

western peripherals™

Division of **WESPERCORP™**

MODEL TC-151 TAPE CONTROLLER
LOGIC MANUAL

PUBLICATION NUMBER

91000505

REV A

western peripherals

14321 MYFORD ROAD
TUSTIN, CALIFORNIA 92680

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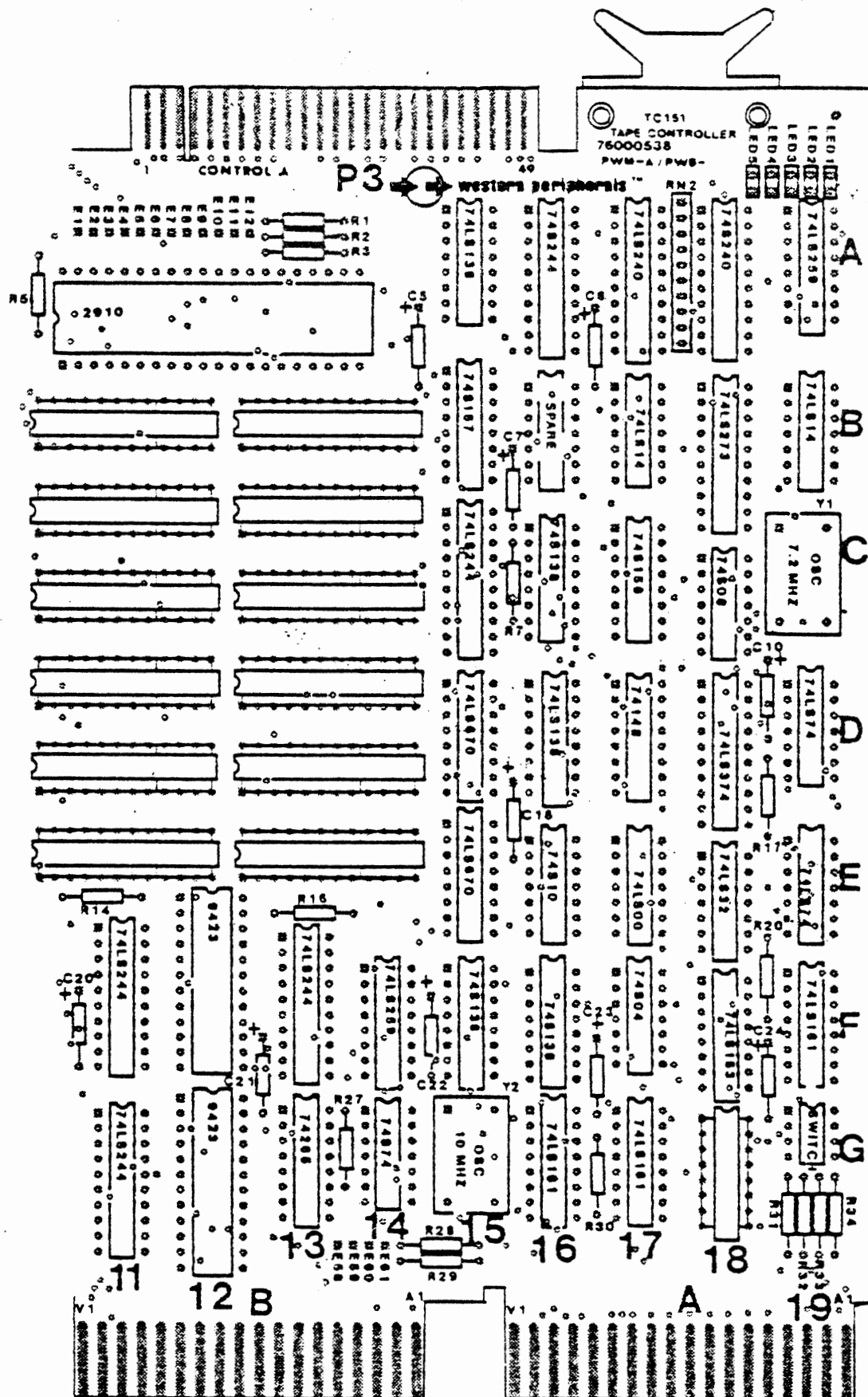
PRINTED IN U.S.A.

AUGUST, 1981

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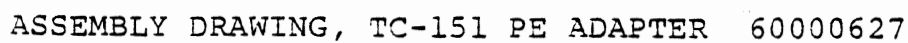
TITLE	
Assembly Drawing, TC-151 Tape Controller	60000619
Assembly Drawing, TC-151 PE Adapter	60000627
Assembly Drawing, TC-151 Tape Controller	60000866
Assembly Drawing, TC-151 PE Adapter	60000874
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LEFT HALF

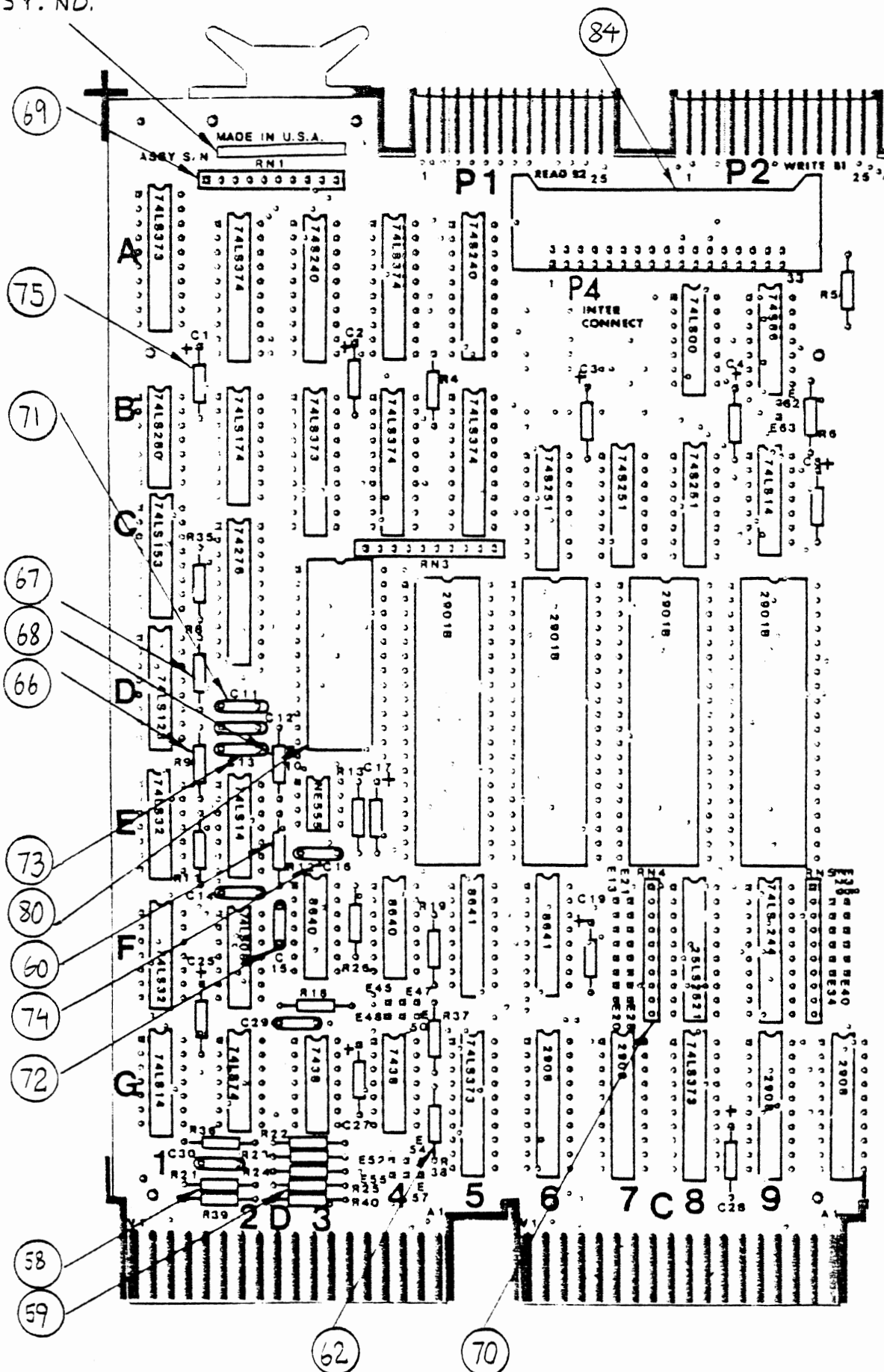


ASSEMBLY DRAWING, TC-151 TAPE CONTROLLER 60000619

RIGHT HALF



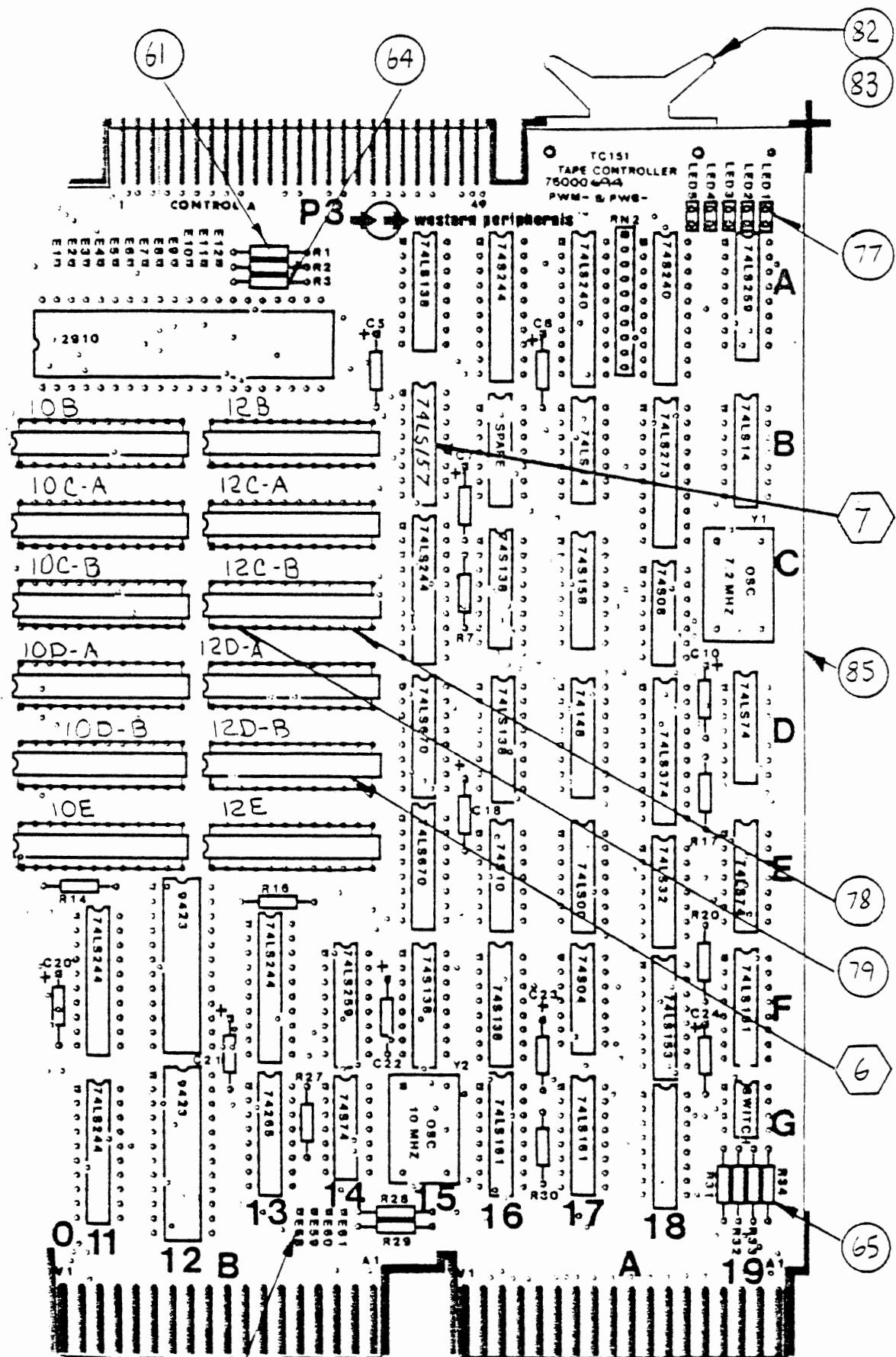
ASSY. NO.



(LEFT HALF)

ASSEMBLY DRAWING TC-151 TAPE CTRLR.

60000866 D

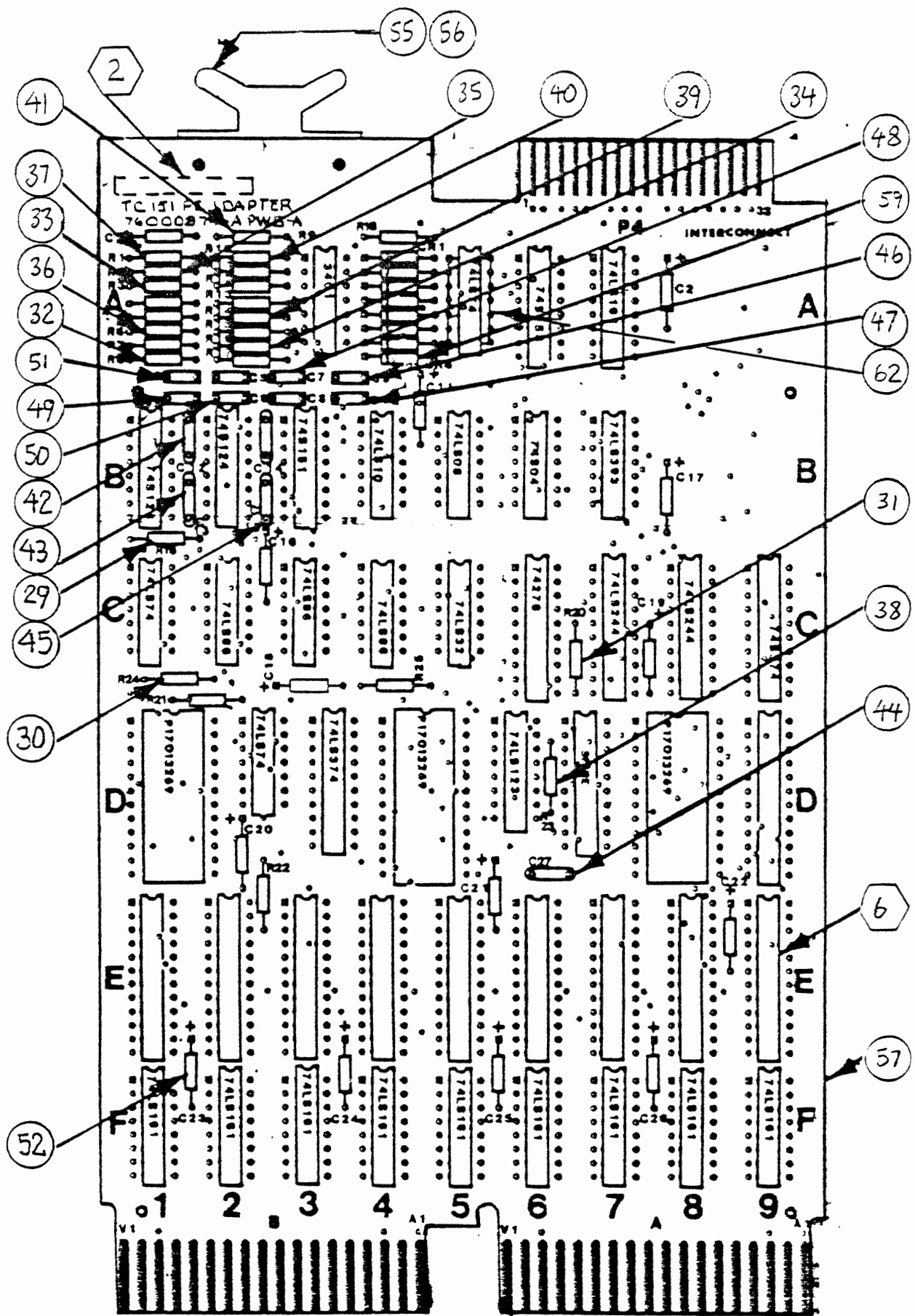


(RIGHT HALF)
ASSEMBLY DRAWING TC-151 TAPE CTRL.

60000866 D

CALL-OUT NOTES

- 4 PLCS (58)
R11 R16 R18 R21
- 4 PLCS (59)
R23 R25 R37 R40
- R12 (60)
- 2 PLCS (61)
R1, R2
- 4 PLCS (62)
R22, R24, R38, R39
- R9 (66)
- R8 (67)
- 2 PLCS (68)
R10, R13
- 3 PLCS (69)
R11, R12, R13
- 2 PLCS (70)
R14, R15
- 2 PLCS (71)
C11, C12
- 4 PLCS (72)
C14, C15, C29, C30
- C13 (73)
- C16 (74)
- 20 PLCS (75)
C1-C8, C10, C17-C25, C27, C28
- 3C (80)
- 63 PLCS (81)
E1-E40 E45-E50
E52-E68
- P4 (84)
- (64) 11 PLCS
R3, R4, R7, R14, R17, R20,
R27-R30, R35
- (65) 9 PLCS
R5, R6, R19, R26,
R31-R34, R36
- (77) 5 PLCS
LED1-LED5
- (78) 12 PLCS
10B, 10C-A, 10C-B, 10D-A, 10D-B, 10E
12B, 12C-A, 12C-B, 12D-A, 12D-B, 12E
- (79) 13 PLCS
10B, 10C-A, 10C-B, 10D-A,
10D-B, 10E, 12B, 12C-A, 12C-B,
12D-A, 12D-B, 12E, 18G
- (82) 2 PLCS
- (83) 4 PLCS
- (85)
- (6) REF. PROM 12D-B IS P17017609-C
- (7) SILKSCREEN WRONG, INSTALL
74LS157 AS SHOWN
- REF SCHEMATIC 75000778



ASSEMBLY DWG TC-151 PE ADAPTER
60000874 C

NOTES

2

ASSEMBLY NUMBER

•

REF. SCHEMATIC 75000786

6

INSTALL PROMS 1E-9E & 9D PER PROM SET P18001321

29

R24

30

R19

31

4 PLCS R18, R20, R21, R22

32

R4, R8, R17 - 3 PLCS

33

R3

34

2 PLCS - R7, R16

35

R2

36

2 PLCS - R6, R15

37

R1, R25 - 2 PLCS

38

R23

39

2 PLCS R5, R14

40

4 PLCS. R10 - R13

41

R9

42

C12

43

C13

44

2 PLCS - C14, C27

45

C15

46

C9

47

2 PLCS - C8, C10

48

C7

49

C4

50

2 PLCS - C5, C6

51

C3

52

14 PLCS - C1, C2, C11, C16 - C26

55

56

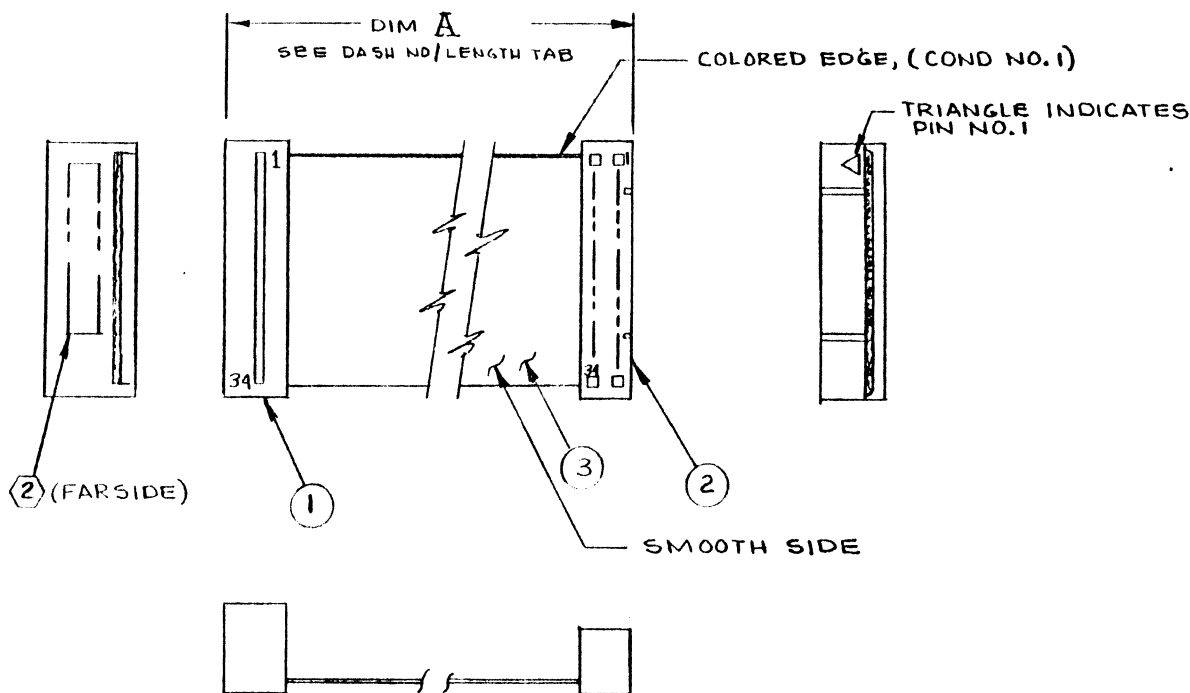
2 PLCS.

57

59

8 PLCS CRI - CR8

62



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	PRODUCTION RELEASE	12/1/80	[Signature]

CABLE DASH NO./LENGTH TABULATION		
DASH NO.	DIM. A (IN INCHES)	REMARKS
-00	2.50 ± .12	BOARD TO BOARD
-01	11.50 ± .25	BOARD TO EXTENDER

NOTE: UNLESS OTHERWISE SPECIFIED.

1. FOR MATERIAL SEE P/L 62000419

2. MARK PART NUMBER, DASH NUMBER AND LATEST REV LTR WHERE SHOWN USING CONTRASTING INK

DEC 5 1980

THIS IS A TABULATED DRAWING SEE TAB. ABOVE

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC ANGLES ± / ± / ± /		western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS		DATE	
DRAWN COPPER		12-2-80	
CHECKED S. HARRIS		12-2-80	
SCALE NONE		SIZE B	DRAWING NO. 62000419
DO NOT SCALE DRAWING			SHEET 1 OF 1

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CPU Vector Jumpers and Gate	2
Bus Signal Receiver	
Reset Logic	
PIO Address Latch	
PLA Bus Sequencer	3
NXM Timer/Latch	
Control Line Drivers	
Bus-Master Control	4
Bus Priority Logic	
<u>DATA PROCESSOR</u>	
2901 Data Processor	5
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Literal Gate	6
Control Pulse Decoder	
Destination Decoder	
Source Decoder	
Indicator LED's	
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"B" Latch	
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PE Deskew Register	
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CONTROL A

P3		
SLT6	1	2 GND
SLT7	3	4 GND
SLT5	5	6 GND
SLT4	7	8 GND
SLT3	9	10 GND
SLT0	11	12 GND
SLT1	13	14 GND
SLT2	15	16 GND
FLPT	17	18 GND
WNB	19	20 GND
OVW	21	22 GND
RSL	23	24 GND
EOT	25	26 GND
RWC	27	28 GND
DDS	29	30 GND
ECOT	31	32 GND
FSL	33	34 GND
+5V	35	36 GND
+5V	37	38 GND
RW6	39	40 GND
RDY	41	42 GND
OML	43	44 GND
	45	46 GND
SPD	47	48 GND
NRZ	49	50 GND

READ B2

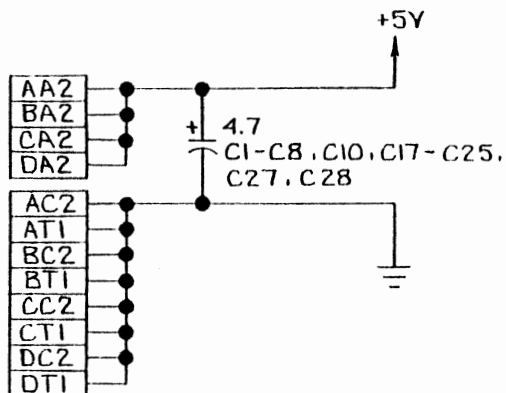
P1		
RD7	1	2 GND
RD6	3	4 GND
RD5	5	6 GND
RD4	7	8 GND
RD3	9	10 GND
RD2	11	12 GND
RD1	13	14 GND
NRZ	15	16 GND
	17	18 GND
RD0	19	20 GND
RDS	21	22 GND
RDP	23	24 GND
	25	26 GND

WRITE B1

P2		
WD5	1	2 GND
WD7	3	4 GND
WARS	5	6 GND
WD6	7	8 GND
	9	10 GND
WD5	11	12 GND
WDP	13	14 GND
WD4	15	16 GND
WDO	17	18 GND
WD3	19	20 GND
WD1	21	22 GND
WD2	23	24 GND
+5V	25	26 GND

INTERCONNECT

P4		
DBUS01	1	2 DBUS00
DBUS03	3	4 DBUS02
DBUS06	5	6 DBUS07
DBUS05	7	8 DBUS04
GND	9	10 GND
	11	12 PEP
FWD	13	14 RD7
RD6	15	16 RD5
RD4	17	18 RD3
RD2	19	20 RD1
RD0	21	22 RDP
PEDATA	23	24 RGATE
PERDY	25	26 PED0
SO	27	28 PESTAT
CKSEL4	29	30 CKSEL1
CKSEL2	31	32 CHARCLK
GND	33	34 LIPCLK



LAST DESIGNATION USED	
RESISTOR	R40
CAPACITOR	C30
OSCILLATOR	Y2
LIGHT EMITTING DIODE	LED5
RESISTOR NETWORK	RN5

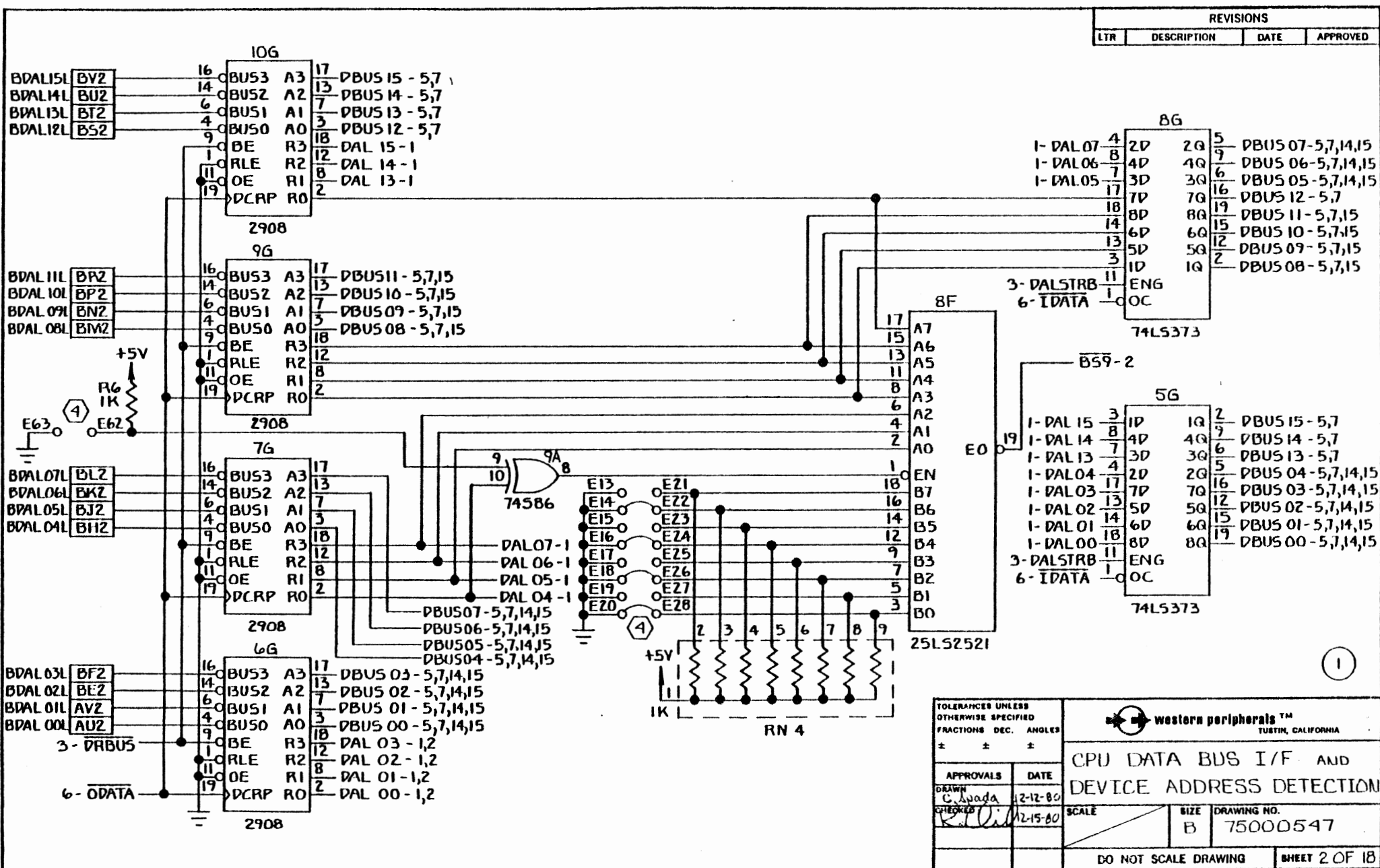
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 R15
 C9
 C26
 E41-E44
 E51

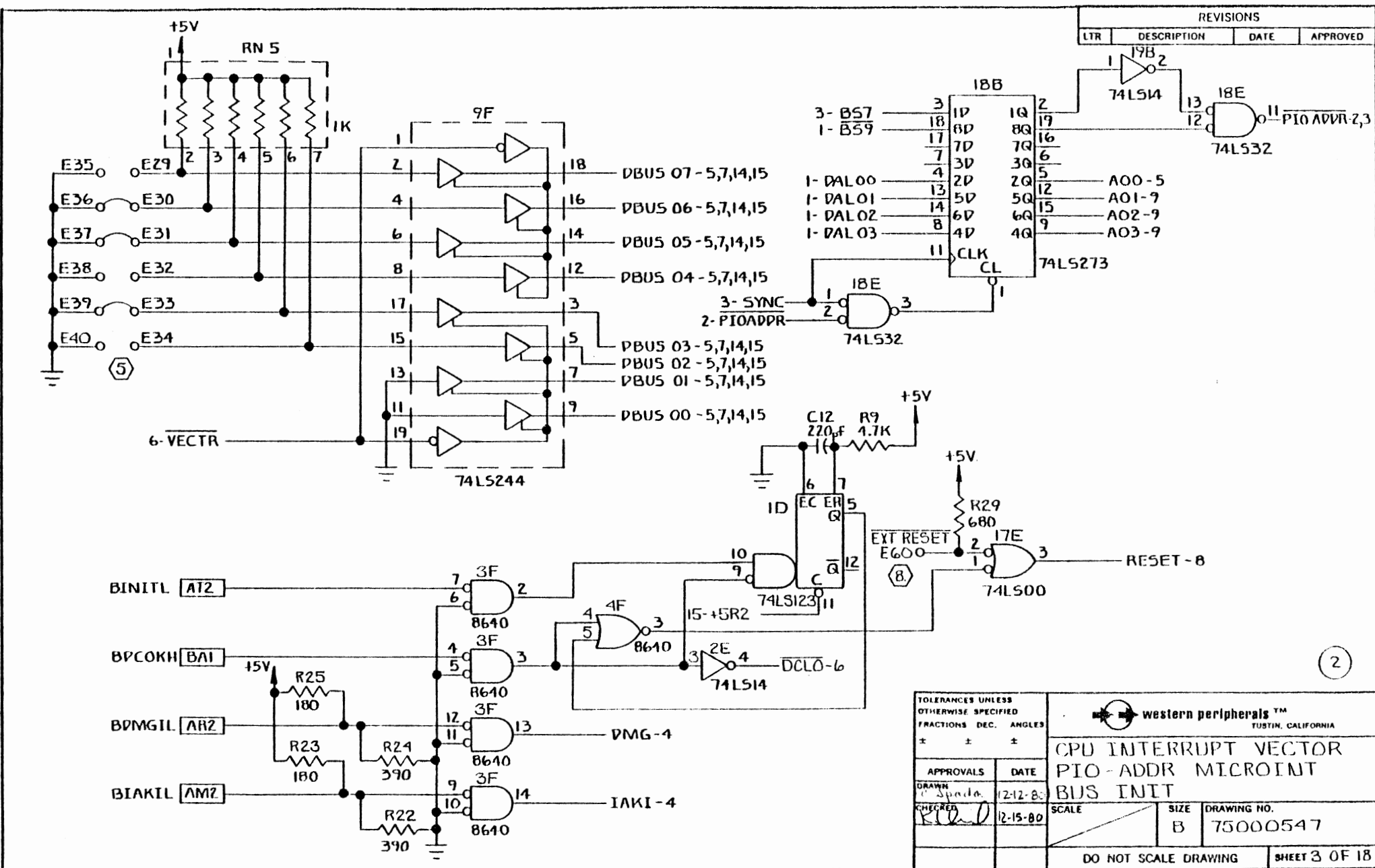
REVISIONS

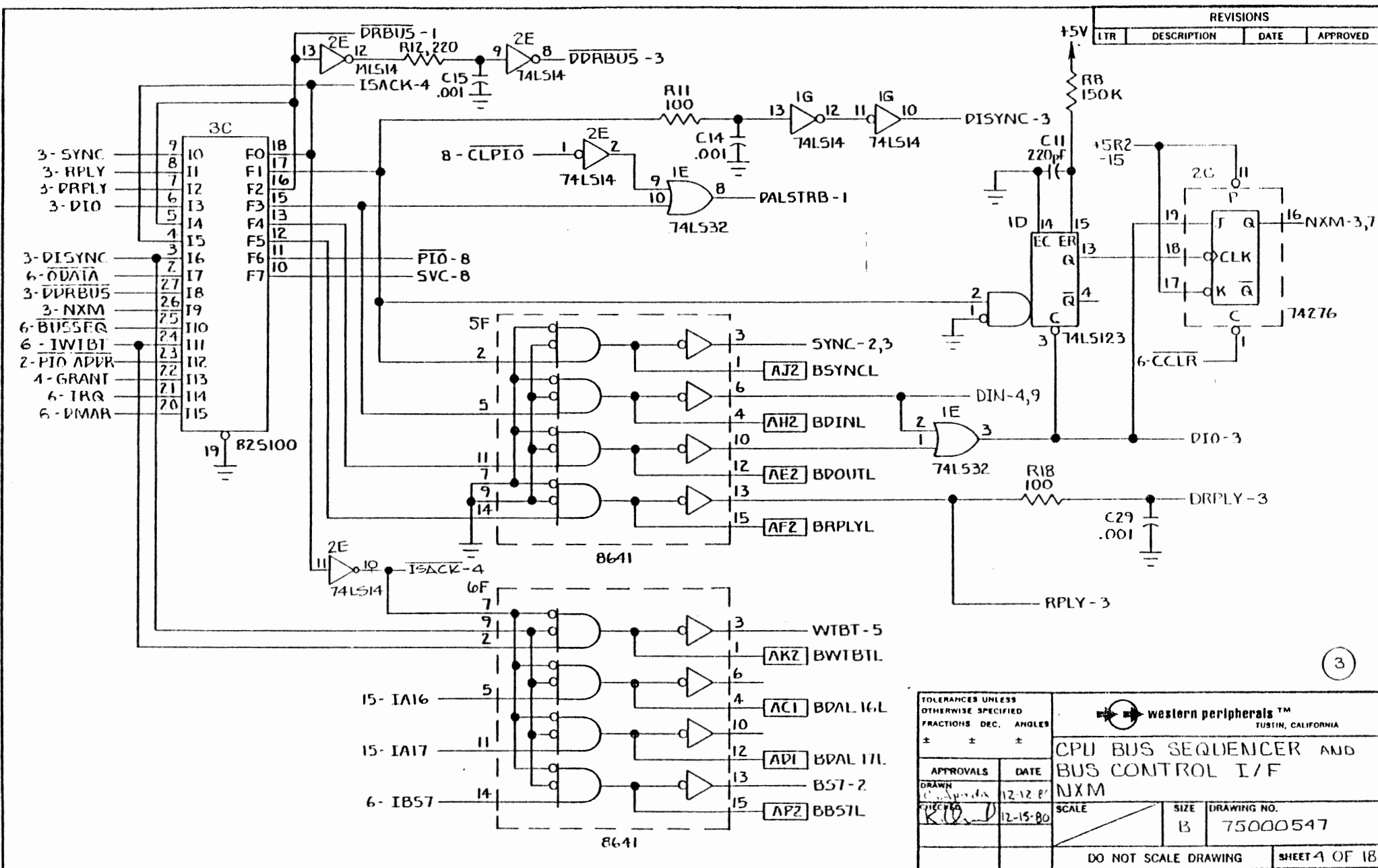
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C	REV. SHTS ③④ PER E.C.O. 865	4-23-81	<i>[Signature]</i>

