CONTROL DATA® 6600
COMPUTER SYSTEM
DATA CHANNEL EQUIPMENT

6602-B, 6603-B, 6622-A, 6681-B
6682-A, S.O. 60022, 60028, 60029

DIAGRAMS &
CIRCUIT DESCRIPTION

CONTROL DATA
CORPORATION

CUSTOMER ENGINEERING MANUAL

60125000

RECORD OF REVISIONS

REVISION	NOTES
	This printing includes material previously found in Pub. Nos. 60119700, 60119800, 60119900, 60120000, 60120100, and 60120800, which are made obsolete by this printing.
A	Misc. corrections. Pages revised are listed per section. 6603 Disk System Controller, pgs. 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 22, 23 and 29. 607-B Tape Transport Controller, pgs. 3, 5, 7, 9, 11, 13, 15, 17, 19 and 23. 626-B Magnetic Tape
	Transport Controller, pgs. 3, 5, 9, 11, 13, 15, 17, 19 and 21.
B (5-18-65)	Misc. Corrections and addition of logic diagrams to Section 6602 and 6603. General Contents revised. Pages revised are listed per section. 6602 - Contents, 1, 3, 5, 11, 17, 19, 21, 23, 25, 27, 35, 37, 39 and addition of pages 43, 45, 47,
	49, and 51. 6603 - Contents, 1, 3, 5, 7, 9, 11, 13, 15, 19, 21, 22, 23, 25, 27, and addition of page 31. 6622 (626-B) - Divider, Title Page, Contents, 1, 3, 5, 15, 17, 19, and 21. Added Divider 6681. SPECIAL OPTION 60022 (1612) -Divider,
	Title Page, Contents, and page 1. SPECIAL OPTION 60022 (170) - Divider, Title Page and Contents. SPECIAL OPTION 60028 (607-B) - Divider, Title Page, Contents, 1, 3, 5, 9, 11, 15, 19, 21 and 23. SPECIAL OPTION 60029 (405-B) -
	Divider, Title Page, Contents and page 1. Removed Dividers for 501-B and 415-B.
C (12-8-65)	Pages listed either revised or new pages added. General contents, ii, 6602 section: Contents, ii, 1, 2, 3, 5, 6, 7, 9, 10, 11, 12, 18, 28, 31, 33 and 35. 6603 section: Contents, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 21, 22,
	23, 24, 25, 27, 29, 31 and 33. 6622 section: Contents, 1, 2, 3, 5, 7, 8, 9, 11, 12, 13, 15, 16, 17, 19 and 21. 6681 section: Contents, ii, 1, 2, 3, 5, 7, 9 and 11. 6682 section: Contents, ii, 1, 2, 3, 5, 7 and 9. S. O. 60022 (1612): Contents
	and ii. S. O. 60022 (170): Contents and ii. S. O. 60029: Contents and ii. This printing obsoletes all previous editions.

FORM CA 109

GENERAL CONTENTS

S. O. = Special Option

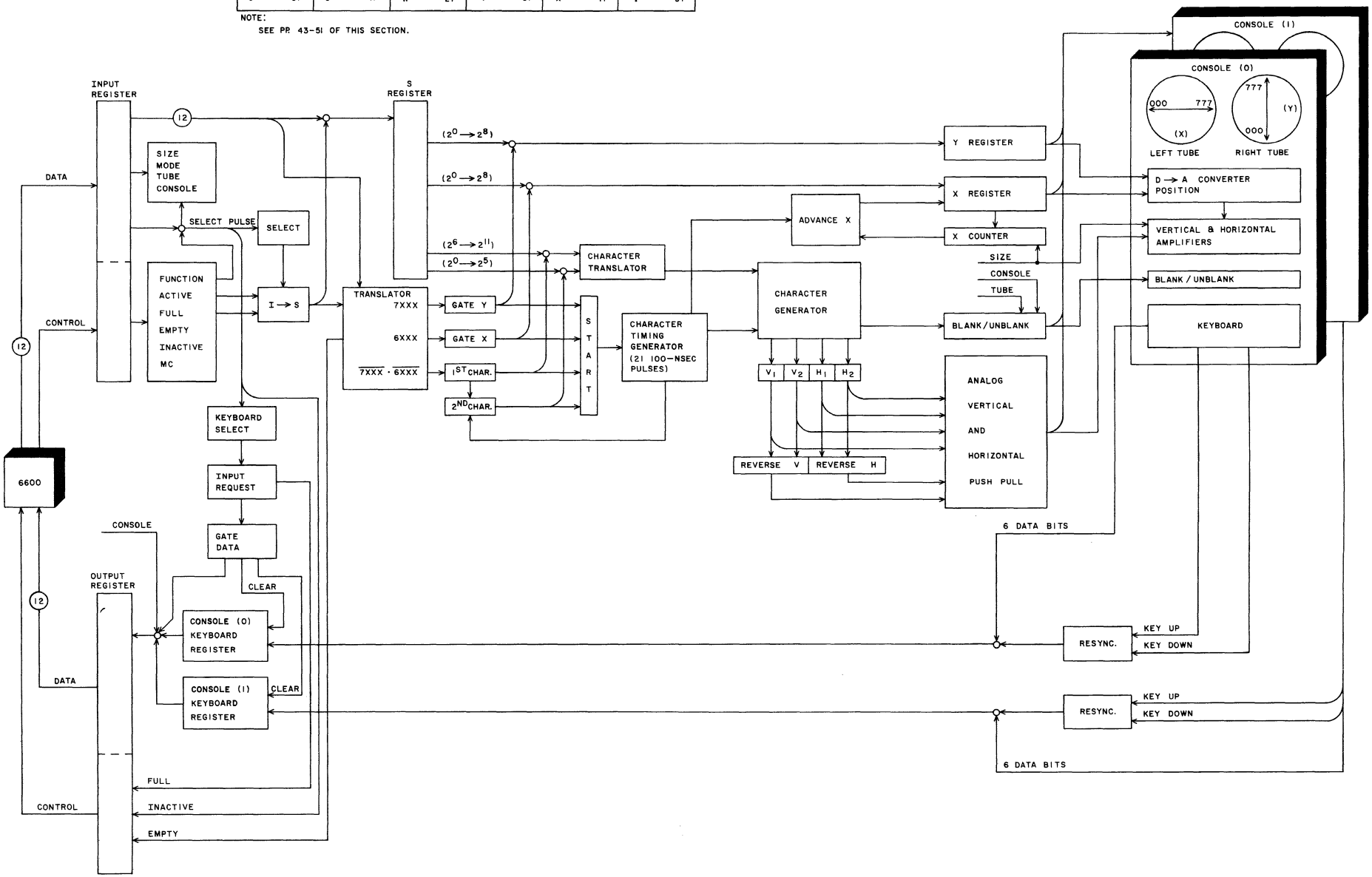
6602 CONSOLE DISPLAY CONTROLLER

CONTENTS

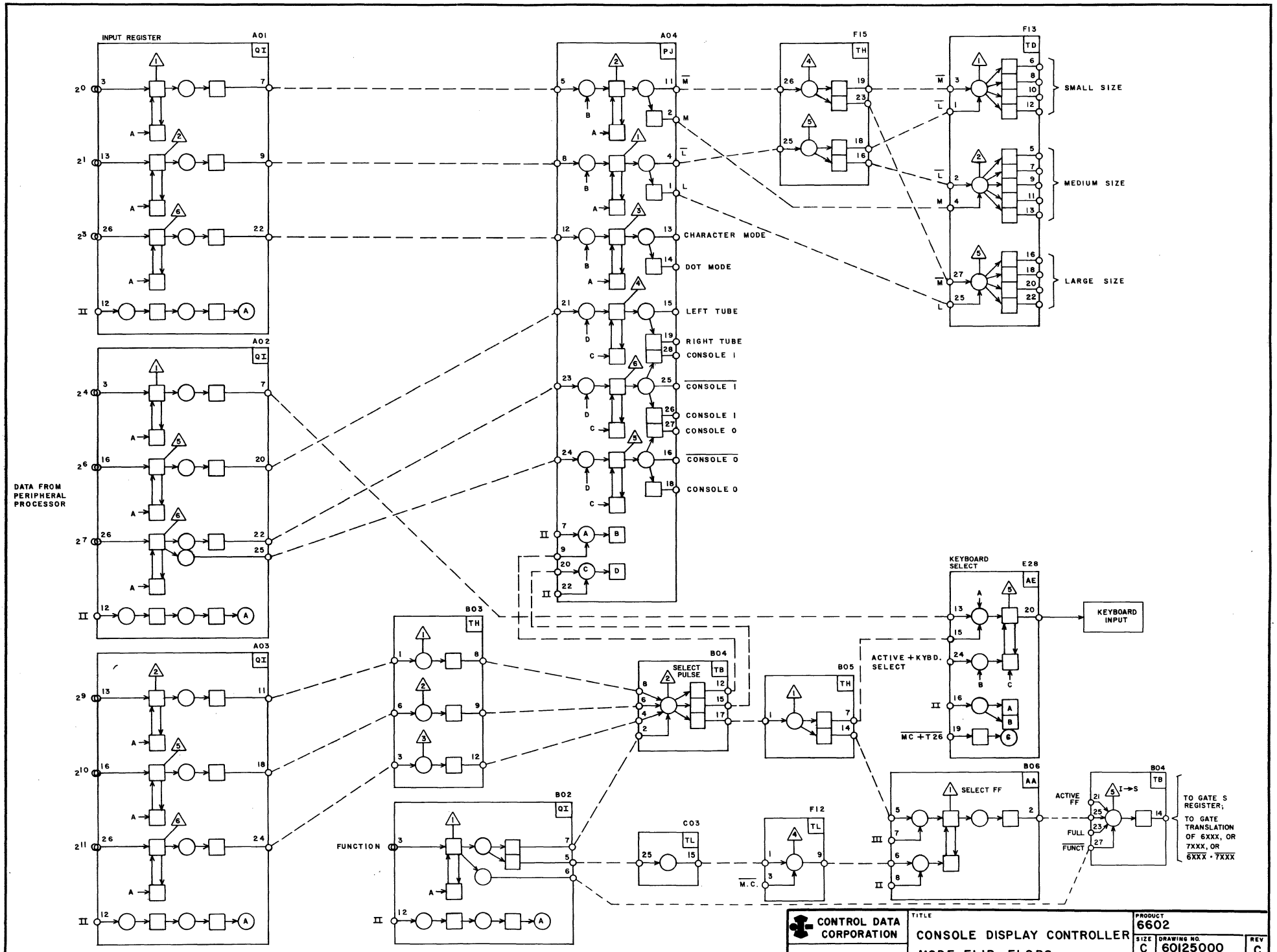
CHARACTER CODES

SPACE	00	H	10	P	20	X	30	5	40	/	50
A	01	I	11	Q	21	Y	31	6	41	⊏	51
B	02	J	12	R	22	Z	32	7	42	⊐	52
C	03	K	13	S	23	□	33	8	43		
D	04	L	14	T	24	(	34	9	44	=	54
E	05	M	15	U	25	2	35	+	45		
F	06	N	16	V	26	3	36	−	46	,	56
G	07	O	17	W	27	4	37	*	47	.	57

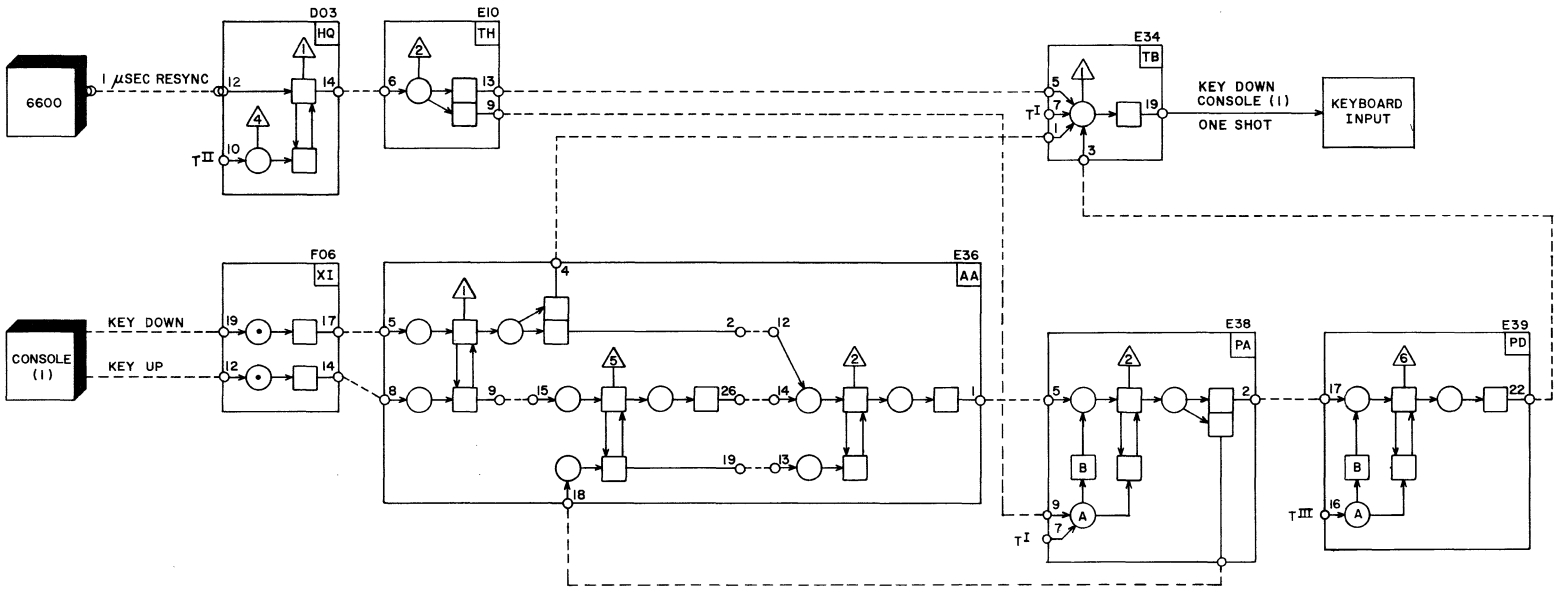
NOTE:
SEE PP. 43-51 OF THIS SECTION.



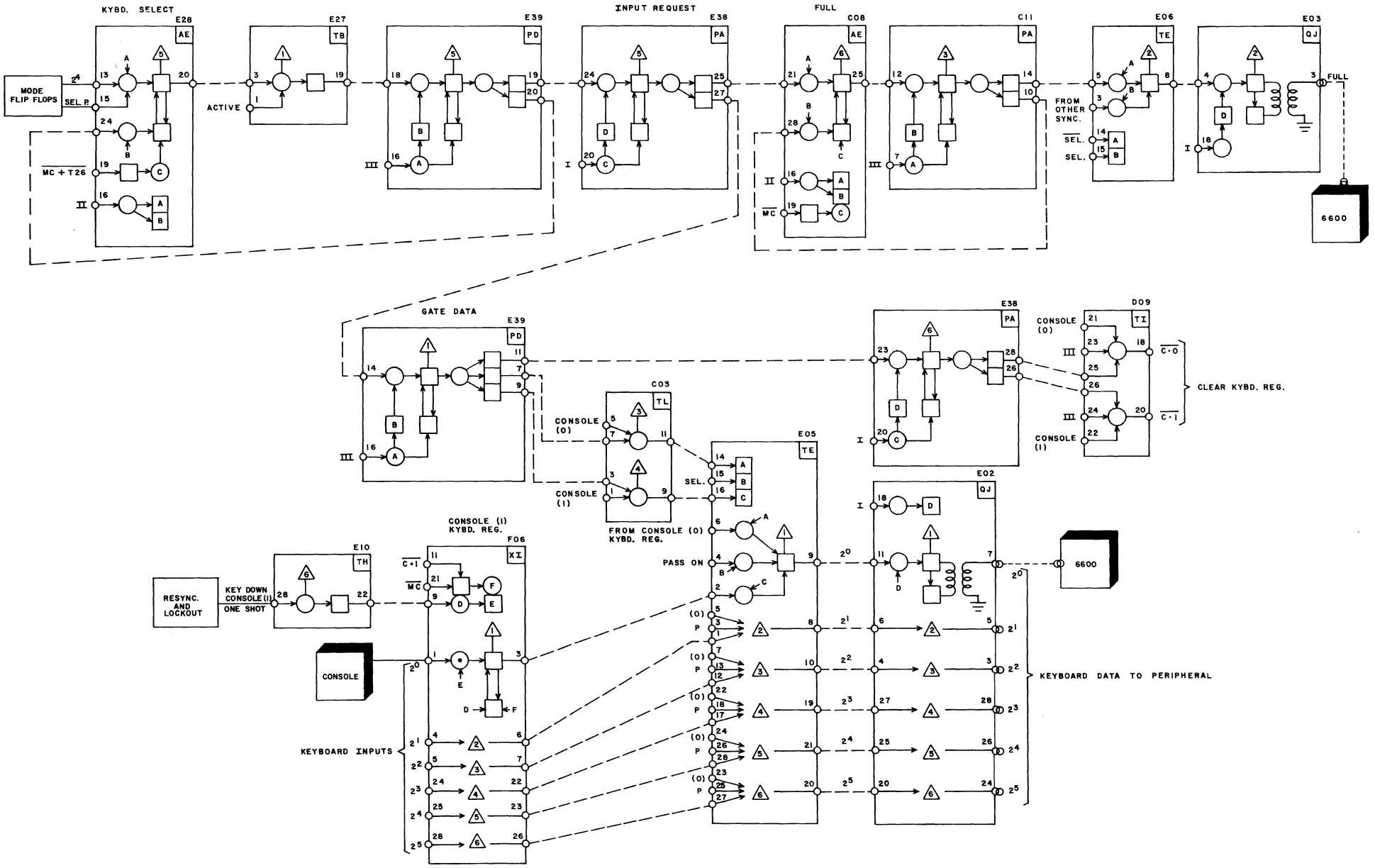
CONTROL DATA CORPORATION	TITLE	PRODUCT 6602	
COMPUTER DIVISION	CONSOLE DISPLAY CONTROLLER BLOCK DIAGRAM	SIZE C	DRAWING NO. 60125000 RF. C
			SHEET 28 1



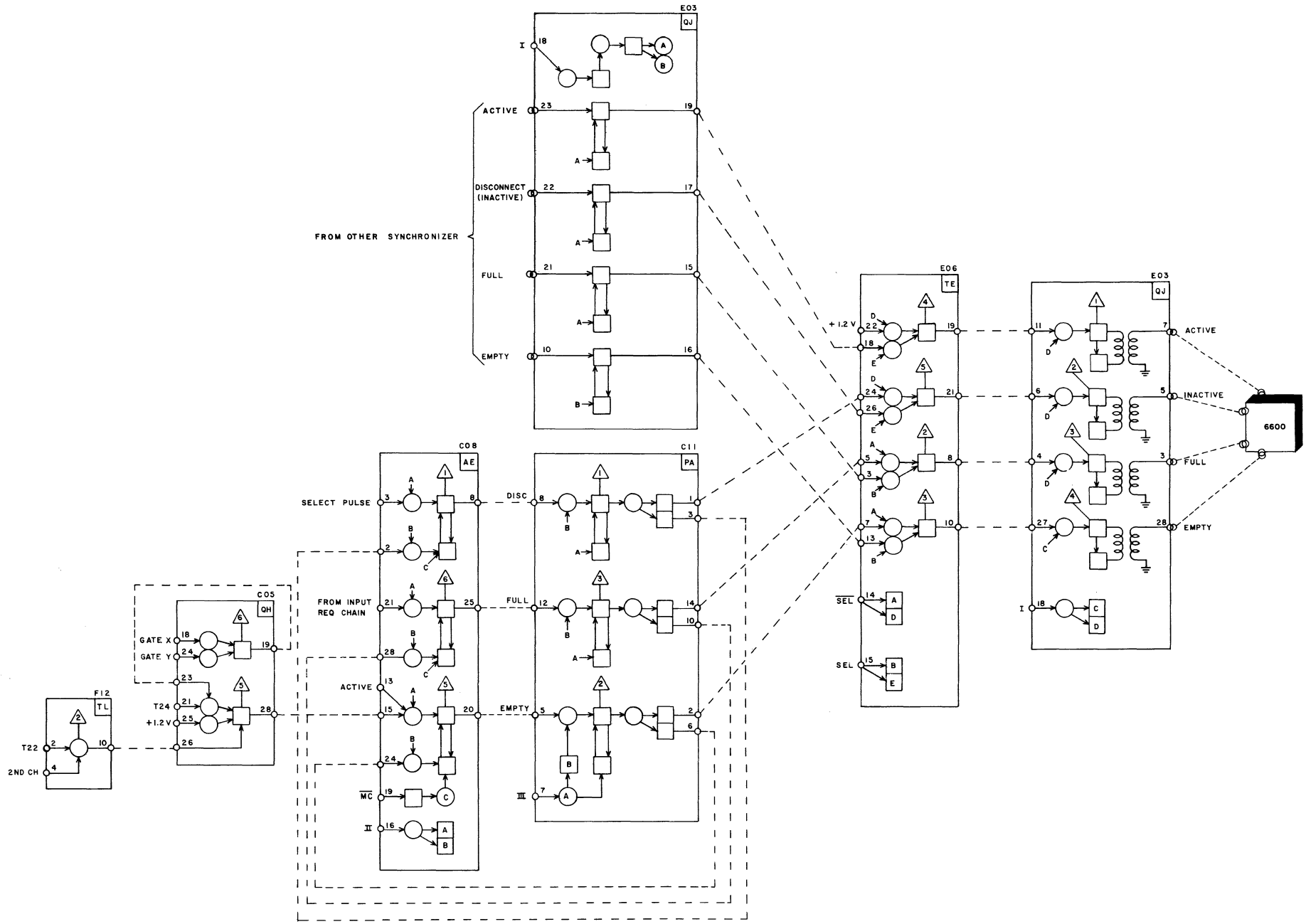
CONTROL DATA CORPORATION	TITLE: CONSOLE DISPLAY CONTROLLER	PRODUCT: 6602	
COMPUTER DIVISION	MODE FLIP-FLOPS	SIZE: C · DRAWING NO.: 60125000 · REV: C	
		SHEET: 29	3



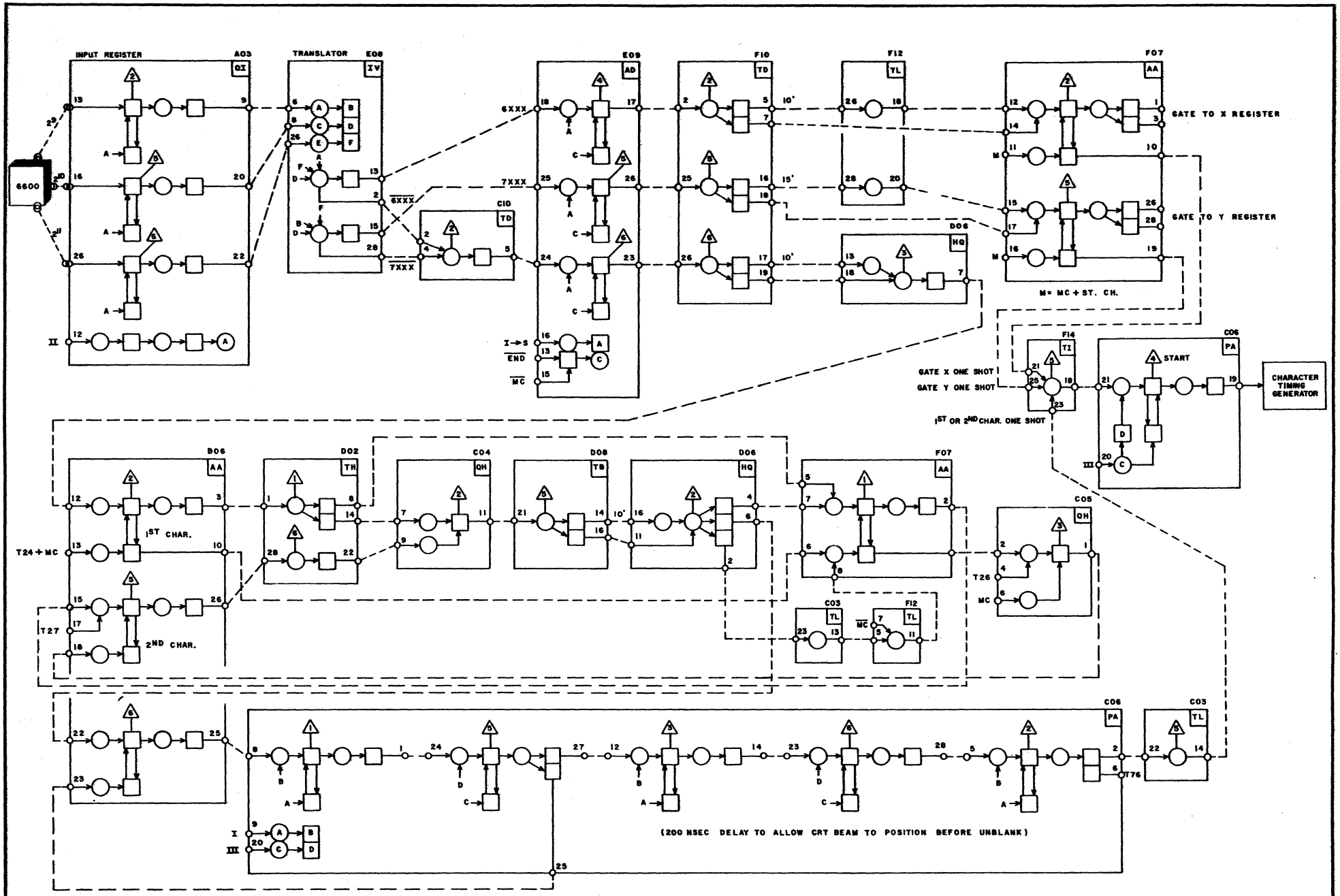
CONTROL DATA CORPORATION	TITLE: CONSOLE DISPLAY CONTROLLER	PRODUCT: 6602	
COMPUTER DIVISION	RESYNC AND LOCKOUT CIRCUITS	SIZE: C / DRAWING NO.: 60125000 / REV: C	
		SHEET: 30	5



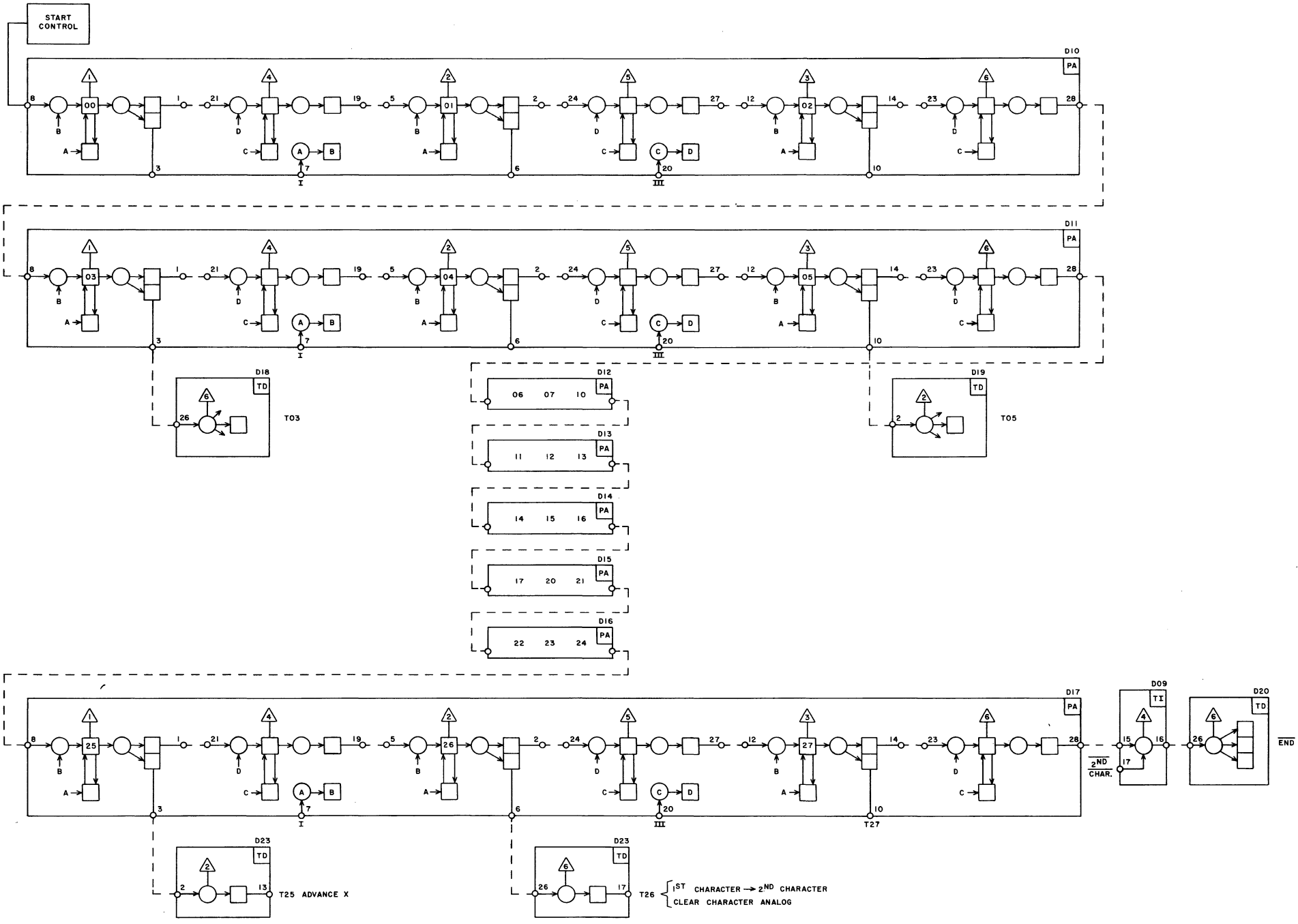
CONTROL DATA CORPORATION	TITLE	PRODUCT	
COMPUTER DIVISION	CONSOLE DISPLAY CONTROLLER KEYBOARD INPUT	6602	
		SIZE C	DRAWING NO. 60125000 REV C
			SHEET 31 7



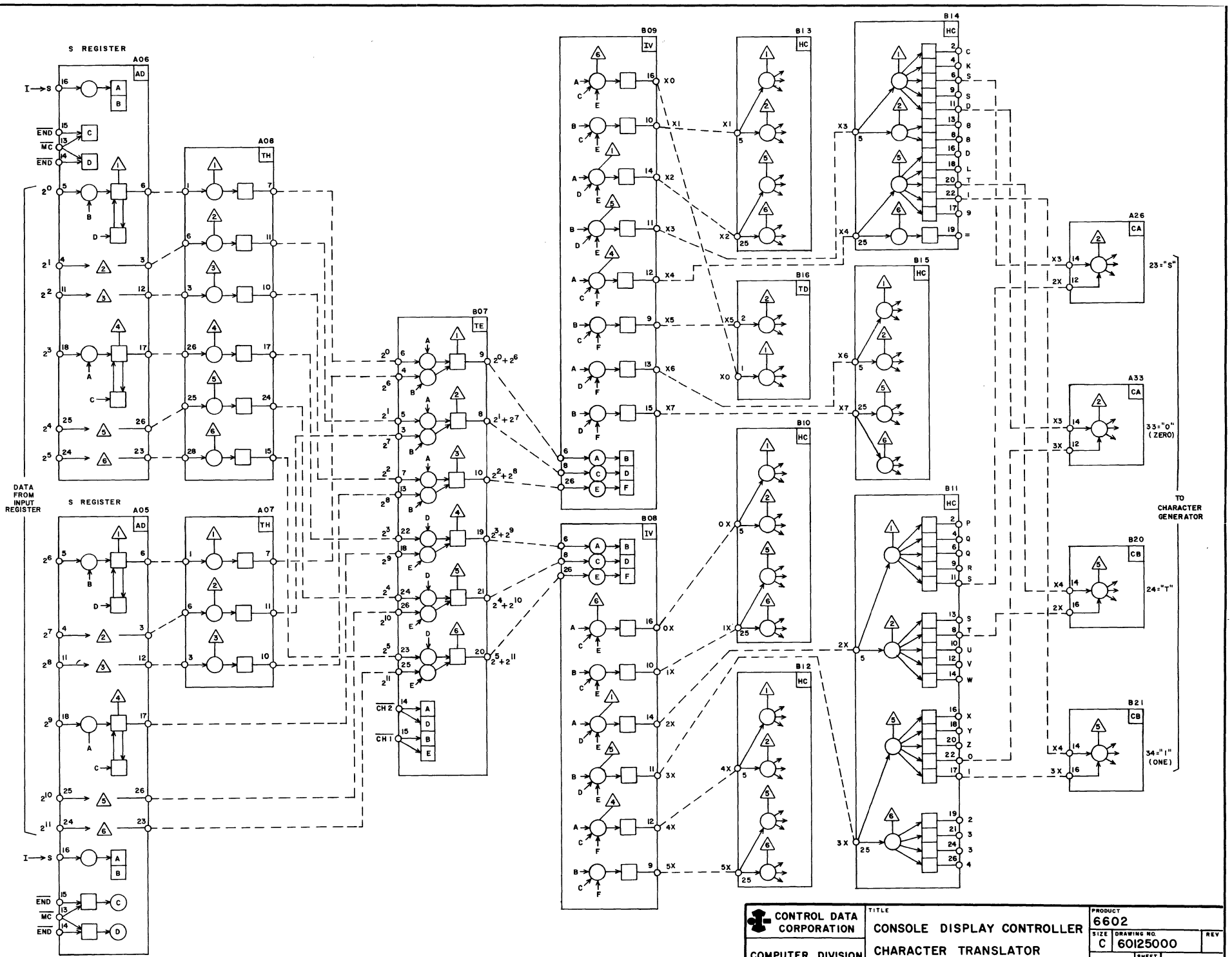
CONTROL DATA CORPORATION	TITLE: CONSOLE DISPLAY CONTROLLER	PRODUCT: 6602	
COMPUTER DIVISION	CONTROL TO PERIPHERAL	SIZE: C / DRAWING NO: 60125000	REV: C
		SHEET: 32	9

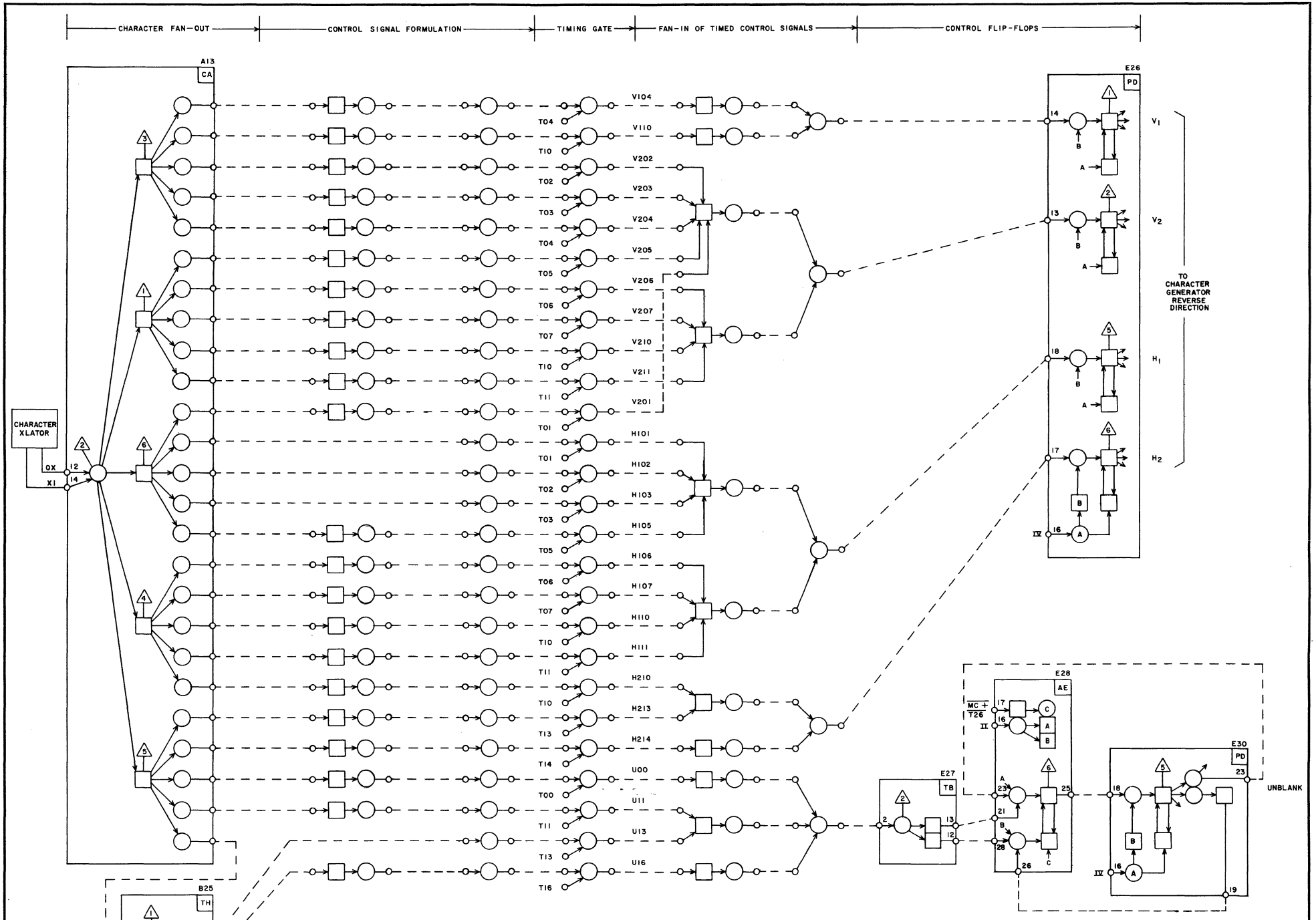


CONTROL DATA CORPORATION	TITLE: CONSOLE DISPLAY CONTROLLER START CONTROL, TIMING GENERATOR	PRODUCT: 6602	
COMPUTER DIVISION		SIZE: C	DRAWING NO.: 60125000 REV: C
		SHEET: 33	11

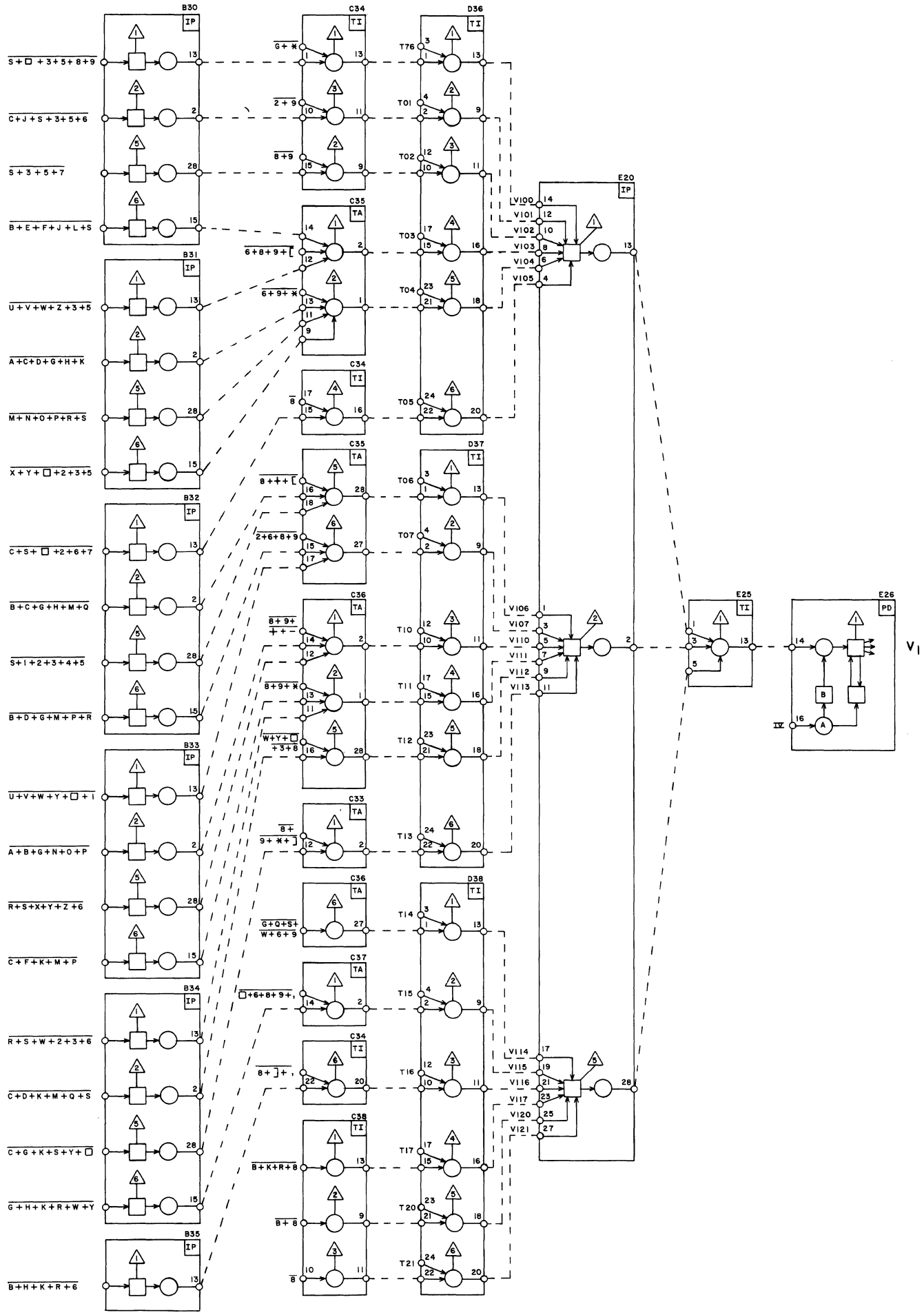


CONTROL DATA CORPORATION COMPUTER DIVISION	TITLE CONSOLE DISPLAY CONTROLLER CHARACTER TIMING GENERATOR	PRODUCT 6602 SIZE C · DRAWING NO. 60125000 · REV SHEET 34	13


S REGISTER
A06
AD
A08
TH
S REGISTER
A05
AD
A07
TH
DATA FROM INPUT REGISTER
B07
TE
B09
IV
B08
IV
B13
HC
B12
HC
B14
HC
B15
HC
B16
TD
B10
HC
B11
HC
A26
CA
A33
CA
B20
CB
B21
CB
23="S"
33="0" (ZERO)
24="T"
34="1" (ONE)
TO CHARACTER GENERATOR
CONTROL DATA CORPORATION
COMPUTER DIVISION
CONSOLE DISPLAY CONTROLLER
CHARACTER TRANSLATOR
PRODUCT 6602
SIZE C
DRAWING NO. 60125000
REV
SHEET 35
15

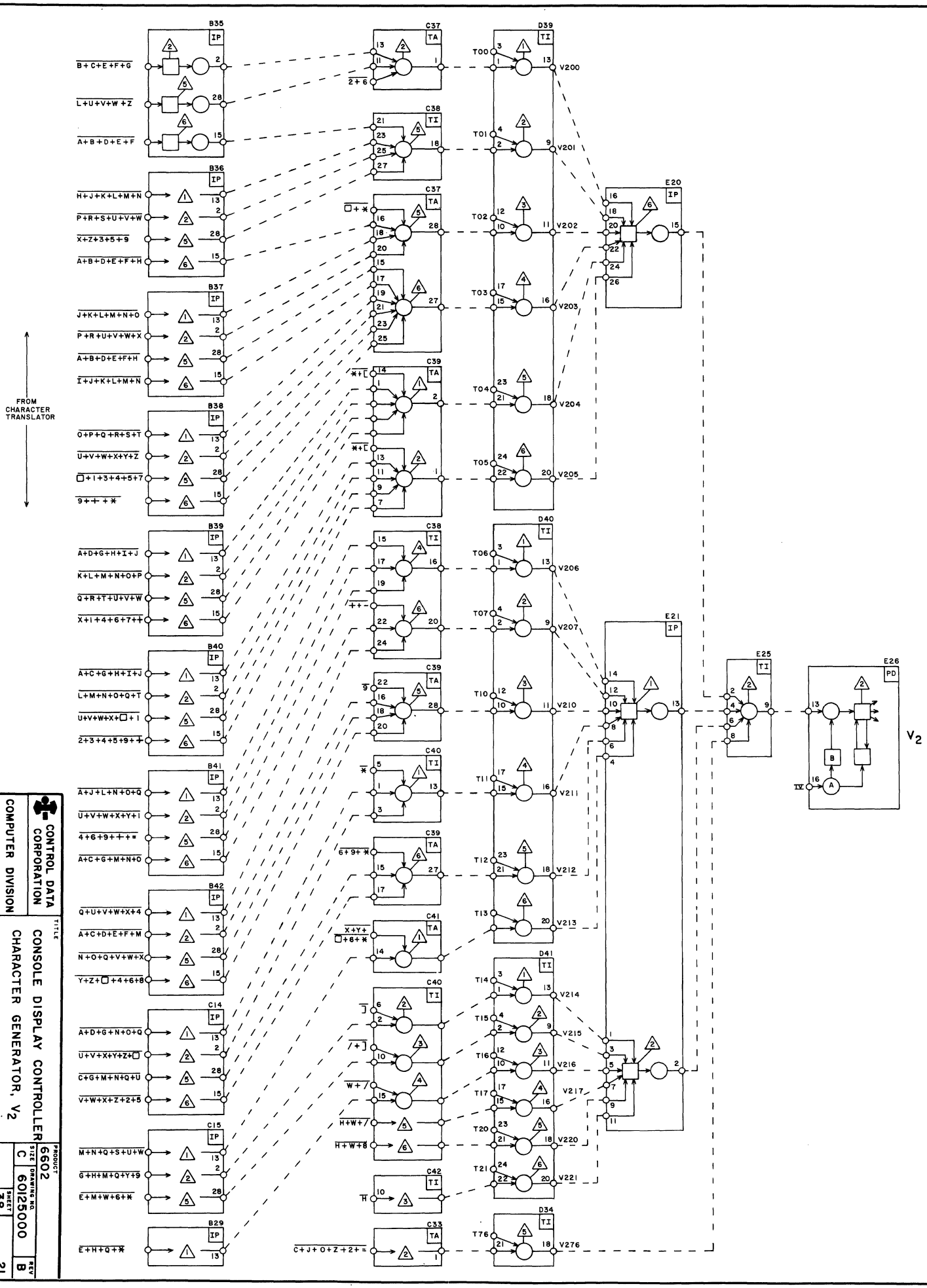


CONTROL DATA CORPORATION	TITLE: CONSOLE DISPLAY CONTROLLER CHARACTER GENERATOR LOGIC (A = 01)	PRODUCT: 6602	
COMPUTER DIVISION		SIZE: C · DRAWING NO.: 60125000 · REV: B	
		SHEET: 36	17

