

\$2.25

**Technical Manual**

**MAGNETIC TAPE SYSTEM 15Kc**  
**Model 9146/9148**

SDS 900014B-1

Volume 2 of 2

April 1964  
(Revised February 1966)



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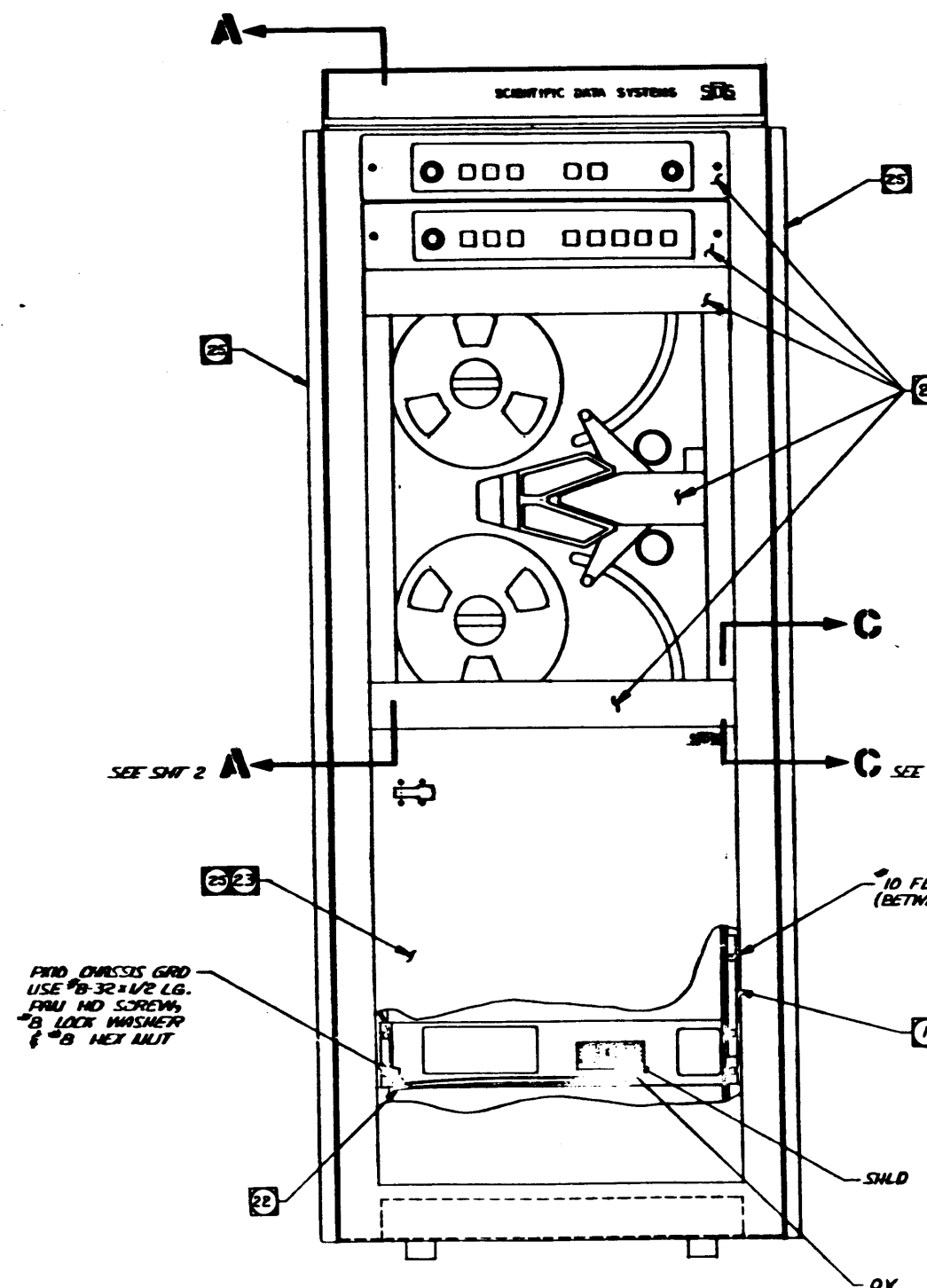
## I. INTRODUCTION

### A. GENERAL

This manual comprises Volume II of the Magnetic Tape System, 15 Kc, Technical Manual (SDS 900014B) and contains the following:

1. Magnetic Tape System, Installation Drawings
2. Magnetic Tape Unit, Logic Diagrams
3. Tape Control Unit, Logic Diagrams

REVISIONS		DATE
A	ISSUED TO	1/2/62
B	SEE REVISION E.O.	1/2/62
C	SEE REVISION E.O.	1/2/62
D	SEE REVISION E.O.	1/2/62



- 24 PART OF 101921 AIR CONTROL PANEL CONNECT AS FOLLOWS:  
T1-E-50 TO T2/E-4, T1-E-51 TO T2/E-3,  
T2/E-43 TO T2/E-2, T1-E-43 TO T2/E-4
- 25 ATTACH POLYESTER FORM SHEET (SDS 103692) TO INSIDE SURFACES OF INDICATED DOORS & PANELS WITH SUITABLE CEMENT.
- 26 WHEN A POWER SUPPLY IS MOUNTED IN THIS LOCATION THE COVERS ON THE CABINET BOTTOM MUST BE REMOVED AND THE CORRESPONDING BLOWER OUTLETS MUST BE ADJUSTED DOWNWARD.
- 27 GRD. WIRE -CONNECT P27 END TO POWER SUPPLY CHASSIS GRD IN MAG TAPE CABINET & P26 END TO CONVENIENT MTG SCREW IN ASSOCIATED COMPUTER CABINET.
- 28 THE STD P26-P27 CABLE LENGTH IS 20'. VARIATIONS ARE AVAILABLE AS FOLLOWS:  

SDS ASSY NO.	LENGTH
103376	11'
103377	20'
103378	40'

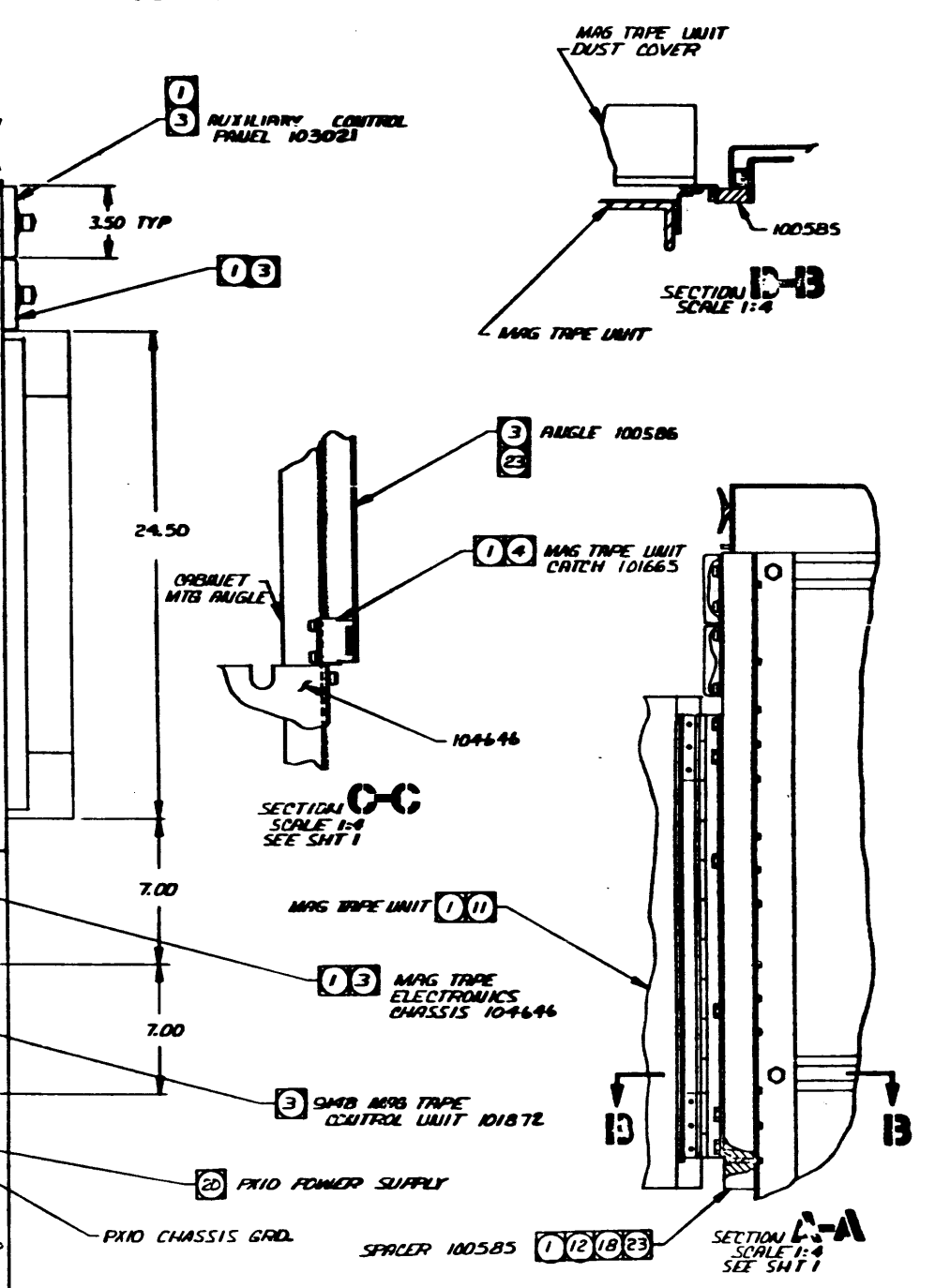
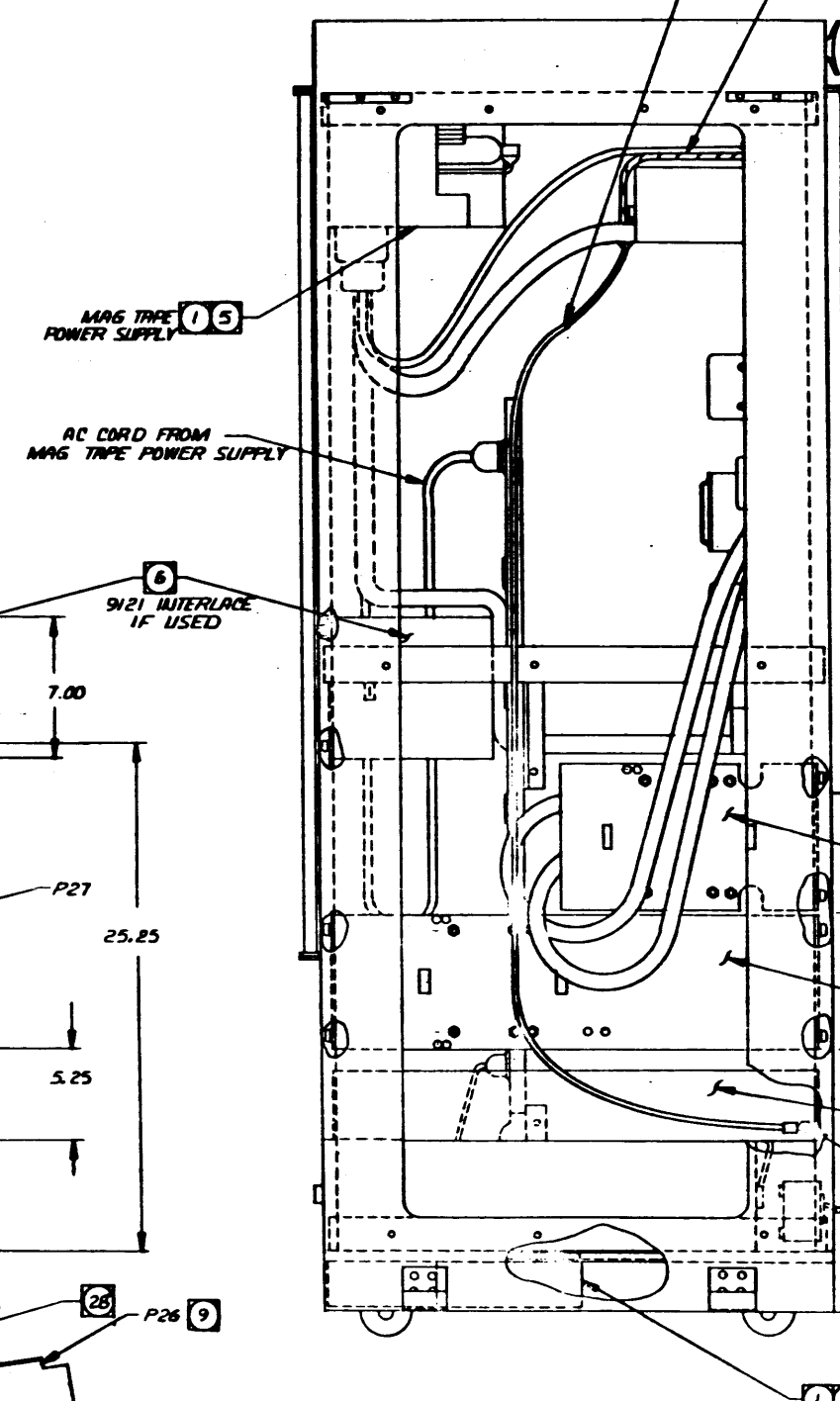
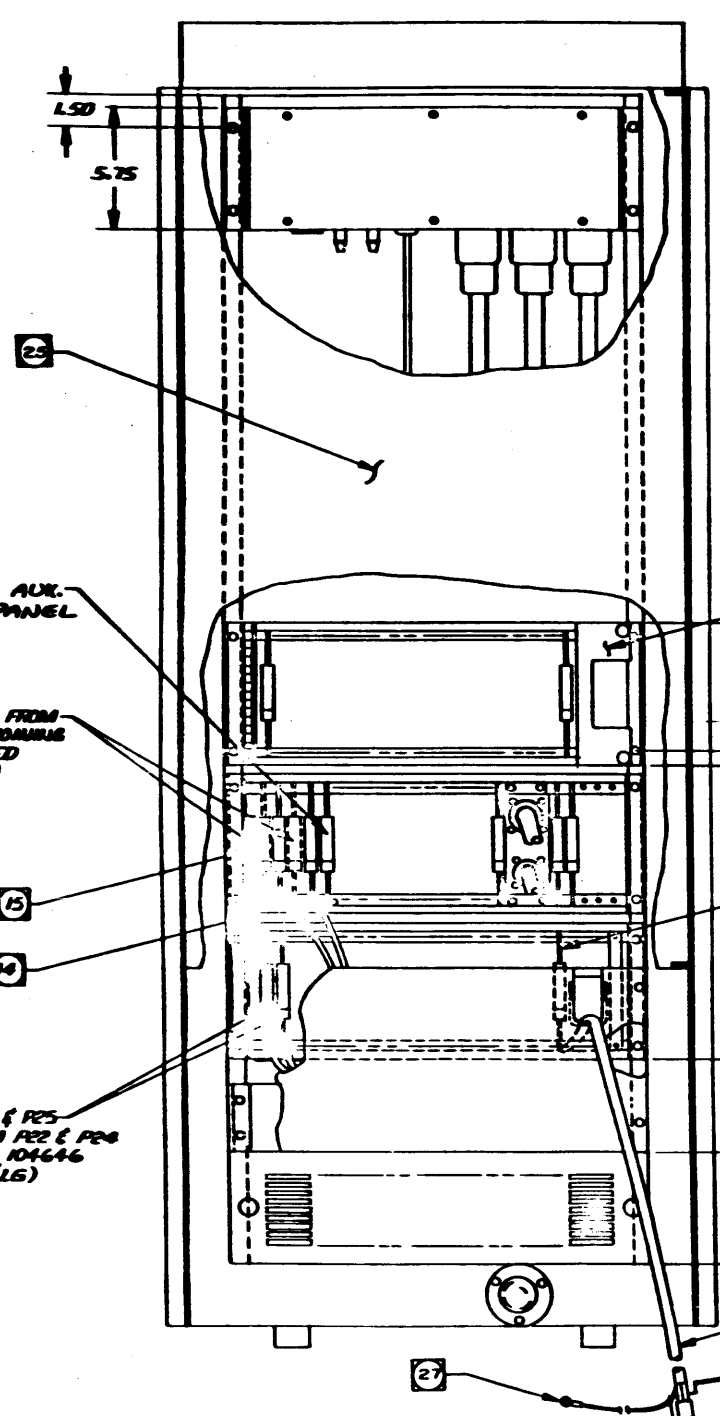
- NOTES UNLESS OTHERWISE SPECIFIED
- 1 PART OF 9146 MAG. TAPE UNIT 104645
  - 2 ALL HARDWARE USED IN MOUNTING 9146 MAG TAPE UNIT & 9143 MAG TAPE CONTROL UNIT IS FURNISHED WITH RESPECTIVE UNIT.
  - 3 MOUNT WITH #10-32x3/8 LG PAN HD SCREWS, #10 FLAT WASHERS & #10 LOCK WASHERS.
  - 4 MOUNT WITH #10-32x1/4 LG PAN HD SCREWS, #10 FLAT WASHERS & #10 LOCK WASHERS.
  - 5 MOUNT WITH #1/4-20x3/4 LG HEX HD SCREWS & 1/4 LOCK WASHERS.
  - 6 MOUNT IN THIS LOCATION FOR SHIPPING ONLY. FOR INSTALLATION IN AN ASSOCIATED COMPUTER SEE 102219.
  - 7 REF MODULE LOCATION CHART 104668.
  - 8 REF MODULE LOCATION CHART 101791.
  - 9 INSTALL IN LOCATION 116 OF 910 OR 920 COMPUTER.
  - 10 REF INSTALLATION DWG 101941
  - 11 MOUNT WITH #10-32x1/2 LG HEX HD SCREWS, & #10 LOCK WASHERS.
  - 12 MOUNT WITH #10-32x1/2 LG PAN HD SCREWS, & #10 LOCK WASHERS.
  - 13 WHEN A 9146 MAG TAPE UNIT IS INSTALLED IN A 9210 CABINET THE FOLLOWING PARTS FURNISHED WITH 9146 ARE NOT USED:  
(1) 101806-001 SPACER (1) 101806-002 SPACER (1) 101875 BAR.
  - 14 CONNECT POWER CABLE FROM TBI ON 9143 TO TBI ON 9146 ELECTRONICS CHASSIS AS INDICATED ON TAGS.
  - 15 COLLECT POWER WIRES FROM TBI ON 9146 ELECTRONICS CHASSIS TO BARRIER STRIP ON ASSOCIATED POWER SUPPLY AS FOLLOWS:  
TBI-E-3 TO 0V  
TBI-E-4 TO +8V  
TBI-E-5 TO -25V  
TBI-E-6 TO +25V  
AFTER CONNECTING LARGE WIRES TOGETHER WITH SUITABLE LACING CORD.
  - 16 REF INSTALLATION DWGS 101007 (910) & 101006 (919)
  - 17 ATTACH WITH #6-32x1/2 LG. PAN HD SCREWS.
  - 18 SPACER TO BE MOUNTED FOR USE ON 910 OR 919 CABINETS.
  - 19 MOUNT WITH #6-32x3/8 LG. PAN HD SCREWS & #8 LOCK WASHERS. ALSO USE #8 FLAT WASHERS ON ALL SLOTS.
  - 20 REF INSTALLATION DWG NO. 100852.
  - 21 REF INSTALLATION DWG NO. 101618.
  - 22 (2) 13" LG. JUMPERS FURNISHED WITH 9146. ATTACH LARGE TERMINALS TO CHASSIS GRD.
  - 23 THESE PARTS FINISHED PER SDS 100173 (WHITE).

FRONT VIEW  
 1013 (INSTALLATION IN 9210 CABINET)

NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	UNIT
NOTES UNLESS SPECIFIED				
1. TOLERANCES UNLESS SPECIFIED		2. DIMENSIONS UNLESS SPECIFIED	EDS ENGINEERING DATA SYSTEMS	
3. FINISHES UNLESS SPECIFIED		4. MATERIALS UNLESS SPECIFIED	1545 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA	
INSTALLATION DWG MAG TAPE				
MODEL NO. 9145, 9140 9143, 9145		REV. NO. 102215		D
DATE 5/10/62 104342		DO NOT SCALE DRAWING		SHEET 1 OF 6

102215 (D)

REVISIONS	
NO.	DESCRIPTION
1	SEE SHT ONE



P12 FROM AUX. CONTROL PANEL 103021

P23 & P25 FROM 9146 IN ALIGNING UNIT IF USED (SEE SHT 6) (42 LG)

P23 & P25 FROM P22 & P24 IN 104646 (42 LG)

FROM TB10-1 CONNECT TO PX10 CHASSIS GRID.

AUXILIARY CONTROL FRAMEL 103021

MAG TAPE POWER SUPPLY

AC CORD FROM MAG TAPE POWER SUPPLY

9121 INTERLACE IF USED

24.50

7.00

7.00

PX10 POWER SUPPLY

PX10 CHASSIS GRID.

SPACER 100585

COUNTER DISPLAY 101429

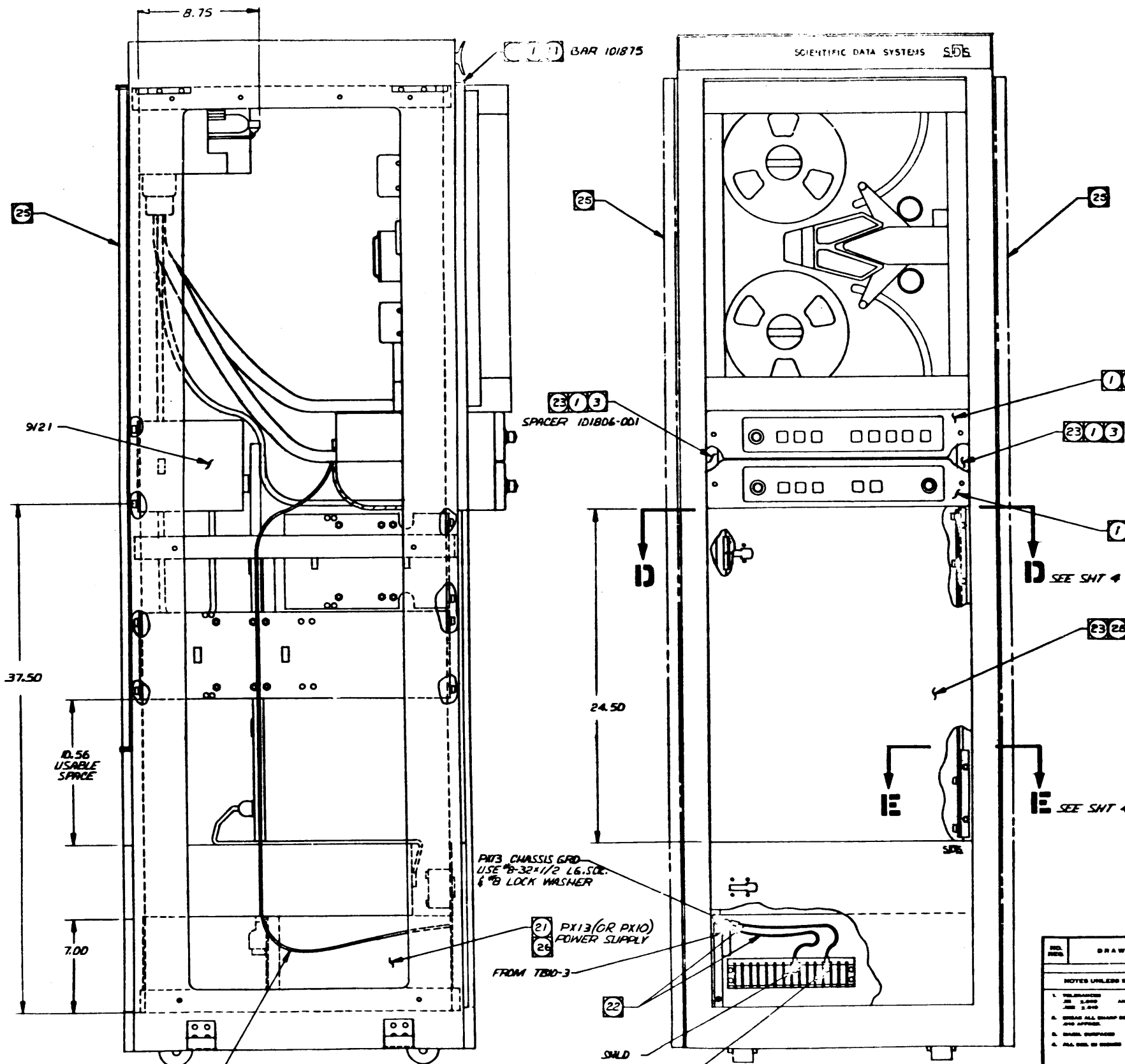
RARR VIEW (INSTALLATION IN 9210 CABINET)

SIDE PANEL REMOVED FOR CLARITY

NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION
NOTES UNLESS SPECIFIED		MATERIAL LIST	
1. TOLERANCES	2. 20-62	S.D.3. ENGINEERING DATA DIVISION	
2. DIM. & TOL.	3. 100	1425 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA	
3. UNLESS ALL DIMENSIONS	4. 100	TITLE	
4. ARE SHOWN	5. 100	INSTALLATION DWG	
5. UNLESS OTHERWISE	6. 100	MAG TAPE	
6. SPECIFIED	7. 100	NO. 102215	
7. ALL DIM. IN INCHES	8. 100	D	
		DO NOT SCALE DIMENSIONS	
		PAGE 2 OF 3	

102215 D

NO.	DESCRIPTION	QTY	UNIT
1	SEE SHT ONE		



11 BAR 101875

SCIENTIFIC DATA SYSTEMS SDS

13 MAG TAPE CONTROL PANEL

23 13 SPACER 101806-002

13 AUXILIARY CONTROL PANEL 103021

23 13 SPACER 101806-001

PX13 CHASSIS GRD. USE #8-32x1/2 L6.SCL. & #8 LOCK WASHER

21 PX13 (OR PX10) POWER SUPPLY

FROM TB10-3

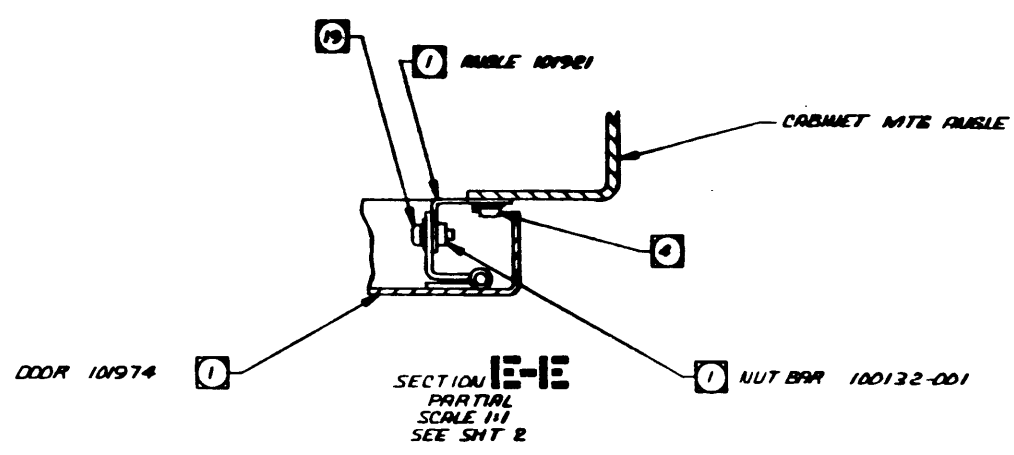
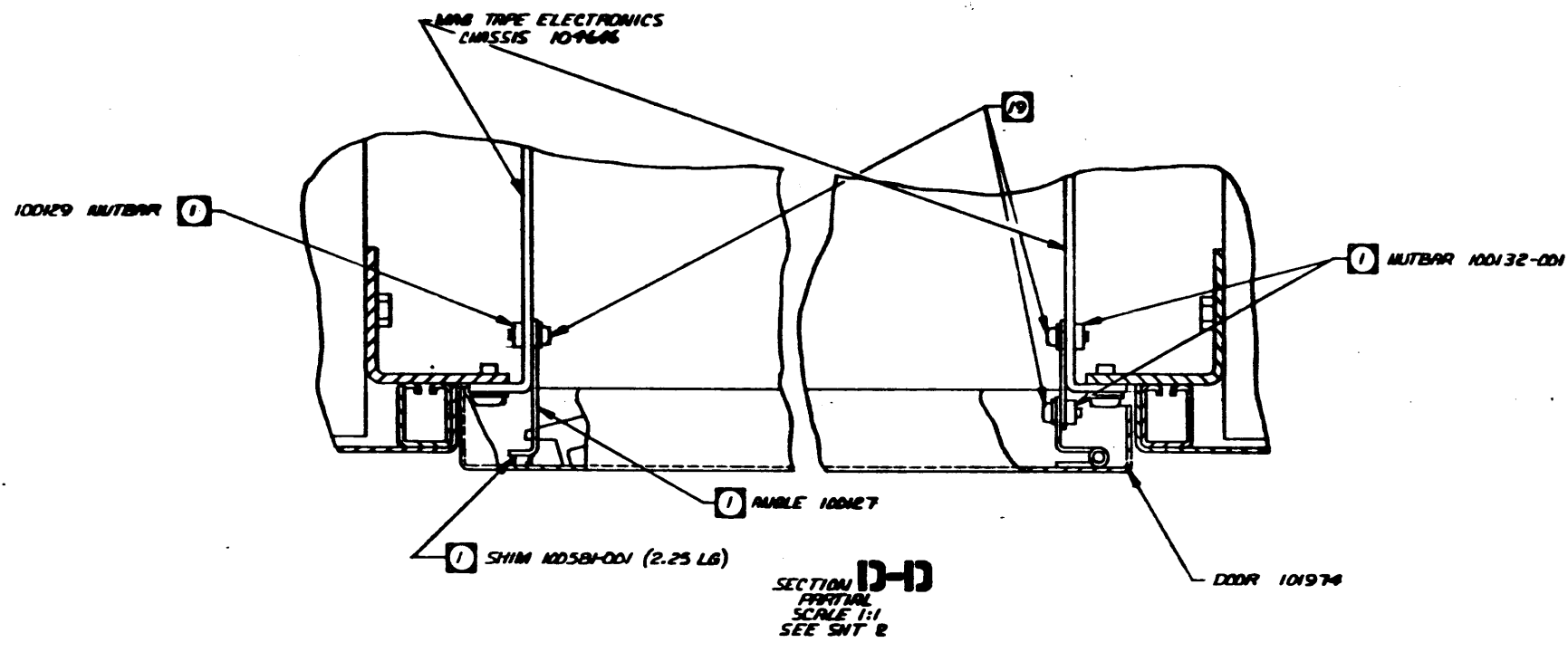
FROM TB10-3 CONNECT TO PX10 OR PX13 CHASSIS GRD.