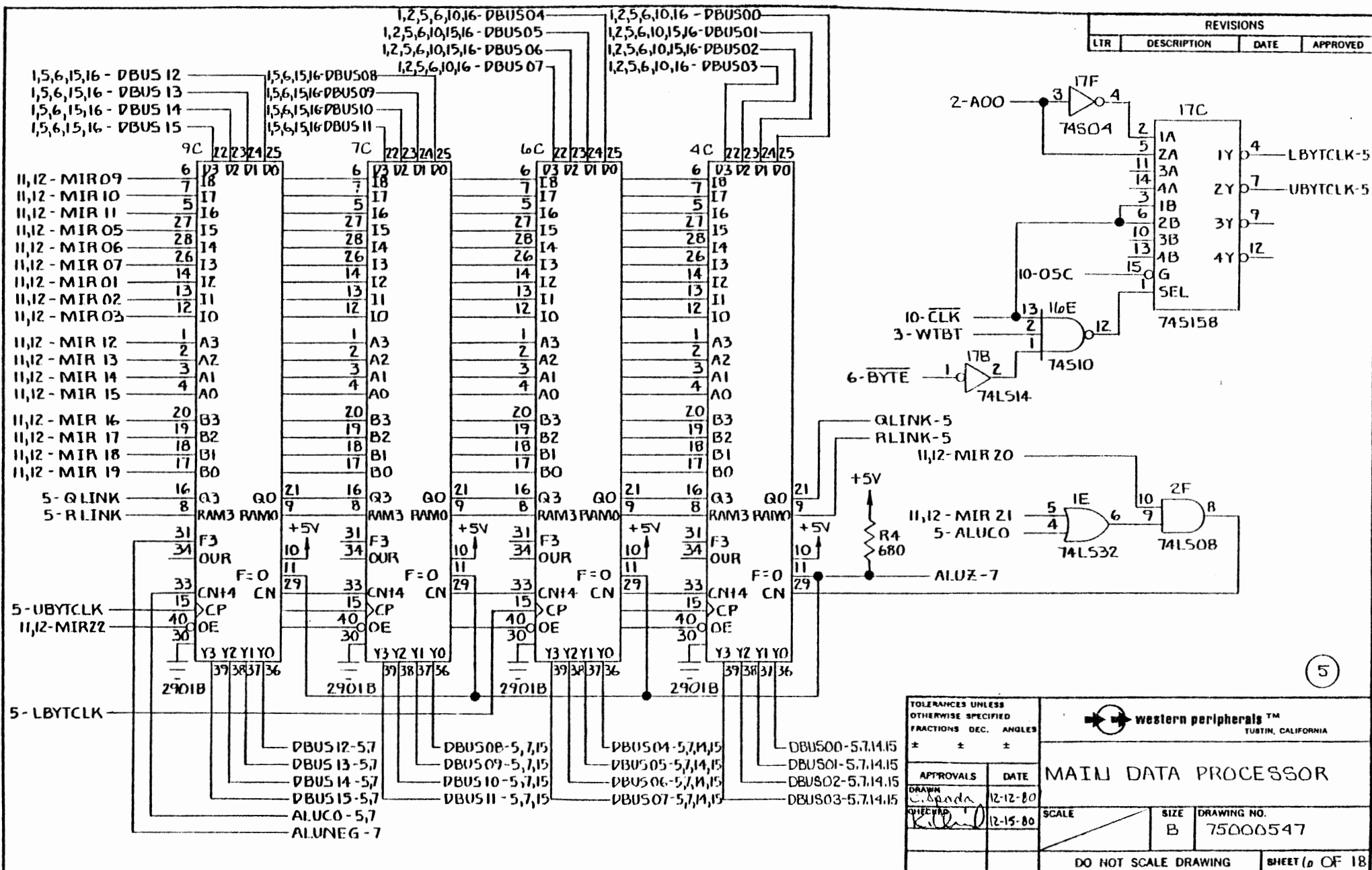
- ⑧. FOR TEST ONLY.
 ⑦. SEE SPEED SETTING TABLE.
 ⑥. SEE INTERRUPT PRIORITY LEVEL TABLE.
 ⑤. SEE INTERRUPT VECTOR TABLE.
 ④. SEE DEVICE ADDRESS TABLE.
 3. REFERENCE ASSY. 60000619.
 2. CAPACITOR VALUES ARE IN MICROFARADS.
 1. RESISTANCE VALUES ARE IN OHMS.
 NOTES: UNLESS OTHERWISE SPECIFIED

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES		 western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS DRAWN <i>C. Loda</i> CHECKED <i>[Signature]</i> DATE 12-17-80		SCALE DATE 12-15-80	
SIZE B		DRAWING NO. 75000547	
DO NOT SCALE DRAWING		SHEET 1 OF 18	







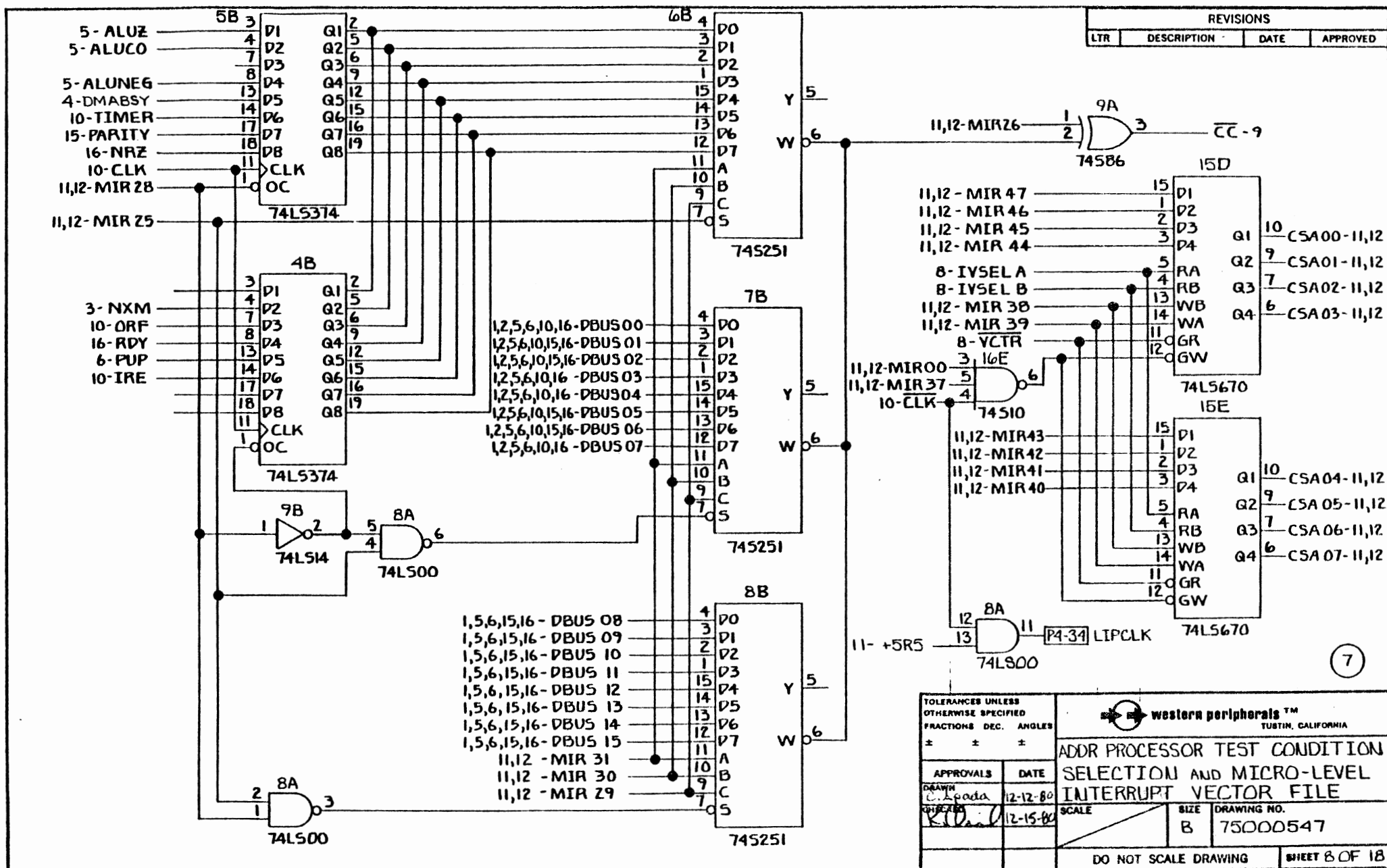


REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

5

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		 western peripherals™ TUSTIN, CALIFORNIA			
APPROVALS		MAIN DATA PROCESSOR			
DATE					
DRAWN C. Banda		12-12-80			
CHECKED K. Lind		12-15-80			
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				B 75000547	
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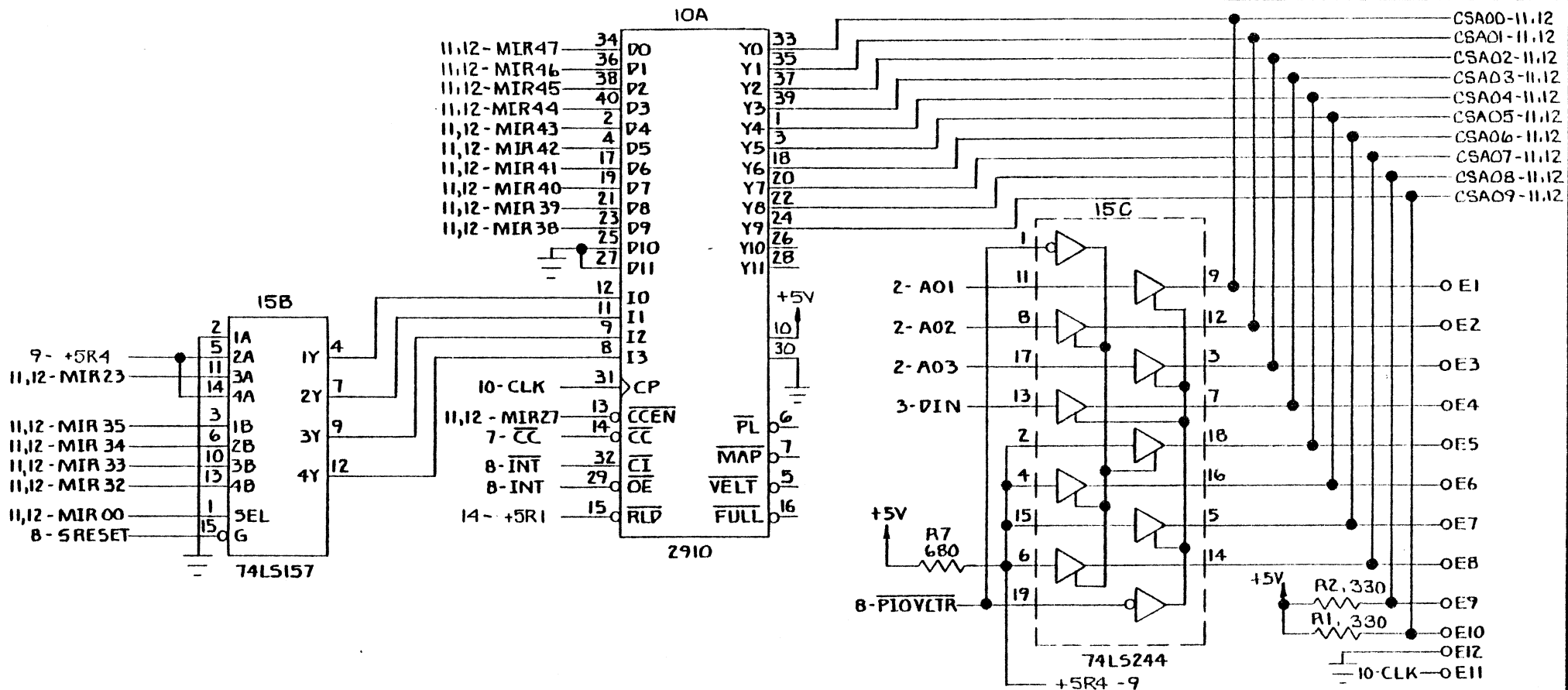


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western peripherals™
TUSTIN, CALIFORNIA

SCALE	SIZE	DRAWING NO.
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SHEET 9 OF 18



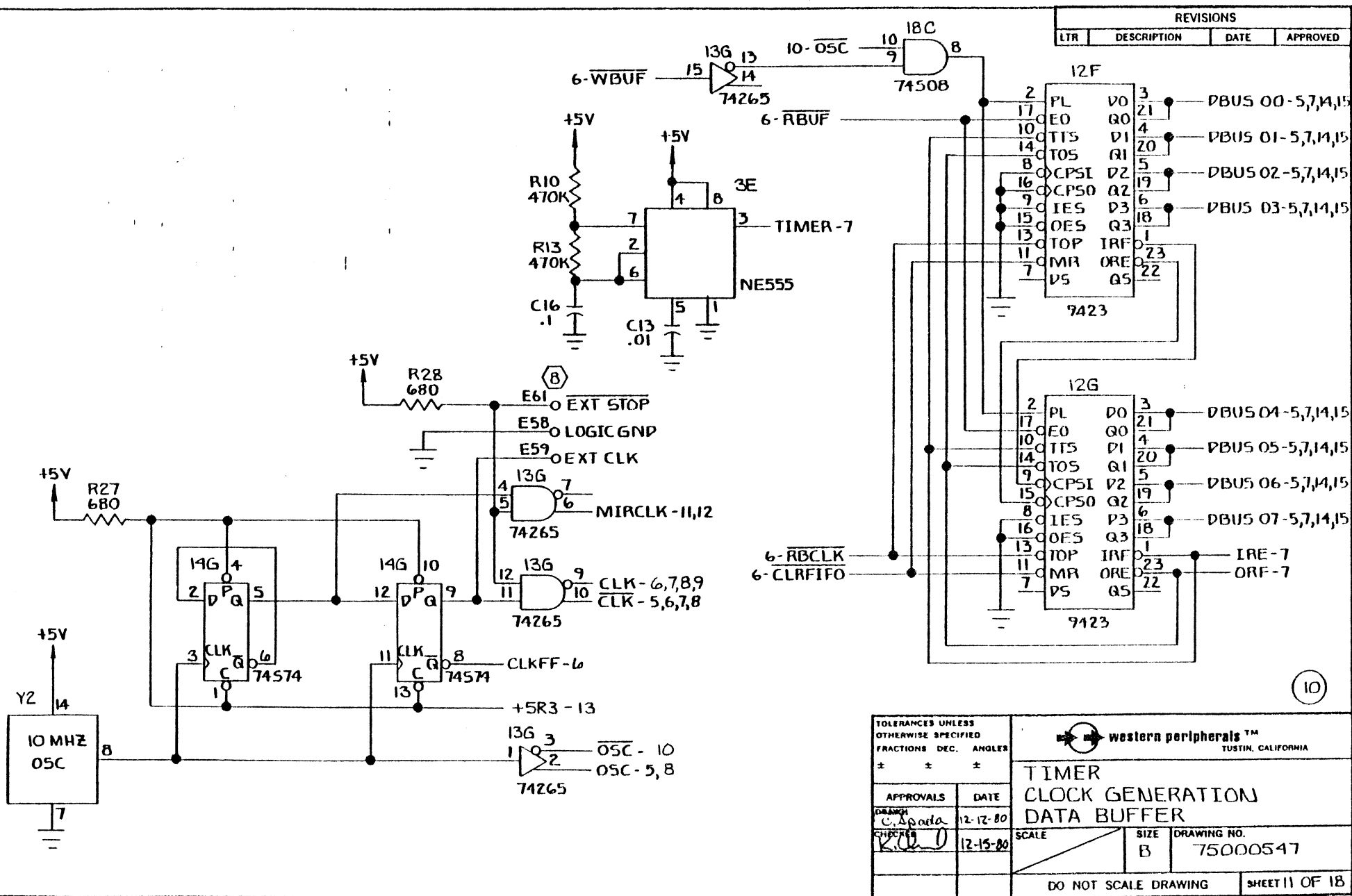
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LTR	DESCRIPTION	DATE	APPROVED

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CSA01-11.12
CSA02-11.12
CSA03-11.12
CSA04-11.12
CSA05-11.12
CSA06-11.12
CSA07-11.12
CSA08-11.12
CSA09-11.12

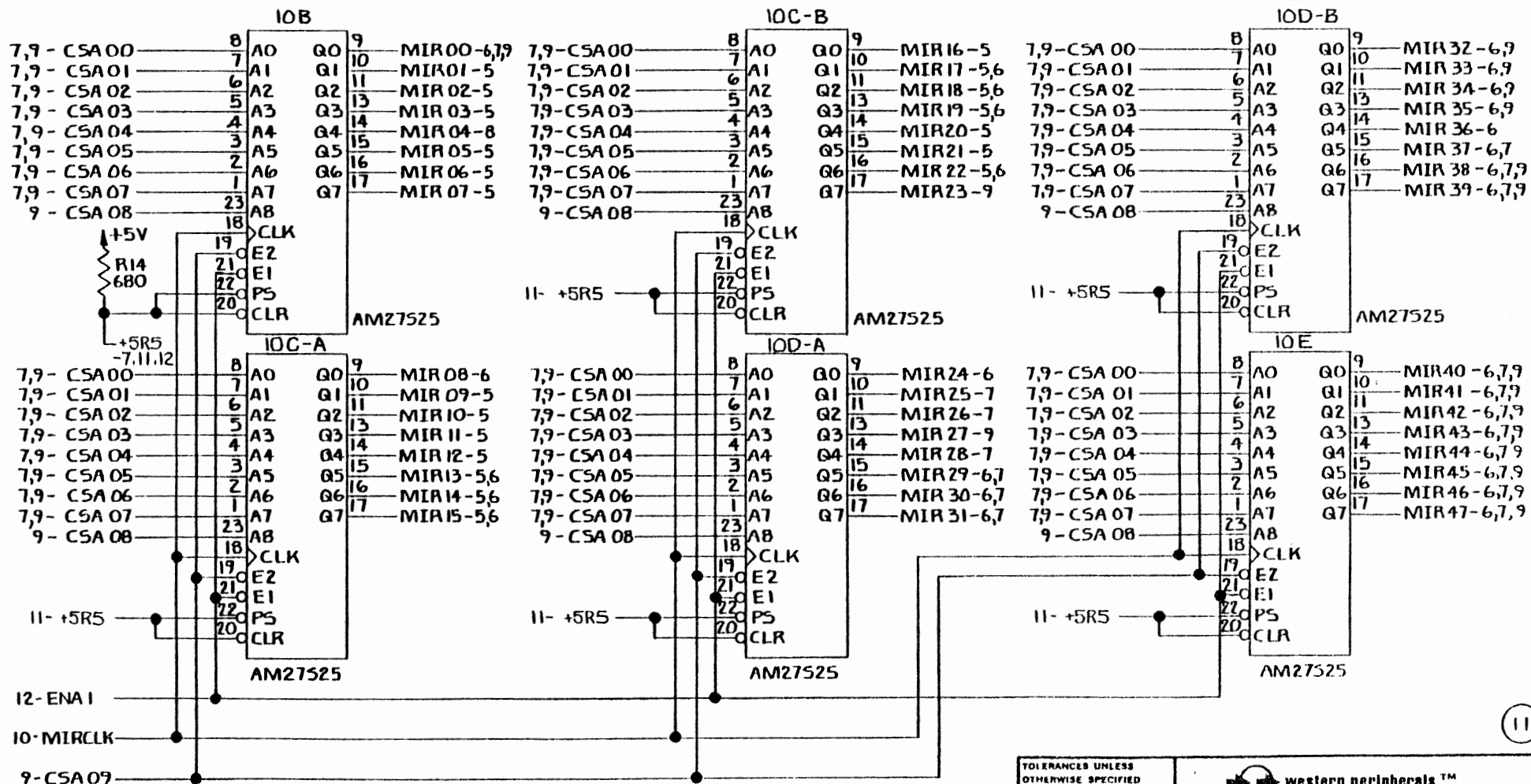
9

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APPROVALS C. Apada 12-12-80 12-15-80		DATE	
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DO NOT SCALE DRAWING			SHEET 10 OF 18

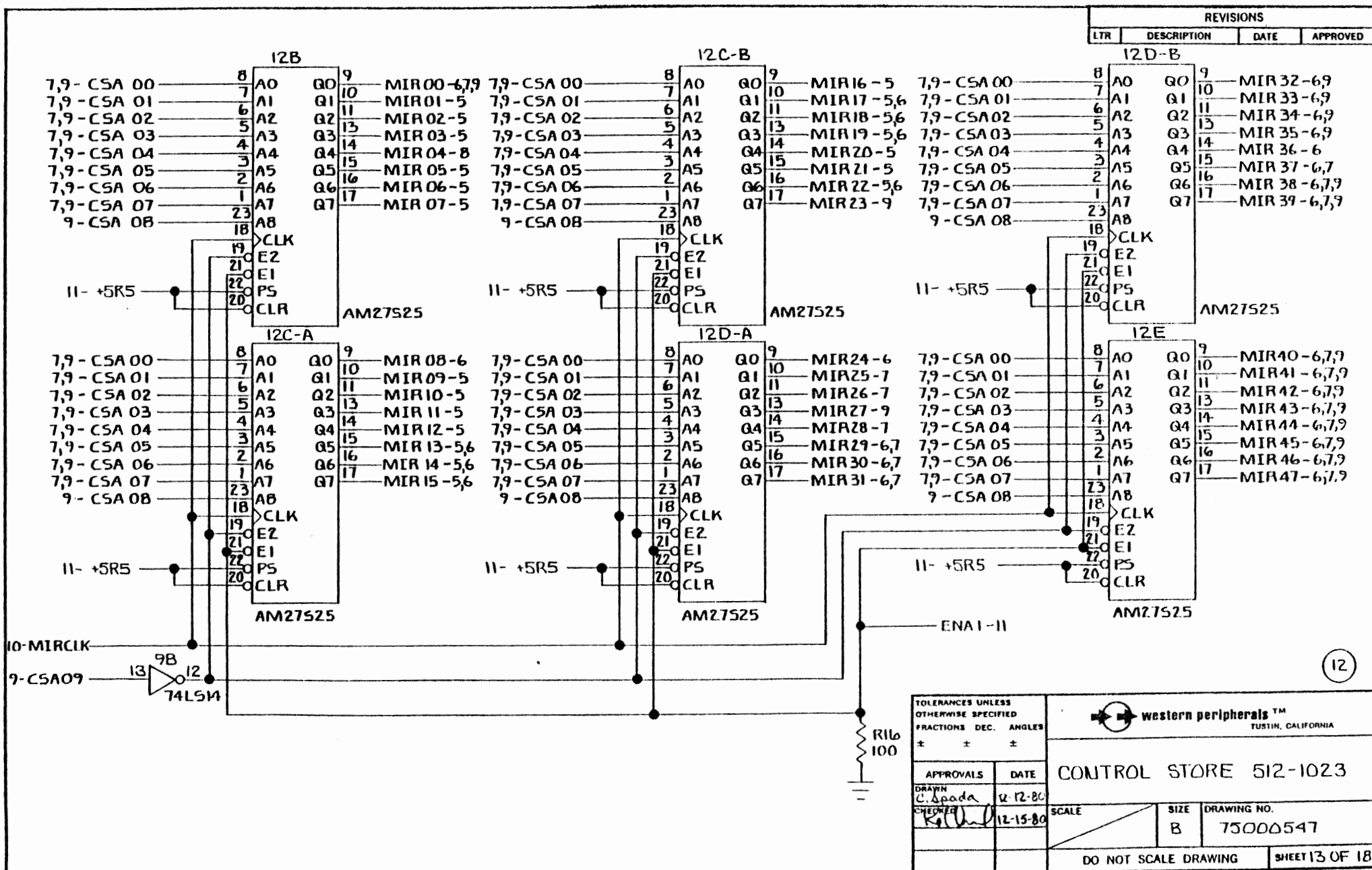
504109-A



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES		western peripherals™ TUSTIN, CALIFORNIA	
± ± ±		CONTROL STORE 0-511	
APPROVALS	DATE	SCALE	SIZE
DRAWN C. Apoda	12-12-80	B	DRAWING NO. 75000547
CHECKED K. D.	12-15-80		
DO NOT SCALE DRAWING		SHEET 12 OF 18	



TOLERANCES UNLESS
OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±

western peripherals™
TUSTIN, CALIFORNIA

CONTROL STORE 512-1023

APPROVALS	DATE
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CHECKED K. Spada	12-15-80

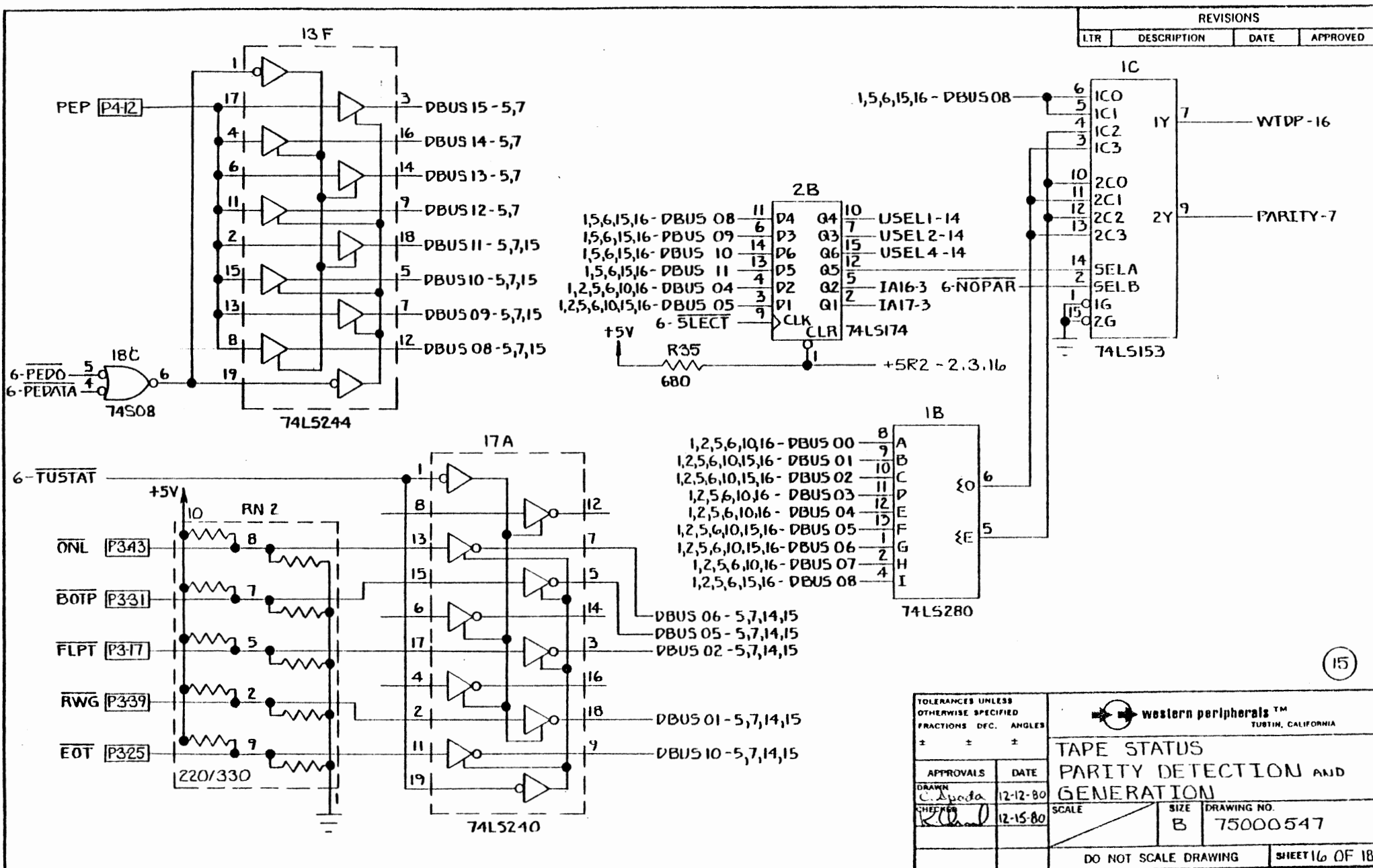
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DO NOT SCALE DRAWING

SHEET 13 OF 18

504109-A





REVISIONS			
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APPROVALS		DATE	
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CHECKED <i>[Signature]</i>		12-15-80	
SCALE		SIZE B	DRAWING NO. 75000547
DO NOT SCALE DRAWING			SHEET 16 OF 18

504109-A



4

DEVICE ADDRESS
STD ADDR 772520₈

ADDR BIT	ADDR RANGE	E JUMPERS	STD ADDR	INSTALLED JUMPERS
17				
16				
15				
14				
13				
12	0/1	13-21		
11	0/1	14-22	0	14-22
10	0/1	15-23		
9	0/1	16-24	0	16-24
8	0/1	17-25		
7	0/1	18-26	0	18-26
6	0/1	19-27		
5	0/1	20-28	0	20-28
4	0/1	62-63	1	
3	X		X	
2	X		X	
1	X		X	
0	X		X	

5

INTERRUPT VECTOR
STD VECTOR 224₈

VCTR BIT	E JUMPERS	STD VCTR	INSTALLED JUMPERS
7	29-35	1	
6	30-36	0	30-36
5	31-37	0	31-37
4	32-38	1	
3	33-39	0	33-39
2	34-40	1	
1		0	
0		0	

6

INTERRUPT PRIORITY LEVEL

BR4	BR5	BR6	BR7
E46 → E49	E46 → E49	E45 → E48	E52 → E55
E47 → E50	E54 → E57	E53 → E56	E53 → E56

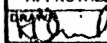
7

SPEED SETTING

SW POS	125	125	125	125	75	75	75	45	45	37.5	SEL B
196	75	45	37.5	25	45	37.5	25	37.5	25	25	SEL A
1	C	C	C	C	C	C	C	C	C	C	
2	C	C	C	C	C	C	C	C	C	C	
3	C	C	C	C	C	C	C	C	C	C	
4	C	C	C	C	C	C	C	C	C	C	

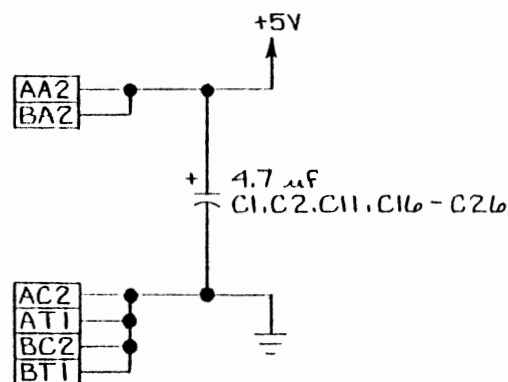
TAPE
CTRL
CBL
SWA-4

C = ON
O = OFF

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		 western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS  CHECKED HP KOGA		DATE 12-18-80 12-18-80	
SCALE 1:1		SIZE B	DRAWING NO. 75000547
DO NOT SCALE DRAWING			SHEET 18 of 18

504107-A

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	RELEASE	3-2-81	<i>DR</i>

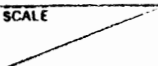


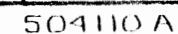
INTERCONNECT

P4			
DBUS01	1	2	DBUS00
DBUS03	3	4	DBUS02
DBUS06	5	6	DBUS07
DBUS05	7	8	DBUS04
GND	9	10	GND
	11	12	PEP
FWD	13	14	RD7
RD6	15	16	RD5
RD4	17	18	RD3
RD2	19	20	RD1
RD0	21	22	RDP
PEDATA	23	24	RDGATE
PERDY	25	26	PEDO
SO	27	28	PESTAT
CKSEL4	29	30	CKSEL1
CKSEL2	31	32	CHARCLK
GND	33	34	PCLK