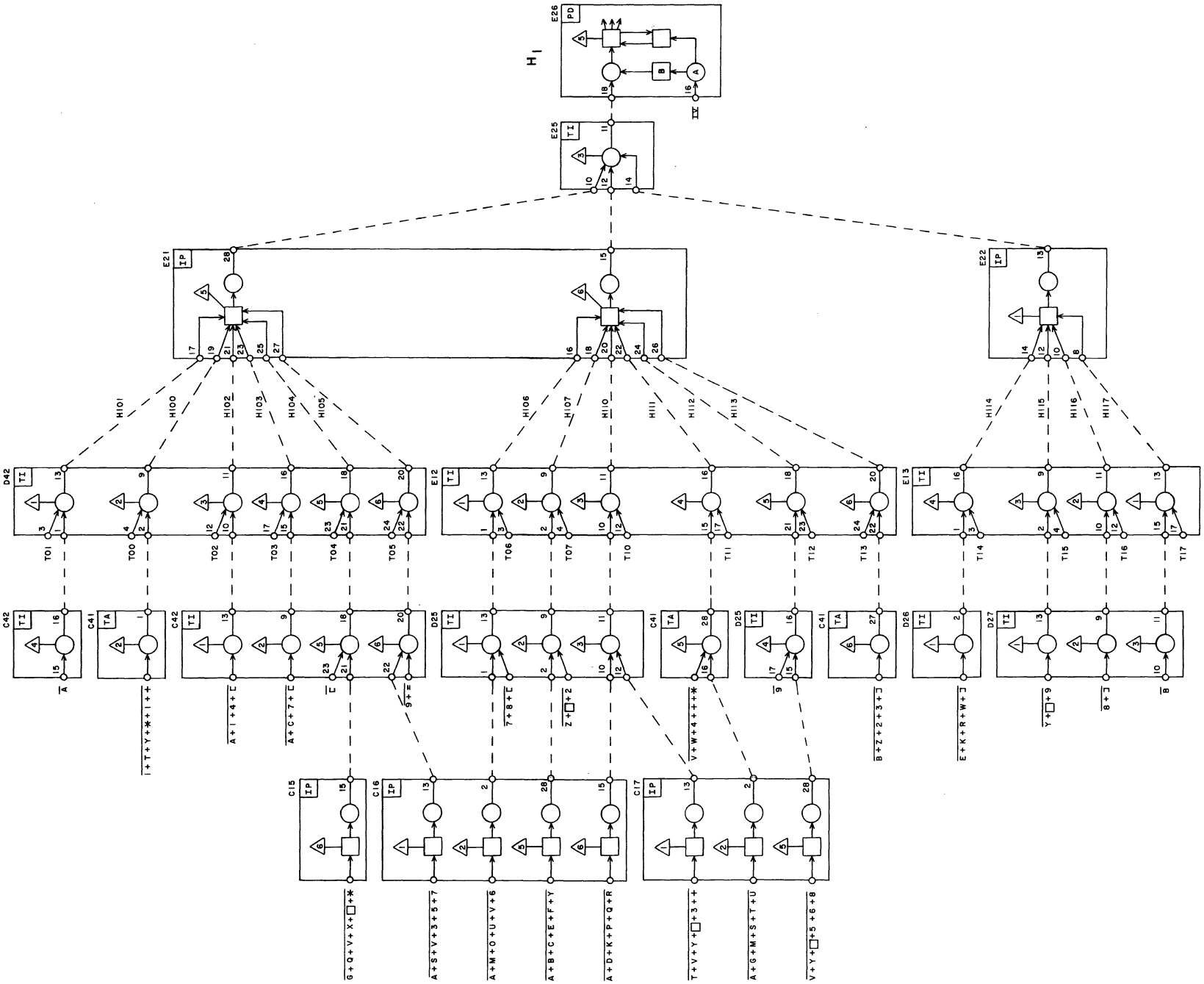


CONTROL DATA CORPORATION	TITLE	PRODUCT	
COMPUTER DIVISION	CONSOLE DISPLAY CONTROLLER	6602	
	CHARACTER GENERATOR, V_1	SIZE C	DRAWING NO. 60125000
		SHEET 37	REV B

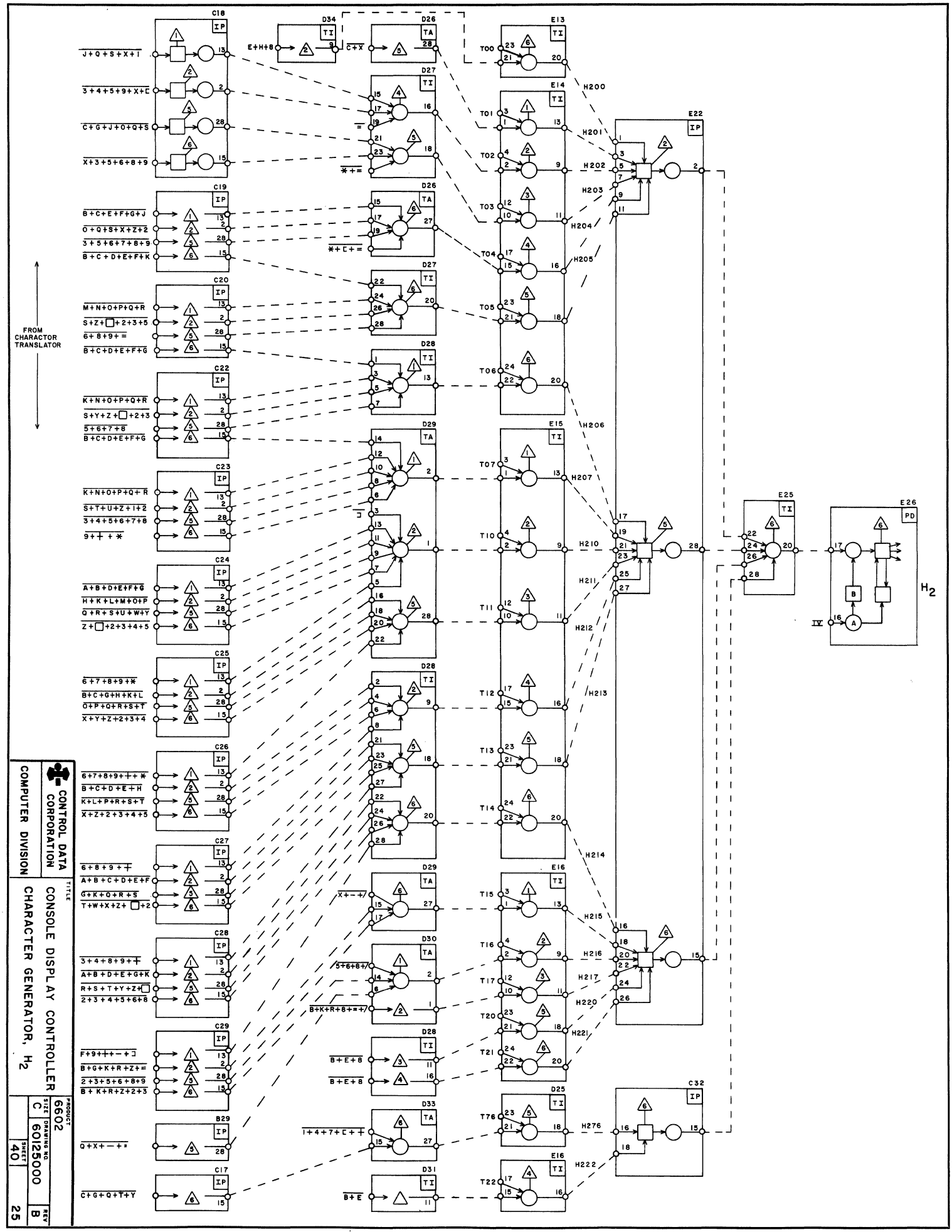
19



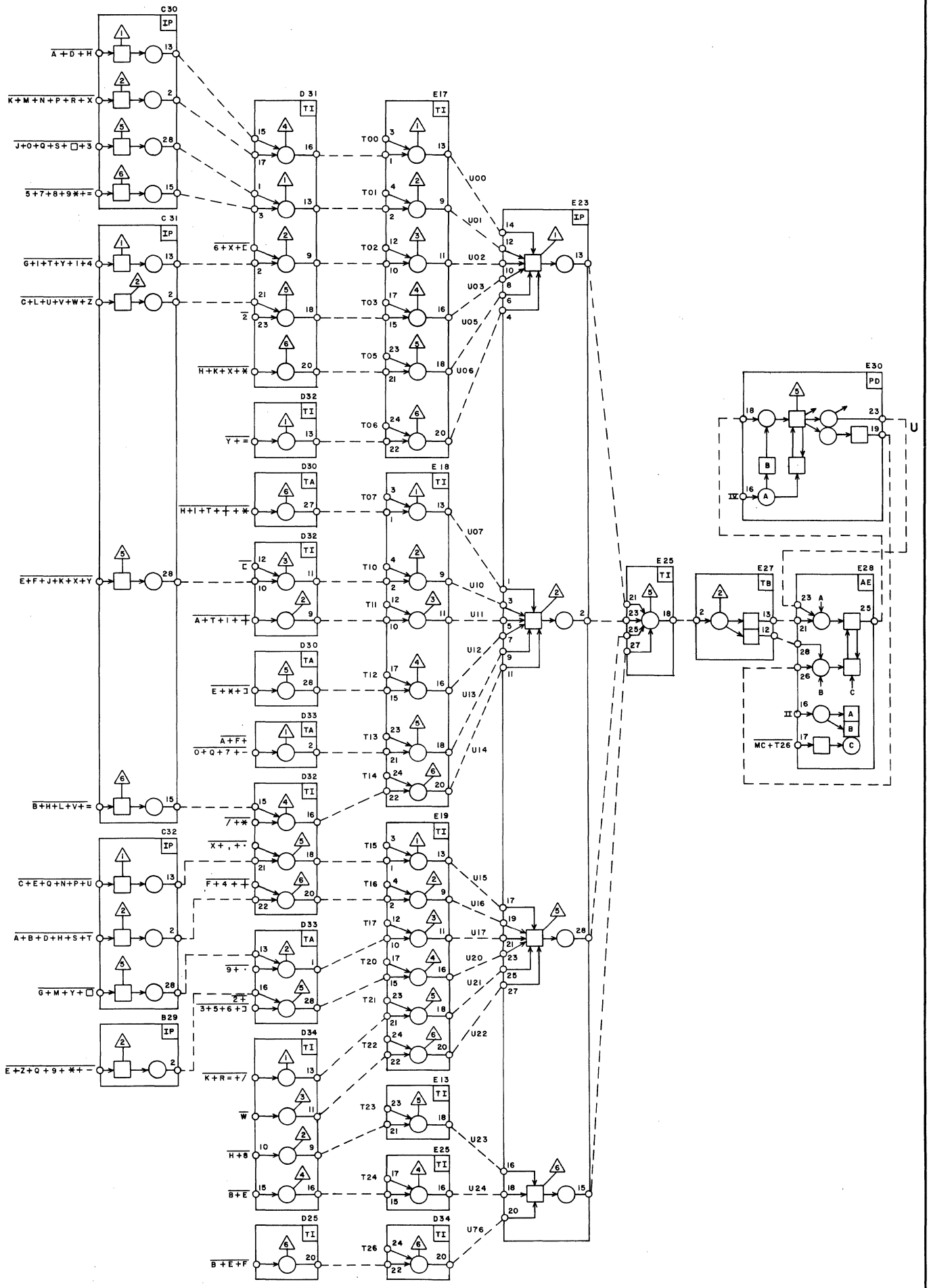
CONTROL DATA CORPORATION	
COMPUTER DIVISION	
TITLE	CONSOLE DISPLAY CONTROLLER CHARACTER GENERATOR, V_2
PRODUCT	6602
SIZE	C
DRAWING NO.	60125000
SHEET	38
REV	B



CONTROL DATA CORPORATION	TITLE: CONSOLE DISPLAY CONTROLLER	PRODUCT: 6602	
COMPUTER DIVISION	CHARACTER GENERATOR, H1	SIZE: C	DRAWING NO.: 60125000 REV: B
		SHEET: 39	23

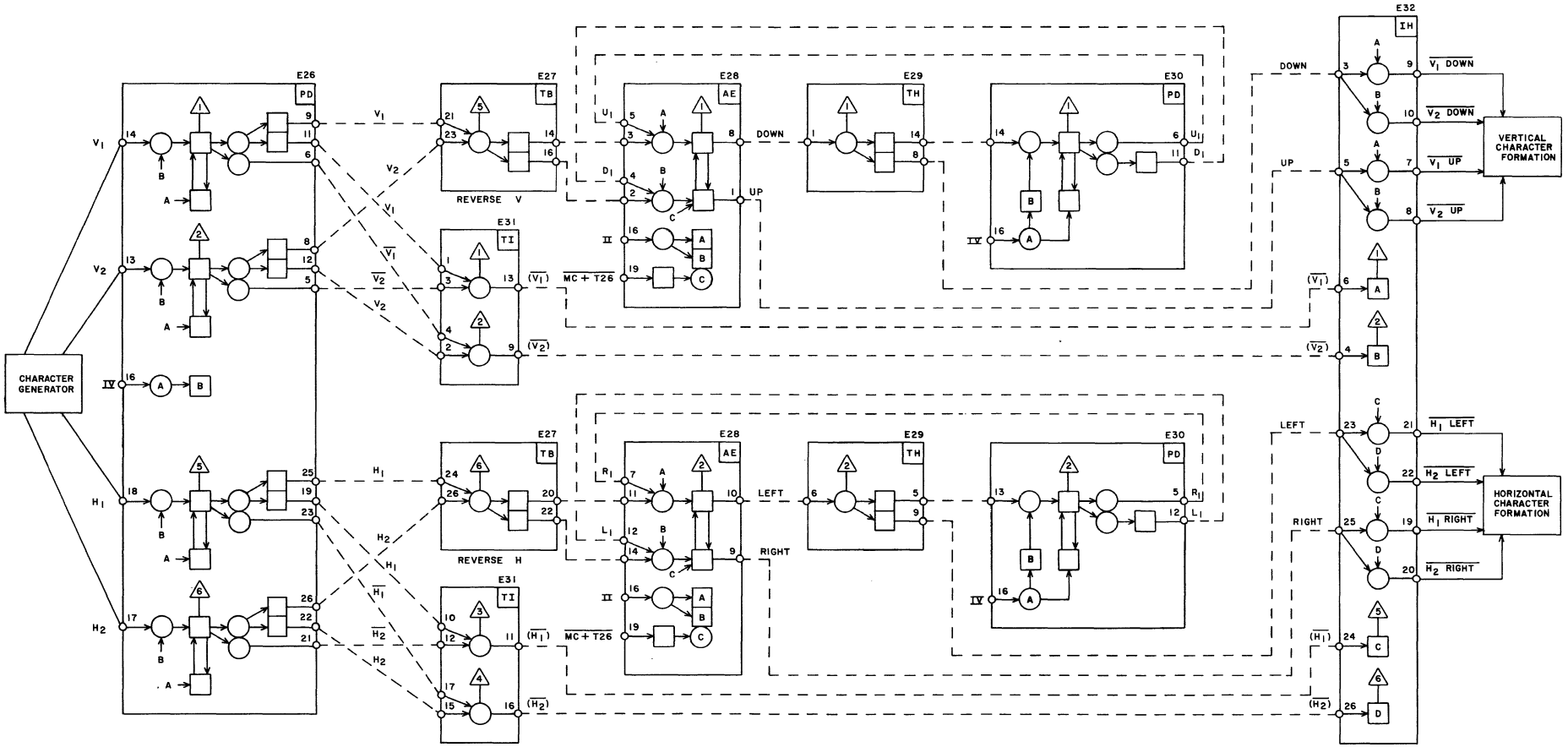


COMPUTER DIVISION	CONTROL DATA CORPORATION
TITLE	CONSOLE DISPLAY CONTROLLER CHARACTER GENERATOR, H_2
PRODUCT	6602
SIZE	C
DRAWING NO	60125000
REV	B
SHEET	40
	25

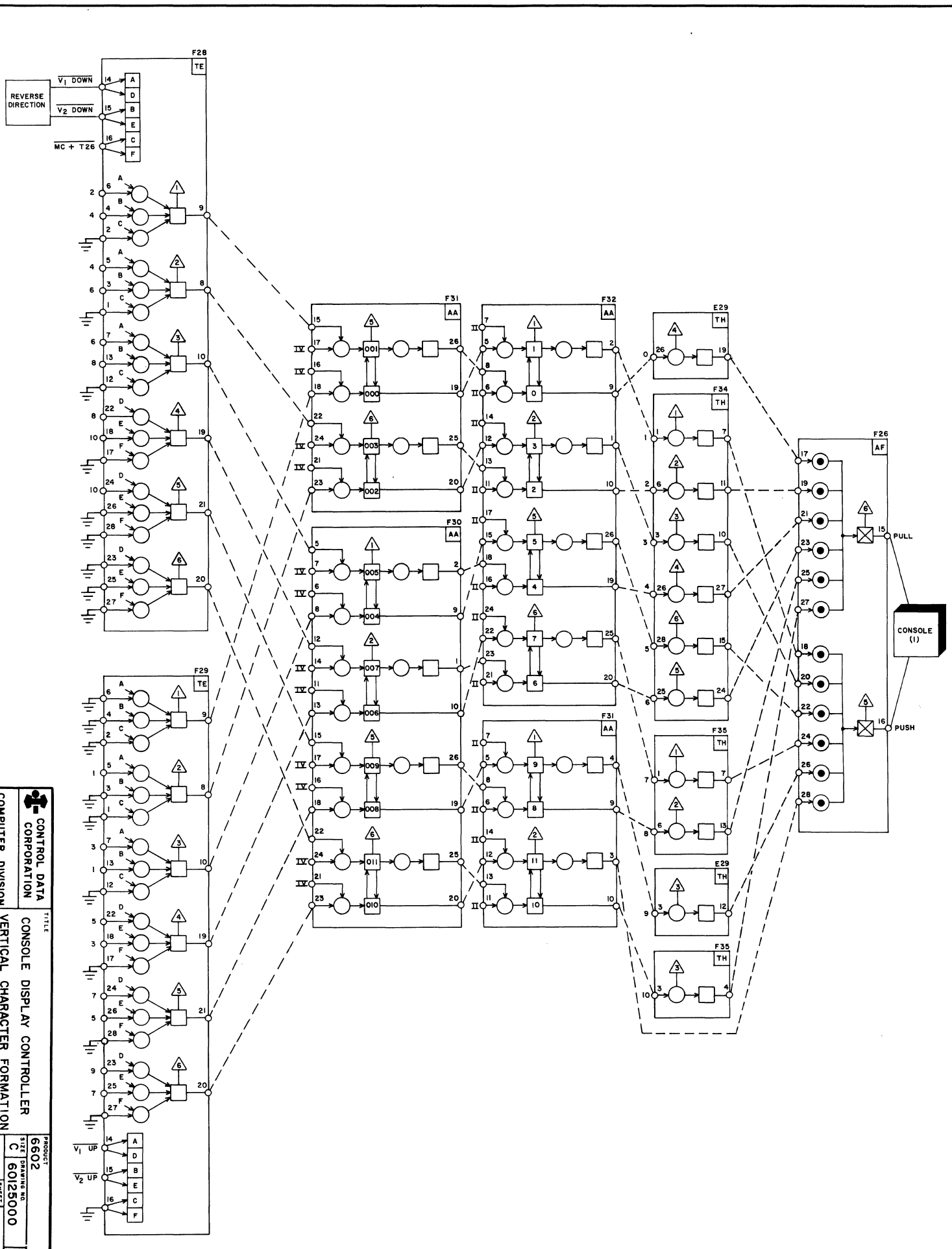


CONTROL DATA CORPORATION	TITLE	PRODUCT	
COMPUTER DIVISION	CONSOLE DISPLAY CONTROLLER, CHARACTER GENERATOR, UNBLANK	6602	
		SIZE C	DRAWING NO. 60125000
		SHEET 41	REV B

27



CONTROL DATA CORPORATION	TITLE: CONSOLE DISPLAY CONTROLLER	PRODUCT: 6602	
COMPUTER DIVISION	CHARACTER GENERATOR, REVERSE DIRECTION	SIZE: C · DRAWING NO.: 60125000 · REV:	
		SHEET: 42	29



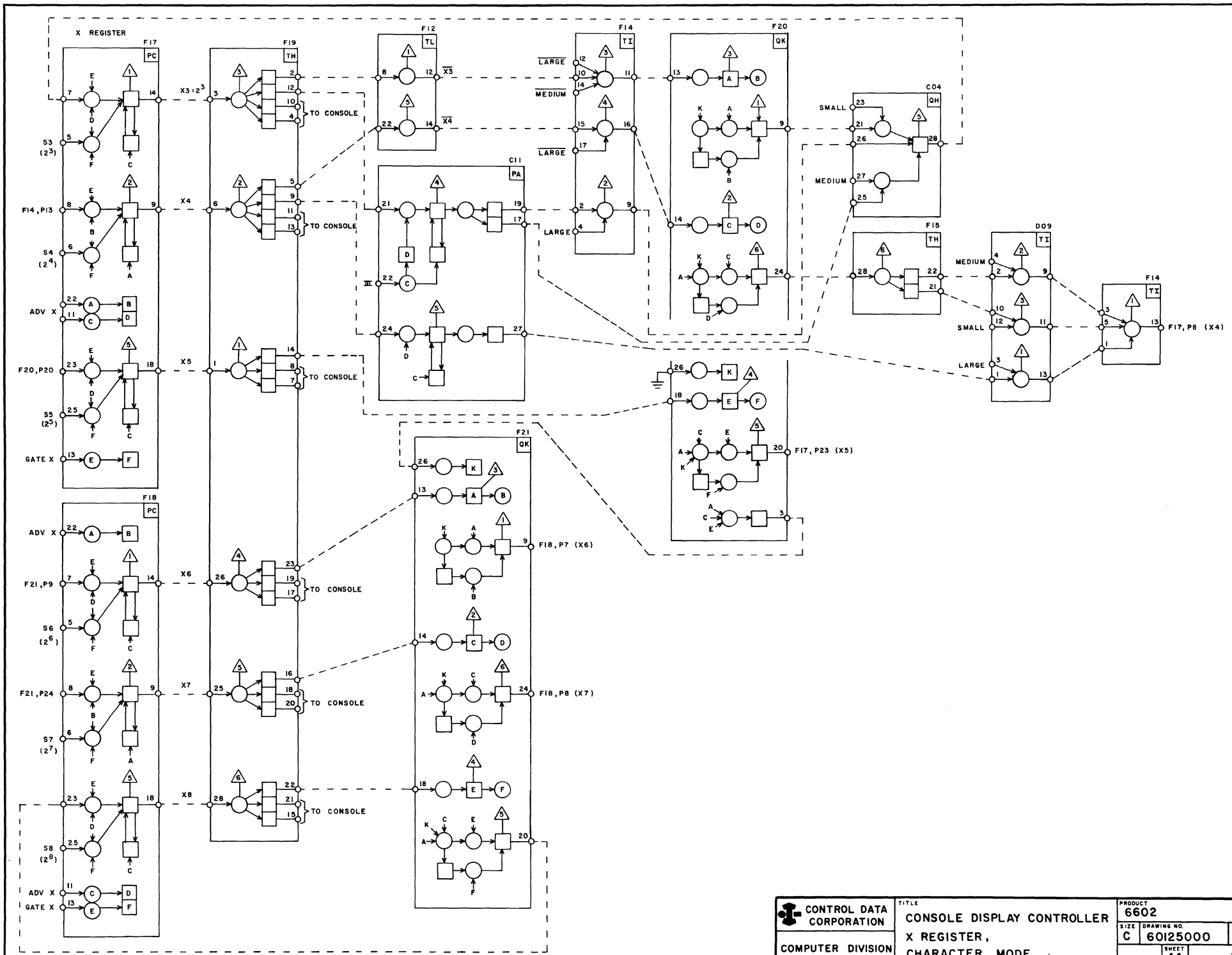
CONTROL DATA CORPORATION
COMPUTER DIVISION

TITLE
CONSOLE DISPLAY CONTROLLER
VERTICAL CHARACTER FORMATION

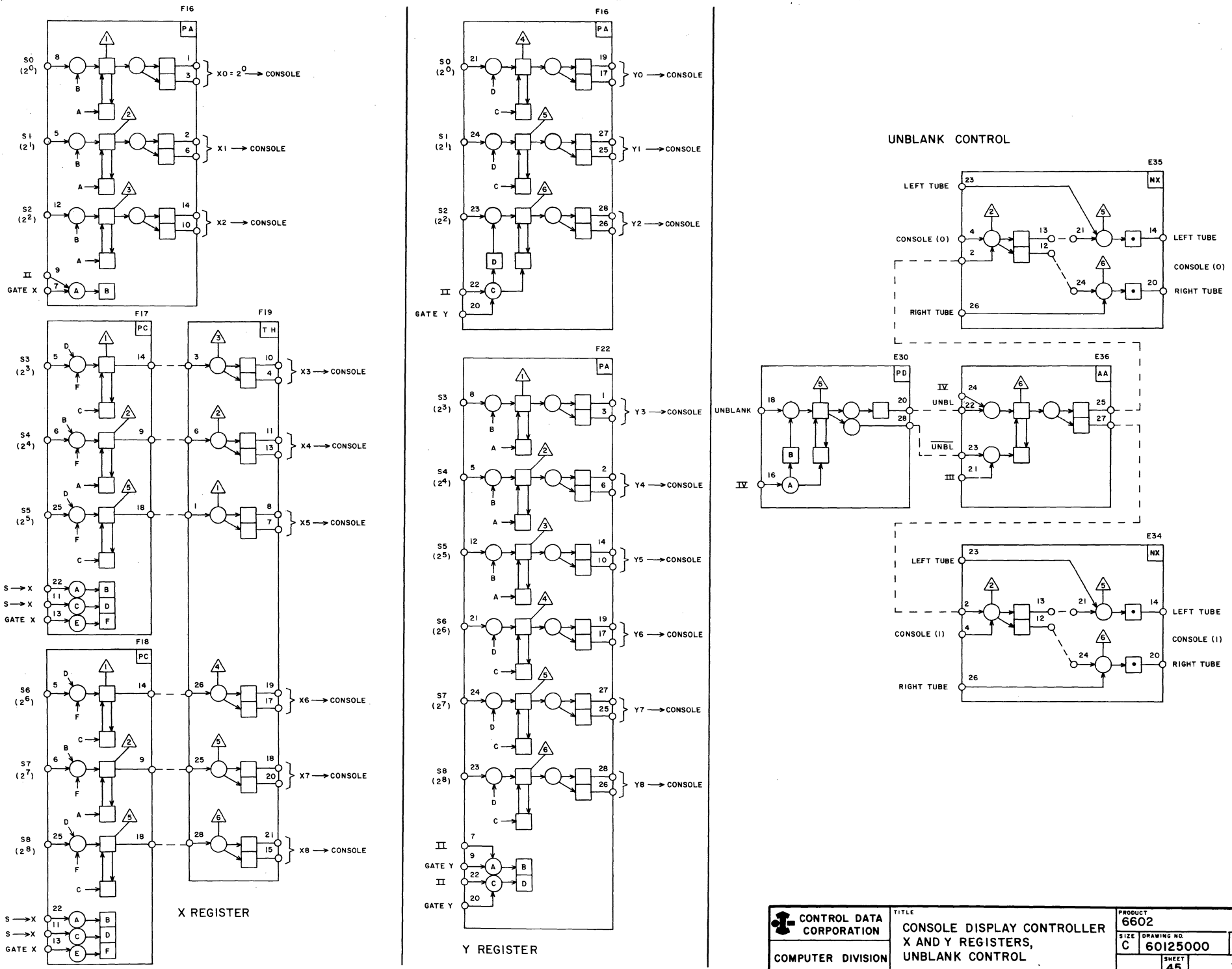
PRODUCT	SIZE	DRAWING NO.	REV
6602	C	60125000	C

SHEET 43

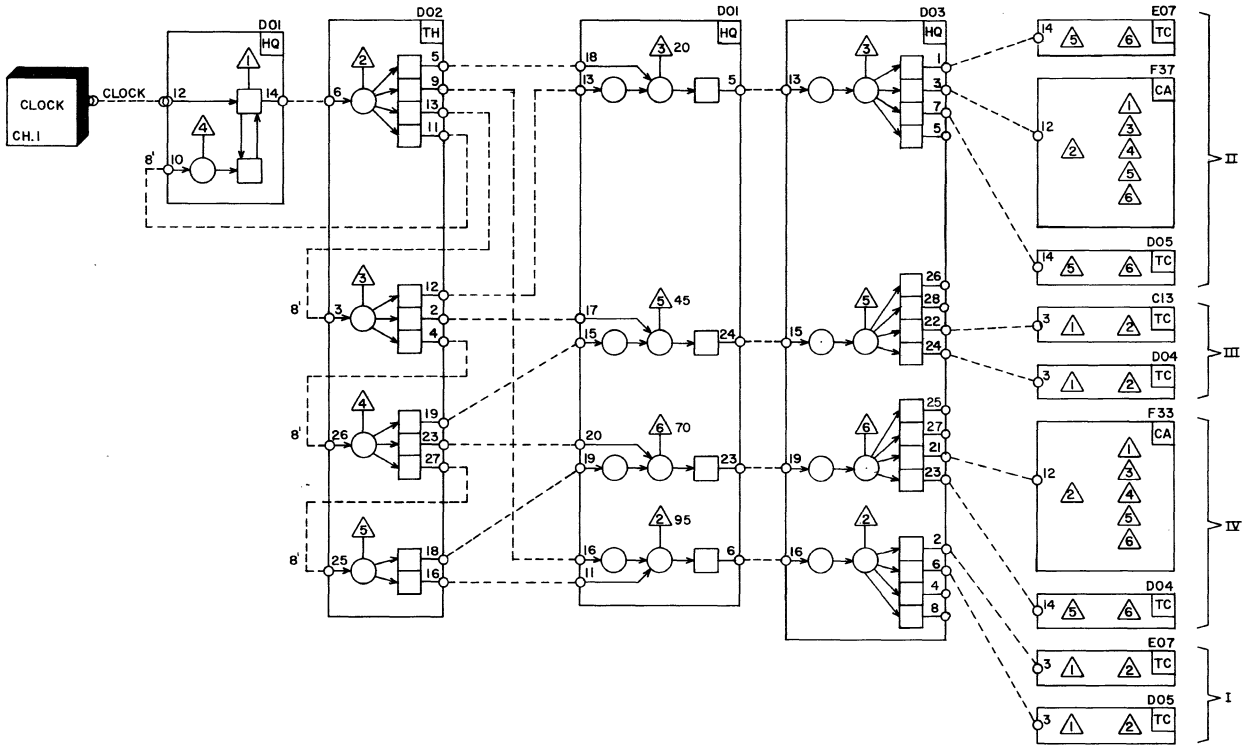
31



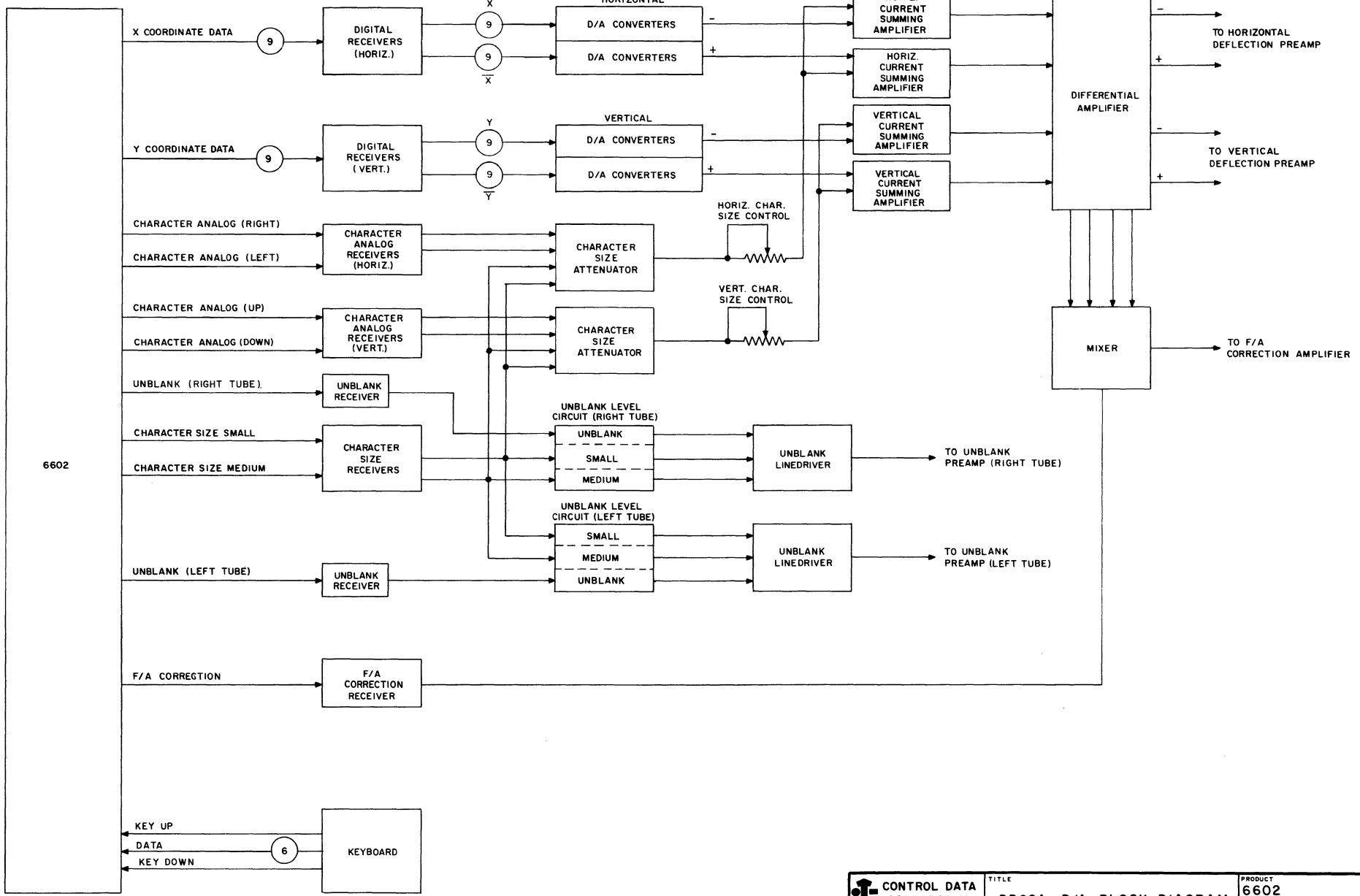
CONTROL DATA CORPORATION	TITLE: CONSOLE DISPLAY CONTROLLER	PRODUCT: 6602	
COMPUTER DIVISION	X REGISTER, CHARACTER MODE	SIZE: C · DRAWING NO.: 60125000 · REV: C	
		SHEET: 44	33



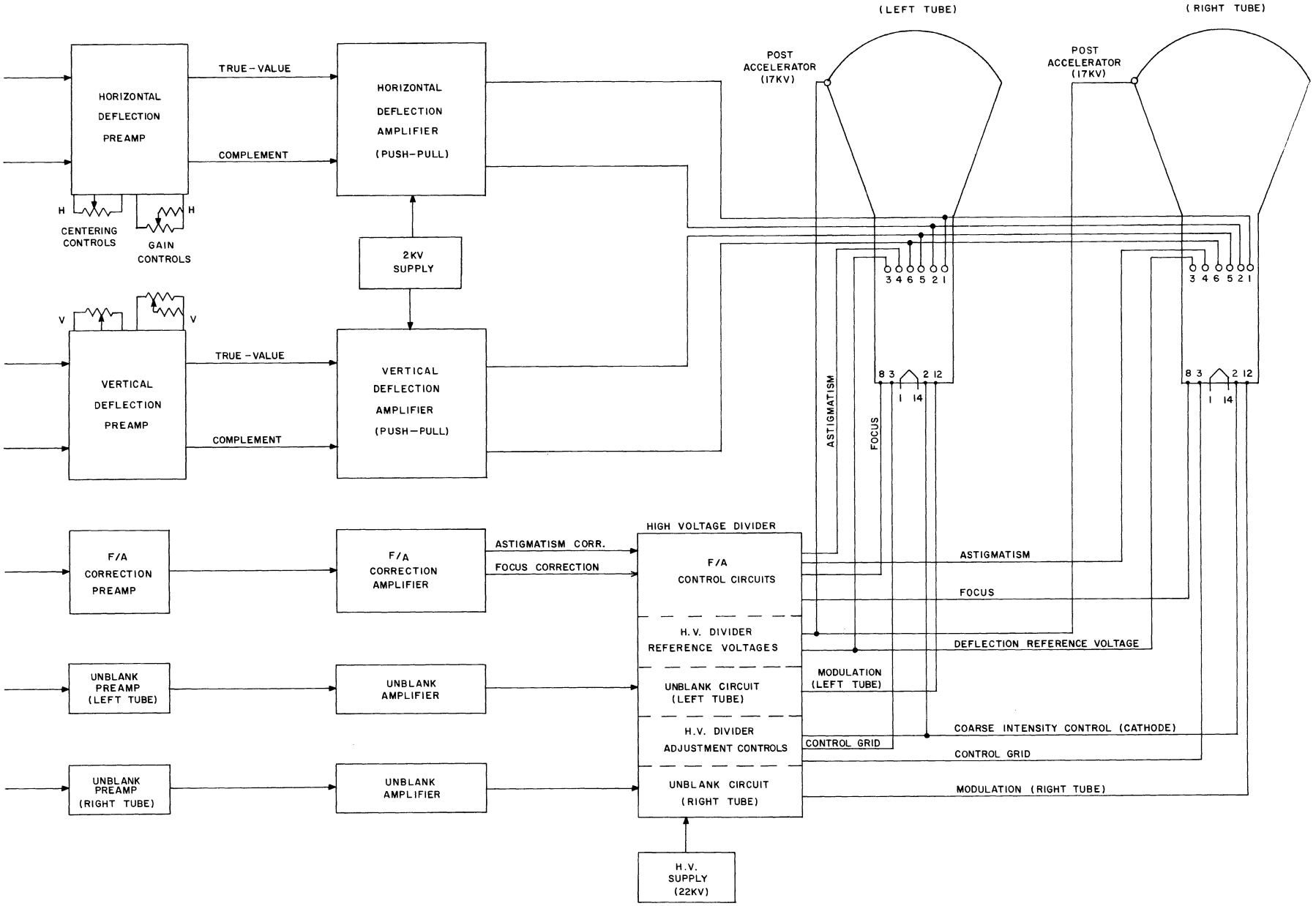
CONTROL DATA CORPORATION	TITLE: CONSOLE DISPLAY CONTROLLER X AND Y REGISTERS, UNBLANK CONTROL	PRODUCT: 6602	
COMPUTER DIVISION		SIZE: C — DRAWING NO.: 60125000 — REV: C	
		SHEET: 45	35



CONTROL DATA CORPORATION	TITLE: CONSOLE DISPLAY CONTROLLER	PRODUCT: 6602	
COMPUTER DIVISION	CLOCK	SIZE: C · DRAWING NO.: 60125000 · REV: B	
		SHEET: 46	37



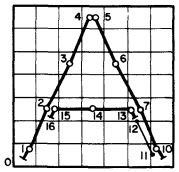
CONTROL DATA CORPORATION	TITLE: DD60A D/A BLOCK DIAGRAM	PRODUCT: 6602	
COMPUTER DIVISION		SIZE: C · DRAWING NO.: 60125000 · REV: B	
		SHEET: 47	39



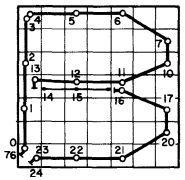
CONTROL DATA CORPORATION
COMPUTER DIVISION

TITLE
DD60A MONITOR
BLOCK DIAGRAM

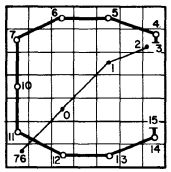
PRODUCT 6602
SIZE C | DRAWING NO. 60125000 | REV
SHEET 48 | 41



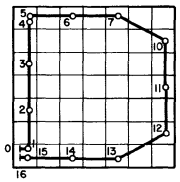
A	01				
T	V_1	V_2	H_1	H_2	U
00					X
01		X	X		
02		X	X		
03		X	X		
04	X	X			
05		X	X		
06		X	X		
07		X	X		
10	X	X	X	X	
11		X	X		X
12					X
13				X	X
14				X	
15					X
16					X
17					
20					
21					
22					
23					
24					
25					



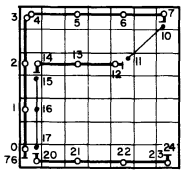
B	02				
T	V_1	V_2	H_1	H_2	U
76					X
00		X			
01		X			
02		X			
03	X	X			
04				X	
05				X	
06	X			X	
07	X		X	X	
10	X			X	
11				X	
12				X	
13			X	X	
14				X	X
15				X	
16	X			X	X
17	X		X	X	
20	X			X	
21				X	
22				X	
23					
24					X
25					



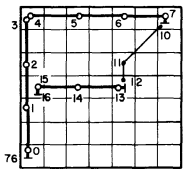
C	03				
T	V_1	V_2	H_1	H_2	U
76		X		X	
00		X		X	
01	X			X	
02					
03			X	X	X
04	X			X	
05	X	X		X	
06	X			X	
07		X	X	X	
10		X			
11	X			X	
12	X	X		X	
13	X			X	
14					
15					X
16					
17					
20					
21					
22					
23					
24					
25					



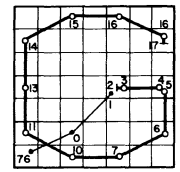
D	04				
T	V_1	V_2	H_1	H_2	U
00					X
01		X			
02		X			
03		X			
04	X	X			
05				X	
06				X	
07	X			X	
10		X	X	X	
11		X			
12	X			X	
13				X	
14				X	
15					
16					X
17					
20				X	X
21				X	
22				X	
23					
24					
25					



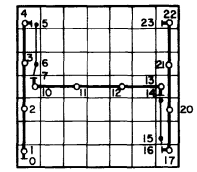
E	05				
T	V_1	V_2	H_1	H_2	U
76					X
00		X			
01		X			
02		X			
03	X	X			
04				X	
05				X	
06				X	
07			X	X	
10		X		X	X
11					
12				X	X
13				X	
14			X	X	
15		X			X
16		X			
17					
20				X	X
21				X	
22				X	
23					
24					X
25					



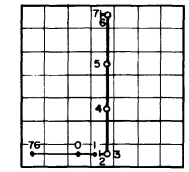
F	06				
T	V_1	V_2	H_1	H_2	U
76					X
00		X			
01		X			
02		X			
03	X	X			
04				X	
05				X	
06				X	
07			X	X	
10		X		X	X
11	X				
12					X
13				X	
14				X	
15					X
16					X
17					
20					
21					
22					
23					
24					
25					



G	07				
T	V_1	V_2	H_1	H_2	U
76	X			X	
00		X		X	
01					
02					X
03				X	
04	X	X	X	X	
05		X			
06	X			X	
07	X	X		X	
10	X			X	
11		X	X	X	
12		X			
13	X			X	
14	X	X		X	
15	X			X	
16					
17					X
20					
21					
22					
23					
24					
25					

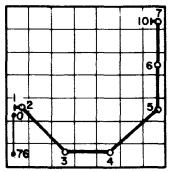


H	10				
T	V_1	V_2	H_1	H_2	U
00					X
01		X			
02		X			
03		X			
04	X	X			
05		X			X
06	X				
07					X
10				X	
11				X	
12				X	
13					
14		X			X
15	X				
16	X	X			X
17		X			
20		X			
21		X			
22					
23					X
24					
25					



I	11				
T	V_1	V_2	H_1	H_2	U
76				X	
00			X		
01					
02					X
03	X				
04	X				
05	X				
06					
07					X
10					
11					
12					
13					
14					
15					
16					
17					
20					
21					
22					
23					
24					
25					

CONTROL DATA CORPORATION	TITLE	PRODUCT
COMPUTER DIVISION	CONSOLE DISPLAY CONTROLLER CHARACTER GENERATION & FORMATION	6602
		SIZE C · DRAWING NO. 60125000 · REV B
		SHEET 75



J	12				
T	V_1	V_2	H_1	H_2	U
76		X			
00					
01	X	X			X
02		X		X	
03	X	X		X	
04		X		X	
05		X			
06		X			
07					
10					X
11					
12					
13					
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15					
16					
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20					
21					
22					
23					
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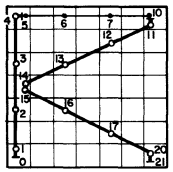
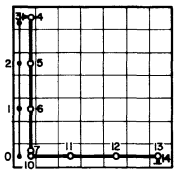
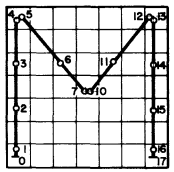


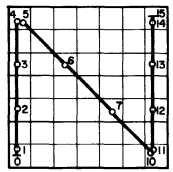
K	13				
T	V_1	V_2	H_1	H_2	U
00					X
01		X			
02		X			
03		X			
04	X	X			
05				X	X
06				X	
07				X	
10			X	X	X
11	X			X	
12	X			X	
13	X			X	
14			X	X	
15	X			X	
16	X			X	
17	X			X	
20					
21					X
22					
23					
24					
25					



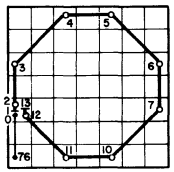
L	14				
T	V_1	V_2	H_1	H_2	U
00		X			
01		X			
02		X			
03	X	X			X
04		X			
05		X			
06		X			
07					
10				X	
11				X	
12				X	
13					
14					X
15					
16					
17					
20					
21					
22					
23					
24					
25					



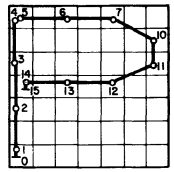
M	15				
T	V_1	V_2	H_1	H_2	U
00					X
01		X			
02		X			
03		X			
04	X	X			
05		X		X	
06	X		X		
07	X	X			
10		X		X	
11	X		X		
12	X	X			
13		X			
14		X			
15		X			
16					
17					X
20					
21					
22					
23					
24					
25					