FRONT VIEW (INSTALLATION IN 910 OR 919 CABINET) SEE SHT 2 FOR ANY DETAIL NOT SHOWN

DRAWING NO.		DESCRIPTION		REFERENCE DESIGNATION	
NOTES UNLESS SPECIFIED		MATERIAL LIST		SDS SCIENTIFIC DATA SYSTEMS	
1. THE DRAWING IS 2.000 ANGLE 2.5' X 1.5'	DESIGNER: <i>W. J. ...</i>	DATE: 12-26-62	TITLE: INSTALLATION DWG MAG TAPE		
2. BREAK ALL SHARP CORNERS AND SPACES	CHECKER: <i>C. B. ...</i>	DATE: 1/17/63	D 102215 D		
3. DIMENSIONS UNLESS OTHERWISE SPECIFIED	APPROVED: <i>W. J. ...</i>	DATE: 1/17/63	SCALE: NO NOT SCALE DRAWING SHEET 3 OF 5		

102215 | D |

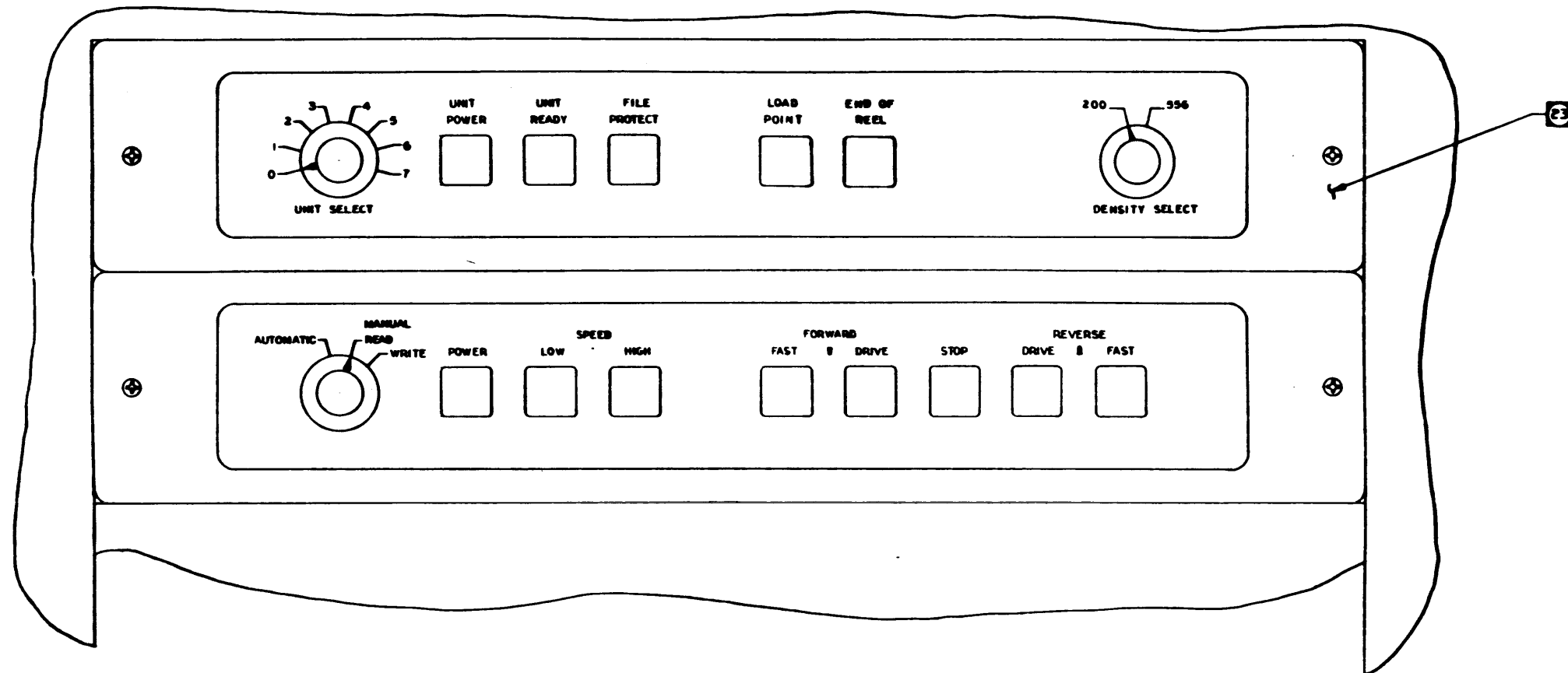
REVISIONS		102215	
REV.	DESCRIPTION	DATE	BY
	SEE SHT ONE		



NO.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION
MATERIAL LIST			
NOTES UNLESS SPECIFIED		DRAWN: <i>A. Hebe</i> 2/20/62	<b>SDS</b> SCIENTIFIC DATA SYSTEMS <small>1405 FIFTH AVENUE, SUITE 1000, CALIFORNIA</small>
1. TOLERANCES IN 2.000 ANGULAR IN 2.000 2.5"		CHECK: <i>C. Branch</i> 1/11/63	
2. FINISH ALL BRASS SURFACES AND APPROX. ✓		APPR: <i>WAF</i> 1/11/63	
3. HOLE SURFACES ✓			<b>INSTALLATION DWG MAG TAPE</b>
4. ALL SURFACES TO BE FINISHED			
MODEL NO.		REV. NO. <b>D</b>	DWG. NO. <b>102215</b>
NEXT ASSY.		SCALE	DO NOT SCALE DRAWING

102215 | D |

REVISIONS		102215
REV.	DESCRIPTION	DATE
	SEC SH1 ONE	

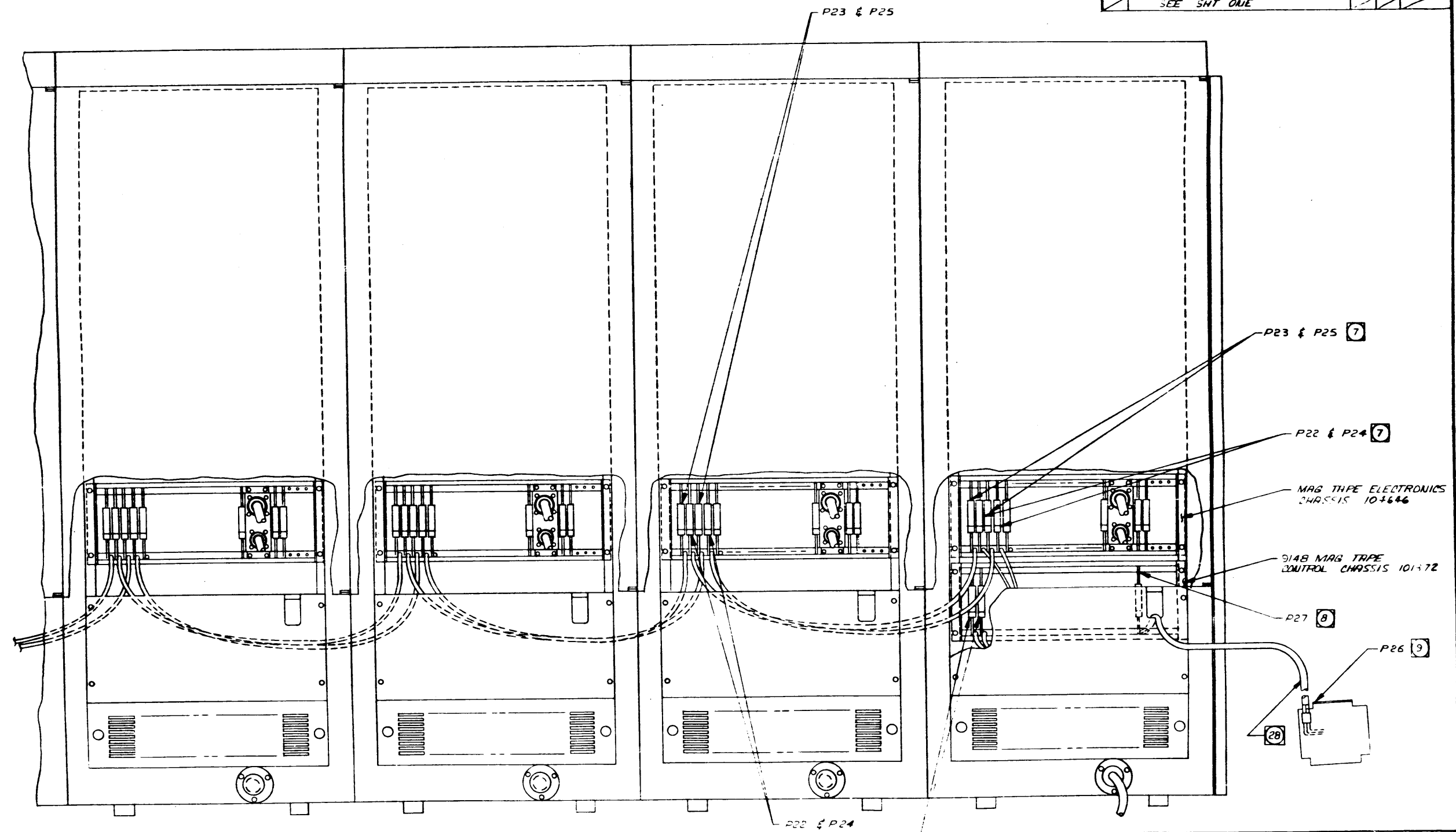


DETAIL F  
SCALE 1:1  
SEE SH1 2

NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV.
MATERIAL LIST				
NOTES UNLESS SPECIFIED:		DESIGN: <i>2/26/65</i>		
1. TOLERANCES	UNLESS SPECIFIED	CHECK: <i>2/26/65</i>	<small>1040 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA</small>	
2. DIMENSIONS	UNLESS SPECIFIED	APPR: <i>2/26/65</i>	<b>INSTALLATION DWG</b> <b>MAG TAPE</b>	
3. BREAK ALL SHARP EDGES	0.015" MIN.		MODEL NO. <b>D</b> DRAWING NO. <b>102215</b>	
4. HOLE SPACING	0.005" MIN.		NEXT APP.    SCALE    DO NOT SCALE DIMENSIONS    SHEET 5 OF 6	
5. HOLE DIA. BY NUMBER				

102215 D

REV		DESCRIPTION	CHE	DATE	APPROVED
		SEE SH1 ONE			



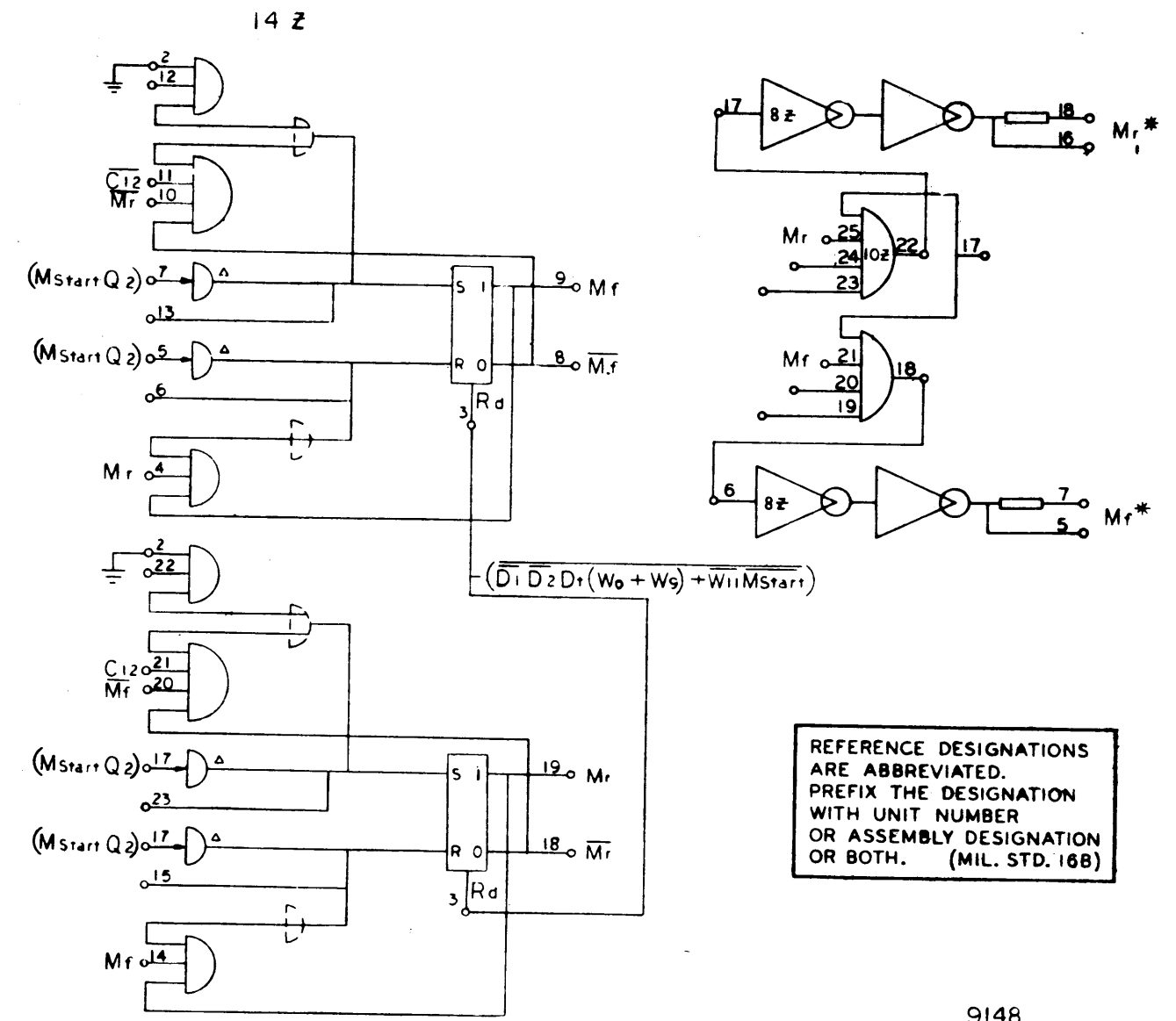
TYPICAL MULTIPLE  
CABINET INSTALLATION  
WITH SIDE PANELS REMOVED  
& CABINETS BOLTED TOGETHER

NO	REV	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED					
TOLERANCES		ANGULAR	CHECK	SDS SCIENTIFIC DATA SYSTEMS	
AS SHOWN		2.5°	APPR	342 FIFTEENTH STREET SANTA MONICA CALIFORNIA	
BREAK ALL SHARP EDGES				TITLE	
DRAG SURFACES				INSTALLATION DWG	
HATCH SURFACES				MAG TAPE	
ALL DIM IN INCHES				MODEL NO	
				D 102215 D	
				SCALE	
				DO NOT SCALE DRAWING SHEET 1 OF 5	

102215/D



REV		DESCRIPTION		DATE	BY
A		REL. TO MFG.		1/18/53	W.C.
E		SEE REV. E.O.		1/18/53	W.C.

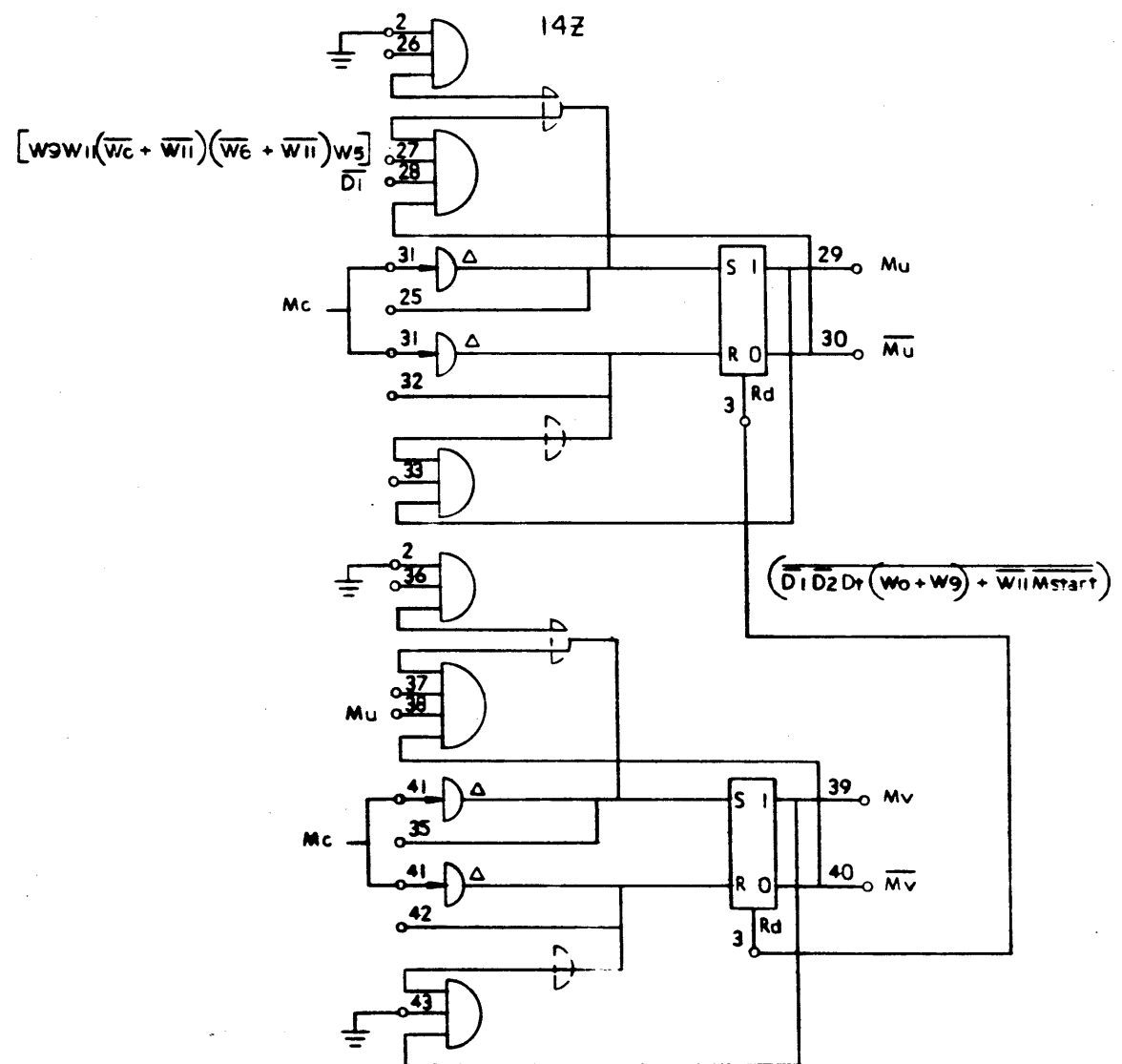


REFERENCE DESIGNATIONS ARE ABBREVIATED. PREFIX THE DESIGNATION WITH UNIT NUMBER OR ASSEMBLY DESIGNATION OR BOTH. (MIL. STD. 168)

9148  
15KC TAPE CONTROL UNIT  
PAGE 1  
E

NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	FORM 1
MATERIAL LIST				
NOTES UNLESS SPECIFIED		<b>SDS</b> SCIENTIFIC DATA SYSTEMS 1545 FIFTEENTH STREET SANTA MONICA, CALIFORNIA		
1. TOLERANCES UNLESS SPECIFIED: IN 1/100 ANGULAR 1/16 DIM 1/16 2. BREAK ALL SHARP EDGES 1/16 3. HATCH SURFACES 4. ALL DIM. IN INCHES		CHECKED: <i>[Signature]</i> 1/18/53 APPR: <i>[Signature]</i> 1/18/53	TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT	
MODEL NO. 9148		REV. D		DWG NO. 102338
NEXT ASSY. 101872		SCALE		DO NOT SCALE DRAWING SHEET

REVISIONS			
REV.	DESCRIPTION	CHK.	DATE
A	REL. TO MFG.	CLE	DEC 65



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15 KC TAPE CONTROL UNIT  
PAGE 2  
A

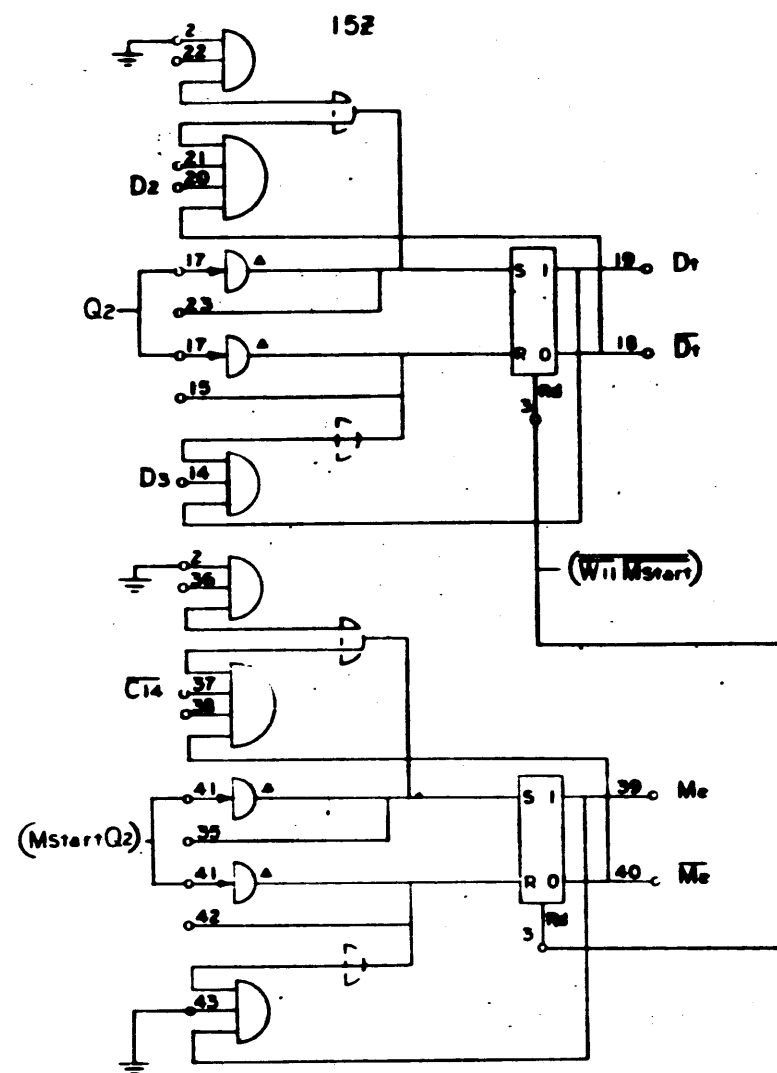
DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV.
9148	DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		A
101872			