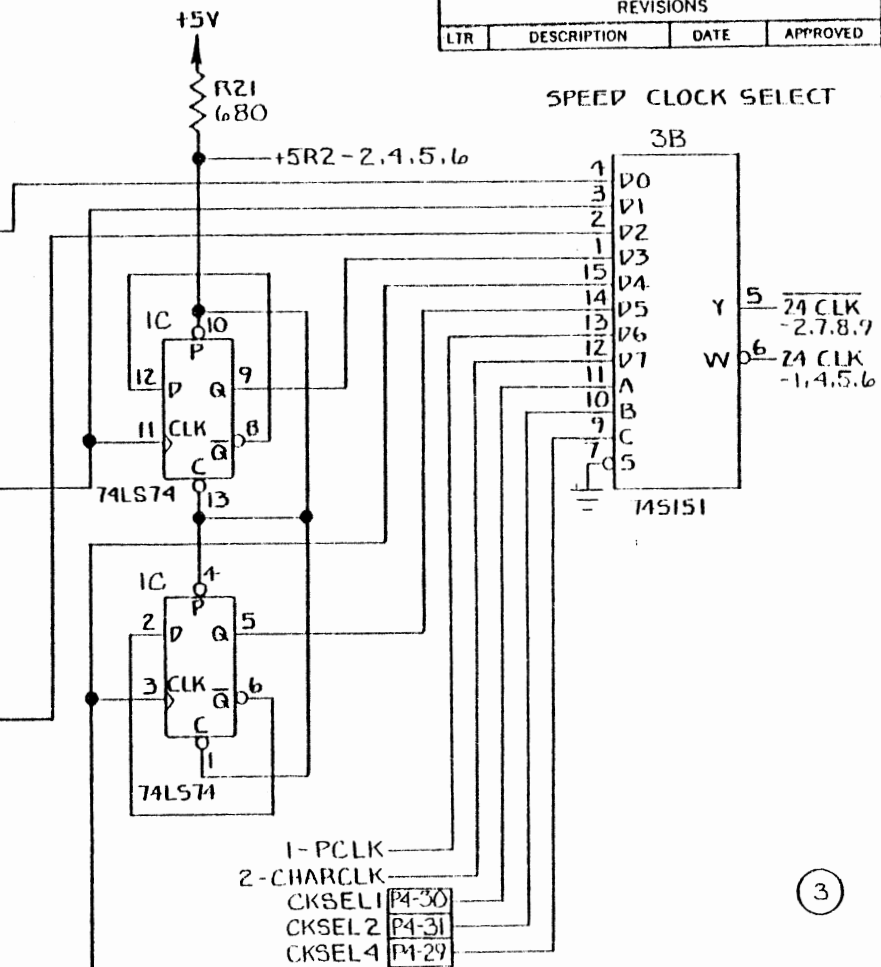
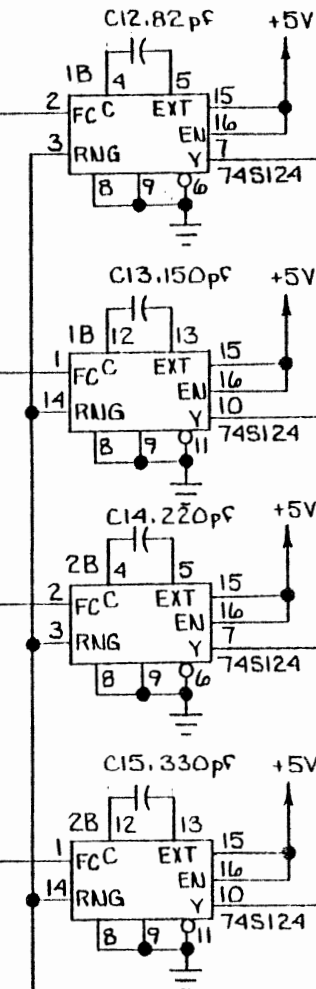
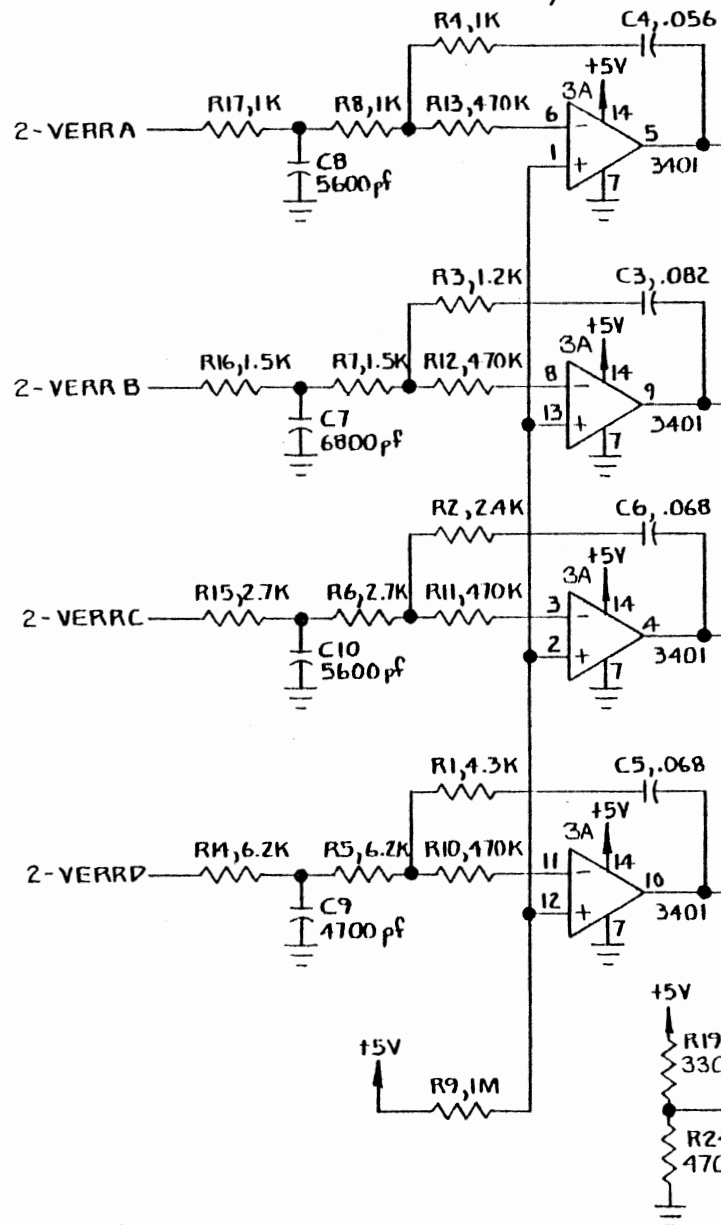
LAST DESIGNATION USED	
RESISTOR	R24
CAPACITOR	C27
DIODE	CR8

3. REFERENCE ASSY. 60000627.
 2. CAPACITOR VALUES ARE IN MICROFARADS.
 1. RESISTANCE VALUES ARE IN OHMS.
- NOTES : UNLESS OTHERWISE SPECIFIED

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		 western peripherals™ TUSTIN, CALIFORNIA	
SCHEMATIC TC 151 PE ADAPTER			
APPROVALS	DATE	SCALE	SIZE
DRAWN <i>C. Luoda</i>	12-24-80		B
CHECKED <i>HDK/HA</i>	12-24-80		
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		SHEET 1 OF 10	



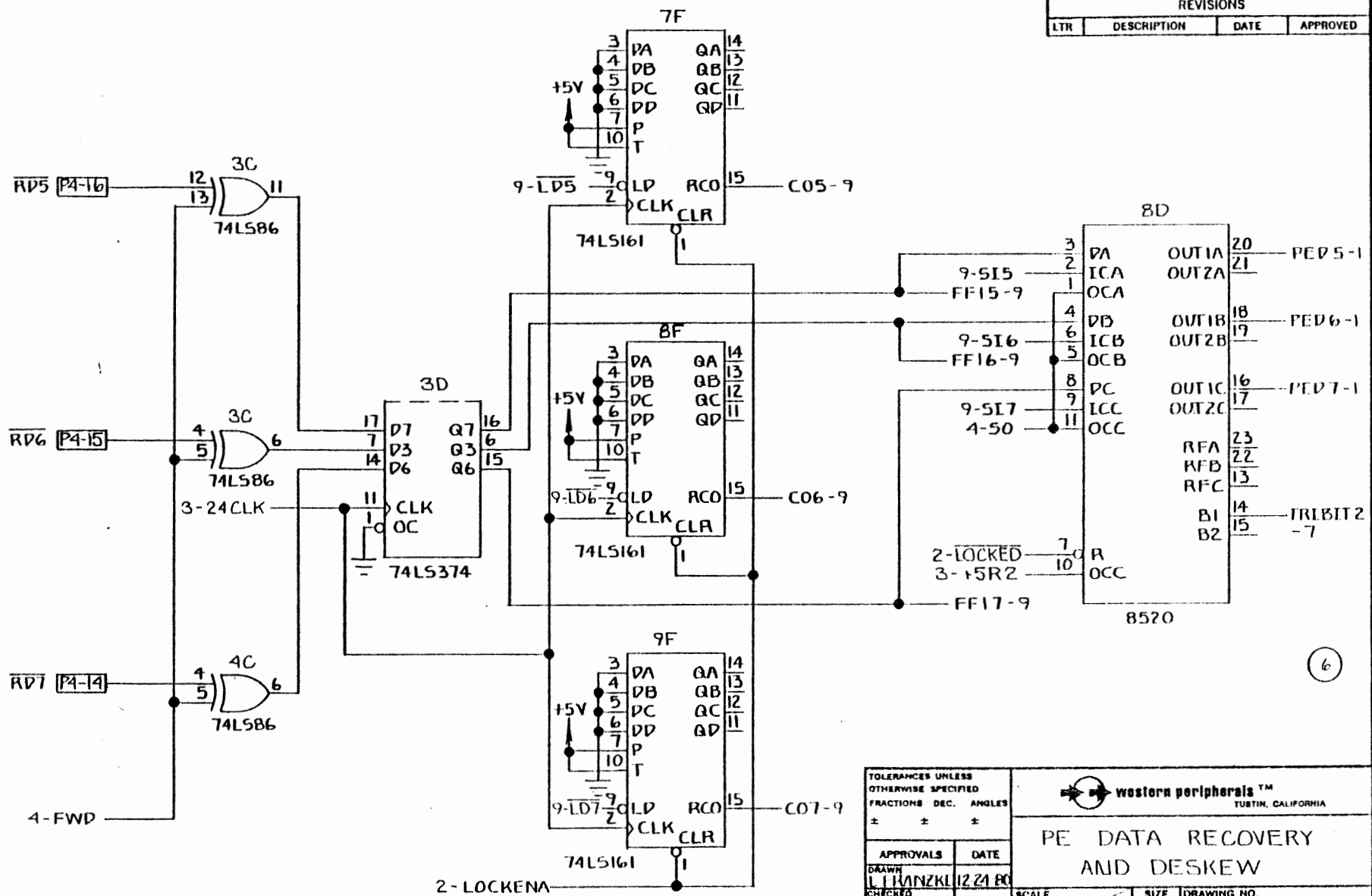
LOW PASS FILTER / AMPLIFIER



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		 western peripherals™ TUSTIN, CALIFORNIA	
LOW PASS / FILTER / AMPLIFIER AND VCO SPEED CLOCK SELECT			
APPROVALS	DATE	SCALE	
DRAWN L. HANZIK	12-21-80		
CHECKED H. K. GEA	12-21-80		
		SIZE B	DRAWING NO. 75000554
DO NOT SCALE DRAWING			SHEET 4 OF 10

504110 A



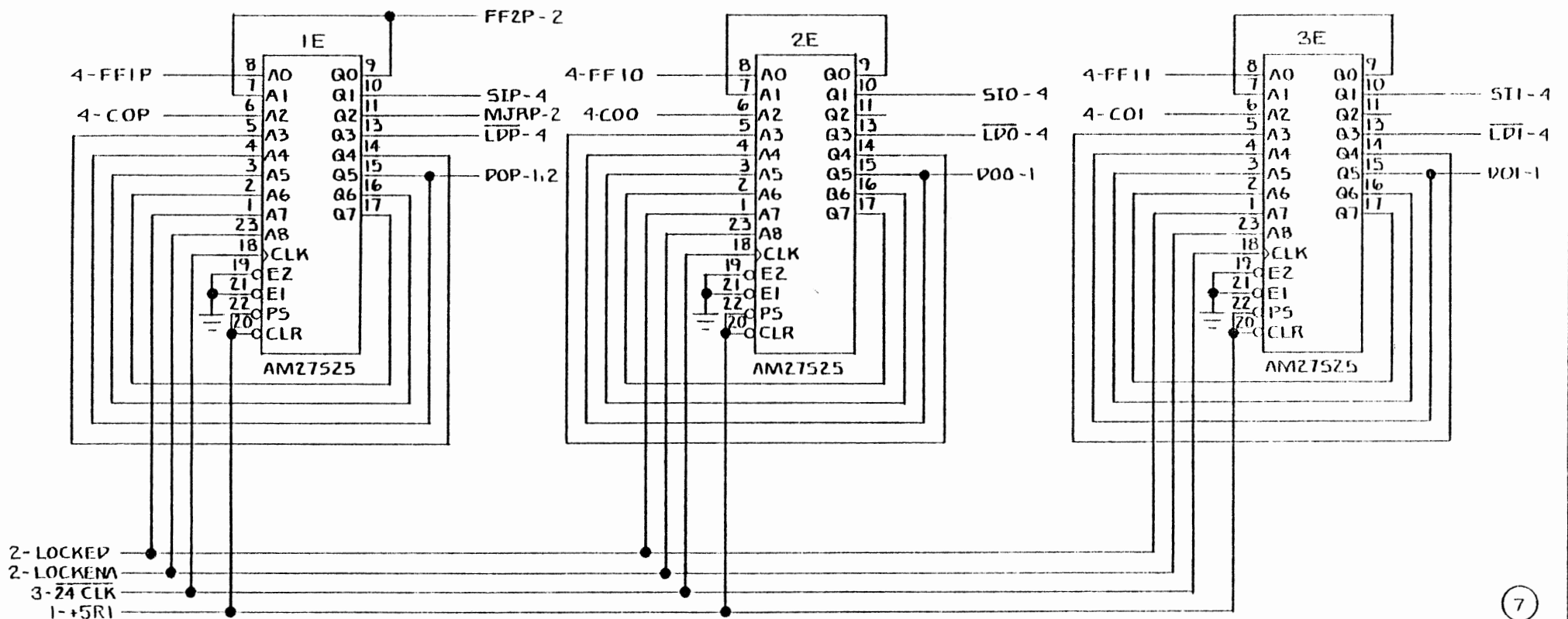
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

6

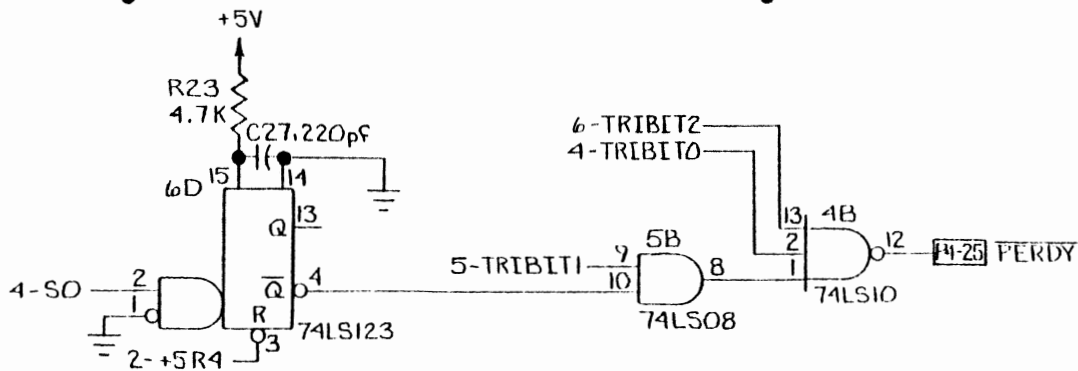
TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals™ TUSTIN, CALIFORNIA	
PE DATA RECOVERY AND DESKEW			
APPROVALS	DATE	SIZE	DRAWING NO.
DRAWN L. HANZKE	12-21-80	B	75000554
CHECKED H. KOGA	12-24-80	DO NOT SCALE DRAWING	
			SHEET 7 OF 10

504110 A

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



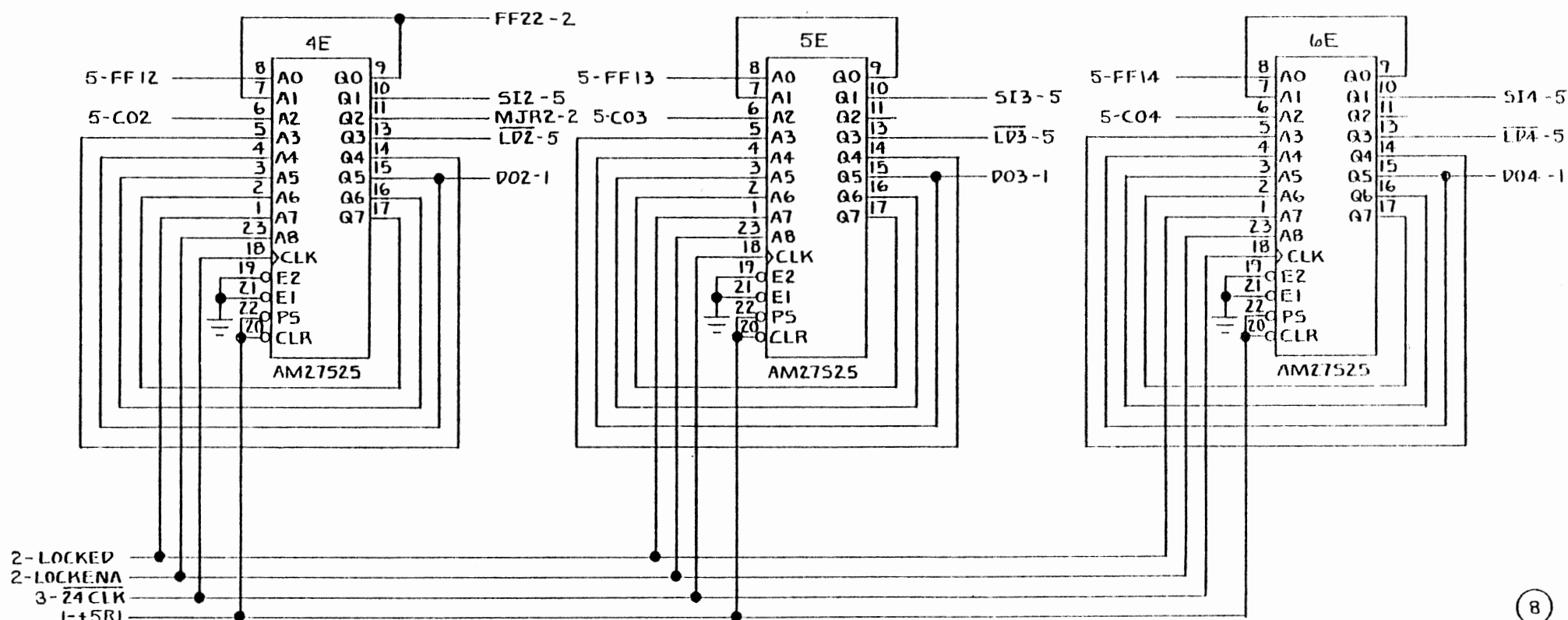
7



TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES * * *		western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS	DATE	PE CHNL SEQ CTRL	
DRAWN L. J. KANZKI	12-21-80	SCALE	SIZE B
CHECKED HDK:GMA	11-24-80	DRAWING NO. 75000554	SHEET 8 OF 10
		DO NOT SCALE DRAWING	

504110 A

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

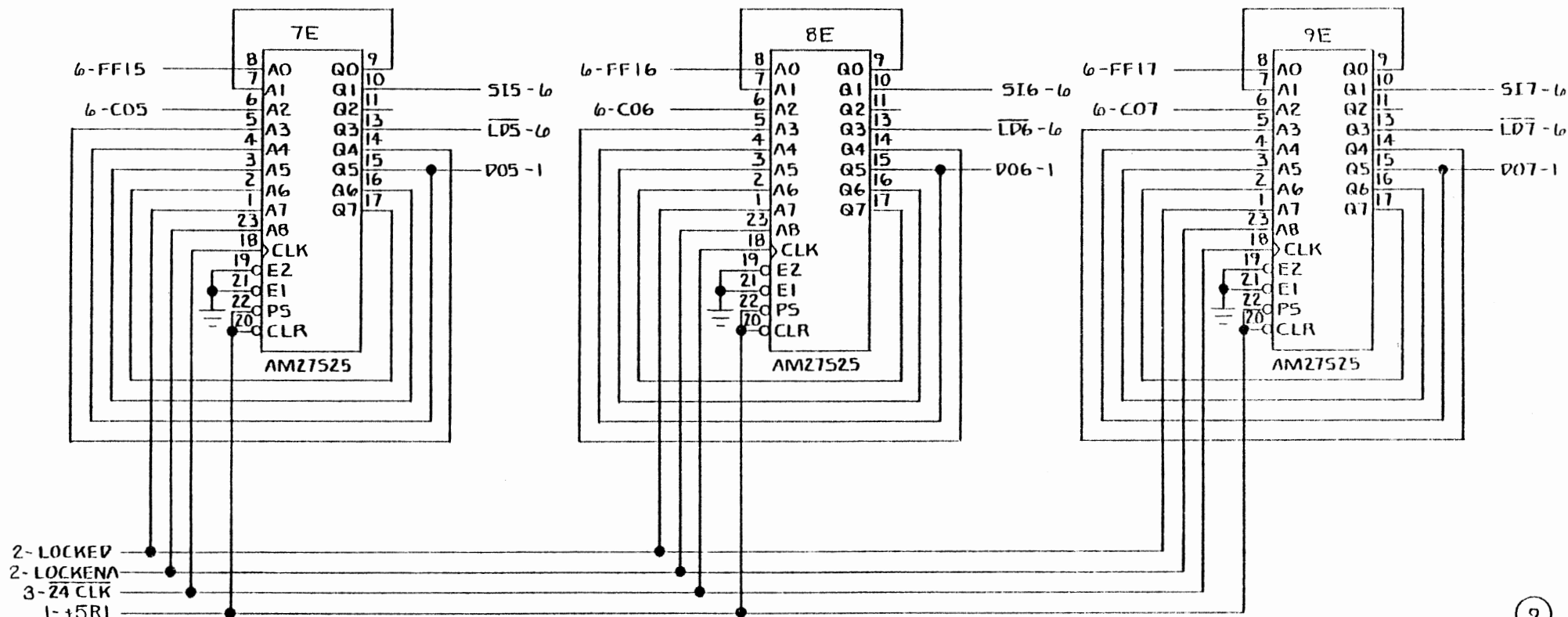


8

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		 western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS DRAWN CHECKED HDKCKGA		DATE 12-24-80 SCALE B	
PE CHNL SEQ. CTRL		DRAWING NO. 75000554	
DO NOT SCALE DRAWING		SHEET 9 OF 10	

504110 A

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



9

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS DRAWN L. I. VAN/KI CHECKED H. D. KOGA DATE 12-21-80		PE CHNL SEQ CTRL SIZE B DRAWING NO. 75000554	
DO NOT SCALE DRAWING		SHEET 10 OF 10	

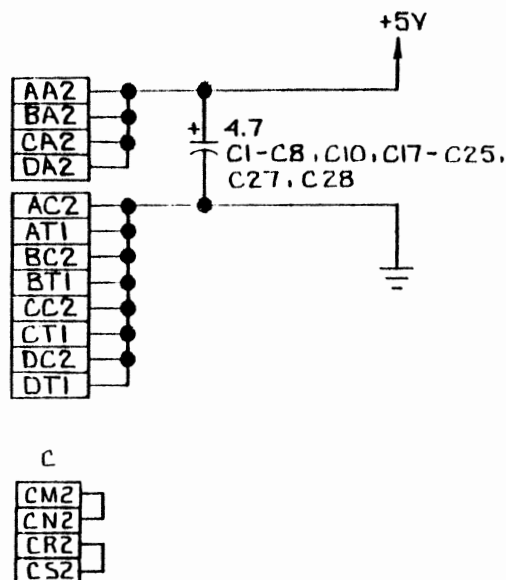
504110 A

CONTROL A		
	P3	
SLT6	1 2	GND
SLT7	3 4	GND
SLT5	5 6	GND
SLT4	7 8	GND
SLT3	9 10	GND
SLT0	11 12	GND
SLT1	13 14	GND
SLT2	15 16	GND
FLPT	17 18	GND
WNB	19 20	GND
OVW	21 22	GND
RSL	23 24	GND
EOT	25 26	GND
RWC	27 28	GND
DDS	29 30	GND
BOTP	31 32	GND
FSL	33 34	GND
+5V	35 36	GND
+5V	37 38	GND
RWB	39 40	GND
RDY	41 42	GND
ONL	43 44	GND
	45 46	GND
SPD	47 48	GND
NRZ	49 50	GND

READ B2		
	P1	
RD7	1 2	GND
RD6	3 4	GND
RD5	5 6	GND
RD4	7 8	GND
RD3	9 10	GND
RD2	11 12	GND
RD1	13 14	GND
NRZ	15 16	GND
	17 18	GND
RD0	19 20	GND
RDS	21 22	GND
RDP	23 24	GND
	25 26	GND

WRITE B1		
	P2	
WD5	1 2	GND
WD7	3 4	GND
WARS	5 6	GND
WD6	7 8	GND
	9 10	GND
WD5	11 12	GND
WDP	13 14	GND
WD4	15 16	GND
WDO	17 18	GND
WD3	19 20	GND
WDI	21 22	GND
WD2	23 24	GND
+5V	25 26	GND

INTERCONNECT		
	P4	
DBUS01	1 2	DBUS00
DBUS03	3 4	DBUS02
DBUS06	5 6	DBUS07
DBUS05	7 8	DBUS04
GND	9 10	GND
	11 12	PEP
FWD	13 14	RD7
RD6	15 16	RD5
RD4	17 18	RD3
RD2	19 20	RD1
RD0	21 22	RDP
PEDATA	23 24	RGATE
PERDY	25 26	PEDO
SO	27 28	PESTAT
CKSEL4	29 30	CKSEL1
CKSEL2	31 32	CHARCLK
GND	33 34	LIPCLK



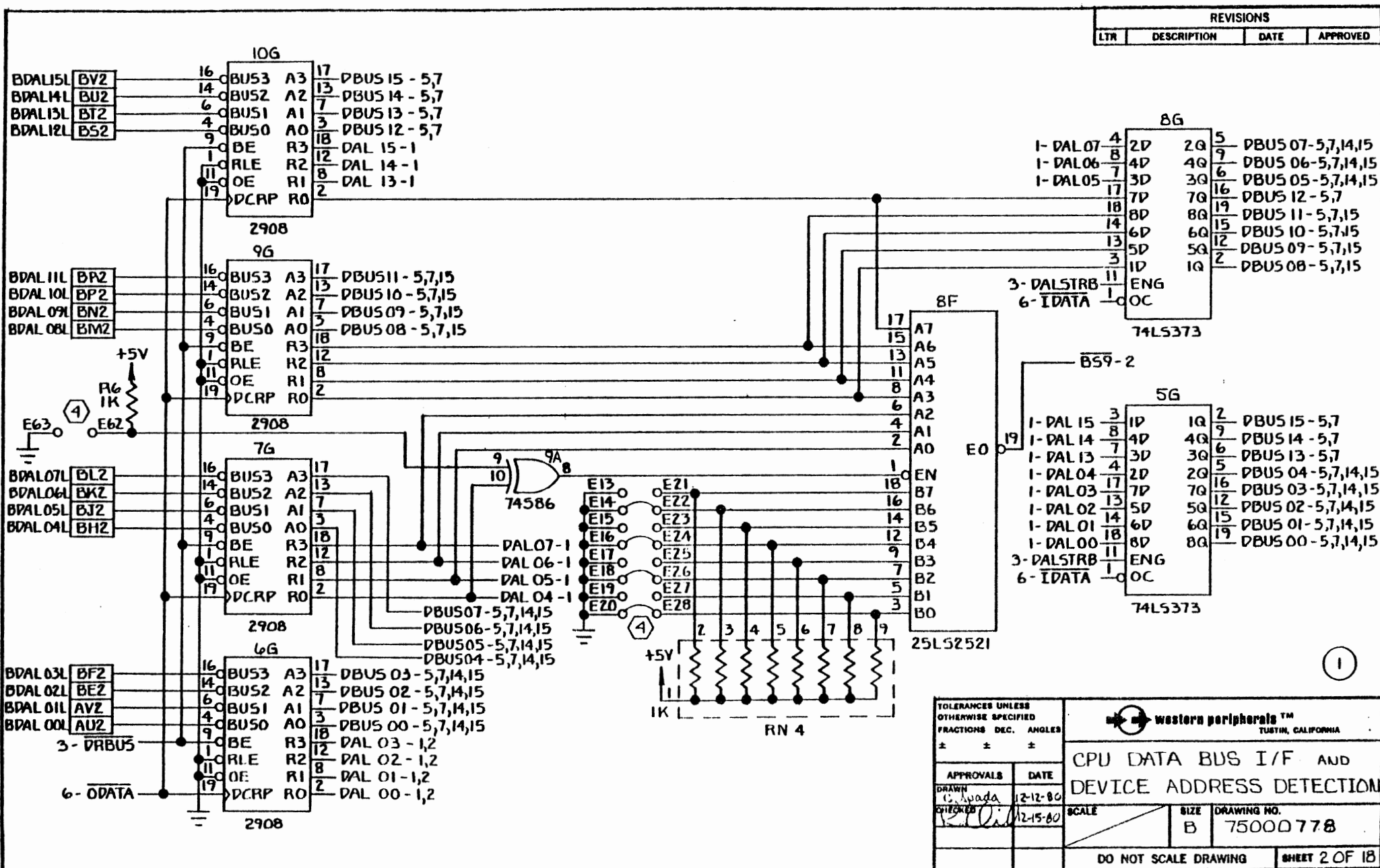
LAST DESIGNATION USED	
RESISTOR	R40
CAPACITOR	C30
OSCILLATOR	Y2
LIGHT EMITTING DIODE	LED5
RESISTOR NETWORK	RN5

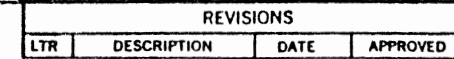
REFERENCE DESIGNATIONS NOT USED:
 R15
 C9
 C21b
 E41-E44
 E51

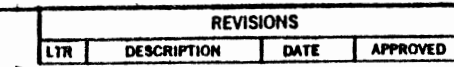
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	RELEASE TO PRODUCTION	2-27-81	<i>ESL</i>
B	REVISED PER ECO # 998	3-31-82	<i>WJ</i>

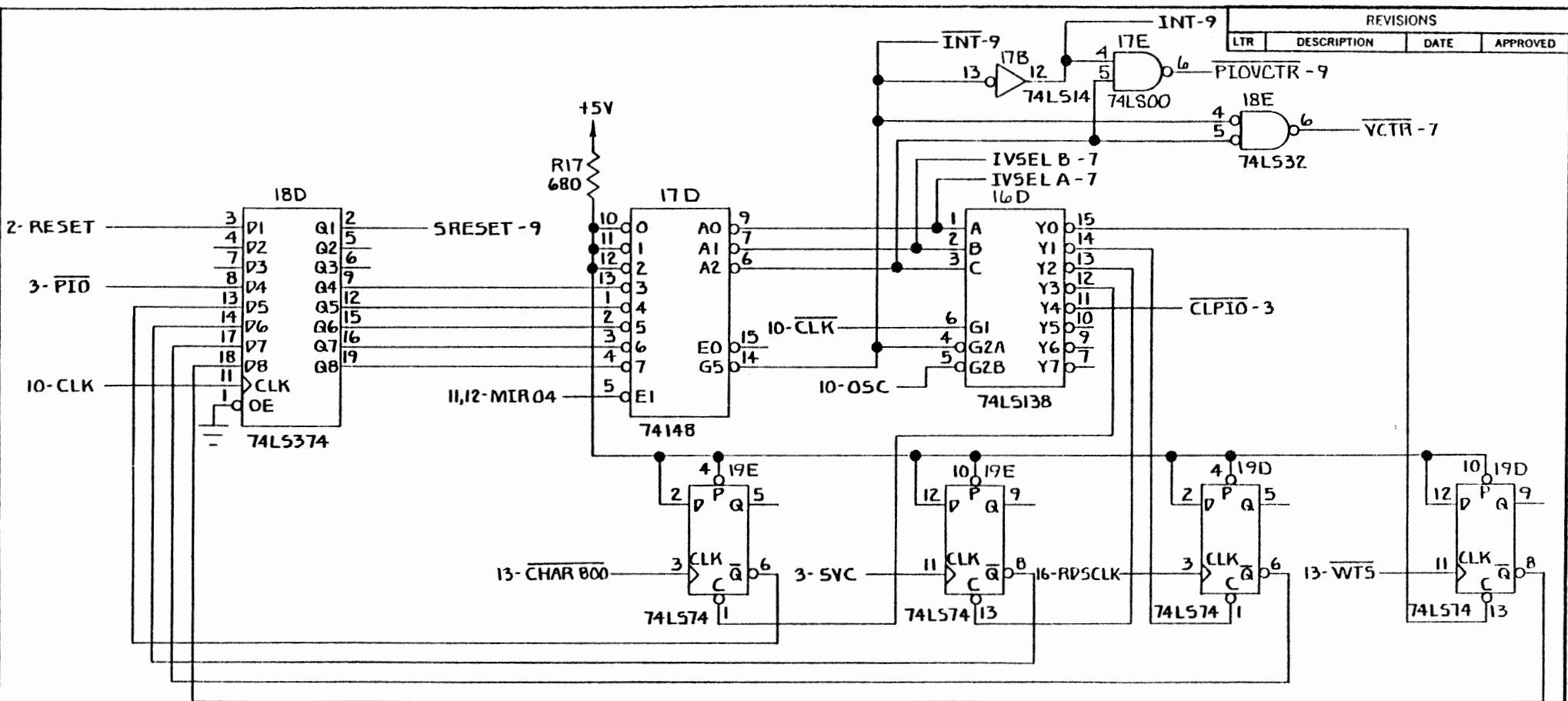
- (8) FOR TEST ONLY.
 - (7) SEE SPEED SETTING TABLE.
 - (6) SEE INTERRUPT PRIORITY LEVEL TABLE.
 - (5) SEE INTERRUPT VECTOR TABLE.
 - (4) SEE DEVICE ADDRESS TABLE.
 - 3. REFERENCE ASSY. 60000866
 - 2. CAPACITOR VALUES ARE IN MICROFARADS.
 - 1. RESISTANCE VALUES ARE IN OHMS.
- NOTES: UNLESS OTHERWISE SPECIFIED

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES			 western peripherals™ TUSTIN, CALIFORNIA		
±	±	±	SCHEMATIC TC 151 TAPE CONTROLLER		
APPROVALS		DATE	SCALE		
DRAWN C. hood		12-12-80			
CHECKED K. Lee		12-15-80			
		14 Dec 80			
			SIZE B		DRAWING NO. 75000778
			DO NOT SCALE DRAWING		SHEET 1 OF 18