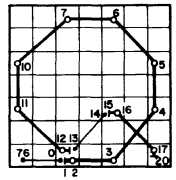
N	16				
T	V_1	V_2	H_1	H_2	U
00					X
01		X			
02		X			
03		X			
04	X	X			
05		X		X	
06		X		X	
07		X		X	
10	X	X			
11		X			
12		X			
13		X			
14					
15					X
16					
17					
20					
21					
22					
23					
24					
25					



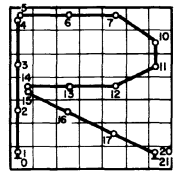
O	17				
T	V_1	V_2	H_1	H_2	U
76		X			
00					
01					X
02		X			
03		X		X	
04	X	X		X	
05		X		X	
06		X	X	X	
07		X		X	
10	X	X		X	
11		X		X	
12					
13					X
14					
15					
16					
17					
20					
21					
22					
23					
24					
25					



P	20				
T	V_1	V_2	H_1	H_2	U
00					X
01		X			
02		X			
03		X			
04	X	X			
05				X	
06				X	
07	X			X	
10	X		X	X	
11	X			X	
12				X	
13				X	
14					
15					X
16					
17					
20					
21					
22					
23					
24					
25					

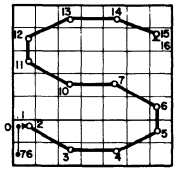


Q	21				
T	V_1	V_2	H_1	H_2	U
76				X	
00					
01					X
02				X	
03		X		X	
04		X	X	X	
05		X		X	
06	X	X		X	
07		X		X	
10		X	X	X	
11		X		X	
12	X	X			
13		X		X	X
14	X	X			
15					X
16		X		X	
17					
20					X
21					
22					
23					
24					
25					

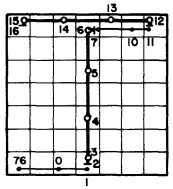


R	22				
T	V_1	V_2	H_1	H_2	U
00					X
01		X			
02		X			
03		X			
04	X	X			
05				X	
06				X	
07	X			X	
10	X		X	X	
11	X			X	
12				X	
13				X	
14			X	X	
15	X			X	
16	X			X	
17	X			X	
20					
21					X
22					
23					
24					
25					

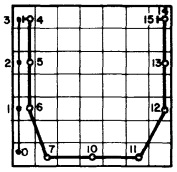
CONTROL DATA CORPORATION	TITLE: CONSOLE DISPLAY CONTROLLER CHARACTER GENERATION & FORMATION	PRODUCT: 6602	
COMPUTER DIVISION		SIZE: C	DRAWING NO.: 60125000 REV: B
			SHEET: 76 45



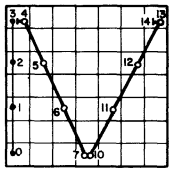
S	23				
T	V_1	V_2	H_1	H_2	U
76	X				
00					
01	X	X			X
02	X			X	
03	X	X		X	
04	X			X	
05	X		X	X	
06	X			X	
07				X	
10	X			X	
11	X		X	X	
12	X			X	
13	X	X		X	
14	X			X	
15					
16					X
17					
20					
21					
22					
23					
24					
25					



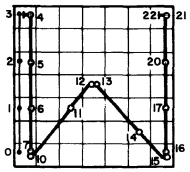
T	24				
T	V_1	V_2	H_1	H_2	U
76				X	
00			X		
01					
02					X
03		X			
04		X			
05		X			
06					
07				X	X
10			X		
11			X	X	X
12				X	
13				X	
14				X	
15					
16					X
17					
20					
21					
22					
23					
24					
25					



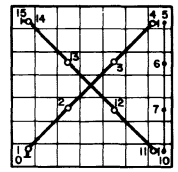
U	25				
T	V_1	V_2	H_1	H_2	U
00		X			
01		X			
02		X			
03	X	X			X
04		X			
05		X			
06		X	X		
07	X	X		X	
10				X	
11		X	X		
12		X			
13		X			
14					
15					X
16					
17					
20					
21					
22					
23					
24					
25					



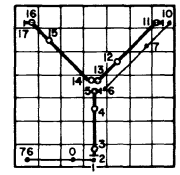
V	26				
T	V_1	V_2	H_1	H_2	U
00		X			
01		X			
02		X			
03	X	X			X
04		X	X		
05		X	X		
06		X	X		
07	X	X			
10		X	X		
11		X	X		
12		X	X		
13					
14					X
15					
16					
17					
20					
21					
22					
23					
24					
25					



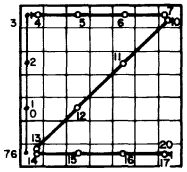
W	27				
T	V_1	V_2	H_1	H_2	U
00		X			
01		X			
02		X			
03	X	X			X
04		X			
05		X			
06		X			
07	X	X			
10		X		X	
11	X		X		
12	X	X			
13		X		X	
14	X		X		
15	X	X			
16		X			
17		X			
20		X			
21					
22					X
23					
24					
25					



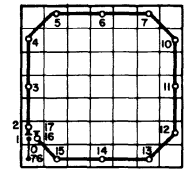
X	30				
T	V_1	V_2	H_1	H_2	U
00					X
01		X		X	
02		X		X	
03		X		X	
04	X	X	X	X	
05		X			X
06		X			
07		X			
10	X	X			X
11		X		X	
12		X		X	
13		X		X	
14					
15					X
16					
17					
20					
21					
22					
23					
24					
25					



Y	31				
T	V_1	V_2	H_1	H_2	U
76				X	
00			X		
01					
02					X
03		X			
04	X				
05				X	
06		X		X	X
07	X		X		
10	X	X	X	X	X
11		X		X	
12	X		X		
13	X	X			
14		X		X	
15	X		X		
16					
17					X
20					
21					
22					
23					
24					
25					

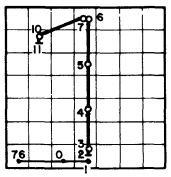


Z	32				
T	V_1	V_2	H_1	H_2	U
76		X			
00					
01		X			
02		X			
03	X	X			X
04				X	
05				X	
06				X	
07			X	X	
10		X		X	
11		X		X	
12		X		X	
13			X	X	
14				X	
15				X	
16				X	
17					
20					X
21					
22					
23					
24					
25					

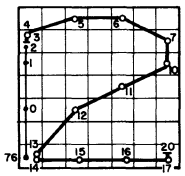


O	33				
T	V_1	V_2	H_1	H_2	U
76	X				
00					
01					X
02		X			
03		X			
04	X		X		
05	X	X		X	
06				X	
07	X		X		
10		X	X	X	
11		X			
12	X		X		
13	X	X		X	
14				X	
15	X		X		
16					
17					X
20					
21					
22					
23					
24					
25					

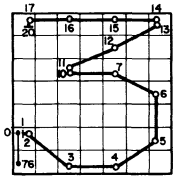
CONTROL DATA CORPORATION	TITLE: CONSOLE DISPLAY CONTROLLER CHARACTER GENERATION & FORMATION	PRODUCT: 6602	
COMPUTER DIVISION		SIZE: C	DRAWING NO.: 60125000
		REV: B	
		SHEET: 77	47



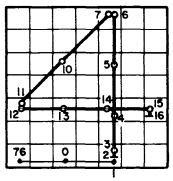
1	34				
T	V_1	V_2	H_1	H_2	U
76				X	
00			X		
01					
02			X	X	X
03		X			
04		X			
05		X			
06	X	X			
07	X			X	
10					
11					X
12					
13					
14					
15					
16					
17					
20					
21					
22					
23					
24					
25					



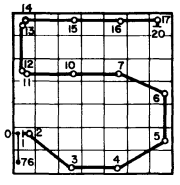
2	35				
T	V_1	V_2	H_1	H_2	U
76		X			
00		X			
01	X				
02					
03					X
04	X			X	
05	X	X		X	
06	X			X	
07	X		X	X	
10	X			X	
11	X			X	
12		X		X	
13			X	X	
14				X	
15				X	
16				X	
17					
20					X
21					
22					
23					
24					
25					



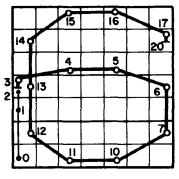
3	36				
T	V_1	V_2	H_1	H_2	U
76	X				
00					
01	X	X			X
02	X			X	
03	X	X		X	
04	X			X	
05		X	X	X	
06	X			X	
07				X	
10			X	X	
11	X			X	
12	X			X	
13			X	X	
14				X	
15				X	
16				X	
17					
20					X
21					
22					
23					
24					
25					



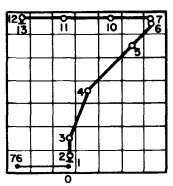
4	37				
T	V_1	V_2	H_1	H_2	U
76				X	
00				X	
01					
02			X	X	X
03		X			
04		X			
05		X			
06	X	X			
07		X		X	
10		X		X	
11			X	X	
12				X	
13				X	
14				X	
15					
16					X
17					
20					
21					
22					
23					
24					
25					



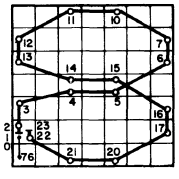
5	40				
T	V_1	V_2	H_1	H_2	U
76	X				
00					
01	X	X			X
02	X			X	
03	X	X		X	
04	X			X	
05		X	X	X	
06	X			X	
07				X	
10				X	
11					
12		X	X	X	
13					
14				X	
15				X	
16				X	
17					
20					X
21					
22					
23					
24					
25					



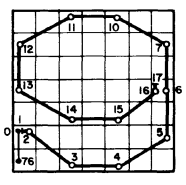
6	41				
T	V_1	V_2	H_1	H_2	U
00		X			
01	X				
02					X
03	X			X	
04	X	X		X	
05	X			X	
06		X	X	X	
07	X			X	
10	X	X		X	
11	X			X	
12		X	X	X	
13		X			
14	X			X	
15	X	X		X	
16	X			X	
17					
20					X
21					
22					
23					
24					
25					



7	42				
T	V_1	V_2	H_1	H_2	U
76				X	
00					
01					X
02	X				
03		X	X		
04		X		X	
05	X		X		
06			X	X	
07				X	
10				X	
11				X	
12					
13					X
14					
15					
16					
17					
20					
21					
22					
23					
24					
25					



8	43				
T	V_1	V_2	H_1	H_2	U
76	X				
00					
01					X
02	X				
03	X			X	
04				X	
05	X			X	
06	X		X	X	
07	X			X	
10	X	X		X	
11	X			X	
12	X		X	X	
13	X			X	
14				X	
15	X			X	
16	X		X	X	
17	X			X	
20	X	X		X	
21	X			X	
22					
23					X
24					
25					

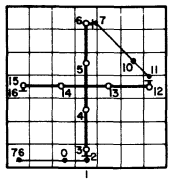


9	44				
T	V_1	V_2	H_1	H_2	U
76	X				
00					
01	X	X			X
02	X			X	
03	X	X		X	
04	X			X	
05		X	X	X	
06		X			
07	X			X	
10	X	X		X	
11	X			X	
12		X	X	X	
13	X			X	
14	X	X		X	
15	X			X	
16					
17					X
20					
21					
22					
23					
24					
25					

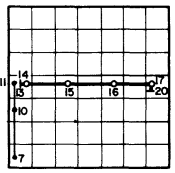
CONTROL DATA CORPORATION
COMPUTER DIVISION

TITLE
CONSOLE DISPLAY CONTROLLER
CHARACTER GENERATION
& FORMATION

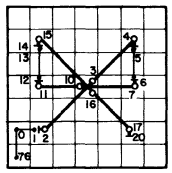
PRODUCT 6602
SIZE C | DRAWING NO. 60125000 | REV B
SHEET 78
49



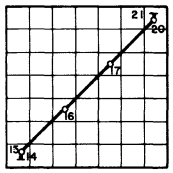
+	45					
T	V_1	V_2	H_1	H_2	U	
76					X	
00			X			
01						
02						X
03		X				
04		X				
05		X				
06	X	X				
07		X			X	X
10	X		X			
11			X		X	X
12					X	
13					X	
14					X	
15						
16						X
17						
20						
21						
22						
23						
24						
25						



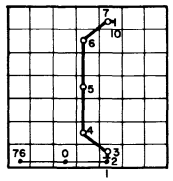
−	46					
T	V_1	V_2	H_1	H_2	U	
00						
01						
02						
03						
04						
05						
06						
07		X				
10	X					
11						
12						
13						X
14				X		
15				X		
16				X		
17						
20						X
21						
22						
23						
24						
25						



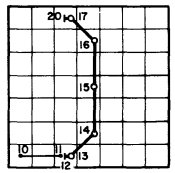
*	47					
T	V_1	V_2	H_1	H_2	U	
76	X					
00			X			
01						X
02		X		X		
03		X		X		
04	X	X	X	X		
05		X				X
06						
07					X	X
10					X	
11	X	X	X	X		
12		X				X
13	X	X				
14						X
15		X		X		
16		X		X		
17						
20						X
21						
22						
23						
24						
25						



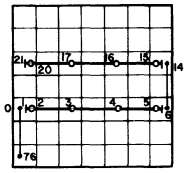
/	50					
T	V_1	V_2	H_1	H_2	U	
00						
01						
02						
03						
04						
05						
06						
07						
10						
11						
12						
13						
14						X
15		X		X		
16		X		X		
17		X		X		
20						
21						X
22						
23						
24						
25						



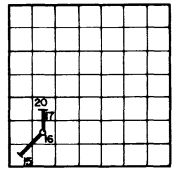
(	51					
T	V_1	V_2	H_1	H_2	U	
76				X		
00				X		
01						
02			X	X	X	
03	X		X			
04		X	X	X		
05		X				
06	X		X			
07						
10					X	
11						
12						
13						
14						
15						
16						
17						
20						
21						
22						
23						
24						
25						



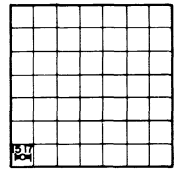
)	52					
T	V_1	V_2	H_1	H_2	U	
00						
01						
02						
03						
04						
05						
06						
07						
10				X		
11						
12						X
13	X		X			
14		X	X	X		
15		X				
16	X		X			
17						
20						X
21						
22						
23						
24						
25						



=	54					
T	V_1	V_2	H_1	H_2	U	
76		X				
00						
01					X	
02				X		
03				X		
04				X		
05			X	X		
06		X			X	
07						
10						
11						
12						
13						
14					X	
15				X		
16				X		
17				X		
20						
21					X	
22						
23						
24						
25						



,	56					
T	V_1	V_2	H_1	H_2	U	
00						
01						
02						
03						
04						
05						
06						
07						
10						
11						
12						
13						
14						
15	X		X		X	
16	X					
17						
20					X	
21						
22						
23						
24						
25						



.	57					
T	V_1	V_2	H_1	H_2	U	
00						
01						
02						
03						
04						
05						
06						
07						
10						
11						
12						
13						
14						
15						X
16						
17						X
20						
21						
22						
23						
24						
25						

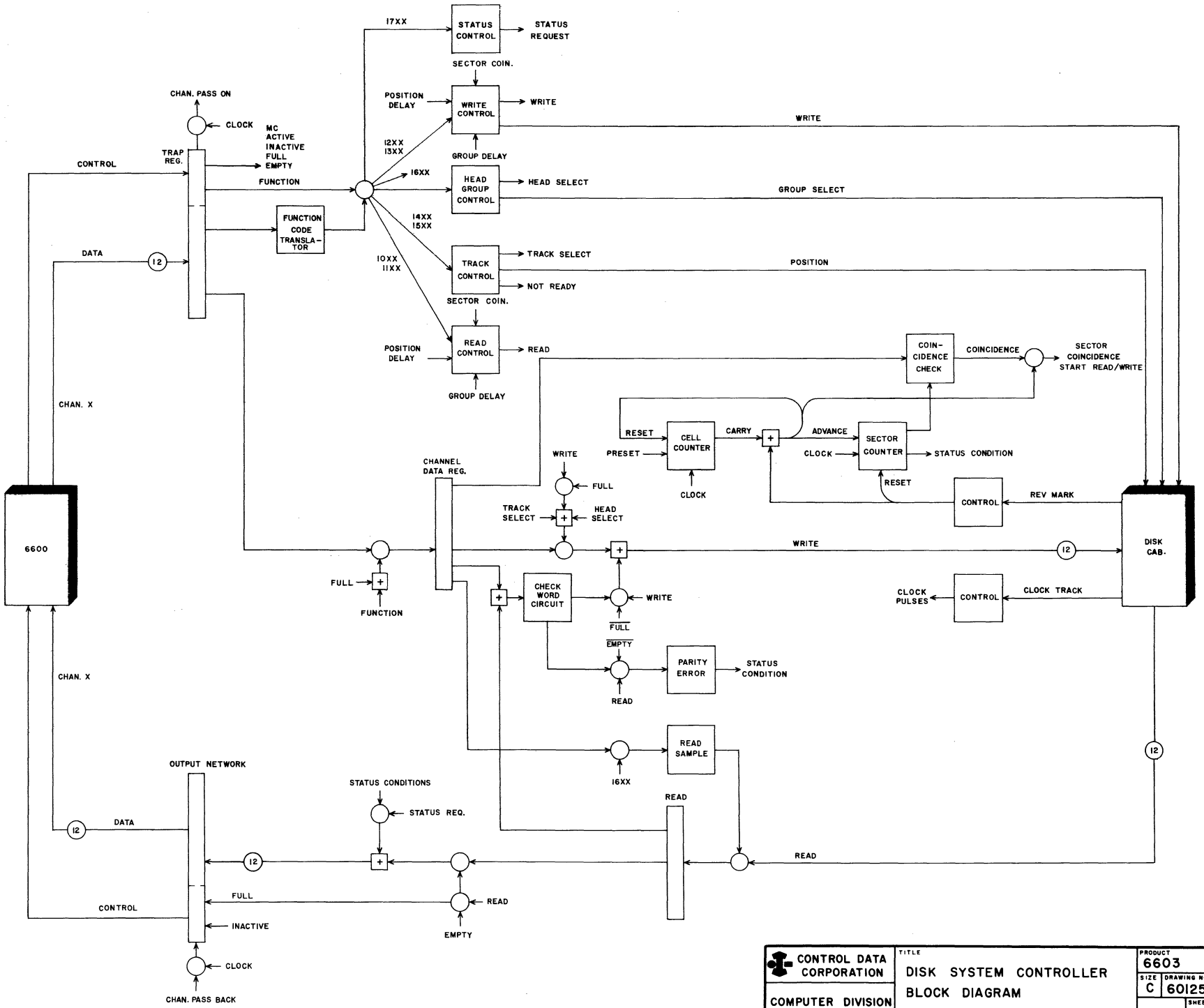
CONTROL DATA CORPORATION
COMPUTER DIVISION

TITLE
CONSOLE DISPLAY CONTROLLER
CHARACTER GENERATION
& FORMATION

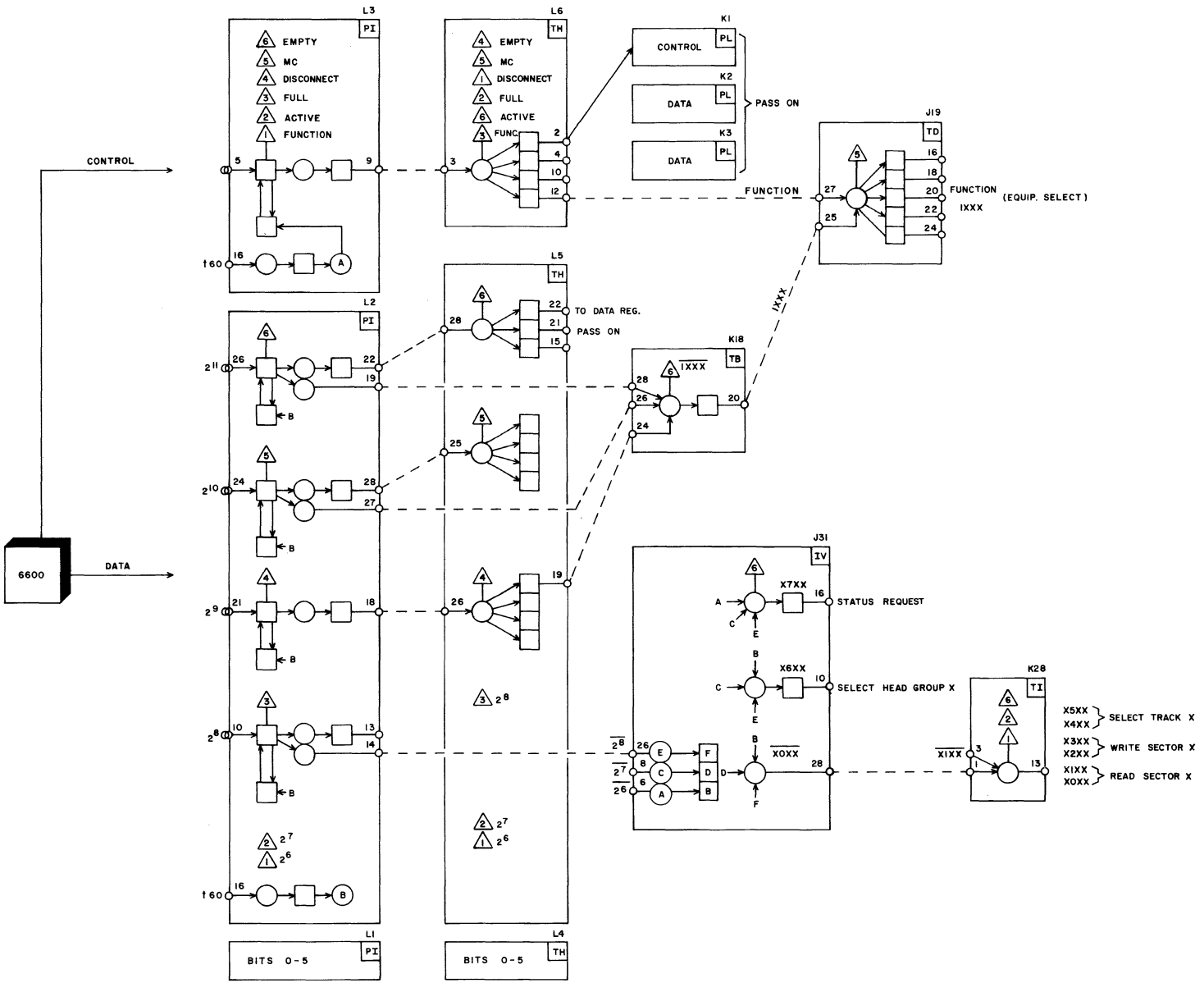
PRODUCT 6602
SIZE C | DRAWING NO. 60125000 | REV B
SHEET 79

6603 DISK SYSTEM CONTROLLER

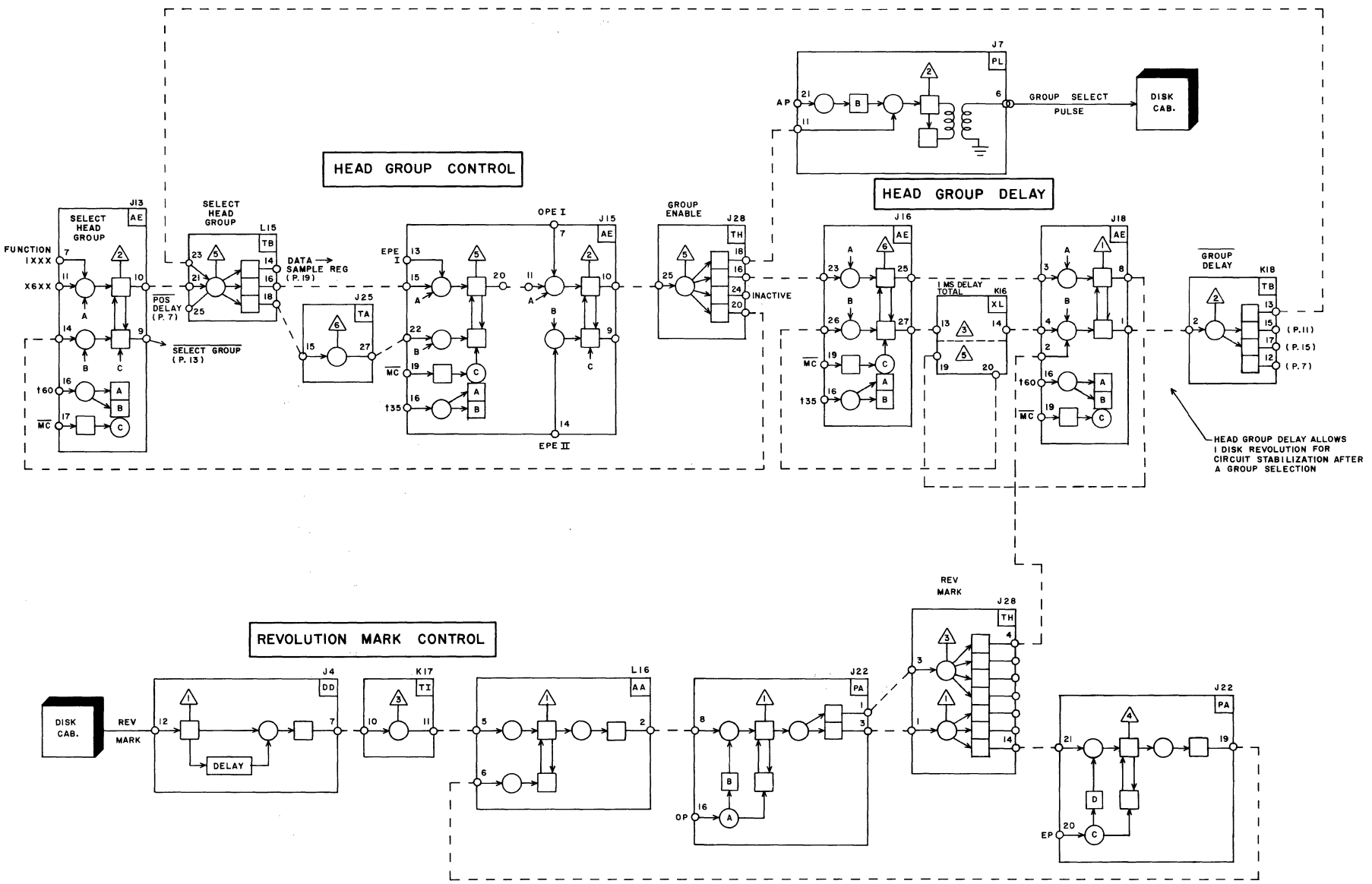
CONTENTS



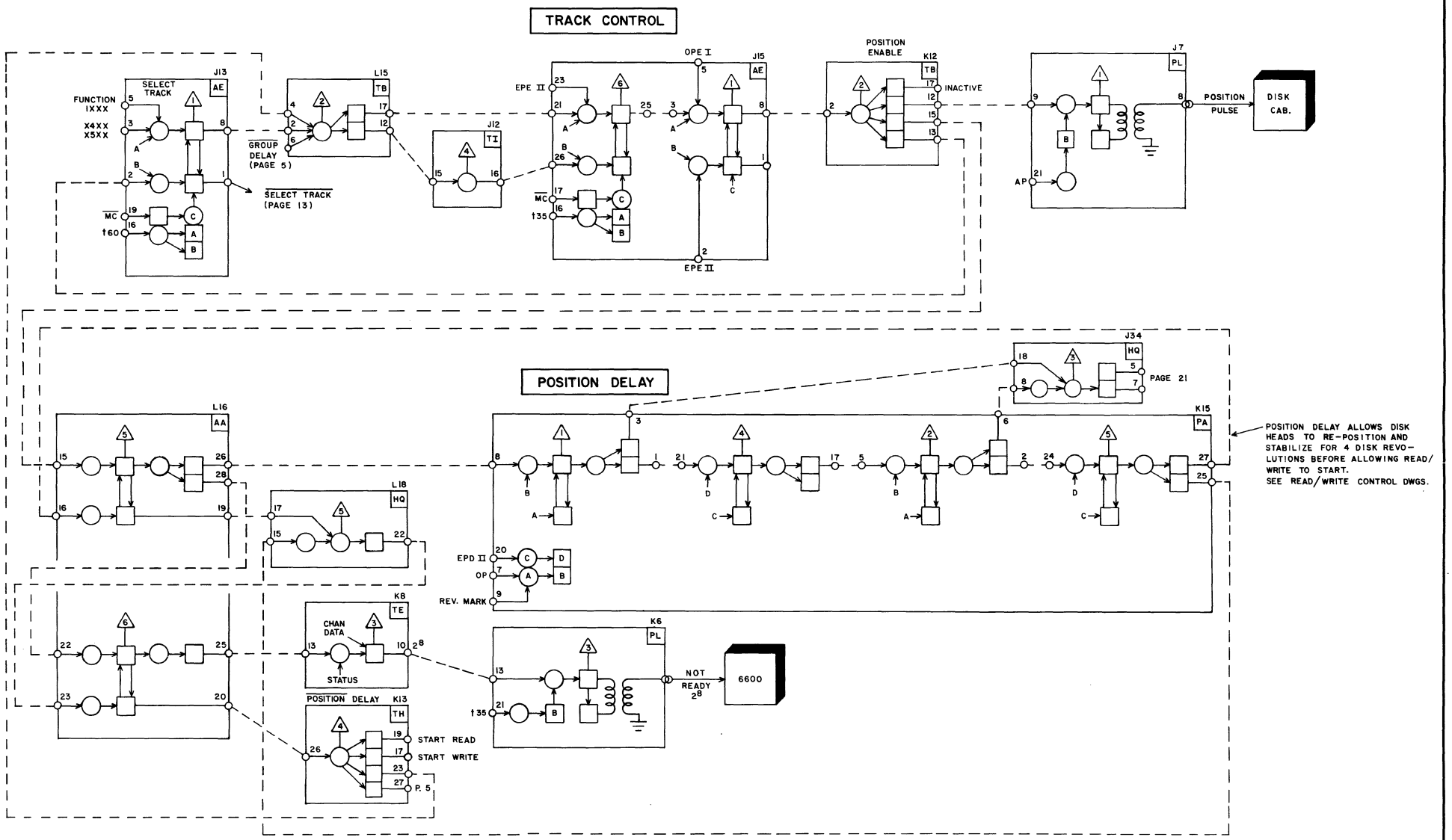
CONTROL DATA CORPORATION	TITLE: DISK SYSTEM CONTROLLER BLOCK DIAGRAM	PRODUCT: 6603	
COMPUTER DIVISION		SIZE: C	DRAWING NO.: 60125000 REV: C
		SHEET: 49	1



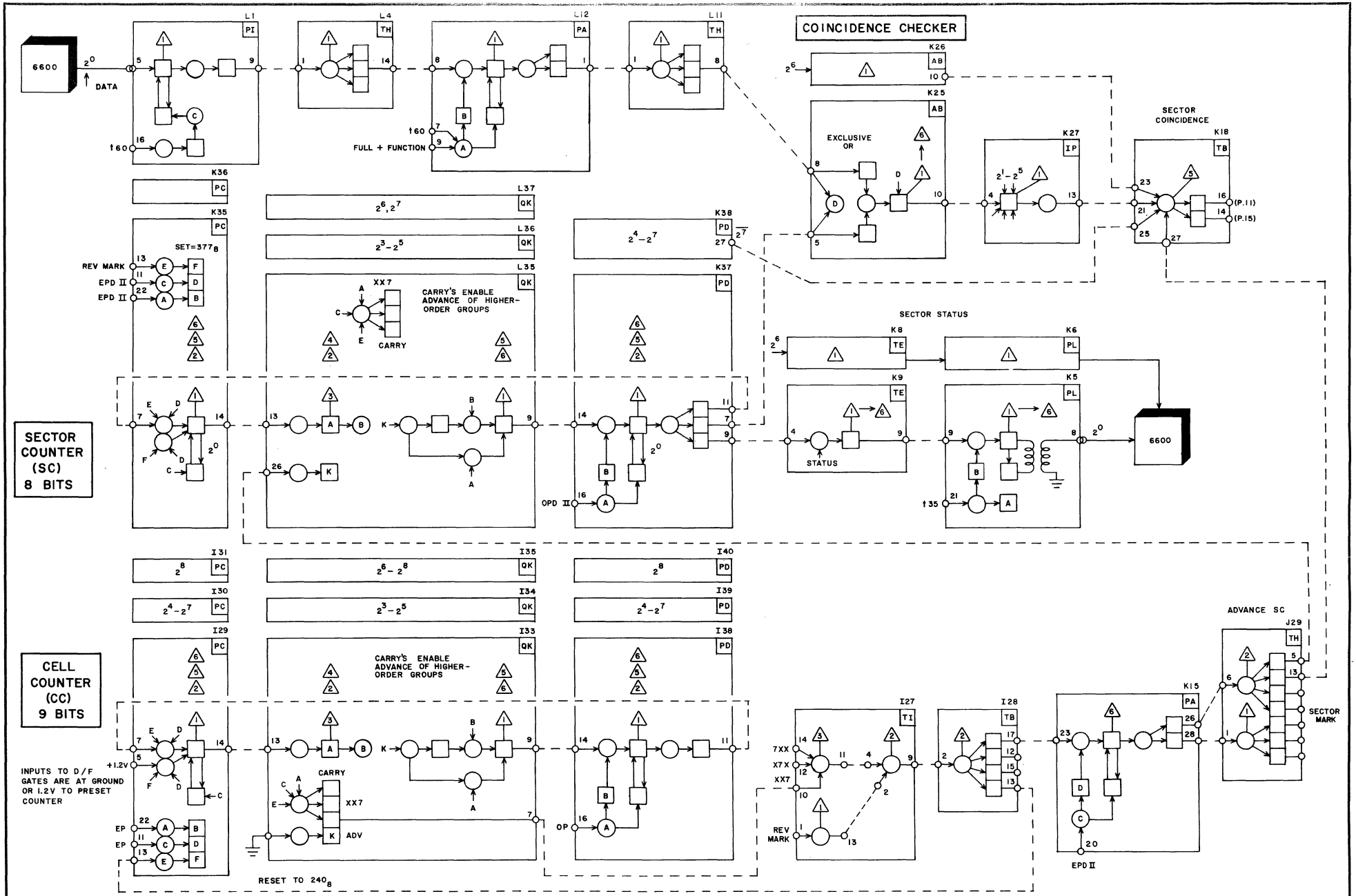
CONTROL DATA CORPORATION	TITLE: DISK SYSTEM CONTROLLER FUNCTION CIRCUITS	PRODUCT: 6603	
COMPUTER DIVISION		SIZE: C · DRAWING NO.: 60125000 · REV: C	
		SHEET: 50	3



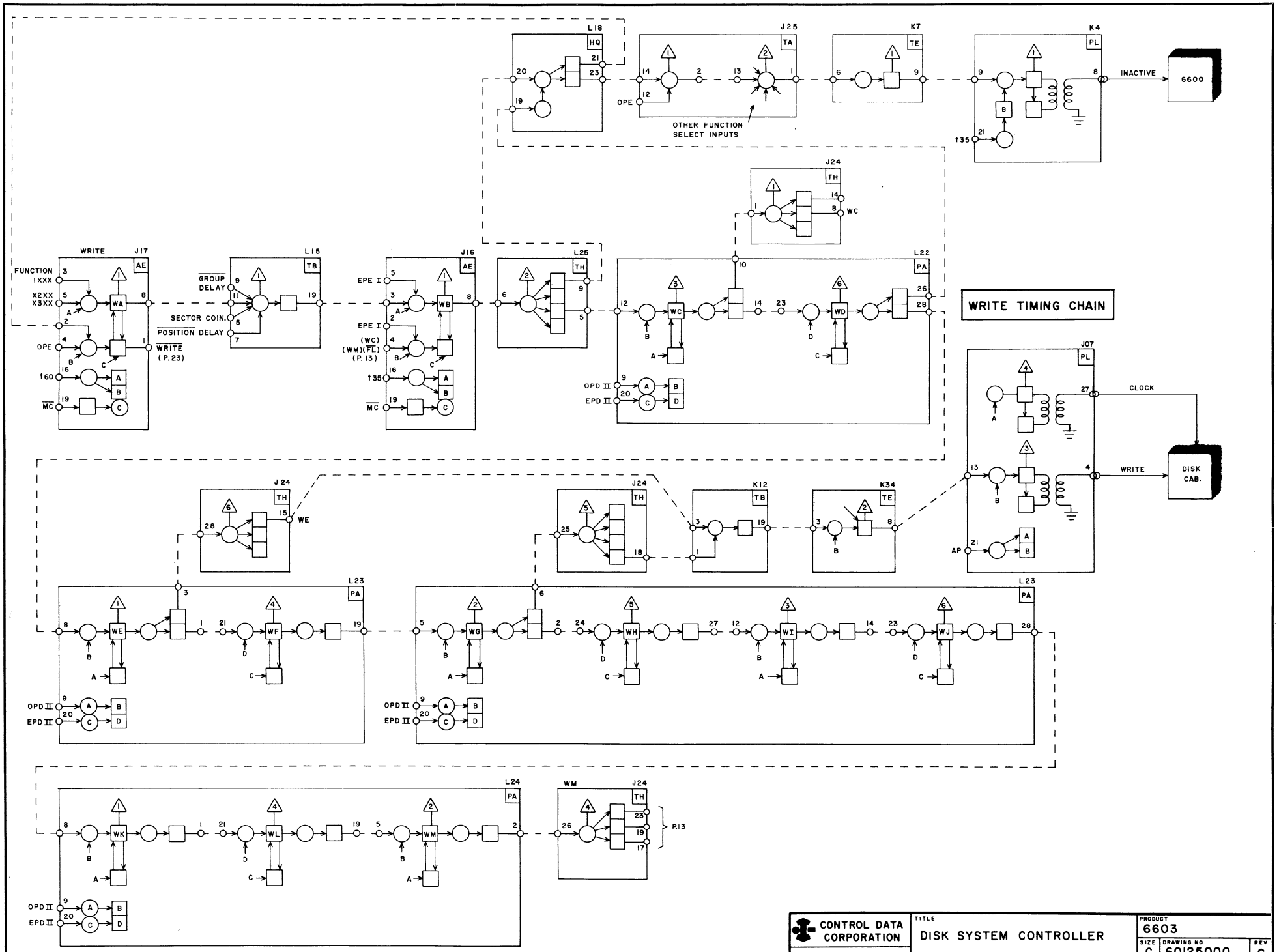
CONTROL DATA CORPORATION	TITLE: DISK SYSTEM CONTROLLER	PRODUCT: 6603	
COMPUTER DIVISION	HEAD GROUP CONTROL	SIZE: C	DRAWING NO.: 60125000
	REVOLUTION MARK CONTROL	REV: C	
		SHEET: 51	5



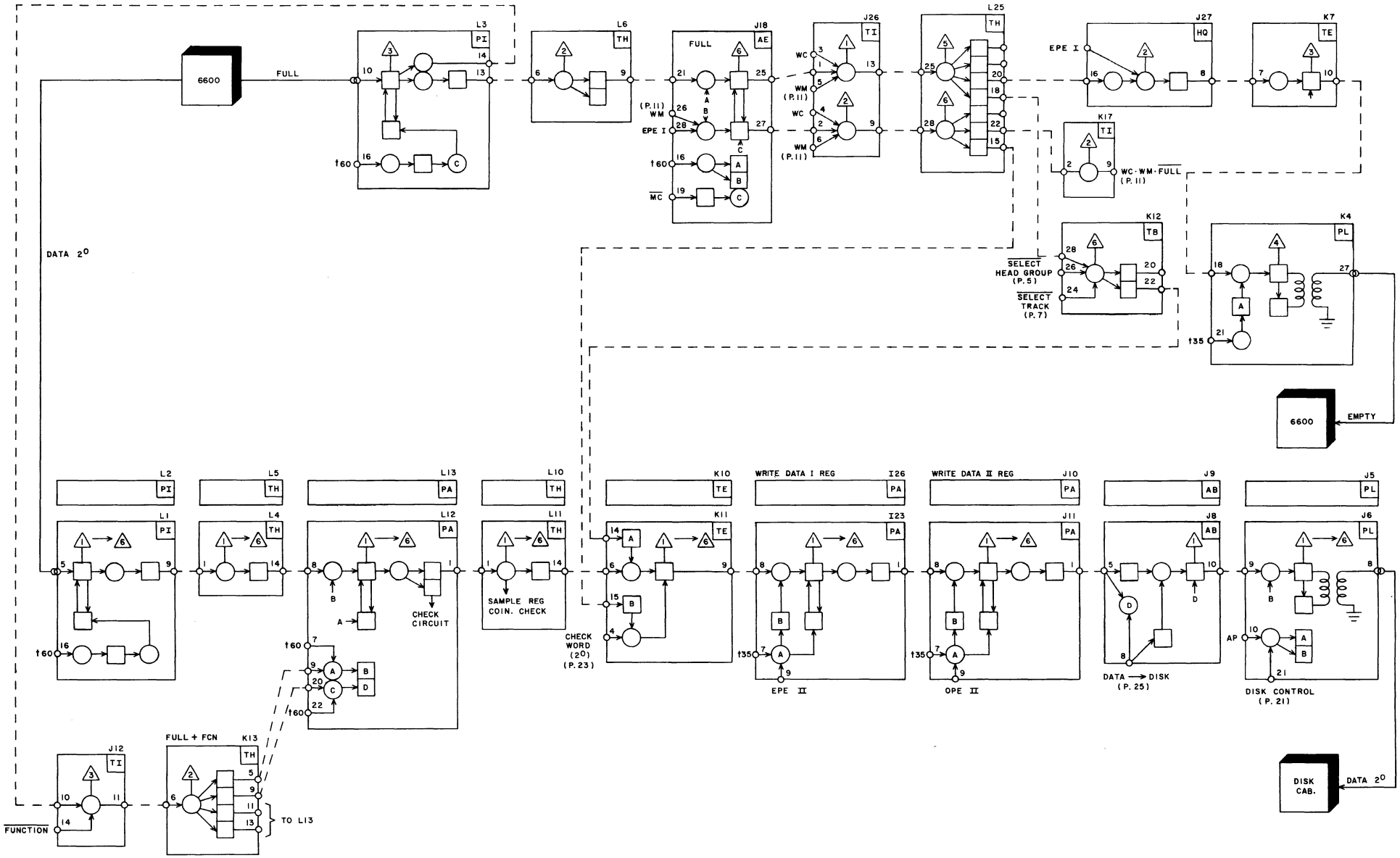
CONTROL DATA CORPORATION	TITLE: DISK SYSTEM CONTROLLER	PRODUCT: 6603	
COMPUTER DIVISION	TRACK CONTROL	SIZE: C	DRAWING NO.: 60125000 REV: C
		SHEET: 52	7



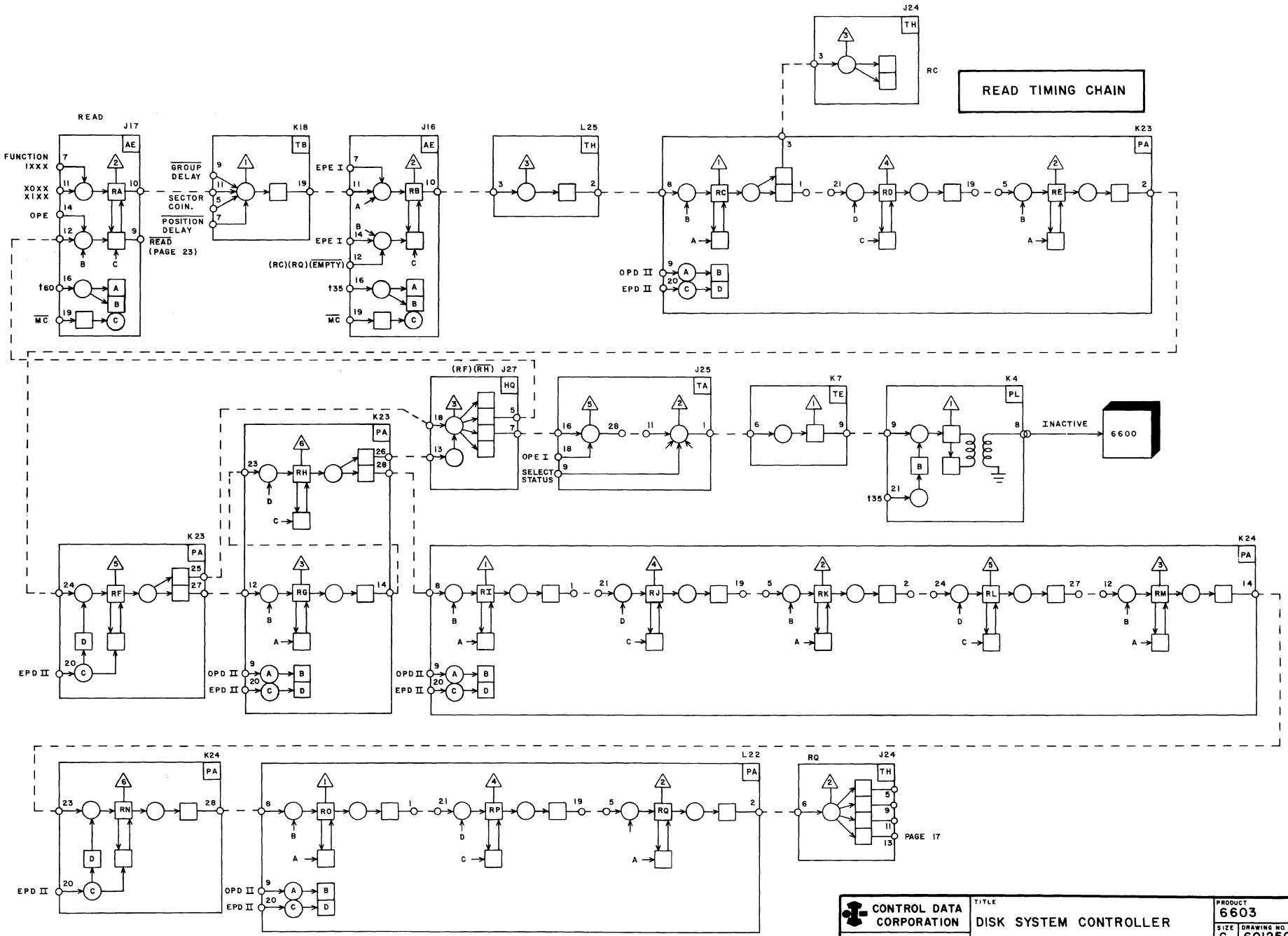
CONTROL DATA CORPORATION	TITLE: DISK SYSTEM CONTROLLER	PRODUCT: 6603	
COMPUTER DIVISION	CELL & SECTOR COUNTERS	SIZE: C · DRAWING NO.: 60125000 · REV: C	
		SHEET: 53	9