MATERIAL LIST			
QTY	DESCRIPTION	REV.	DATE
1	WIRE	2/12/69	
1	WIRE	2/1/63	
1	WIRE	2-14-65	

102338 | A

REVISIONS		102338	E
REV	DESCRIPTION	DATE	APPROVED
A	REL. TO MFG.		
E	SEE REV ED		



9148

15KC TAPE CONTROL UNIT

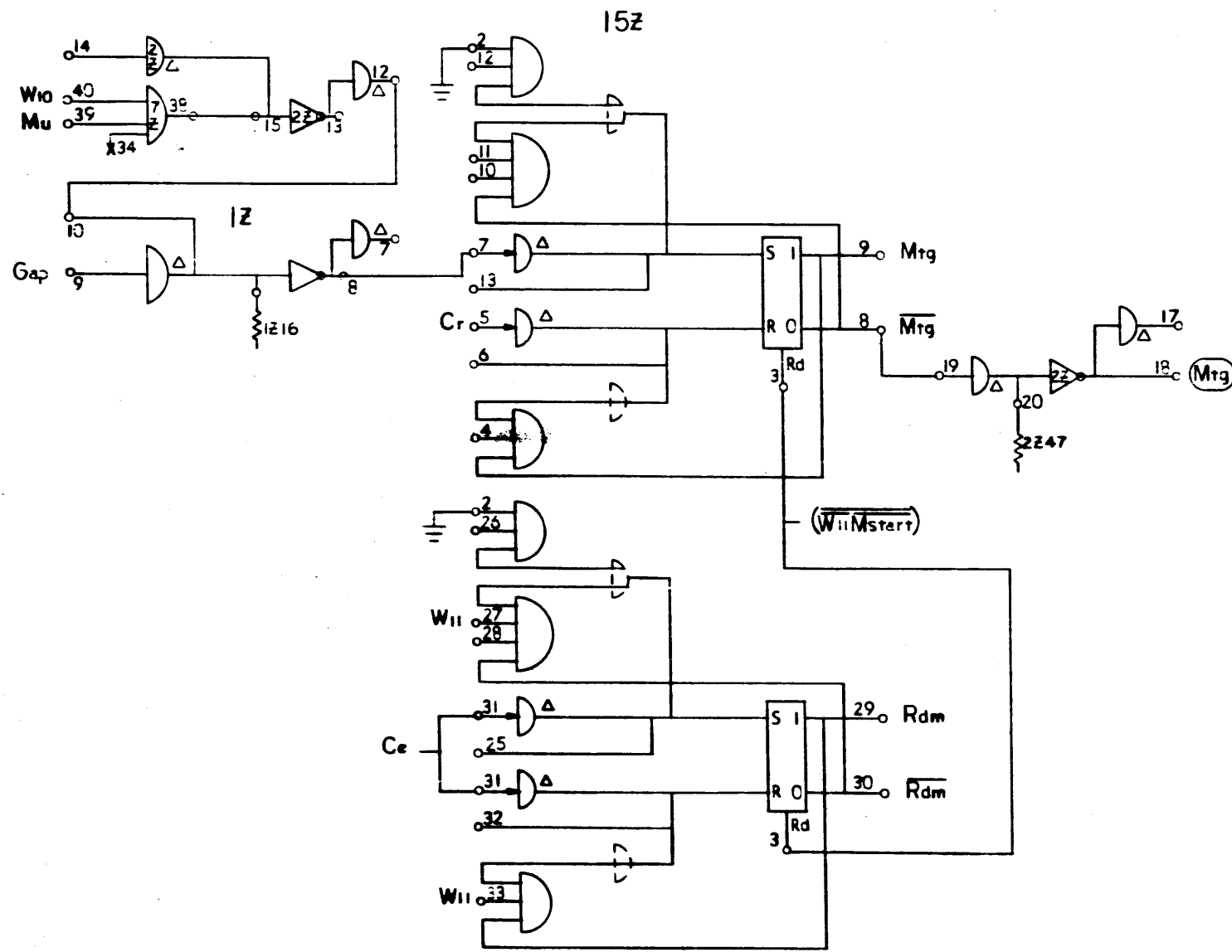
PAGE 3

E

NO	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	FORM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED: 1. TOLERANCES UNLESS OTHERWISE SPECIFIED: .010 .015 .030 .050 .100 .150 .300 .500 .750 1.000 2. READ ALL DIMENSIONS ON ALL SIDES 3. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY 4. ALL DIMENSIONS ARE IN INCHES		DRAWN: _____ CHECK: _____ APPR: _____	<b>SDS</b> SCIENTIFIC DATA SYSTEMS 1540 FORTY-FIFTH STREET, SANTA MONICA, CALIFORNIA 90406 TITLE: DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT	
MODEL NO	9148	REV	D	102338
REVIT ASSY	101872	SCALE	DO NOT SCALE DRAWING	SHEET

102338 E

REVISIONS				102338	C
REV.	DESCRIPTION	CHK.	DATE	APPROVED	
A	REL. TO MFG.	CLB		JHALL	
C	SEE REV. E.O.	WKF		WKF	



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15KC TAPE CONTROL UNIT  
PAGE 4  
C

DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV.
9148	DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		C
101872			

MATERIAL LIST			
QUANTITY	DESCRIPTION	UNIT	REMARKS

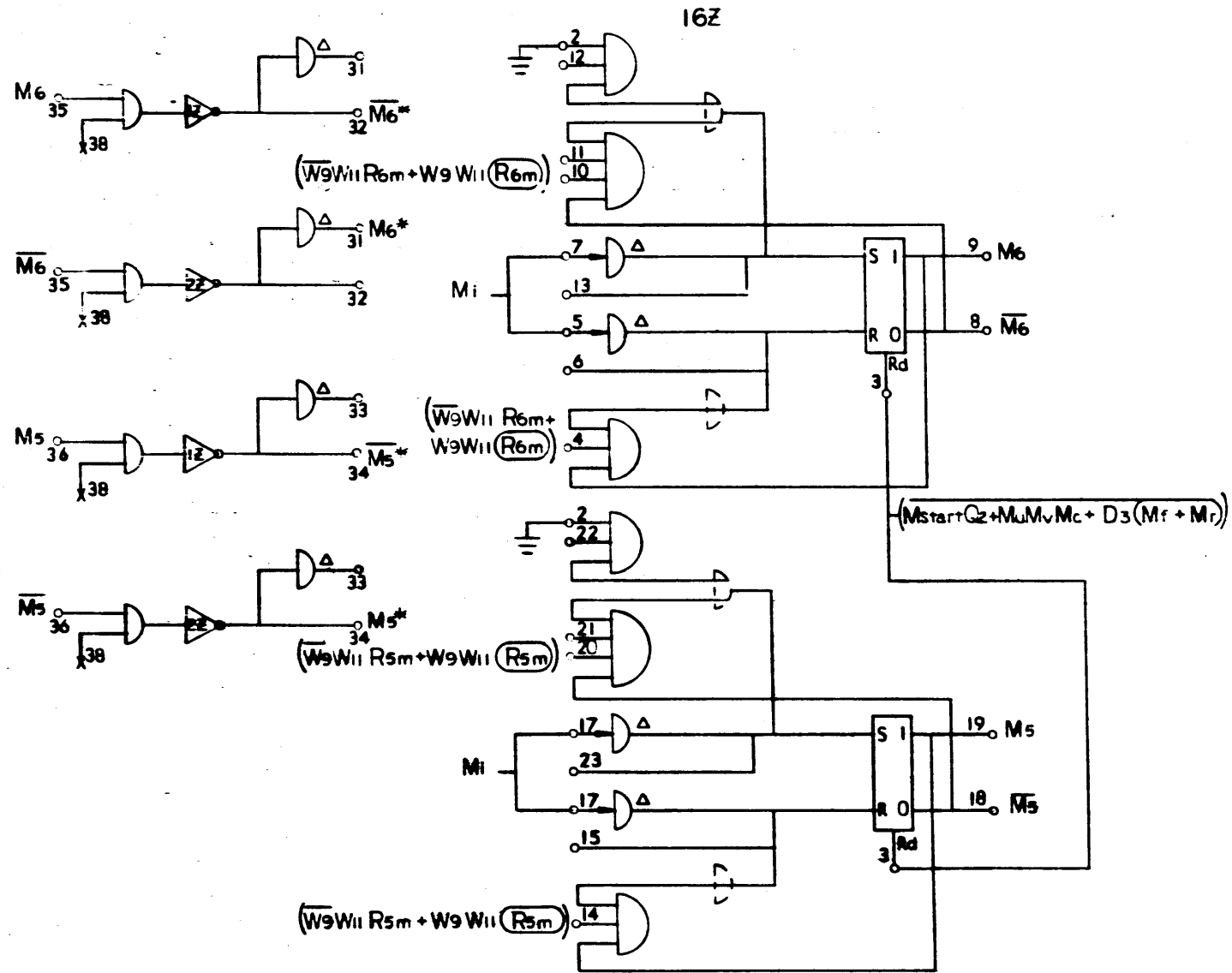
  

DESIGNED BY	DATE	SCALE	DO NOT SCALE DRAWING	CHECKED
W. KEIDERT	2/12/65			
CHECKED	DATE			
K. WATSON	2/12/65			
APPROVED	DATE			
W. K. F.	2/12/65			

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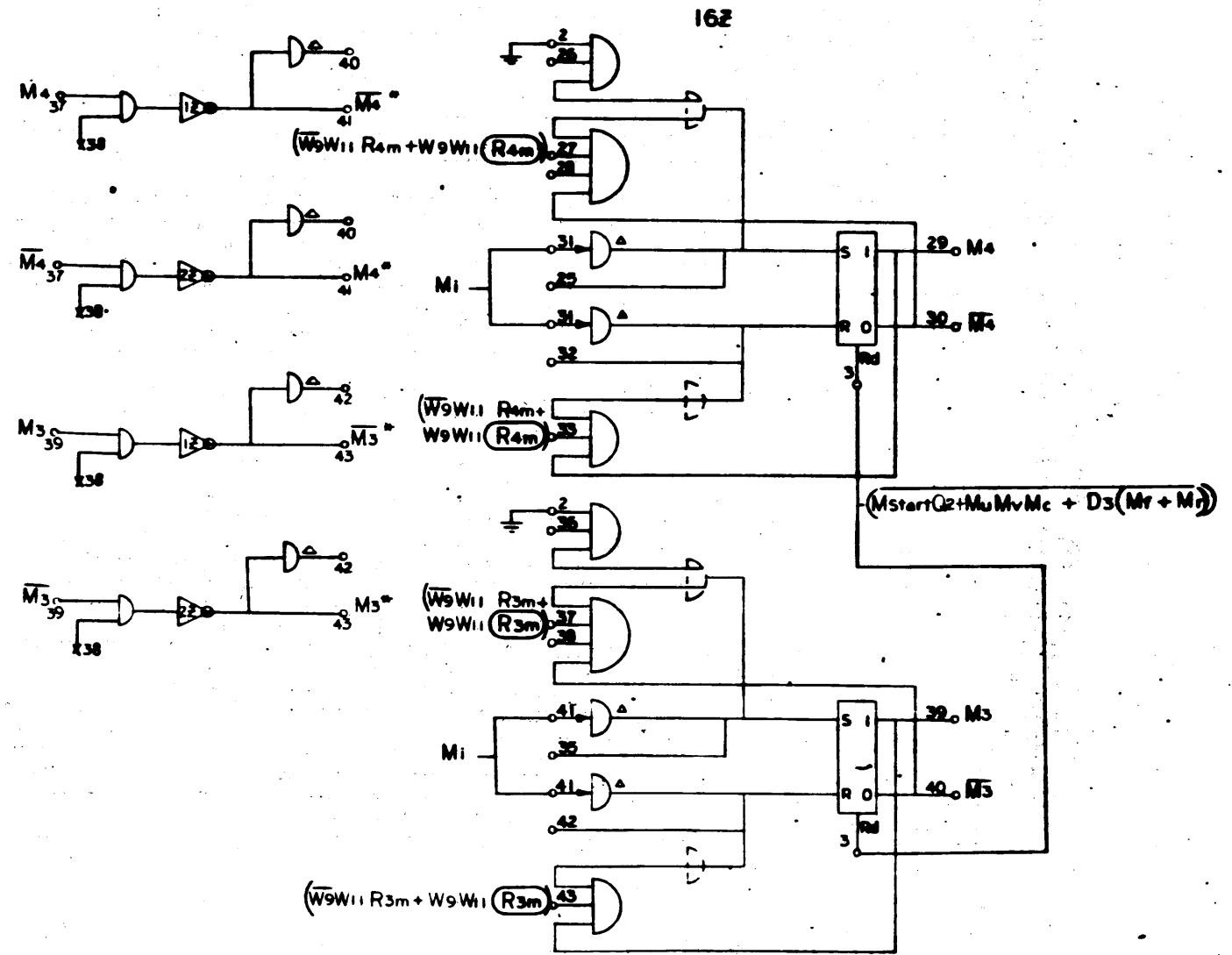


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15 KC TAPE CONTROL UNIT  
PAGE 6  
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101872			

102338 | A | A

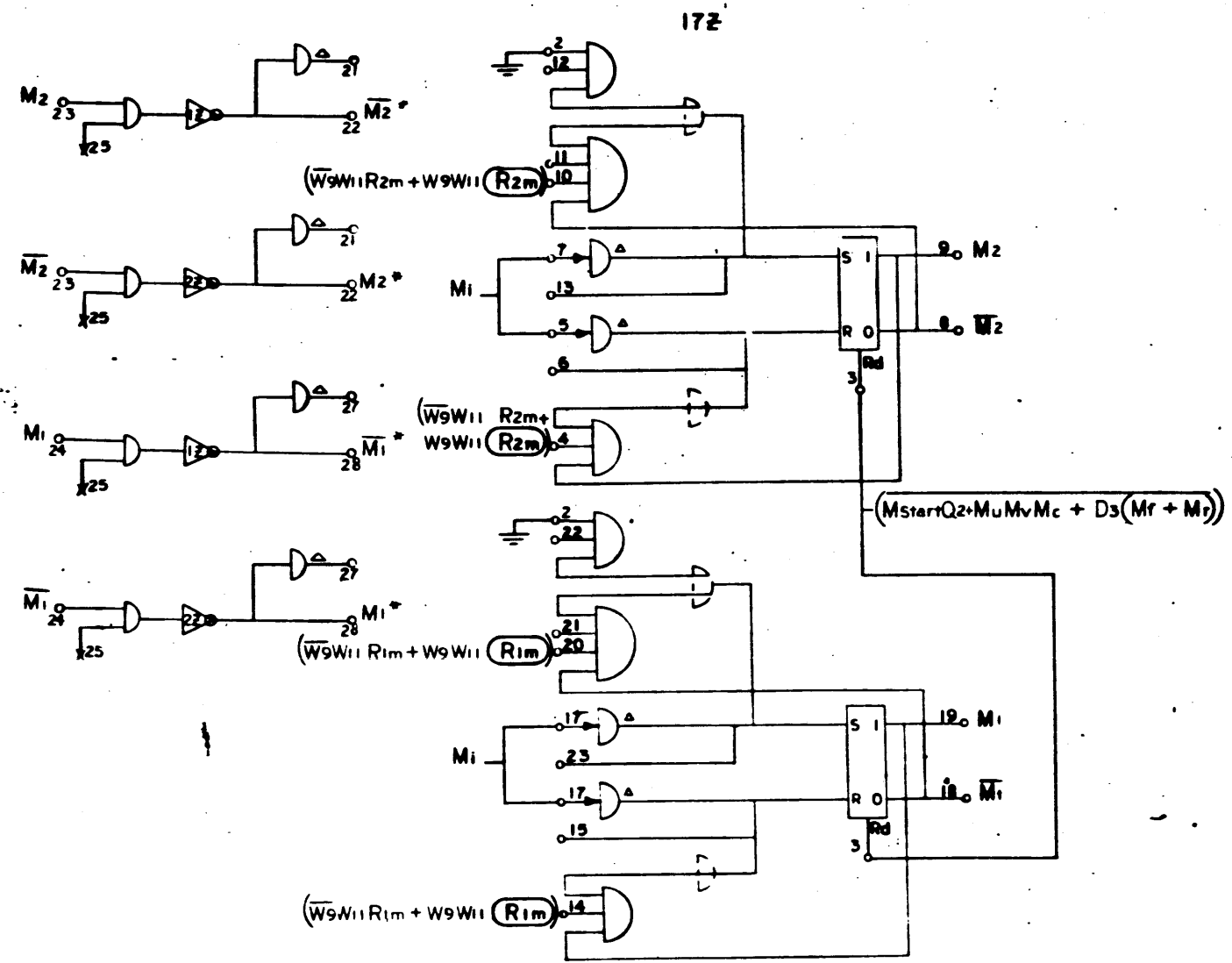
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A		REL TO MFG.					102338 A



9148  
15 KC TAPE CONTROL UNIT  
PAGE 7  
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NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	DATE								
NOTES UNLESS SPECIFIED												
1	TOLERANCES	UNLESS SPECIFIED										
2	ALL DIMENSIONS	ARE IN INCHES										
3	ALL DIMENSIONS	ARE TO BE TAKEN TO CENTER UNLESS OTHERWISE SPECIFIED										
4	ALL DIMENSIONS	ARE TO BE TAKEN TO CENTER UNLESS OTHERWISE SPECIFIED										
5	ALL DIMENSIONS	ARE TO BE TAKEN TO CENTER UNLESS OTHERWISE SPECIFIED										
<table border="1"> <tr> <td>DRAWN</td> <td>CHECK</td> <td>DATE</td> <td>TITLE</td> </tr> <tr> <td></td> <td></td> <td></td> <td>DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT</td> </tr> </table>					DRAWN	CHECK	DATE	TITLE				DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT
DRAWN	CHECK	DATE	TITLE									
			DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT									
MODEL NO.	9148	REV. NO.	D 102338	A								
REV. NO.	101872	SCALE	DO NOT SCALE DRAWING	SHR								

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A	REL. TO MFG.	CLB	1/15/64	G. H. H.	



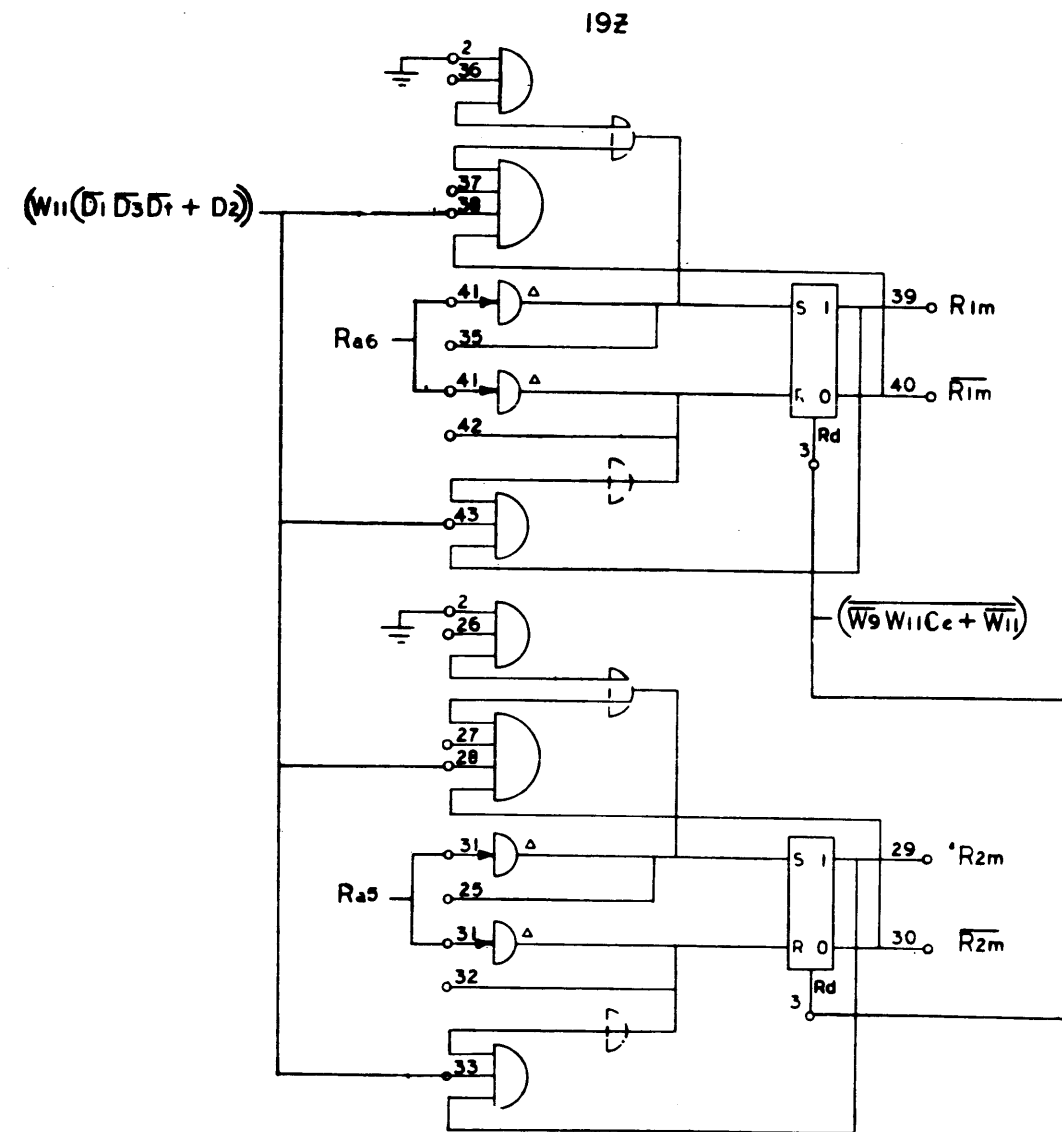
9148  
15 KC TAPE CONTROL UNIT  
PAGE 8  
A

NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	CHECK	APPR.
1. DIMENSIONS UNLESS OTHERWISE SPECIFIED				
2. BREAK ALL SHARP EDGES				
3. HATCH SURFACES				
4. ALL DIM. IN INCHES				
<p style="text-align: center;"><b>SDS</b> SCIENTIFIC DATA SYSTEMS 1545 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA</p>		<p style="text-align: center;">TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT</p>		
MODEL NO.	9148	REV. NO.	D	102338
WEST APPR.	101872	SCALE	DO NOT SCALE DRAWING	SHEET





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A	REL. TO MFG.	CUB	1/16/63	[Signature]	

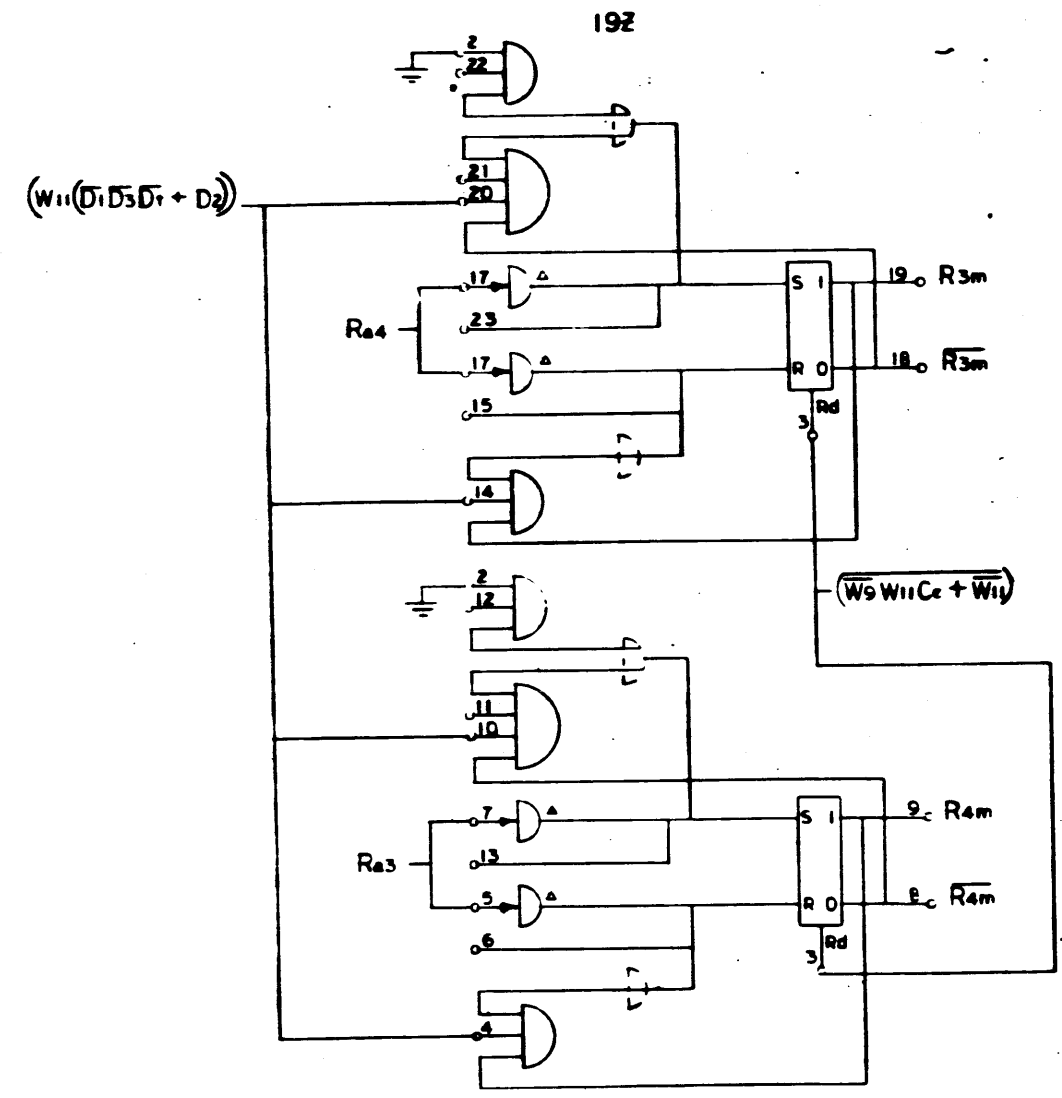


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15 KC TAPE CONTROL UNIT  
PAGE 10  
A

102338 | A |

NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV.
MATERIAL LIST				
NOTES UNLESS SPECIFIED: 1. UNDRANGED 2. 2.000 ANGULAR 3. 2.010 2 1/2" 4. BREAK ALL SHARP EDGES 5. 5/16 APPROX 6. HAZEL SURFACES 7. ALL DIM. IN DIMENSIONS		CHECK: [Signature] APPR: [Signature]	<b>SDS</b> SCIENTIFIC DATA SYSTEMS 1045 FIFTEENTH STREET SANTA MONICA, CALIFORNIA	
MODEL NO. 9148		TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		
NEXT ASSY. 101872		REV. D	DWG. NO. 102338	A
SCALE		DO NOT SCALE DRAWING		SHEET

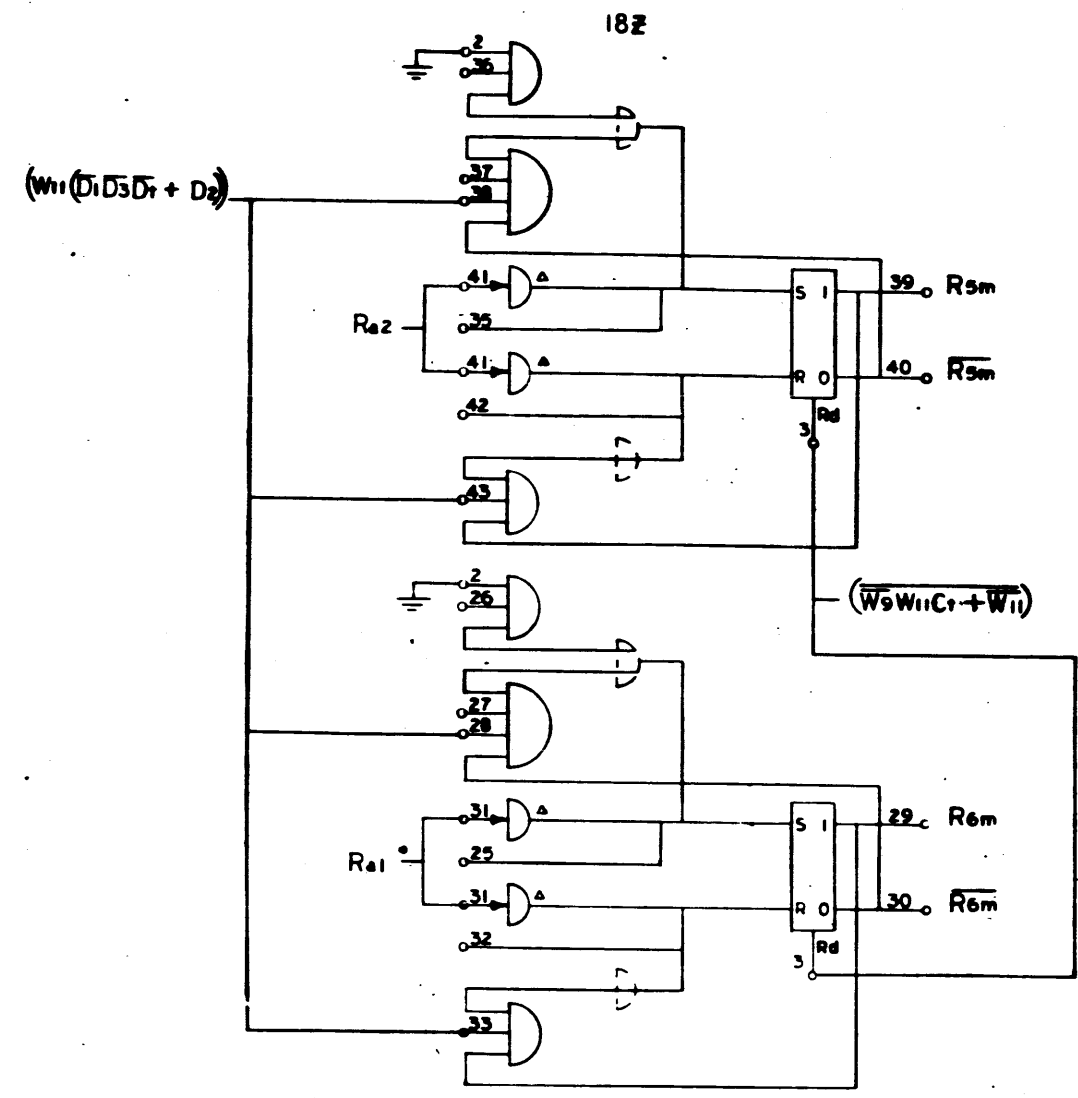
REV		DESCRIPTION		DATE		APPROVED	
A		REL. TO MFG.					