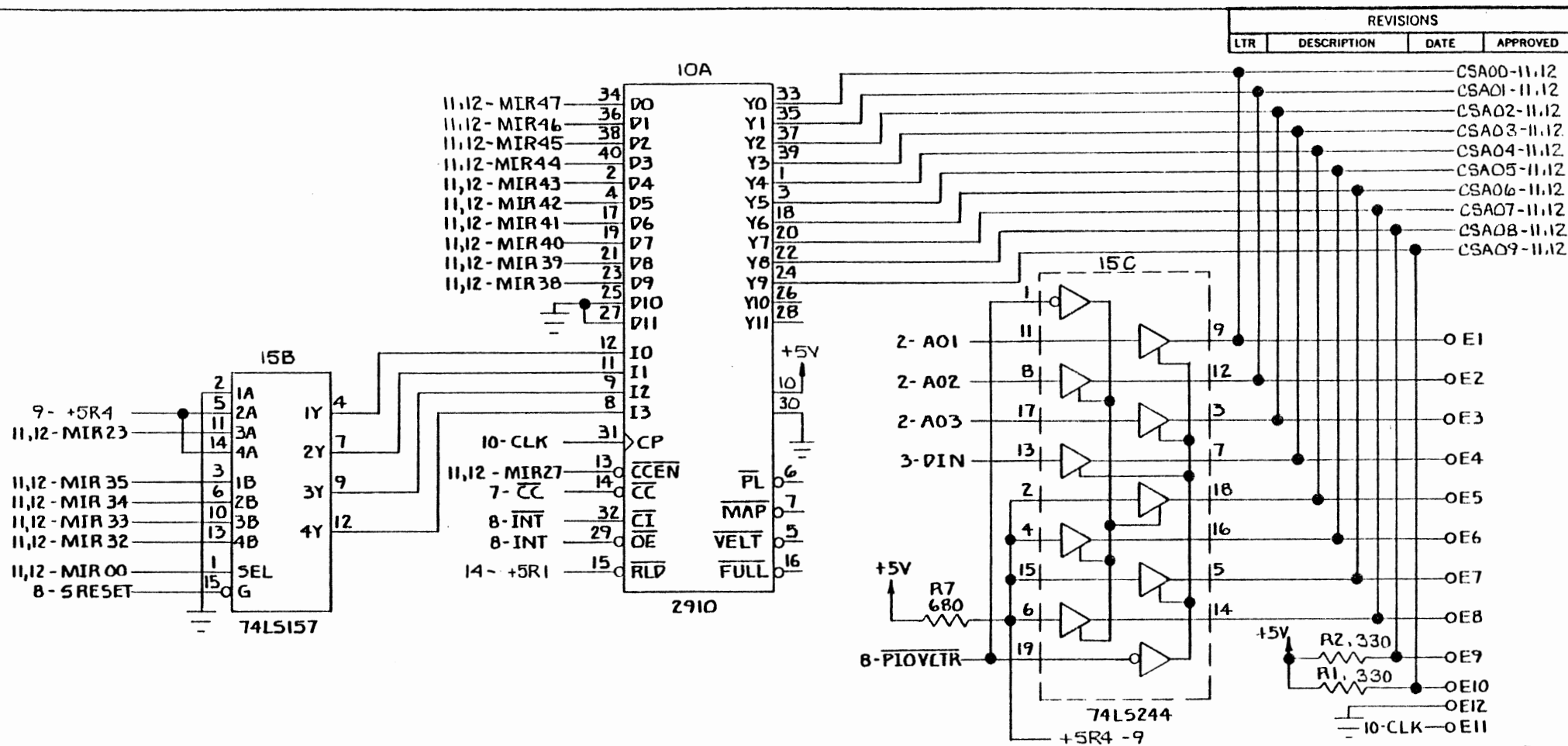




REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

8

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS DRAWN <i>C. Spada</i> CHECKED <i>R. [signature]</i>		DATE 12-12-80 DATE 12-15-80	
MICRO-LEVEL INTERRUPT CTRL		SCALE	SIZE B DRAWING NO. 75000778
DO NOT SCALE DRAWING		SHEET 9 OF 18	



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

CSA00-11,12
 CSA01-11,12
 CSA02-11,12
 CSA03-11,12
 CSA04-11,12
 CSA05-11,12
 CSA06-11,12
 CSA07-11,12
 CSA08-11,12
 CSA09-11,12

9

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS DRAWN C. Spada CHECKED R. [Signature] DATE 12-12-80 12-15-80		ADDR PROCESSOR	
SCALE	SIZE B	DRAWING NO.	75000778
DO NOT SCALE DRAWING		SHEET 10 OF 18	

504109-A



504109-A

IOB

7,9 - CSA00	8	A0	Q0	9	MIR00-6,7,9
7,9 - CSA01	7	A1	Q1	10	MIR01-5
7,9 - CSA02	6	A2	Q2	11	MIR02-5
7,9 - CSA03	5	A3	Q3	13	MIR03-5
7,9 - CSA04	4	A4	Q4	14	MIR04-8
7,9 - CSA05	3	A5	Q5	15	MIR05-5
7,9 - CSA06	2	A6	Q6	16	MIR06-5
7,9 - CSA07	1	A7	Q7	17	MIR07-5
9 - CSA08	23	A8			

IOC-B

7,9 - CSA00	8	A0	Q0	9	MIR16-5
7,9 - CSA01	7	A1	Q1	10	MIR17-5,6
7,9 - CSA02	6	A2	Q2	11	MIR18-5,6
7,9 - CSA03	5	A3	Q3	13	MIR19-5,6
7,9 - CSA04	4	A4	Q4	14	MIR20-5
7,9 - CSA05	3	A5	Q5	15	MIR21-5
7,9 - CSA06	2	A6	Q6	16	MIR22-5,6
7,9 - CSA07	1	A7	Q7	17	MIR23-9
9 - CSA08	23	A8			

IOD-B

7,9 - CSA00	8	A0	Q0	9	MIR32-6,9
7,9 - CSA01	7	A1	Q1	10	MIR33-6,9
7,9 - CSA02	6	A2	Q2	11	MIR34-6,9
7,9 - CSA03	5	A3	Q3	13	MIR35-6,9
7,9 - CSA04	4	A4	Q4	14	MIR36-6
7,9 - CSA05	3	A5	Q5	15	MIR37-6,7
7,9 - CSA06	2	A6	Q6	16	MIR38-6,7,9
7,9 - CSA07	1	A7	Q7	17	MIR39-6,7,9
9 - CSA08	23	A8			

IOC-A

7,9 - CSA00	8	A0	Q0	9	MIR08-6
7,9 - CSA01	7	A1	Q1	10	MIR09-5
7,9 - CSA02	6	A2	Q2	11	MIR10-5
7,9 - CSA03	5	A3	Q3	13	MIR11-5
7,9 - CSA04	4	A4	Q4	14	MIR12-5
7,9 - CSA05	3	A5	Q5	15	MIR13-5,6
7,9 - CSA06	2	A6	Q6	16	MIR14-5,6
7,9 - CSA07	1	A7	Q7	17	MIR15-5,6
9 - CSA08	23	A8			

IOD-A

7,9 - CSA00	8	A0	Q0	9	MIR24-6
7,9 - CSA01	7	A1	Q1	10	MIR25-7
7,9 - CSA02	6	A2	Q2	11	MIR26-7
7,9 - CSA03	5	A3	Q3	13	MIR27-9
7,9 - CSA04	4	A4	Q4	14	MIR28-7
7,9 - CSA05	3	A5	Q5	15	MIR29-6,7
7,9 - CSA06	2	A6	Q6	16	MIR30-6,7
7,9 - CSA07	1	A7	Q7	17	MIR31-6,7
9 - CSA08	23	A8			

IOE

7,9 - CSA00	8	A0	Q0	9	MIR40-6,7,9
7,9 - CSA01	7	A1	Q1	10	MIR41-6,7,9
7,9 - CSA02	6	A2	Q2	11	MIR42-6,7,9
7,9 - CSA03	5	A3	Q3	13	MIR43-6,7,9
7,9 - CSA04	4	A4	Q4	14	MIR44-6,7,9
7,9 - CSA05	3	A5	Q5	15	MIR45-6,7,9
7,9 - CSA06	2	A6	Q6	16	MIR46-6,7,9
7,9 - CSA07	1	A7	Q7	17	MIR47-6,7,9
9 - CSA08	23	A8			

AM27525

11- +5R5

12- ENA1

10- MIRCLK

9- CSA09

AM27525

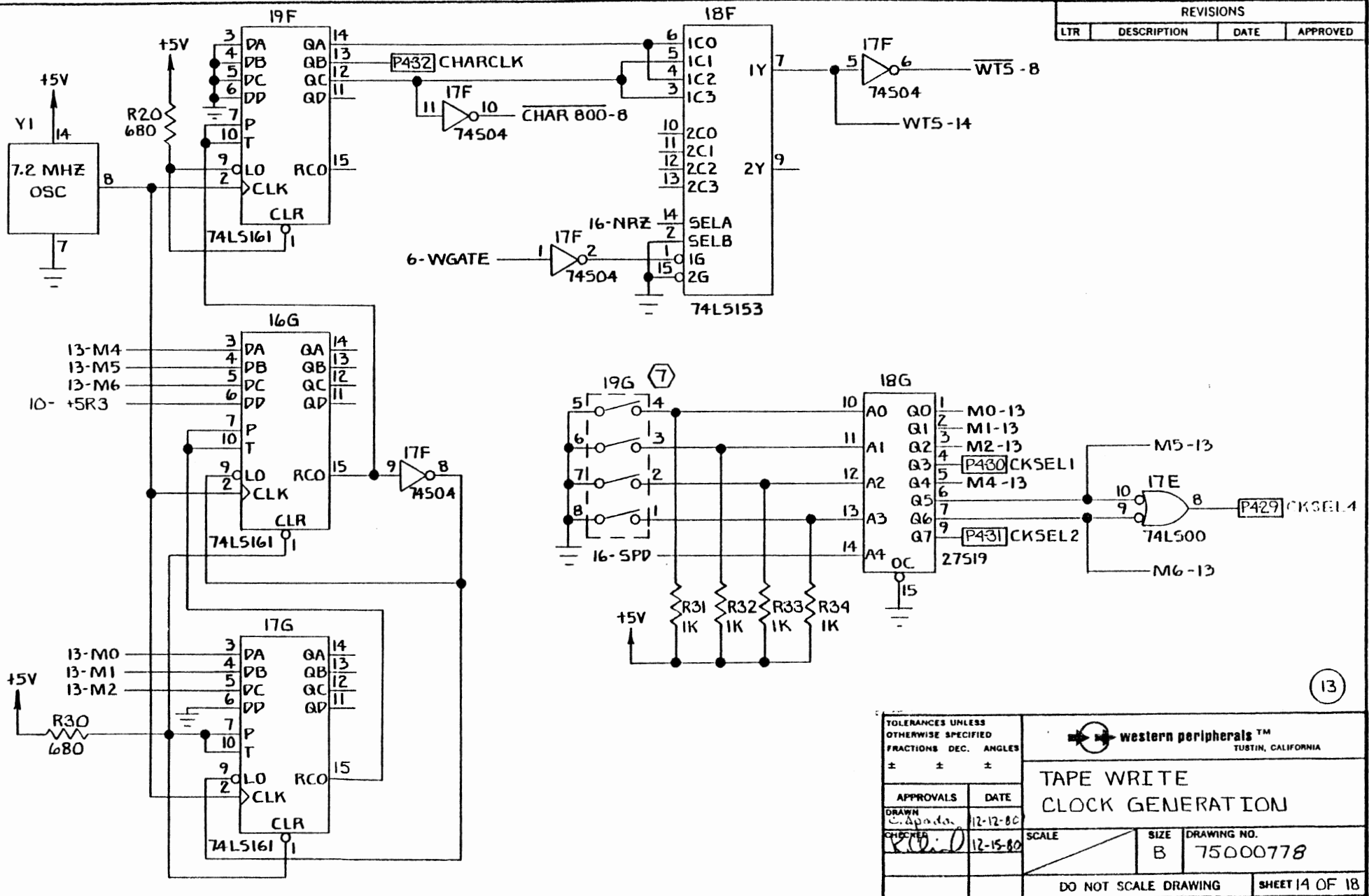
11- +5R5

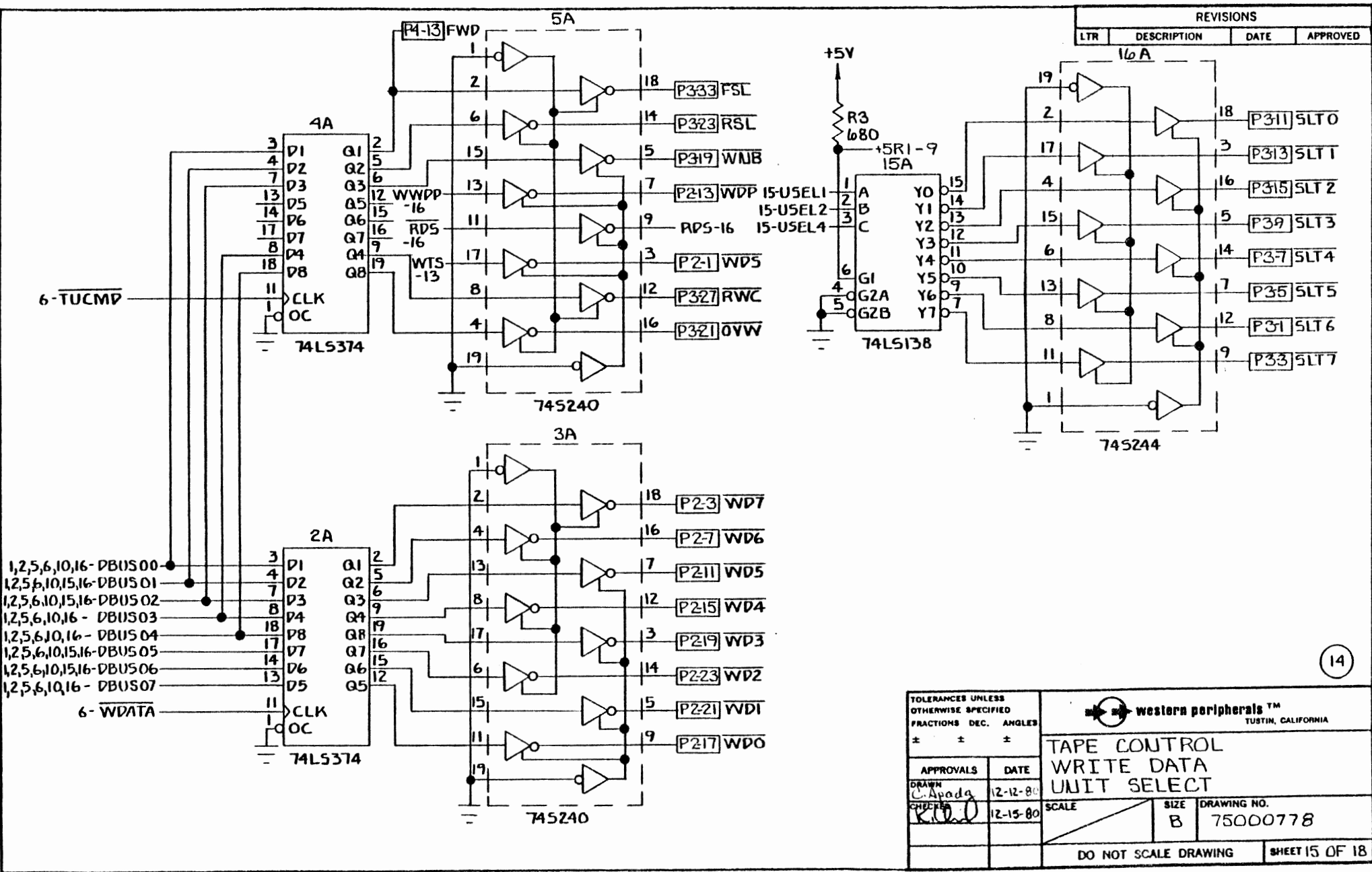
AM27525

11- +5R5

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES		western peripherals™ TUSTIN, CALIFORNIA	
±	±	CONTROL STORE 0-511	
APPROVALS	DATE	SCALE	SIZE
DRAWN C. Apada CHECKED R. D. D.	12-12-80 12-15-80		B
		DRAWING NO. 75000778	
		DO NOT SCALE DRAWING	
		SHEET 12 OF 18	

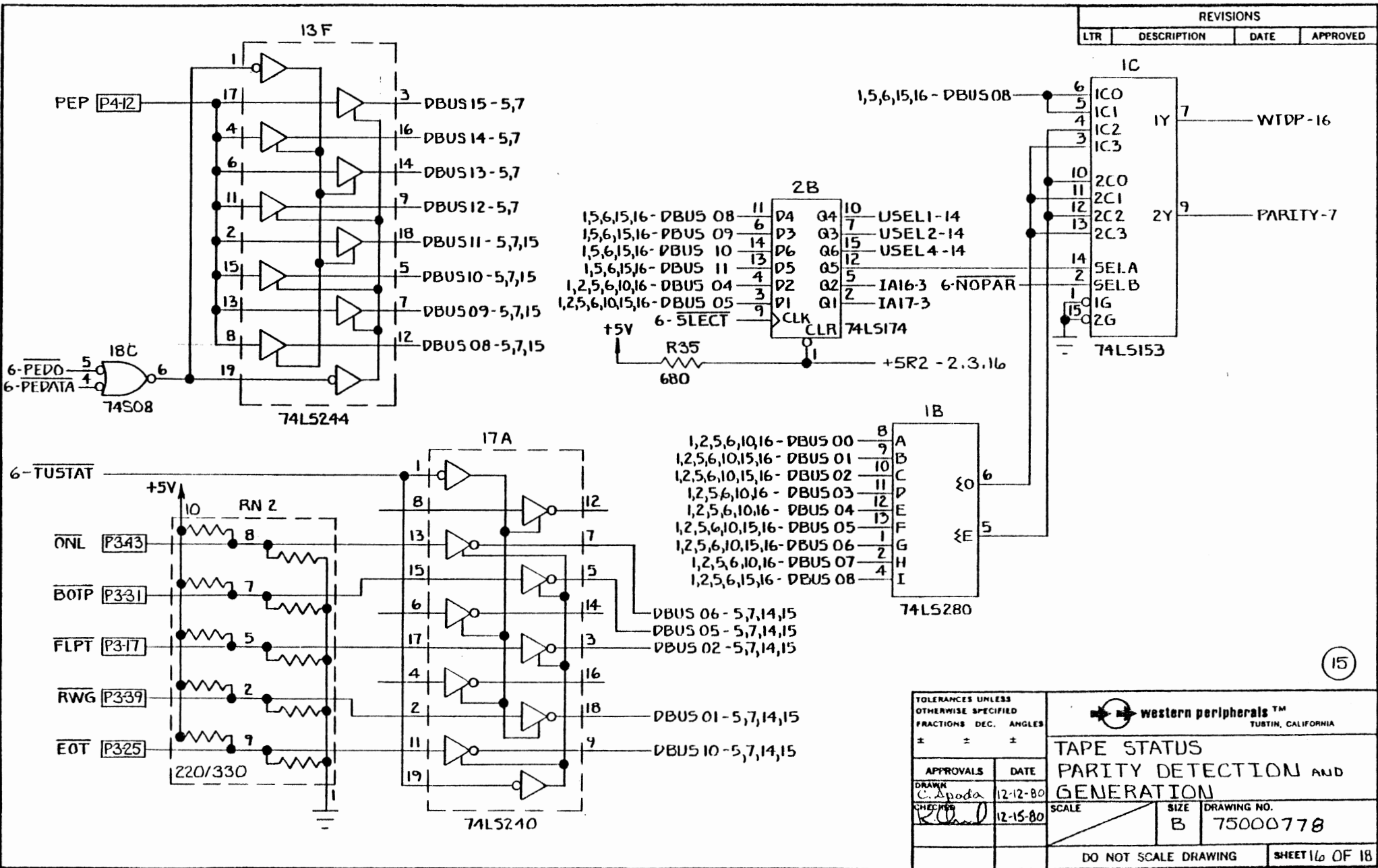




REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

14

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES		 western peripherals ™ TUSTIN, CALIFORNIA	
APPROVALS		DATE	
DRAWN C. Ayada		12-12-80	
CHECKED K. O. O.		12-15-80	
SCALE		SIZE B	DRAWING NO. 75000778
DO NOT SCALE DRAWING			SHEET 15 OF 18



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

15

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES		western peripherals ™ TUSTIN, CALIFORNIA	
APPROVALS		TAPE STATUS	
DATE		PARITY DETECTION AND GENERATION	
DRAWN C. Spoda CHECKED R. C.	12-12-80 12-15-80	SCALE	SIZE B
		DRAWING NO.	75000778
DO NOT SCALE DRAWING			SHEET 16 OF 18

504109-A

4

DEVICE ADDRESS STD ADDR 772520₈

ADDR BIT	ADDR RANGE	E JUMPERS	STD ADDR	INSTALLED JUMPERS
17				
16				
15				
14				
13				
12	0/1	13-21		
11	0/1	14-22	0	14-22
10	0/1	15-23		
9	0/1	16-24	0	16-24
8	0/1	17-25		
7	0/1	18-26	0	18-26
6	0/1	19-27		
5	0/1	20-28	0	20-28
4	0/1	62-63		
3	X		X	
2	X		X	
1	X		X	
0	X		X	

5

INTERRUPT VECTOR STD VECTOR 224₈

VCTR BIT	E JUMPERS	STD VCTR	INSTALLED JUMPERS
7	29-35	1	
6	30-36	0	30-36
5	31-37	0	31-37
4	32-38	1	
3	33-39	0	33-39
2	34-40	1	
1		0	
0		0	

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

6

INTERRUPT PRIORITY LEVEL

BR4	BR5	BR6	BR7
E46 → E49	E46 → E49	E45 → E48	E52 → E55
E47 → E50	E54 → E57	E53 → E56	E53 → E56

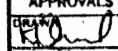
7

SPEED SETTING

SW POS	125	125	125	125	75	75	75	45	45	37.5	SELB
196	75	45	37.5	25	45	37.5	25	37.5	25	25	SELA
1	C	C	C	C	C	C	C	0	0	0	
2	C	C	C	C	0	0	0	0	C	C	0
3	C	C	0	0	C	0	0	C	0	C	0
4	C	0	0	0	0	C	0	0	C	C	

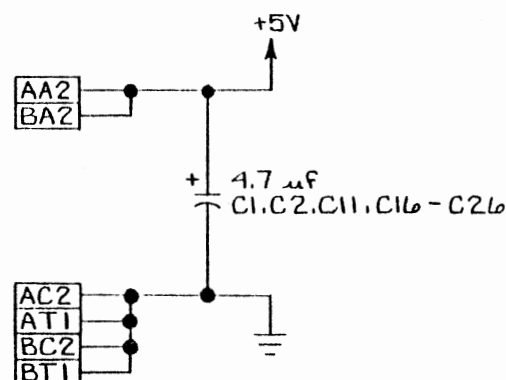
TAPE
CTRL
CBL
SWA-4

C = ON
O = OFF

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		 western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS  CHECKED HD KOGA		DATE 12-18-80 SCALE 12-18-80	
DO NOT SCALE DRAWING		SIZE B	
DRAWING NO. 75000778		SHEET 18 OF 18	

504109-A

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	RELEASE	3-2-81	DRZ
A1	RECORD CHG PG 4136 0310	7-17-81	CMY
B	REV PER ECO 1072	5-6-82	ST



INTERCONNECT

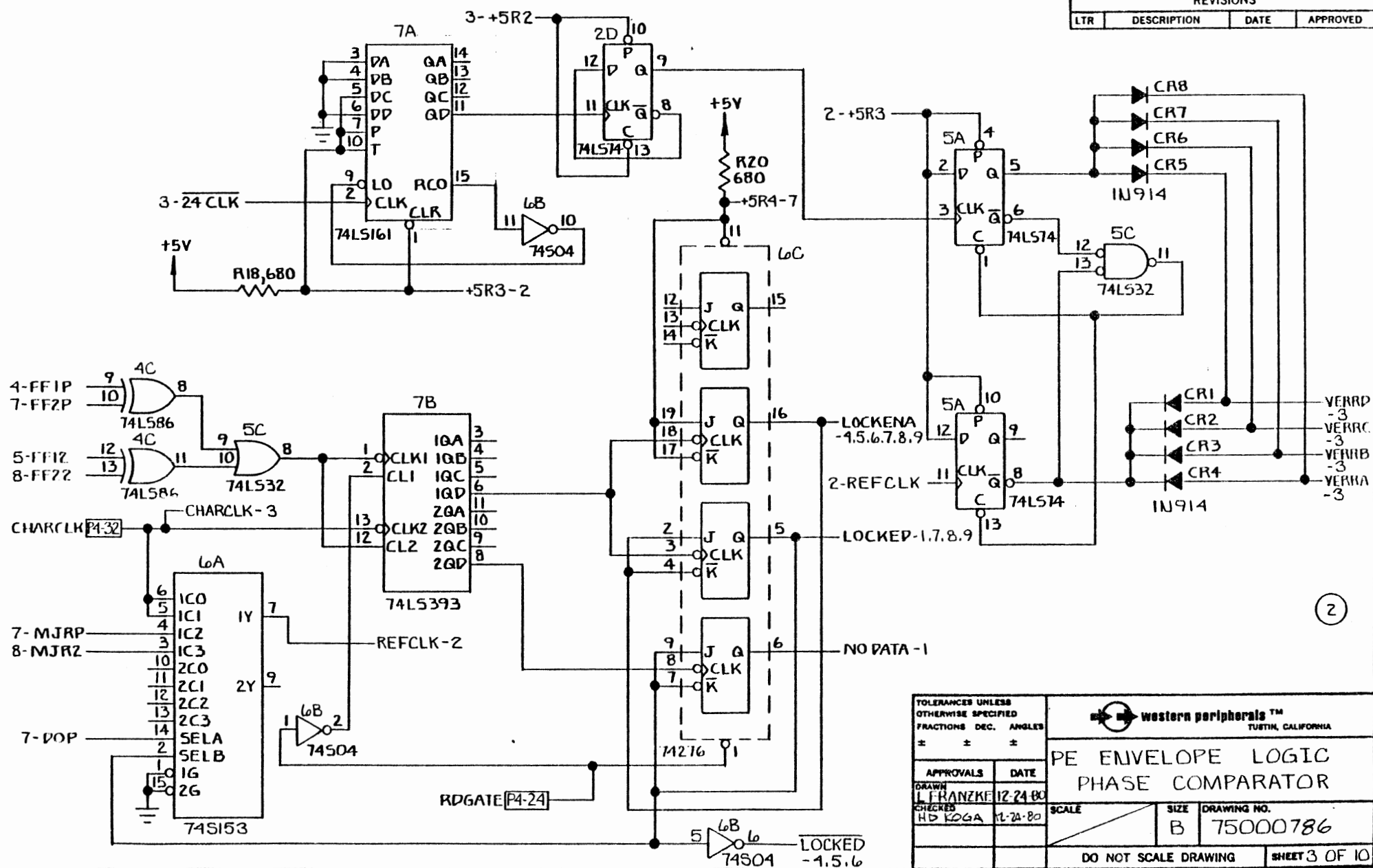
P4	
DBUS01	1 2 DBUS00
DBUS03	3 4 DBUS02
DBUS06	5 6 DBUS07
DBUS05	7 8 DBUS04
GND	9 10 GND
	11 12 PEP
FWD	13 14 RD7
RD6	15 16 RD5
RD4	17 18 RD3
RD2	19 20 RD1
RD0	21 22 RDP
PEDATA	23 24 RDGATE
PERDY	25 26 PED0
SO	27 28 PESTAT
CKSEL4	29 30 CKSEL1
CKSEL2	31 32 CHARCLK
GND	33 34 PCLK

LAST DESIGNATION USED	
RESISTOR	R24
CAPACITOR	C27
DIODE	CR8

- REFERENCE ASSY. 160000874.
 - CAPACITOR VALUES ARE IN MICROFARADS.
 - RESISTANCE VALUES ARE IN OHMS.
- NOTES : UNLESS OTHERWISE SPECIFIED

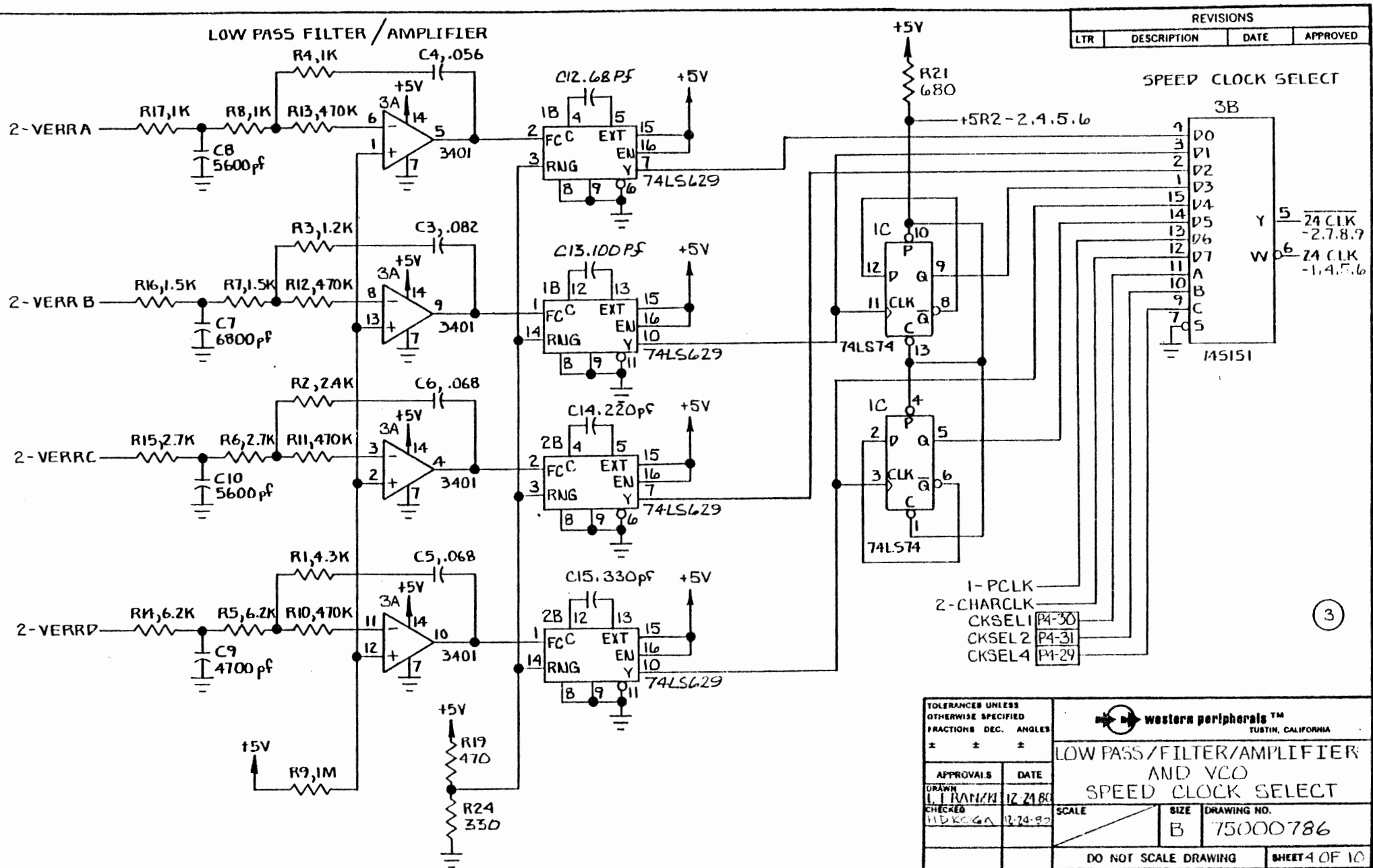
TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		 western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS DRAWN C. Lynda CHECKED HDX/24A DATE 12-24-80		SCHEMATIC TC 151 PE ADAPTER	
SCALE	SIZE B	DRAWING NO.	15000786
DO NOT SCALE DRAWING		SHEET 1 OF 10	

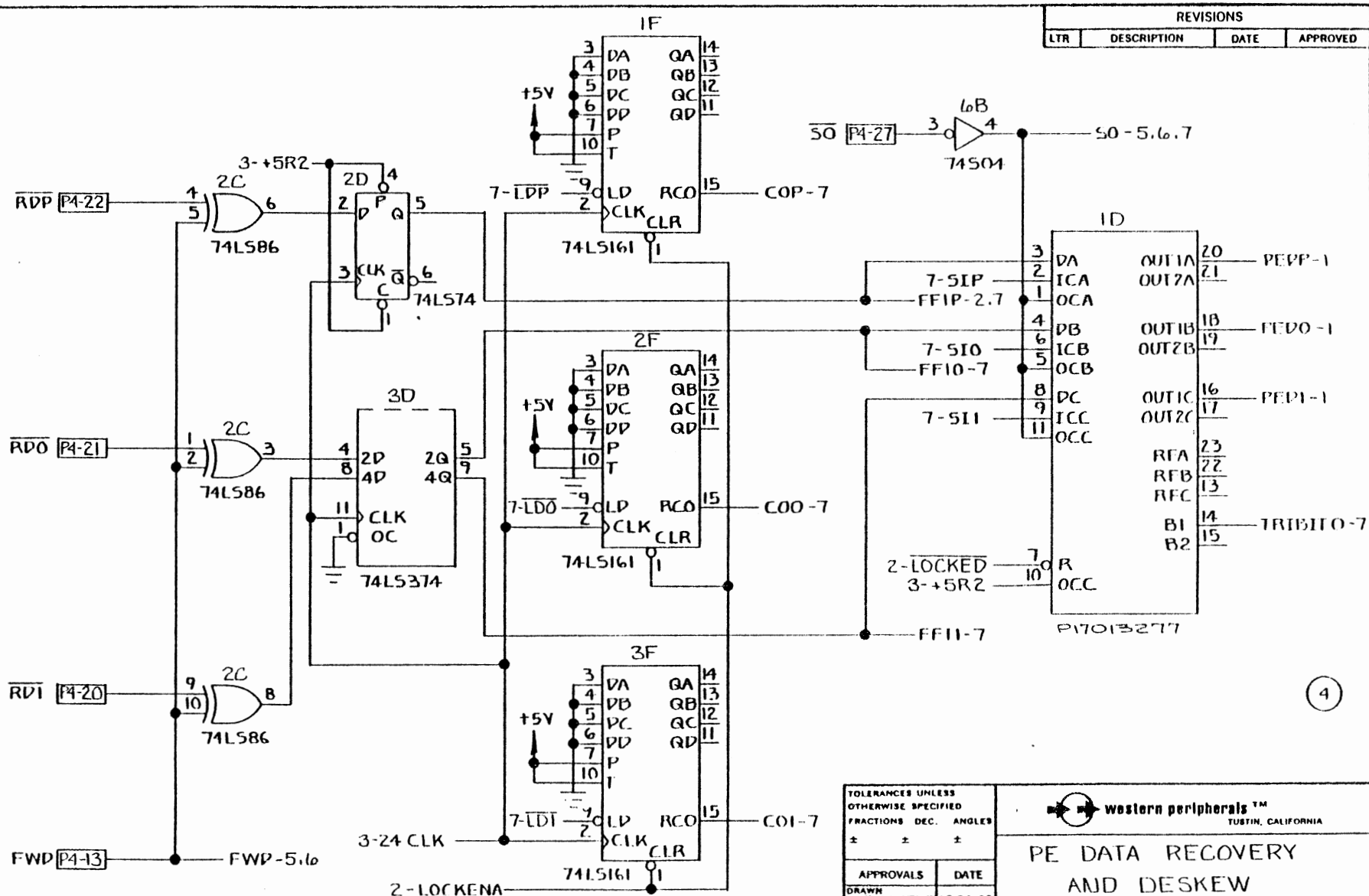
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