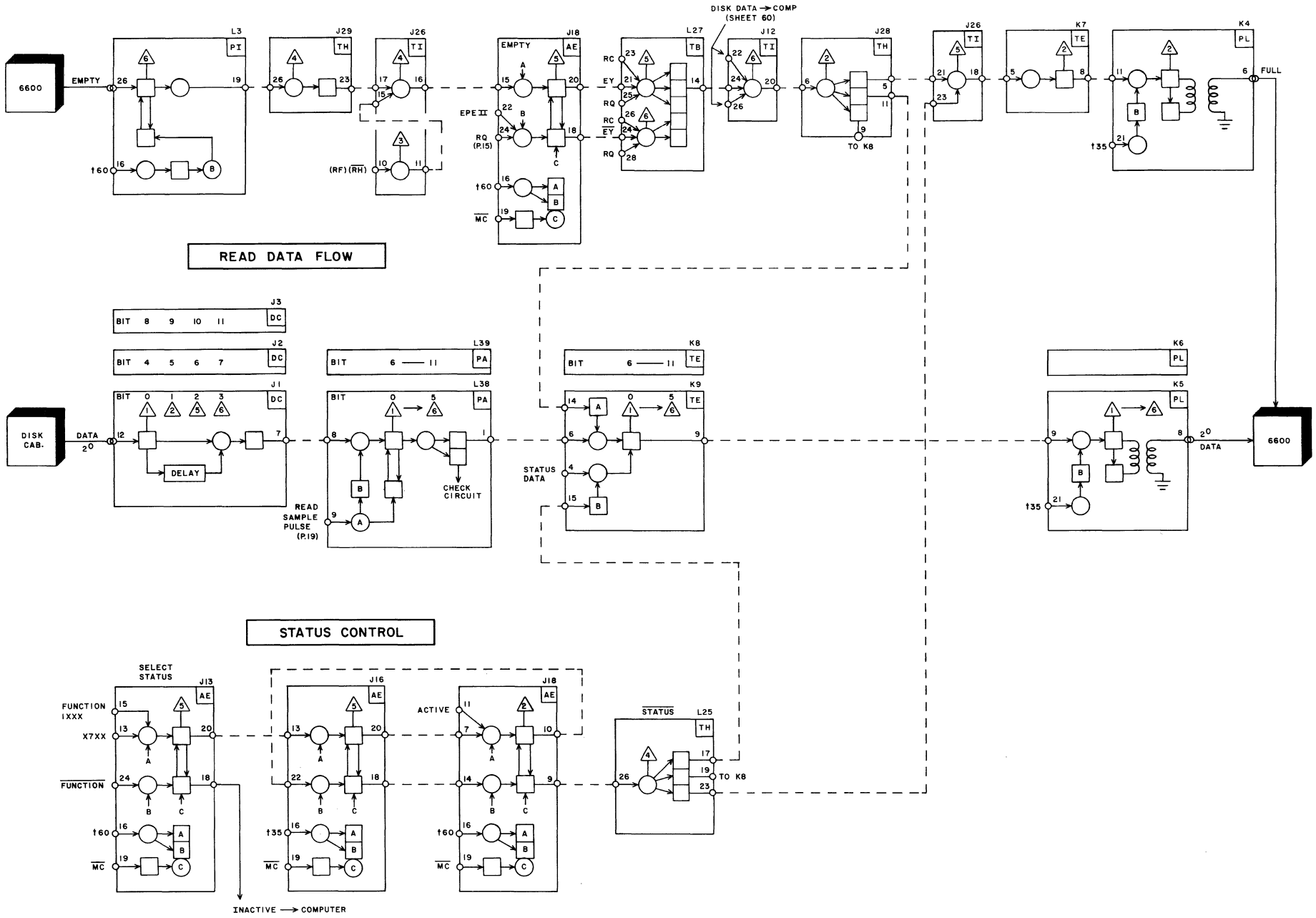


CONTROL DATA CORPORATION	TITLE: DISK SYSTEM CONTROLLER	PRODUCT: 6603	
COMPUTER DIVISION	WRITE CONTROL	SIZE: C	DRAWING NO.: 60125000 REV: C
			SHEET: 54 11

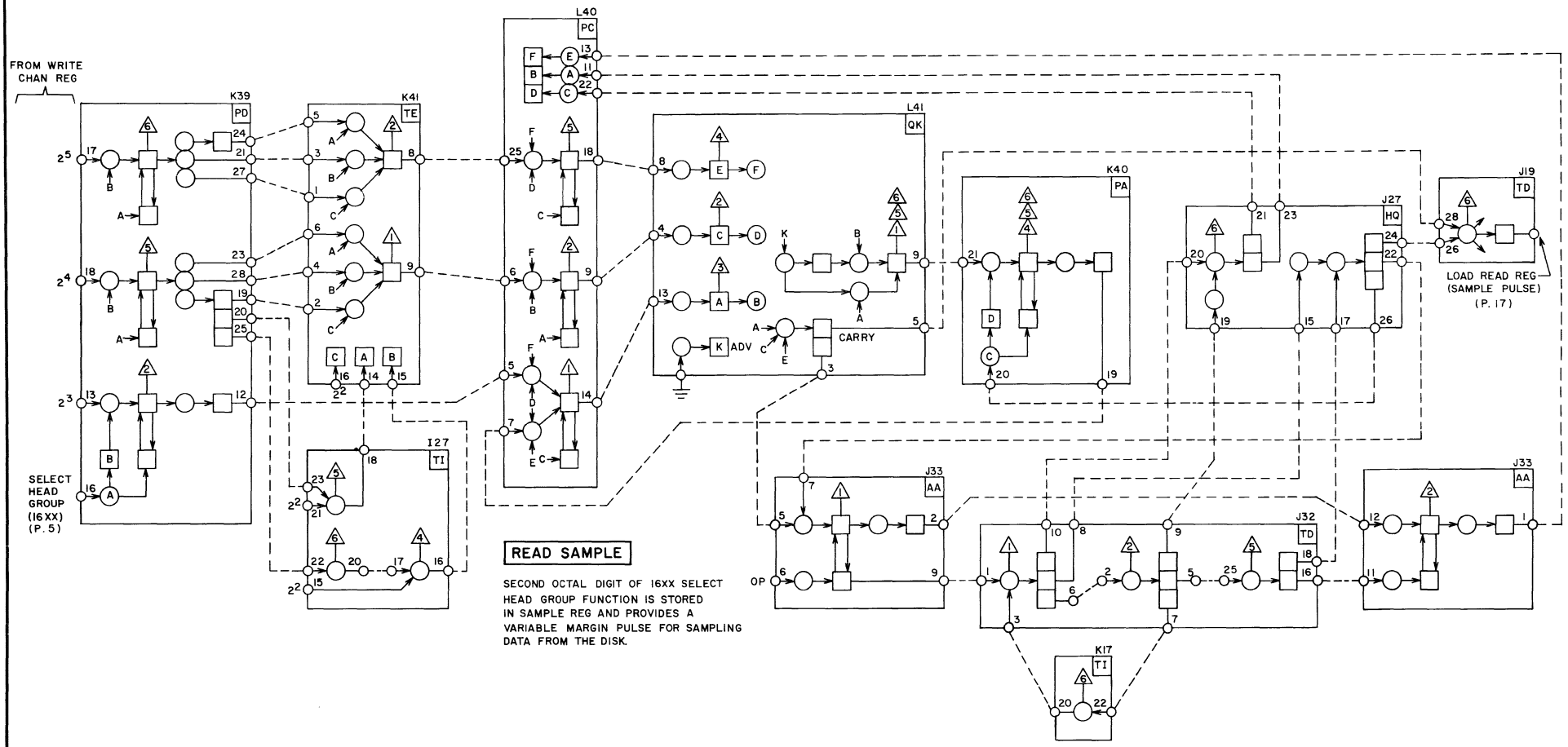


CONTROL DATA CORPORATION	TITLE: DISK SYSTEM CONTROLLER	PRODUCT: 6603	
COMPUTER DIVISION	WRITE DATA FLOW	SIZE: C · DRAWING NO.: 60125000 · REV: C	
		SHEET: 55	13


READ TIMING CHAIN
READ
J17
AE
FUNCTION 1XXX
XOXX
X1XX
OPE
t60
MC
RA
B
C
GROUP DELAY
SECTOR COIN.
POSITION DELAY
READ (PAGE 23)
K18
TB
J16
EPE I
RB
(RC)(RQ)(EMPTY)
t35
L25
TH
J24
RC
K23
PA
RC
RD
RE
OPD II
EPD II
(RF)(RH) J27
HQ
J25
TA
OPE I
SELECT STATUS
K7
TE
K4
PL
INACTIVE
6600
RH
RF
RG
RI
RJ
RK
RL
RM
K24
RN
RO
RP
RQ
L22
PAGE 17
CONTROL DATA CORPORATION
COMPUTER DIVISION
TITLE
DISK SYSTEM CONTROLLER
READ CONTROL
PRODUCT
6603
SIZE
C
DRAWING NO.
60125000
REV
C
SHEET
56
15



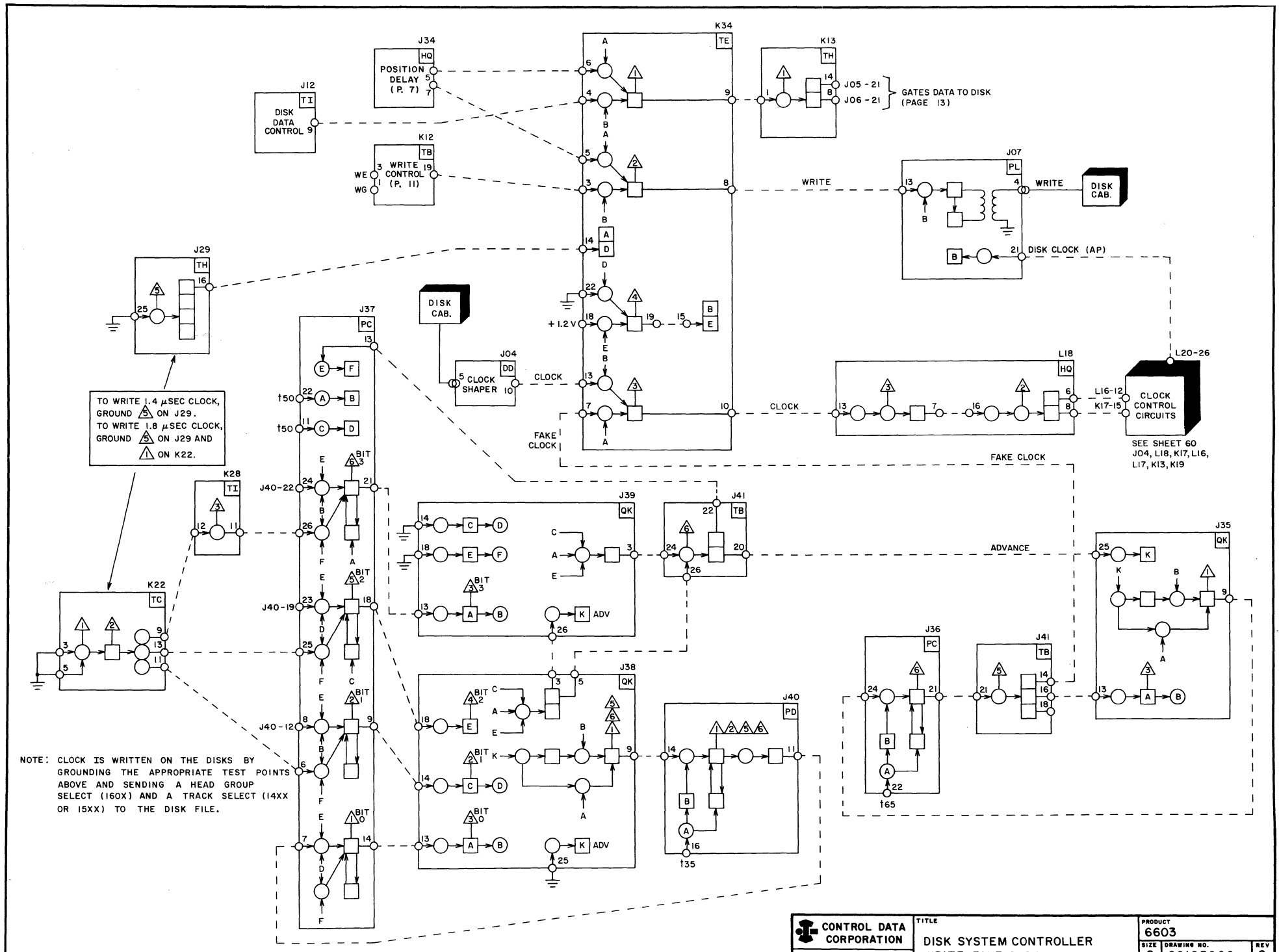
CONTROL DATA CORPORATION	TITLE: DISK SYSTEM CONTROLLER	PRODUCT: 6603	
COMPUTER DIVISION	READ DATA FLOW	SIZE: C	DRAWING NO.: 60125000
	STATUS CONTROL	REV: C	
		SHEET: 57	17



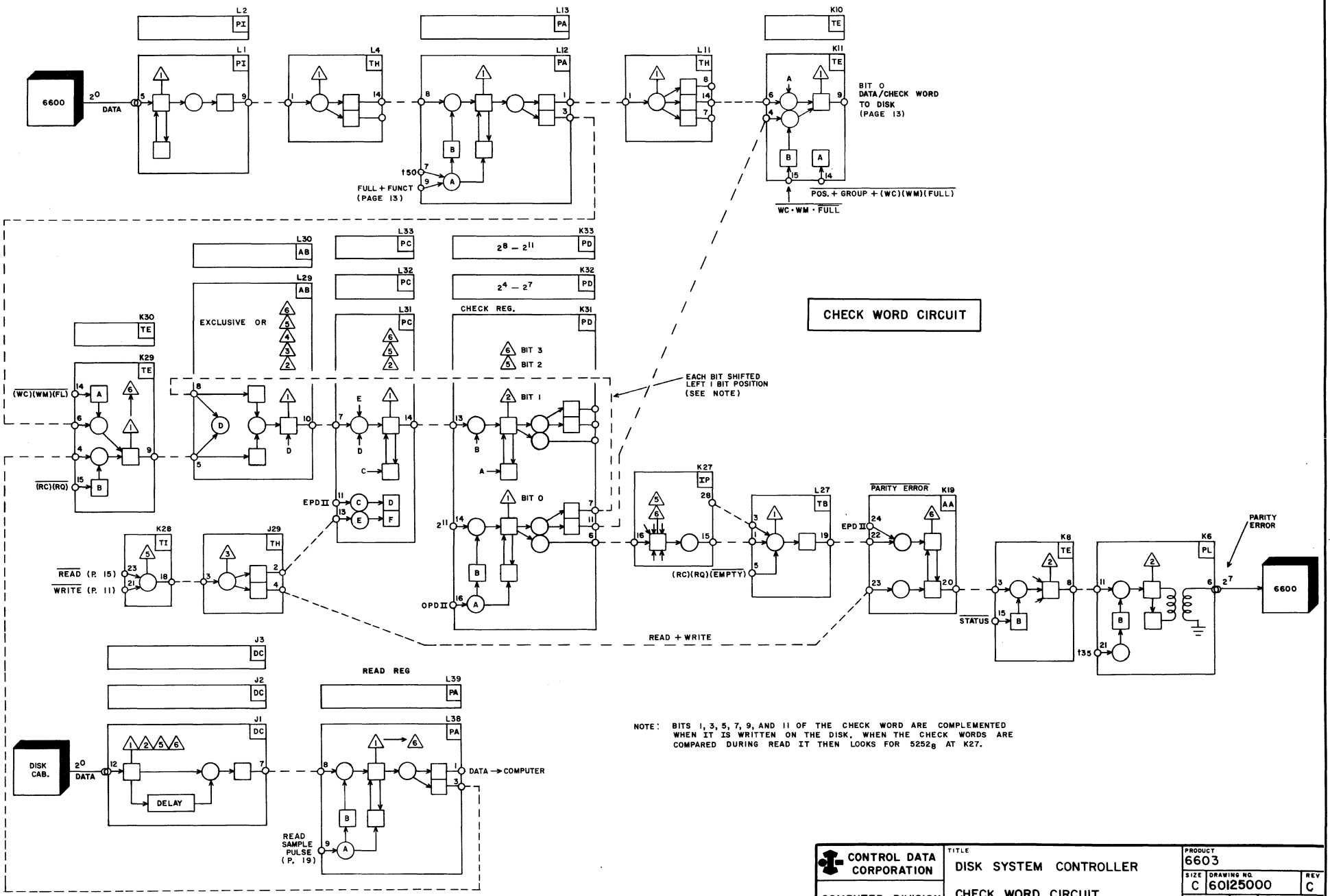
READ SAMPLE

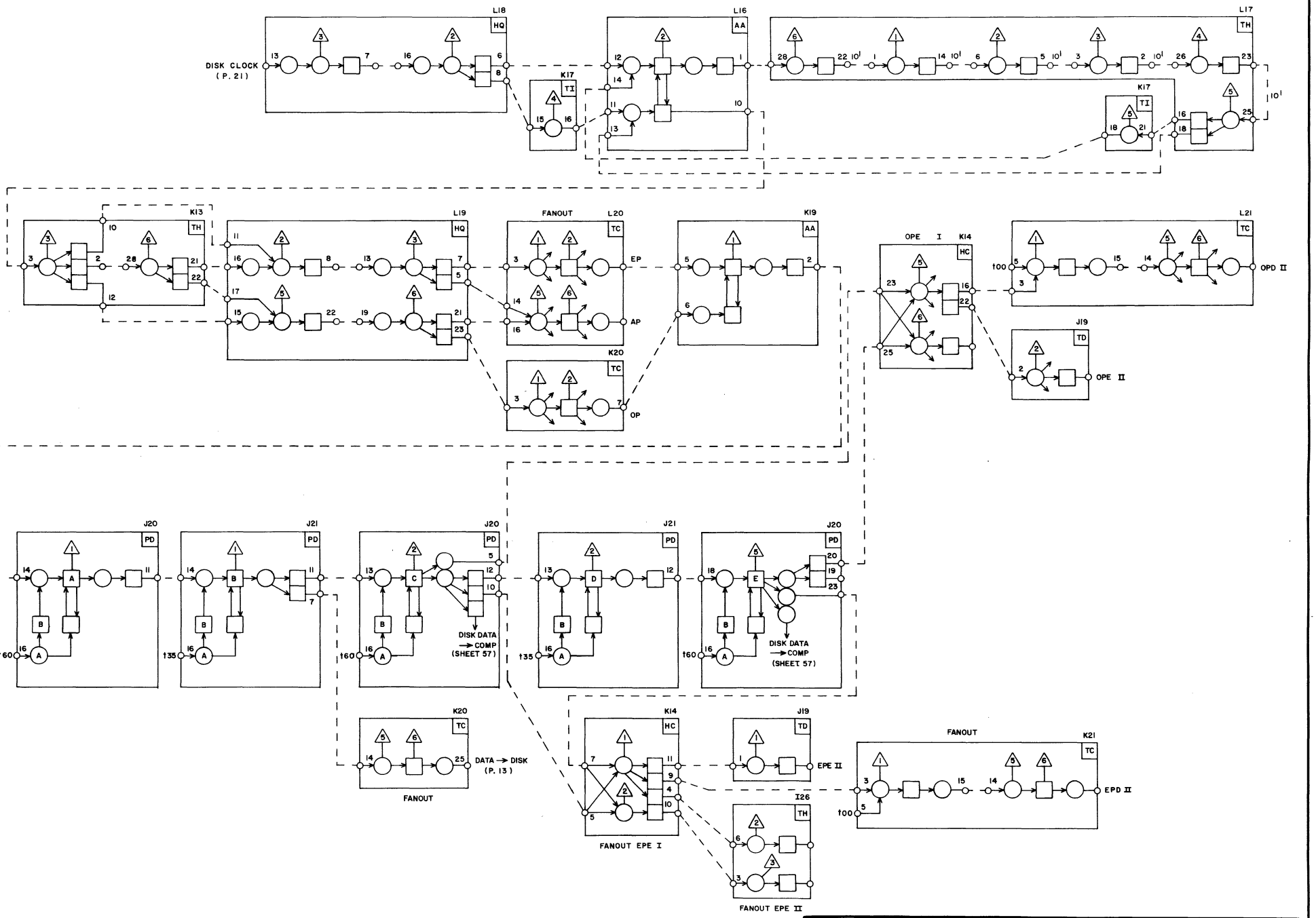
SECOND OCTAL DIGIT OF 16XX SELECT HEAD GROUP FUNCTION IS STORED IN SAMPLE REG AND PROVIDES A VARIABLE MARGIN PULSE FOR SAMPLING DATA FROM THE DISK.

CONTROL DATA CORPORATION	TITLE: DISK SYSTEM CONTROLLER	PRODUCT: 6603	
COMPUTER DIVISION	READ SAMPLE	SIZE: C	DRAWING NO.: 60125000 REV: C
		SHEET: 58	PAGE: 19

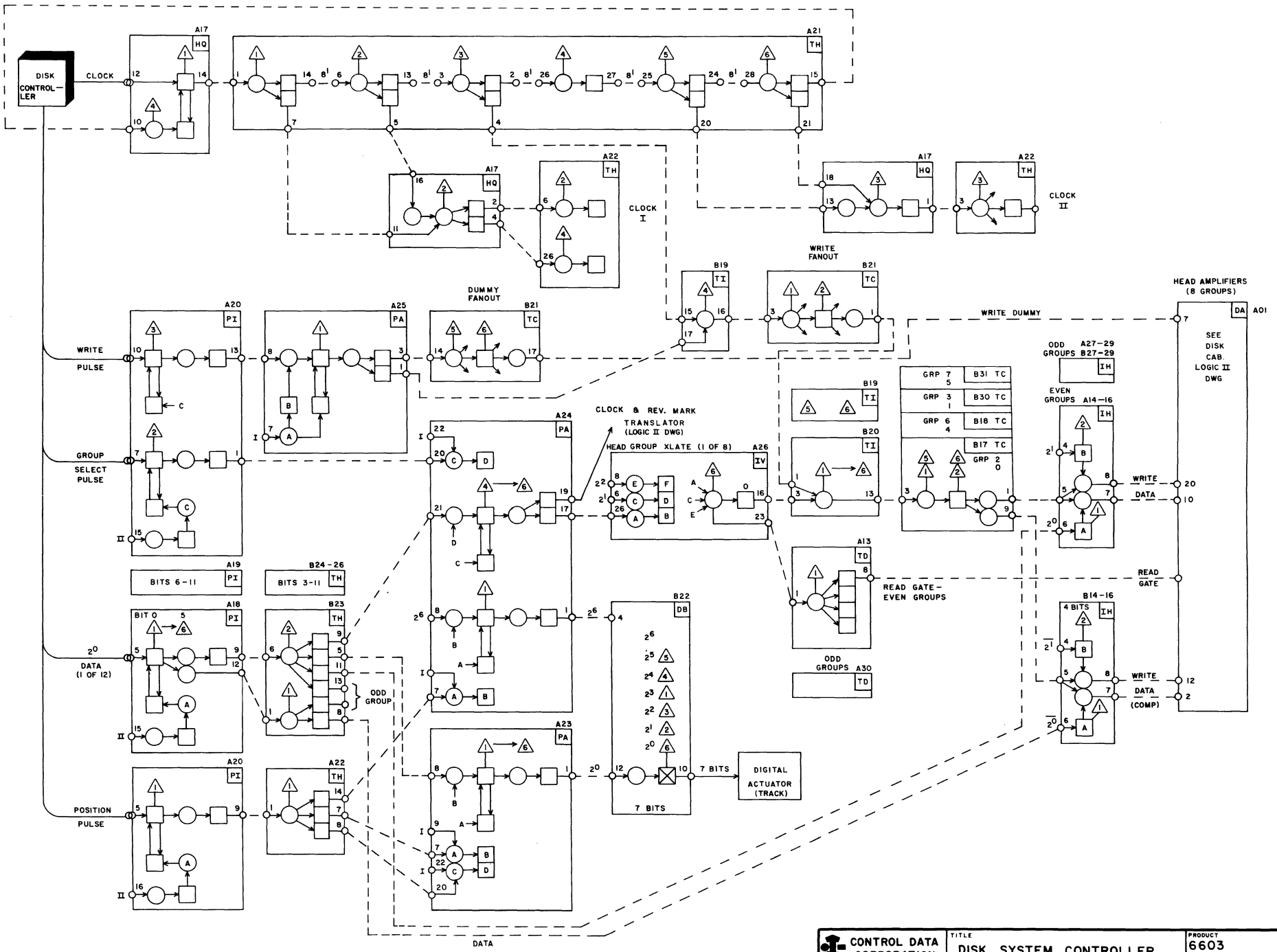


CONTROL DATA CORPORATION	TITLE: DISK SYSTEM CONTROLLER WRITE FAKE CLOCK	PRODUCT: 6603	
COMPUTER DIVISION		SIZE: C	DRAWING NO.: 60125000 REV: C
		SHEET: 76	PAGE: 21

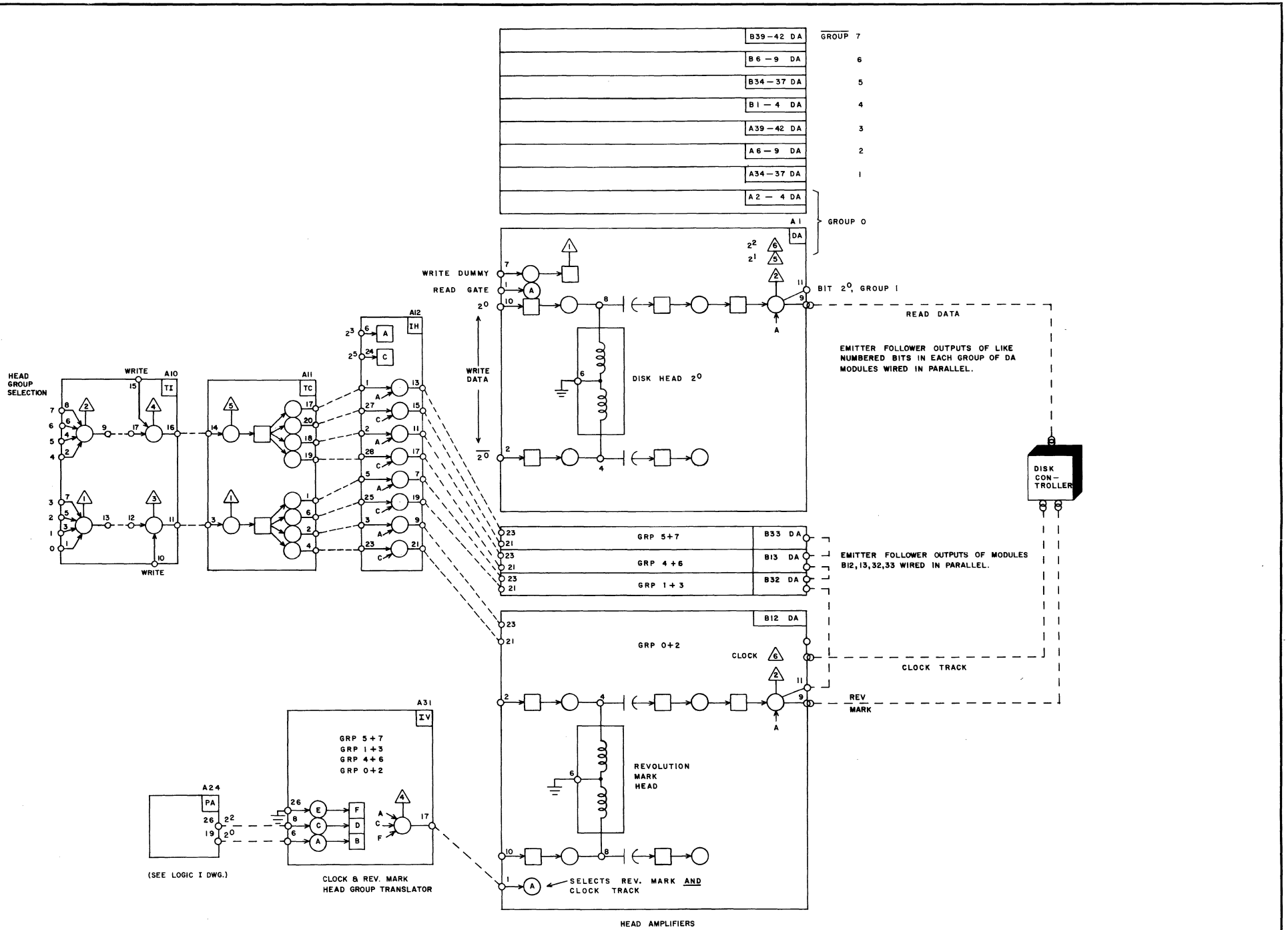

CHECK WORD CIRCUIT
6600
DATA
BIT 0 DATA/CHECK WORD TO DISK (PAGE 13)
FULL + FUNCT (PAGE 13)
POS. + GROUP + (WC)(WM)(FULL)
WC · WM · FULL
EXCLUSIVE OR
CHECK REG.
BIT 3
BIT 2
BIT 1
BIT 0
EACH BIT SHIFTED LEFT 1 BIT POSITION (SEE NOTE)
(WC)(WM)(FL)
(RC)(RQ)
EPD II
OPD II
READ (P. 15)
WRITE (P. 11)
(RC)(RQ)(EMPTY)
PARITY ERROR
STATUS
READ + WRITE
DISK CAB.
DELAY
READ REG
READ SAMPLE PULSE (P. 19)
DATA → COMPUTER
NOTE: BITS 1, 3, 5, 7, 9, AND 11 OF THE CHECK WORD ARE COMPLEMENTED WHEN IT IS WRITTEN ON THE DISK. WHEN THE CHECK WORDS ARE COMPARED DURING READ IT THEN LOOKS FOR 5252₈ AT K27.
CONTROL DATA CORPORATION
COMPUTER DIVISION
TITLE
DISK SYSTEM CONTROLLER
CHECK WORD CIRCUIT
PRODUCT 6603
SIZE C
DRAWING NO. 60125000
REV C
SHEET 59
23



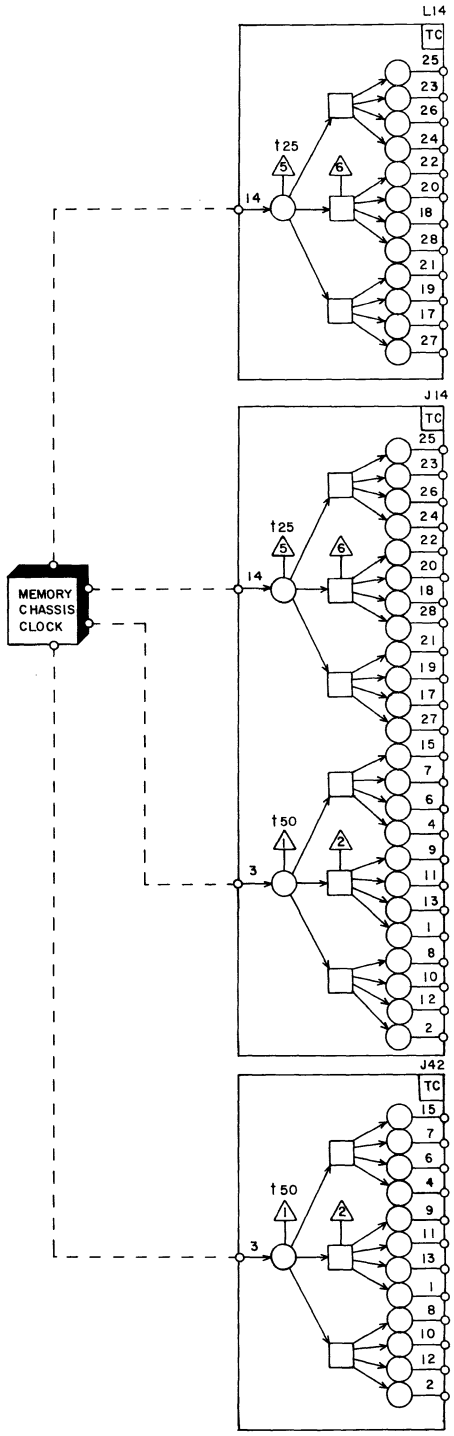
CONTROL DATA CORPORATION	TITLE	PRODUCT	
COMPUTER DIVISION	DISK SYSTEM CONTROLLER CLOCK CONTROL	6603	
		SIZE C	DRAWING NO. 60125000 REV C
			SHEET 60 25



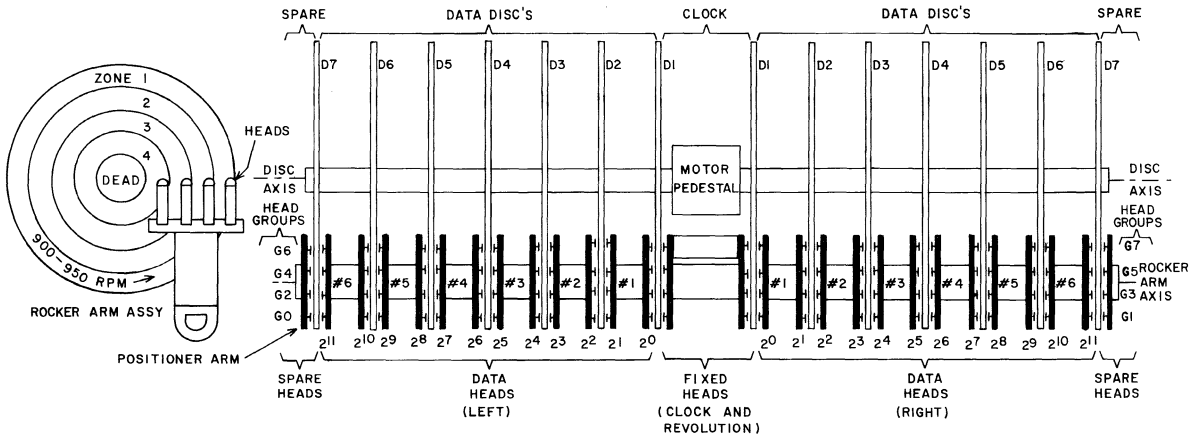
CONTROL DATA CORPORATION	TITLE: DISK SYSTEM CONTROLLER	PRODUCT: 6603	
COMPUTER DIVISION	DISK CABINET LOGIC I	SIZE: C · DRAWING NO.: 60125000 · REV: C	
		SHEET: 61	27



CONTROL DATA CORPORATION COMPUTER DIVISION	TITLE DISK SYSTEM CONTROLLER DISK CABINET LOGIC II	PRODUCT 6603 SIZE C · DRAWING NO. 60125000 · REV C SHEET 62	29



CONTROL DATA CORPORATION	TITLE: DISK SYSTEM CONTROLLER	PRODUCT: 6603
COMPUTER DIVISION	CLOCK	SIZE: C · DRAWING NO.: 60125000 · REV: C
		SHEET: 63 · 31

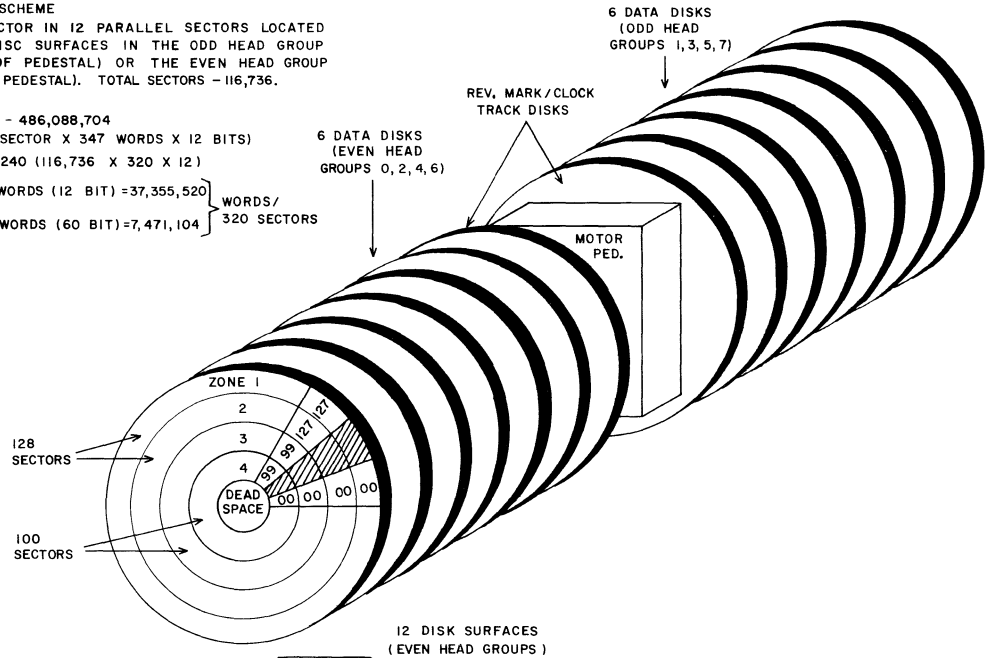


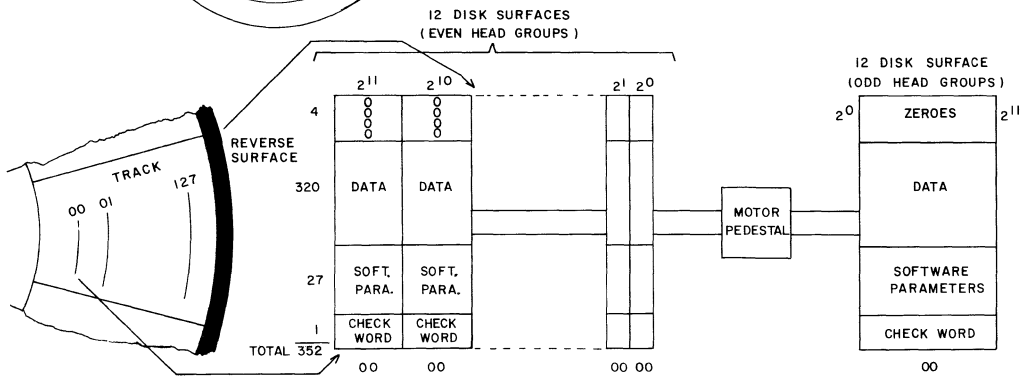
RECORDING SCHEME

1 BIT/SECTOR IN 12 PARALLEL SECTORS LOCATED ON 12 DISC SURFACES IN THE ODD HEAD GROUP (RIGHT OF PEDESTAL) OR THE EVEN HEAD GROUP (LEFT OF PEDESTAL). TOTAL SECTORS – 116,736.

TOTAL BITS - 486,088,704
(116,736 SECTOR X 347 WORDS X 12 BITS)
448,766,240 (116,736 X 320 X 12)

TOTAL PP WORDS (12 BIT) =37,355,520
TOTAL CP WORDS (60 BIT) =7,471,104
} WORDS/ 320 SECTORS

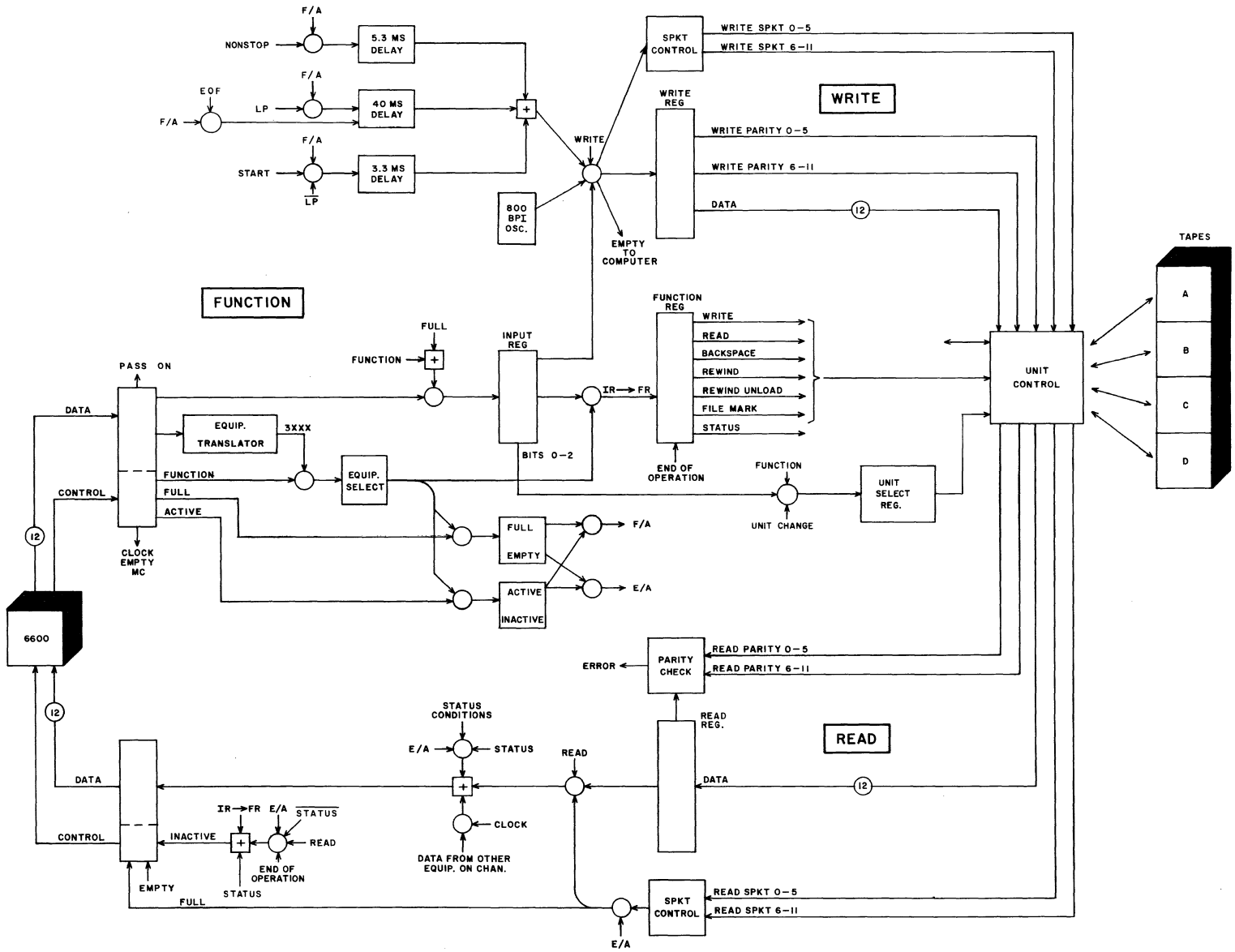




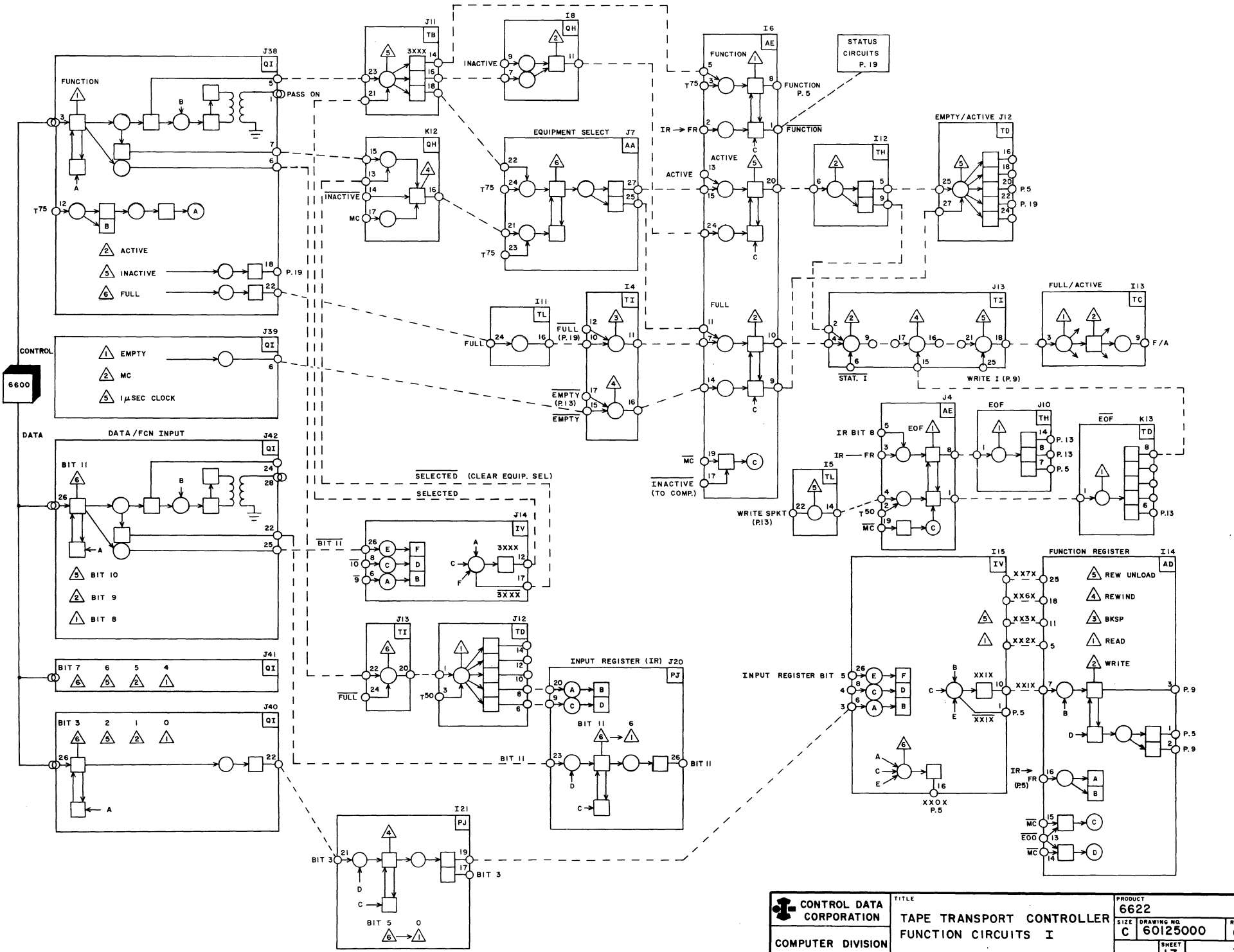
CONTROL DATA CORPORATION	TITLE: DISK SYSTEM	PRODUCT: 6603	
COMPUTER DIVISION	DATA ORGANIZATION	SIZE: C · DRAWING NO.: 60125000 · REV: C	
		SHEET: 75	33