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15 KC TAPE CONTROL UNIT  
PAGE 11  
A

DWG NO	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION
MATERIAL LIST			
NOTES UNLESS SPECIFIED:			
1. TOLERANCES: ALL DIMS UNLESS OTHERWISE SPECIFIED DIMS IN PARENS ARE HOLE LOCATIONS DIMS IN SQUARES ARE HOLE SPACINGS DIMS IN CIRCLES ARE HOLE DIAMETERS DIMS IN BRACKETS ARE HOLE DEPTHS		TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT	
MODEL NO	9148	DWG NO	D 102338
REV		SCALE	AS SHOWN

REVISIONS				102338	A
REV	DESCRIPTION	CHK	DATE	APPROVED	
A	REL. TO MFG.		2-17-54	QMB	

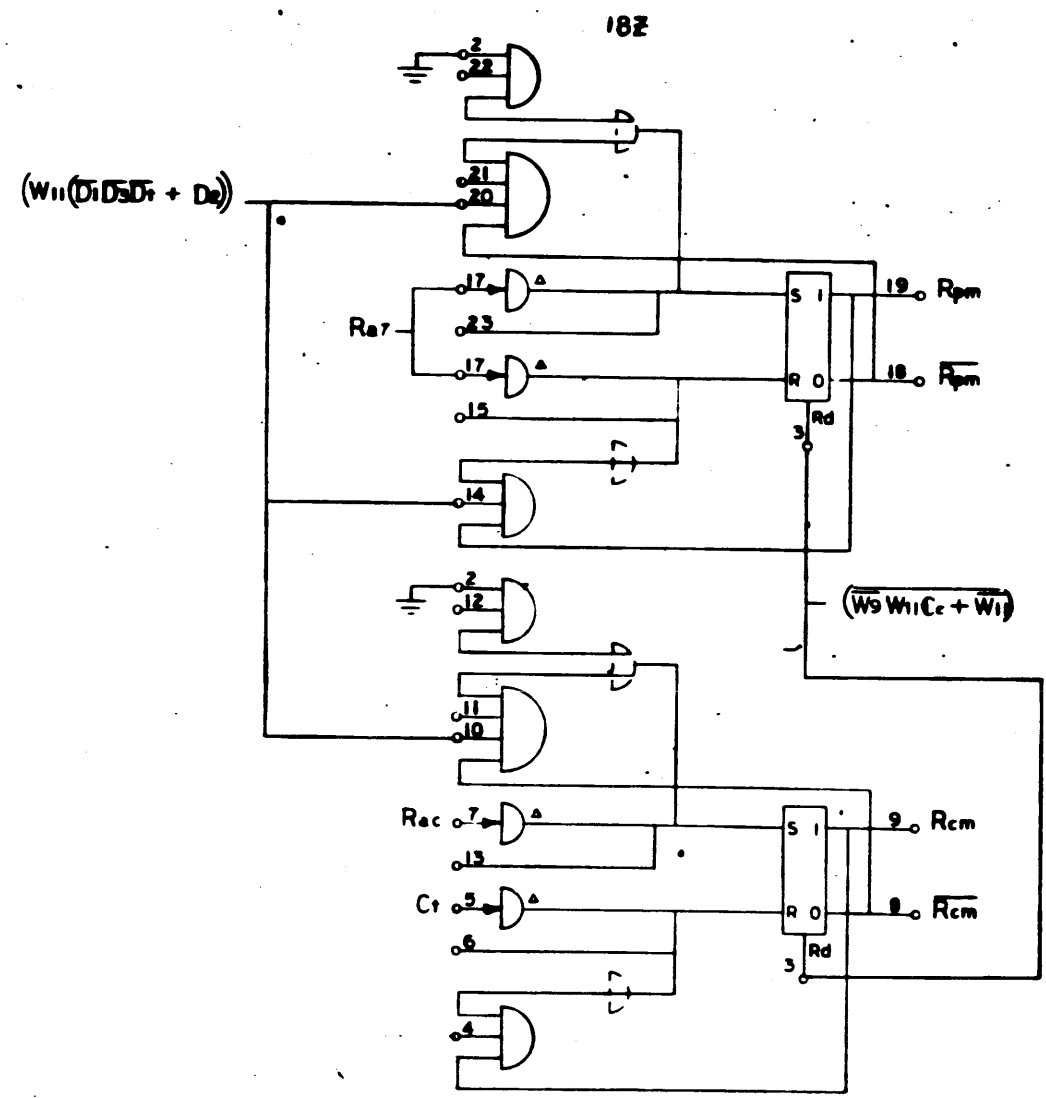


9148  
15 KC TAPE CONTROL UNIT  
PAGE 12  
A

NO	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	REV
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	CHECK	APPR
<ul style="list-style-type: none"> <li>1. TOLERANCES UNLESS SPECIFIED</li> <li>2. DIMENSIONS ARE IN INCHES</li> <li>3. DECIMALS ARE TO 0.001 UNLESS OTHERWISE SPECIFIED</li> <li>4. HOLE LOCATIONS ARE TO 0.005 UNLESS OTHERWISE SPECIFIED</li> <li>5. HOLE DIAMETERS ARE TO 0.002 UNLESS OTHERWISE SPECIFIED</li> <li>6. ALL DIM IN DIMENSIONS</li> </ul>		<b>SDS</b> SCIENTIFIC DATA SYSTEMS 1545 FIFTEENTH STREET SANTA MONICA, CALIFORNIA		
		TITLE <b>DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT</b>		
MODEL NO	9148	REV	D	102338
REV		DATE		A
NEXT REV	101872	SCALE	DO NOT SCALE DRAWING	CHG

102338 (A)

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	REL TO MFG.	12/16/64	CH

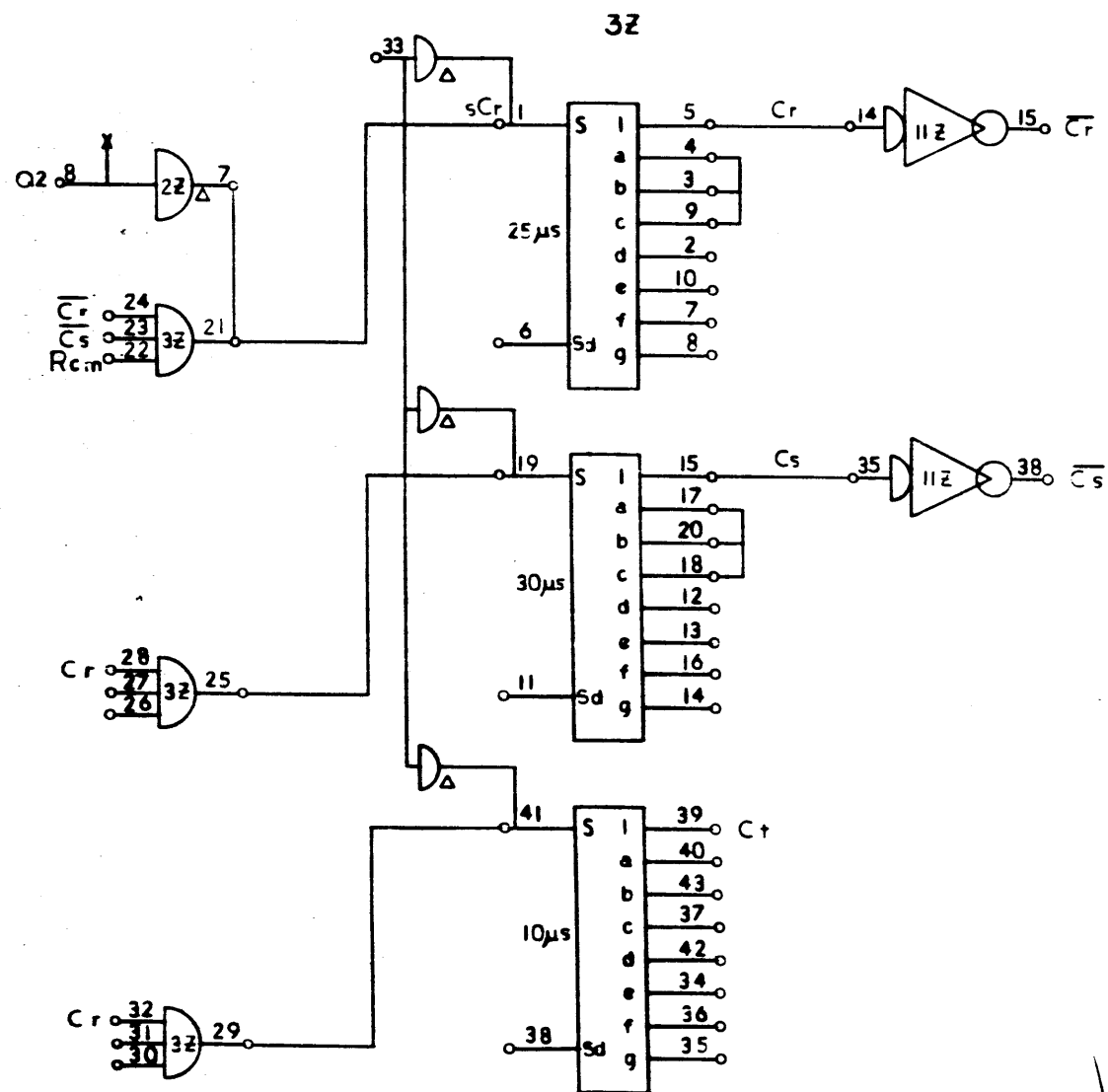


9148  
15 KC TAPE CONTROL UNIT  
PAGE 13  
A

NO	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	REV
NOTES UNLESS SPECIFIED				
1. TOLERANCES UNLESS OTHERWISE SPECIFIED	CHECK			
2. DIMENSIONS UNLESS OTHERWISE SPECIFIED	APPV			
3. HOLE LOCATIONS UNLESS OTHERWISE SPECIFIED				
4. ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED				
MODEL NO		TITLE		
9148		DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		
DRAWING NO		SCALE		
101872		DO NOT SCALE DRAWING		

102338 A

REVISIONS				102338	G
REV.	DESCRIPTION	CHK.	DATE	APPROVED	
B	SEE REV. E.O.	CB		WKF	
E	SEE REV. E.O.	CB		WKF	
G	SEE REV. E.O.	CB		WKF	



9148  
15 KC TAPE CONTROL UNIT

PAGE 14  
G

DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV.
9148	DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		G
101872			

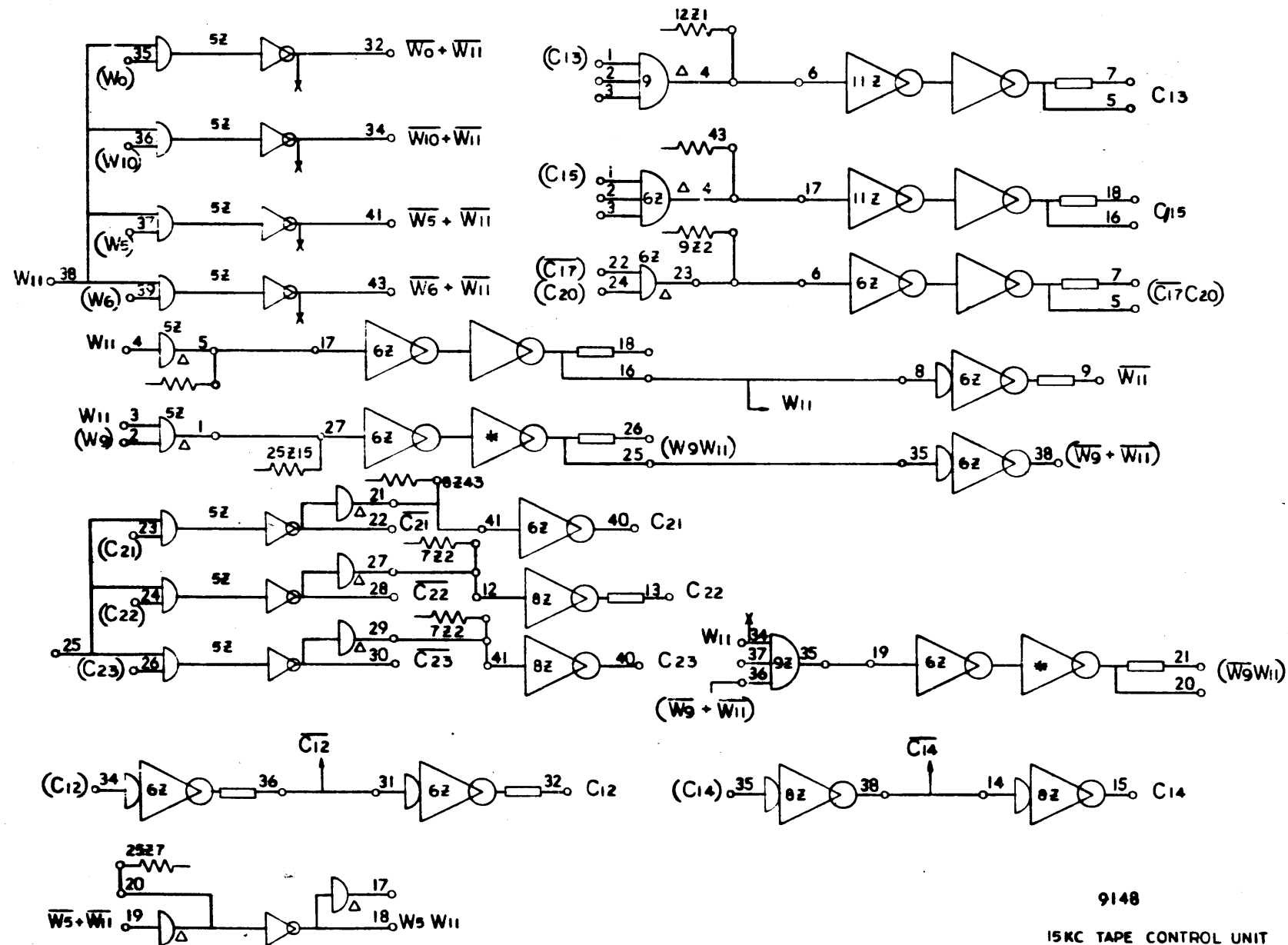
MATERIAL LIST			
QUANTITY	DESCRIPTION	REV.	DATE

1. THE DRAWING IS TO BE USED AS SHOWN. 2. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED. 3. DIMENSIONS ARE TO BE TAKEN TO THE CENTER OF HOLES UNLESS OTHERWISE SPECIFIED. 4. ALL DIMENSIONS ARE TO BE TAKEN TO THE CENTER OF HOLES UNLESS OTHERWISE SPECIFIED.	DRAWN: P. K. ... CHECK: K. ... APPR: WKF	DATE: 7-25-67	SCALE: NO NEW SCALE DRAWING
---	--	---------------	-----------------------------


102338 G

REV.		DESCRIPTION		REVISIONS		DATE		APPROVED	
B		SEE REV. E.O.		CLE	WKF			102338 B	



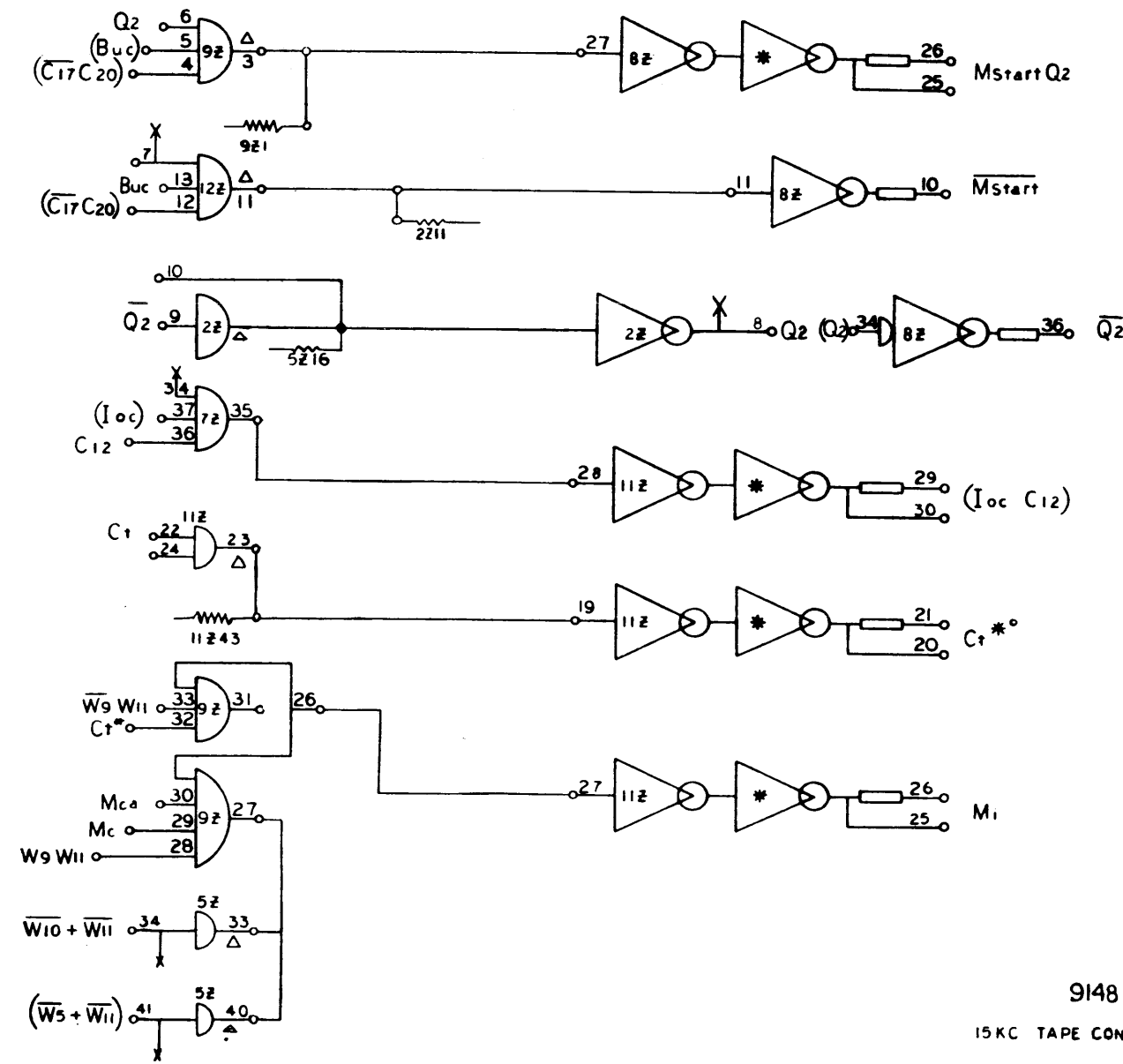
9148  
15KC TAPE CONTROL UNIT  
PAGE 15

B

DRAWING NO.		DESCRIPTION		REFERENCE DESIGNATION	
MATERIAL LIST					
1. QUANTITIES	2. PARTS	3. DRAWN	4. CHECKED	5. APPROVED	6. DATE
		R. KEIGLEY	F. WATSON	WKF	2/12/63
					
<b>DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT</b>					
MODEL NO.	9148	REV. NO.	D	102338	B
UNIT ASSY.	101872	SCALE	DO NOT SCALE DIMENSIONS		

102338 B

REVISIONS			
REV.	DESCRIPTION	CHK.	DATE
A.	REL. TO MFG.	CIB	2/14/62
E	SEE REV E O	CIB	2/14/62



9148  
15KC TAPE CONTROL UNIT  
PAGE 16  
E

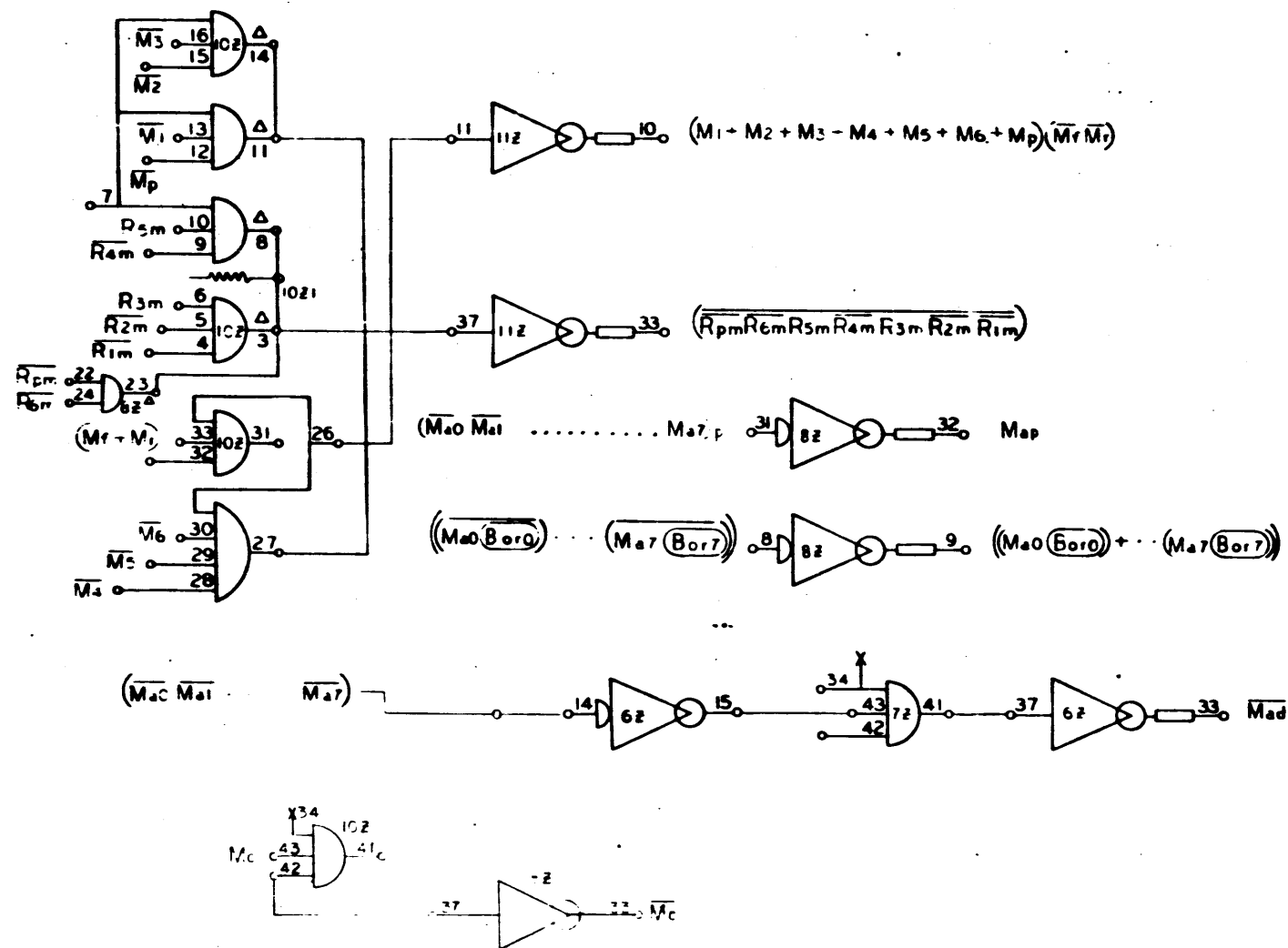
102338 E

NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED				
1. TOLERANCES UNLESS SPECIFIED ARE AS SHOWN ON DRAWING		CHECK	DATE	
2. CLEAN ALL SHARP EDGES AND APPROX.		APPR.	DATE	
3. HATCH SURFACES				
4. ALL DIM. IN INCHES				
MODEL NO. 9148		SDS SCIENTIFIC DATA SYSTEMS 1545 FIFTEENTH STREET SANTA MONICA, CALIFORNIA		
NEXT ASSY. 101872		TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		
		SIZE D 102338		E
		SCALE DO NOT SCALE DRAWING		