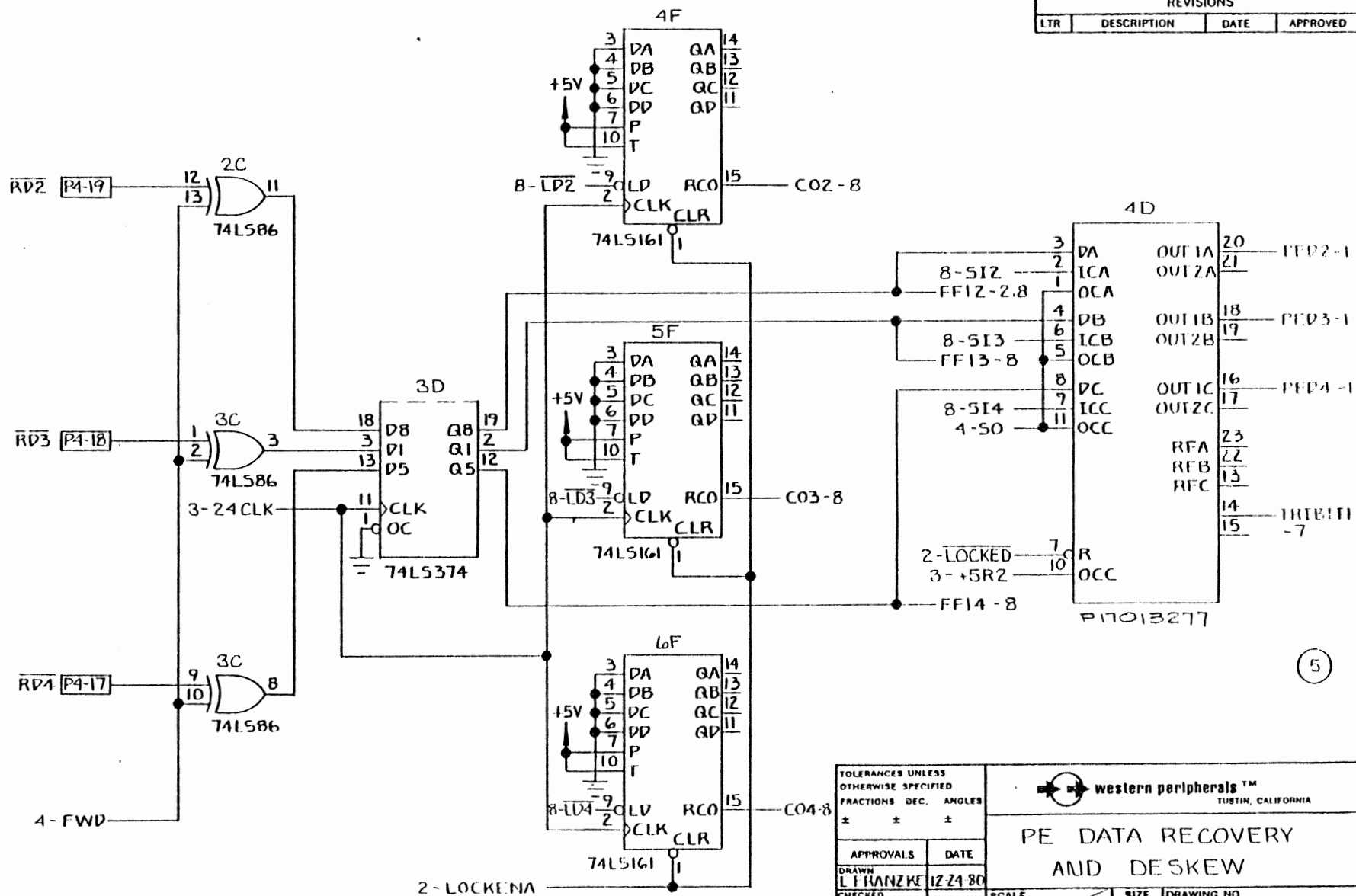


TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS DRAWN CHECKED DATE 12-24-80 11-24-80		PE ENVELOPE LOGIC PHASE COMPARATOR	
SCALE B		DRAWING NO. 75000786	
DO NOT SCALE DRAWING		SHEET 3 OF 10	

504110 A



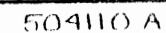




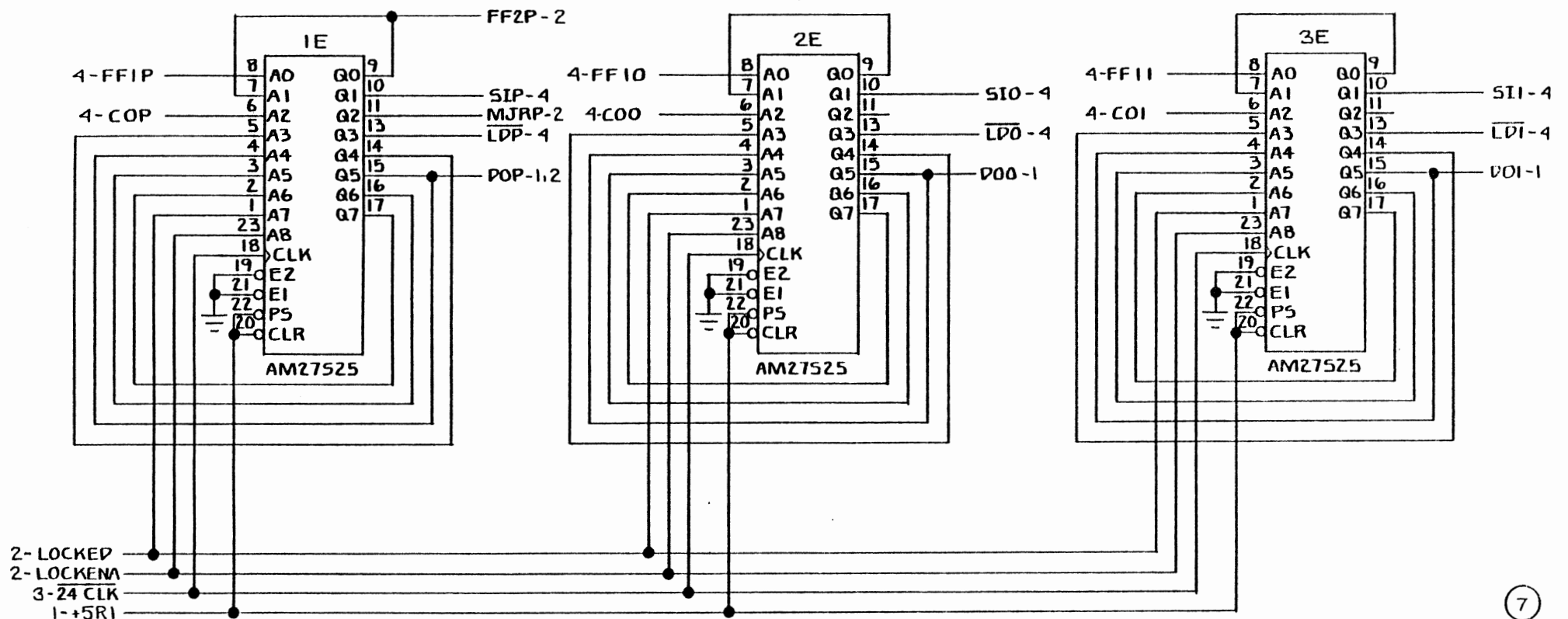
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

TOLERANCES UNLESS OTHERWISE SPECIFIED		western peripherals™ TUSTIN, CALIFORNIA	
FRACTIONS	DEC.	ANGLES	
±	±	±	
APPROVALS	DATE	PE DATA RECOVERY AND DESKEW	
DRAWN L. HANZKE	12-24-80		
CHECKED HDKCXA	12-24-80	SCALE	SIZE B
		DRAWING NO. 75000786	
		DO NOT SCALE DRAWING	
		SHEET 6 OF 10	

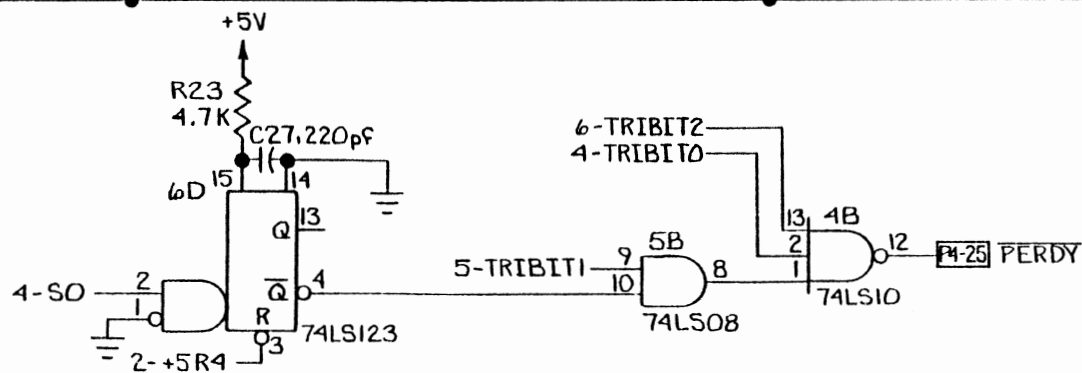
504110 A



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

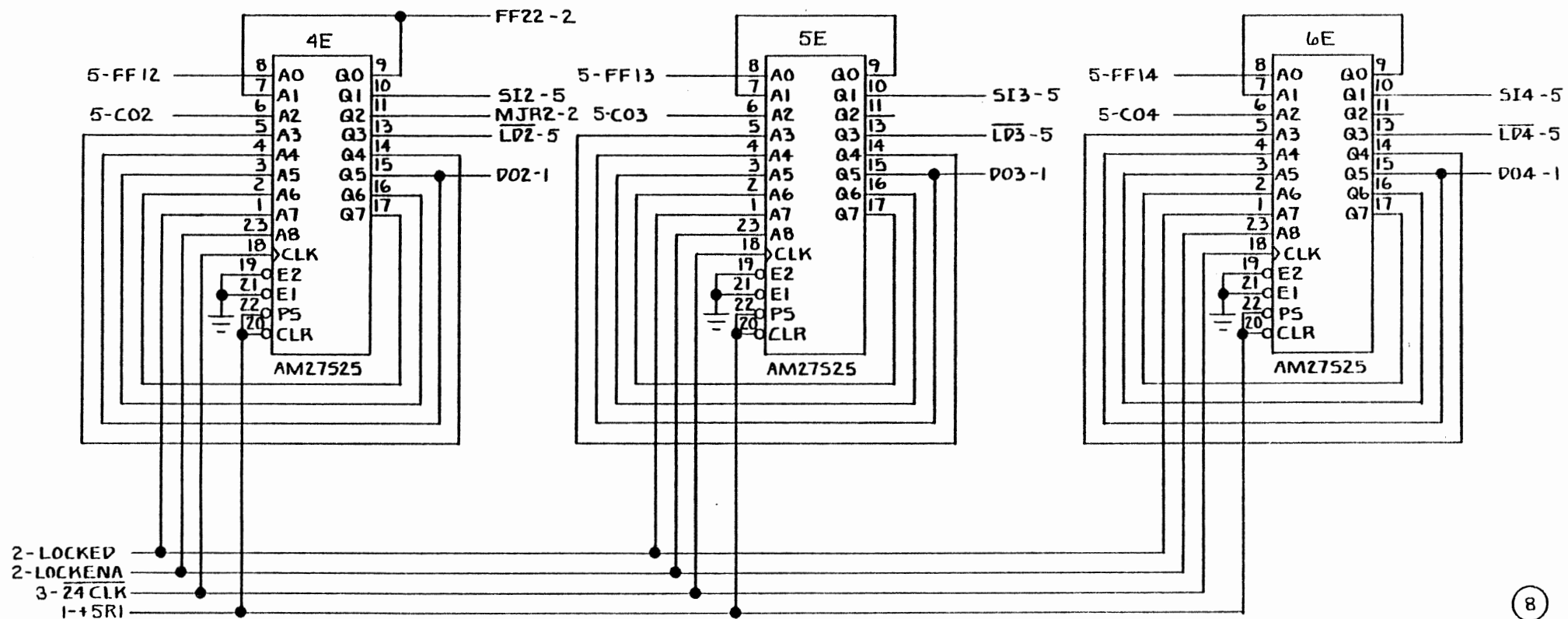


7



TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS DRAWN L. FRANZKI 12-21-80 CHECKED HDKOGA 11-24-80		PE CHNL SEQ CTRL SCALE SIZE B DRAWING NO. 75000786	
		DO NOT SCALE DRAWING	
		SHEET 8 OF 10	

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

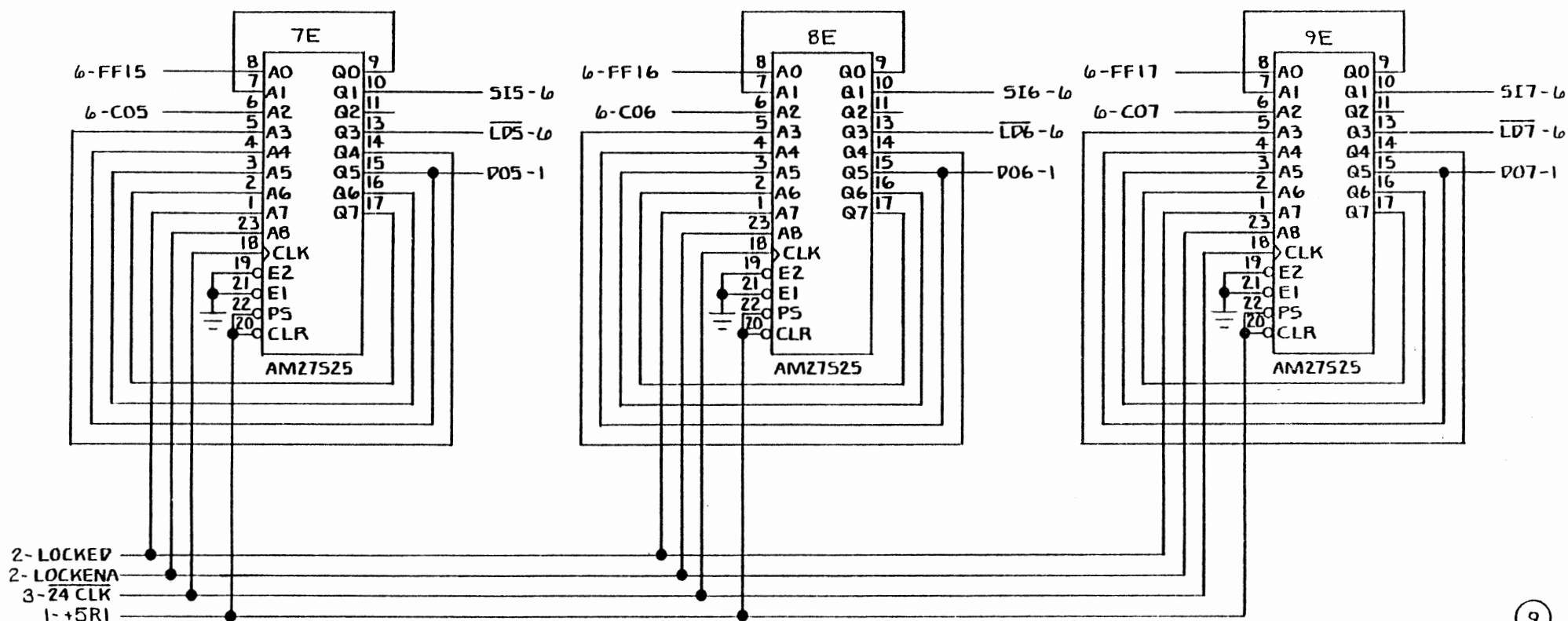


8

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES		western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS DRAWN: L. KANZKE CHECKED: HDKOGA		DATE: 12-24-80 SCALE: B SIZE: B DRAWING NO.: 75000786	
DO NOT SCALE DRAWING		SHEET 9 OF 10	

504110 A

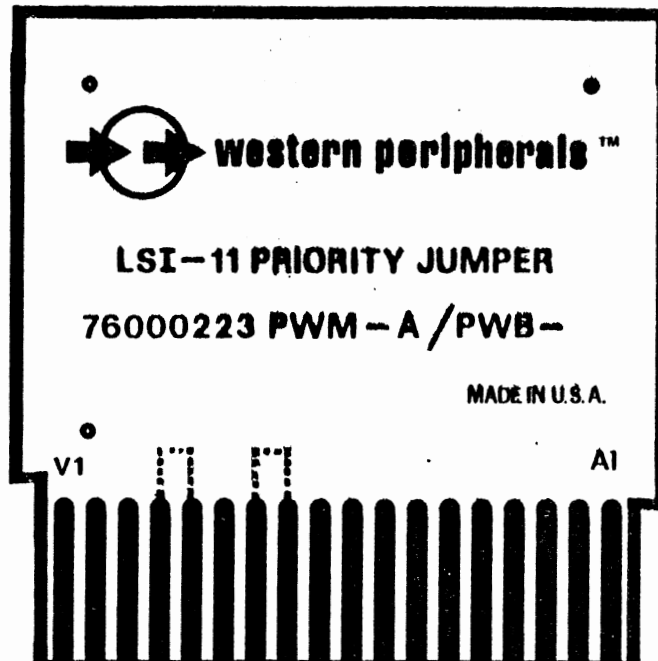
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



9

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS L. BRANZKI CHECKED HD KOGA		DATE 12-21-80	
SCALE		SIZE B	DRAWING NO. 75000786
DO NOT SCALE DRAWING			SHEET 10 OF 10

504110 A



TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		 western peripherals ANAHEIM, CALIFORNIA	
APPROVALS DRAWN <i>Wm. Davis</i> CHECKED <i>J. T. L.</i> FAI/A Z		DATE 5/21/77 5/11/77 5/22/77	
LSI-11 PRIORITY JUMPER		SCALE 2:1	SIZE B
DRAWING NO. 76000223		DO NOT SCALE DRAWING	
SHEET 1 OF 3			

03/15/82 BILL OF MATERIAL TOP LEVEL ASSEMBLY LIST
 ASSEMBLY NO. P18CC1511 REVISION D1

PAGE 1
 DESC: PRST PROM SET, TC151

SEG	PART NUMBER	DESCRIPTION	CCN	QTY	HRS	SUB	REV	L	LOCATION	EFF DATE
CC0	LSC	NO INVENTORY ITEM		14	.0					C1/14/81
OC1	P17019704	PROM TC131 27G (27S19)		1	.0	S			18G	C3/27/81
OC2	P17017518	PROM TC151 1CB (27S25)		1	.0	S	B		10E	C3/12/82
OC3	P17017526	PROM TC151 12B (27S25)		1	.0	S	B		12E	C3/12/82
OC4	P17017534	PROM TC151 1CC-A (27S25)		1	.0	S	B		10C-A	C3/12/82
OC5	P17017542	PROM TC151 1CC-B (27S25)		1	.0	S	B		10C-B	C3/12/82
OC6	P17017559	PROM TC151 12C-A (27S25)		1	.0	S	B		12C-A	C3/12/82
OC7	P17017567	PROM TC151 12C-B (27S25)		1	.0	S	B		12C-B	C3/12/82
CC8	P17017575	PROM TC151 1CD-A (27S25)		1	.0	S	B		10D-A	C3/12/82
OC9	P17017583	PROM TC151 1CD-B (27S25)		1	.0	S	B		10D-B	C3/12/82
OC10	P17017591	PROM TC151 12D-A (27S25)		1	.0	S	B		12D-A	C3/12/82
OC11	P17017609	PROM TC151 12D-B (27S25)		1	.0	S	C		12D-B	C3/12/82
OC12	P17017617	PROM TC151 1CE (27S25)		1	.0	S	B		10E	C3/12/82
OC13	P17017625	PROM TC151 12E (27S25)		1	.0	S	B		12E	C3/12/82
OC14	P17017633	PROM TC151 3C (82S10C)		1	.0	S	A		3C	C3/12/82

MAR 17 1982

03/15/82 BILL OF MATERIAL TOP LEVEL ASSEMBLY LIST
ASSEMBLY NO. P18CG1321 REVISION B1

PAGE 1
DESC: PRST, TC131/151, PE

SEQ	PART NUMBER	DESCRIPTION	CCN	QTY	HRS	SUB	REV	L	LOCATION	EFF DATE
000	LSC	NO INVENTORY ITEM		2	.0					03/05/81
001	P1702C785	PROM TC110/131/151 PE SEQUENC		9	.0		A		1F-9F	03/12/82
002	P17019761	PROM TC131 9D (27S25)		1	.0	S			9D	03/05/81

MAR 17 1982

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	3-24-81	<i>DSK</i>
B	Update ECO 969	9-25-81	<i>LL</i>

PURPOSE

This modification provides capability to control 12.5 and 18.75 ips drives.

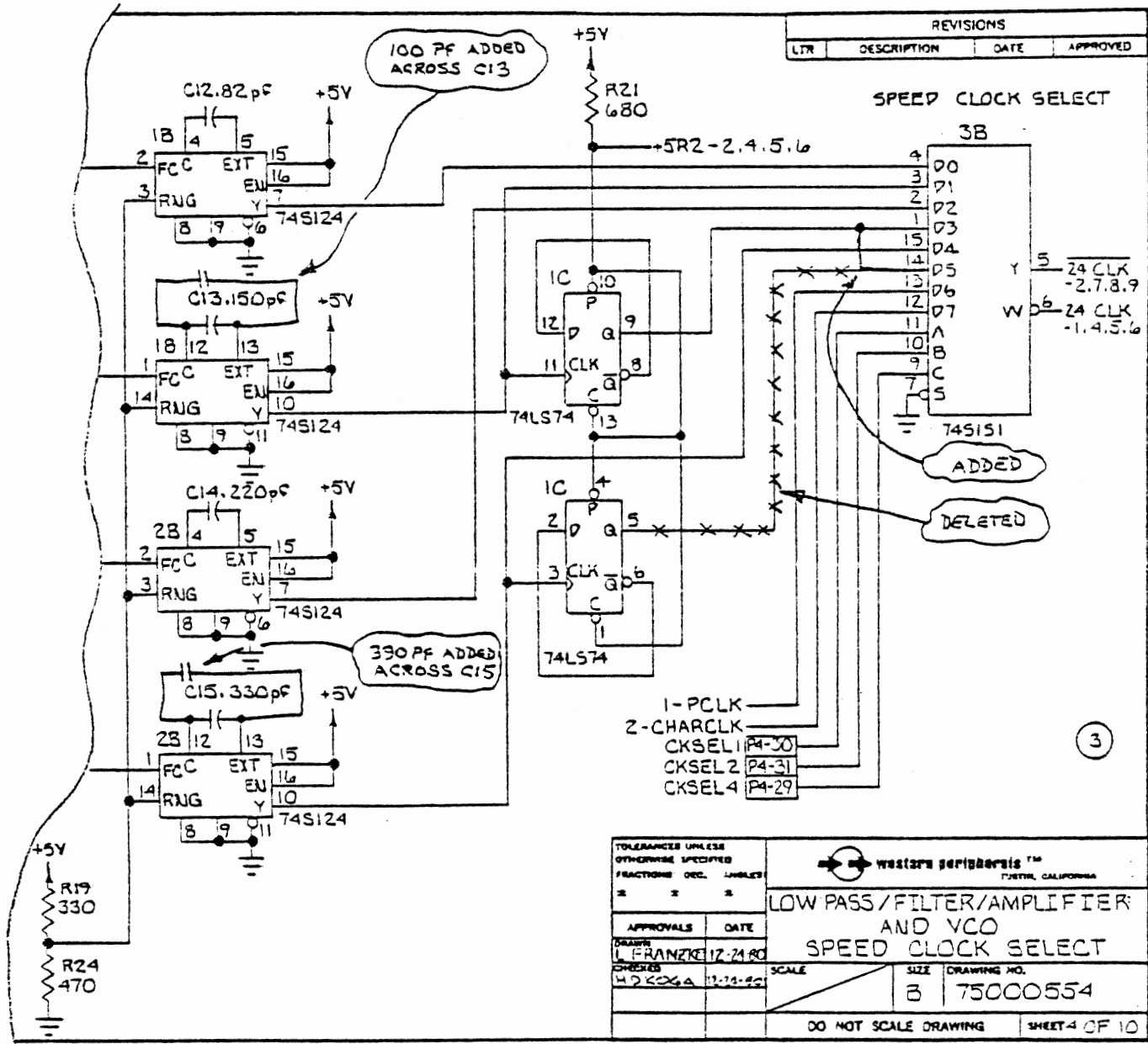
1. Rework TC151 Assy 60000619 or 60000866 as follows:
 - a. Replace PROM in Location 18G with PROM P17017492.
 - b. Set switches 1, 2 and 4 OFF (OPEN).
 - c. Set switch 3 ON (CLOSED).
2. Rework TC151 PE Adapter Assy 60000627 or 60000874 as follows:
 - a. Cut etch on solder side at 3B-14.
 - b. Jumper 3B-1 to 3B-14.
 - c. Add 100 pf capacitor in parallel to existing capacitor C13.
 - d. Add 390 pf capacitor in parallel to existing capacitor C15.
3. Identify both assemblies by marking "CONF A" on them using contrasting ink.
4. For 12.5 ips drives, switch 4 on the tape control adapter at the drive end of the control cable must be OPEN. CLOSE it for 18.75 ips drives.
5. Material required:
 - a. PROM P/N P17017492
 - b. 100 pf capacitor (W.P. P/N P15000136 or equivalent)
 - c. 390 pf capacitor (W.P. P/N P15000243 or equivalent)
6. The resultant changes to TC151 PE Adapter schematic Sht (3) are shown on Sht 2 of this drawing.

NOTE: FOR NRZ ONLY UNIT (TC151N), SEE MOD DWG 79000717

AUG 26 1981

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		 western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS <i>J. Deutsch</i> CHECKED <i>LL</i>			
DRAWN <i>J. Deutsch</i>		Modification Drawing - TC151 Configuration "A"	
SCALE 		SIZE A	DRAWING NO. 79000691
		DO NOT SCALE DRAWING	
		SHEET 1 OF 2	

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES		 western peripherals TM FORTIN, CALIFORNIA		
		LOW PASS / FILTER / AMPLIFIER AND VCO SPEED CLOCK SELECT		
APPROVALS	DATE	SCALE	SIZE	
DRAWN FRANZKE 12-21-80				DRAWING NO. 75000554
CHECKED W.D. KOGA 12-21-80				
		DO NOT SCALE DRAWING		
		SHEET 4 OF 10		

AUG 26 1981

SCALE	SIZE A	DRAWING NO. 79000691
DO NOT SCALE DRAWING		SHEET 2 OF 2

PURPOSE

This modification provides capability to control 12.5 and 18.75 ips drives.

1. Rework TC151 Assy 60000619 or 60000866 as follows:
 - a. Replace PROM in location 18G with PROM P17017492.
 - b. Set switches 1, 2 and 4 OFF (OPEN).
 - c. Set switch 3 ON (CLOSED).
 - d. Identify the assembly by marking "CONF A" on it using contrasting ink.
2. For 12.5 ips drives, switch 4 on the tape control adapter at the drive end of the control cable must be OPEN. CLOSE it for 18.75 ips drives.
3. Material required:
 - a. PROM P17017492

NOTE: FOR PHASE ENCODED UNIT, SEE MOD DWG 79000691

AUG 26 1981

TOLERANCES UNLESS OTHERWISE SPECIFIED			 western peripherals ™ TUSTIN, CALIFORNIA	
FRACTIONS	DEC.	ANGLES		
±	±	±	Modification Drawing - TC151N Configuration "A"	
APPROVALS		DATE		
DRAWN L. CRAWFORD		3-25-81		
CHECKED <i>[Signature]</i>		3-25-81		
SCALE			SIZE A	DRAWING NO. 79000717
DO NOT SCALE DRAWING			SHEET 1 OF 1	

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

A PROD REL 10-28-81

MJ

REF ASSY: 60000619

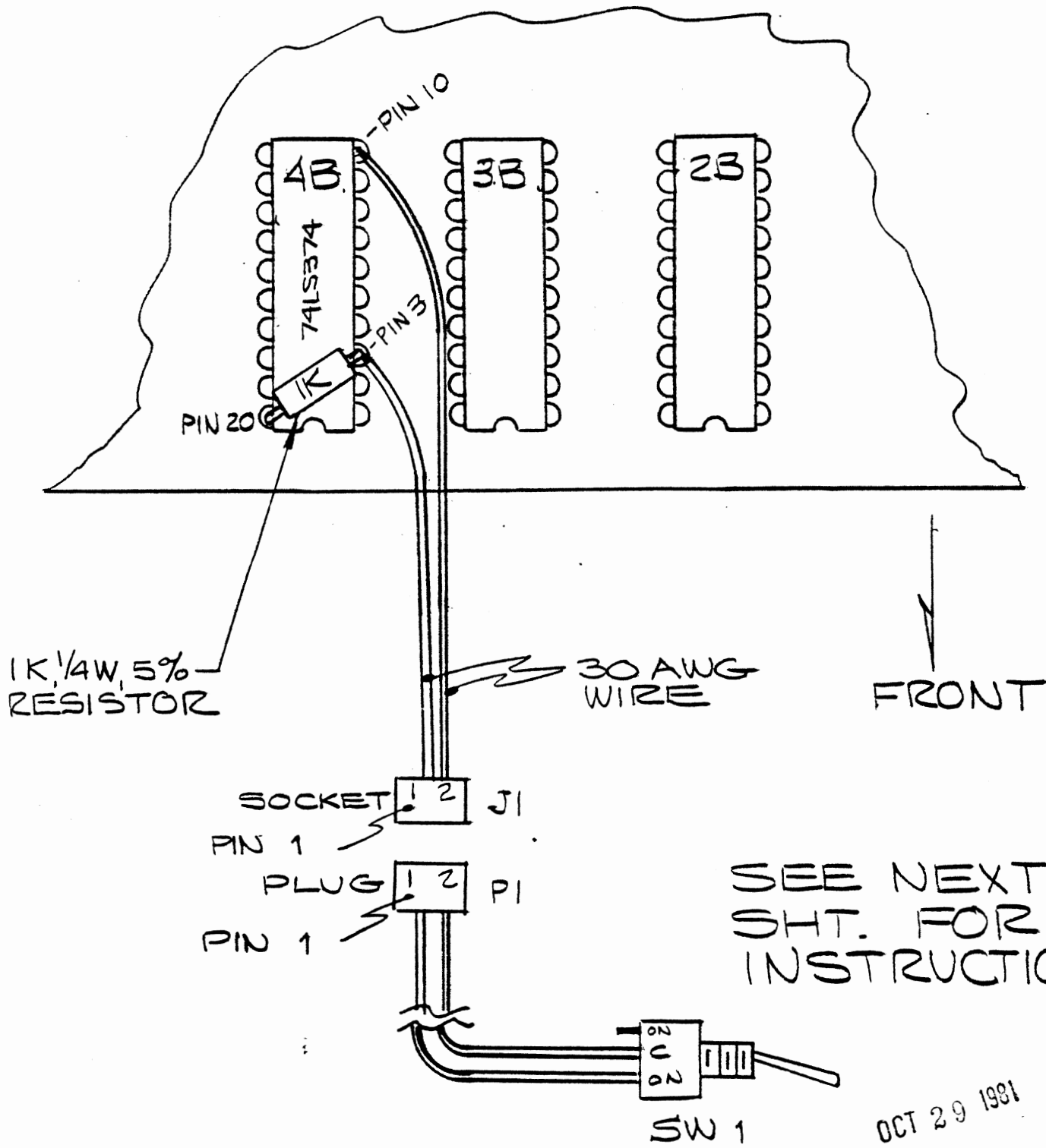
OCT 29 1981

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		 western peripherals TM TUSTIN, CALIFORNIA	
APPROVALS <i>KM</i>		DATE 10-26-81	
CHECKED —		SCALE —	SIZE A
		DRAWING NO. P790000931	
DO NOT SCALE DRAWING			SHEET 1 OF 4

CONFIG C
TC151 IBM PACK SW

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

TC-151



SEE NEXT
SHT. FOR
INSTRUCTIONS

OCT 29 1991

SCALE ✓	SIZE A	DRAWING NO. P79000931
DO NOT SCALE DRAWING		SHEET 20 of 4

TC 151

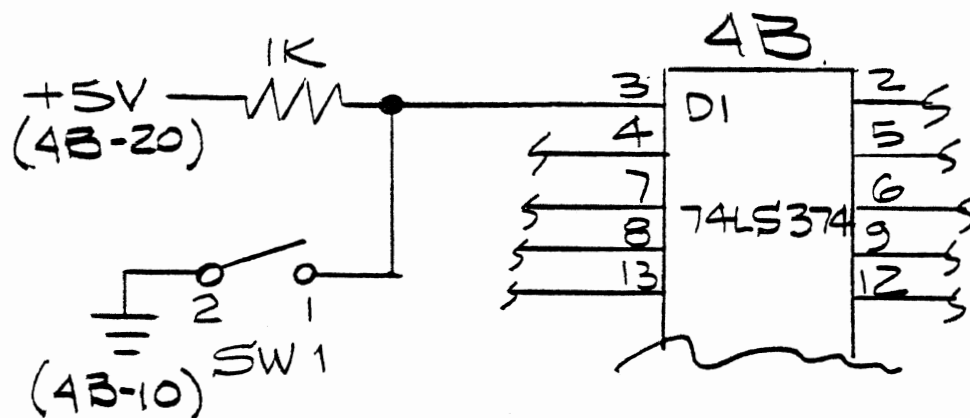
REVISIONS

LTR	DESCRIPTION	DATE	APPROVED

INSTALLATION INSTRUCTIONS

1. INSTALL 1K. 1/4W. 5% RESISTOR BETWEEN PINS 4B-3 TO 4B-20 AS SHOWN ON SHT. 2.
2. ADD WIRE FROM SOCKET J1-1 TO 4B PIN 3 AS SHOWN ON SHT 2
3. ADD WIRE FROM SOCKET J1-2 TO 4B PIN 10 AS SHOWN ON SHT 2.
4. ADD SWITCH TO FRONT PANEL AS SHOWN ON SHT 1
5. CONNECT SOCKET J1 TO PLUG P1

SCHEMATIC



SW-1 = ON POS = IBM
OFF POS = DEC

OCT 29 1981

BILL OF MATERIALS



western peripherals™

DWG. NO.	REV
P79000931	
TITLE TC 151	
CONFIGURATION "C"	

SIIT 4 OF 4

ITEM	QUAN	UNITS	PART NUMBER	DESCRIPTION
1	1		P23004179	PLUG, 3M, 03-06-1023
2	1		P23004153	SKT, 3M, 03-06-2023
3	2		P23004633	CONTACT MALE, 3M, 02-06-2132
4	2		P23004617	CONTACT, FEMALE, 3M, 02-06-1132
5	1		W20000097	SWITCH
6	1 FT		P28001410	WIRE - 30 AWG, BK

"S" FOR SUB-ASSY
REF.DESIG.