6622 MAGNETIC TAPE TRANSPORT CONTROLLER

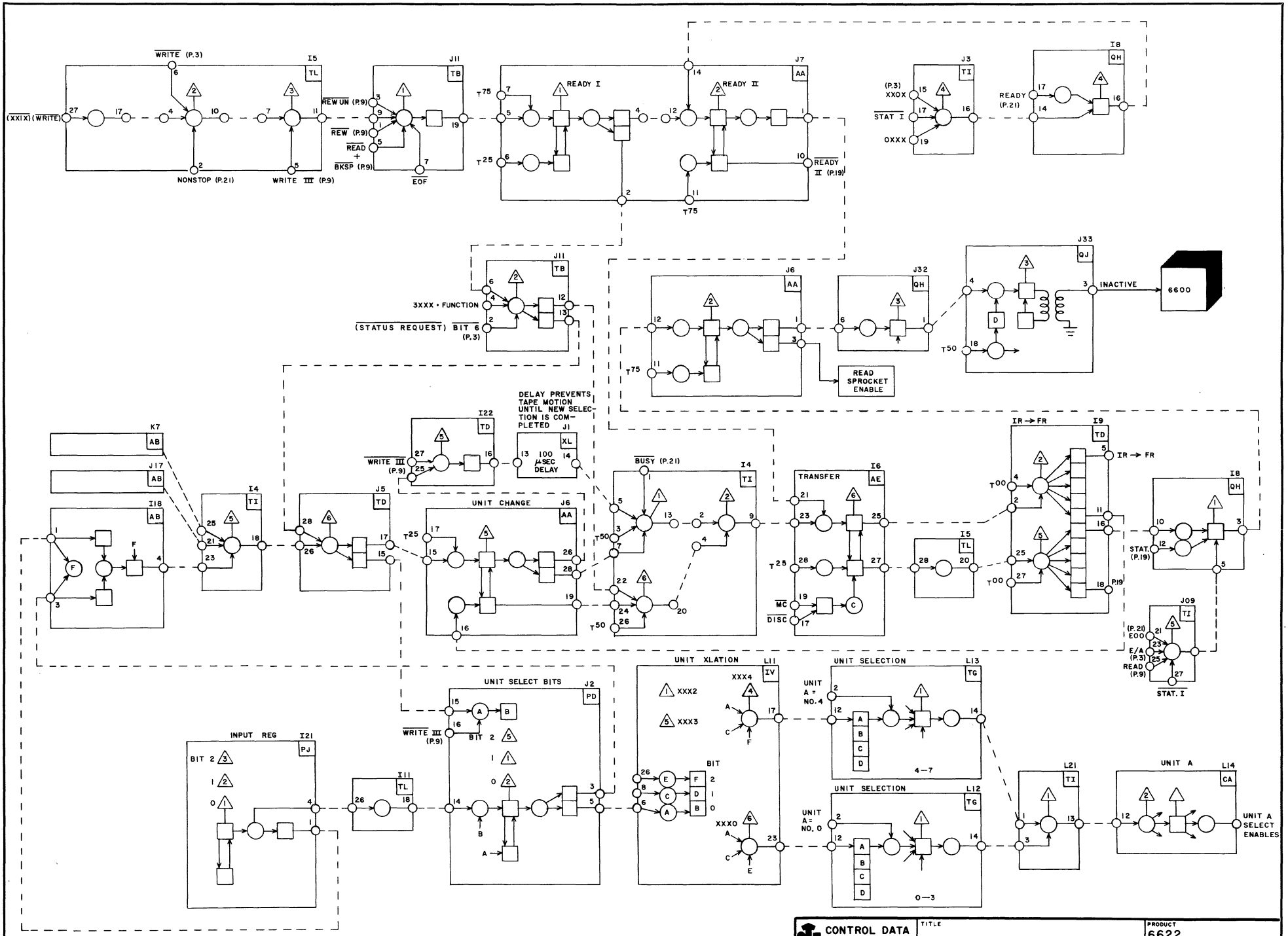
CONTENTS



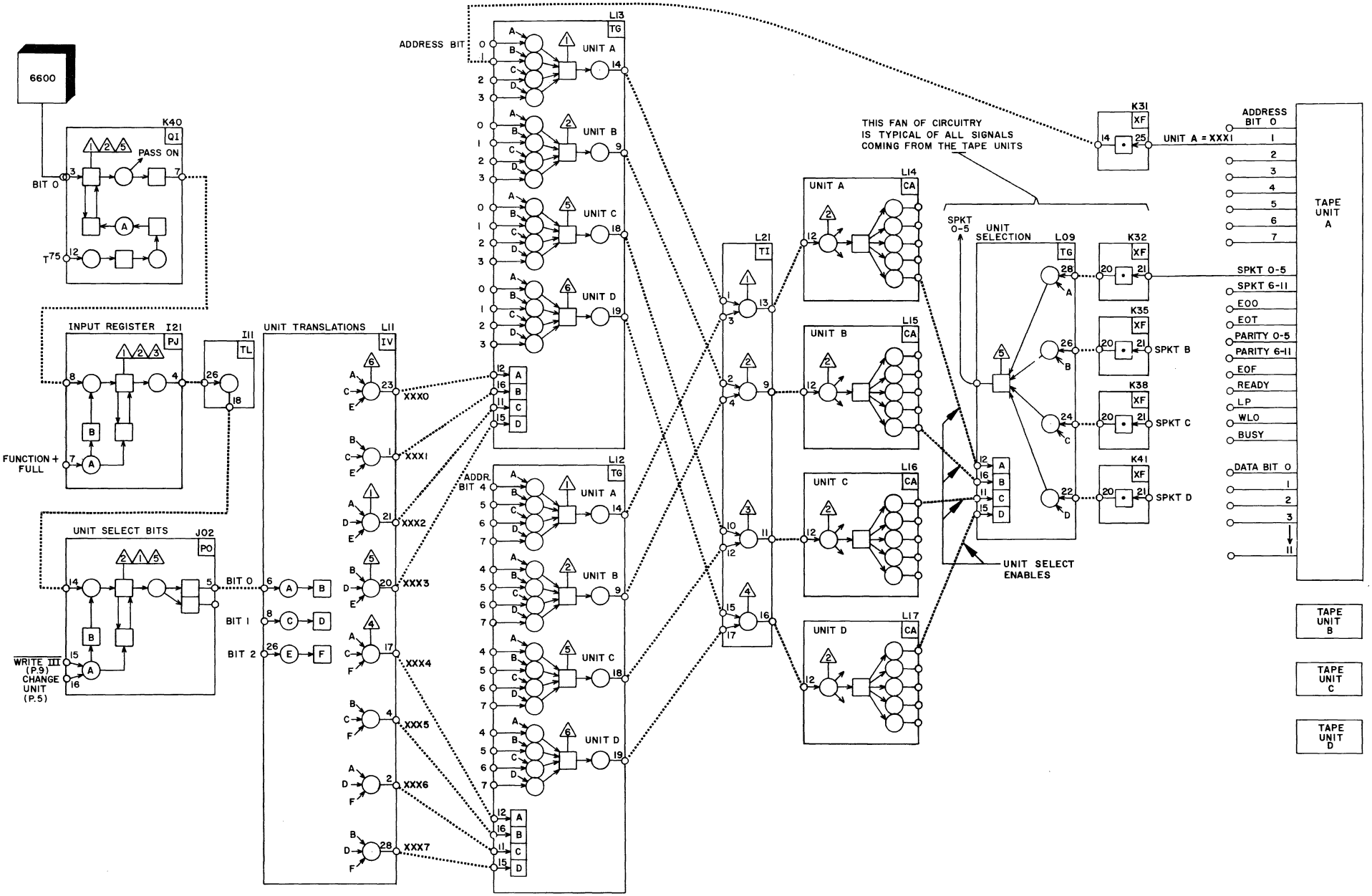
CONTROL DATA CORPORATION COMPUTER DIVISION	TITLE TAPE TRANSPORT CONTROLLER BLOCK DIAGRAM	PRODUCT 6622 SIZE C | DRAWING NO. 60125000 | REV C SHEET 16	



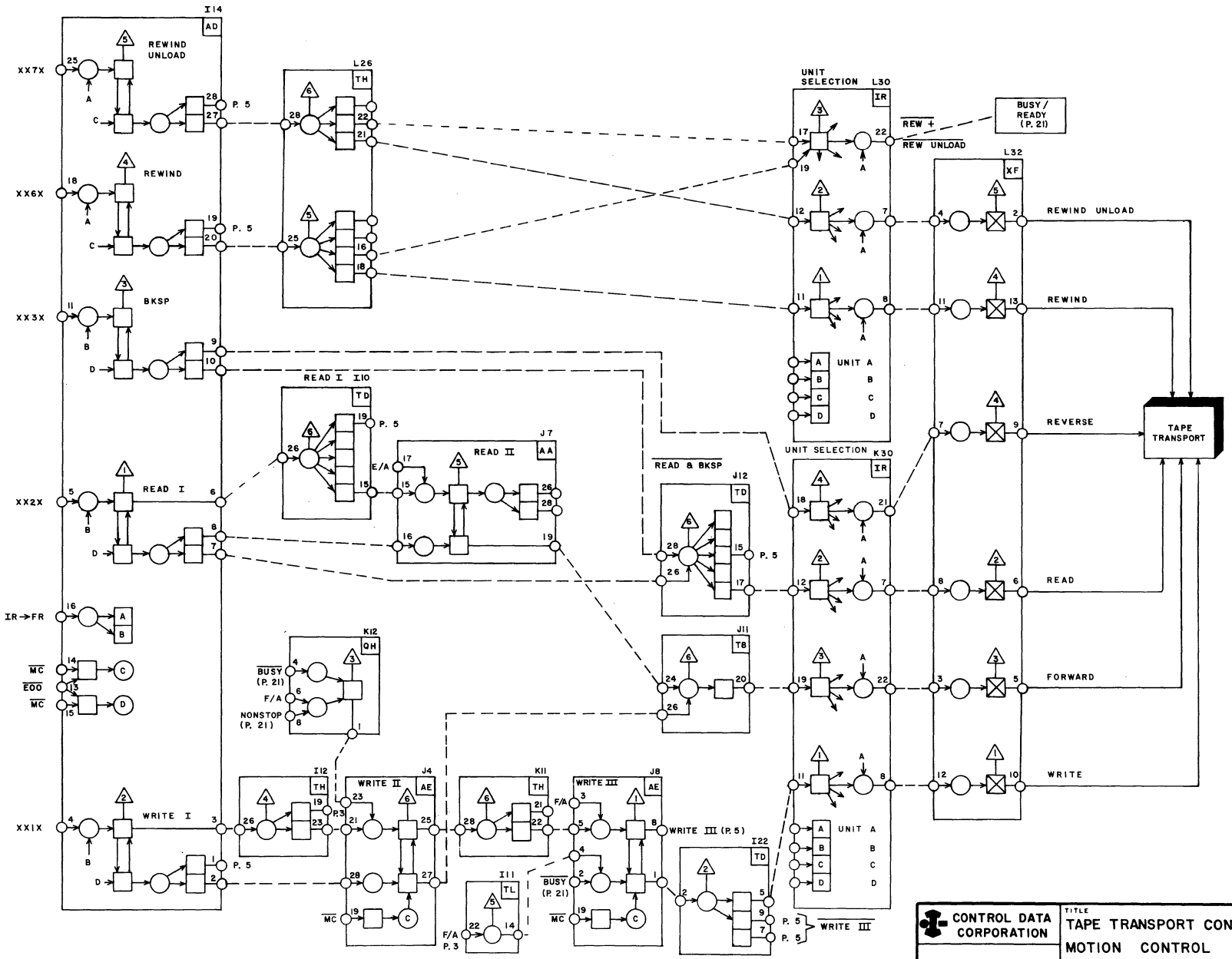
CONTROL DATA CORPORATION	TITLE	PRODUCT	
COMPUTER DIVISION	TAPE TRANSPORT CONTROLLER FUNCTION CIRCUITS I	6622	
		SIZE C	DRAWING NO. 60125000 REV C
		SHEET 17	3



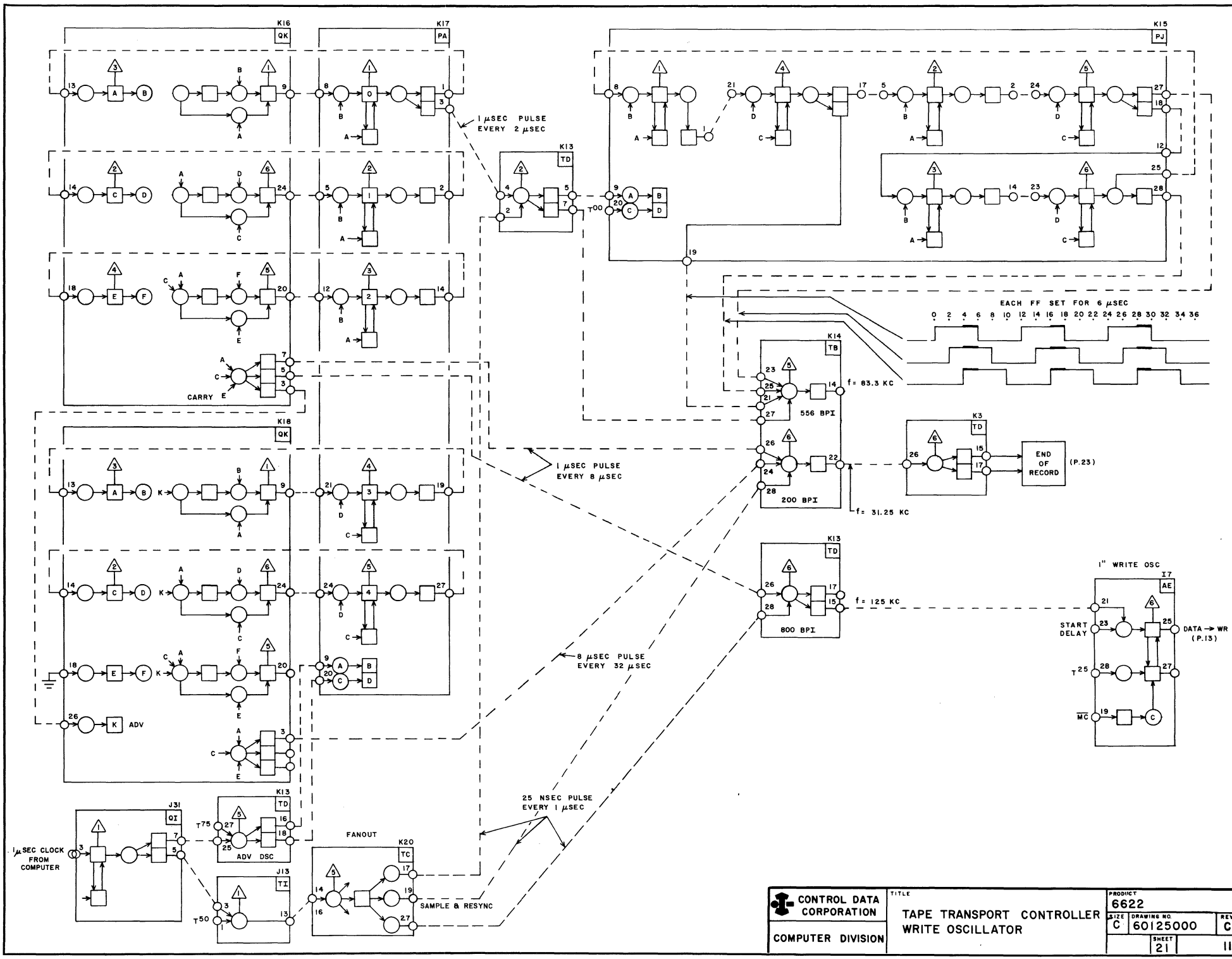
CONTROL DATA CORPORATION	TITLE: TAPE TRANSPORT CONTROLLER	PRODUCT: 6622	
COMPUTER DIVISION	FUNCTION CIRCUITS II	SIZE: C / DRAWING NO.: 60125000	REV: C
		SHEET: 18	5



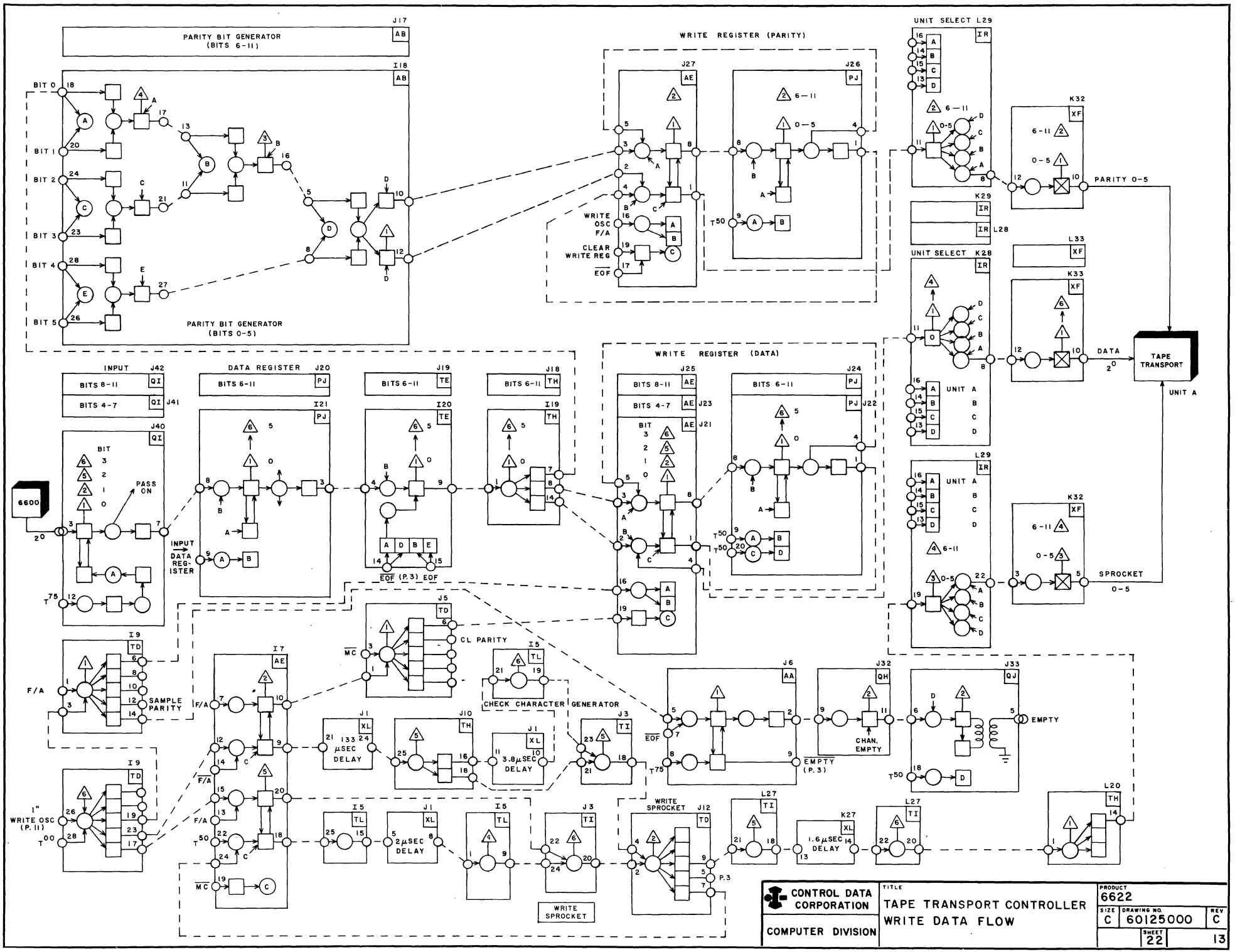
CONTROL DATA CORPORATION COMPUTER DIVISION	TITLE TAPE TRANSPORT CONTROLLER UNIT CONTROL	PRODUCT 6622 SIZE C · DRAWING NO. 60125000 · REV C SHEET 19 · 7	

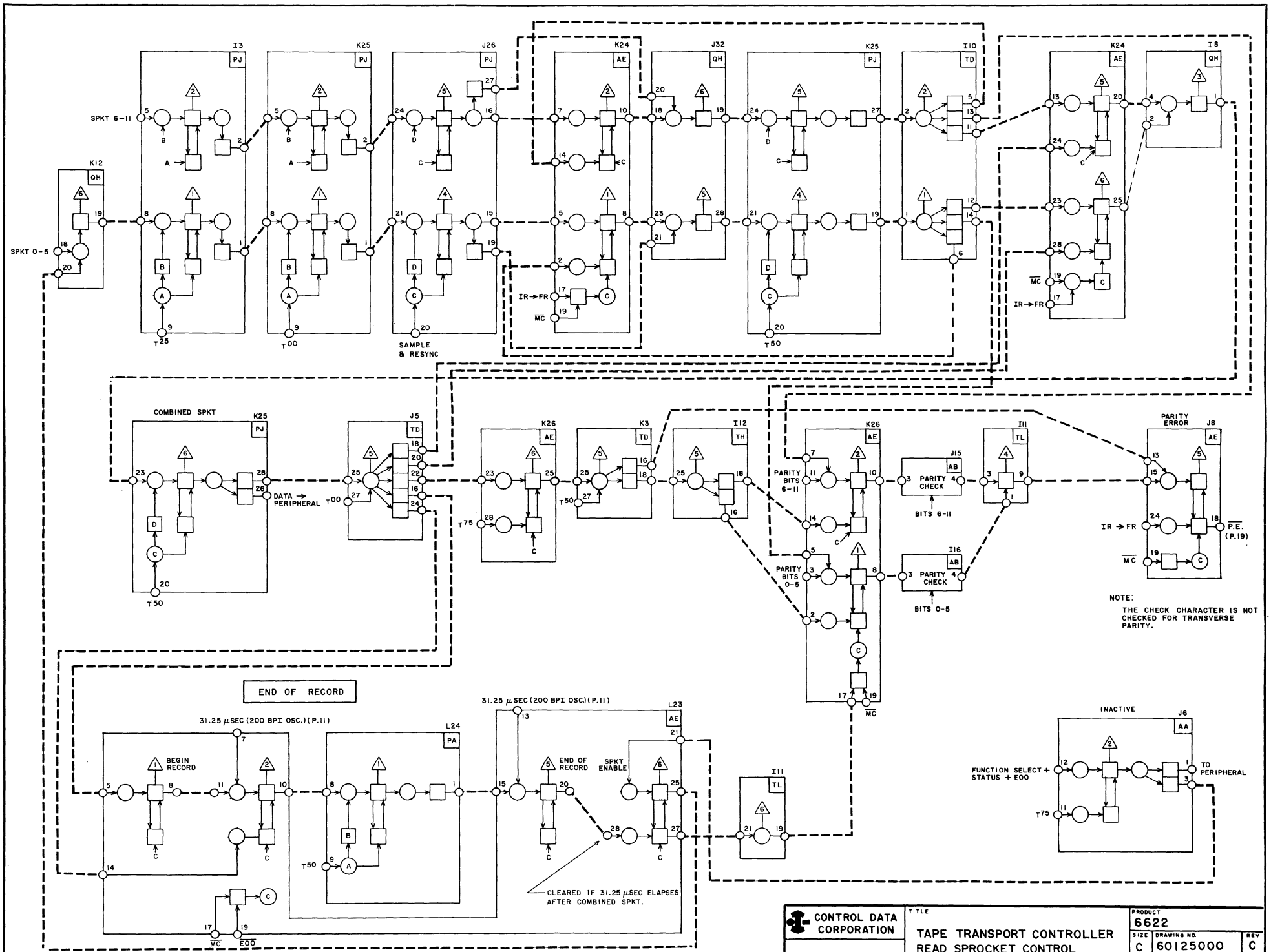


CONTROL DATA CORPORATION	TITLE: TAPE TRANSPORT CONTROLLER	PRODUCT: 6622	
COMPUTER DIVISION	MOTION CONTROL	SIZE: C · DRAWING NO.: 60125000 · REV: C	
		SHEET: 20	9

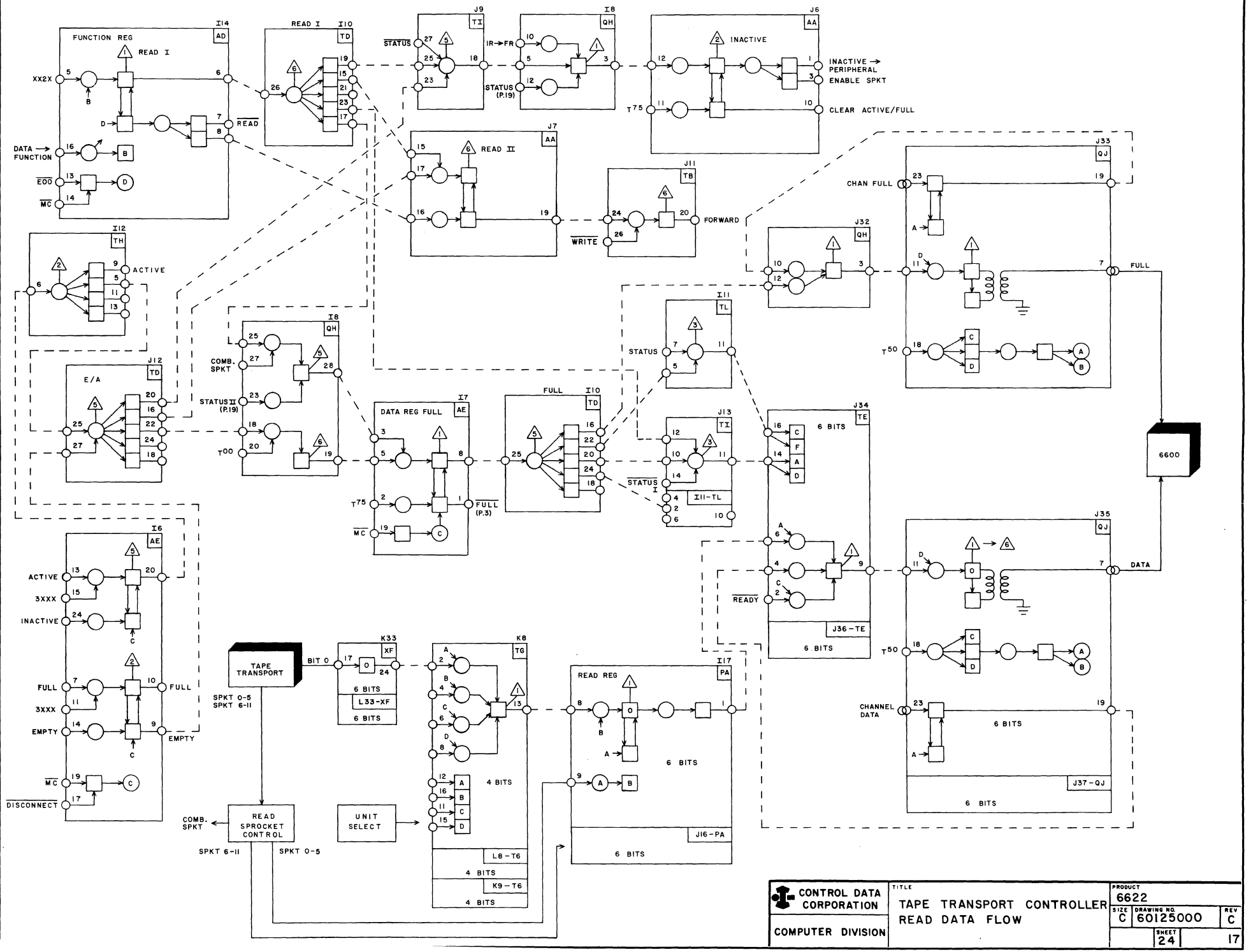


CONTROL DATA CORPORATION	TITLE: TAPE TRANSPORT CONTROLLER WRITE OSCILLATOR	PRODUCT: 6622	
COMPUTER DIVISION		SIZE: C · DRAWING NO.: 60125000 · REV: C	
		SHEET: 21	11


PARITY BIT GENERATOR (BITS 6-11)
PARITY BIT GENERATOR (BITS 0-5)
BIT 0
BIT 1
BIT 2
BIT 3
BIT 4
BIT 5
WRITE REGISTER (PARITY)
WRITE OSC F/A
CLEAR WRITE REG
EOF
UNIT SELECT L29
UNIT SELECT K28
K29 IR
IR L28
L33 XF
K32 XF
K33 XF
PARITY 0-5
DATA 2^0
SPROCKET 0-5
TAPE TRANSPORT
UNIT A
INPUT BITS 8-11
INPUT BITS 4-7
DATA REGISTER BITS 6-11
BITS 6-11
WRITE REGISTER (DATA)
BITS 8-11
BITS 4-7
BITS 6-11
6600
PASS ON
INPUT DATA REGISTER
EOF (P.3) EOF
CL PARITY
CHECK CHARACTER GENERATOR
F/A
SAMPLE PARITY
1" WRITE OSC (P.11)
133 μSEC DELAY
3.8μSEC DELAY
2μSEC DELAY
1.6μSEC DELAY
WRITE SPROCKET
CHAN. EMPTY
EMPTY
EMPTY (P.3)
P.3
CONTROL DATA CORPORATION
COMPUTER DIVISION
TITLE
TAPE TRANSPORT CONTROLLER
WRITE DATA FLOW
PRODUCT 6622
SIZE C
DRAWING NO. 60125000
REV C
SHEET 22
13



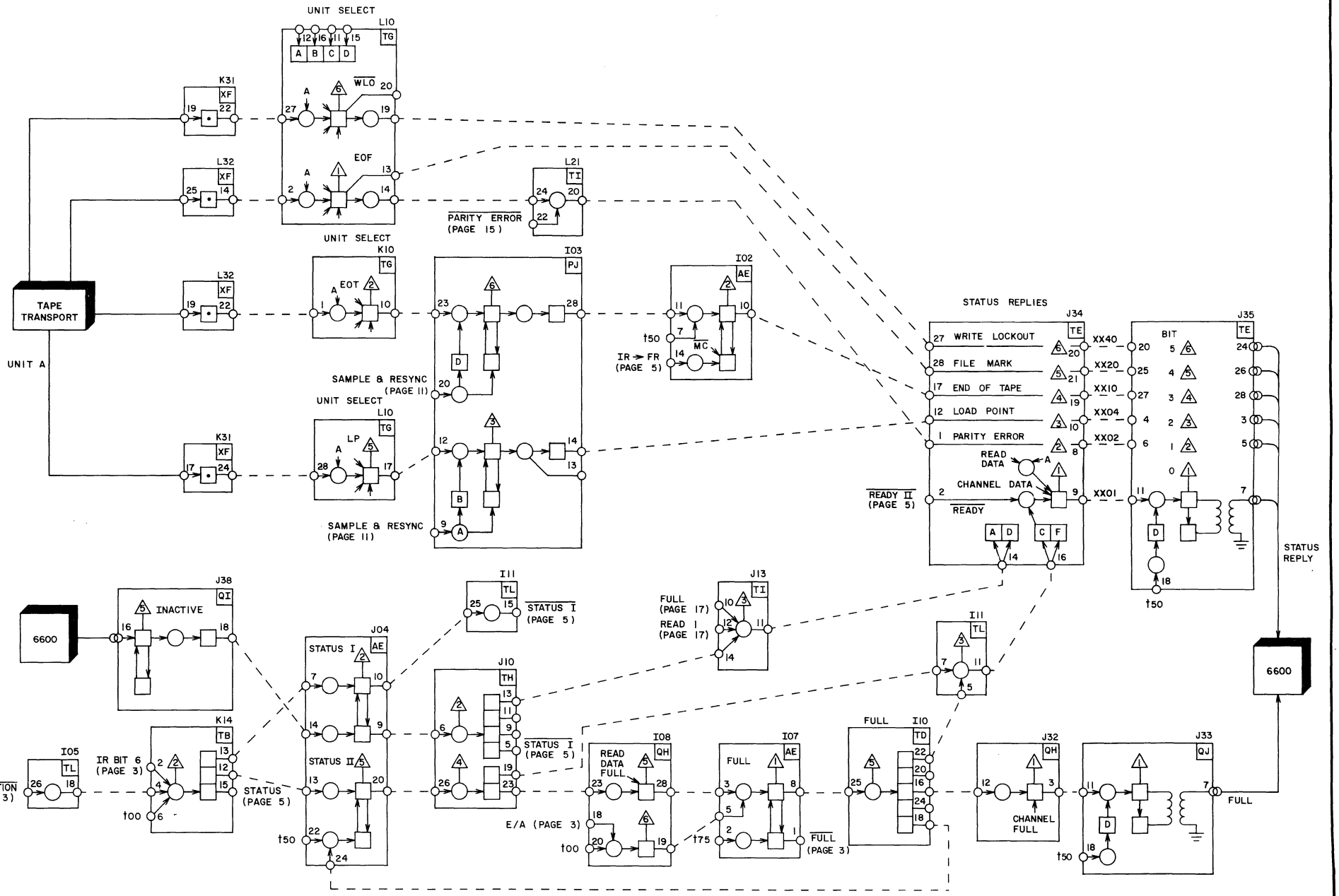
CONTROL DATA CORPORATION	TITLE	PRODUCT	
	TAPE TRANSPORT CONTROLLER	6622	
COMPUTER DIVISION	READ SPROCKET CONTROL	SIZE C / DRAWING NO. 60125000 / REV C	
	END OF RECORD	SHEET 23	15



CONTROL DATA CORPORATION
COMPUTER DIVISION

TITLE
TAPE TRANSPORT CONTROLLER
READ DATA FLOW

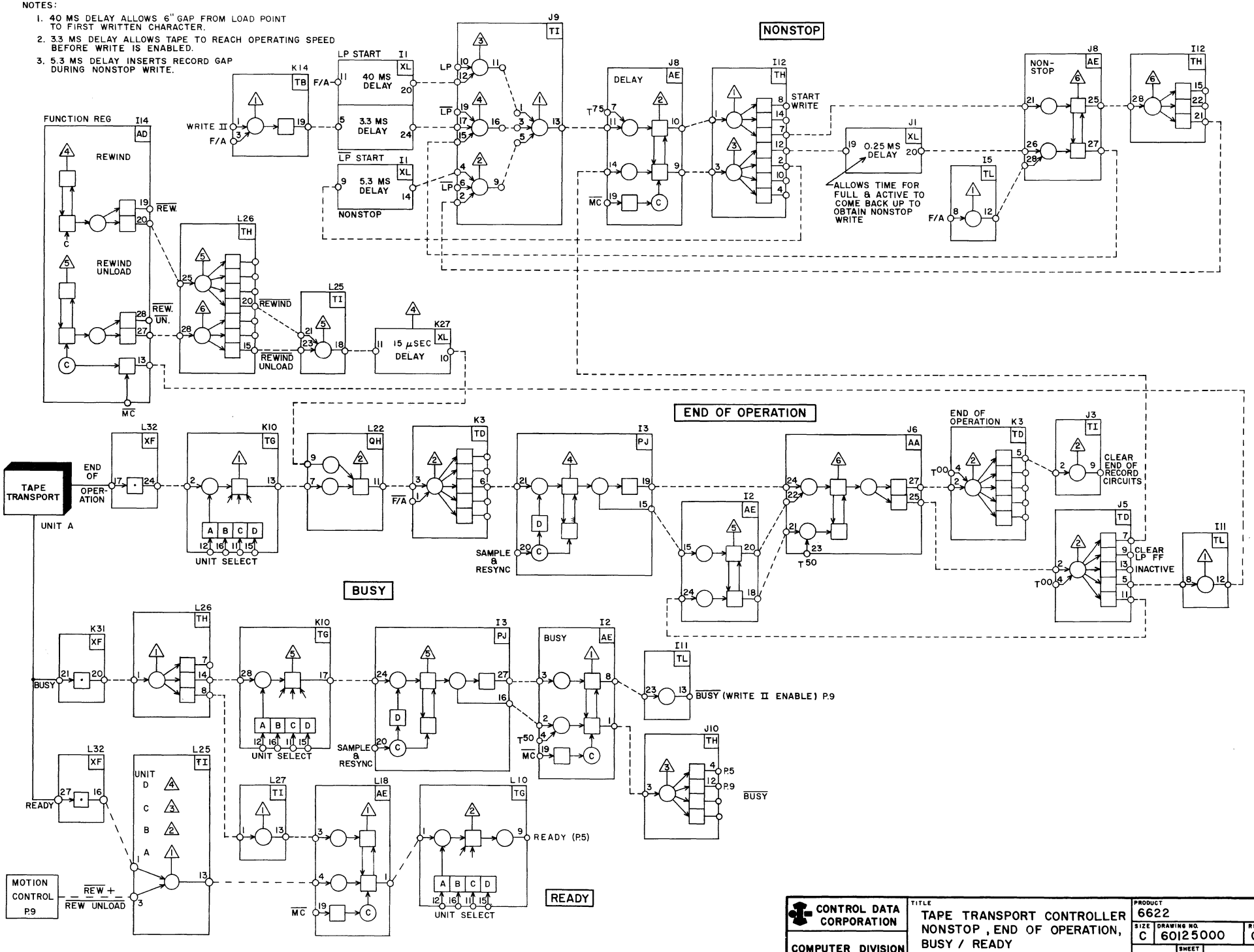
PRODUCT 6622
SIZE C | DRAWING NO. 60125000 | REV C
SHEET 24 | 17



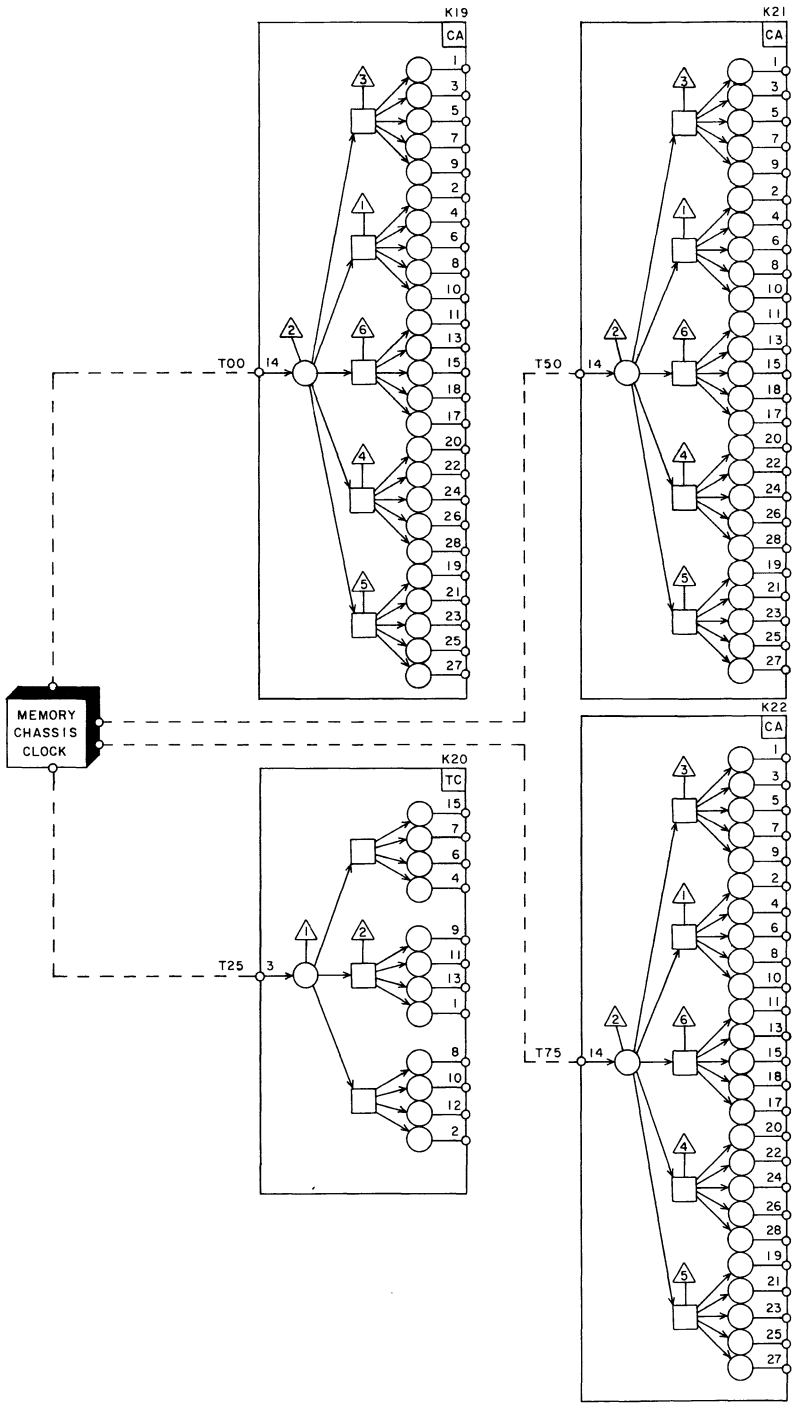
CONTROL DATA CORPORATION	TITLE: TAPE TRANSPORT CONTROLLER STATUS CIRCUITS	PRODUCT: 6622	
COMPUTER DIVISION		SIZE: C	DRAWING NO.: 60125000 REV: C
		SHEET: 25	PAGE: 19

NOTES:

1. 40 MS DELAY ALLOWS 6" GAP FROM LOAD POINT TO FIRST WRITTEN CHARACTER.
2. 3.3 MS DELAY ALLOWS TAPE TO REACH OPERATING SPEED BEFORE WRITE IS ENABLED.
3. 5.3 MS DELAY INSERTS RECORD GAP DURING NONSTOP WRITE.