REVISIONS			
REV	DESCRIPTION	CHK	DATE
F	SEE REV. E0		

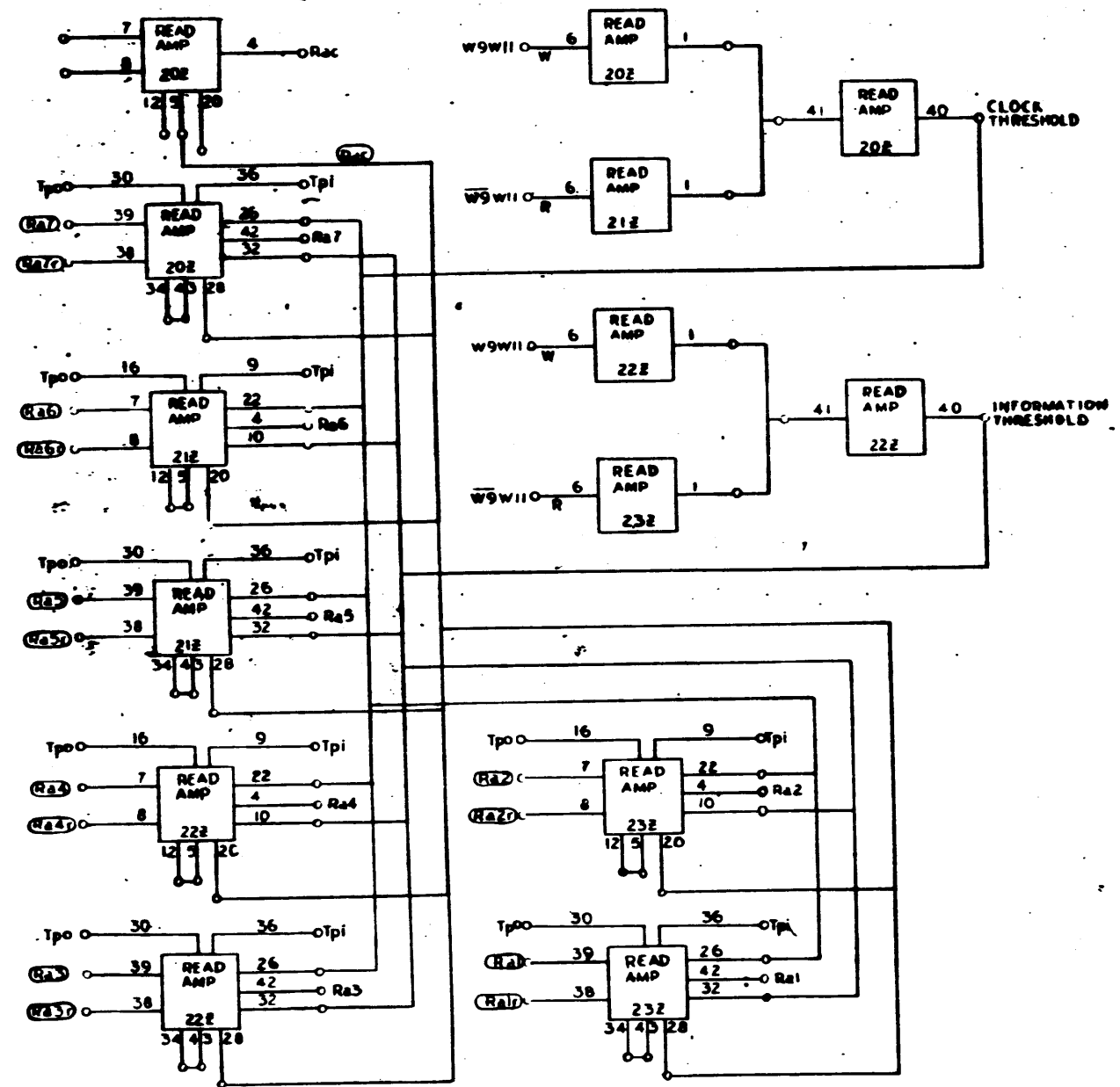


9148  
 ISKC TAPE CONTROL UNIT  
 PAGE 15  
 F

NO	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	REV
NOTES UNLESS SPECIFIED				
1. TOLERANCES UNLESS SPECIFIED		CHECK	SDS SCIENTIFIC DATA SYSTEMS	
2. DIMENSIONS UNLESS SPECIFIED		APP	1025 FIFTH STREET SANTA MONICA CALIFORNIA	
3. BREAK ALL SHARP CORNERS		TITLE		
4. HIDE SURFACES		DIAGRAM, LOGIC		
5. HIDE DIMENSIONS		MAG. TAPE		
		CONTROL UNIT		
MODEL NO	9148	REV	D	102338
NEXT ASSY	101872	SCALE	DO NOT SCALE DRAWING	DRW



REVISIONS				102338	A
REV	DESCRIPTION	CHK	DATE	APPROVED	
A	REL. TO MFG.				

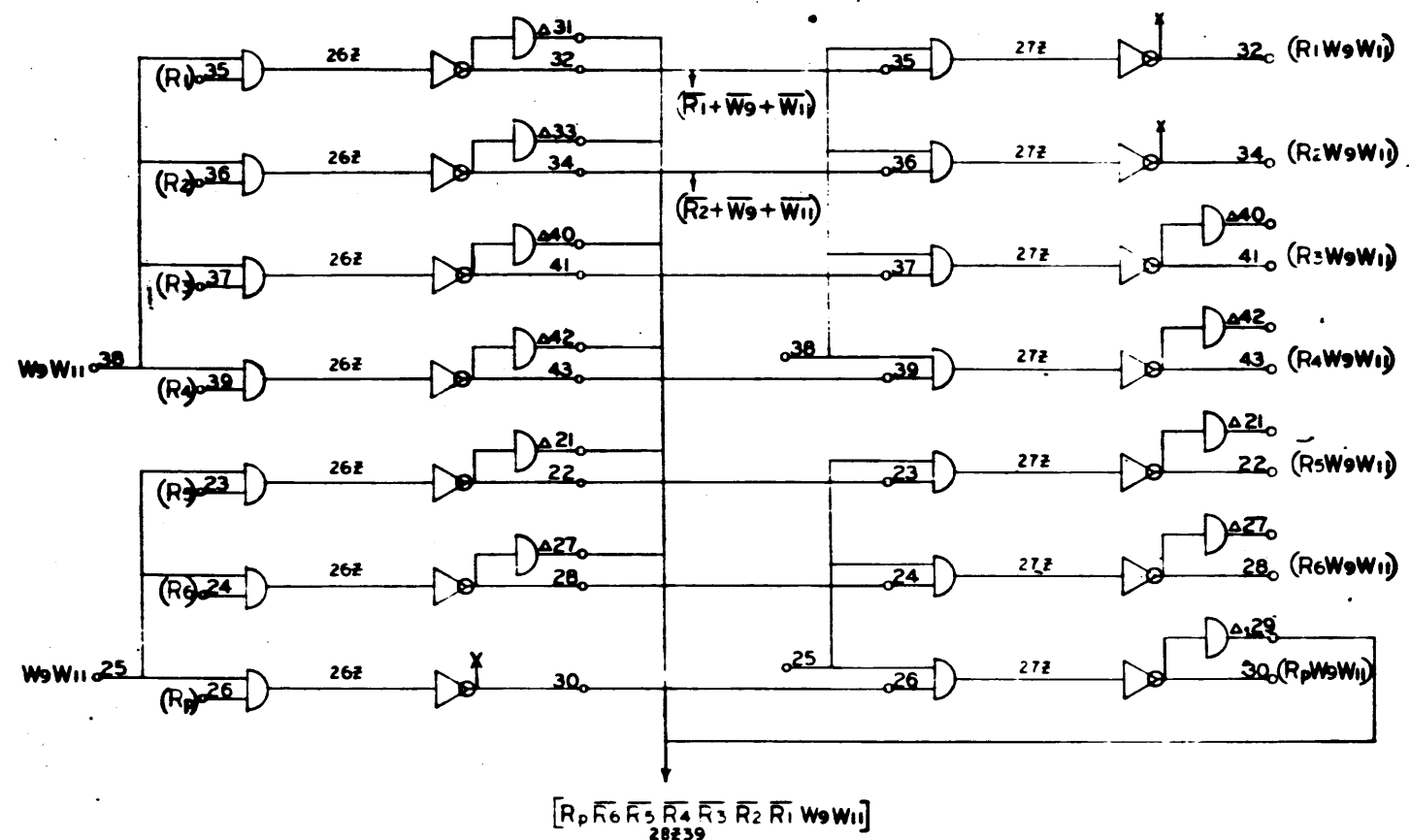


9148  
 15KC TAPE CONTROL UNIT  
 PAGE 20  
 A

REV	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO
NOTES UNLESS SPECIFIED				
<ul style="list-style-type: none"> <li>1. TOLERANCES</li> <li>2. DIMENSIONS</li> <li>3. UNLESS OTHERWISE SPECIFIED</li> <li>4. BREAK ALL SHARP CORNERS AND ANGLES</li> <li>5. HATCH EQUIVALENT 7</li> <li>6. ALL DIM IN INCHES</li> </ul>				
MODEL NO 9148		DRAWING NO D 102338		
PART NO 101872		SCALE DO NOT SCALE DRAWING		
<b>SDS</b> SCIENTIFIC DATA SYSTEMS 1642 FIFTEENTH STREET SANTA MONICA CALIFORNIA				
DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT				
SHEET				



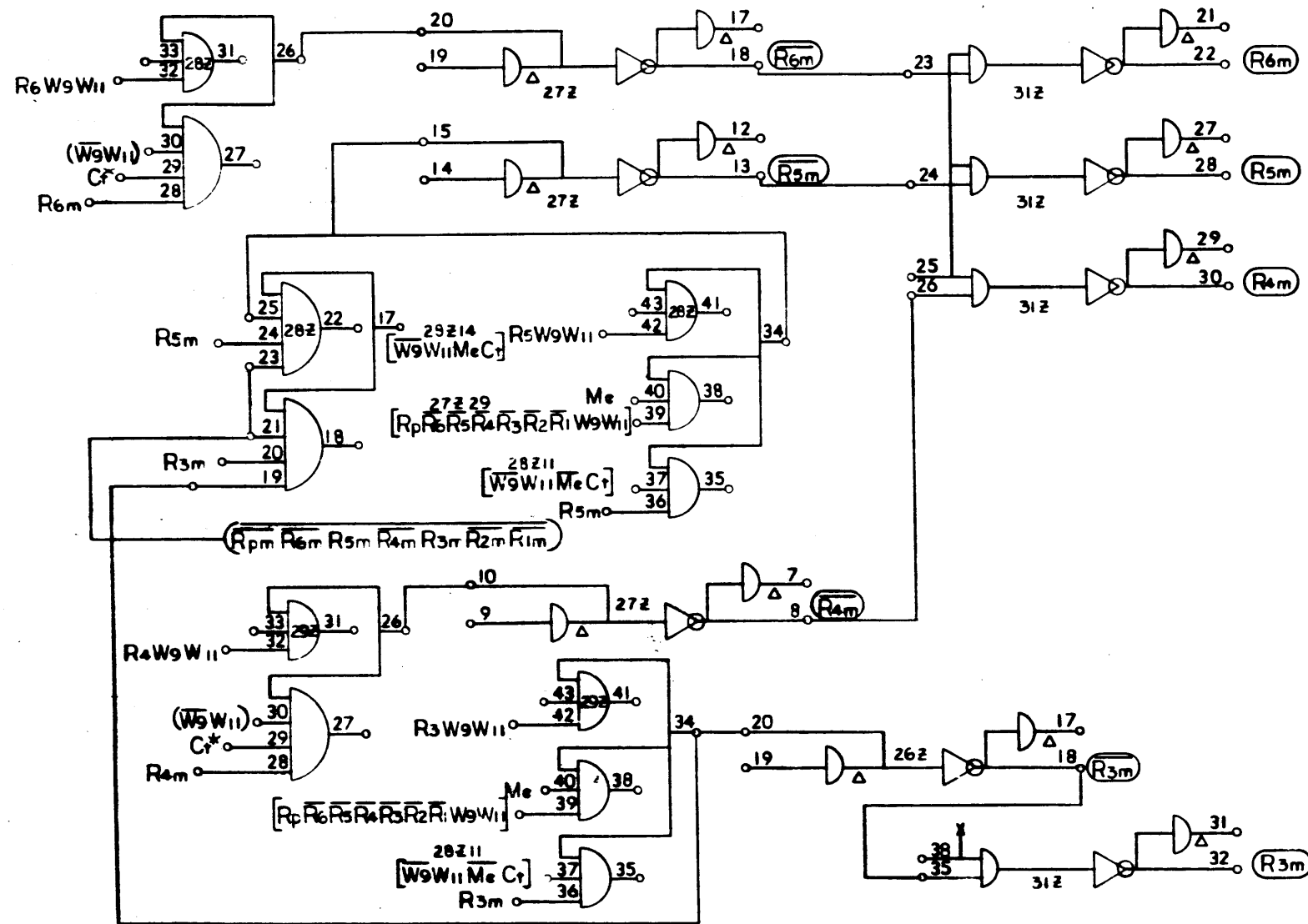
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	REL. TO MFG.	11/15/57	W. J. ...



9148  
15 Kc TAPE CONTROL UNIT  
PAGE 22  
A


NO	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION
MATERIAL LIST			
NOTES UNLESS SPECIFIED: 1. TOLERANCES: AS SHOWN UNLESS OTHERWISE SPECIFIED 2. DIMENSIONS ARE IN INCHES 3. DECIMALS ARE TO TWO PLACES 4. HOLE LOCATIONS ARE TO ONE PLACE 5. ALL DIMENSIONS TO CENTER UNLESS OTHERWISE SPECIFIED			
DRAWN: _____ CHECK: _____ APPR: _____		<b>SDS</b> SCIENTIFIC DATA SYSTEMS 1545 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA	
MODEL NO: 9148		PART NO: D 102338	
NEXT ASSY: 101872		SCALE: _____ DRAWN BY: _____	

REVISIONS			102338 A	
REV.	DESCRIPTION	CHK.	DATE	APPROVED
A	REL. TO MFG.	CEP	10/21/63	JJL



9148

15 KC TAPE CONTROL UNIT  
PAGE 23  
A

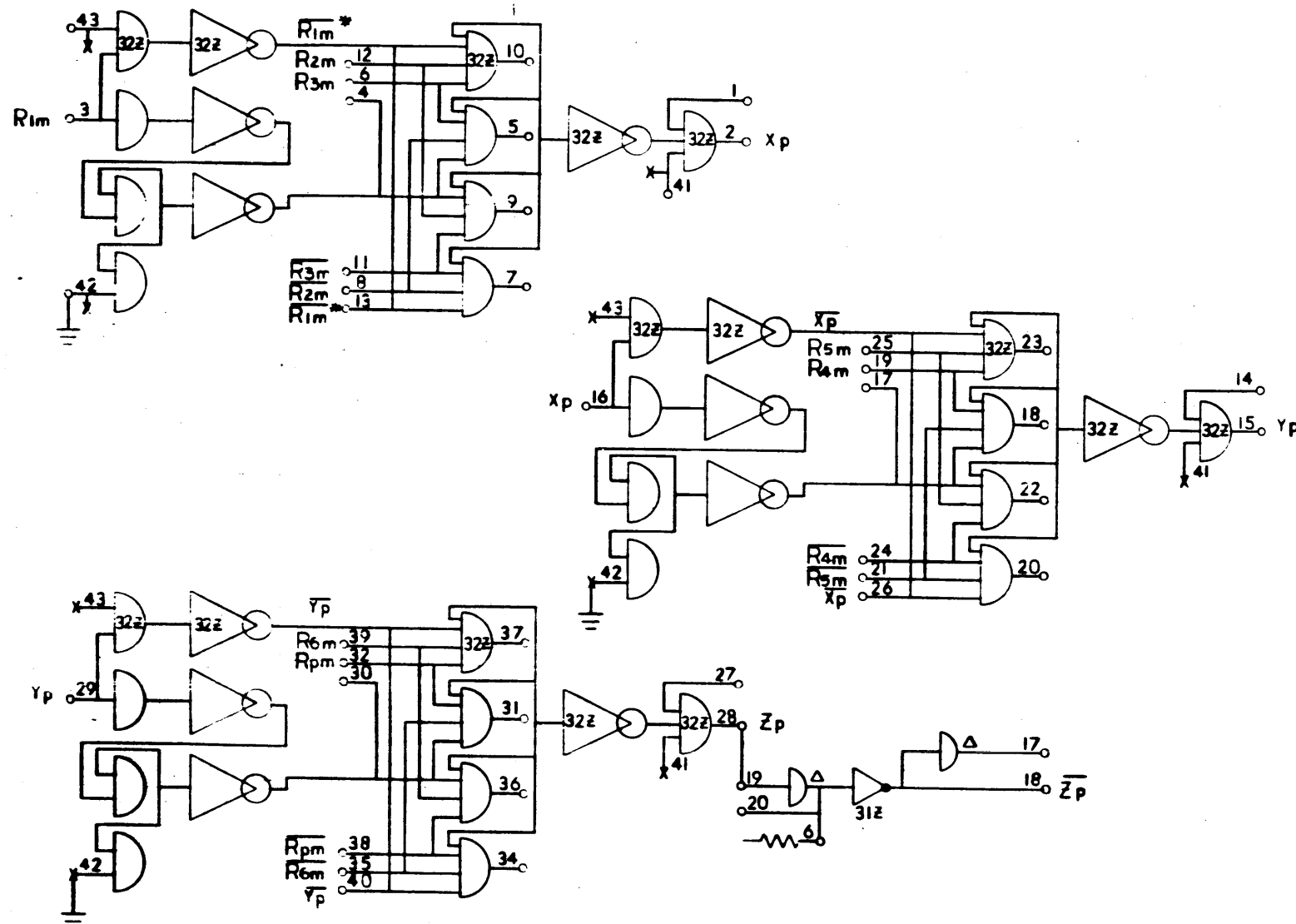
DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV.
9148	DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		A
MATERIAL LIST			
REVISED UNLESS SPECIFIED	DRAWN R. KEIPERT 2/18/63	 GDS GRAPHIC DATA SYSTEMS 1000 W. 10th Street, Suite 100 Denver, Colorado 80202	
1. CHECKED BY J. W. WILSON 7/17/63	CHKD K. Wilson 7/17/63		
2. DESIGNED BY J. W. WILSON 7/17/63	APPD WKF 7/17/63		
3. TITLE		DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT	
4. SCALE		D 102338 A	
5. SHEET NO.	101872	A	

102338/A





REVISIONS				
REV.	DESCRIPTION	CHK.	DATE	APPROVED
A	REL. TO MFG.	CLB		J. HALL



9148  
15 KC TAPE CONTROL UNIT  
PAGE 25  
A

DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV.
9148	DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		A
101872			

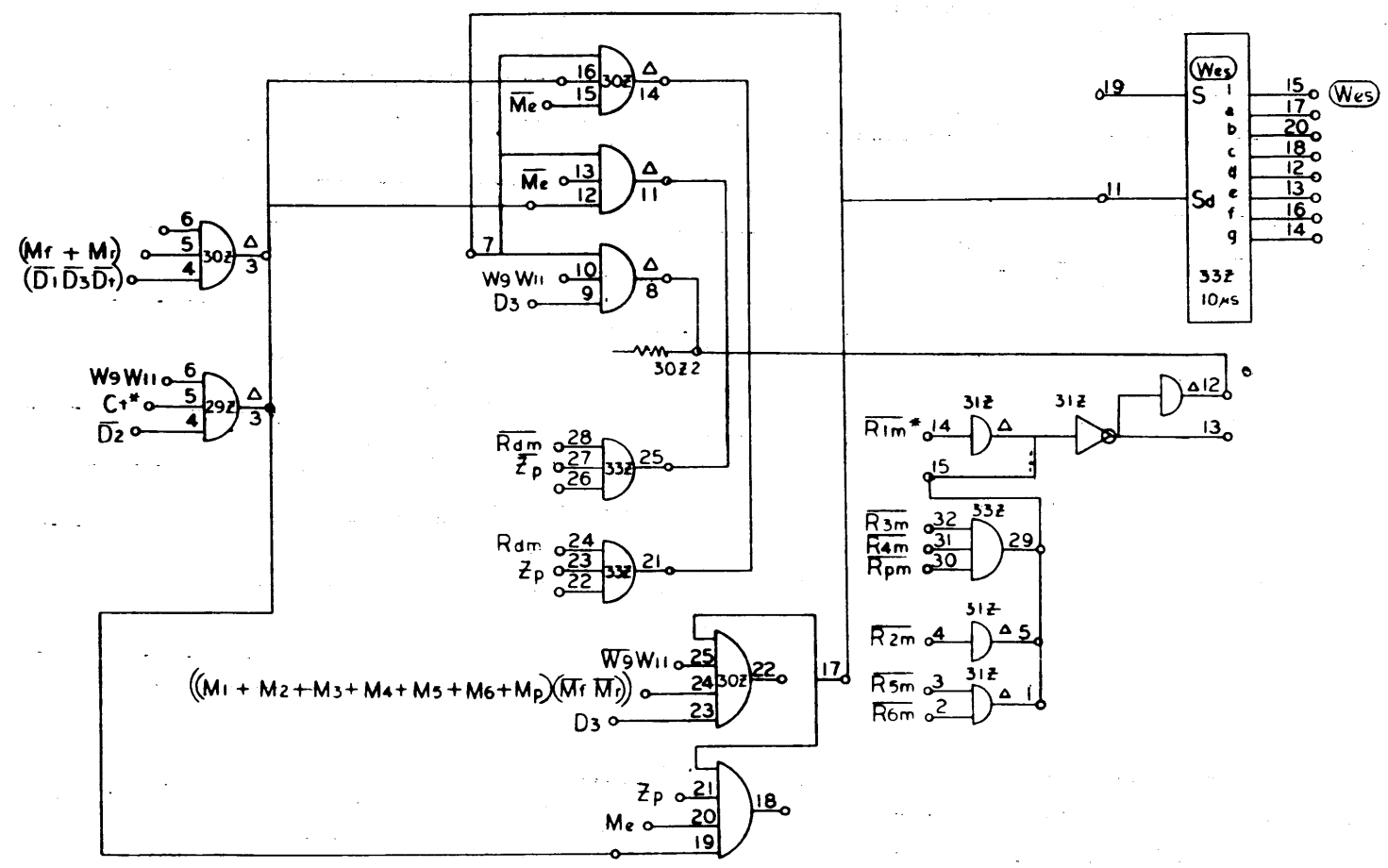
MATERIAL LIST			
REV.	DESCRIPTION	QTY.	UNIT
1	32Z RELAY	1	PCB
2	31Z RELAY	1	PCB
3	RESISTOR 6 OHMS	1	PCB

REV.	DESCRIPTION	CHK.	DATE	APPROVED
D	102338			A

102338 A

REV		DESCRIPTION		CHK	DATE	APPROVED
A		REL. TO MFG.		ab	1/13/68	Adm

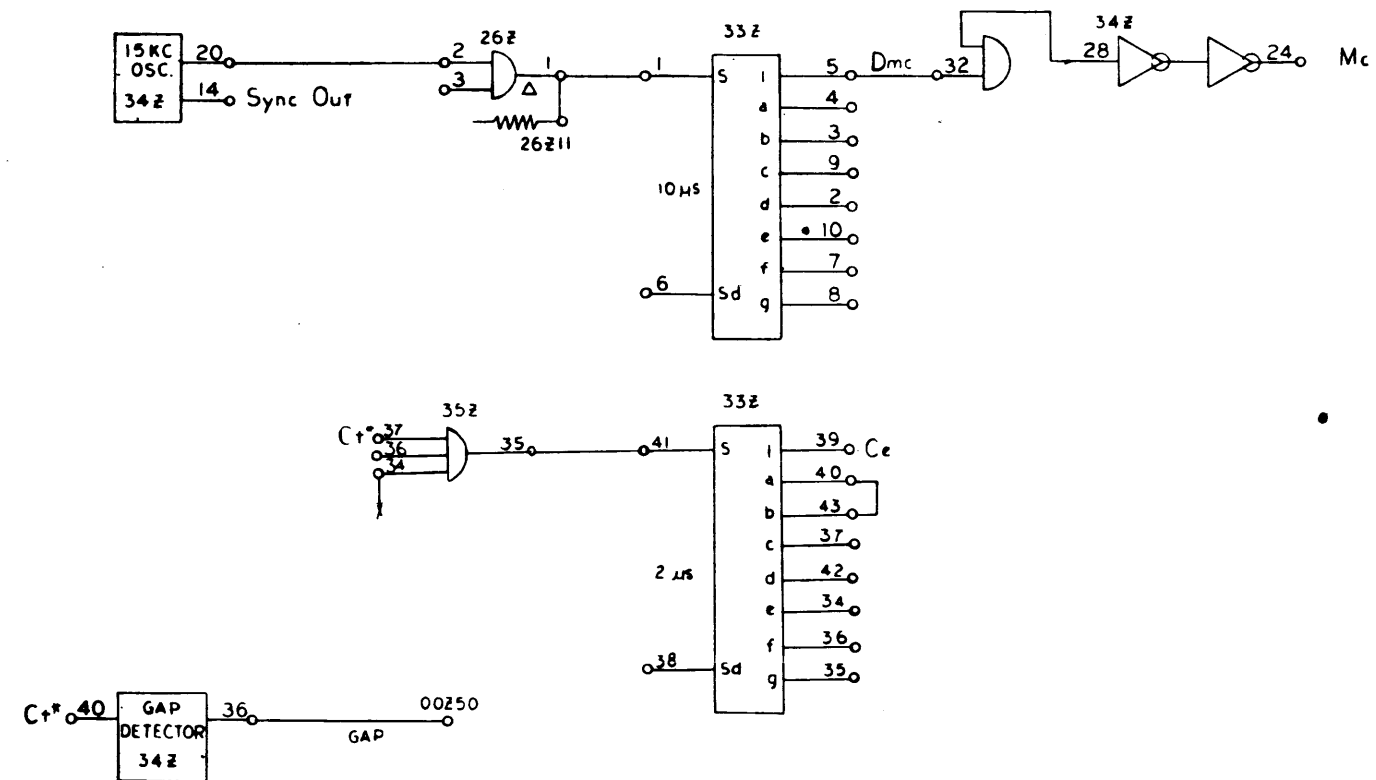


9148  
 15KC TAPE CONTROL UNIT  
 PAGE 26  
 A

102338 A

NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	SDS SCIENTIFIC DATA SYSTEMS 1848 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA	
1. TOLERANCES XX .000 ANGULAR XXX .010		CHECK	TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT	
2. BREAK ALL SHARP EDGES 3. HATCH SURFACES 4. ALL DIM. IN INCHES		APPR.	MODEL NO. 9148	
			SIZE D	DWG NO. 102338
				A
			SCALE	DO NOT SCALE DIM. FROM SHEET