1981 OCT 2 150

REWORK INSTRUCTIONS

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	PROD. REL	4-21-82	<i>[Signature]</i>

THIS CONFIGURATION ALLOWS THE
FUNCTION OF REMOTE DENSITY
SELECT WITH BIT 10 OF MTC REGISTER ON TC 151 NRZ.

ASSY. AFFECTED: 60000866

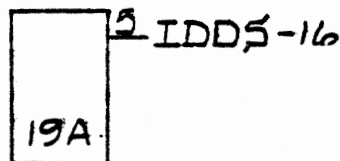
REWORK INSTRUCTIONS:

1. LIFT PINS AT 19A-5 AND 15A-3.
2. ADD WIRES IN THE FOLLOWING LOCATIONS:

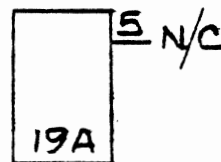
FROM	TO
2B-15	18A-17
15A-3	15A-4

REWORK INSTRUCTIONS FOR SCHEMATIC # 75000778:

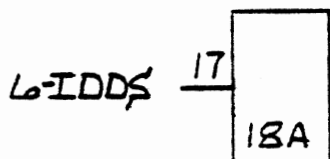
15 SHEET (6)



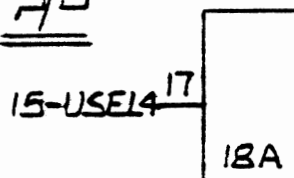
S/B



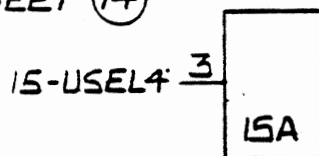
15 SHEET (16)



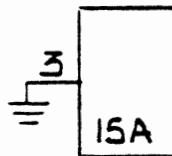
S/B



15 SHEET (14)



S/B



APR 22 1982

TOLERANCES UNLESS
OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±

APPROVALS	DATE
DRAWN <i>[Signature]</i> SIMBECK	4-21-82
CHECKED <i>[Signature]</i>	4-22-82



western peripherals™
TUSTIN, CALIFORNIA

CONFIGURATION "D"
TC 151 NRZ

SCALE	SIZE	DRAWING NO.
<i>[Signature]</i>	A	79001194
DO NOT SCALE DRAWING		SHEET 1 OF 1

NOTES

MAIN CONTROLLER BOARD				
CONNECTOR A			CONNECTOR B	
	1	2	1	2
A	BIRQ5L-4	*5V-Ø	BDCOKH-2	*5V-Ø
B	BIRQ6L-4			
C	BDAL16L-3	*GND-Ø		*GND-Ø
D	BDAL17L-3		BE2	
E		BDOUTL-3	SCHEMATIC	BDAL02L-1
F	SCHEMATIC	BRPLYL-3	CONNECTOR	BDAL03L-1
H	PAGE	BDINL-3	SYMBOL	BDAL04L-1
J	NUMBER	BSYNCL-3		BDAL05L-1
K		BWTBTL-3		BDAL06L-1
L		BIRQ4L-4		BDAL07L-1
M		BIAKIL-2		BDAL08L-1
N	BDMRL-4	BIAKOL-4	BSACKL-4	BDAL09L-1
P		BBS7L-3	BIRQ7L-4	BDAL10L-1
R		BDMGIL-2		BDAL11L-1
S		BDMGOL-4		BDAL12L-1
T	*GND-Ø	BINITL-2	*GND-Ø	BDAL13L-1
U		BDAL00L-1		BDAL14L-1
V		BDAL01L-1		BDAL15L-1

TC-151 BUS CONNECTIONS

1 = COMPONENT SIDE 2 = SOLDER SIDE

* ONLY INDICATED POWER & GND CONNECTIONS ARE MADE

TO CONNECTORS C, D, AND PE ADAPTER CONNECTORS A & B.

** THESE SIGNALS ARE JUMPERED ON CONNECTOR C & PE ADAPTER CONNECTOR A

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

4

APPENDIX A

STANDARD TAPE DRIVE
CABLES AND ADAPTERS

12-16-81

TABLE OF CONTENTS

TITLE	DRAWING NO.
Modification Drawing, Tape Control Adapter (Config. "S")	112001
Assembly - Cable, Control	121004
Assembly - Cable, Read	121006
Assembly - Cable, Write	121014
Assembly Drawing - Adapter, Tape Read Connector	122005
Assembly Drawing - Tape Write Connector	122006
Assembly, Jumper Array, Select Switch Option	122010
Assembly, Jumper Array, Select Switch Option, Special	122011
Assembly, Jumper Array, Non-Select Switch Option	122012
Assembly Drawing - Adapter, Tape Read, Kennedy, Cipher	122018
Assembly Drawing - Adapter, Tape Write, Kennedy, Cipher	122019
Schematic - Adapter, Tape Write Connector	122021
Schematic - Adapter, Tape Read Connector	122022
Assembly, Adapter, Tape Write, Kennedy 9800	122034
Assembly, Adapter, Tape Read, Kennedy 9800	122035
Schematic - Tape Control Adapter	122036
Assembly - Adapter, Tape Control Connector	122037
Assembly - Adapter, Tape Control Connector, 90° Mounting	122038
Assembly - Adapter, Tape Control Connector, 2-inch Standoff	122039
Assembly - Adapter, Tape Read, Reverse Image, 90°	122043
Modification Drawing, Tape Control Adapter (Config. "N")	122044
Modification Drawing, Cipher 900X (Config. "A")	79000410
Modification Drawing, Cipher 900X (Config. "B")	79000642
Notes	

FUNCTIONAL INDEX

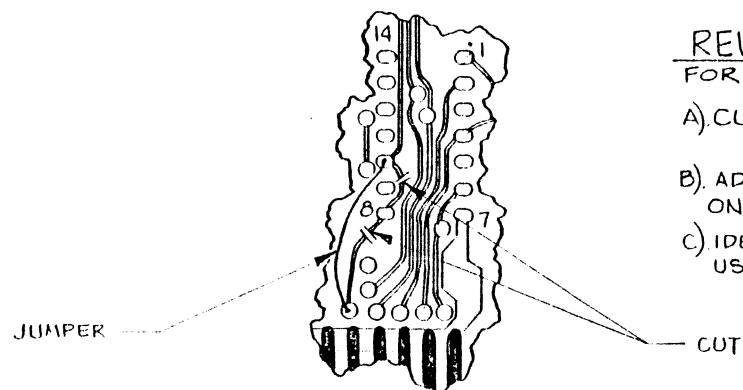
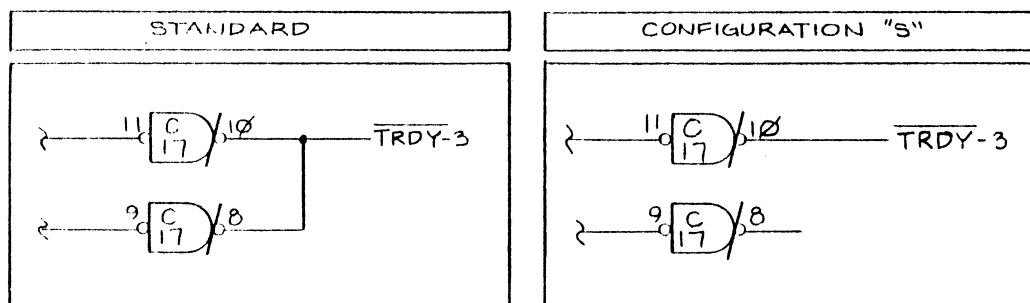
	DRAWING NO.
I. RIBBON CABLES AND BACKPLANE CONNECTORS	
Assembly - Cable, Control	121004
Assembly - Cable, Read	121006
Assembly - Cable, Write	121014
II. ADAPTER PADDLEBOARDS	
I. SCHEMATICS	
Schematic - Tape Control Adapter	122036
Schematic - Adapter, Tape Write Connector	122021
Schematic - Adapter, Tape Read Connector	122022
2. ASSEMBLY DRAWINGS	
a. CONTROL	
Assembly - Adapter, Tape Control Connector (Standard)	122037
Assembly - Adapter, Tape Control Connector (90° Mount)	122038
Assembly - Adapter, Tape Control Connector (2-inch Standoff)	122039
b. WRITE	
Assembly Drawing - Tape Write Connector (Standard)	122006
Assembly Drawing - Adapter, Tape Writer (Reverse Image)	122019
Assembly - Adapter, Tape Write (90° Mount)	122034
c. READ	
Assembly Drawing - Adapter, Tape Read Connector	122005
Assembly Drawing - Adapter, Tape Read (Reverse Image)	122018
Assembly - Adapter, Tape Read (90° Mount)	122035
Assembly - Adapter, Tape Read (Reverse Image 90° Mount)	122043
d. DRIVE SELECT JUMPERS	
Assembly, Jumper Array, Select Switch Option	122010
Assembly, Jumper Array, Select Switch Option (4th Drive)	122011
Assembly, Jumper Array, Non-Select Switch Option	122012
III. SPECIAL FEATURE MODIFICATIONS	
Modification Drawing, Tape Control Adapter Configuration "S"	112001
Modification Drawing - Tape Control Adapter Configuration "N"	122044
Modification Drawing, Cipher 900X (Config. "A")	79000410
Modification Drawing, Cipher 900X (Config. "B")	79000642

PURPOSE:

THIS MODIFICATION REQUIRED FOR CONTROL OF QUANTEX TAPE DRIVES.

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	REDRAWN TO CORRECT DETAIL FOR E OR F ARTWORK (REF ECQ 780)	10-2-80	<i>[Signature]</i>

SHEET (2) OF SCHEMATIC 122036 IS ALTERED AS OUTLINED BELOW.



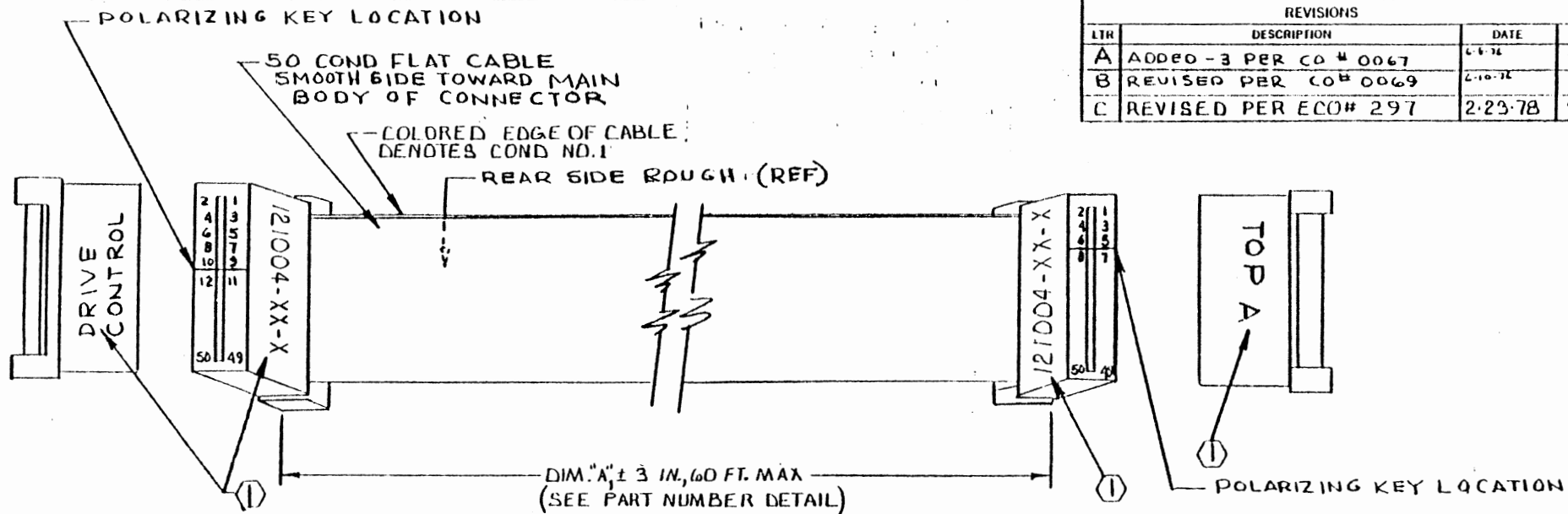
SOLDER SIDE VIEW
IC LOCATION "C"

REWORK INSTRUCTIONS: FOR ASSY: 122037, 122038, 122039

- CUT ETCH 2 PLCS AT C-8 (SOLDER SIDE)
- ADD JUMPER FROM C-10 TO FEED-THRU ON ETCH THAT WAS CONNECTED TO C-8
- IDENTIFY AT ASSY NO. WITH "CONF 5" USING BLACK INK.

OCT 2 1980

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC ANGLES ± ± ±		western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS DRAWN <i>[Signature]</i> CHECKED <i>[Signature]</i>		DATE 10-1-80 10-2-80	
MODIFICATION DWG- TAPE CONT. ADAPTER, CONF "S"		SCALE 	SIZE B
DO NOT SCALE DRAWING		DRAWING NO. 112001	
		SHEET 1 OF 1	



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	ADDED - 3 PER CO # 0067	6-1-76	N.D.
B	REVISED PER CO # 0069	6-10-76	N.D.
C	REVISED PER ECO # 297	2-23-78	N.D., 9-78

NOTES.

- ① MARK CHARACTERS SHOWN USING CONTRASTING COLOR INK.
SEE PART NUMBER DETAIL FOR MARKING OF VARIABLE CHARACTERS (X's).

2. ASSEMBLY:

USE 3M PRESS NO. 3440
USE LOCATOR PLATE NO. 3443-II
USE SETTING NO 9 OF GAUGE 3436-I
CUT CABLE USING SCOTCHFLEX CABLE SHEAR OR EQUIV.
SEAT CABLE INTO COVER USING SCOTCHFLEX TOOL
NO. 3453, CHECK FOR ALIGNMENT
PLACE BODY ON LOCATOR PLATE
POSITION COVER AND CABLE OVER CONN BODY
LOWER HANDLE TO COMPLETE ASSY
REMOVE BY LIFTING ON CONNECTOR

PART NUMBER DETAIL

121004-XX-X

BASIC PART NUMBER _____

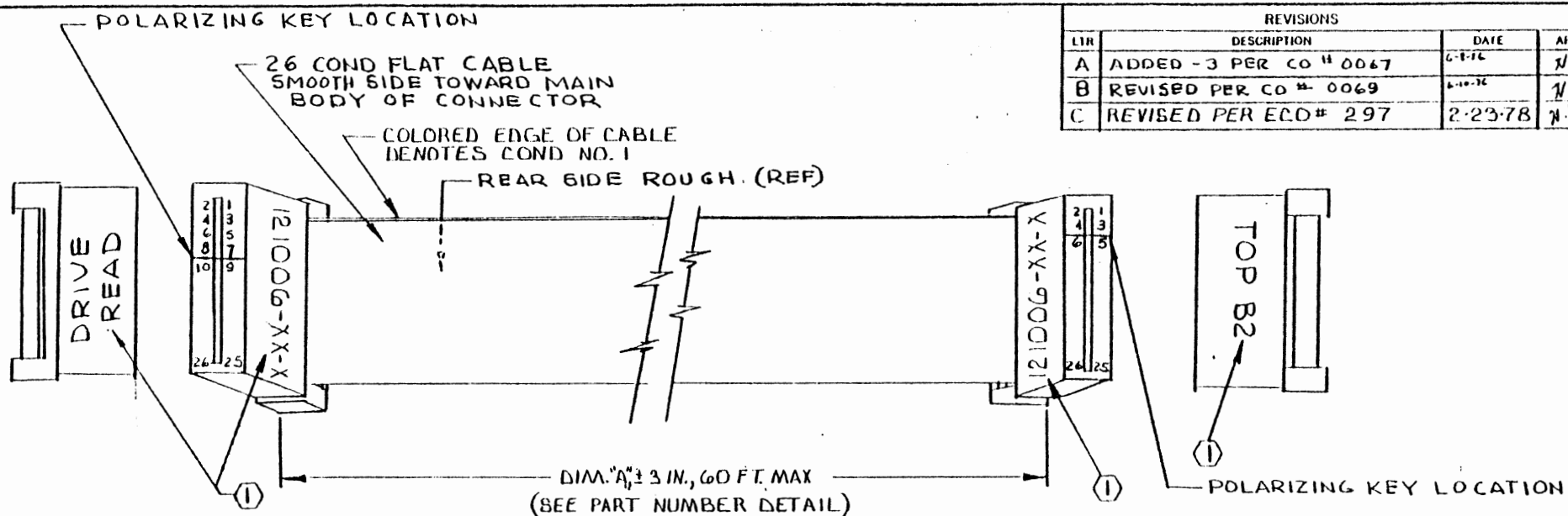
DASH NUMBER IN FEET (REF. DIM. 'A') _____

(-07 FOR 7 FT, -10 FOR 10 FT, ETC.)

LATEST REVISION LETTER _____

FOR PARTS SEE PARTS LIST 121004

TOLERANCES UNLESS OTHERWISE SPECIFIED		western peripherals	
FRACTIONS	DEC.	ANAHEIM, CALIFORNIA	
L	±	±	
APPROVALS	DATE	ASSEMBLY-CABLE, CONTROL	
DRAWN	6-1-76	SCALE	SIZE
CHECKED	6-1-76	NONE	B
		DRAWING NO.	
		121004	
		DO NOT SCALE DRAWING	SHEET



REVISIONS			
LIN	DESCRIPTION	DATE	APPROVED
A	ADDED - 3 PER CO # 0067	6-1-76	N.D.
B	REVISED PER CO # 0069	6-10-76	N.D.
C	REVISED PER ECD # 297	2-23-78	N.D. 7-78

NOTES:

- ① MARK CHARACTERS SHOWN USING CONTRASTING COLOR INK.
SEE PART NUMBER DETAIL FOR MARKING OF VARIABLE CHARACTERS (X's).

2. ASSEMBLY:

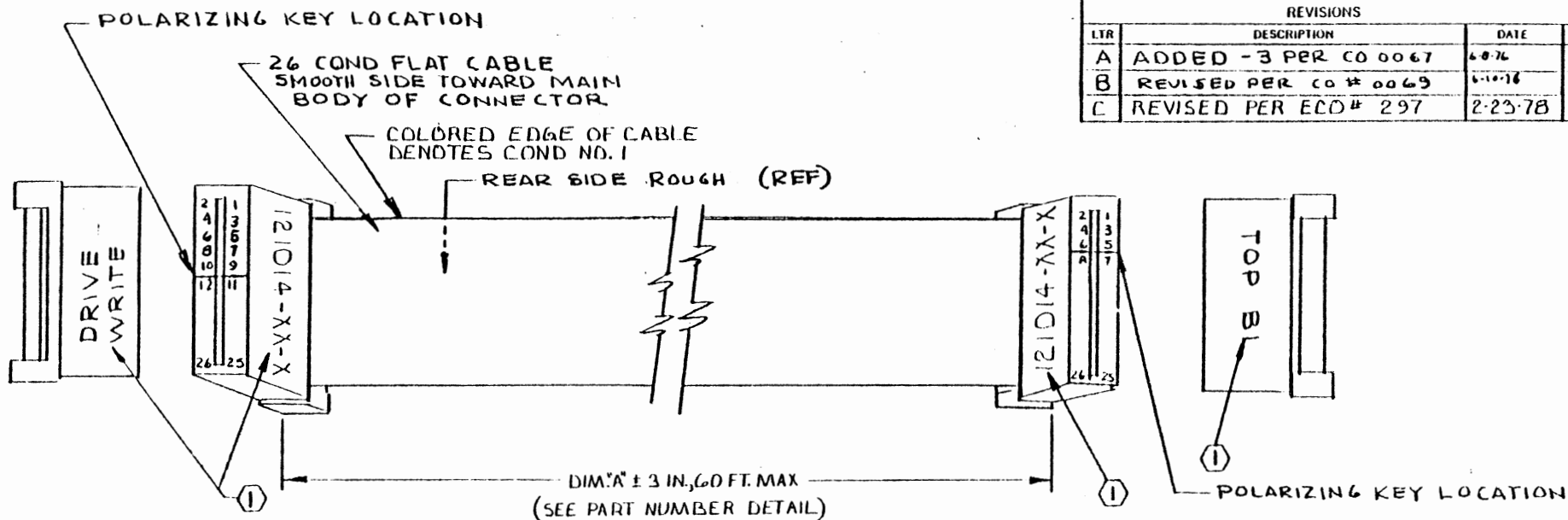
USE 3M PRESS NO 3440
USE LOCATOR PLATE NO. 3443-II
USE SETTING NO. 9 OF GAUGE NO. 3436-I
CUT CABLE USING SCOTCHFLEX CABLE SHEAR OR EQUIV.
BEAT CABLE INTO COVER USING SCOTCHFLEX TOOL NO 3453, CHECK FOR ALIGNMENT
PLACE BODY ON LOCATOR PLATE
POSITION COVER AND CABLE OVER CONN BODY
LOWER HANDLE TO COMPLETE ASSY
REMOVE BY LIFTING ON CONNECTOR

PART NUMBER DETAIL

121006-XX-X		
BASIC PART NUMBER		
DASH NUMBER IN FEET (REF DIM. "A")		
(-07 FOR 7 FT, -10 FOR 10 FT, ETC.)		
LATEST REVISION LETTER		

FOR PARTS SEE PARTS LIST 121006

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals ANAHEIM, CALIFORNIA	
APPROVALS DRAWN FORUM CHECKED J.D.		DATE 6-1-76 6-1-76	
SCALE NONE		SIZE B	DRAWING NO. 121006
DO NOT SCALE DRAWING			SHEET



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	ADDED -3 PER CO 0067	6-8-76	N.D.
B	REVISED PER CO # 0069	6-10-76	N.D.
C	REVISED PER ECO # 297	2-23-78	N.D., 11-78

NOTE 5:

- ① MARK CHARACTERS SHOWN USING CONTRASTING COLOR INK.
SEE PART NUMBER DETAIL FOR MARKING OF VARIABLE CHARACTERS (X'S).

2. ASSEMBLY:

USE 3M PRESS NO. 3440.
USE LOCATOR PLATE NO 3443-11
USE SETTING NO 9 OF GAUGE 3436-1
CUT CABLE USING SCOTCHFLEX CABLE SHEAR OR EQUIV.
SEAT CABLE INTO COVER USING SCOTCHFLEX
TOOL NO 3453, CHECK FOR ALIGNMENT
PLACE BODY ON LOCATOR PLATE
POSITION COVER AND CABLE OVER CONN BODY
LOWER HANDLE TO COMPLETE ASSY
REMOVE BY LIFTING ON CONNECTOR

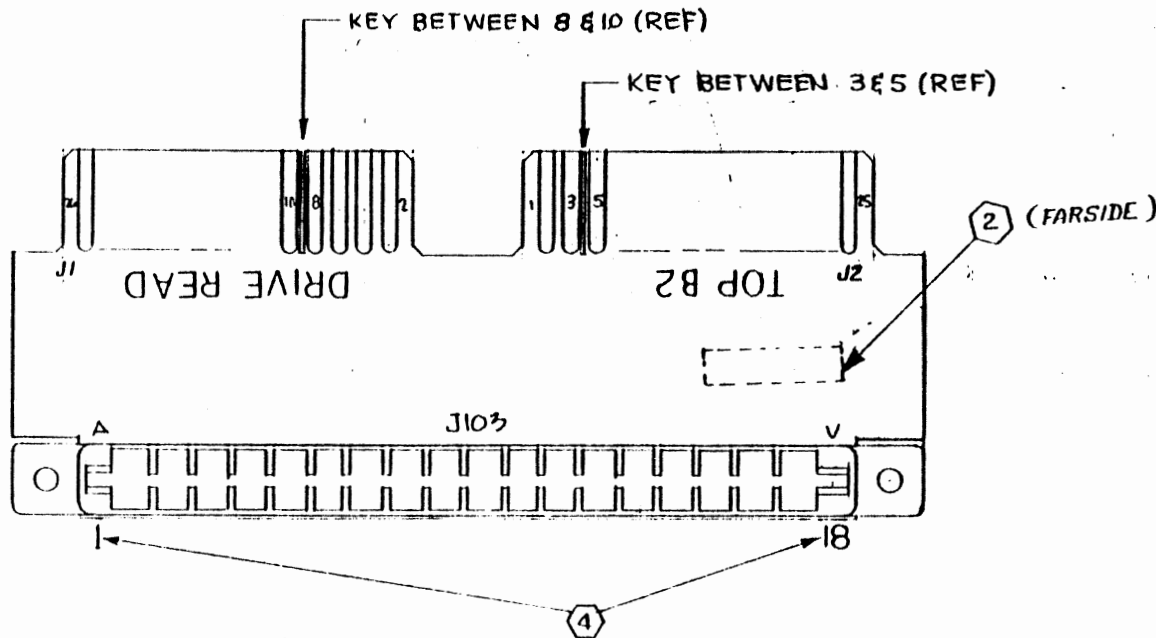
PART NUMBER DETAIL

121014-XX-X		
BASIC PART NUMBER	121014	XX-X
DASH NUMBER IN FEET (REF. DIM. "A")		
(-07 FOR 7 FT., -10 FOR 10 FT., ETC.)		
LATEST REVISION LETTER		

FOR PARTS SEE PARTS LIST 121014

TOLERANCES UNLESS OTHERWISE SPECIFIED		FRACTIONS DEC. ANGLES	
±	1	±	1
APPROVALS	DATE	western peripherals ANAHEIM, CALIFORNIA	
DRAWN	6-1-76		
CHECKED	6-1-76		
SCALE		SIZE	DRAWING NO.
NONE		B	121014
DO NOT SCALE DRAWING			SHEET

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	REV PER CO NO. 0105	9-8-76	
B	E.C.O NO.-0190	6-6-77	J.D.-11-77
C	REVISED NOTE 2 PER ECO. #415	2/2/79 J.D.	2/2/79 J.D.
D	ADDED NOTE (4) PER ECO #504	6-20-79 E.	6-20-79 E.

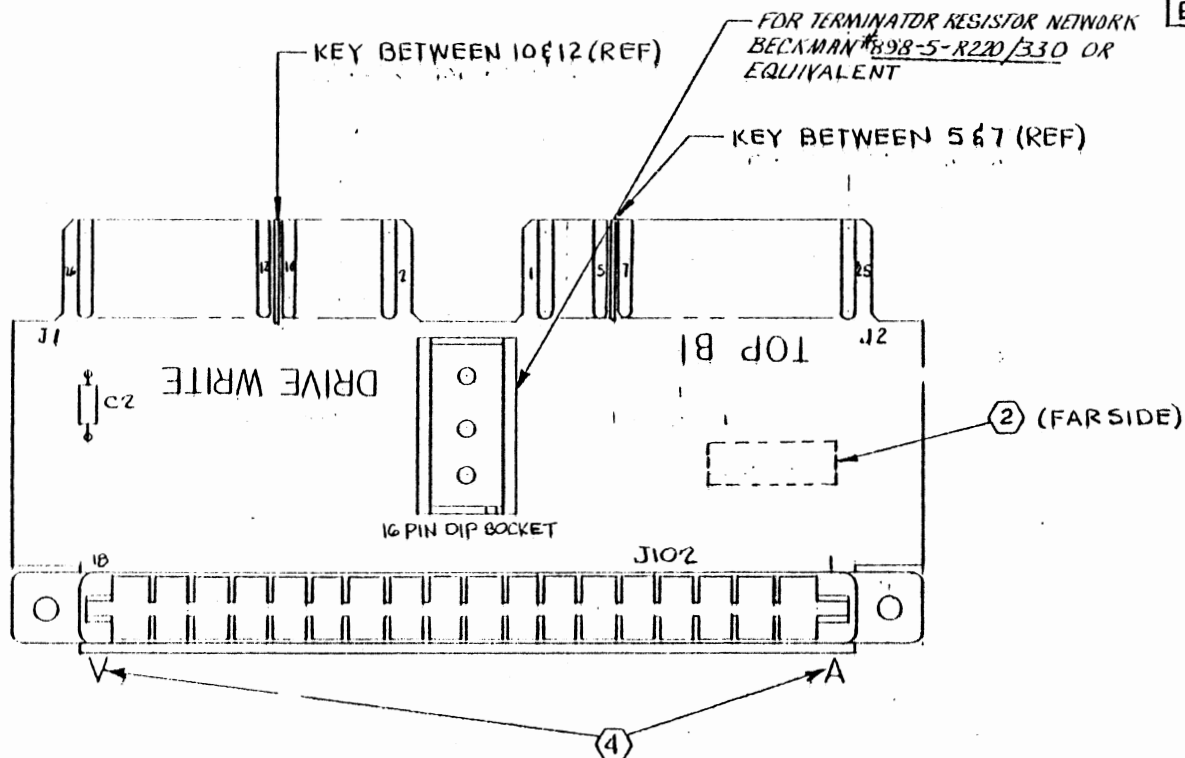


NOTE.

1. REF SCHEMATIC DWG NO. 122022
2. RUBBER STAMP ASSEMBLY NO. WITH LATEST REV. LTR ATTACH WHERE SHOWN USING BLK INK.
3. FOR MATL SEE P/L 122005
4. MARK CHARACTERS SHOWN (1 & 18) ON SIDE OF CONNECTOR USING CONTRASTING INK.

TOLERANCES UNLESS OTHERWISE SPECIFIED		 western peripherals ANAHEIM, CALIFORNIA	
FRACTIONS	DEC.	ANGLES	
±	±	±	
APPROVALS	DATE	ASSEMBLY DWG. ADAPTER, TAPE READ CONNECTOR	
DRAWN <i>HEB</i>	2-13-76		
CHECKED <i>at</i>	2-25-76	SCALE	DRAWING NO.
		2:1	B 122005
		DO NOT SCALE DRAWING	SHEET 1 OF 1

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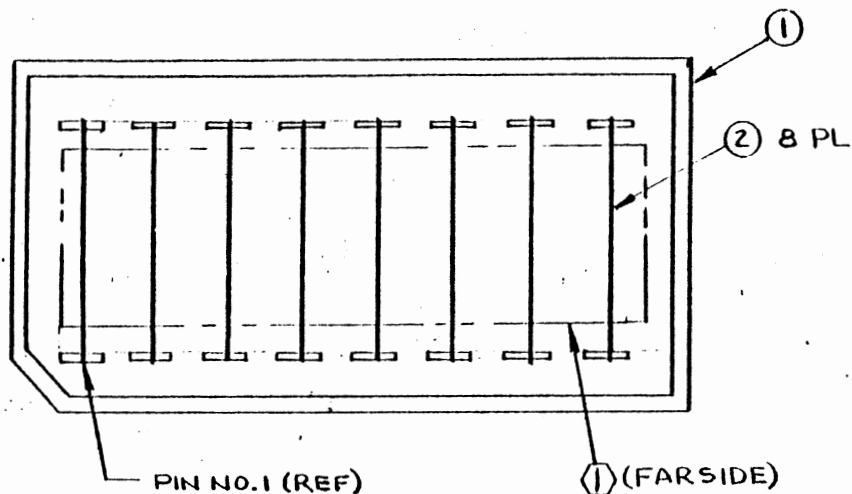
NOTE:

1. REF SCHEMATIC DWG. NO. 122021.
- (2) RUBBER STAMP ASSY NO. WITH LATEST
REV LTR APPROX. WHERE SHOWN USING BLK INK.
3. FOR MATL SEE P/L 122006.
- (4) MARK CHARACTERS SHOWN (A & V) ON SIDE OF
CONNECTOR USING CONTRASTING INK.