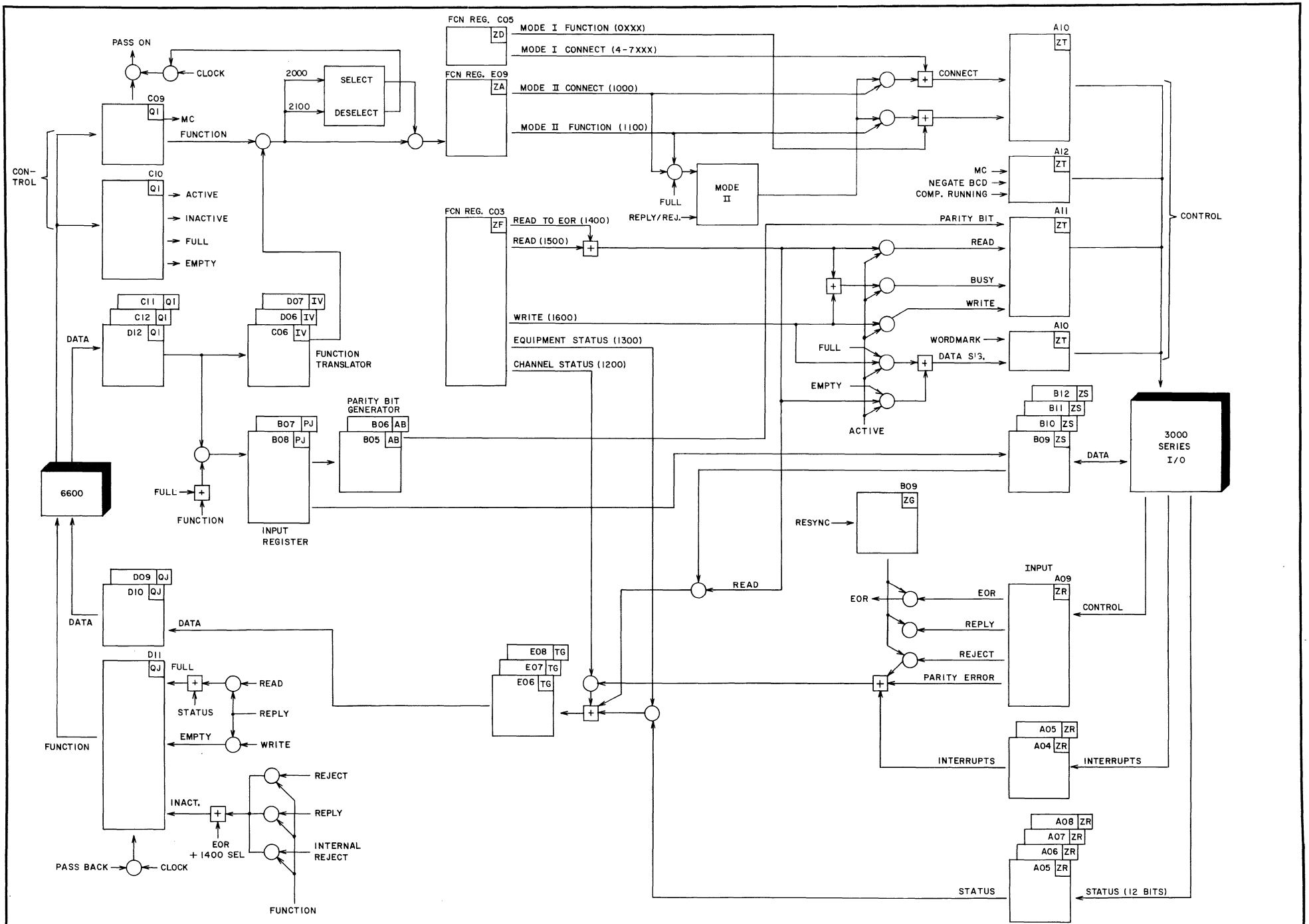
CONTROL DATA CORPORATION	TITLE: TAPE TRANSPORT CONTROLLER NONSTOP, END OF OPERATION, BUSY / READY	PRODUCT: 6622	
COMPUTER DIVISION		SIZE: C	DRAWING NO.: 60125000 REV: C
		SHEET: 26	21



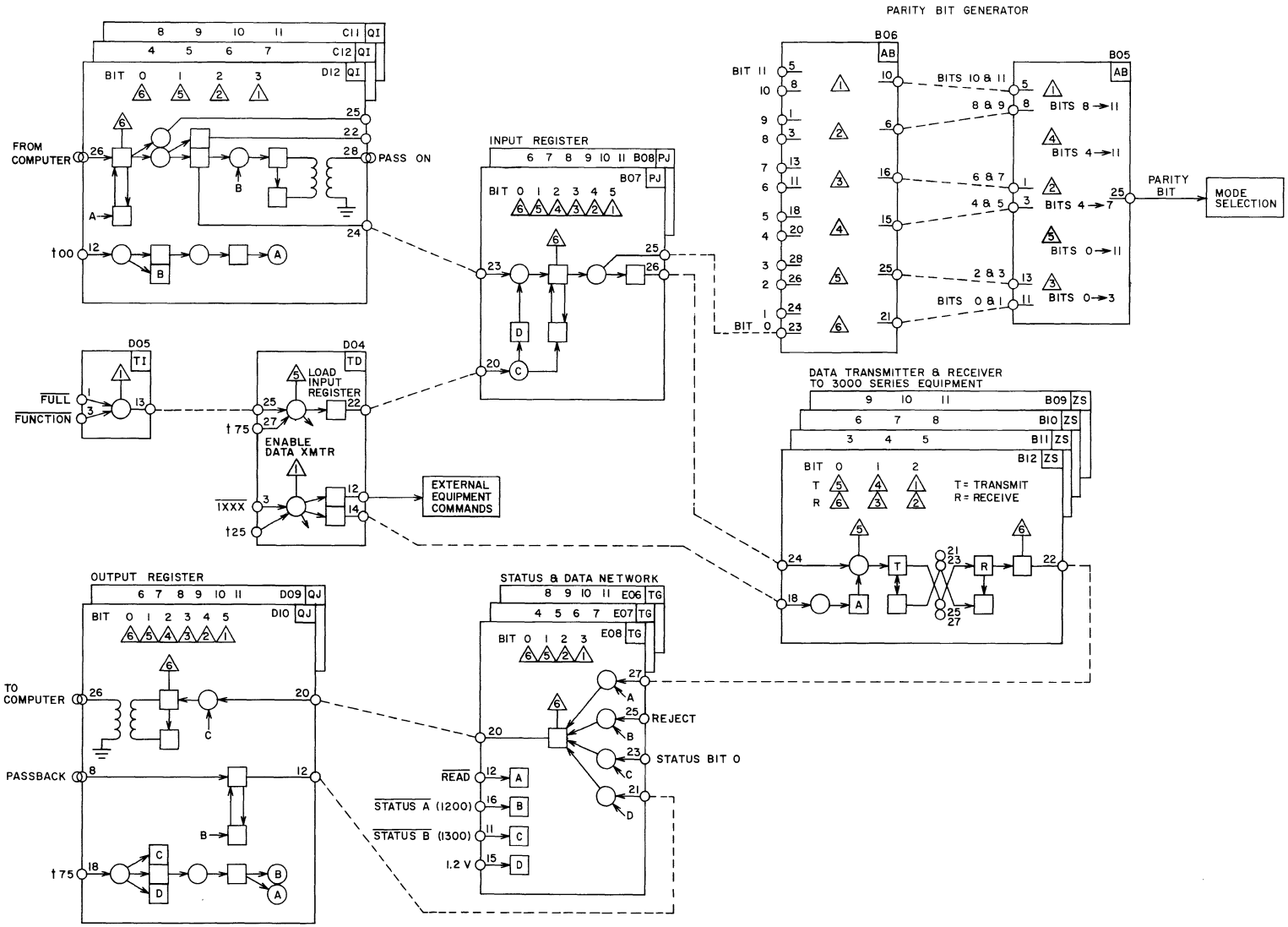
CONTROL DATA CORPORATION	TITLE: TAPE TRANSPORT CONTROLLER	PRODUCT: 6622	
COMPUTER DIVISION	CLOCK	SIZE: C · DRAWING NO.: 60125000 · REV:	
		SHEET: 27	23

6681 DATA CHANNEL CONVERTER

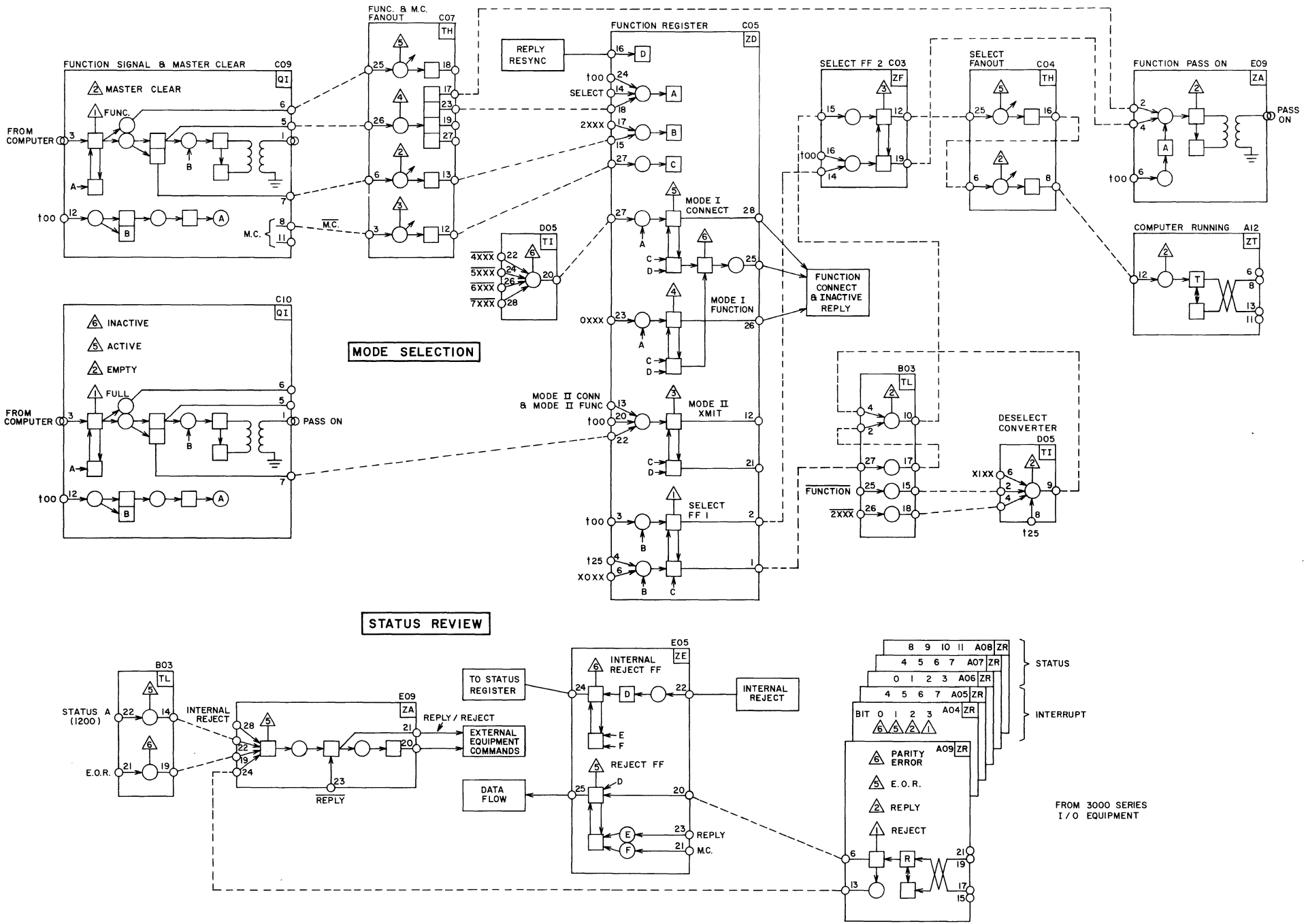
CONTENTS



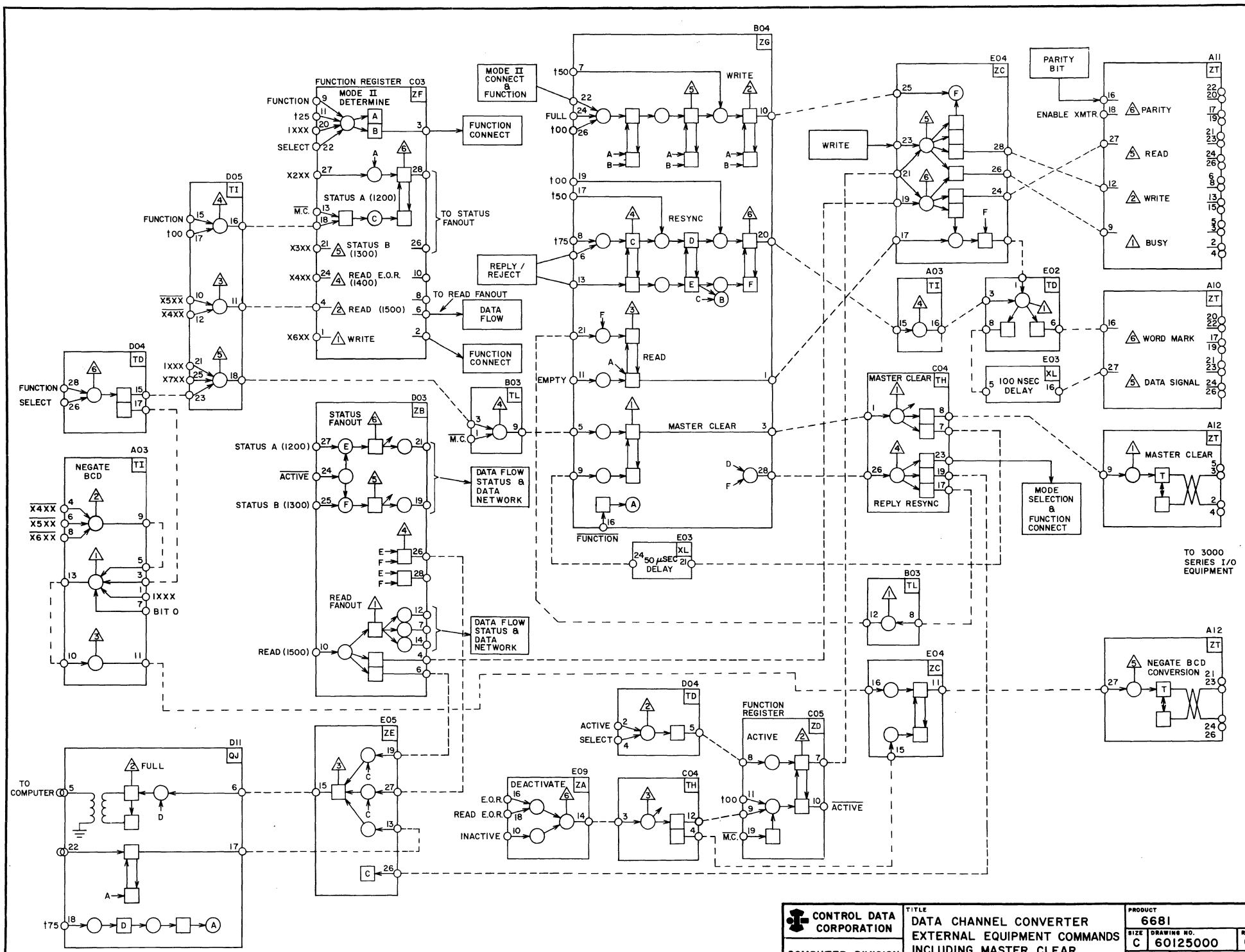
CONTROL DATA CORPORATION COMPUTER DIVISION	TITLE DATA CHANNEL CONVERTER BLOCK DIAGRAM	PRODUCT 6681 SIZE C · DRAWING NO. 60125000 · REV C SHEET 77 · PAGE 1	



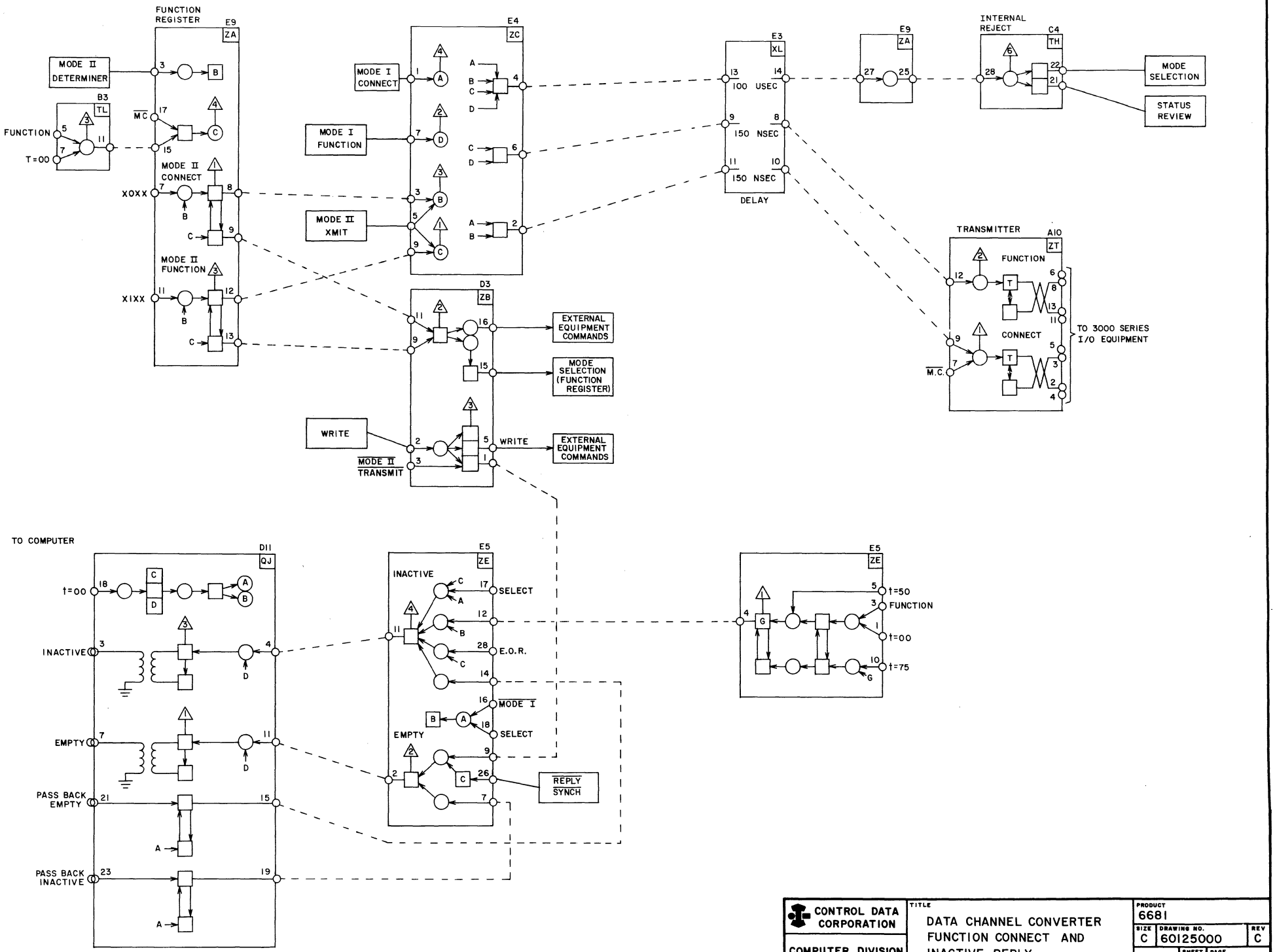
CONTROL DATA CORPORATION COMPUTER DIVISION	TITLE DATA CHANNEL CONVERTER DATA FLOW	PRODUCT 6681 SIZE C · DRAWING NO. 60125000 · REV C SHEET 78 · PAGE 3	



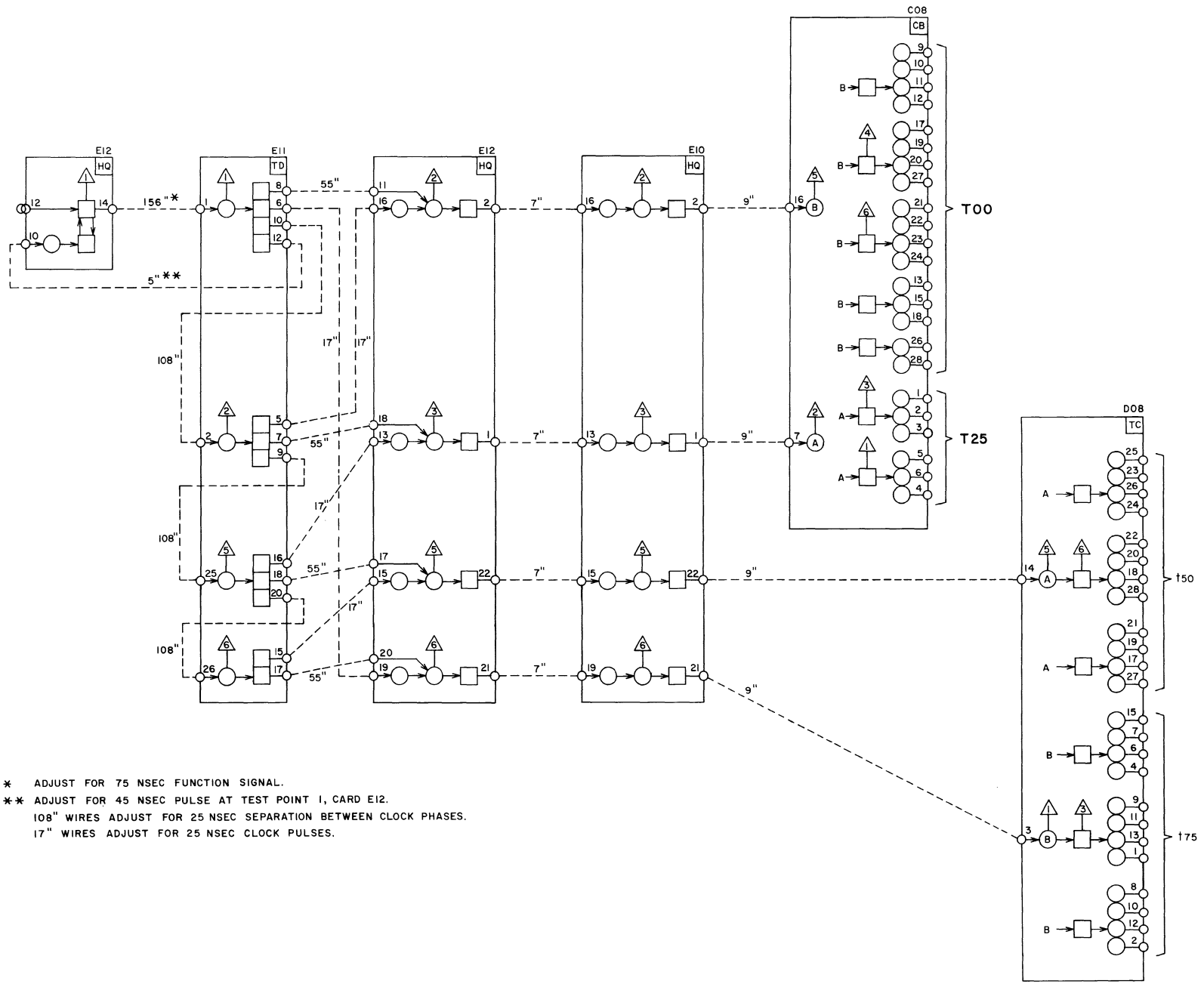
CONTROL DATA CORPORATION COMPUTER DIVISION	TITLE DATA CHANNEL CONVERTER MODE SELECTION STATUS REVIEW	PRODUCT 6681 SIZE C · DRAWING NO. 60125000 · REV C SHEET 79 · PAGE 5	



CONTROL DATA CORPORATION COMPUTER DIVISION	TITLE DATA CHANNEL CONVERTER EXTERNAL EQUIPMENT COMMANDS INCLUDING MASTER CLEAR	PRODUCT 6681 SIZE C · DRAWING NO. 60125000 · REV C SHEET 80 · PAGE 7	



CONTROL DATA CORPORATION	TITLE: DATA CHANNEL CONVERTER FUNCTION CONNECT AND INACTIVE REPLY	PRODUCT 6681	
COMPUTER DIVISION		SIZE C	DRAWING NO. 60125000 REV C
			SHEET 81 PAGE 9



* ADJUST FOR 75 NSEC FUNCTION SIGNAL.

** ADJUST FOR 45 NSEC PULSE AT TEST POINT 1, CARD E12.

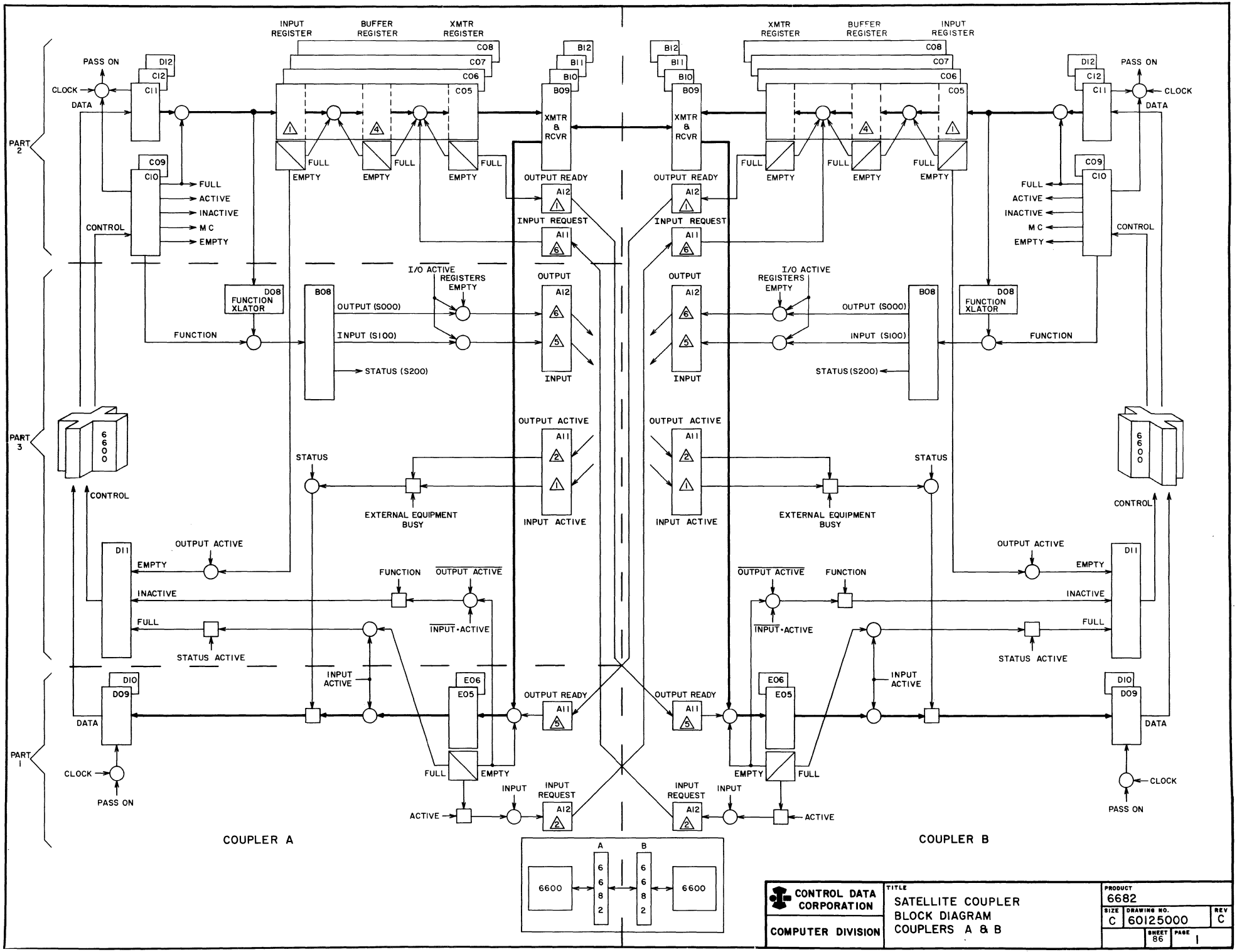
108" WIRES ADJUST FOR 25 NSEC SEPARATION BETWEEN CLOCK PHASES.

17" WIRES ADJUST FOR 25 NSEC CLOCK PULSES.

CONTROL DATA CORPORATION	TITLE: DATA CHANNEL CONVERTER CLOCK	PRODUCT: 6681	
COMPUTER DIVISION		SIZE: C	DRAWING NO.: 60125000 REV: C
			SHEET: 82 PAGE: 11

6682 SATELLITE COUPLER

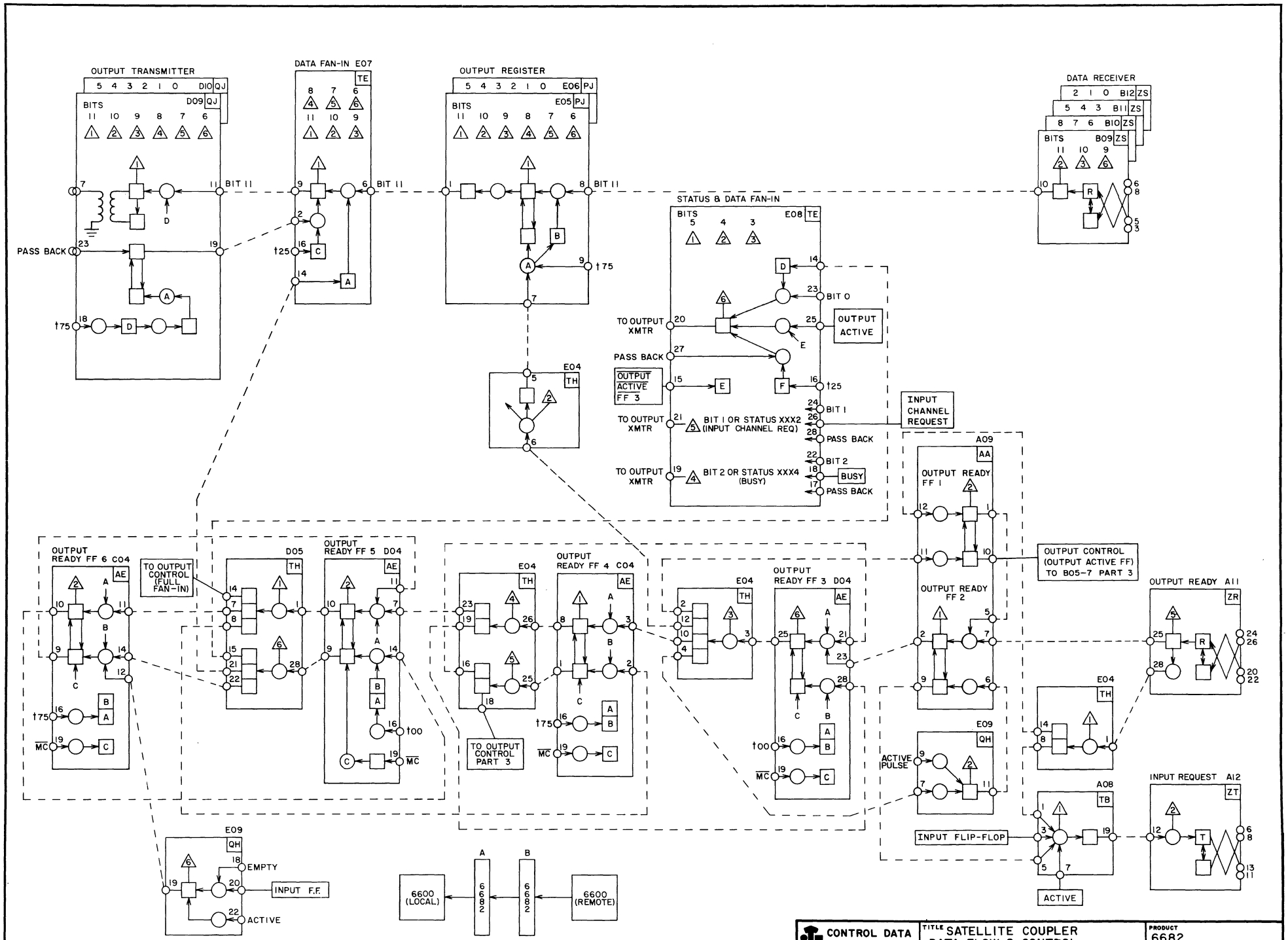
CONTENTS



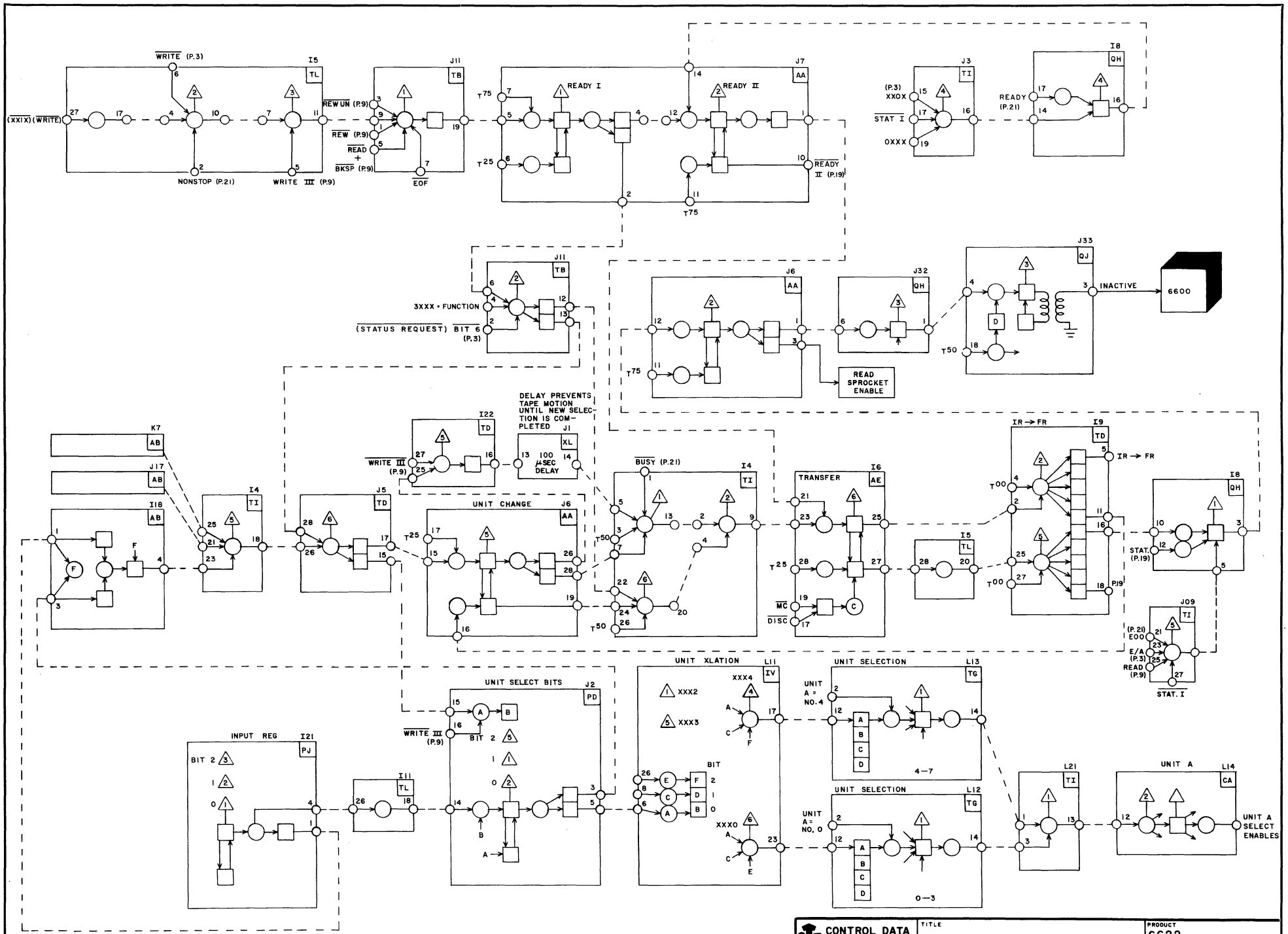
CONTROL DATA CORPORATION
COMPUTER DIVISION

TITLE
SATELLITE COUPLER
BLOCK DIAGRAM
COUPLERS A & B

PRODUCT 6682
SIZE C | DRAWING NO. 60125000 | REV C
SHEET 86 | PAGE 1



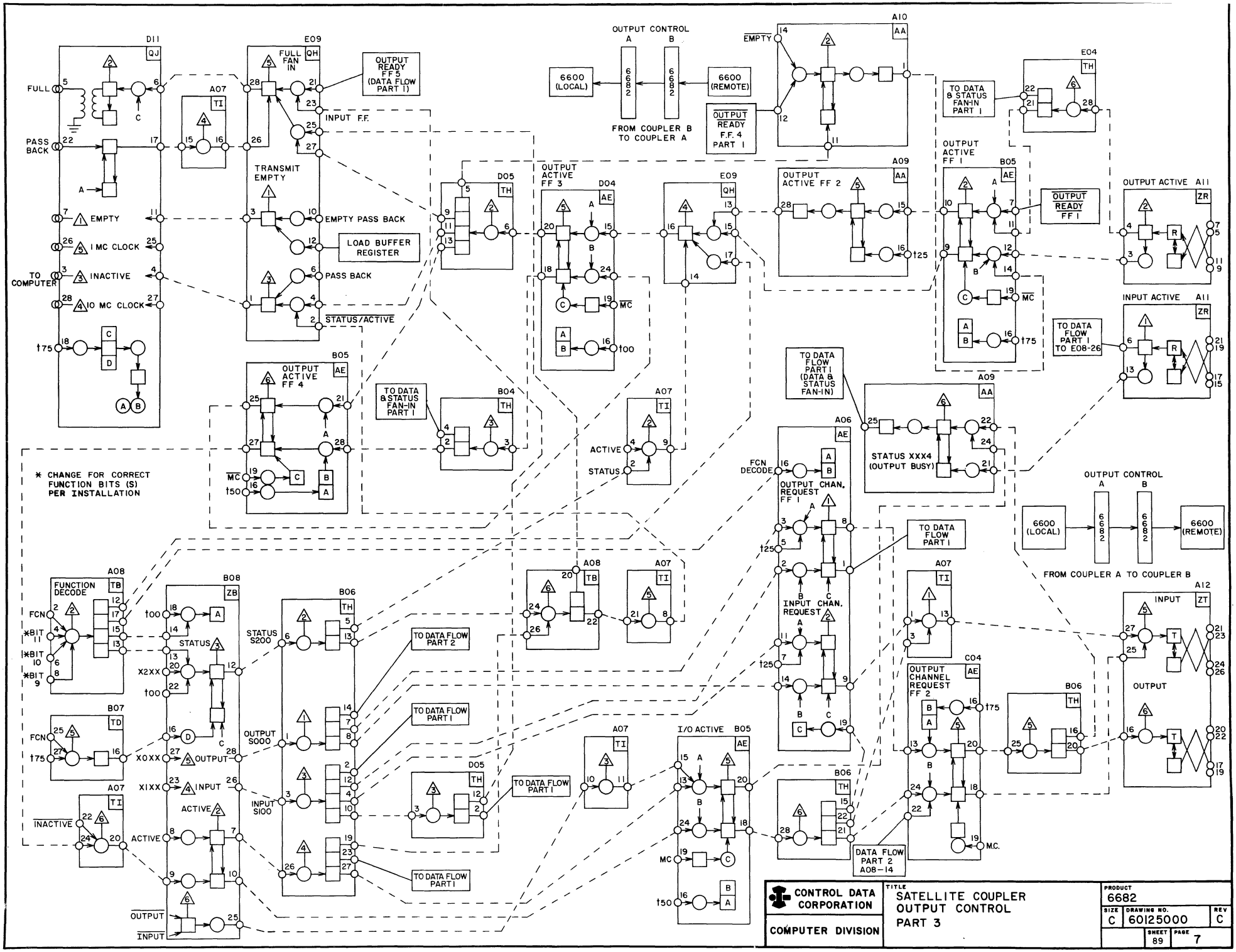
CONTROL DATA CORPORATION COMPUTER DIVISION	TITLE SATELLITE COUPLER DATA FLOW & CONTROL COUPLER A INPUT PART 1	PRODUCT 6682 SIZE C · DRAWING NO. 60125000 · REV C SHEET 87 · PAGE 3	

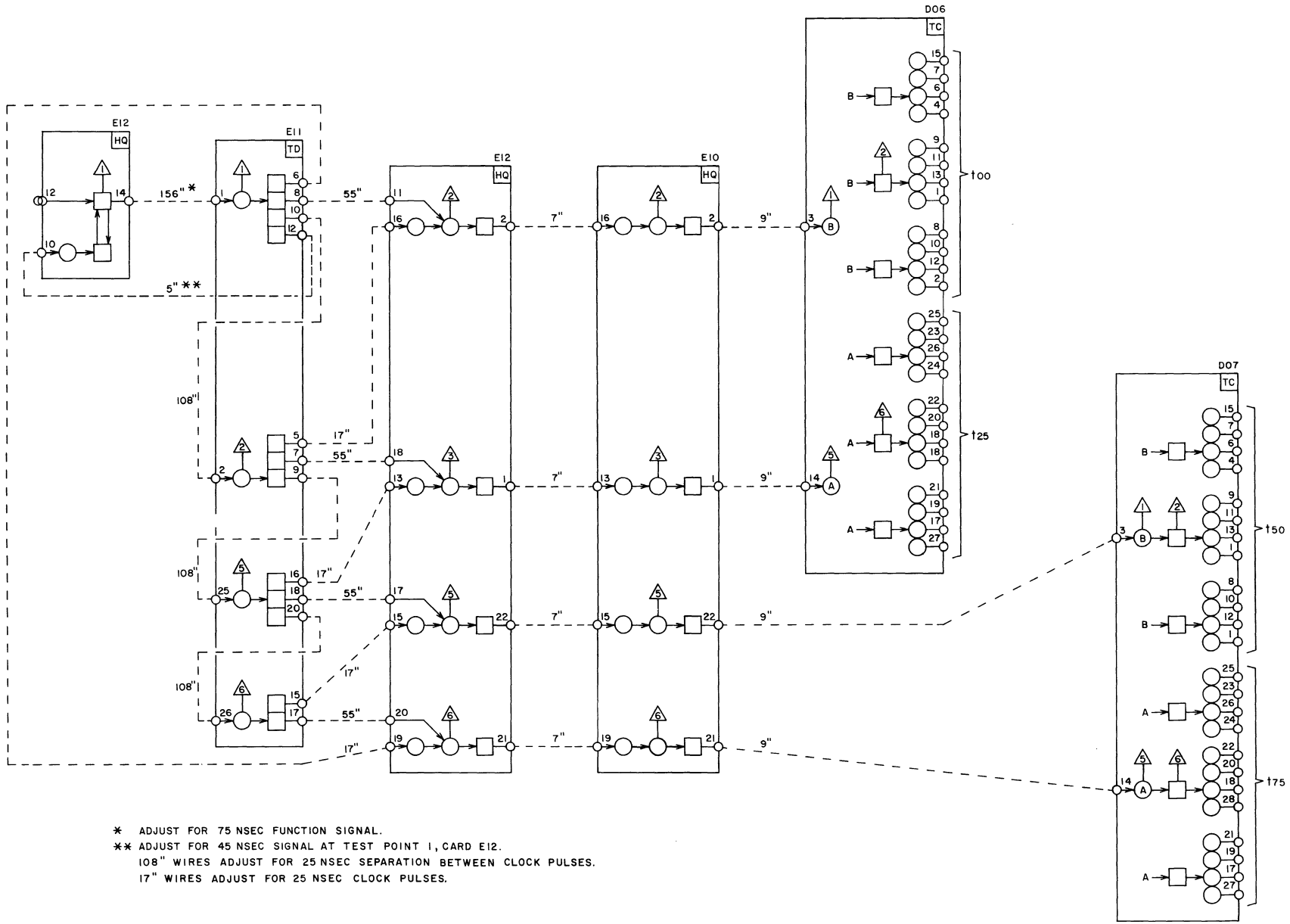


CONTROL DATA CORPORATION
COMPUTER DIVISION

TITLE
TAPE TRANSPORT CONTROLLER
FUNCTION CIRCUITS II

PRODUCT 6622
SIZE C | DRAWING NO. 60125000 | REV C
SHEET 18 | 5


D11
QJ
FULL
PASS BACK
EMPTY
I MC CLOCK
INACTIVE
10 MC CLOCK
TO COMPUTER
E09
FULL FAN IN
OUTPUT READY FF 5 (DATA FLOW PART 1)
INPUT F.F.
TRANSMIT EMPTY
EMPTY PASS BACK
LOAD BUFFER REGISTER
PASS BACK
STATUS/ACTIVE
A07
B05
OUTPUT ACTIVE FF 4
B04
TO DATA & STATUS FAN-IN PART 1
D05
OUTPUT ACTIVE FF 3
D04
OUTPUT CONTROL
6600 (LOCAL)
6682
6600 (REMOTE)
FROM COUPLER B TO COUPLER A
A10
EMPTY
OUTPUT READY F.F. 4 PART 1
A09
OUTPUT ACTIVE FF 2
E04
TO DATA & STATUS FAN-IN PART 1
OUTPUT ACTIVE FF 1
OUTPUT READY FF 1
OUTPUT ACTIVE A11
INPUT ACTIVE A11
TO DATA FLOW PART 1 TO E08-26
TO DATA FLOW PART 1 (DATA & STATUS FAN-IN)
STATUS XXX4 (OUTPUT BUSY)
A06
FCN DECODE
OUTPUT CHAN. REQUEST FF 1
INPUT CHAN. REQUEST
C04
OUTPUT CHANNEL REQUEST FF 2
FROM COUPLER A TO COUPLER B
A12
INPUT
OUTPUT
* CHANGE FOR CORRECT FUNCTION BITS (S) PER INSTALLATION
A08
FUNCTION DECODE
TB
B08
ZB
B07
TD
B06
TH
STATUS S200
OUTPUT S000
INPUT S100
X2XX
X0XX
X1XX
STATUS
OUTPUT
INPUT
ACTIVE
INACTIVE
TO DATA FLOW PART 2
TO DATA FLOW PART 1
I/O ACTIVE B05
DATA FLOW PART 2 A08-14
CONTROL DATA CORPORATION
COMPUTER DIVISION
SATELLITE COUPLER OUTPUT CONTROL PART 3
PRODUCT 6682
SIZE C
DRAWING NO. 60125000
REV C
SHEET 89
PAGE 7



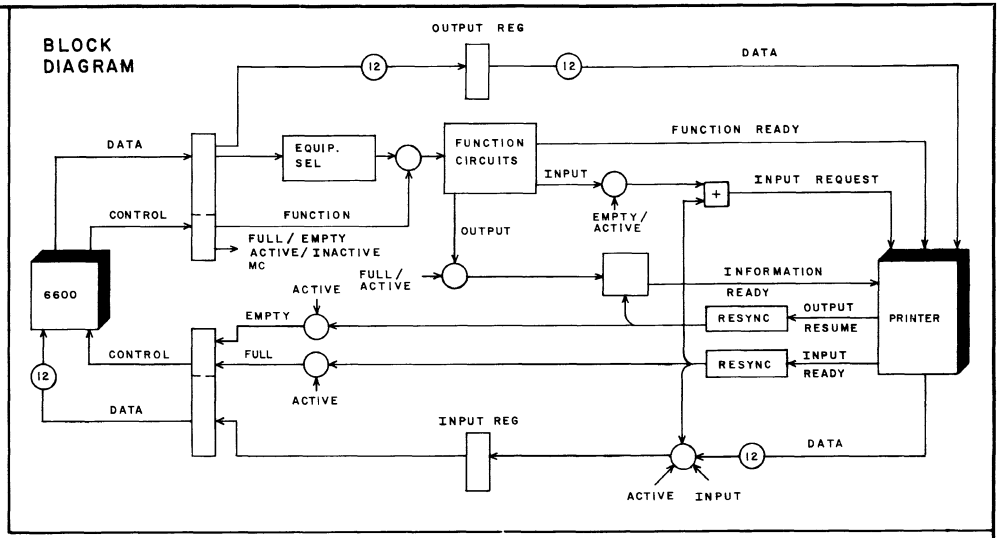
* ADJUST FOR 75 NSEC FUNCTION SIGNAL.

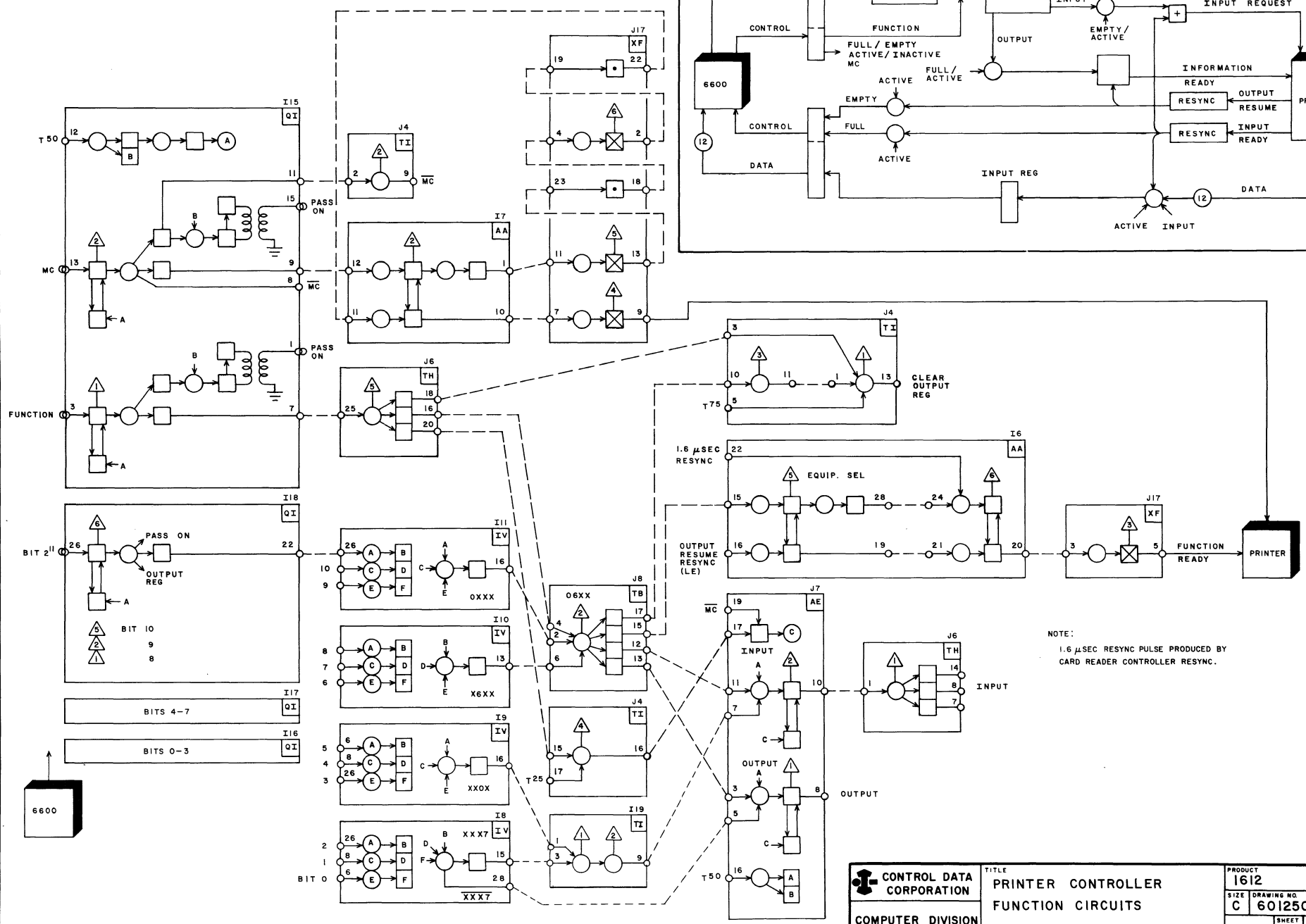
** ADJUST FOR 45 NSEC SIGNAL AT TEST POINT 1, CARD E12.
108" WIRES ADJUST FOR 25 NSEC SEPARATION BETWEEN CLOCK PULSES.
17" WIRES ADJUST FOR 25 NSEC CLOCK PULSES.