REV.		REVISIONS			102338	A
REV.	DESCRIPTION	CHK	DATE	APPROVED		
A	REL. TO MFG.	CAB	10/16/64	<i>[Signature]</i>		



9148  
15KC TAPE CONTROL UNIT  
PAGE 27  
A

NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		CHECK	<b>SDS</b> SCIENTIFIC DATA SYSTEMS 1542 FIFTEENTH STREET SANTA MONICA, CALIFORNIA	
1. TOLERANCES XX 2.010 ANGULAR SEE 2.010 2 1/2"		APPR.	TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT	
2. BREAK ALL SHARP EDGES D10 APPROX				
3. MACH. SURFACES				
4. ALL DIM. IN INCHES				
MODEL NO.	9148	REV.	D	DWG. NO. 102338
NEXT ASSY.	101872	SCALE	DO NOT SCALE DRAWING	SHEET A

102338 A

9148 DIRECTORY

PAGE	TERM
27	Ce
14	Cr
14	Cs
14	Ct
16	Ct*
15	C12
15	C12
15	C13
15	C14
15	C14
15	C15
15	(C17 C20)
15	C21
15	C21
15	C22
15	C22
15	C23
15	C23
5	D1
5	D1
5	D2
5	D2
5	D3
5	D3
19	(D1 D3 Dt)
17	(D1 D2 Dt (W0 + W9 W11) + W11 M start)
3	Dt
3	Dt
19	(Ecm)
27	Gap
16	(loc C12)
18	Mad
18	Map
18	(Ma0 (Box 0) ... Ma7 (Box 7))
27	Mc
18	Mc
9	Mca
3	Me
3	Me
1	Mf
1	Mf
1	Mf*
17	Mf + Mr
17	(Mf + Mr + Dt + D3 + D1)
16	Mi
9	Mp
9	Mp
9	Mp*
1	Mr
1	Mr
1	Mr*
16	M start Q2
16	M start
17	(M start Q2 + Mu Mv Mc + D3 (Mf + Mr))
4	Mtg
4	Mtg

PAGE	TERM
4	(Mit)
2	Mu
2	Mu
2	Mv
2	Mv
8	M1
8	M1
8	M1*
8	M1*
8	M2
8	M2
8	M2*
8	M2*
7	M3
7	M3
7	M3*
7	M3*
7	M4
7	M4
7	M4*
7	M4*
6	M5
6	M5
6	M5*
6	M5*
6	M6
6	M6
6	M6*
6	M6*
18	(M1 + M2 + M3 + M4 + M5 + M6 + Mp) (Mt Mr)
16	Q2
20	Rac
13	Rcm
13	Rcm
4	Rdm
4	Rdm
20	Read amp channels 1 thru 7
13	Rpm
13	Rpm
24	(Rpm)
24	(Rpm)
18	(Rpm R4m R5m R4m R3m R2m R1m)
22	(Rp R6 R5 R4 R3 R2 R1 W9 W1)
22	(Rp W9 W11)
21	(Rpm W9 W11 + Rpm W9 W11)
10	R1m
10	R1m
24	(R1m)
24	(R1m)
22	(R1 W9 W11)
22	(R1 + W9 + W11)
21	(R1m W9 W11 + R1m W9 W11)
10	R2m
10	R2m
24	(R2m)
24	(R2m)

PAGE	TERM
22	(R2 W9 W11)
22	(R2 + W9 + W11)
21	(R2m W9 W11 + R2m W9 W11)
11	R3m
11	R3m
23	(R3m)
23	(R3m)
22	(R3 W9 W11)
21	(R3m W9 W11 + R3m W9 W11)
11	R4m
11	R4m
23	(R4m)
23	(R4m)
22	(R4 W9 W11)
21	(R4m W9 W11 + R4m W9 W11)
12	R5m
12	R5m
23	(R5m)
23	(R5m)
22	(R5 W9 W11)
21	(R5m W9 W11 + R5m W9 W11)
12	R6m
12	R6m
23	(R6m)
23	(R6m)
22	(R6 W9 W11)
21	(R6m W9 W11 + R6m W9 W11)
19	(S10)
20	Threshold, clock
20	Threshold, information
26	(Wes)
19	(Wes)
19	(Wes)
15	W0 + W11
15	W5 + W11
15	W6 + W11
15	(W9 W11)
15	(W9 W11)
15	(W9 + W11)
17	(W9 W11 Ce + W11)
24	(W9 W11 Me Ct)
24	(W9 W11 Me Ct)
15	W10 + W11
15	W11
15	W11
17	(W11 M start)
17	(W11 (D1 D3 Dt + D2))
17	(W11 W9 W5 (W0 + W11) (W6 + W11))
25	Xp
25	Yp
25	Zp
25	Zp
17	(Mt Mr Dt D3 Dt)

9148  
PAGE 28  
F

REVISIONS			102338	F
REV.	DESCRIPTION	CHK	DATE	APPROVED
F	SEE REV. E0	clb	11/15/63	WCF

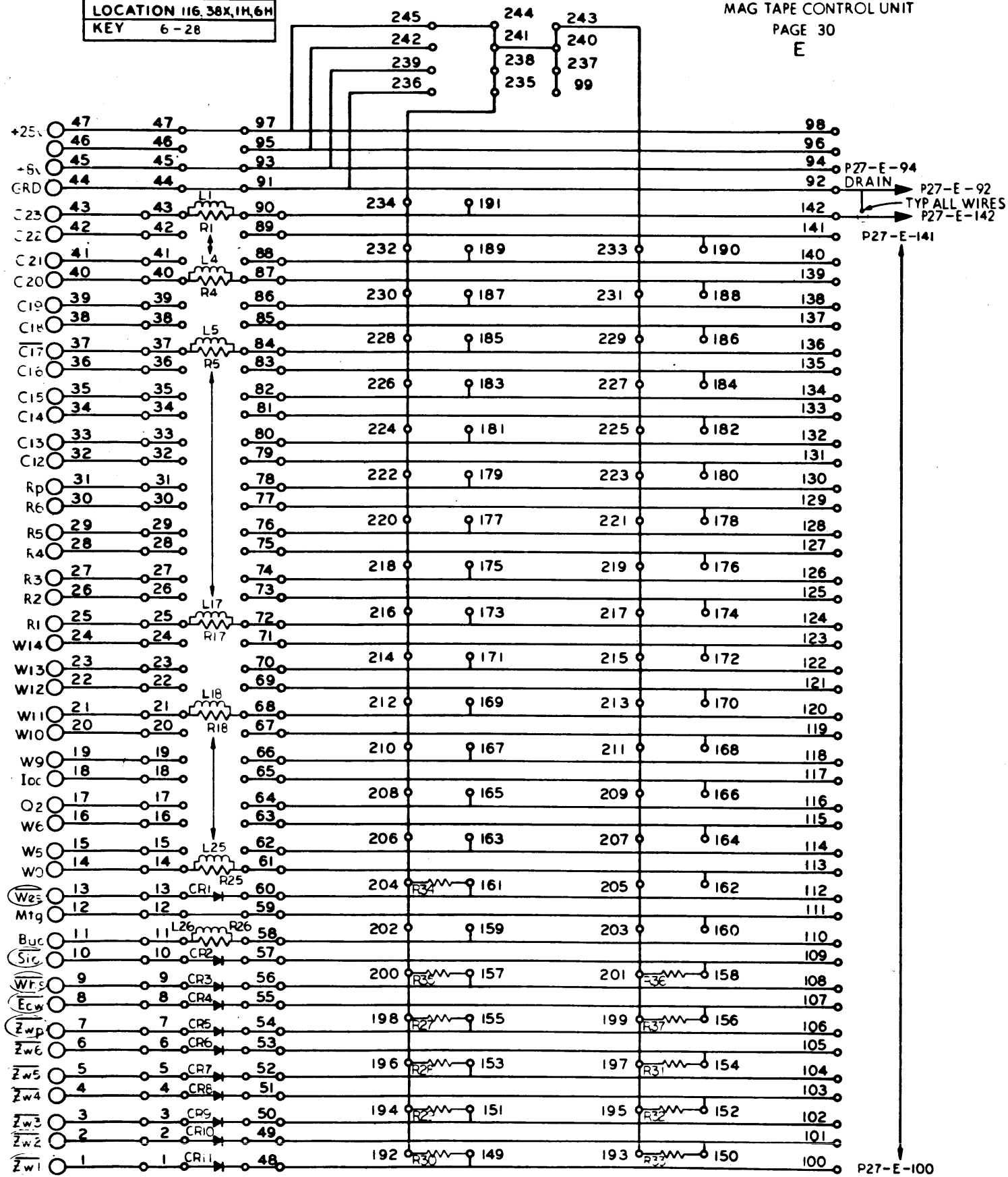
NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED				
DRAWN R. HANET		MATERIAL LIST		
CHECK Clb		SDS SCIENTIFIC DATA SYSTEMS		
APPR. WCF		1545 FIFTEENTH STREET, SANTA BARBARA, CALIFORNIA		
1. TOLERANCES UNLESS SPECIFIED		TITLE		
2. BREAK ALL SHARP EDGES 0.10 APPROX.		DIAGRAM, LOGIC		
3. HATCH SURFACES		MAG. TAPE		
4. ALL DIM. IN INCHES		CONTROL UNIT		
MODEL NO. 9148		REV. D		102338
NEXT ASSY. 101872		SCALE		F



REVISIONS			
REV	DESCRIPTION	CHK	DATE
A	REL. TO MFG.		
E	SEE REV. E.O.		

DESIGNATION P26  
LOCATION 116.38X,1H,6H  
KEY 6-28

CABLE PLUG MODULE  
9148  
MAG TAPE CONTROL UNIT  
PAGE 30  
E

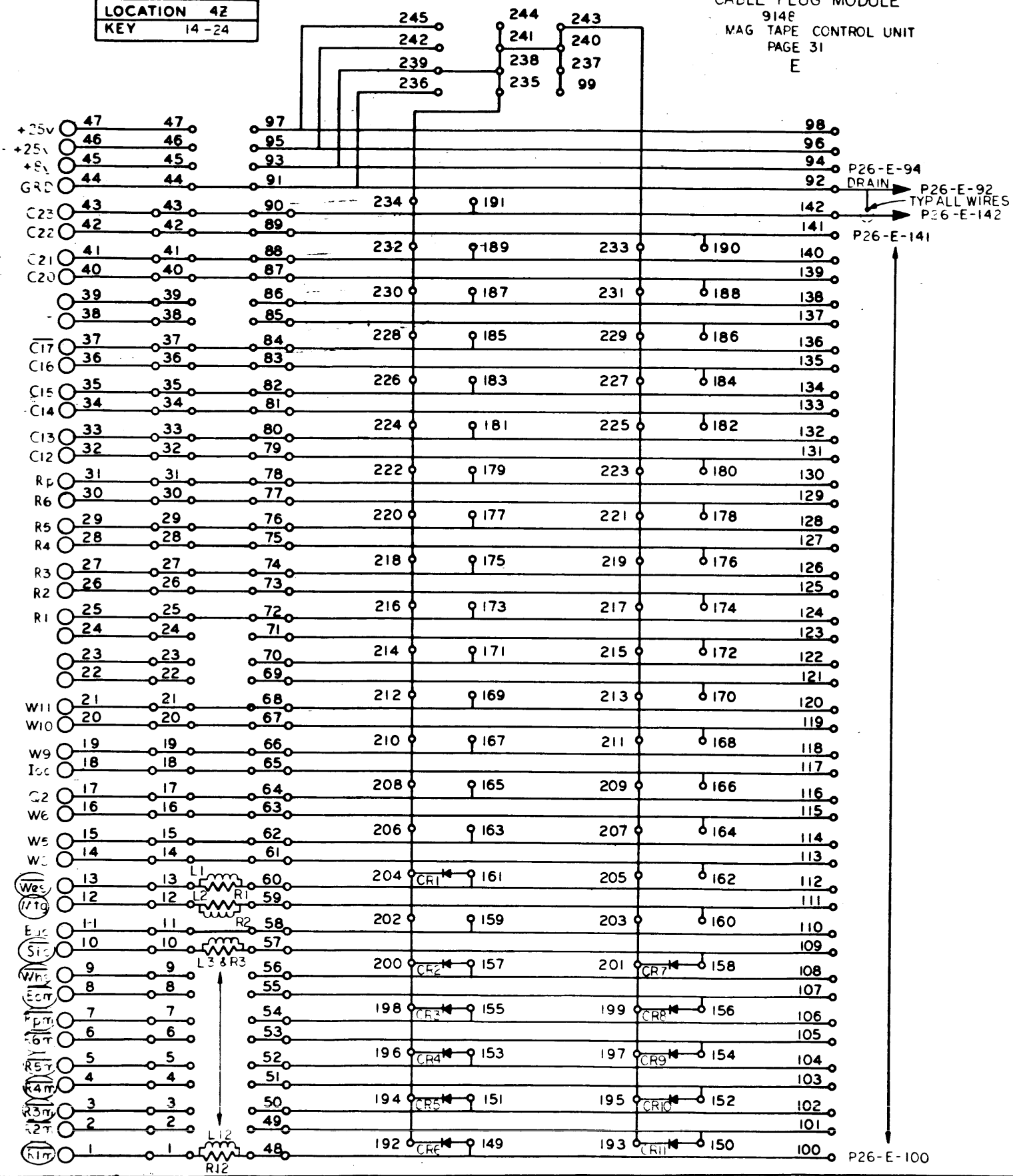


NO	REG	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED					
1 TOLERANCES XX - DIM ANGULAR SEE - DIM 2.5°					
2 BREAK ALL SHARP EDGES D10 APPROX					
3 MACH SURFACES ✓					
4 ALL DIM IN INCHES					
DRAWN			MATERIAL LIST		
CHECK			SDS SCIENTIFIC DATA SYSTEMS 1442 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA		
APPR			TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		
MODEL NO		9148		SIZE DWG NO	
NEXT ASSY		101872		D 102338	
SCALE			DO NOT SCALE DRAWING SHEET		

REVISIONS				102338 E
REV	DESCRIPTION	CHK	DATE	APPROVED
A	PEL TO MFG.			
C	SEE REV E C			
E	SEE REV E C			

DESIGNATION P27  
LOCATION 42  
KEY 14-24

CABLE PLUG MODULE  
9148  
MAG TAPE CONTROL UNIT  
PAGE 31  
E



NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	<b>SDS</b> SCIENTIFIC DATA SYSTEMS <small>1542 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA</small> TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT	
1. TOLERANCES XX - DIM XX - ANGULAR SEE - DIM		CHECK		
2. BREAK ALL SHARP EDGES O.D. APPROX 3. MACH SURFACES ✓ 4. ALL DIM IN INCHES		APPR		
MODEL NO.	9148	SIZE	DWG NO.	E
NEXT ASSY	101872	SCALE	102338	
			DO NOT SCALE DRAWING	SHEET

REVISIONS			
REV	DESCRIPTION	CHK	DATE
F	SEE REV. E0		1/28/67
G	SEE REV. E0		1/28/67

PAGE	CHG	PAGE	CHG	PAGE	CHG	PAGE	CHG	PAGE	CHG
1	E								
2	A								
3	E								
4	C								
5	E								
6	A								
7	A								
8	A								
9	F								
10	A								
11	A								
12	A								
13	A								
14	B								
15	B								
16	E								
17	F								
18	F								
19	E								
20	A								
21	E								
22	A								
23	A								
24	D								
25	A								
26	A								
27	A								
28	F								
29	F								
30	E								
31	E								
32	E								
33	E								
34	F								

NOTES:  
 1. REV. LETTERS LISTED INDICATE STATUS OF EACH SHEET OF THIS MULTIPLE SHEET DWG.  
 2. CHECK INDIVIDUAL SHEETS FOR REVISION LETTER AGAINST THIS SHEET BEFORE USING THIS DWG.

DWG  
PAGE 38  
G

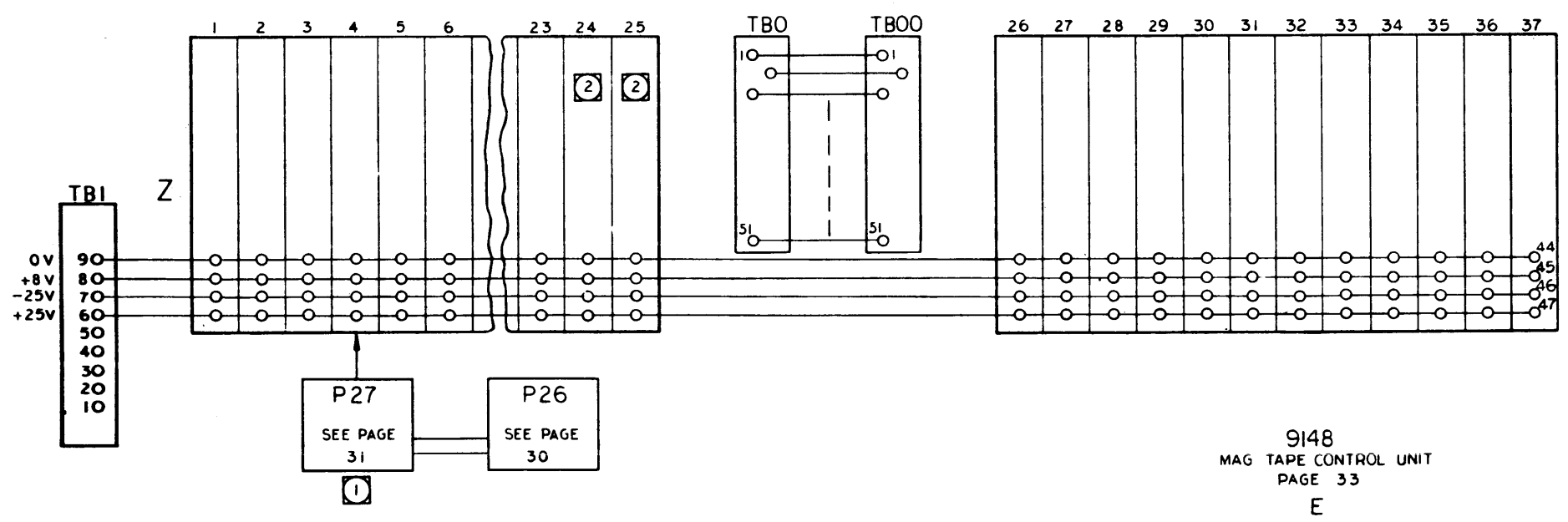
NO.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV.
MATERIAL LIST				
NOTED UNLESS SPECIFIED	DRAWN	S. K. GUNTY	11-18-67	<b>SDS</b> DESIGNING DATA SYSTEMS 100 EASTERN STREET, SANTA MONICA, CALIFORNIA
CHECK	W. J. GUNTY	1/27/68		
APP'D	W. J. GUNTY	1/27/68		
SCALE				
		DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		
MODEL NO.	9148	REV. NO.	D 102338	G
PLANT NO.	101872	SCALE	DO NOT SCALE DRAWING	UNLESS



REVISIONS				
REV	DESCRIPTION	CHK	DATE	APPROVED
A	SEE REV. E.O.	e/b	7/9/63	WKR

NOTES UNLESS OTHERWISE SPECIFIED

- ① RECEPTACLE J(4Z) IS PROVIDED FOR THE P27 TO P26 CABLE. P26 IS CONNECTED TO J(11G) OF THE MODEL 910 OR 920 COMPUTER, OR J(38X) OF THE MODEL 9120 Y BUFFER, OR TO J(1H) OR J(6H) OF THE MODEL 9126 SIGNAL COUPLER.
- ② RECEPTACLES J(24Z) & J(25Z) ARE PROVIDED FOR P24 & P25 FROM A MODEL 9146 MAGNETIC TAPE UNIT.



9148  
MAG TAPE CONTROL UNIT  
PAGE 33  
E

102338 E

NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN <i>J. Wilson</i> 6-4-63	<b>SDS</b> SCIENTIFIC DATA SYSTEMS 1542 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA	
1. TOLERANCES XX = .030 ANGULAR XXX = .010 ±.10°		CHECK <i>C. Belmont</i> 7/9/63		
2. BREAK ALL SHARP EDGES D10 APPROX ✓		APPR <i>WKR</i> 7/11/63	TITLE	
3. MACH SURFACES ✓ 4. ALL DIM. IN INCHES			DIAGRAM, LOGIC MAG TAPE CONTROL UNIT	
MODEL NO		SIZE	DWG NO.	
9148		D	102338	
NEXT ASSY		SCALE		SHEET
101872		DO NOT SCALE DRAWING		E

REVISIONS			102338	F
REV.	DESCRIPTION	CHEK	DATE	APPROVED
F	SEE REV. E0	CLD	11/15/64	WRS

MODULE LIST

ITEM	DESCRIPTION	MODEL	QTY.
1	CLOCK GEN.	CK52	1
2	UNIVERSAL F.F.	FC17	6
3	DIODE GATE 1	GK51	9
4	READ AMP	HK57	4
5	INVERTER AMP	IK51	4
6	ADDER MOD.	IK52	1
7	AND GATE INV.	IK53	6
8	ONE SHOT MULT.	OX13	3

REPLACEMENT PARTS LIST

ITEM	DESCRIPTION	DESIGNATION	QTY.	SUPPLIER CODE (SEE INDEX)
1	RESISTOR, 3.9 K $\pm 2\%$	(P26)R27 THRU R37	11	16,17
2	RESISTOR, 100 $\Omega \pm 2\%$	(P27)R1 THRU R12	12	16,17
3	DIODE, SILICON SWITCHING 1N914A	(P26)CR1 THRU CR11 (P27)CR1 THRU CR11	22	4,12,13,14
4	INDUCTOR, MOLDED, 220 $\mu\text{H} \pm 5\%$	(P26)L1 THRU L26 (P27)L1 THRU L12	38	42,90,91
5	CONNECTOR, SOLDER TAIL 47 CONTACT # 7008-47	J(1W) THRU J(37W)	37	82

CABLE LENGTH

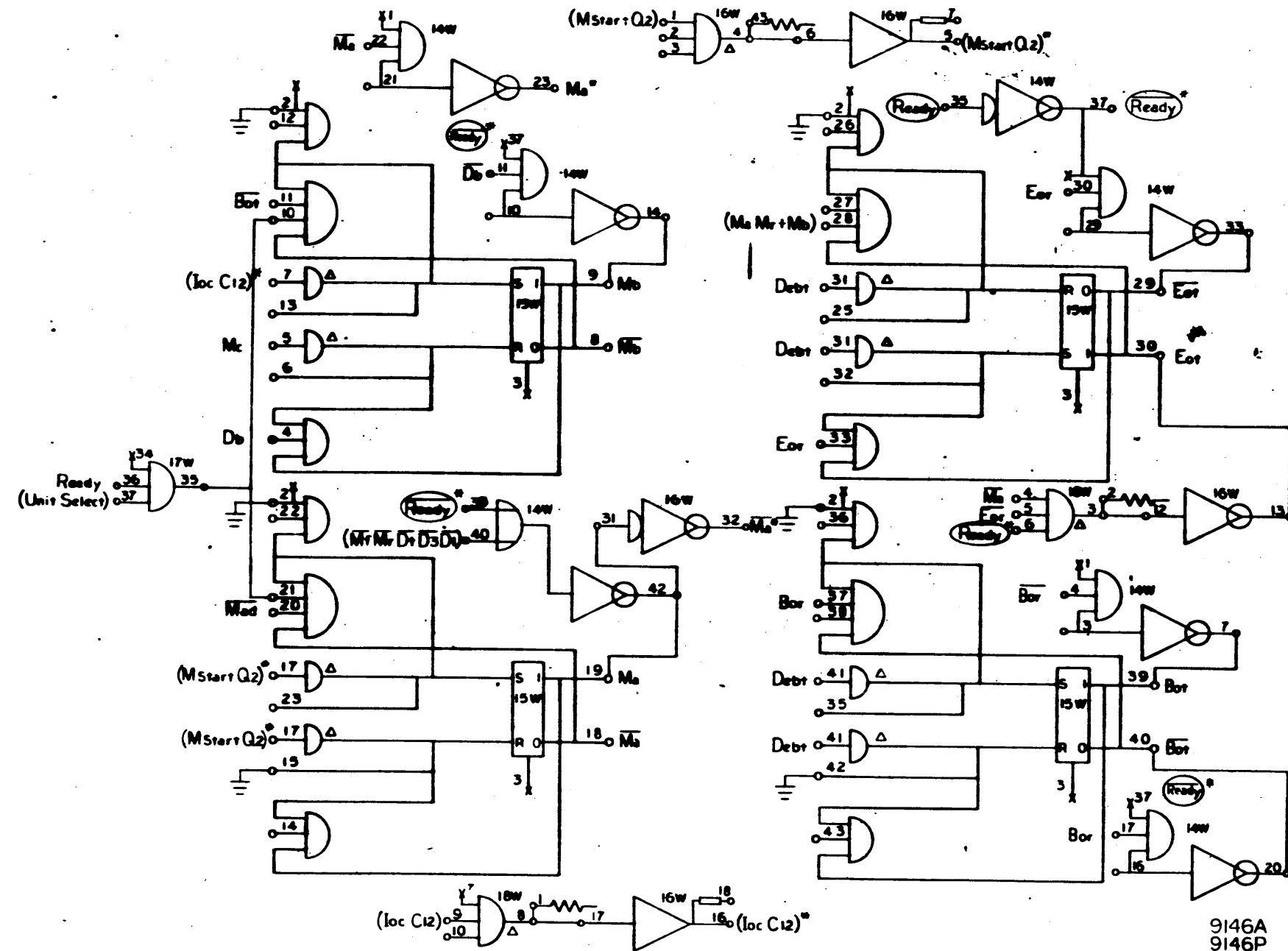
ITEM	DESCRIPTION	CABLE LENGTH				DESIGNATION	QTY.	SUPPLIER CODE (SEE INDEX)
		11'	20'	30'	40'			
6	RESISTOR	390 $\Omega \pm 2\%$	330 $\Omega \pm 2\%$	270 $\Omega \pm 2\%$	220 $\Omega \pm 2\%$	(P26)R1 THRU R26	26	16,17

9148  
MAG TAPE CONTROL UNIT  
PAGE 34  
F

NO. REG.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED				
1. TOLERANCES XX $\pm .030$ ANGULAR XXX $\pm .010$ $\pm .15^\circ$	DRAWN	R. VEIPE RT	11-18-63	<b>SDS</b> SCIENTIFIC DATA SYSTEMS 1845 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA
2. BREAK ALL SHARP EDGES 0.10 APPROX.	CHECK	CLD	11/27/63	
3. HATCH SURFACES <input checked="" type="checkbox"/>	APPR.	WRS	11/15/64	TITLE
4. ALL DIM. IN INCHES				DIAGRAM, LOGIC, MAG TAPE CONTROL UNIT
MODEL NO.	9148	SIZE	DWS NO.	D 102338 F
NEXT ASSY.	101872	SCALE	DO NOT SCALE DRAWING	SHEET

102338 | F

REVISIONS				104654	5
REV.	DESCRIPTION	CHK.	DATE	APPROVED	
A	RELEASED TO MFG				
B	SEE REV. E.O.				