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REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	E.C.O. NO.-0190	6-6-77	W.D. 6-11-77
B	ADVANCED REV LTR TO AGREE WITH P/L	11/22/77	W.D. 11-2-77
D	REVISED NOTE 2 PER ECO# 416	11/22/77	W.D. 11-2-77
E	ADDED NOTE (4) PER ECO# 504	6-20-78	W.D. 6-20-78

TOLERANCES UNLESS OTHERWISE SPECIFIED		FRACTIONS DEC. ANGLES	
±	±	±	±
APPROVALS	DATE	 western peripherals ANAHEIM, CALIFORNIA	
DRAWN	DATE		
CHECKED	DATE	SCALE	SIZE
HRB	2-12-76	2:1	B
W.D.	2-25-76	DRAWING NO.	
		122006	
DO NOT SCALE DRAWING			SHEET 1 of 1



WIRE LIST		
WIRE NO.	FROM PIN NO.	TO PIN NO.
1	1	16
2	2	15
3	3	14
4	4	13
5	5	12
6	6	11
7	7	10
8	8	9

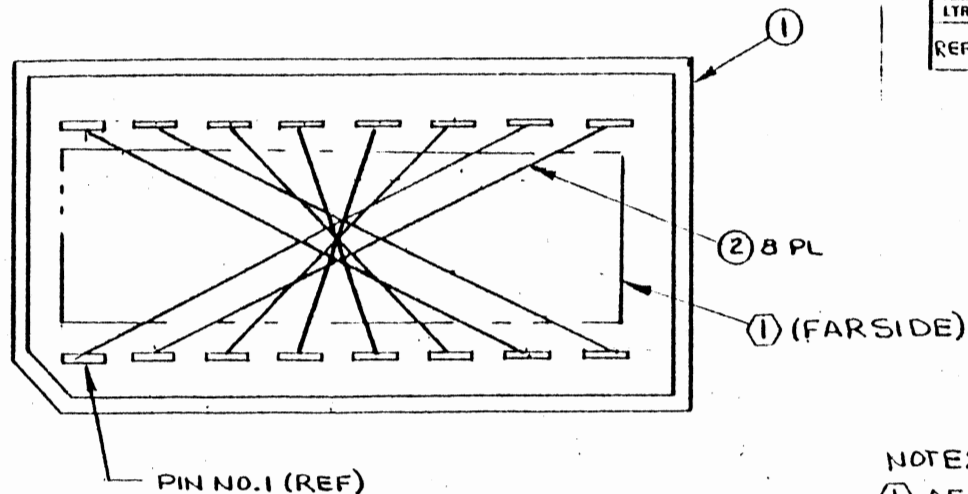
BILL OF MATERIALS

ITEM	NO. REQD	PART NO.	DESCRIPTION	REMARKS
1	1	CA-16P-12	DIP PLUG, 16-PIN	CIRCUIT ASSY OR EQUIV
2	A/R		WIRE, INSULATED, #30 AWG SOLID	WIRE WRAP WIRE

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

NOTE: UNLESS OTHERWISE SPECIFIED
 ① AFFIX ADHESIVE LABEL WITH PART NO. & LATEST REV LTR WHERE SHOWN

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals ANAHEIM, CALIFORNIA	
APPROVALS DRAWN CHECKED 21.0		DATE 11-18-76 11-18-76	
SCALE NONE		SIZE B	DRAWING NO. 122010
DO NOT SCALE DRAWING			SHEET 1 OF 1



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
REF	REC. CHG: ADD FARSIDE TO (1) (ALL PARTS MADE CONFORM)		

WIRE LIST		
WIRE NO.	FROM PIN NO.	TO PIN NO.
1	1	10
2	2	9
3	3	11
4	4	12
5	5	13
6	6	14
7	7	16
8	8	15

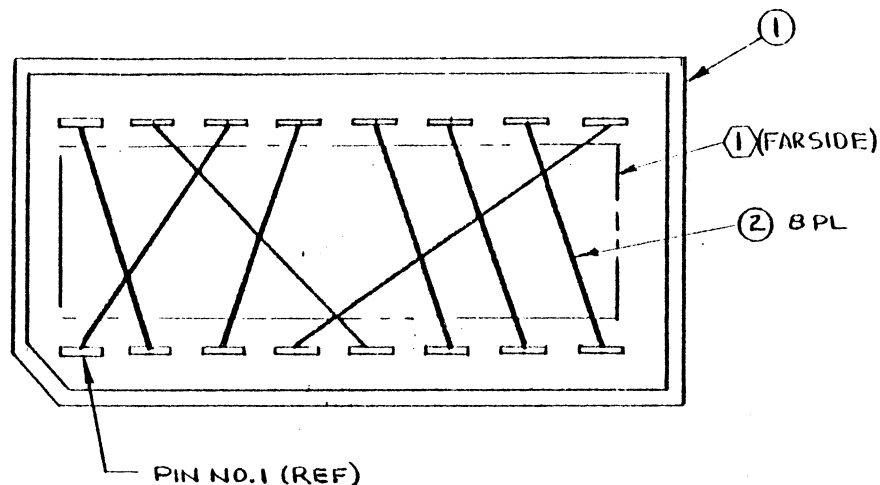
NOTE: UNLESS OTHERWISE SPECIFIED
 (1) AFFIX ADHESIVE LABEL WITH PART NO. &
 LATEST REV LTR WHERE SHOWN

BILL OF MATERIALS

ITEM	NO. REQD	PART NO.	DESCRIPTION	REMARKS
1	1	CA-16P-12	DIP PLUG, 16-PIN	CIRCUIT ASSY OR EQUIV
2	A/R		WIRE, INSULATED, #30 AWG SOLID	WIRE WRAP WIRE

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		 western peripherals ANAHEIM, CALIFORNIA	
APPROVALS DRAWN CORUM CHECKED V.D.		DATE 11-18-76 11-18-76	
SCALE NONE		SIZE B	
DRAWING NO. 122011		SHEET 1 OF 1	
DO NOT SCALE DRAWING			

ASSY, JUMPER ARRAY,
 SELECT SWITCH OPTION,
 SPECIAL (4TH TRANSPORT)



WIRE LIST		
WIRE NO.	FROM PIN NO.	TO PIN NO.
1	1	14
2	2	16
3	3	13
4	4	9
5	5	15
6	6	12
7	7	11
8	8	10

BILL OF MATERIALS

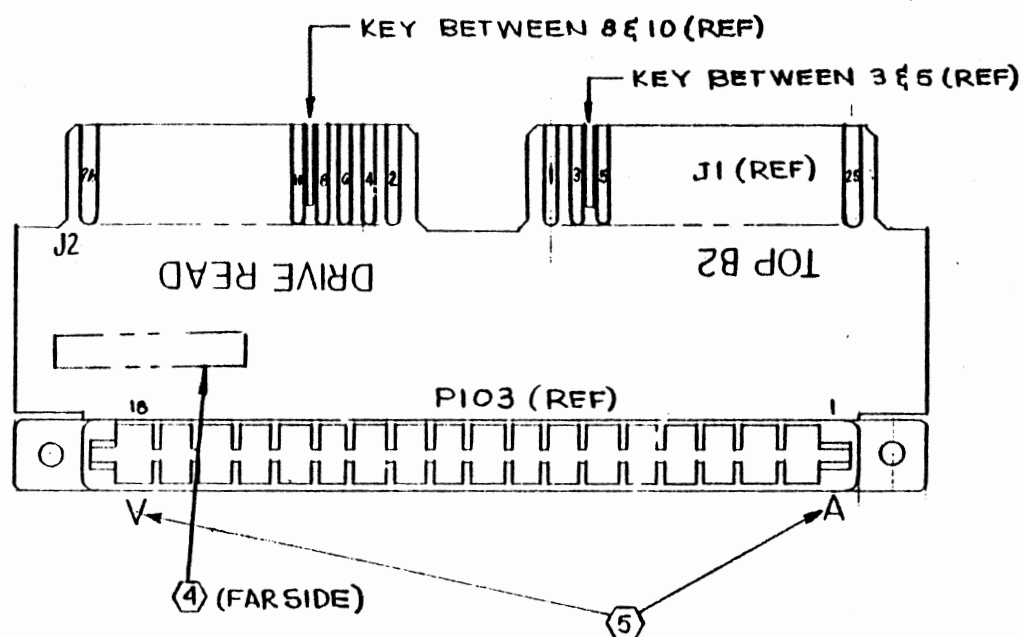
ITEM	NO. REQD	PART NO.	DESCRIPTION	REMARKS
1	1	CA-16P-12	DIP PLUG, 16-PIN	CIRCUIT ASSY OR EQUIV
2	A/R		WIRE, INSULATED, #30 AWG SOLID	WIRE WRAP WIRE

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

NOTE: UNLESS OTHERWISE SPECIFIED
 (1) AFFIX ADHESIVE LABEL WITH PART NO. & LATEST REV LTR WHERE SHOWN

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		 western peripherals ANAHEIM, CALIFORNIA	
APPROVALS DRAWN CHECKED 11-18-76		DATE 11-18-76	
SCALE NONE		SIZE B	DRAWING NO. 122012
DO NOT SCALE DRAWING			SHEET 1 OF 1

REVISIONS				
LTR	DESCRIPTION	DATE	APPROVED	
A	INCRP. CO # 0145 <i>mc</i>	1-21-77	<i>H.D. 1-24-77</i>	
B	E.C.O. NO. - 0190	6-6-77	<i>H.D. 6-11-77</i>	
C	DELETED NOTE 2 PER E.C.O. #417	<i>11-11-79</i>	<i>7/17/79 #19</i>	
D	ADDED NOTE (5) PER ECO #504	6-20-79 <i>8</i>	<i>6-20-79</i>	



NOTE: UNLESS OTHERWISE SPECIFIED

1. REF SCHEMATIC DWG NO. 122022

2.

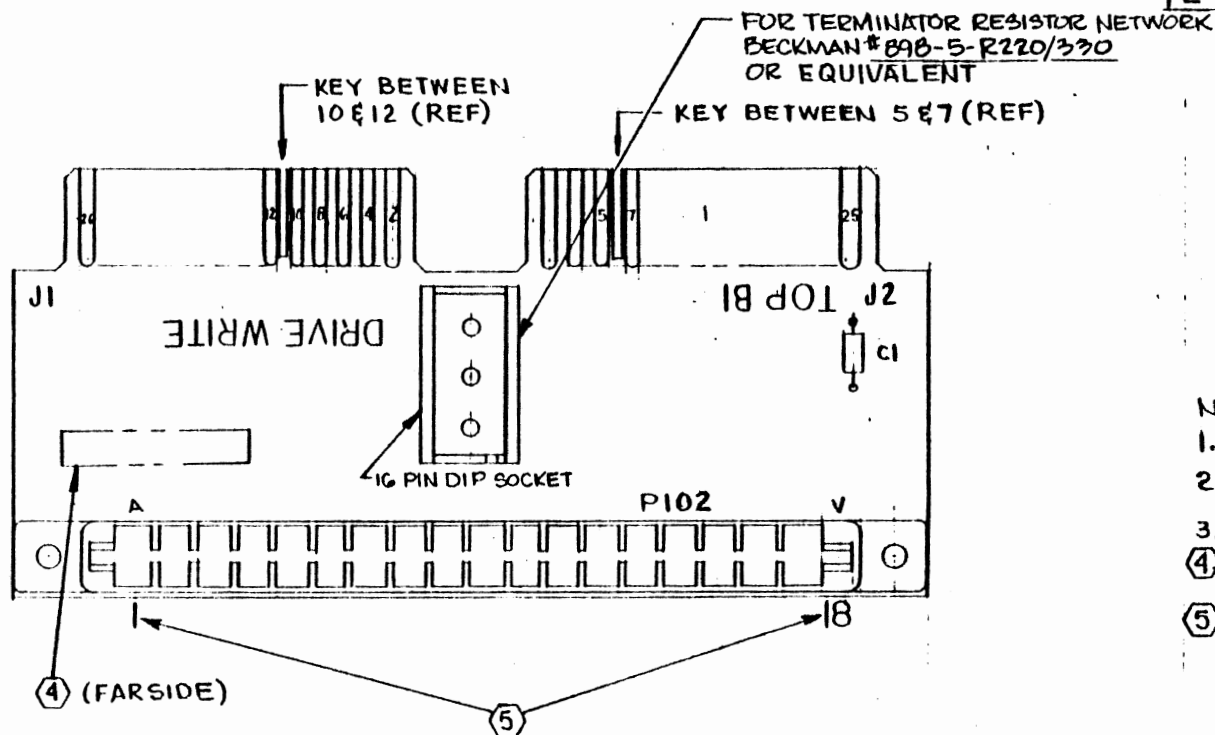
3. FOR MATERIAL SEE P/L 122018

(4) RUBBER STAMP ASSY NO. WITH LATEST REV LTR APPROX WHERE SHOWN *USING BLK INK.*

(5) MARK CHARACTERS SHOWN (A&V) ON SIDE OF CONNECTOR USING CONTRASTING INK.

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±			 western peripherals ANAHEIM, CALIFORNIA		
APPROVALS					
DRAWN <i>HRB</i> 2-15-76			ASSEMBLY DWG. ADAPTER, TAPE READ KENNEDY CIPHER		
CHECKED <i>AL</i> 2-15-76					
			SCALE	SIZE	DRAWING NO.
			2:1	B	122018
			DO NOT SCALE DRAWING		SHEET 1 of 1

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REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	INCORPORATE CO #0146	1-21-77	J.D. 1-24-77
B	INCCORP ECO 172	5/11/77	J.D. 5-11-77
C	INCCORP. ECO. NO.-0190	6-6-77	J.D. 6-11-77
D	DELETED NOTE 2 & CALOUT PER ECO 118	11/24/79	J.H. 11-1-79
E	ADDED NOTE (5) PER ECO #504	6-20-79	W.C. 6-20-79

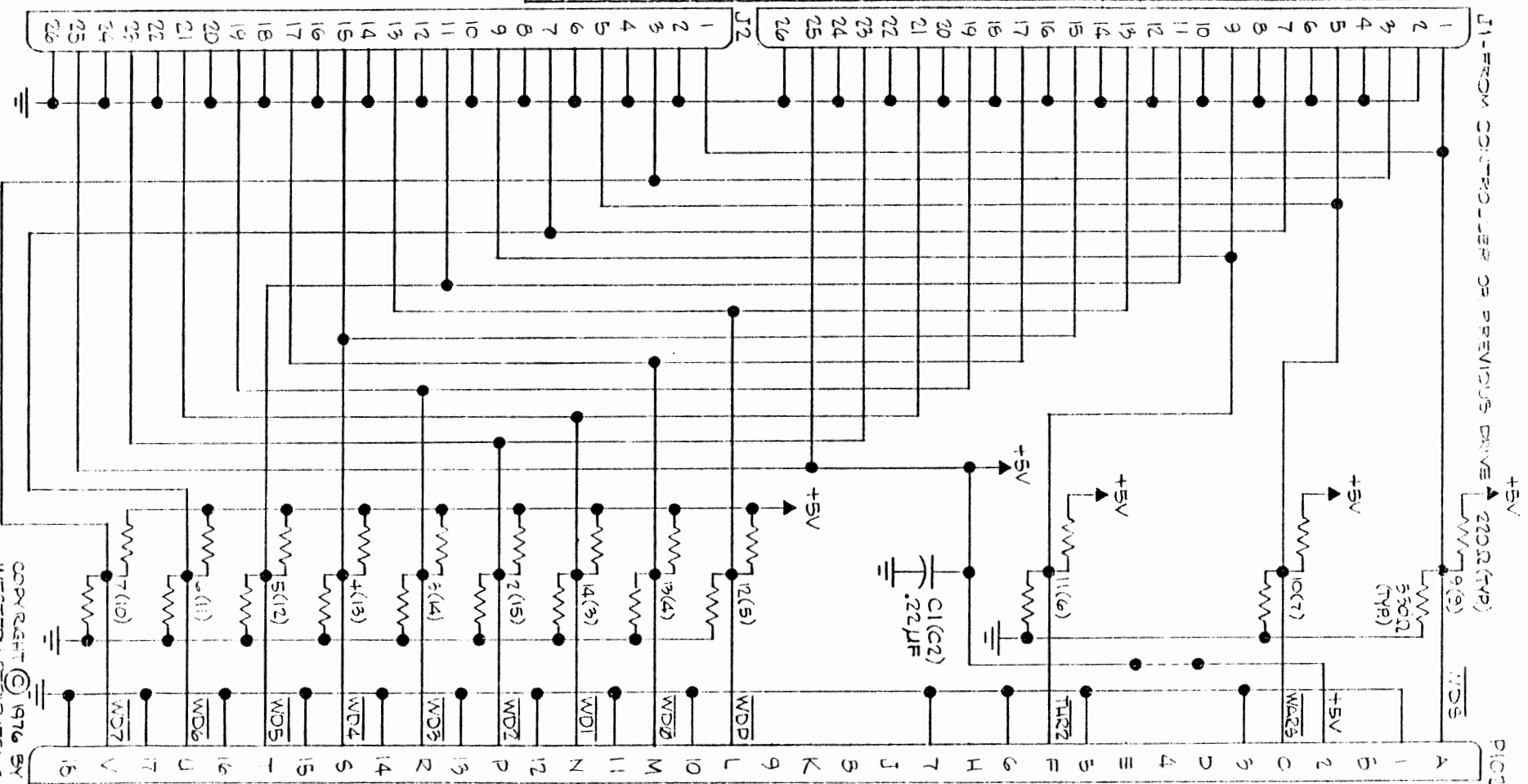
- NOTE: UNLESS OTHERWISE SPECIFIED
1. REF SCHEMATIC DWG NO. 122021
 - 2.
 3. FOR MATERIAL SEE P/L 122019
 - ④ RUBBER STAMP ASSY NO. WITH LATEST REV LTR APPROX WHERE SHOWN
 - ⑤ MARK CHARACTERS (1 & 18) ON SIDE OF CONNECTOR USING CONTRASTING INK.

TOLERANCES UNLESS OTHERWISE SPECIFIED		 western peripherals ANAHEIM, CALIFORNIA	
FRACTIONS	DEC.	ANGLES	
±	±	±	
APPROVALS		DATE	
DRAWN <i>HRB</i>		2-12-76	
CHECKED <i>AL</i>		2-25-76	
SCALE		SIZE	DRAWING NO.
2:1		B	122019
DO NOT SCALE DRAWING			SHEET <i>OF</i>

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DAISY-CHAIN TO NEXT TAPE DRIVE

B INCORP ECO 172		5/11/77	(A.D.)	REVISIONS		DATE	APPROVED
C IDENTIFIED SIGNALS AND CONNECTORS PER ECO 169		9-18-80	(A.D.)	LTR	DESCRIPTION		
				A	ECO-0147	8-30-77	N.D.



TO
TAPE
DRIVE

NOTES:

- 1. NEXT ASSY. NO. 122006, 122010, 122034.
- 2. PIN NUMBERS AND REFERENCE DESIG. NOTATIONS SHOWN IN PARENTHESES APPLY TO ASSY. 122006, 122034.

western peripherals
ANAHEIM, CALIFORNIA

**SCHEMATIC
ADPTR. TAPE WRITE
CONNECTOR**

APPROVALS	DATE
DRAWN HRB	1-12-76
CHECKED	1-26-76

SCALE	SIZE	DRAWING NO.
NONE	B	122021

DO NOT SCALE DRAWING

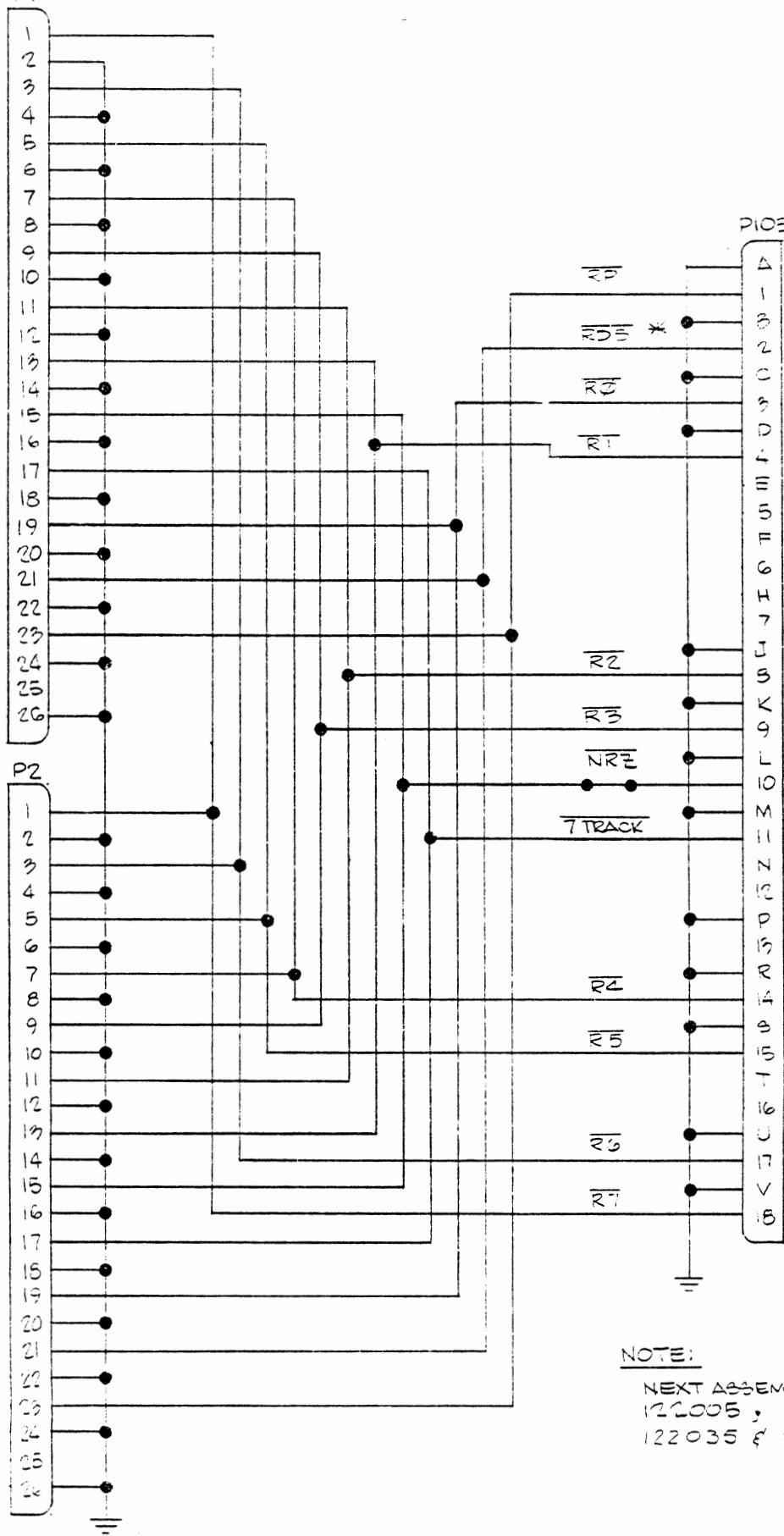
SHEET 1 OF 1

REVISIONS

LTIR	DESCRIPTION	DATE	APPROVED
A	IDENTIFIED SIGNALS AND CONNECTORS SEP 1976 (20-716)	9-18-80	

DAISY-CHAIN TO NEXT TAPE DRIVE

DI - FROM CONTROLLER OR PREVIOUS DRIVE



NOTE:

NEXT ASSEMBLY NO.
122005, 122016,
122035 & 122043.

TOLERANCES UNLESS
OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES

APPROVALS DATE
DRAWN HLB 1-13-76
CHECKED HLB 1-26-76

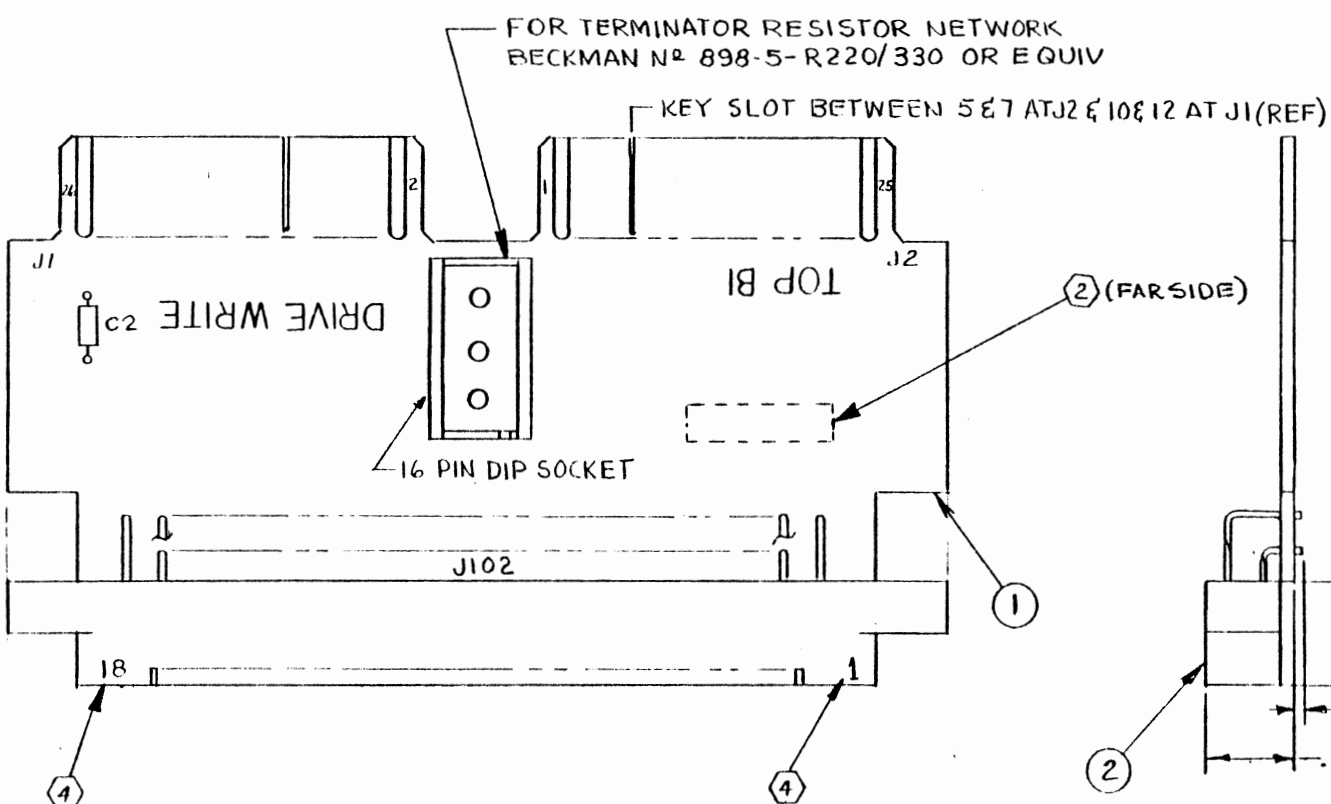
western peripherals
ANAHEIM, CALIFORNIA

SCHEMATIC
ADPTR., TAPE READ
CONNECTOR

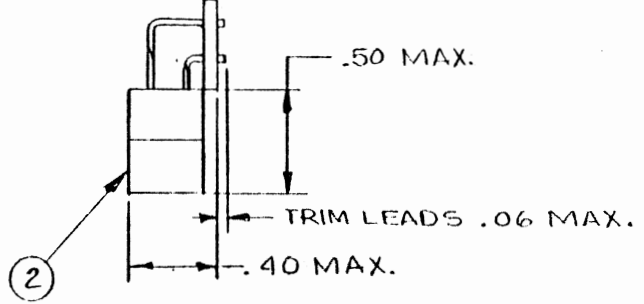
SCALE NONE SIZE B DRAWING NO. 122022

DO NOT SCALE DRAWING

SHEET 1 OF 1



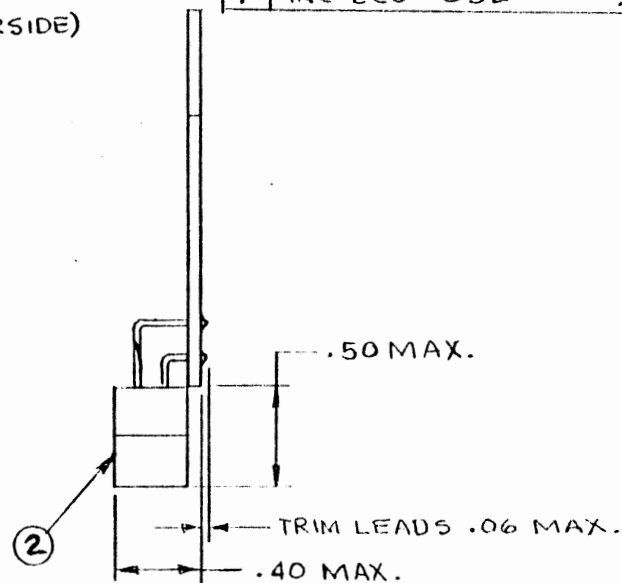
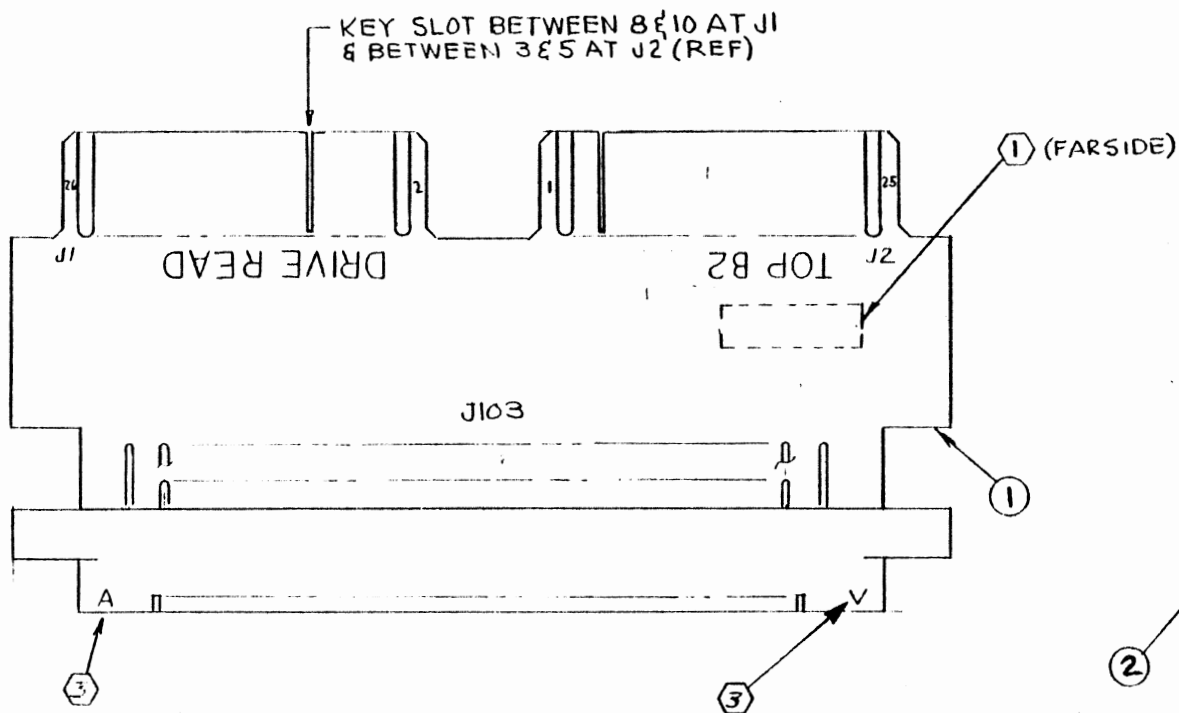
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	INCORP ECO 172	5/11/77	J.D. Smith
B	INCORP E.C.O. NO. 0190	6-6-77	J.D. Smith
C	INCORP E.C.O. NO. 0197	8-8-77	J.D. Smith
D	ADD NOTE 4 PER ECO 355	11/1/77	J.D. Smith
E	ADVANCE REV LTR TO AGREE WITH P/L	11/1/77	J.D. Smith
F	CHANGED NOTE 2 PER ECO 416	11/1/77	J.D. Smith
G	INC ECO # 852 AND CHG ASSY NO. LOCATION	11/1/77	J.D. Smith



- ④ RUBBER STAMP CHARACTERS SHOWN USING WHITE INK.
 - 3. FOR MATERIAL LIST SEE P/L 122034.
 - ② RUBBER STAMP ASSY NO. 8 LATEST REV LTR APPROX WHERE SHOWN USING BLK INK.
 - 1. REF. SCHEMATIC DWG NO. 122021.
- NOTE : UNLESS OTHERWISE SPECIFIED.

MAR 27 1981

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals ANAHEIM, CALIFORNIA	
APPROVALS DRAWN CORUM CHECKED		DATE 6-11-76	
SCALE 2X		SIZE B	DRAWING NO. 122034
DO NOT SCALE DRAWING			SHEET 1 OF 1



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	E.C.O. NO. 0190	6-6-77	N. J. 6-11-77
B	E.C.O. NO. 0197	8-8-77	N. J. 8-9-77
C	ADDED NOTE 3 PER ECO #355	2/1/78	N. J. 2-1-78
D	ADVANCED REV LTR TO AGREE WITH P/L	2/1/78	N. J. 2-1-78
E	CHANGED NOTE 1 PER ECO #415	2/1/78	N. J. 2-1-78
F	INC ECO # 852	3-13-78	N. J. 3-13-78

(3) RUBBER STAMP CHARACTERS SHOWN USING WHITE INK.
2. REF SCHEMATIC DWG NO. 122022.

(1) RUBBER STAMP ASSY NO. 1 LATE ST. REV LTR
APPROX. WHEN SHOWN USING BLK INK.

NOTE: UNLESS OTHERWISE SPECIFIED.

MAR 27 1981

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		 western peripherals ANAHEIM, CALIFORNIA	
APPROVALS DRAWN CHECKED M.C.		DATE 6-11-76	
SCALE 2X		SIZE B	DRAWING NO. 122035
DO NOT SCALE DRAWING			SHEET 1 OF 1

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	CORRECTED SWITCH SETTING CHART FOR SA4 PER ECO 118.	5-4-77	
B	REDRAWN PER ECO 236.	5-16-78	<i>[Signature]</i>
C	CHANGED I.C. LOC. PER ECO 806	12-9-78	<i>[Signature]</i>

SWITCH A	SWITCH	SETTINGS	SYSTEM CONSIDERATIONS
1	ON	FOR DRIVES THAT REQUIRE REWIND COMMAND REMOVAL PRIOR TO BOT	1. REMOVE ALL INTERFACE TERMINATORS FROM TRANSPORT(S)
	OFF	FOR DRIVES THAT DO NOT REQUIRE REWIND COMMAND REMOVAL PRIOR TO BOT	2. INSTALL CONTROL TERMINATOR ONLY IN LAST DAISY CHAIN POSITION
2	ON	FOR DRIVES THAT STORE EOT STATUS NOTE: A5 SHOULD BE OFF	3. CORRECTLY IDENTIFY CONFIGURATION AND SET SWITCHES ACCORDINGLY
	OFF	FOR DRIVES THAT DO NOT STORE EOT STATUS NOTE: A5 SHOULD BE ON	
3	ON	FOR 7 TRACK DRIVES	
	OFF	FOR 9 TRACK DRIVES	
4	ON	FOR 7 TRACK 556/800 BPI DENSITY SELECTIONS OR 9 TRACK SECONDARY SPEED (SELECTION B)	
	OFF	FOR 7 TRACK 200/556 BPI DENSITY SELECTIONS OR 9 TRACK PRIMARY SPEED (SELECTION A)	
5	ON	FOR DRIVES THAT DO NOT STORE EOT STATUS NOTE: A2 SHOULD BE OFF	
	OFF	FOR DRIVES THAT STORE EOT STATUS NOTE: A2 SHOULD BE ON	
6	ON	FOR 9 TRACK NRZI ONLY DRIVE	
	OFF	FOR 7 TRACK DRIVES, 9 TRACK 1600 BPI DRIVES, OR 9 TRACK 800/1600 DUAL DENSITY	
7	ON	FOR DUAL DENSITY 9 TRACK DRIVES THAT DO NOT PRESENT NRZ STATUS ON DRIVE READ CONNECTOR	
	OFF	FOR DUAL DENSITY 9 TRACK DRIVES THAT DO PRESENT NRZ STATUS ON DRIVE READ CONNECTOR	
8	ON	FOR 7 TRACK DRIVES	
	OFF	FOR 9 TRACK DRIVES	

NOTES:

- FOR 7 TRACK DRIVES IN DRIVE DAISY CHAINS, ONLY PRIMARY SPEED SELECTION IS AVAILABLE.
- REF. ASSY. DWG. 122037, 122038, & 122039.
- 122010 INSTALLED WHEN TRANSPORT HAS 4- POSITION UNIT SELECT SWITCH (SEE EXCEPTION BELOW).
122011 INSTALLED IN 4TH TRANSPORT IF MORE THAN 4 TRANSPORTS ARE DAISY CHAINED.
122012 INSTALLED WHEN TRANSPORT DOES NOT HAVE UNIT SELECT SWITCH.
- FOR PERTEC COMPATIBLE UNIT SELECT OPTION: JUMPER E TO F, G TO H, AND M TO N.
- FOR EXTERNALLY CONNECTED UNIT SELECT SWITCH: CUT ETCH BETWEEN P & R AND CONNECT EXTERNAL SWITCH TO A, B, C, D, & L.
- TO POWER ADAPTER FROM TAPE TRANSPORT, CUT ETCH BETWEEN J & S AND JUMPER J TO K.
- FOR CONFIGURATION "L" SEE DWG. 130047.
- FOR CONFIGURATION "N" SEE DWG. 122044.
- FOR CONFIGURATION "S" SEE DWG. 112061.

TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
+ - + -

APPROVALS DATE
DRAWN T.M. 2-15-78
CHECKED J.D. 5-16-78

 **western peripherals**
ANAHEIM, CALIFORNIA

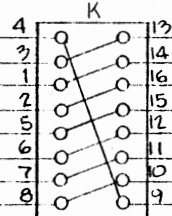
SCHEMATIC
TAPE CONTROL ADAPTER

SCALE SIZE B DRAWING NO. 122036

DO NOT SCALE DRAWING SHEET 1 OF 3

J1
SLT0 11
SLT1 13
SLT2 15
SLT3 9
SLT4 7
SLT5 5
SLT6 1
SLT7 3
FLPT 17
FSL 33
RSL 23
OVW 21
WNB 19
RWDC 27
DSL 29

* SELECT JUMPER ARRAY P/N 122012



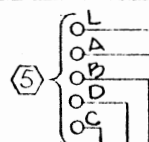
J2
11
13
15
9
7
5
1
3
17
33
23
21
19
27
29

(TO NEXT DRIVE
IN DAISY CHAIN)

REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
-----	-------------	------	----------

RWDC-2
OVW-2
RSL-2
FSL-2



J101
P FLPT
C FSL
E RSL
B OVW
K WNB
D DSL
J A
18 V
3

+5V { 35
37

INSTALLED FOR SINGLE
TRANSPORT OR LAST UNIT
IF UNITS ARE DAISY CHAINED

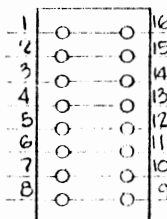
+5V TO ADAPTER

(FROM CONTROLLER
OR PREVIOUS DRIVE)

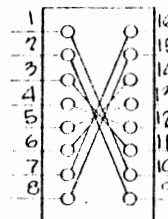
J
1 TERMINATOR
4 BECKMAN
6 878
3 -5-
13 R220/330
14 OR EQUIV
2
15
12
11
10
9

* SELECT JUMPER ARRAY
ALTERNATES

P/N 122010



P/N 122011



- NOTES: UNLESS OTHERWISE SPECIFIED
1. J1 & J2 HAVE ALL EVEN NUMBERED GROUND PINS.
 2. J101 GROUND PINS ARE 2-14, 16 & 17.
 3. ALL RESISTORS ARE 10K OHMS.

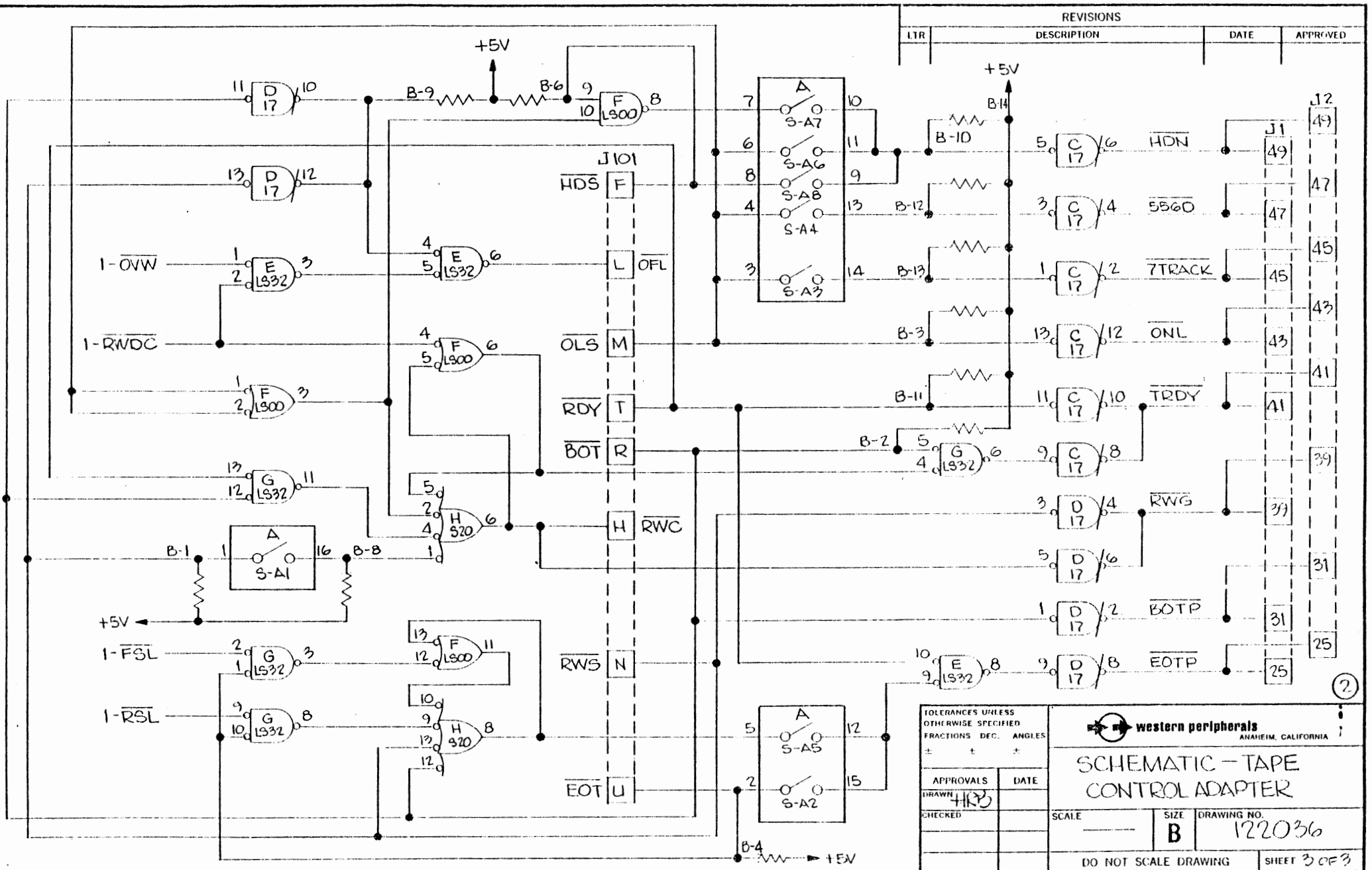
TOLERANCES UNLESS OTHERWISE SPECIFIED	
FRACTIONS	DEC. ANGLES
±	±
APPROVALS	DATE
DRAWN <i>THD</i>	
CHECKED	

western peripherals
ANAHEIM, CALIFORNIA

SCHEMATIC—TAPE
CONTROL ADAPTER

SCALE SIZE DRAWING NO.
B 122036

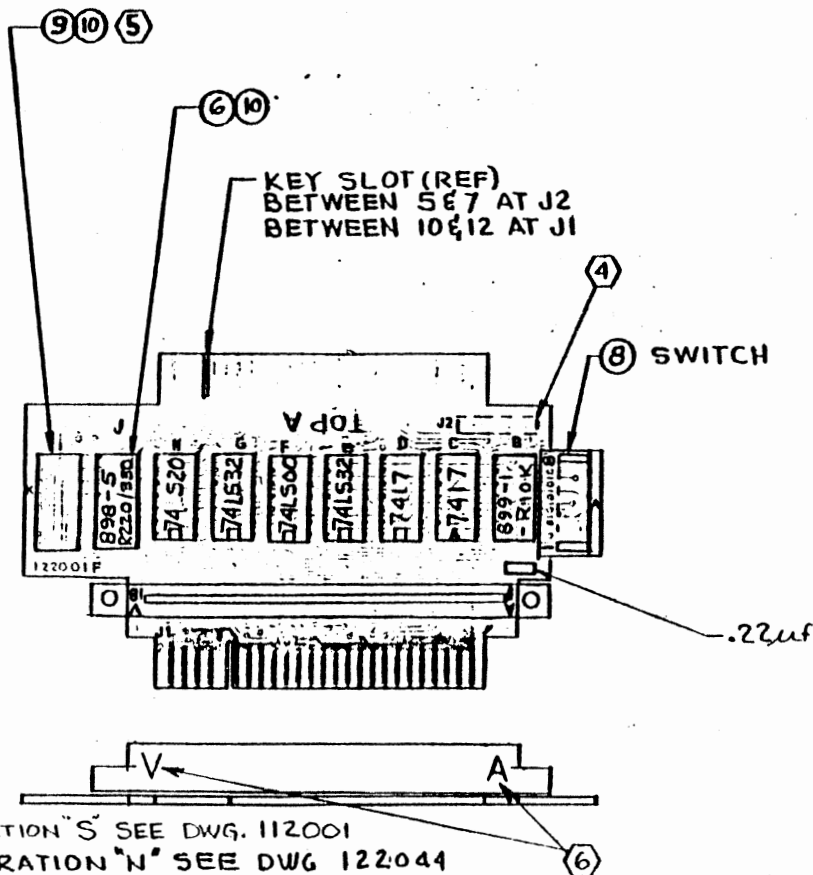
DO NOT SCALE DRAWING SHEET 2 OF 3



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

12	49	J1	49	HDN	5	C17	6
47	47			5560	3	C17	4
45	45			7TRACK	1	C17	2
43	43			ONL	13	C17	12
41	41			TRDY	11	C17	10
39	39			RWG	9	C17	8
31	31			BOTP	3	D17	4
25	25			EOTP	5	D17	6
					1	D17	2
					9	D17	8
					10	E17	8
					9	D17	8

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals ANAHEIM, CALIFORNIA	
SCHEMATIC - TAPE CONTROL ADAPTER			
APPROVALS DRAWN CHECKED	DATE 11/23	SCALE —	SIZE B
DRAWING NO. 122036		SHEET 3 OF 3	



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	E.C.O. NO.-0143	1-18-77	
B	E.C.O. NO.-0190	6-3-77	N.D. 11-77
	RECORD CHANGE: ADD CONF. "L" (REV. LTR. CHANGE NOT REQD.)	8-9-77	N.D. 8-9-77
	RECORD CHG: ADD CONF. "N" (REV LTR CHG NOT REQD)	9-28-77	N.D. 9-28-77
	RECORD CHG: ADD SH NO. 2 (BASIC NO. CHG TO BASIC B0 SEE ECO # 0254 (NO REV. LTR REQD))	11-16-77	N.D. 11-22-77
	ECO # 2 99 (NO REV. LTR. CHANGE)	3-8-78	N.D. 3-7-78
C	USE "F" REV. F.W.B, REF. ECON. 236A	5-16-78	N.D. 5-16-78
D	DELETED NOTES 3 & 6 PER ECO 114	11-22-79	N.D. 11-22-79
E	CORRECT VALUE SHOWN FOR CAPACITOR PER ECO No. 460	3-6-79	N.D. 3-6-79
F	ADDED NOTE 6 PER ECO # 504	6-20-77	N.D. 6-20-77

G 1C "H" S/B 74520 ECO 806

9. FOR CONFIGURATION "S" SEE DWG. 112001
8. FOR CONFIGURATION "N" SEE DWG 122044
7. FOR CONFIGURATION "L" SEE DWG. 130047

6. MARK CHARACTERS SHOWN (A & V) ON SIDE OF CONNECTOR
USING CONTRASTING INK.
5. FOR OPTIONAL JUMPERING AND/OR JUMPER ARRAYS,
REF J.O.A. & SCHEMATIC
4. RUBBER STAMP ASSY NO. WITH LATEST REV LTR AND DASH NO. (IF REQD)
APPROX WHERE SHOWN (FAR SIDE)
- 3.
2. FOR MATERIAL SEE P/L NO. 122037
1. REF SCHEMATIC 122036
- NOTE: UNLESS OTHERWISE SPECIFIED

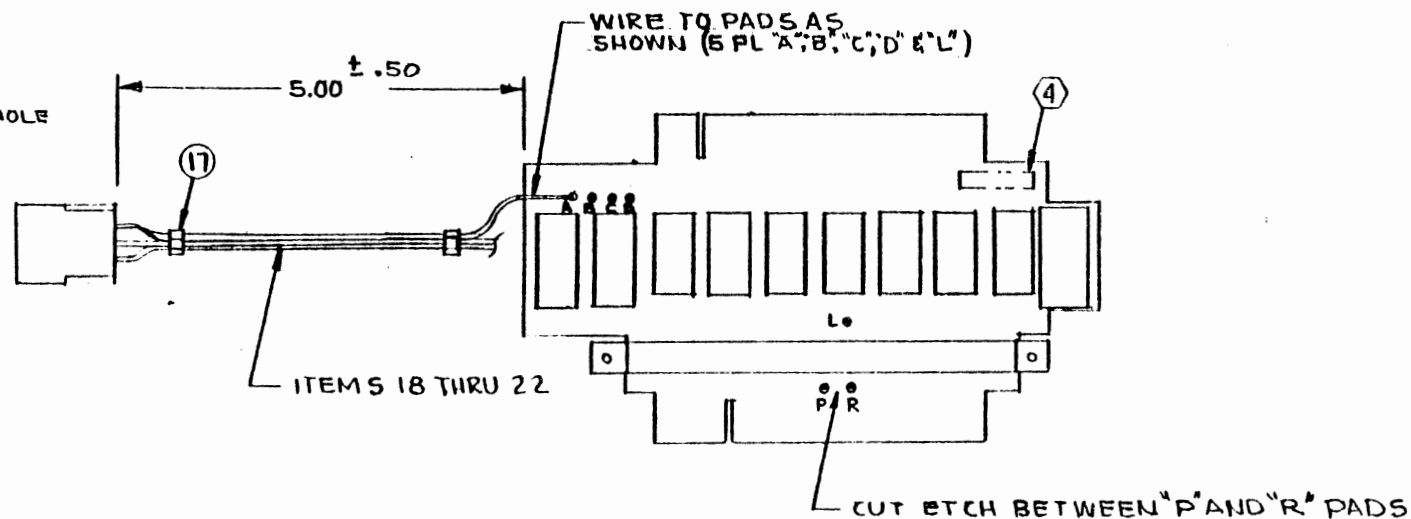
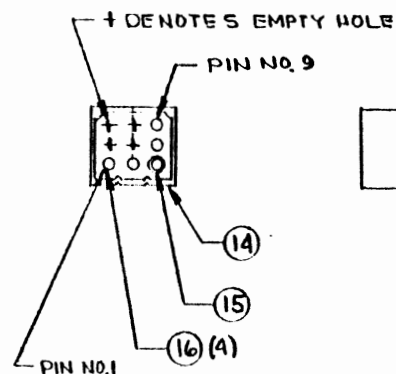
BASIC ASSY SHOWN
FOR -1 ASSY SEE SH NO. 2

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES		western peripherals ANAHEIM, CALIFORNIA	
APPROVALS DRAWN CHECKED N.D.		DATE 11-8-76 12-16-76	
SCALE FULL		SIZE B	DRAWING NO. 122037
DO NOT SCALE DRAWING			SHEET 1 OF 2

0	3	YEL	(A)	122037-1
1	6	RED	(B)	
2	9	GRN	(D)	
3	2	ORG	(C)	
COM	1	BRN	(L)	

122037-1 WIRING DIAGRAM

ITEM NO.14
(9 PIN MOLEX PLUG, REF)

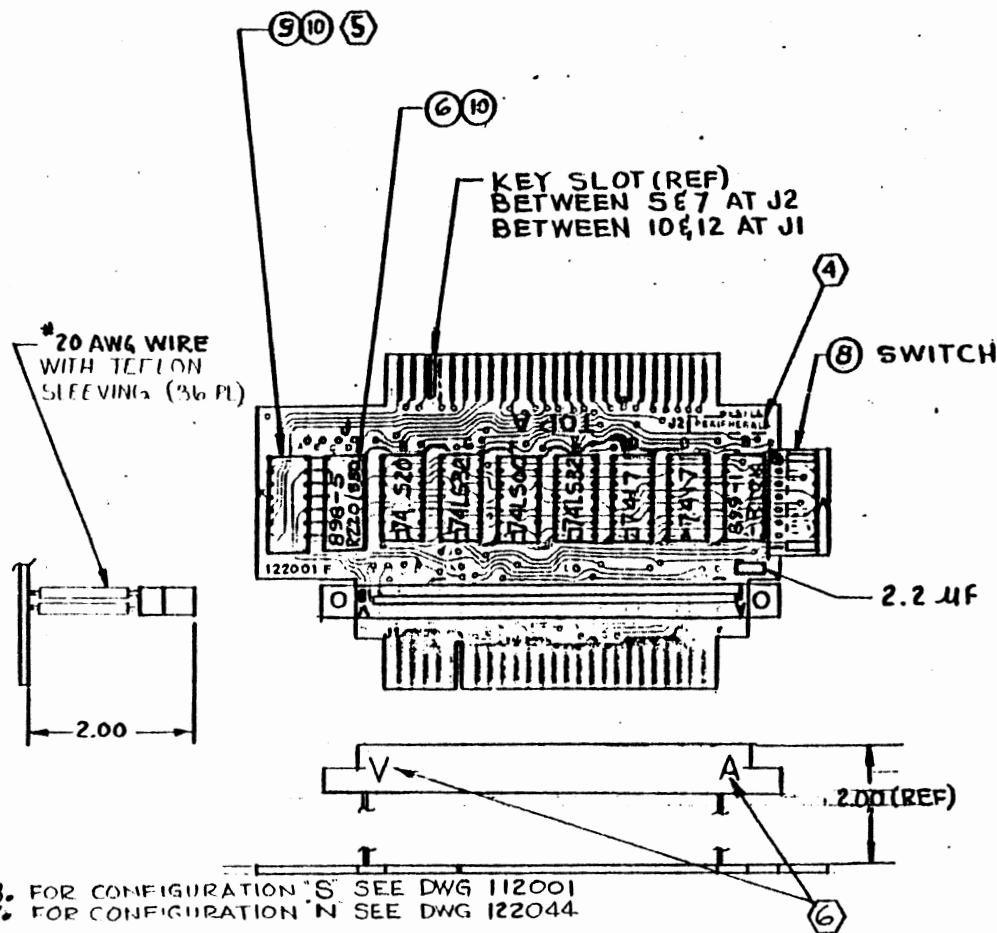


NOTE:

THE -1 ASSY IS USED ON PERTEC T9000 SERIES WITH OPTIONAL UNIT SELECT THUMBWHEEL SWITCH TERMINATED IN MOLEX CONNECTOR. COMPONENT REQUIREMENTS & MARKINGS ARE THE SAME AS FOR BASIC ASSY

-1 ASSY SHOWN
FOR BASIC ASSY SEE SH NO.1

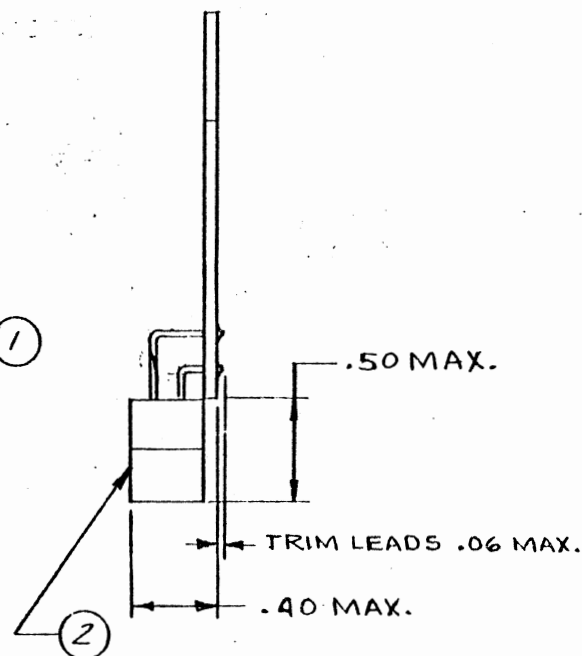
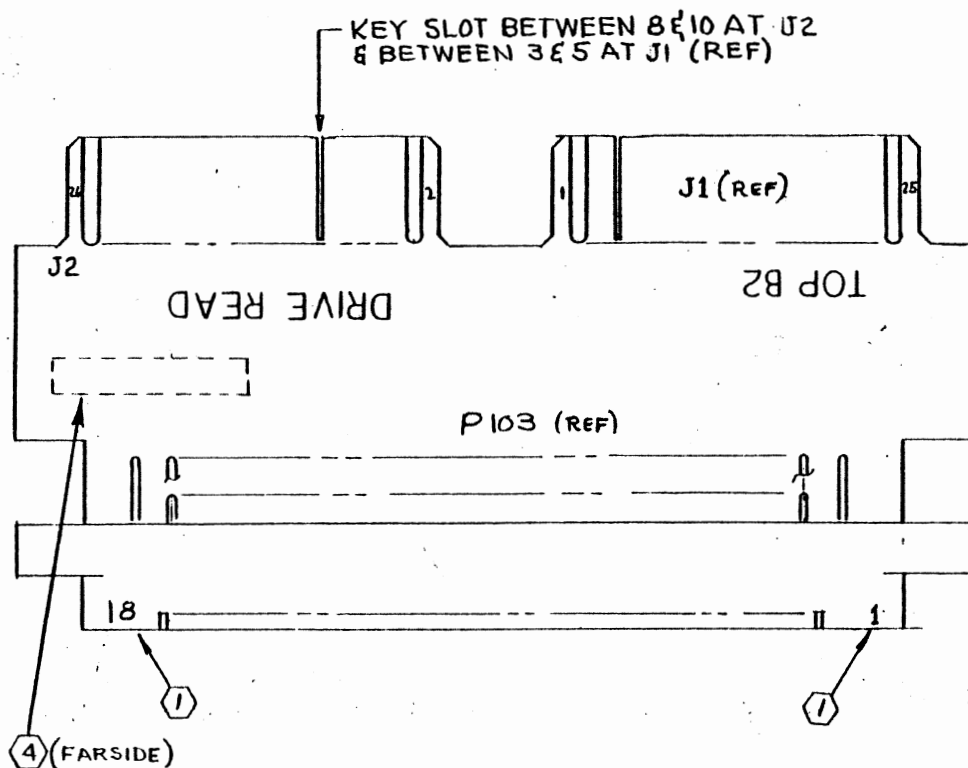
TOLERANCES UNLESS OTHERWISE SPECIFIED			 western peripherals ANAHEIM, CALIFORNIA	
FRACTIONS	DEC.	ANGLES	ASSEMBLY— ADAPTER TAPE CONTROL CONNECTOR	
±	±	±		
APPROVALS	DATE			
DRAWN	11-19-77			
CORUM				
CHECKED		SCALE	SIZE	DRAWING NO.
		FULL	B	122037 1
DO NOT SCALE DRAWING				SHEET 2 OF 2



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	E.C.O. NO.-0143	1-18-77	
B	E.C.O. NO.-0190	6-3-77	H.D. 11-77
C	E.C.O. NO.-0197	8-8-77	H.D. 8-9-77
	E.C.O. NO.-299 (NO REV. LTR. CHG.)	3-8-78	H.D. 3-21-78
	ADDED NOTE 7. PER E.C.O. 257	3-21-78	H.D. 3-21-78
D	USE "F" REV. PWB, REF. ECO No. 236A	5-16-78	H.D. 5-16-78
E	DELETED NOTES 3 & 6 PER ECO# 304	11-24-79	H.D. 11-24-79
F	ADDED NOTE 6 PER ECO# 504	6-20-79	H.D. 6-20-79
G	I.C. "H" S/B 74520	ECO 806	

6. MARK CHARACTERS SHOWN (A&V) ON SIDE OF CONNECTOR USING CONTRASTING INK.
5. FOR OPTIONAL JUMPERING AND/OR JUMPER ARRAYS, REF J.O.A. & SCHEMATIC
4. RUBBER STAMP ASSY NO. WITH LATEST REV LTR LOCATED APPROX WHERE SHOWN (FAR SIDE)
- 3.
2. FOR MATERIAL SEE P/L NO. 122039
1. REF SCHEMATIC 122036
- NOTE: UNLESS OTHERWISE SPECIFIED

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES		western peripherals ANAHEIM, CALIFORNIA	
APPROVALS	DATE	ASSEMBLY ADAPTER TAPE CONTROL CONNECTOR 2 INCH STAND OFF	
DRAWN CORG AM	11-8-76	SCALE FULL	SIZE B
CHECKED V.D.	12-16-76	DRAWING NO. 122039	
		DO NOT SCALE DRAWING	
		SHEET 1 OF 1	



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	REVISED NOTE 1 PER E.C.O. #355	2/2/79	W.H. 2-9-79
B	ADVANCED REV LTR TO AGREE WITH P/L	2/2/79	W.H. 2-9-79
C	REVISED PER E.C.O. #417	2/2/79	W.H. 2-9-79
D	INC E.C.O. NO. 852	3/24/81	(K.P.)

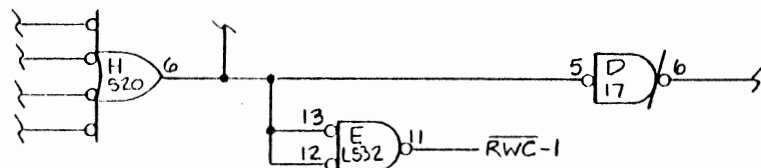
- (4) RUBBER STAMP ASSY. NO. WITH LATEST REV LTR APPROX. WHERE SHOWN.
 3. SEE P/L 122043.
 2. REF. SCHEMATIC DWG NO. 122022.
 (1) RUBBER STAMP CHARACTERS SHOWN WITH WHITE INK.

NOTE: UNLESS OTHERWISE SPECIFIED.

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals ANAHEIM, CALIFORNIA	
APPROVALS DRAWN <i>[Signature]</i> CHECKED <i>[Signature]</i>		DATE 6/7/77 6-11-77	
SCALE 2X		SIZE B	
DRAWING NO. 122043		SHEET 1 OF 1	
DO NOT SCALE DRAWING			

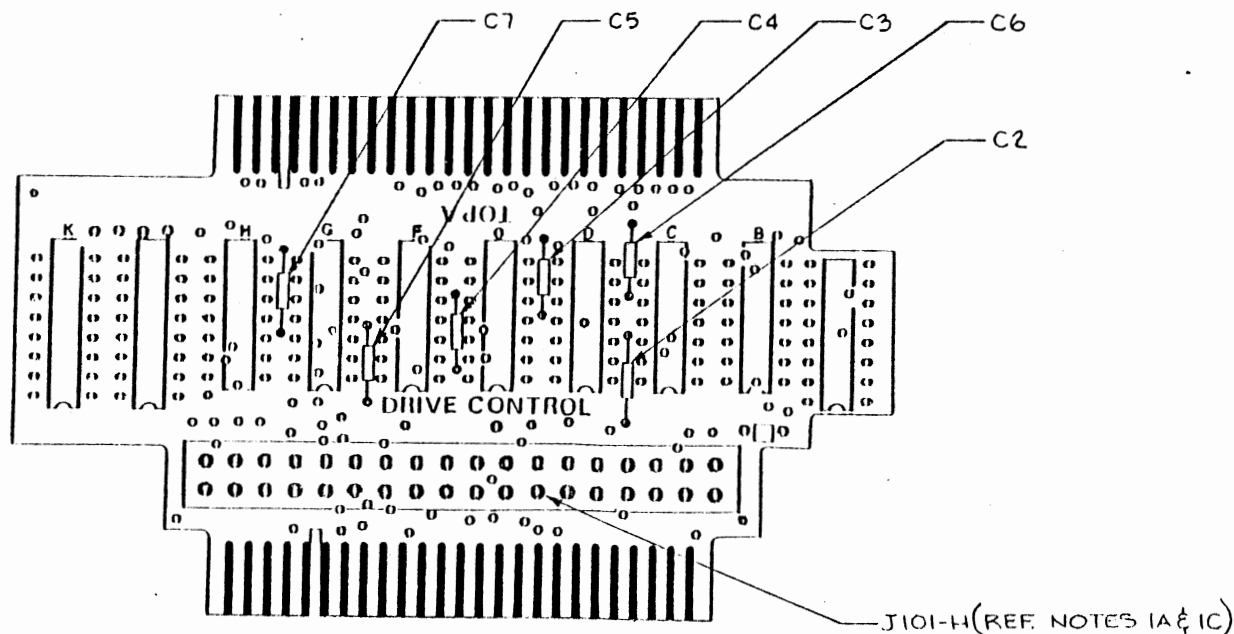
MAR 27 1981

CONFIGURATION "N" CONTROL ADAPTER BOARD



CAP. INSTALLATION CHART			
CAP DESIG.	FROM	TO	TERM
C2	D3	GND	RWS
C3	D11		BOT
C4	F1		OLS
C5	G1		EOT
C6	F9		HDS
C7	G13	GND	RDY

1-RWS	C2	220PF
1-BOT	C3	220PF
1-OLS	C4	220PF
1-EOT	C5	220PF
1-HDS	C6	220PF
1-RDY	C7	220PF



REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
A	REDRAWN PER ECO. 237	10-27-77	
B	REVISE PER ECO. 257	3-21-78	
C	REVISE PER ECO. 236-A	5-16-78	
D	DELETE REWORK FOR "D" REV PWB PER E.C.O. 781	10-15-80	
E	CHANGED I.C. LOC. PER ECO. 806	12-3-80	

REWORK INSTRUCTIONS: (REF ASSY'S 122037, 122038 & 122039)

- MODIFY CIRCUIT
 - CUT ETCH (SOLDER SIDE) AT J101-H
 - JUMPER F5 TO E12 & 13 (SOLDER SIDE)
 - JUMPER E11 TO J101-H (SOLDER SIDE)
- COMPONENT ADDITION & MARKING
 - ADD (6) 220PF CAPACITORS (C2 THRU C7) AT LOCATIONS SHOWN
 - IDENTIFY AS "CONF N" AT ASSY NUMBER USING BLACK INK
- THIS MOD PROVIDES ISOLATION & FILTERING FOR ADAPTER ELECTRONICS
- MATERIAL REQUIREMENTS:
 - (1 REQ) BOARD ASSY AS NOTED IN PROCEDURES ABOVE
 - (6 REQ) 220PF CAPACITORS (WP15000195)
- VERIFY PROPER CAPACITOR INSTALLATION BY PERFORMING CONTINUITY CHECK PER THE CAPACITOR INSTALLATION CHART
- REF SCHEMATIC 122036
- APPLICABLE TO "F" (OR LATER) REV PWB ONLY. TO RETROFIT OLDER ASSEMBLIES WITH "D" REV PWB, REFER TO "C" REV HISTORY COPY OF THIS DRAWING

DEC 24 1980

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC ANGLES ± ± ±		western peripherals™ TUSTIN, CALIFORNIA	
MODIFICATION DWG- TAPE CONTROL ADAPTER CONFIGURATION "N"		DRAWING NO. 122044	
APPROVALS DRAWN BY CHECKED	DATE 10-16-80 12-24-80	SCALE 1:1	SIZE B
DO NOT SCALE DRAWING		SHEET 1 OF 1	

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	9-15-80	<i>[Signature]</i>

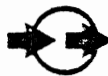
PURPOSE: TO PROVIDE START-UP AT 1600 B.P.I.

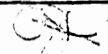
In order to initialize in the 1600 B.P.I. mode of operation, PROM's U45 and U56 in the upper-left corner of the Control Board must be of the proper type. A jumper must be installed.

1. The Prom Part Numbers can be 754013810 and 754013811 with revision levels of "G" or higher, or they may have part numbers beginning with 154 with any revision level.
2. A jumper must be installed between Pads "BP" and "BR" which are located below the PROMs and directly above U55.
3. After modification, install an adhesive label inside the front panel of the drive near the upper reel motor and Cipher label. The adhesive label should read: "Modified per Western Peripherals Configuration "A", Dwg. 79000410.

TAPE DRIVE MODIFICATION

SEP 15 1980

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES $\pm$ $\pm$ $\pm$		 western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS DRAWN H. DEUTSCH CHECKED <i>[Signature]</i>		MODIFICATION DRAWING - CIPHER 900X, CONFIGURATION "A"	
DATE 9-15-80 9-15-80		SCALE 	SIZE A
		DRAWING NO. 79000410	
		DO NOT SCALE DRAWING	
		SHEET 1 OF 1	

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	12-30-80	

PURPOSE: TO ELIMINATE WRITE AND/OR READ ERRORS WHEN TAPE IS AT B.O.T. AND DRIVE IS OFF-LINE.

When Cipher 900X Tape Drives are received from vendor, they have the jumpers set in such a way that if the drive is off-line and at B.O.T., the computer receives a tape unit ready status and Write/Read errors are detected if the CPU attempts any Write/Read operation.

1. To prevent the above from happening, remove jumper BD to BC and install jumper BA to BB located in the vicinity of IC U52 on the Control/Servo PCB of the Cipher 900X type drive.
2. After modification, install an adhesive label inside the front panel of the drive near the upper reel motor and Cipher label. The adhesive label should read: Modified per Western Peripherals Configuration "B", Dwg. 79000642.
3. Reference Cipher Control/Servo Schematic 355012-300.

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES = = =		 western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS DRAWN <i>F. F. [unclear]</i> CHECKED <i>H. [unclear]</i>		MODIFICATION DRAWING - CIPHER 900X, CONFIGURATION "B"	
DATE 12-30-80 DATE 12-30-80		SCALE	SIZE A DRAWING NO. 79000642
		DO NOT SCALE DRAWING	
		SHEET 1 of 1	

NOTES

INSTALLATION CHECKLIST - CIPHER 100X

1. Open carton.
2. Turn over and lift off carton.
3. Remove corner pads.
4. Open inner carton.
5. Turn over and lift off carton from drive.
6. Locate manual and mounting hardware.
7. Inspect the drive - Contact the carrier if any concealed shipping damage is discovered.
8. On some cabinets, a mounting frame is required to mount the drive because the door swings against the edge of the cabinet. Mount the extender frame at the appropriate location in the cabinet. Be sure the hinge holes are on the correct side.
9. Refer to the tape drive manual.
10. Mount the tape drive hinges at an appropriate location on the cabinet. Place the longer hinge at the top. Place nylon washers on hinge pins.
11. Place drive on its back and remove screw from shipping frame.
12. Mount drive on hinges and secure with hinge safety block. Secure drive latch.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.