CONTROL DATA CORPORATION COMPUTER DIVISION	TITLE SATELLITE COUPLER CLOCK	PRODUCT 6682 SIZE C · DRAWING NO. 60125000 · REV C SHEET 90 · PAGE 9	

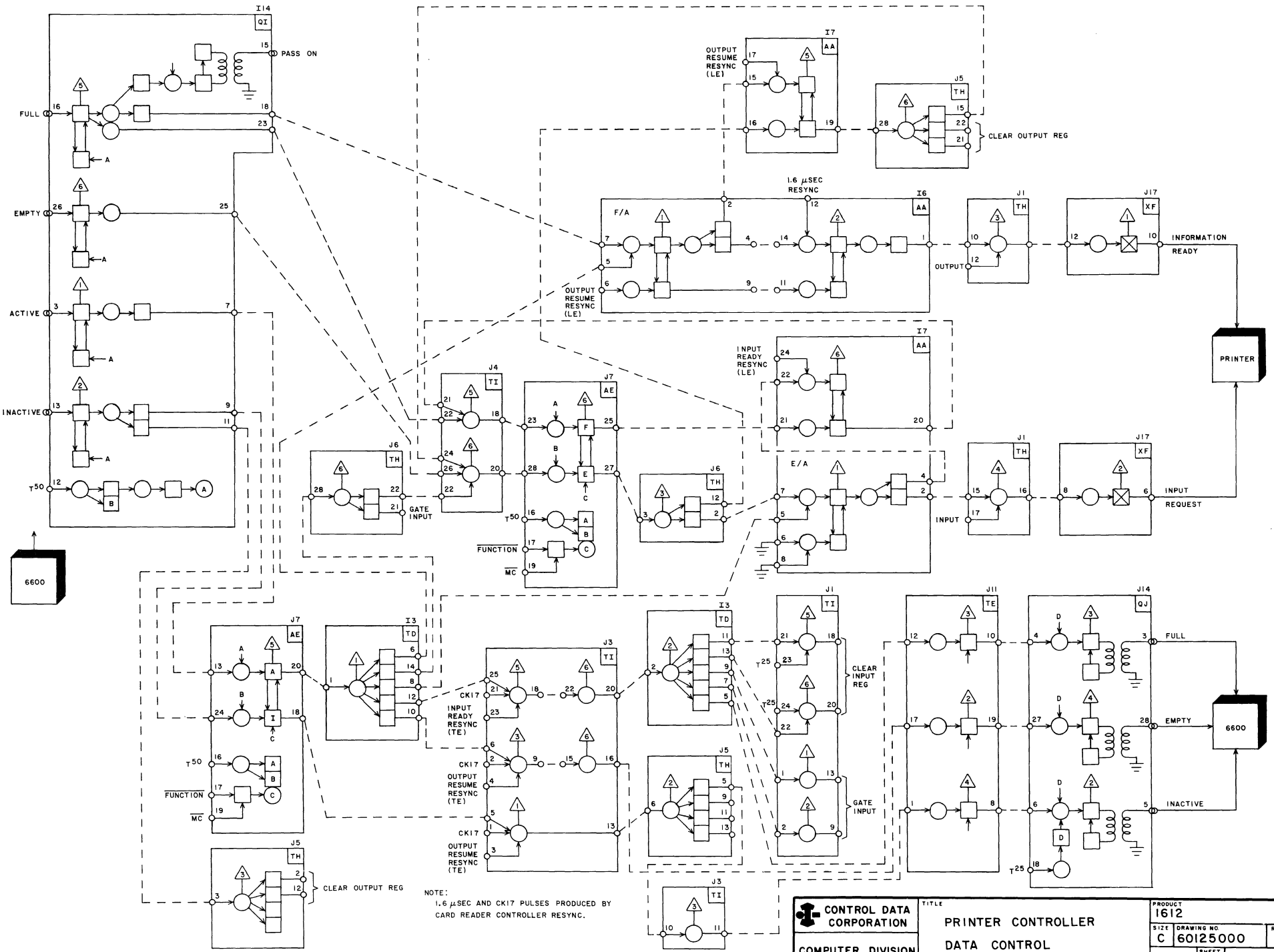
S.O. 60022 6000 SERIES DATA CHANNEL CONVERTER (1612 PRINTER)

CONTENTS





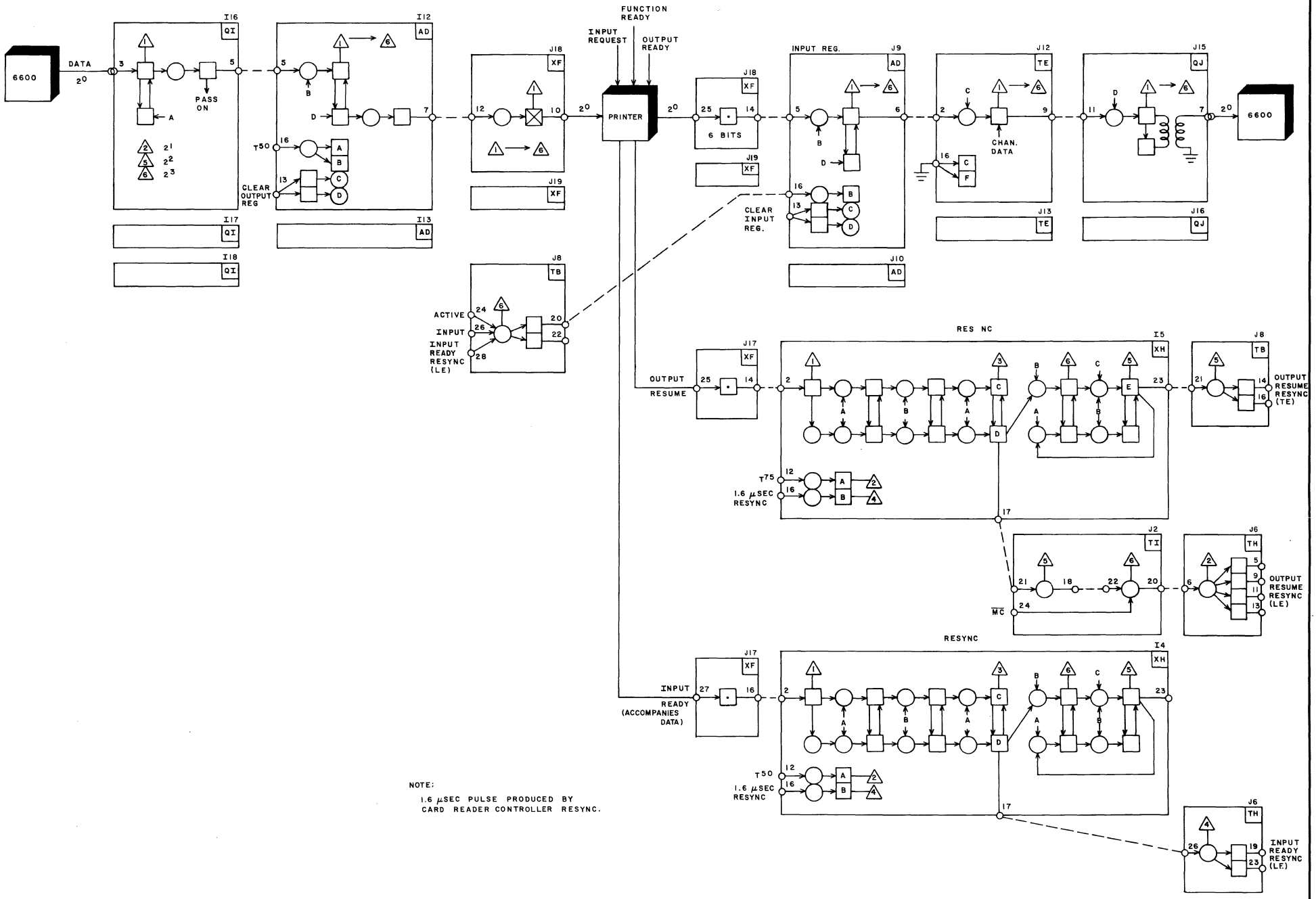
CONTROL DATA CORPORATION COMPUTER DIVISION	TITLE PRINTER CONTROLLER FUNCTION CIRCUITS	PRODUCT 1612	
		SIZE C	DRAWING NO. 60125000
		REV B	
		SHEET 67	1



CONTROL DATA CORPORATION
COMPUTER DIVISION

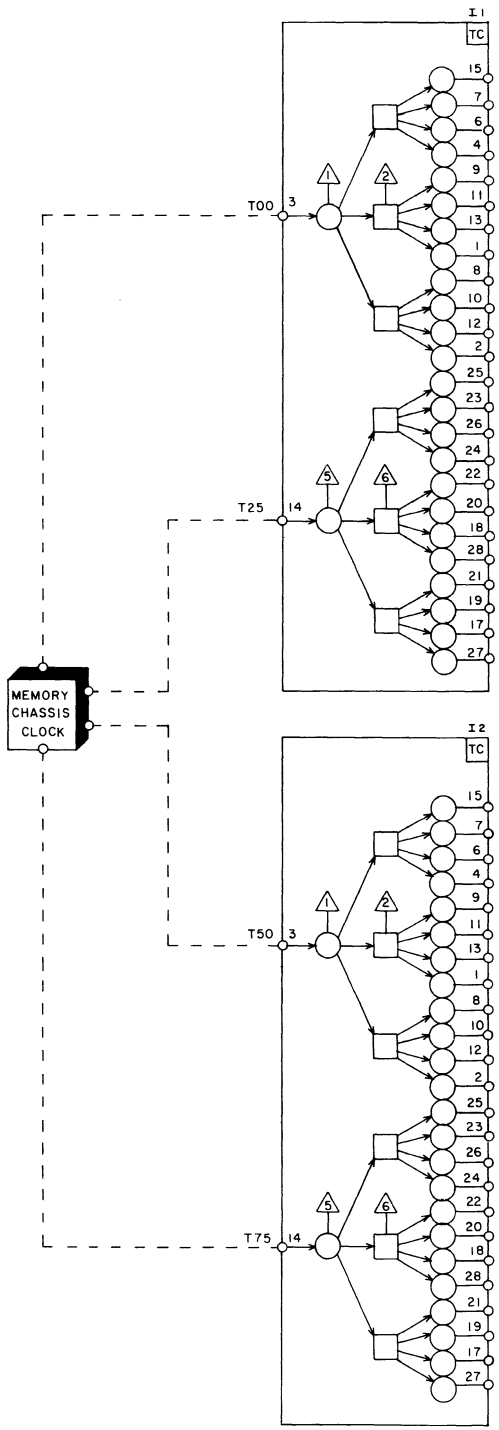
TITLE
PRINTER CONTROLLER
DATA CONTROL

PRODUCT 1612
SIZE C
DRAWING NO. 60125000
REV
SHEET 68
3



NOTE:
1.6 μSEC PULSE PRODUCED BY CARD READER CONTROLLER RESYNC.

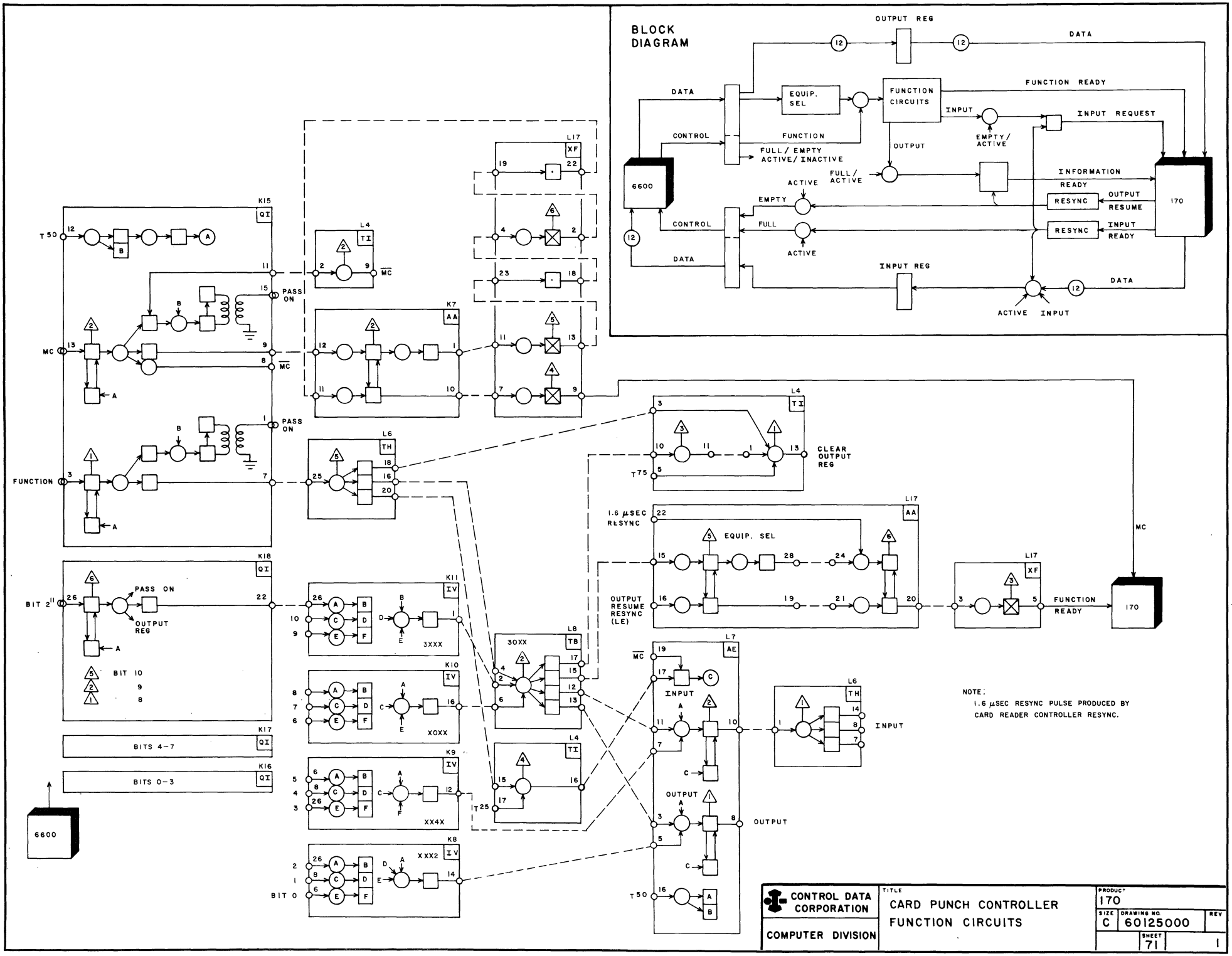
CONTROL DATA CORPORATION COMPUTER DIVISION	TITLE PRINTER CONTROLLER DATA FLOW	PRODUCT 1612 SIZE C · DRAWING NO. 60125000 · REV SHEET 69	5

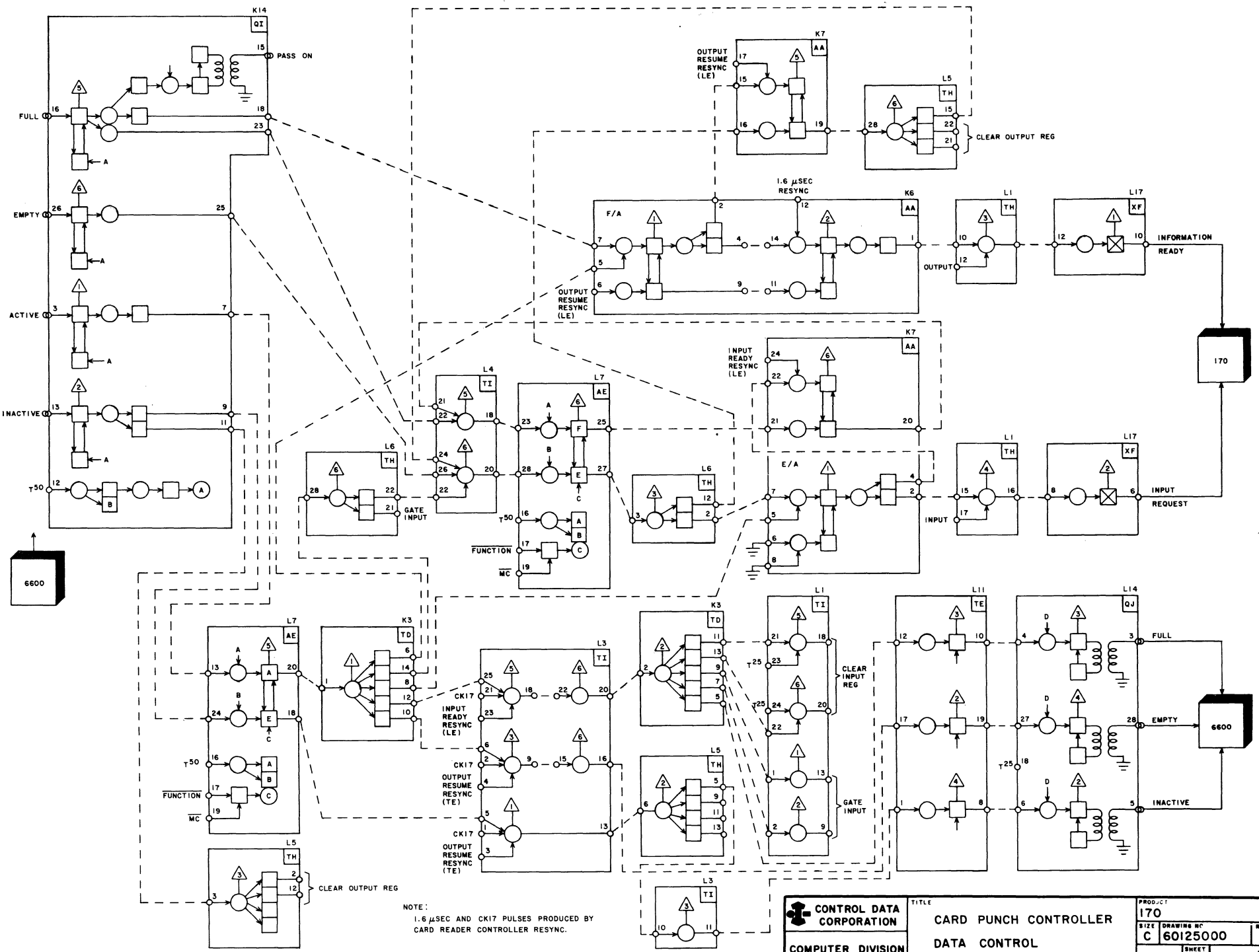


CONTROL DATA CORPORATION	TITLE: PRINTER CONTROLLER	PRODUCT: 1612	
COMPUTER DIVISION	CLOCK	SIZE: C · DRAWING NO: 60125000 · REV:	
		SHEET: 70	7

S.O. 60022 6000 SERIES DATA CHANNEL CONVERTER (170 CARD PUNCH)

CONTENTS


BLOCK DIAGRAM
OUTPUT REG
DATA
EQUIP. SEL
FUNCTION CIRCUITS
FUNCTION READY
INPUT
INPUT REQUEST
EMPTY/ ACTIVE
CONTROL
FUNCTION
FULL / EMPTY ACTIVE/ INACTIVE
OUTPUT
6600
FULL/ ACTIVE
INFORMATION READY
ACTIVE
EMPTY
RESYNC
OUTPUT RESUME
170
FULL
INPUT READY
INPUT REG
ACTIVE
INPUT
T50
PASS ON
MC
FUNCTION
K15
QI
L4
TI
L17
XF
K7
AA
L6
TH
K18
BIT 2^11
OUTPUT REG
BIT 10
K11
IV
3XXX
K10
XOXX
K9
XX4X
K8
XXX2
BIT 0
K17
BITS 4-7
K16
BITS 0-3
30XX
L8
TB
T25
L7
AE
INPUT
OUTPUT
T75
CLEAR OUTPUT REG
1.6 μSEC RESYNC
EQUIP. SEL
OUTPUT RESUME RESYNC (LE)
FUNCTION READY
NOTE:
1.6 μSEC RESYNC PULSE PRODUCED BY CARD READER CONTROLLER RESYNC.
CONTROL DATA CORPORATION
COMPUTER DIVISION
TITLE
CARD PUNCH CONTROLLER
FUNCTION CIRCUITS
PRODUCT
170
SIZE
C
DRAWING NO.
60125000
REV
SHEET
71
1

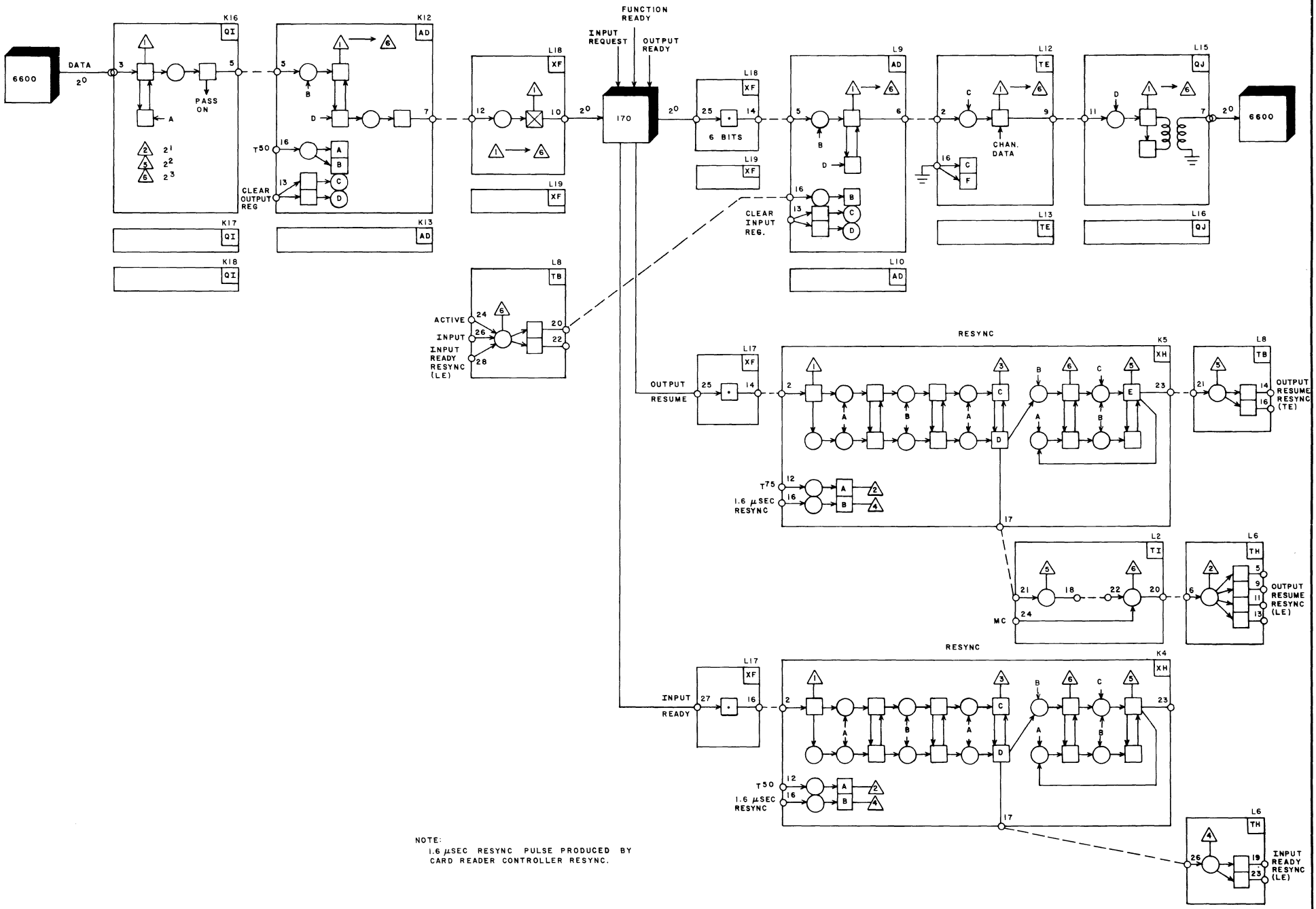


NOTE:
1.6 μSEC AND CK17 PULSES PRODUCED BY CARD READER CONTROLLER RESYNC.

CONTROL DATA CORPORATION
COMPUTER DIVISION

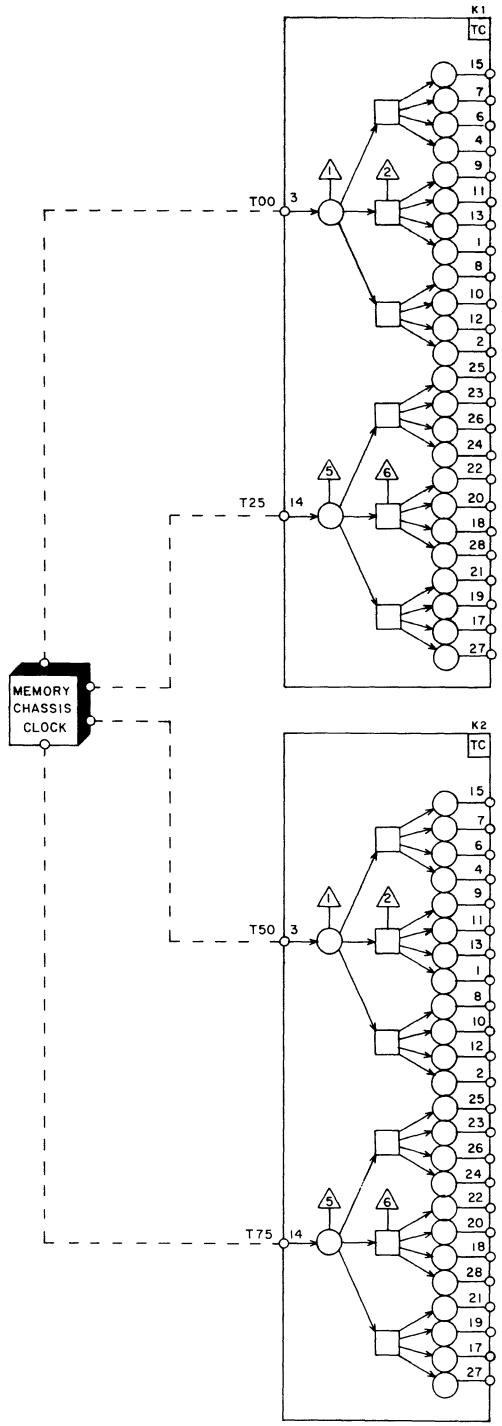
TITLE
CARD PUNCH CONTROLLER
DATA CONTROL

PRODUCT 170
SIZE C | DRAWING NO 60125000 | REV
SHEET 72
3



NOTE:
1.6 μSEC RESYNC PULSE PRODUCED BY CARD READER CONTROLLER RESYNC.

CONTROL DATA CORPORATION COMPUTER DIVISION	TITLE CARD PUNCH CONTROLLER DATA FLOW	PRODUCT 170	
		SIZE C	DRAWING NO 60125000 REV
		SHEET 73	5

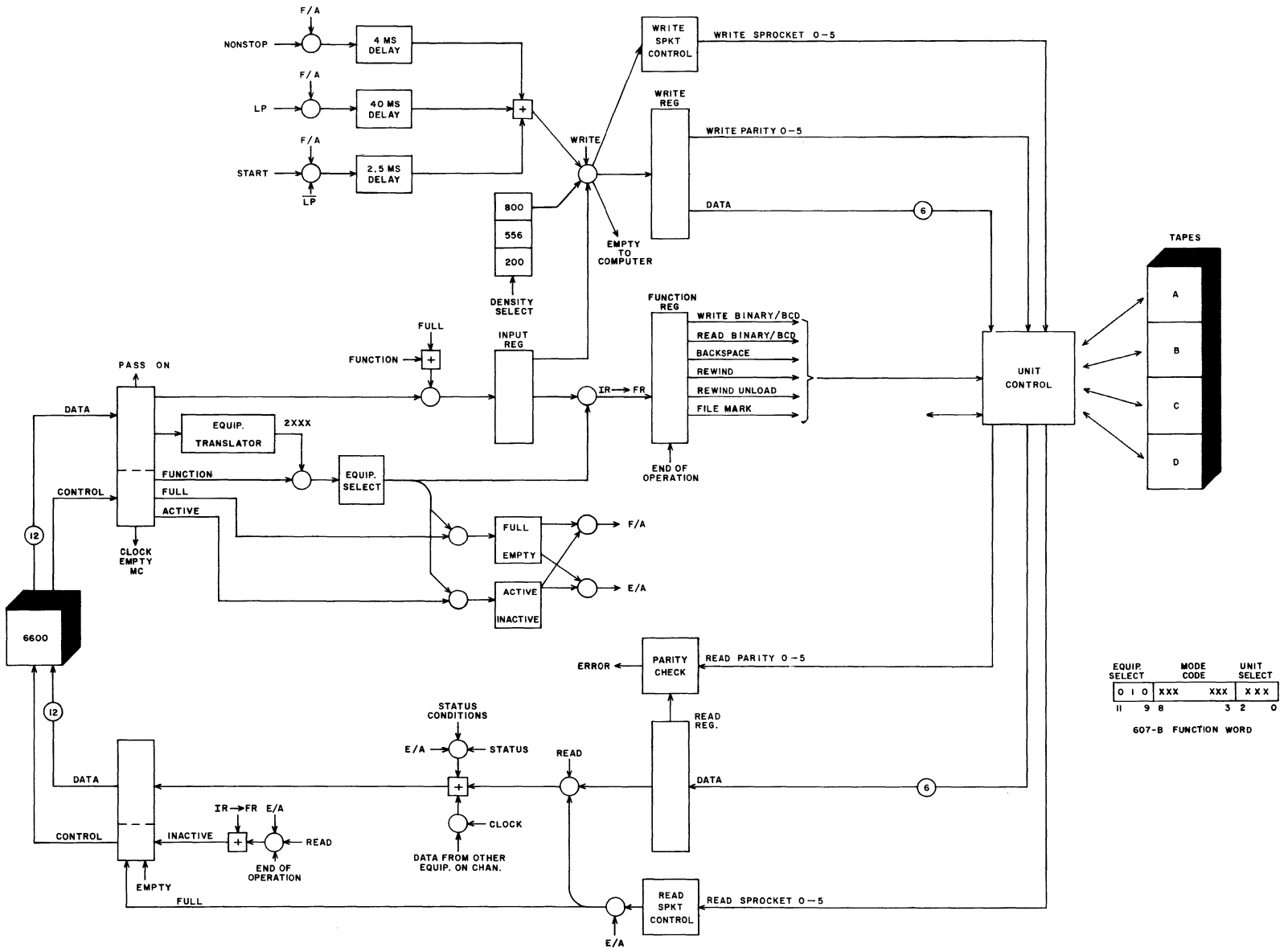


CONTROL DATA CORPORATION	TITLE: CARD PUNCH CONTROLLER	PRODUCT: 170	
COMPUTER DIVISION	CLOCK	SIZE: C	DRAWING NO.: 60125000
		SHEET: 74	REV: 7

S.O. 60028 6000 SERIES 1 x 4 607 TAPE TRANSPORT CONTROLLER

CONTENTS

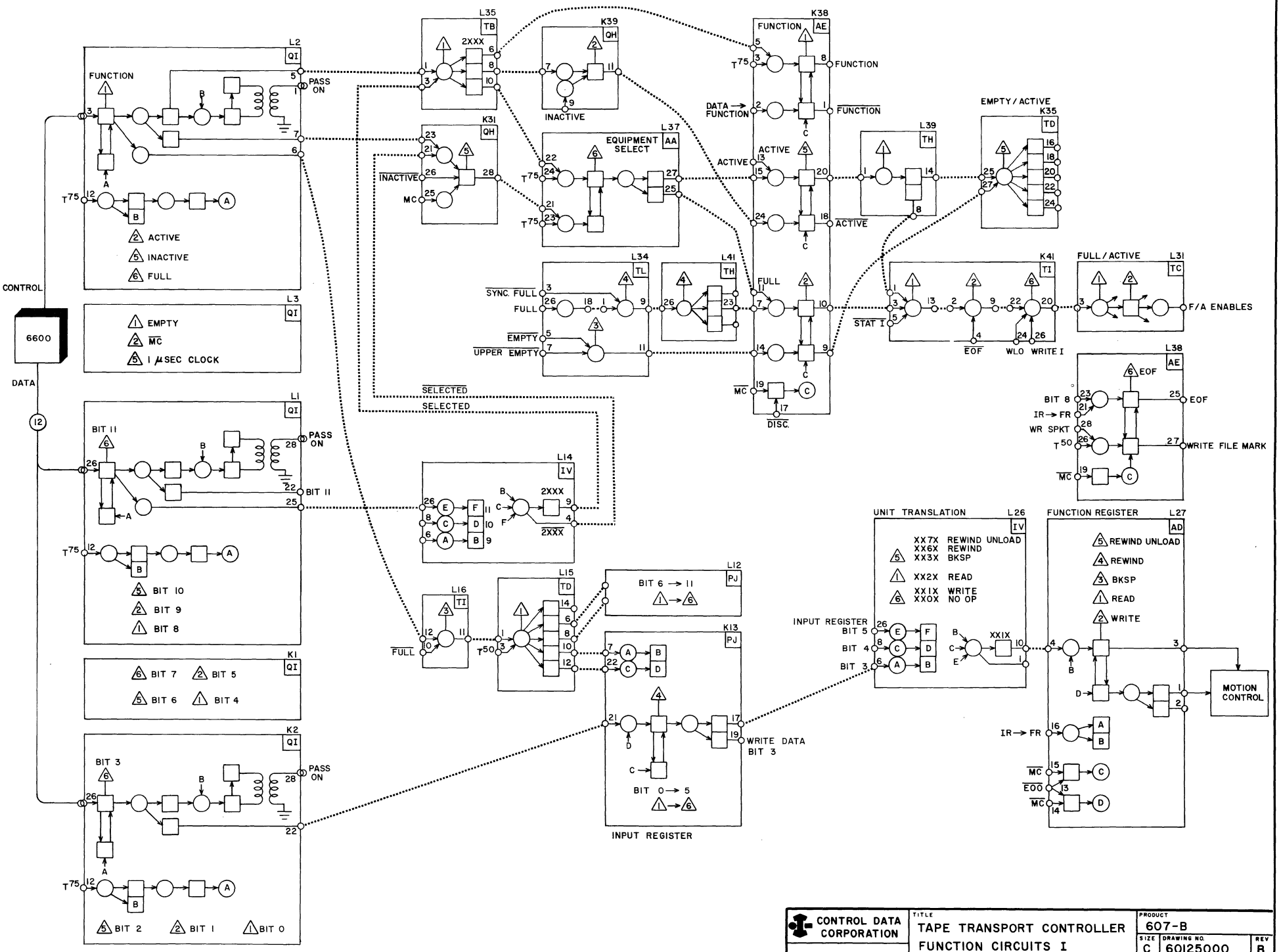
Rev. B



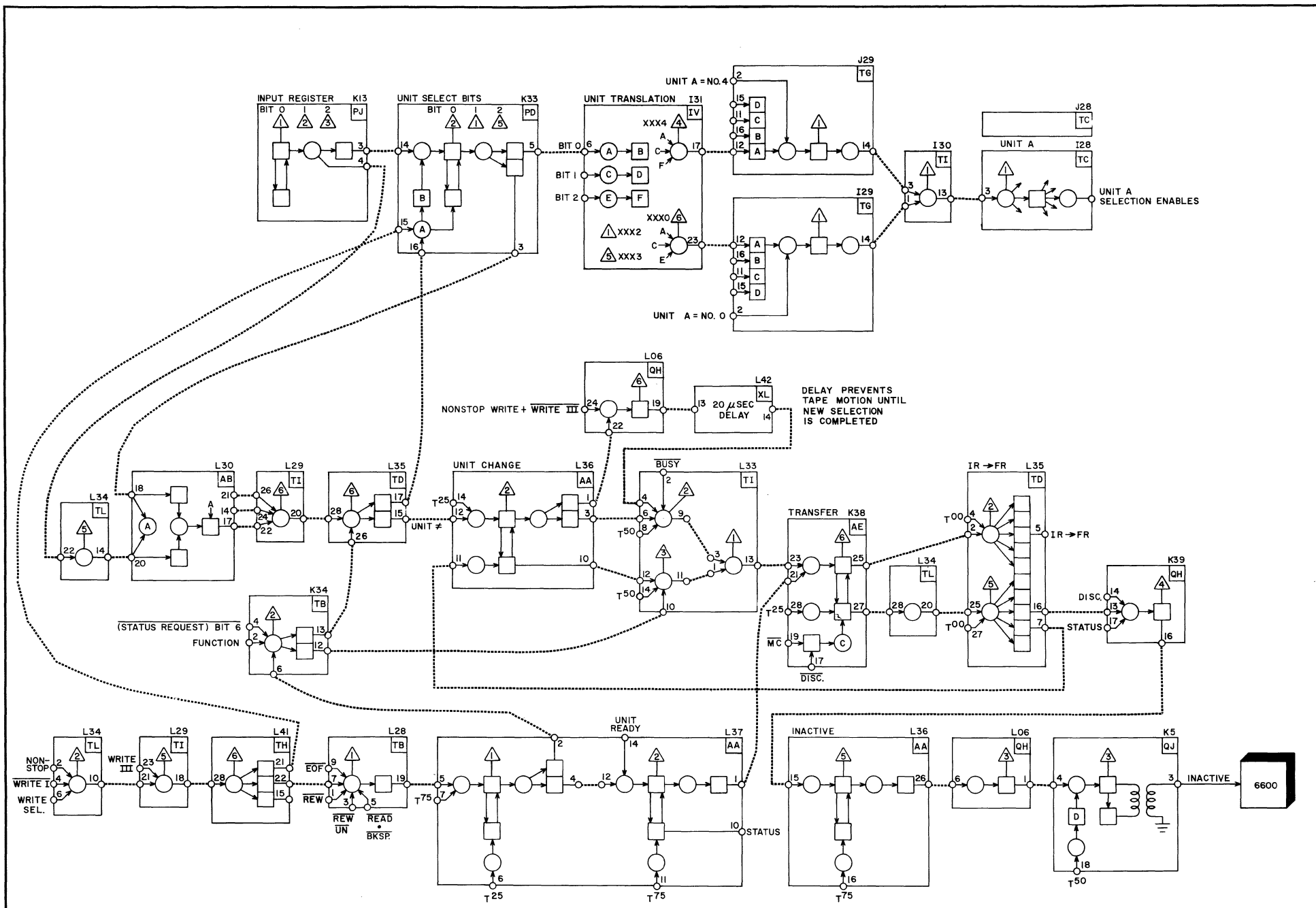
EQUIP. SELECT	MODE CODE	UNIT SELECT
0 1 0	XXX XXX	XXX
11 9 8	3 2	0

607-B FUNCTION WORD

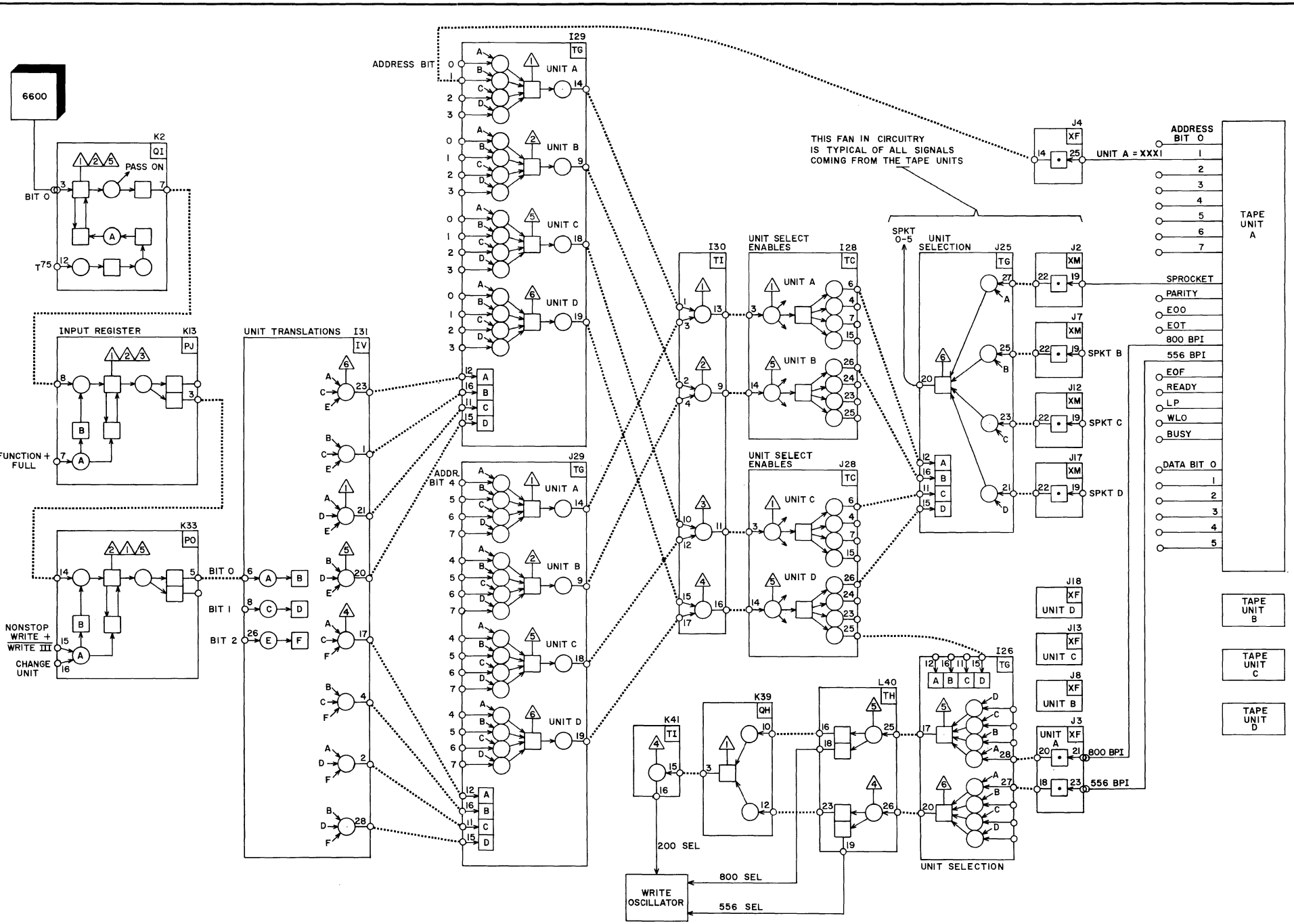
CONTROL DATA CORPORATION	TITLE: TAPE TRANSPORT CONTROLLER BLOCK DIAGRAM	PRODUCT: 607-B	
COMPUTER DIVISION		SIZE: C	DRAWING NO: 60125000
		REV: B	
		SHEET: 3	1



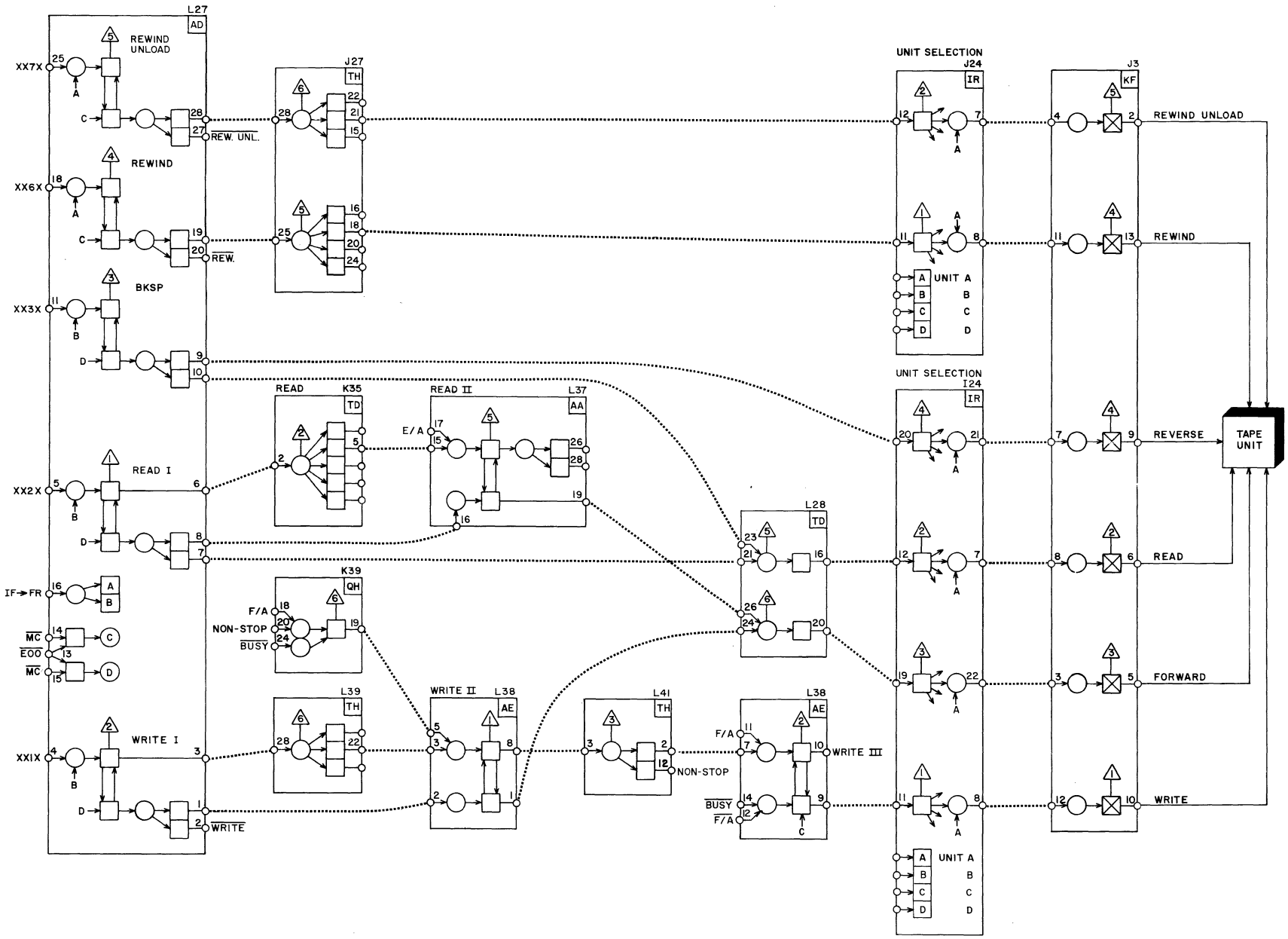
CONTROL DATA CORPORATION	TITLE: TAPE TRANSPORT CONTROLLER FUNCTION CIRCUITS I	PRODUCT: 607-B	
COMPUTER DIVISION		SIZE: C · DRAWING NO.: 60125000 · REV: B	
		SHEET: 4	3