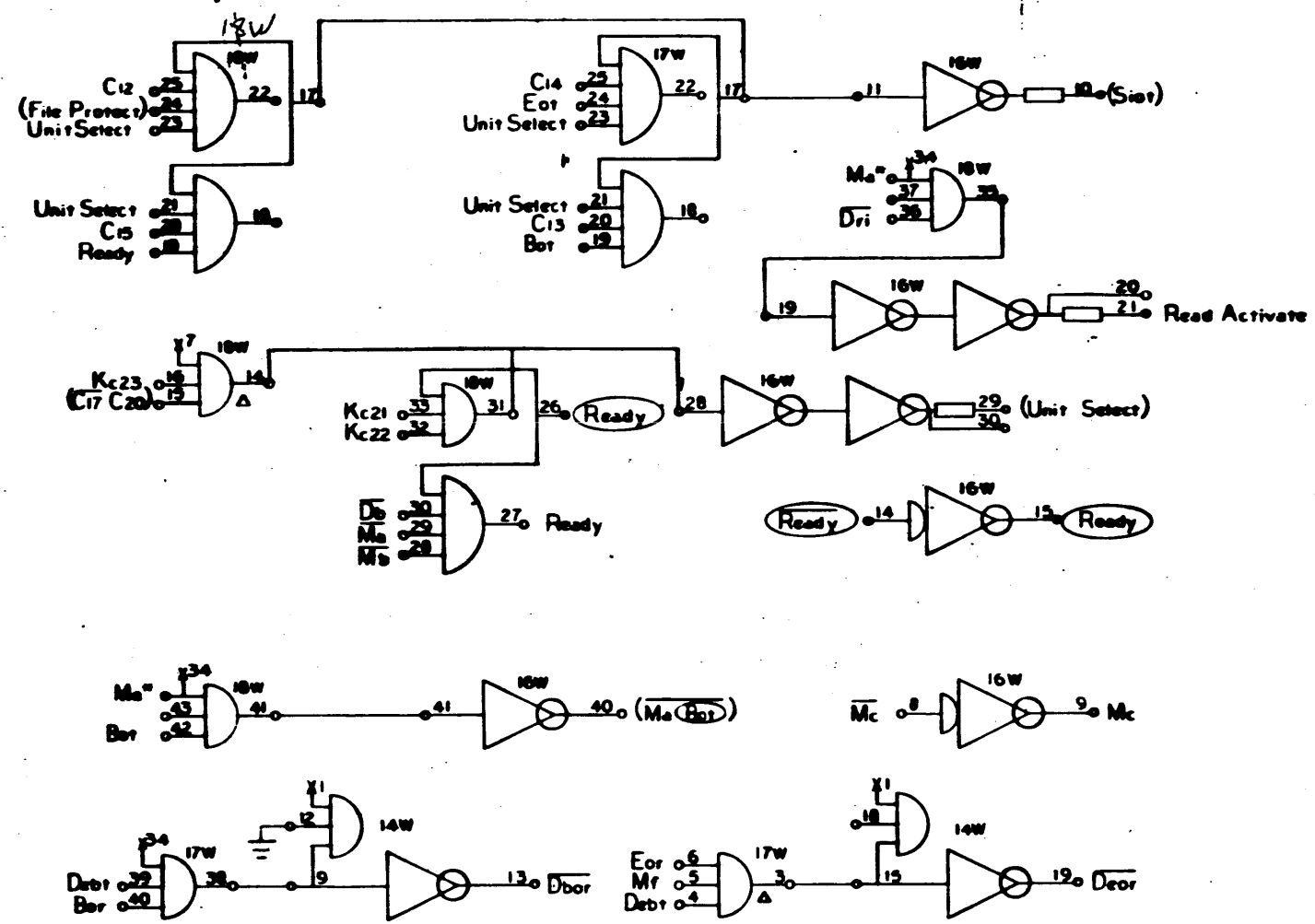


9146A  
9146P  
15KC TAPE UNIT ELECTRONICS  
PAGE 1  
B

NO.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV.
MATERIAL LIST				
NOTES UNLESS SPECIFIED: 1. TOLERANCES: UNLESS SPECIFIED ARE AS SHOWN 2. BREAK ALL SHARP CORNERS 3. HATCH SURFACES 4. ALL DIMS IN INCHES				
MODEL NO. 9146 NEXT ASSY. 04645		TITLE <b>SDS</b> SCIENTIFIC DATA SYSTEMS SANTA MONICA, CALIFORNIA DIAGRAM, LOGIC MAG. TAPE		
DRAWN: [Signature] CHECKED: [Signature] APPR: [Signature]		PART NO. 104654 SHEET 3		
SCALE: [Blank]		DO NOT SCALE DRAWING		

104654 | B

REVISIONS		04654	3
REV.	DESCRIPTION	DATE	BY
A	RELEASED TO MFG	10/15/64	J. J.
B	SEE REV. E.O.		



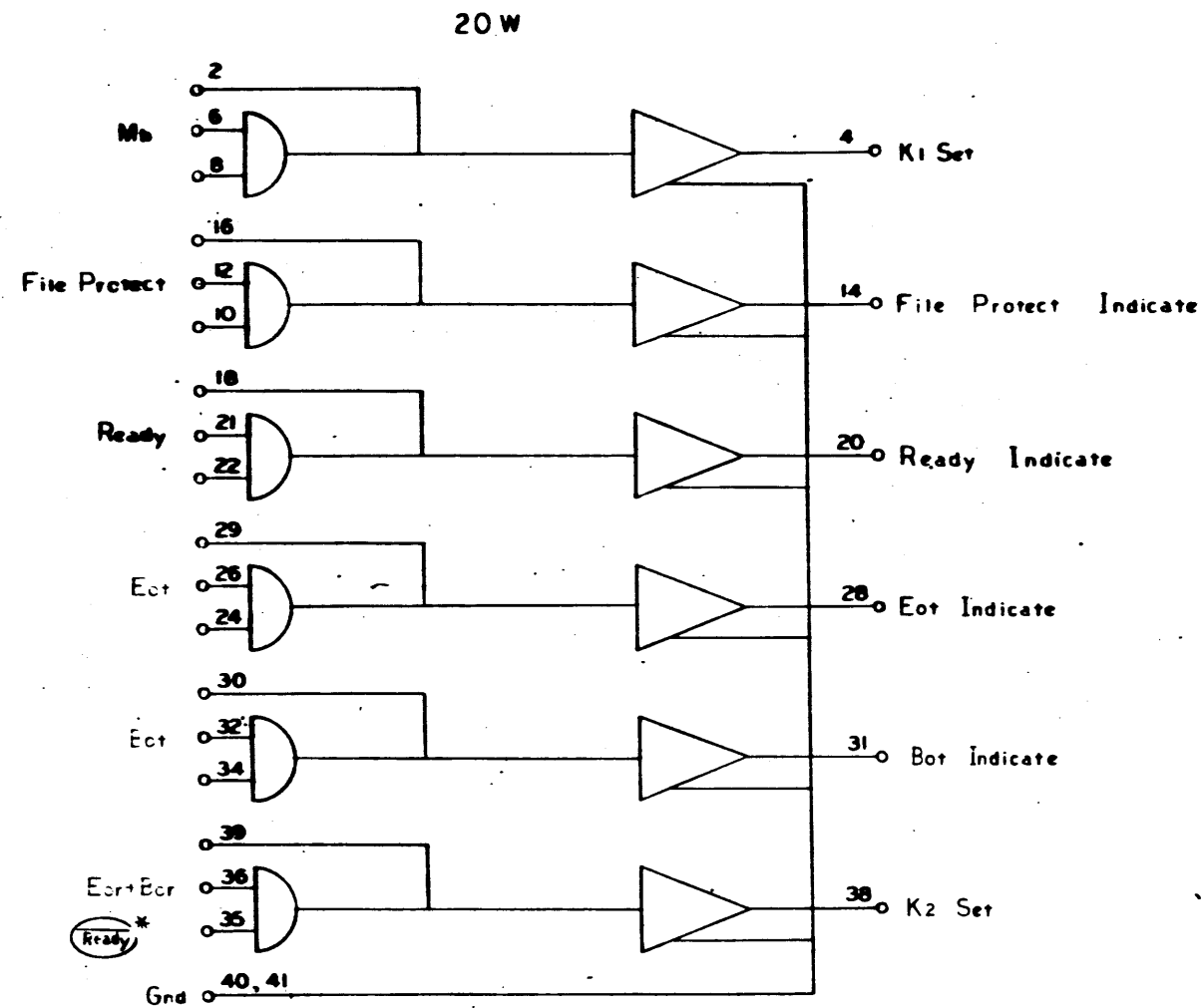
9146A  
9146P  
15KC TAPE UNIT ELECTRONICS  
PAGE 2  
B

104654 | B |

DRAWING NO.		DESCRIPTION		REFERENCE DESIGNATION	
NOTES UNLESS SPECIFIED					
1. TOLERANCES	DRAWN	DATE	BY	TITLE	
IN 2 DEC	CHECK	10/15/64	J. J.	DIAGRAM, LOGIC	
2. 2.00	APPV			MAG. TAPE	
3. 2.50					
4. ALL DIMENSIONS					
MODEL NO. 9146				REV. D	04654
NEXT ASSY. 104645				SCALE	DO NOT SCALE DRAWING



REVISIONS				
REV	DESCRIPTION	CHK	DATE	APPROVED
A	REL. TO MFG.			
B	SEE REV. E.O.			

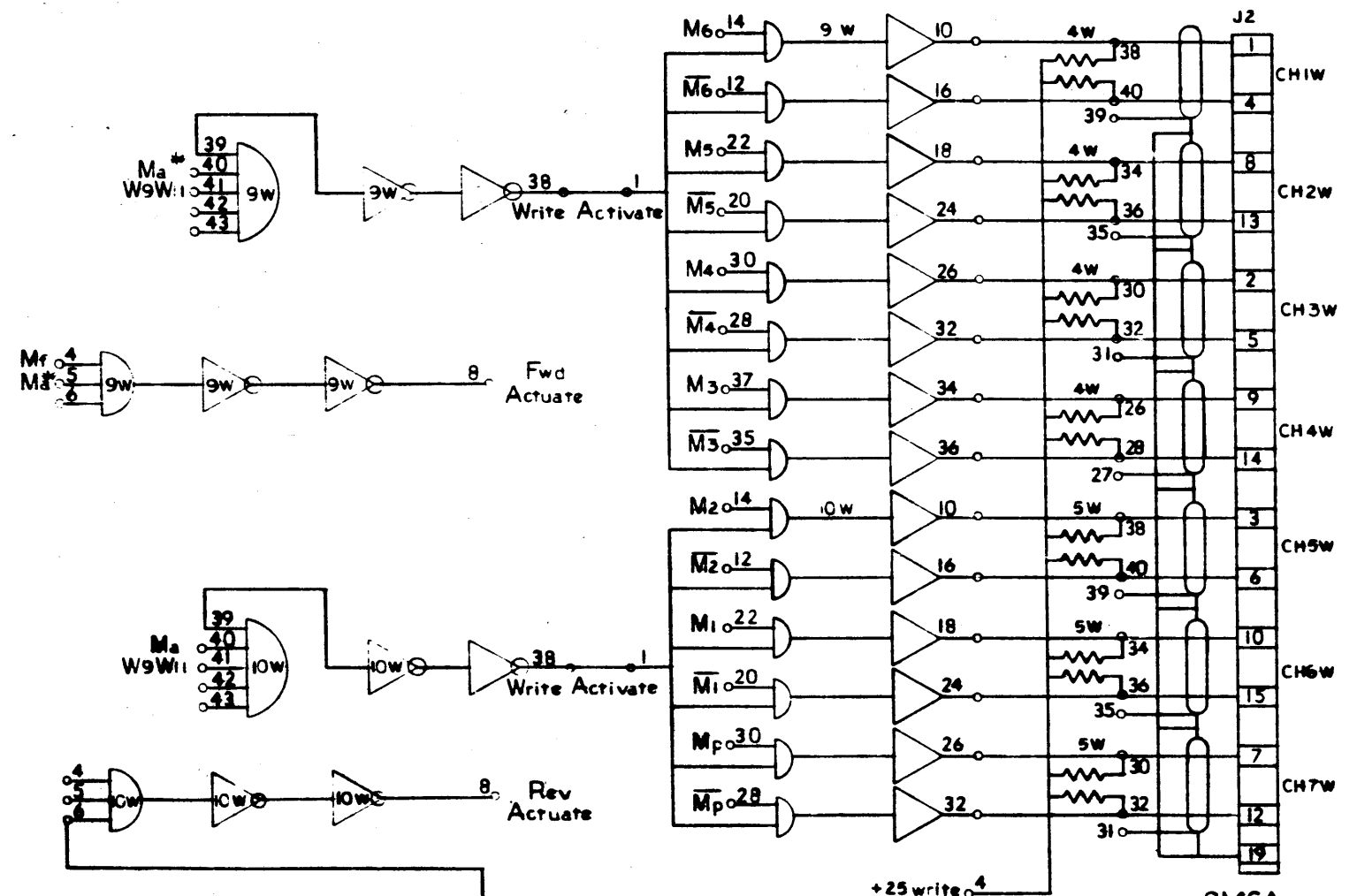


9146A  
9146P  
15 KC TAPE UNIT ELECTRONICS  
PAGE 4  
B

104654 | R |

NO	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	REV
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	CHECKED	DATE
1. TOLERANCES UNLESS SPECIFIED		APP'D		
2. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED				
3. DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED		1045 FIFTEENTH STREET SANTA MONICA CALIFORNIA		
4. DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED		<b>DIAGRAM, LOGIC MAG. TAPE</b>		
MODEL NO	9146	REV	D	104654
NEXT ASSY	104645	SCALE	DO NOT SCALE DRAWING	DATE

REVISIONS			
REV.	DESCRIPTION	CHK	DATE
A	REL. TO MFG.	CLB	11-27-63
B	SEE REV. E.O.	CLB	11-15-64

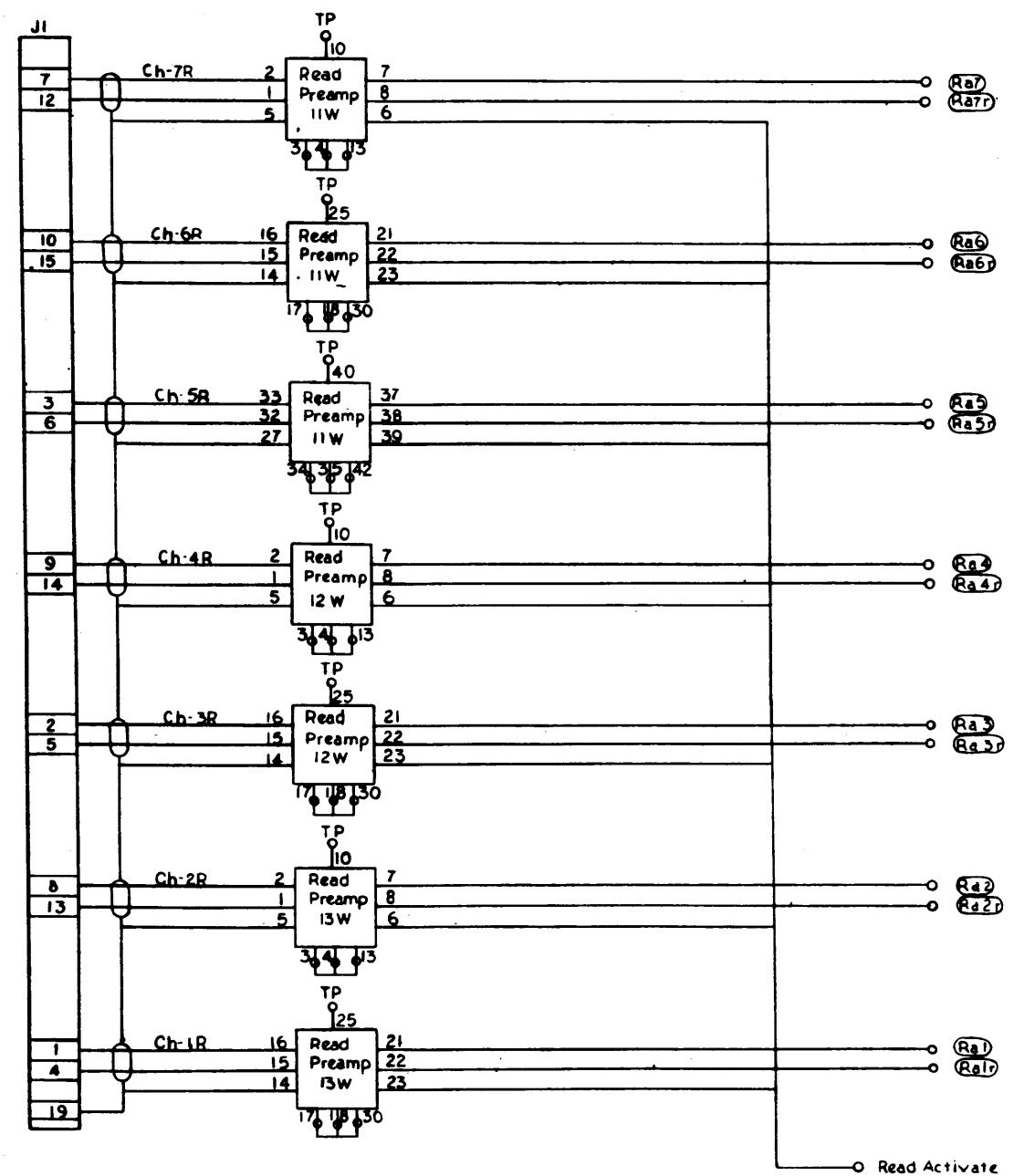


9146A  
9146P  
15 KC TAPE UNIT ELECTRONICS  
PAGE 5  
B

REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION
		MATERIAL LIST	
		DESIGNED BY: R. KEIPERT 11-14-63 CHECKED BY: CLB 11-27-63 APPROVED BY: WKF 1-15-64 TITLE: <b>DIAGRAM, LOGIC MAG. TAPE</b>	
	9146		D 104654
	104645		B

104654 B

REVISIONS			104654	B
REV.	DESCRIPTION	CHK	DATE	APPROVED
A	REL. TO MFG.	CWB	11/27/63	[Signature]
B	SEE REV. E.O.	CWB	1/13/64	[Signature]



9146A  
9146P  
15KC TAPE UNIT ELECTRONICS  
PAGE 6  
B

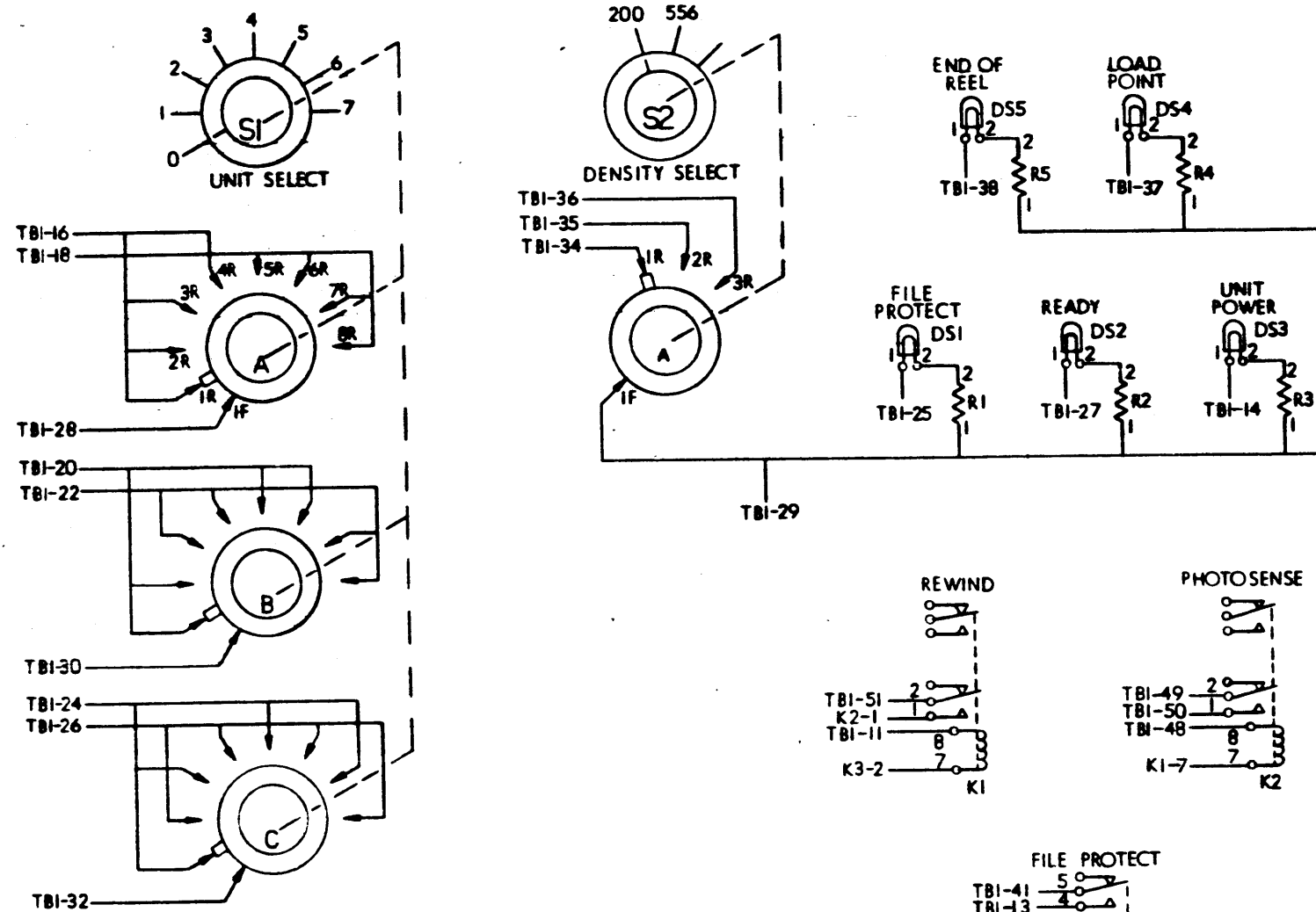
104654 B1

NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN: R. K. BERT	11/15/63	
1. TOLERANCES XX 2.000 ANGULAR XXX 2.010 2.75		CHECK: [Signature]	11/27/63	
2. BREAK ALL SHARP EDGES S10 APPROX.		APPR: [Signature]	1/13/64	
3. HATCH SURFACES ✓				
4. ALL DIM. IN INCHES				
MODEL NO. 9146		<b>SDS</b> SCIENTIFIC DATA SYSTEMS 1845 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA		
NEXT ASSY. 104645		TITLE <b>DIAGRAM, LOGIC MAG. TAPE</b>		
		SIZE: D	DWG. NO. 104654	B
		SCALE	DO NOT SCALE DRAWINGS	SHEET



REVISIONS				
REV.	DESCRIPTION	CHK.	DATE	APPROVED
A	REL TO MFG.	CLB	1/27/64	J HALL
B	SEE REV. E.O.	CLB	2/20/64	J HALL

TBI		TBI
	1	
	2	
	3	
	4	
P42-119	5	TBI-6
P3-R	6	
P42-121	7	TBI-8
P3-M	8	
P42-115	9	TBI-10
P3-X	10	
P42-116	11	
P3-J	12	
P42-100	13	
P3 A	14	TBI-15
P42-92	15	TBI-39
P42-140	16	
P42-98	17	TBI-19
P42-139	18	
P42-96	19	
P42-138	20	
P42-131	21	TBI-23
P42-137	22	
P42-129	23	
P42-136	24	
P42-142	25	
P42-135	26	
P42-141	27	
P42-134	28	
P42-94	29	
P42-133	30	
P3-K	31	
P42-132	32	
	33	
P42-127	34	
P42-125	35	
P42-123	36	
P42-103	37	
P42-101	38	
FSI-5	39	TBI-41
FSI-6	40	
FSI SHIELD	41	TBI-14
P42-104	42	
TBIO-4	43	
P42-105-FSI-1	44	
P42-109-FSI-2	45	
P42-107-FSI-3	46	
P42-111-FSI-4	47	
P42-114	48	
TBIO-2	49	
TBIO-1	50	
TBIO-3	51	



TB2  
PHOTOSENSE  
CONTROL  
ASSY.  
SEE PAGE  
(17)

9146A  
TAPE ELECTRONICS  
PAGE 7  
B

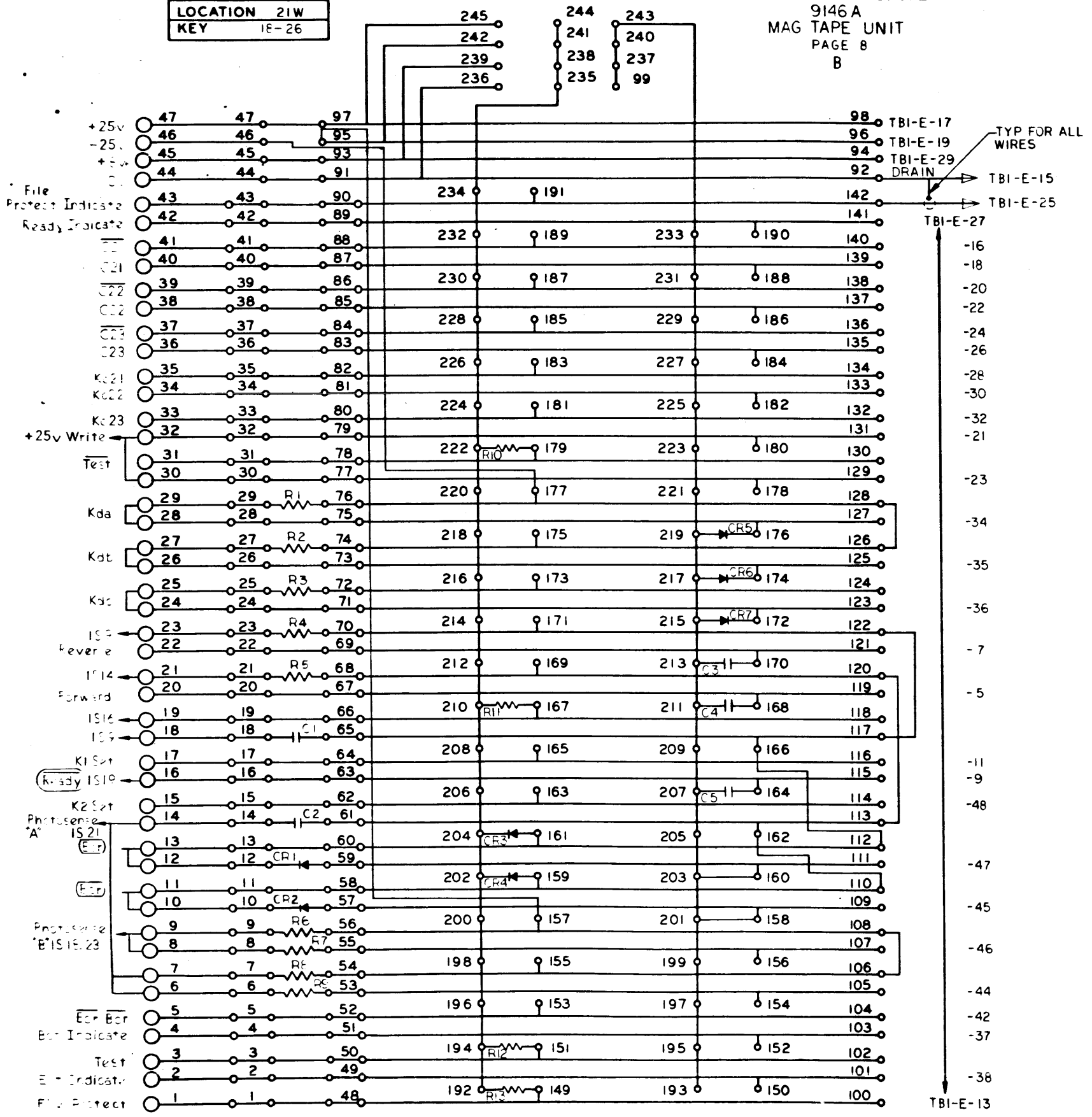
REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED:				
1. TOLERANCES UNLESS OTHERWISE SPECIFIED:		DRAWN: WKF 1/27/64		
2. DIMENSIONS ARE IN INCHES		CHECK: CLB 2/20/64		
3. BREAK ALL SHARP EDGES		APPR: WKF 1/27/64		
4. HATCH SURFACES		TITLE: DIAGRAM, LOGIC MAG. TAPE		
5. ALL DIM. IN INCHES		MODEL NO. 9146		
		NEXT ASSY. 104645		
		SCALE: DO NOT SCALE DRAWING		
		REV. NO. 104654		
		CHANGE LETTER B		

104654 B A

REVISIONS			
REV	DESCRIPTION	CHR	DATE
A	REL. TO MFG.		
B	SEE REV. E.O.		

