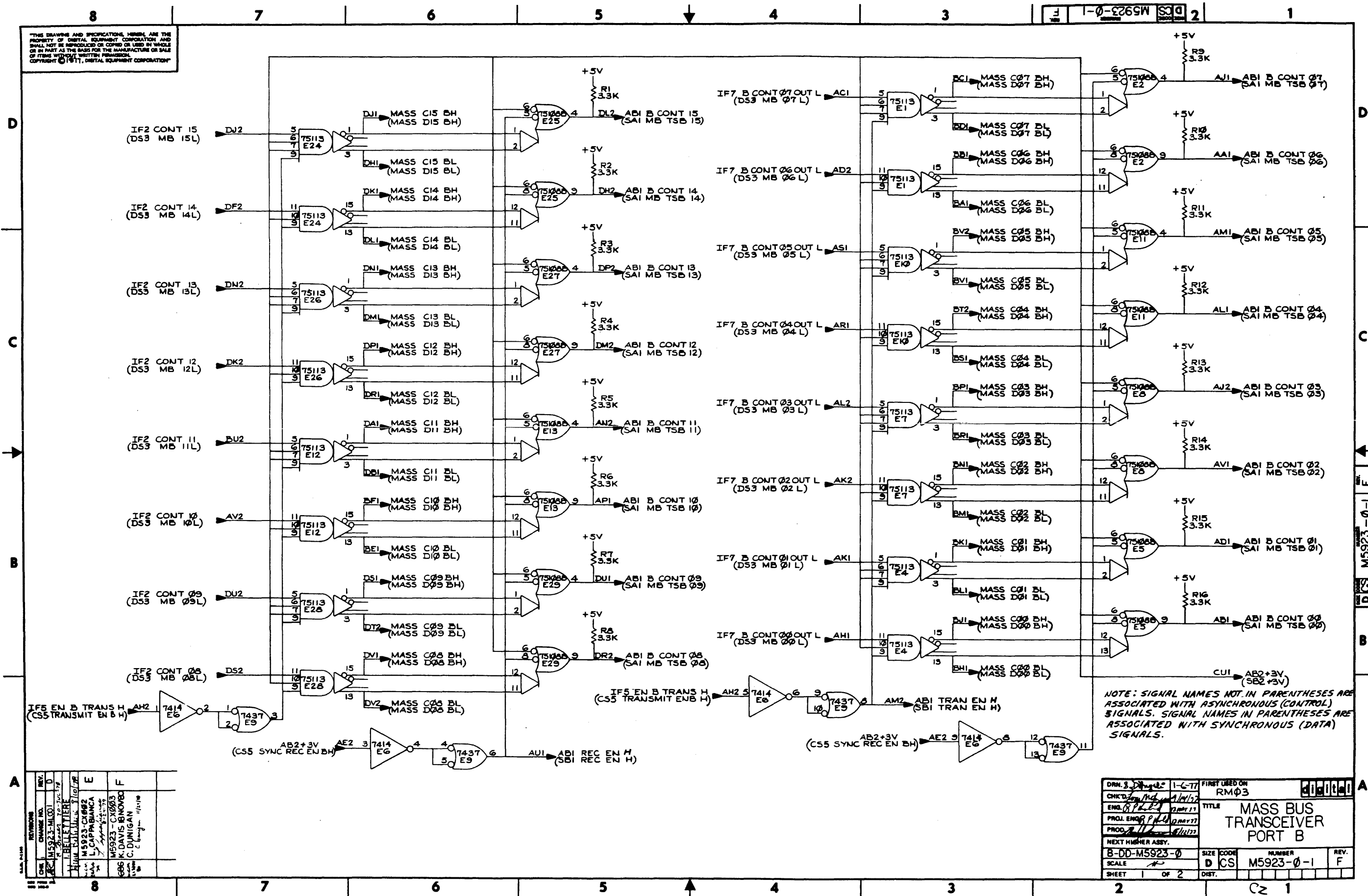
CHANGE NO	REV	DATE	BY	CHKD
423	M5923-0-0	D		
1	RELETTIERE			
2	WILLIAMS			
3	M5923-0-002	E		
4	K. DAVIS	NOV 80		
5	C. JUNIGAN	686		

ETCH REV.	D
P.C. DESIGN DATA	DATE REV. D

SIGNATURES		DATE	digital
DRN. <i>R. Sullivan</i>		2-21-77	
CHK. D. <i>R. Sullivan</i>		2-25-77	
ENG. <i>R. Sullivan</i>		2-25-77	
PROJ. ENG. <i>R. Sullivan</i>		1-20-77	
PROD. <i>R. Sullivan</i>		5-1-77	
SCALE	1 OF 3		
SHT. 1			
NEXT HIGHER REVISION: B DD-M5923-0-0			

TITLE MASS BUS
 TRANSCIEVER PORT B
 SIZE CODE NUMBER REV
 D UA M5923-0-0 E

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REV.	DATE	BY	CHKD	DESCRIPTION
1	10/10/70	L. BELLETTIERE		INITIAL DESIGN
2	11/10/70	L. BELLETTIERE		REVISION
3	12/10/70	L. BELLETTIERE		REVISION
4	1/10/71	L. BELLETTIERE		REVISION
5	2/10/71	L. BELLETTIERE		REVISION
6	3/10/71	L. BELLETTIERE		REVISION
7	4/10/71	L. BELLETTIERE		REVISION
8	5/10/71	L. BELLETTIERE		REVISION

DRN. 3	1-6-77	FIRST USED ON	RM03
CHKD	1/10/77	TITLE	MASS BUS TRANSCEIVER PORT B
ENR	2/10/77	PROJ. ENGR	P. L. H.
PROJ. ENGR	2/10/77	PROJ. ENGR	P. L. H.
NEXT HIGHER ASSY.		SIZE	CODE
B-DD-M5923-0		D	CS
SCALE		NUMBER	M5923-0-1
SHEET	OF 2	DIST.	