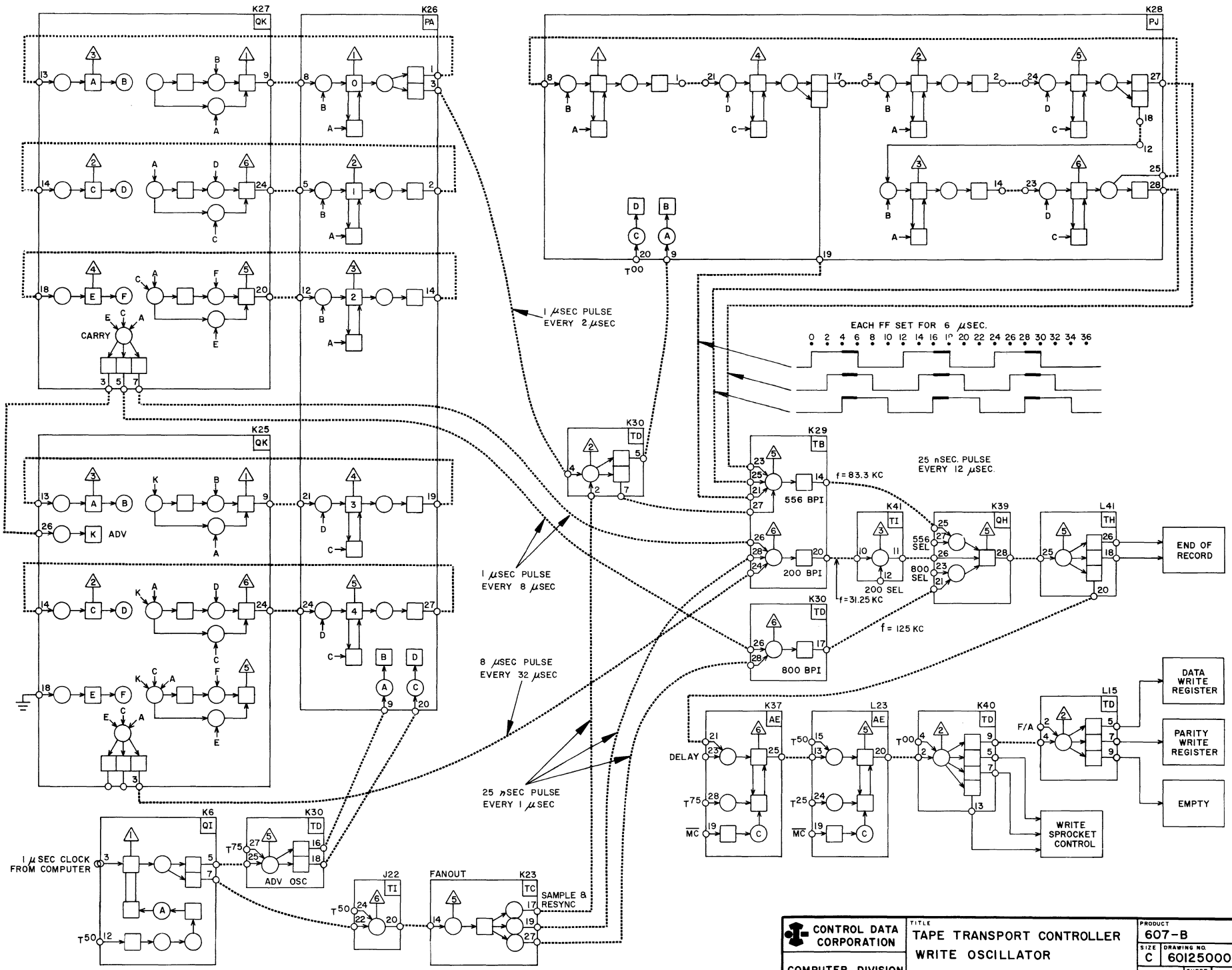
CONTROL DATA CORPORATION	TITLE: TAPE TRANSPORT CONTROLLER	PRODUCT: 607-B	
COMPUTER DIVISION	FUNCTION CIRCUITS II	SIZE: C · DRAWING NO.: 60125000 · REV: B	
		SHEET: 5	5



CONTROL DATA CORPORATION	TITLE: TAPE TRANSPORT CONTROLLER	PRODUCT: 607-B	
COMPUTER DIVISION	UNIT CONTROL	SIZE: C · DRAWING NO.: 60125000 · REV: A	
		SHEET: 6	7



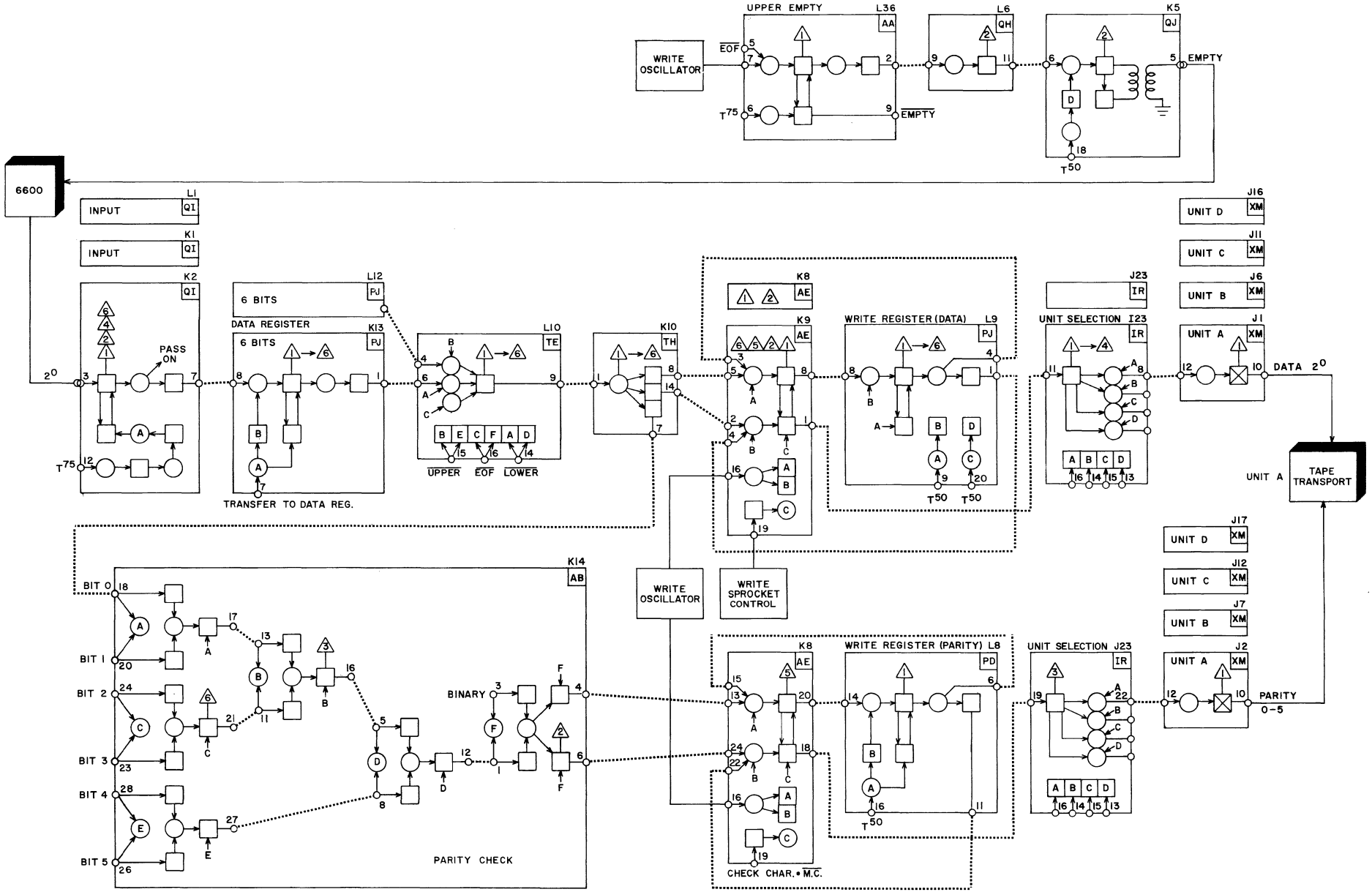
CONTROL DATA CORPORATION	TITLE: TAPE TRANSPORT CONTROLLER MOTION CONTROL	PRODUCT: 607-B	
COMPUTER DIVISION		SIZE: C	DRAWING NO.: 60125000 REV: B
			SHEET: 7 9



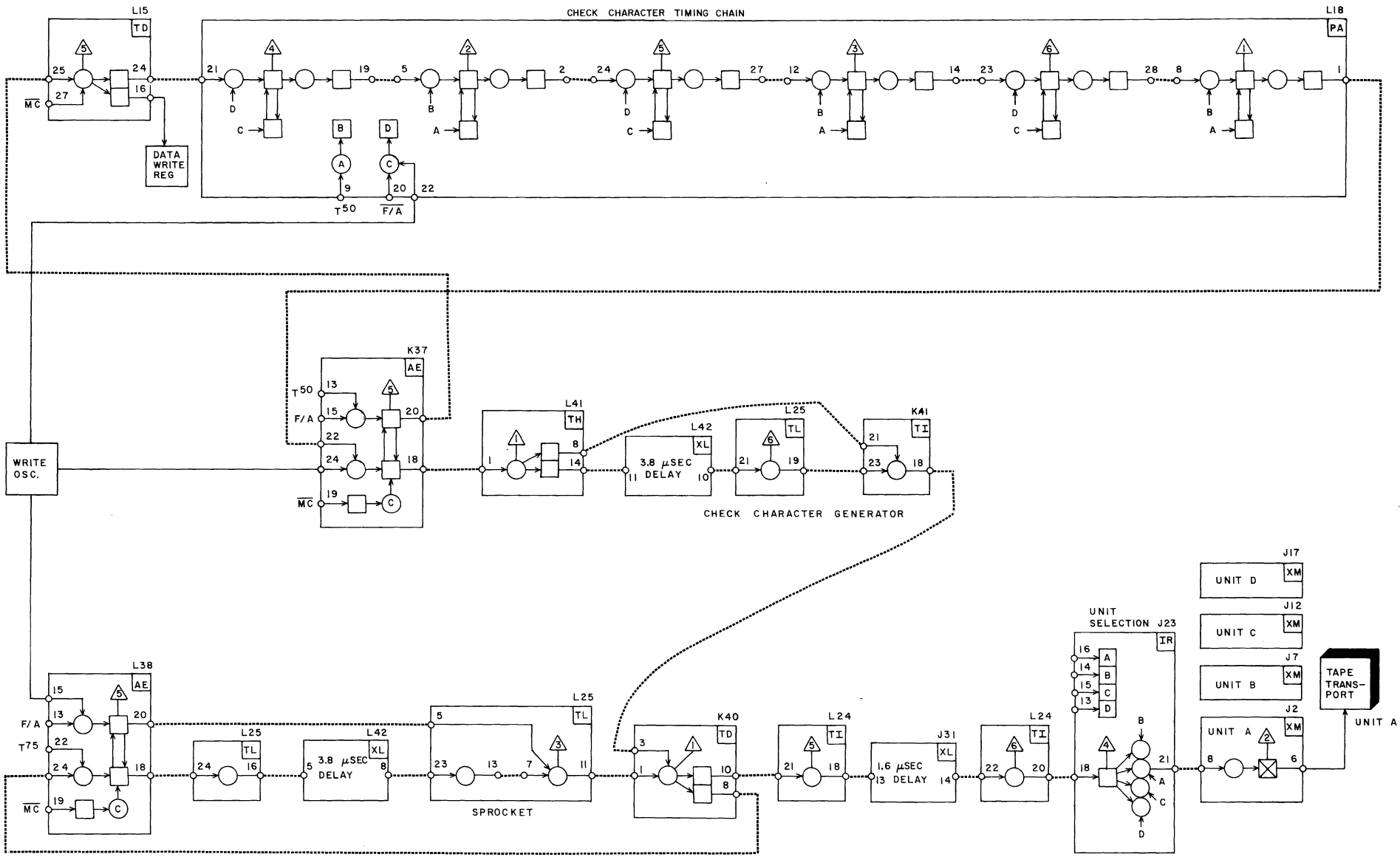
CONTROL DATA CORPORATION
COMPUTER DIVISION

TITLE
TAPE TRANSPORT CONTROLLER
WRITE OSCILLATOR

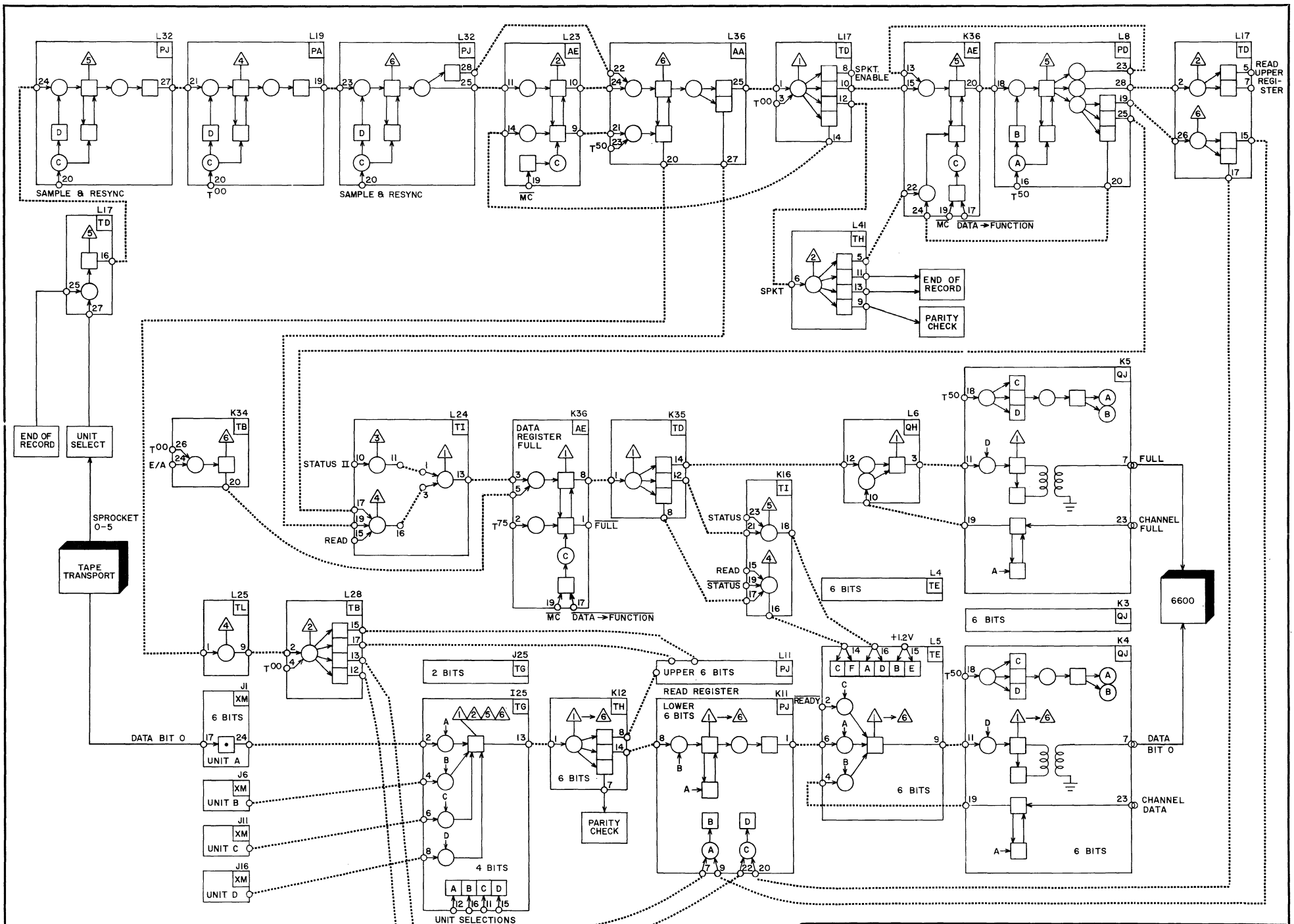
PRODUCT 607-B
SIZE C | DRAWING NO. 60125000 | REV B
SHEET 8 | 11



CONTROL DATA CORPORATION	TITLE: TAPE TRANSPORT CONTROLLER WRITE DATA FLOW	PRODUCT: 607-B	
COMPUTER DIVISION		SIZE: C · DRAWING NO.: 60125000 · REV: A	
		SHEET: 9	13

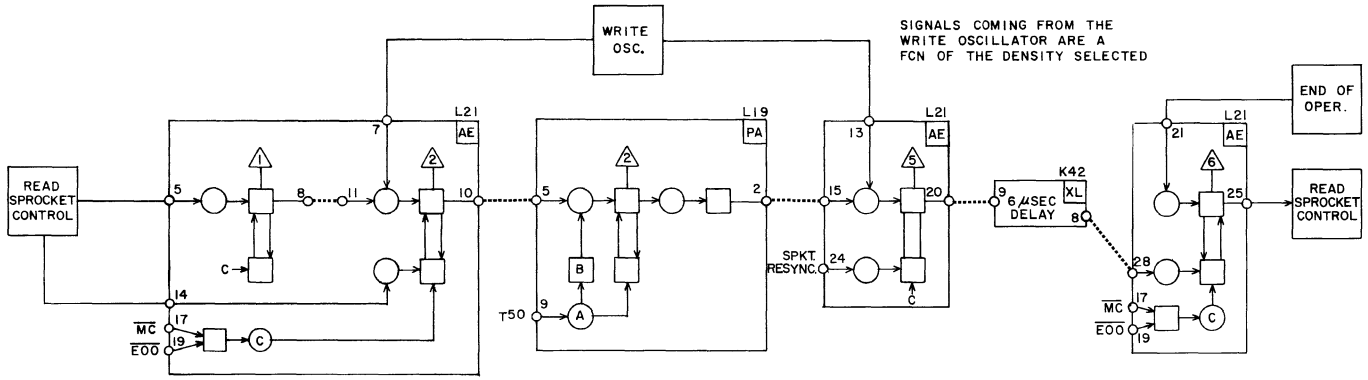


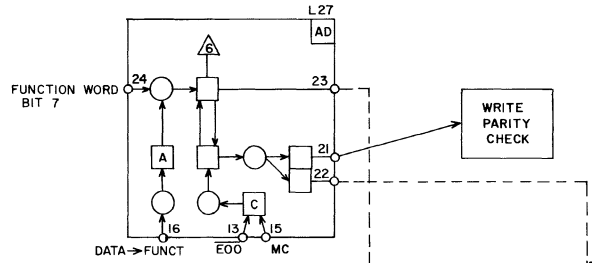
CONTROL DATA CORPORATION	TITLE	PRODUCT	
COMPUTER DIVISION	TAPE TRANSPORT CONTROLLER WRITE SPROCKET CONTROL	607-B	
		SIZE C	DRAWING NO. 60125000
		REV B	
		SHEET 10	15



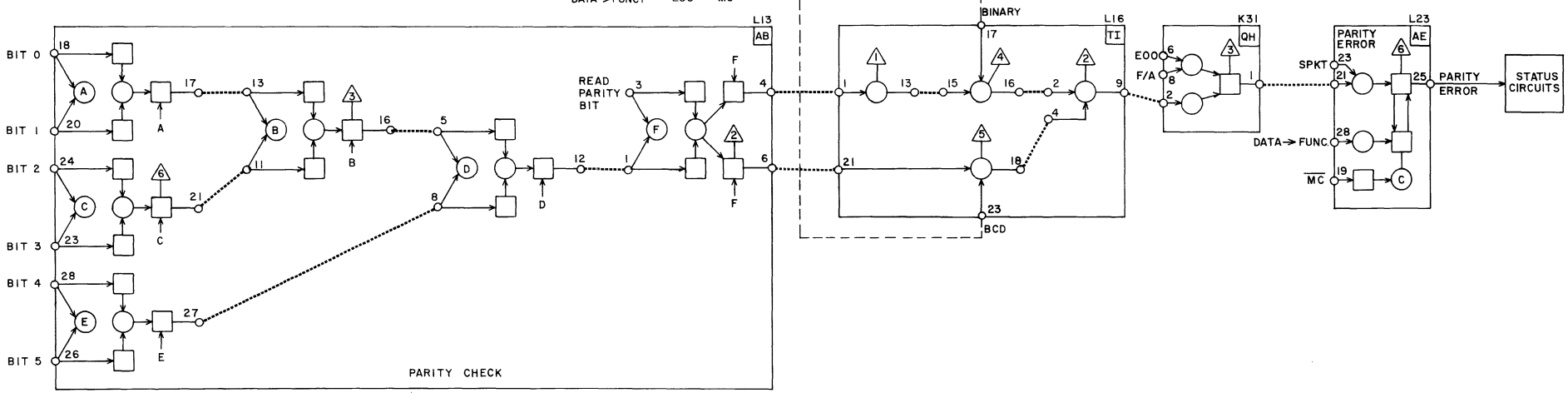
CONTROL DATA CORPORATION	TITLE: TAPE TRANSPORT CONTROLLER READ DATA FLOW READ SPROCKET CONTROL	PRODUCT: 607-B	
COMPUTER DIVISION		SIZE: C · DRAWING NO.: 60125000 · REV: A	
		SHEET: 11	17

END OF RECORD

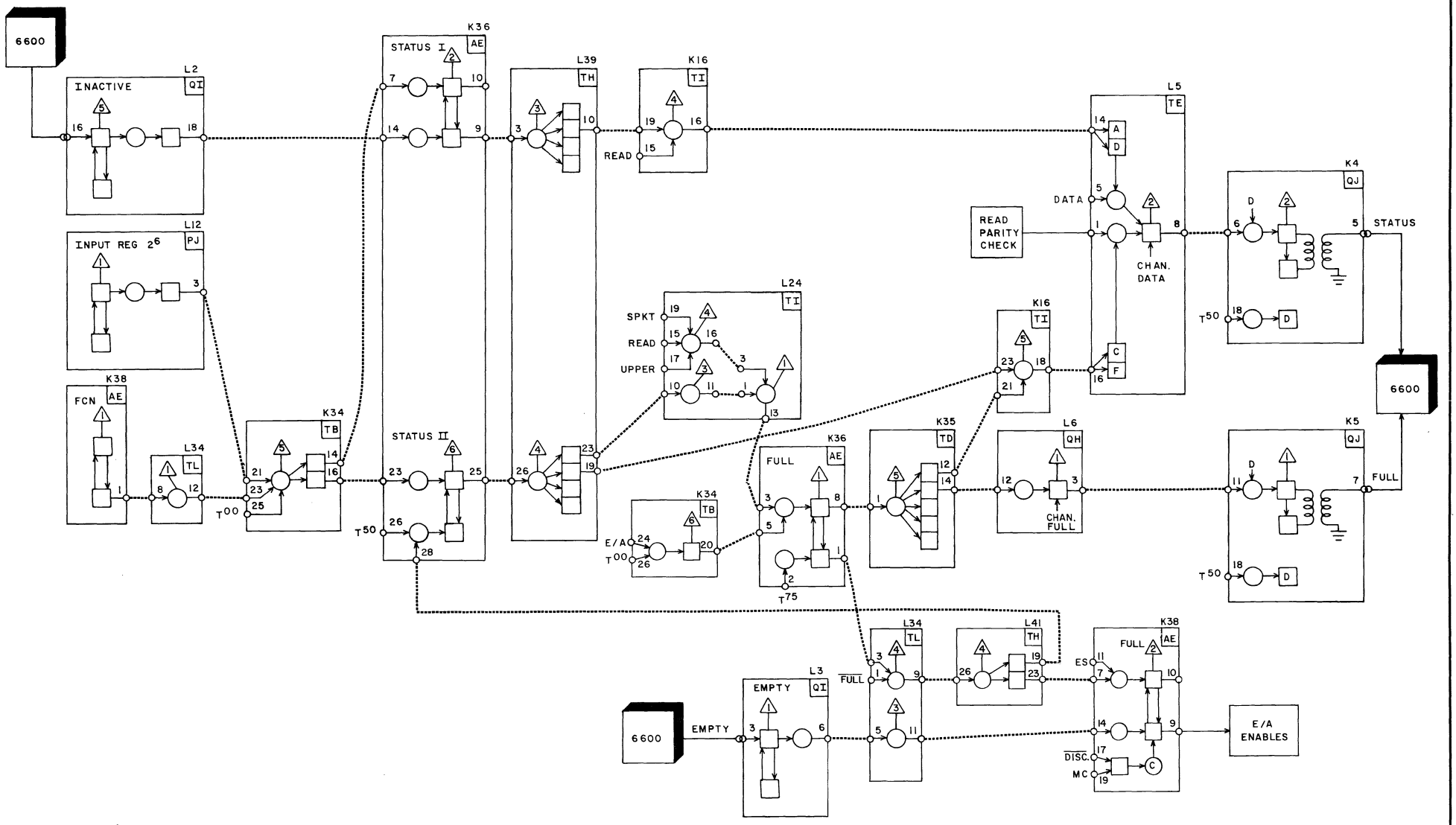




PARITY CHECK



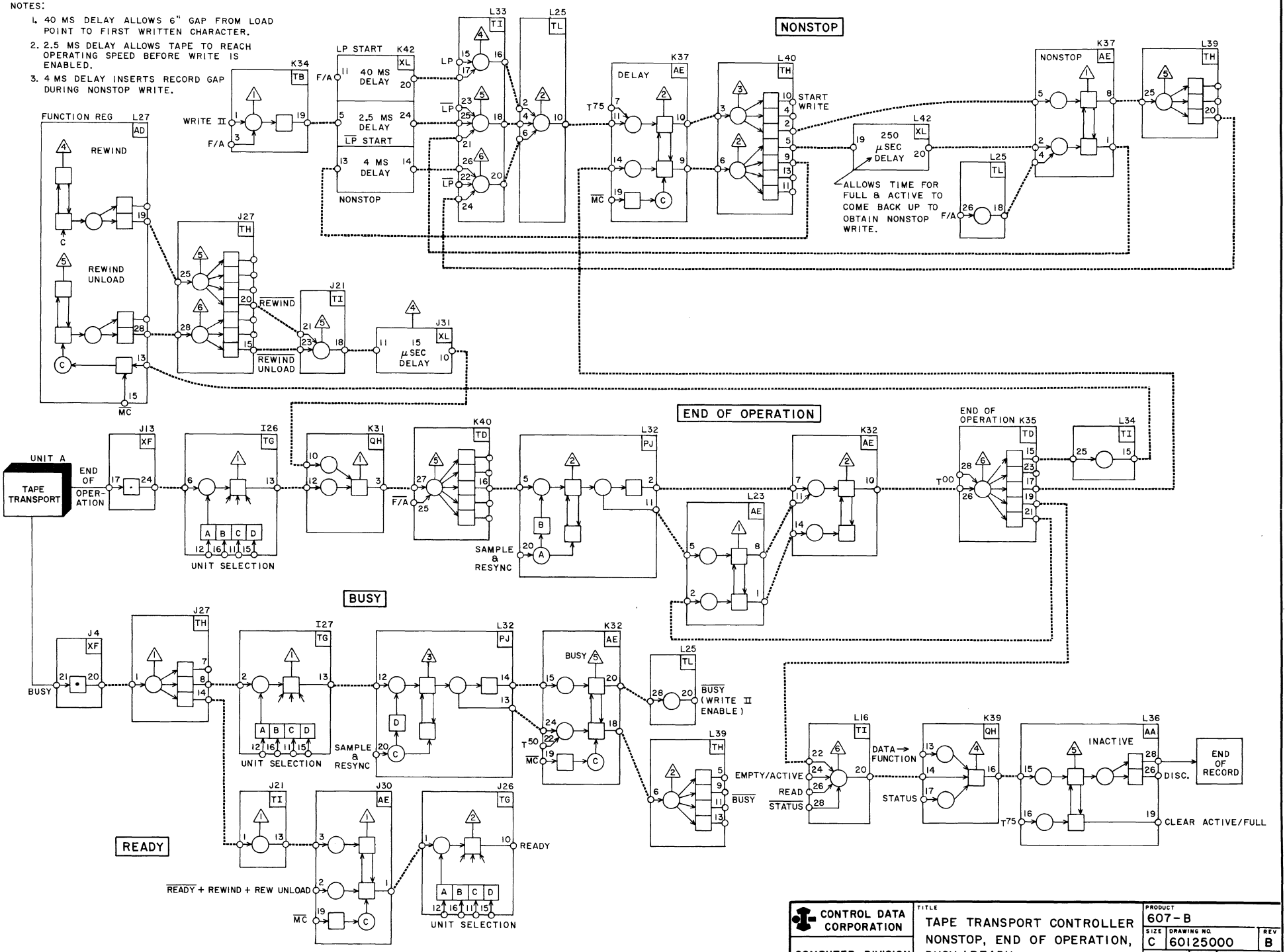
CONTROL DATA CORPORATION	TITLE: TAPE TRANSPORT CONTROLLER	PRODUCT: 607-B
COMPUTER DIVISION	READ PARITY CHECK	SIZE: C · DRAWING NO.: 60125000 · REV: B
	END OF RECORD	SHEET: 12 · 19



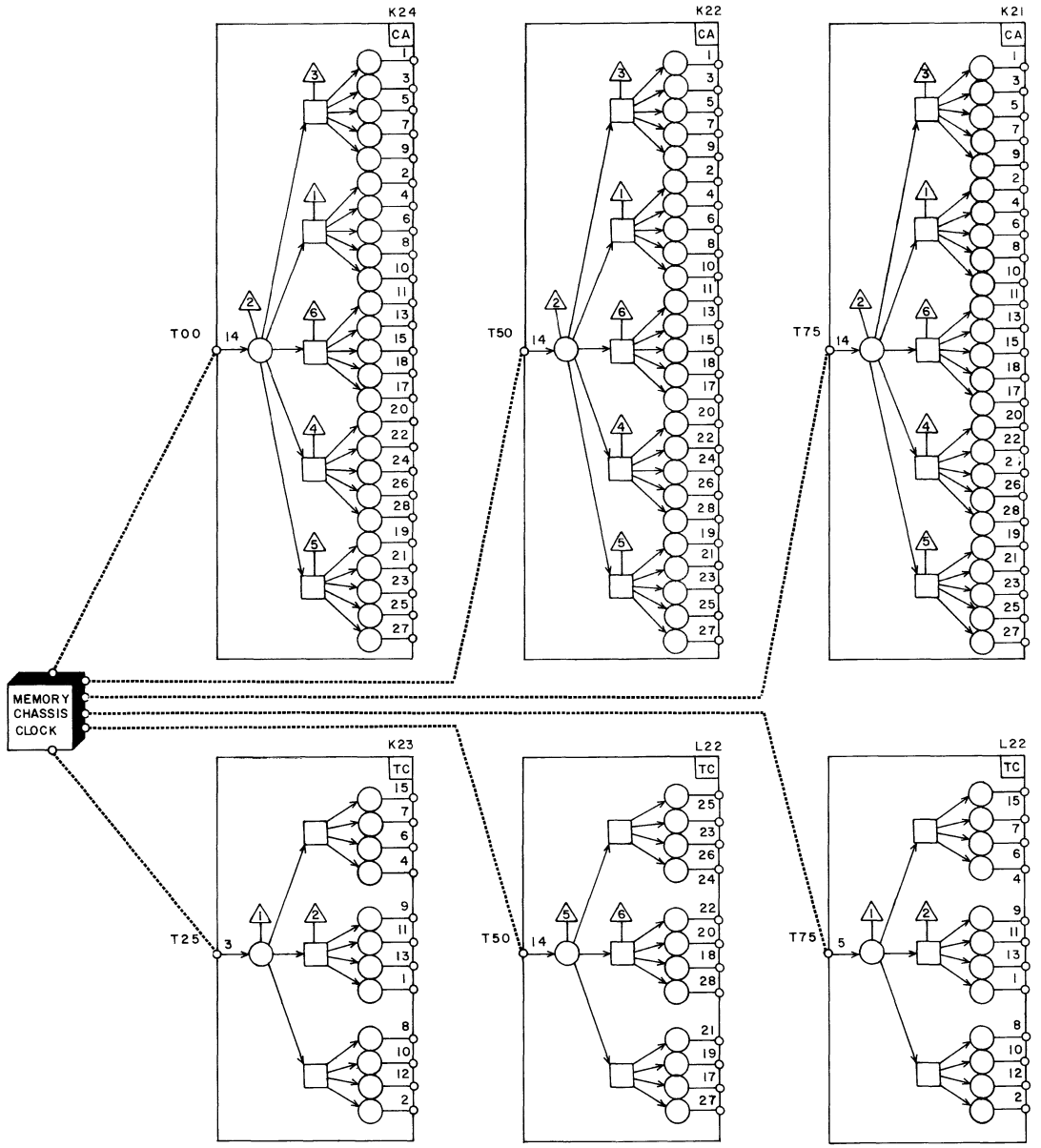
CONTROL DATA CORPORATION	TITLE: TAPE TRANSPORT CONTROLLER	PRODUCT: 607 — B	
COMPUTER DIVISION	STATUS CIRCUITS	SIZE: C · DRAWING NO.: 60125000 · REV: B	
		SHEET: 13	21

NOTES:

1. 40 MS DELAY ALLOWS 6" GAP FROM LOAD POINT TO FIRST WRITTEN CHARACTER.
2. 2.5 MS DELAY ALLOWS TAPE TO REACH OPERATING SPEED BEFORE WRITE IS ENABLED.
3. 4 MS DELAY INSERTS RECORD GAP DURING NONSTOP WRITE.



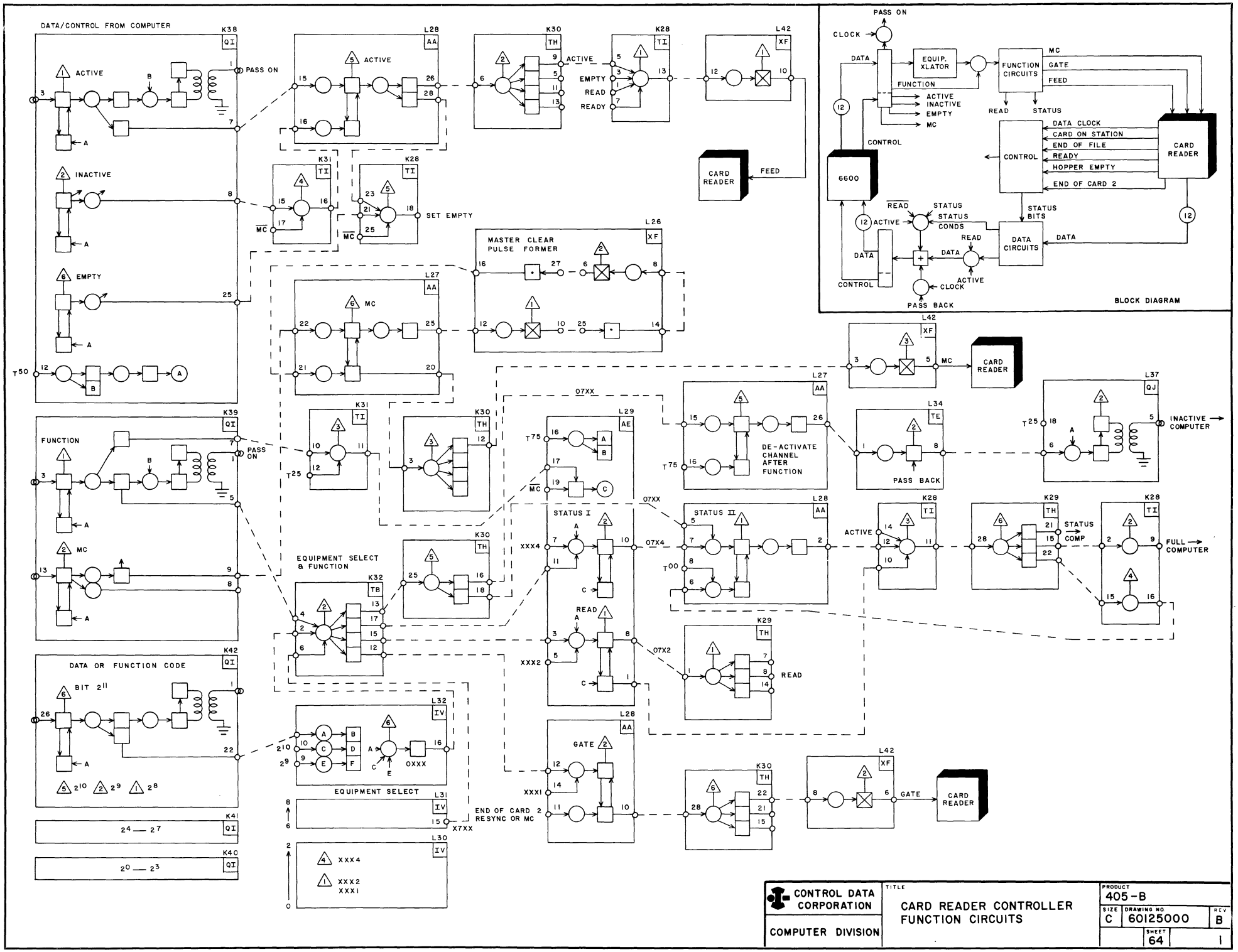
CONTROL DATA CORPORATION	TITLE: TAPE TRANSPORT CONTROLLER NONSTOP, END OF OPERATION, BUSY / READY	PRODUCT: 607-B	
COMPUTER DIVISION		SIZE: C	DRAWING NO.: 60125000 REV: B
		SHEET: 14	23



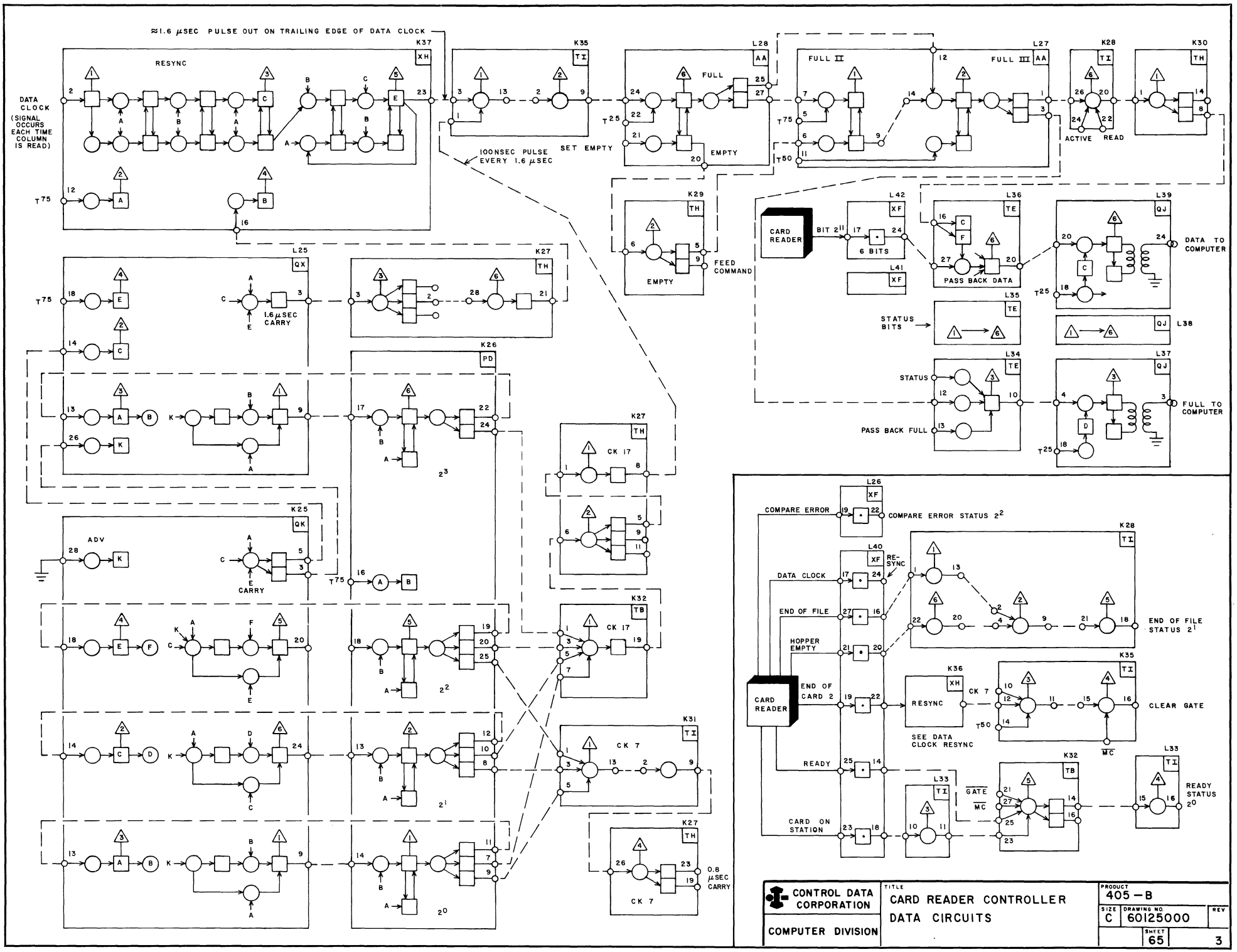
CONTROL DATA CORPORATION COMPUTER DIVISION	TITLE TAPE TRANSPORT CONTROLLER CLOCK	PRODUCT 607-B SIZE C · DRAWING NO. 60125000 · REV SHEET 15	25

S.O. 60029 6000 SERIES 405 CARD READER CONTROLLER

CONTENTS



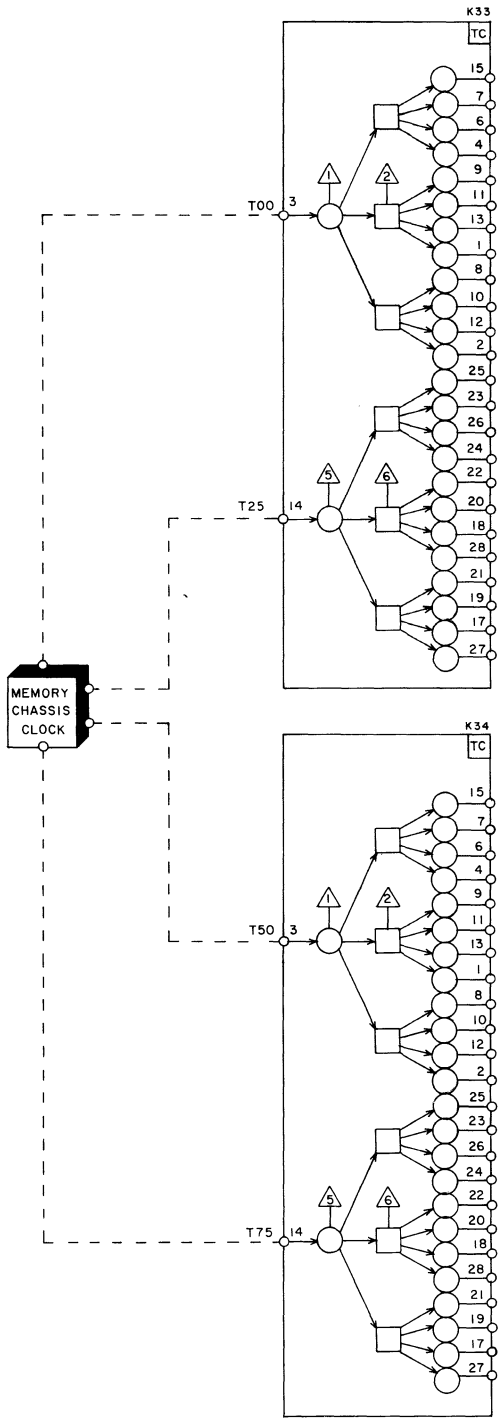
CONTROL DATA CORPORATION COMPUTER DIVISION	TITLE CARD READER CONTROLLER FUNCTION CIRCUITS	PRODUCT 405-B	
		SIZE C	DRAWING NO. 60125000
		REV B	
		SHEET 64	1



CONTROL DATA CORPORATION
COMPUTER DIVISION

TITLE
CARD READER CONTROLLER
DATA CIRCUITS

PRODUCT 405 – B
SIZE C | DRAWING NO 60125000 | REV
SHEET 65 | 3



CONTROL DATA CORPORATION	TITLE: CARD READER CONTROLLER	PRODUCT: 405-B	
COMPUTER DIVISION	CLOCK	SIZE: C · DRAWING NO: 60125000 · REV:	
		SHEET: 66	5

CUT ALONG LINE

COMMENT SHEET

6600 PERIPHERAL CONTROLLERS

Customer Engineering Diagrams

Pub. No. 60125000

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