DESIGNATION P42  
LOCATION 21W  
KEY 1E-26

CABLE PLUG MODULE  
9146 A  
MAG TAPE UNIT  
PAGE 8  
B

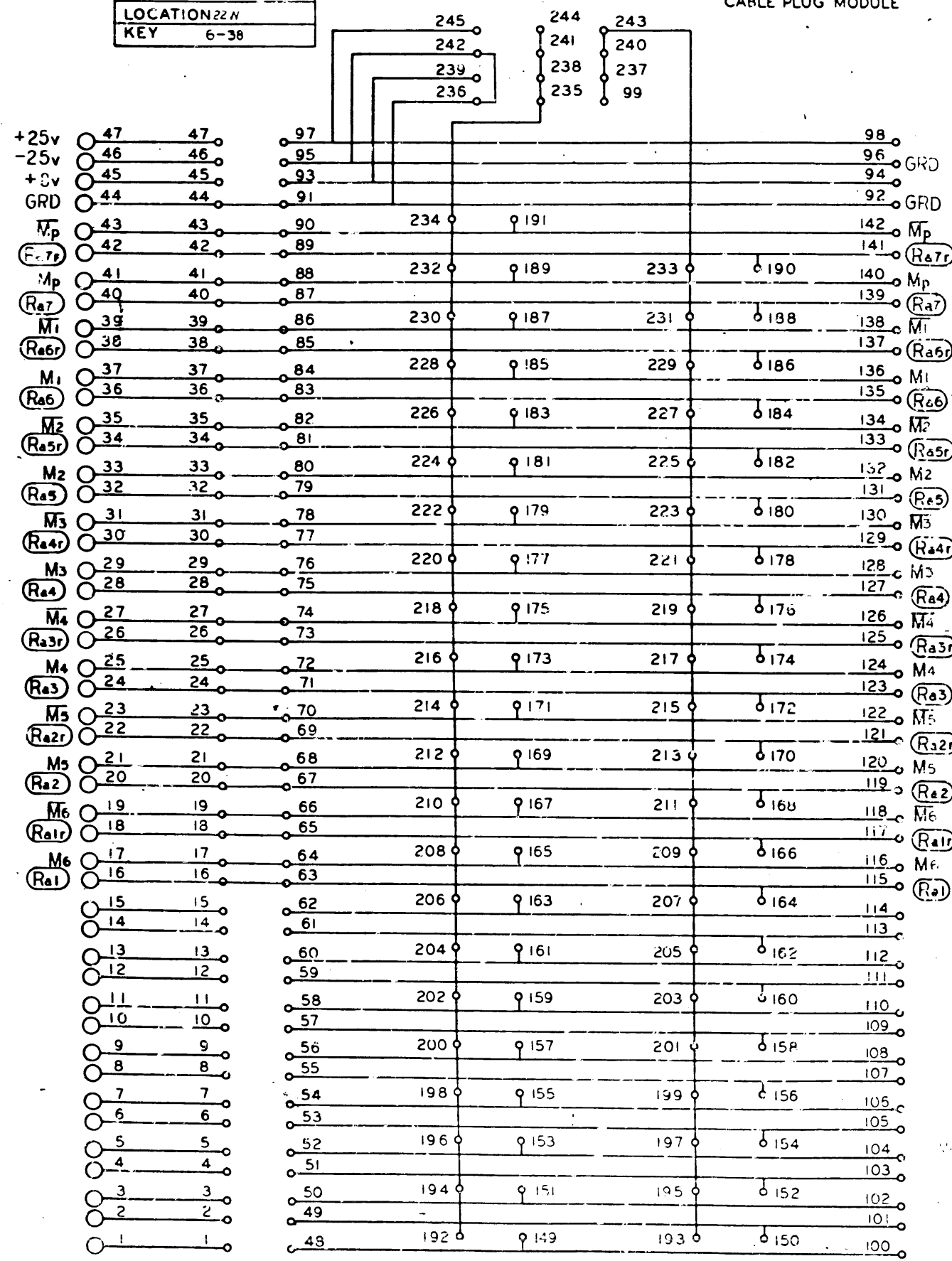


NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED				
1. TOLERANCES XX - DIM ANGULAR SEE - DIM		DRAWN		
2. BREAK ALL SHARP EDGES D10 APPROX		CHECK		
3. MACH SURFACES		APPR		
4. ALL DIM IN INCHES				
MATERIAL LIST				
<b>SDS</b> SCIENTIFIC DATA SYSTEMS 142 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA				
TITLE D. AGRAM. LOGIC MAG TAPE				
MODEL NO 9146		SIZE D		DWG NO 104654
NEXT ASSY 104645		SCALE DO NOT SCALE DRAWING		SHEET 3

DESIGNATION P22  
 LOCATION 22N  
 KEY 6-38

CABLE PLUG MODULE

REVISIONS		104654
REV	DESCRIPTION	CHK
A	REL. TO M.F.S.	
B	SEE REV. E.C.	



9146A  
 9:16P  
 PAGE 9  
 B

NO. REQ	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED				
1. TOLERANCES AS : DIM AS : DIM		ANGULAR 2.5°	SDS SCIENTIFIC DATA SYSTEMS 1942 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA	
2. BREAK ALL SHARP EDGES 0.10 APPROX		3. BACK SURFACES	TITLE DIAGRAM, LOGIC MAG. TAPE	
3. ALL DIM IN INCHES		MODEL NO. 9146		
NEXT ASSY 104645		SIZE D	DWG NO. 104654	
SCALE		DO NOT SCALE DRAWING		SHEET

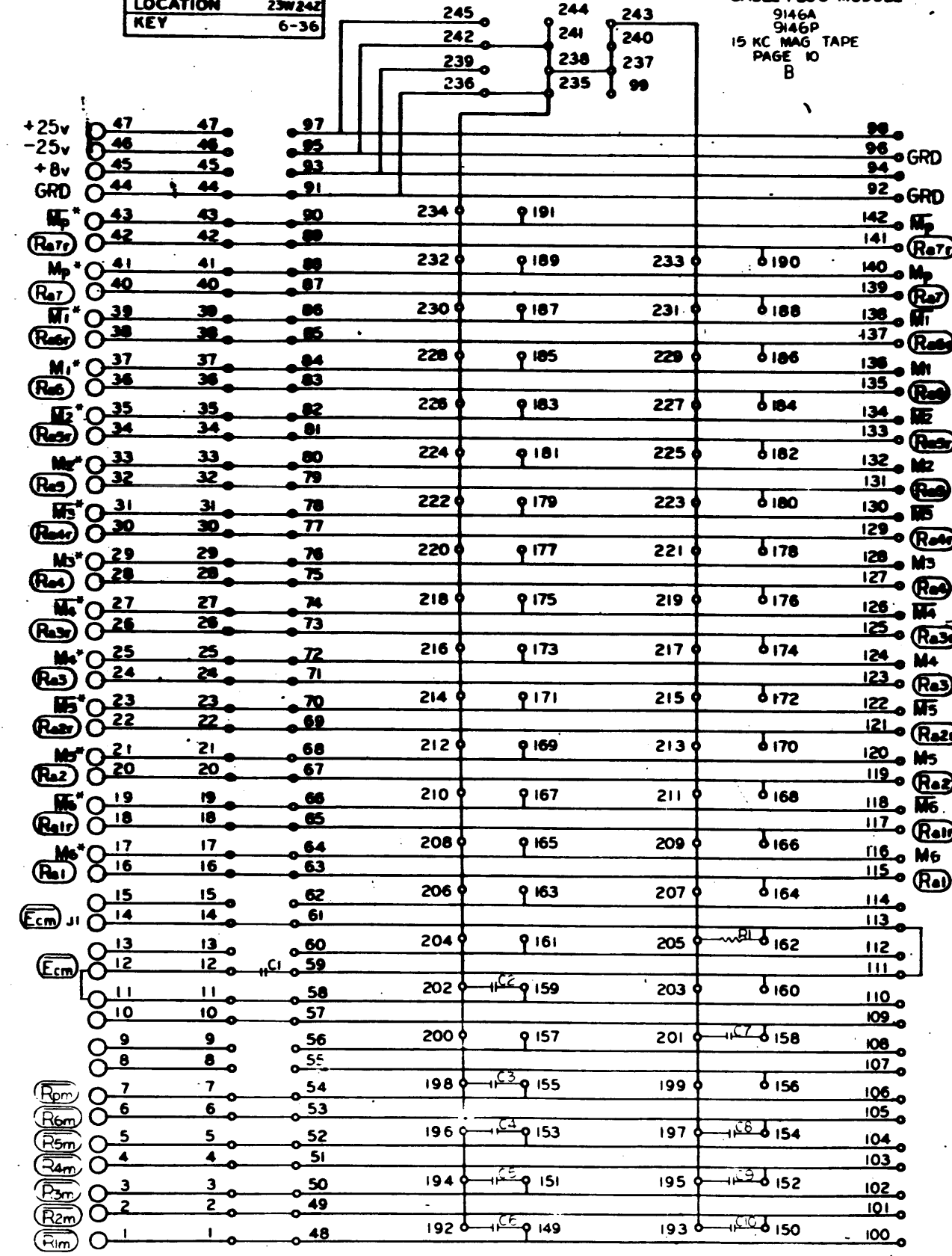
7/2/68

104654 11

DESIGNATION	P23
LOCATION	23W24Z
KEY	6-36

CABLE PLUG MODULE  
 9146A  
 9146P  
 15 KC MAG TAPE  
 PAGE 10  
 B

REVISIONS		104654 B	
REV	DESCRIPTION	DATE	BY
A	RELEASED TO MFG	5-7	W. J. ...
B	SEE REV. E.D.	5-11	W. J. ...



NO	REV	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED					
TOLERANCES		DRAWN	BY	DATE	
UNLESS SPECIFIED		CHKD	BY	DATE	
APPR		DATE	BY	DATE	
MATERIAL LIST					
SDS DIGITIZING DATA SYSTEMS					
1545 FIFTH STREET SANTA MONICA CALIFORNIA					
TITLE					
DIAGRAM, LOGIC MAG. TAPE					
MODEL NO.		REV. NO.		REV. NO.	
9146		D		104654 B	
NEXT ASSY		SCALE		DO NOT SCALE DRAWING	
104645				SHR	

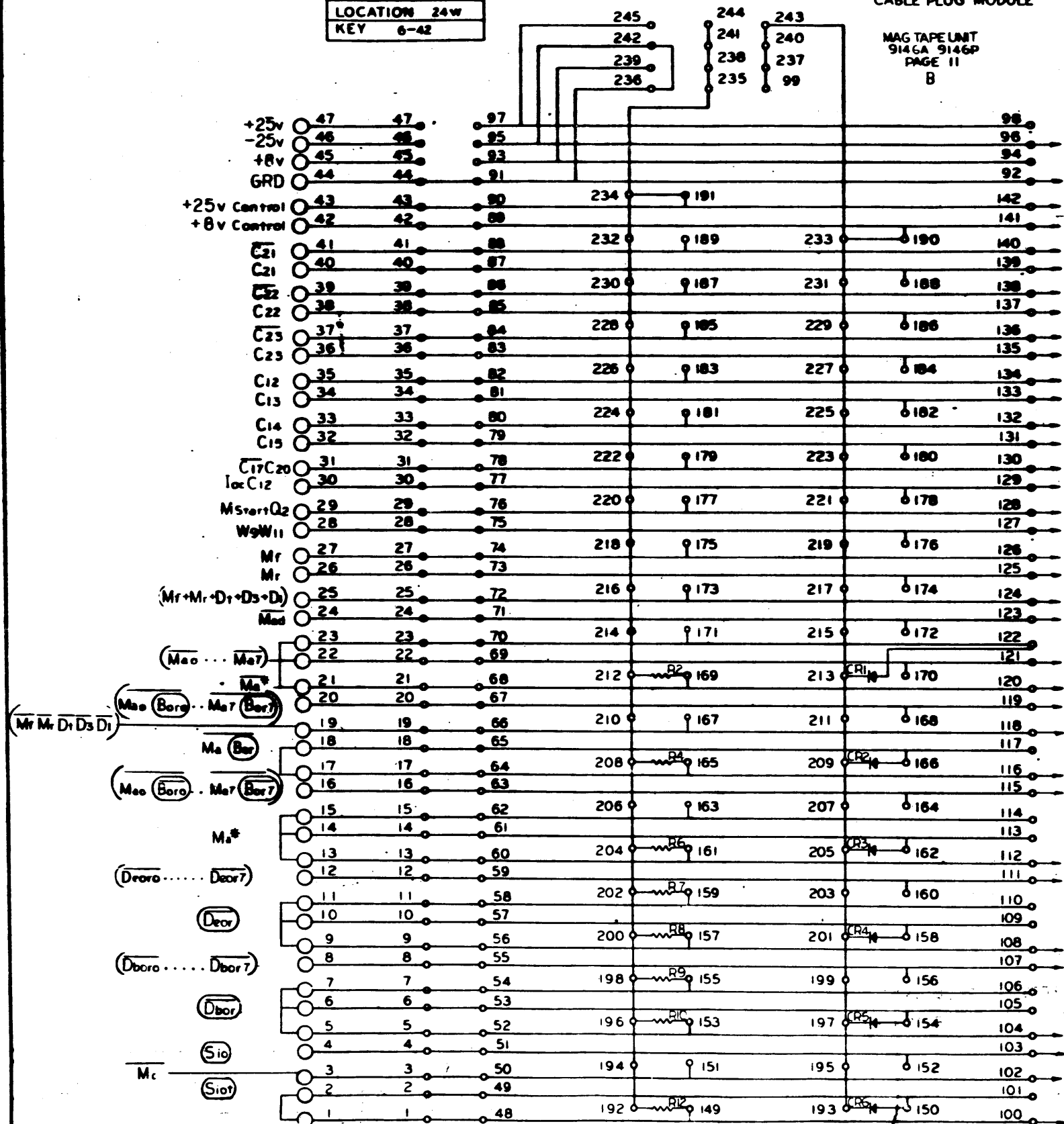
104654 B

DESIGNATION P24  
 LOCATION 24W  
 KEY 6-42

CABLE PLUG MODULE

MAG TAPE UNIT  
 9146A 9146P  
 PAGE 11  
 B

REVISIONS			
REV	DESCRIPTION	CHKD	DATE
A	REL. TO MFG.		
B	SEE REV. E.O.		



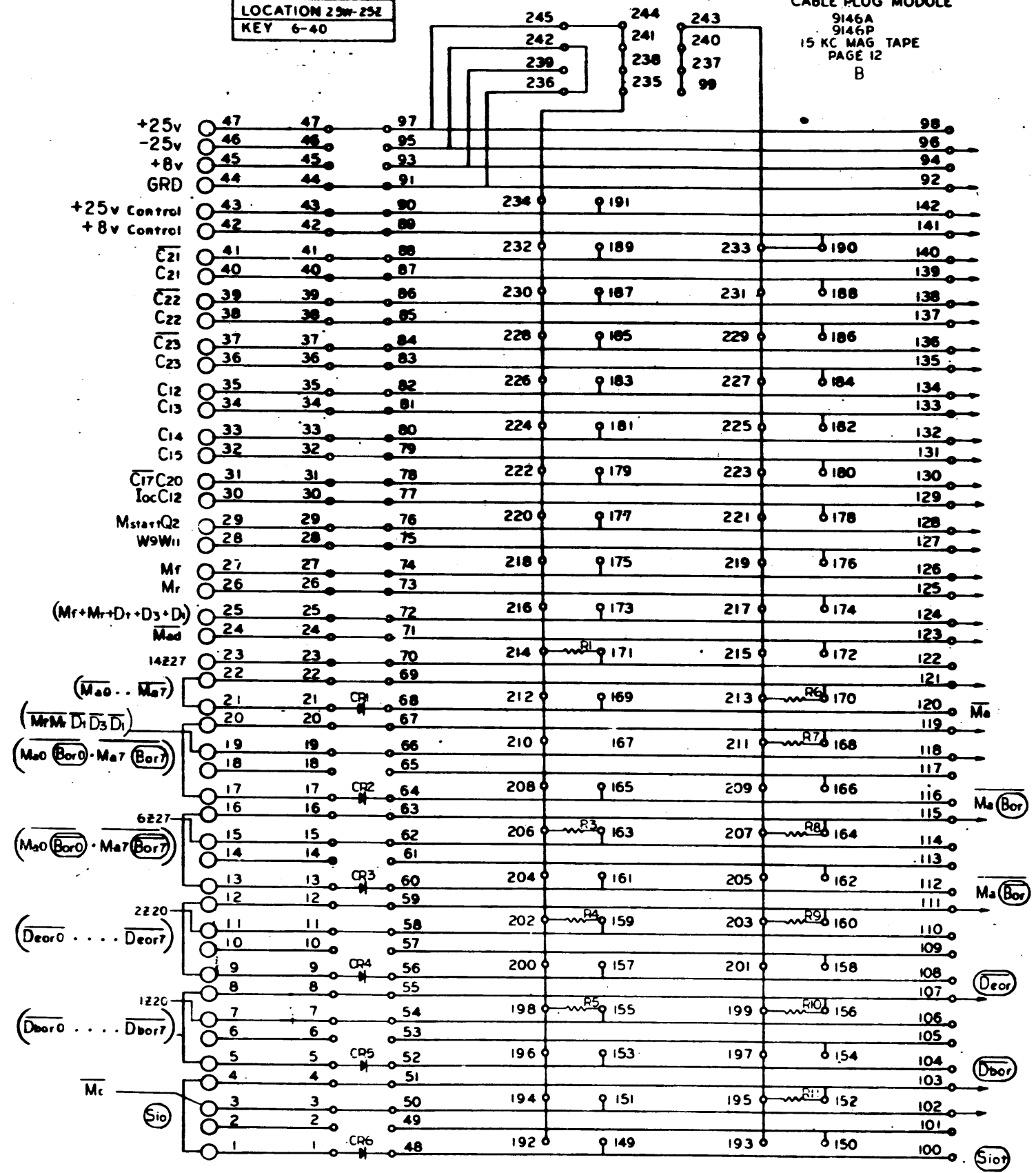
104654 B

NO.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV.
MATERIAL LIST				
NOTES UNLESS SPECIFIED				
1	TOLERANCES	UNLESS SPECIFIED		
2	ALL DIMENSIONS	ARE IN INCHES		
3	ALL DIMENSIONS	ARE TO CENTER UNLESS NOTED		
4	ALL DIMENSIONS	ARE TO CENTER UNLESS NOTED		
5	ALL DIMENSIONS	ARE TO CENTER UNLESS NOTED		
DRAWN		R. K. H. / 11-15-63		
CHECKED		J. P. / 11-15-63		
APPROVED		W. K. / 11/15/63		
TITLE		<b>SDS</b> SCIENTIFIC DATA SYSTEMS 1435 - 17TH STREET SANTA MONICA, CALIFORNIA		
DIAGRAM, LOGIC MAG. TAPE				
MODEL NO.	9146	REV.	D	104654
NEXT REV.	104645	SCALE		

DESIGNATION P25  
LOCATION 25W-25Z  
KEY 6-40

CABLE PLUG MODULE  
9146A  
9146P  
15 KC MAG TAPE  
PAGE 12  
B

REV	DESCRIPTION	CHK	DATE	APPROVED
A	RELEASED TO MFG			
B	SEE REV. E.O.			



NO	REV	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTED UNLESS SPECIFIED					
MATERIAL LIST		DRAWN	R. A. W. P. E. T.	11-15-63	
1. TOLERANCES UNLESS SPECIFIED		CHECK			
2. DIMENSIONS UNLESS SPECIFIED		APPR	W. K. B.	1/16/64	
3. BREAK ALL SHARP EDGES					
4. HATCH SURFACES					
5. ALL DIM IN INCHES					
 1942 FIFTEENTH STREET SANTA MONICA CALIFORNIA					
<b>DIAGRAM, LOGIC</b> <b>MAG. TAPE</b>					
MODEL NO.	9146		REV	D	104654
NEXT ASSY	104645			B	
SCALE			DO NOT SCALE DRAWING		

104654 B

REVISIONS				104654	B
REV.	DESCRIPTION	CHK	DATE	APPROVED	
A	REL. TO MFG.	CWB	11/15/63	[Signature]	
B	SEE REV. E.O.	[Signature]	11/15/64	[Signature]	

9146 DIRECTORY

PAGE	TERM	PAGE	TERM
18	<u>Bor</u>	6	<u>Ra5</u>
18	<u>Ror</u>	6	<u>Ra5r</u>
3	<u>Db</u>	6	<u>Ra6</u>
3	<u>Dri</u>	6	<u>Ra6r</u>
3	<u>Debt</u>	6	<u>Ra7</u>
3	<u>Di</u>	6	<u>Ra7r</u>
18	<u>Eor</u>	2	Read Activate
4	File Protect Indicate	2	Ready
5	Forward Actuate	2	<u>Ready</u>
1	(loc C12)*	4	Ready Indicate
4	K2 set	5	Reverse Actuate
1	Ma	2	(Slot)
1	Ma*	2	Unit Select
1	Ma	5	Write Activate
2	<u>Ma (Bot)</u>	5	Write, channels 1 thru 7
1	Mb	1	Bor
1	Mb	1	Eor
1	(M start Q2)*	5	Ma Mr+Mb
6	<u>Ra1</u>	4	Bor+Eor
6	<u>Ra1r</u>	4	Bot Indicate
6	<u>Ra2</u>	4	Eot Indicate
6	<u>Ra2r</u>	4	K1 Set
6	<u>Ra3</u>	1	<u>Ma*</u>
6	<u>Ra3r</u>	2	<u>Deor</u>
6	<u>Ra4</u>	2	<u>Dbor</u>
6	<u>Ra4r</u>	2	Mc

MAG TAPE UNIT  
9146A 9146P  
PAGE 13  
B

NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	R. KEMBERT	11-15-63
1. TOLERANCES XX 0.000 ANGULAR XX 2 010 2 X		CHECK	CWB	11/27/63
2. BREAK ALL SHARP EDGES 010 APPROX.		APPR.	WKE	11/15/64
3. MACH. SURFACES <input checked="" type="checkbox"/>				
4. ALL DIM. IN INCHES				
MODEL NO. 9146		SDS SCIENTIFIC DATA SYSTEMS 1545 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA		TITLE
NEXT ASSY. 104645		DIAGRAM, LOGIC MAG. TAPE		
SIZE	DWS. NO.			
D	104654	B		
SCALE	DO NOT SCALE DRAWING	SHEET		

104654 | B

REVISIONS			104654	B
REV	DESCRIPTION	DATE	BY	APPROVED
A	REL. TO MFG.	8/20/63	W.B.	
B	SEE REV E.O.	1/26/64	W.B.	

PAGE	CHG	PAGE	CHG	PAGE	CHG	PAGE	CHG	PAGE	CHG
1	B								
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23	B								

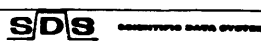
NOTE:  
THIS DWG APPLIES TO BOTH THE 9146A (AMPEX)  
& THE 9146P(POTTER) MAG TAPE UNITS THE FOLLOWING  
CHART INDICATES THE USE OF INDIVIDUAL PAGES.

PAGE NO	9146A ONLY	9146P ONLY	BOTH
1			XXX
2			XXXX
3			XXXX
4			XXXX
5			XXXX
6			XX
7	XX		
8			
9			XX
10			XXXX
11			XXXX
12			XXXX
13			XXXX
14			XXXX
15	XXXXX		
16	XXXXXX		
17	XXXXXX		
18	XXXXXX		
19	XXXXXX		
20		XXXX	
21		XXXX	
22		XXXX	
23		XXXX	

NOTES:  
1. REV. LETTERS LISTED INDICATE STATUS OF  
EACH SHEET OF THIS MULTIPLE SHT. DWG.  
2. CHECK INDIVIDUAL SHEETS FOR REV. LETTER  
AGAINST THIS SHT. BEFORE USING THIS DWG.

MAG TAPE UNIT  
9146A, 9146P  
PAGE 14  
B

104654 | B |

REV	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV
NOTES UNLESS SPECIFIED				
1	TOLERANCES	AS SHOWN	ANGULAR	2:10"
2	FINISH	SEE 2:10"		
3	DRILL ALL DRILL HOLES			
4	DRILL SURFACES	7		
5	ALL DIM. IN INCHES			
DRAWN		R. REPERT	11/17/63	
CHECKED		C.B.	1/5/64	
APPROVED		W.C.	1/26/64	
MATERIAL LIST		 1545 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA		
TITLE		DIAGRAM, LOGIC MAG. TAPE		
MODEL NO.	9146	SIZE	DWG. NO.	B
NEXT ASSY.	104695	SCALE	104654	
		DO NOT SCALE DRAWING		



REVISIONS		
REV	DESCRIPTION	DATE
A	DEL. TO MFG.	
B	SEE REV. E.O.	
C	SEE REV. E.C.	

PAGE	CHG	PAGE	CHG	PAGE	CHG	PAGE	CHG	PAGE	CHG
2	C								
3	C								
4	A								
5	I								
6									
7									
8									
9									
10									
11									
12									
13	E								
14	C								
15	C								
16	A								
17									
18									
19									
20									
21									
22									
23	E								

**NOTE:**

THIS DWG APPLIES TO BOTH THE 9146A (AYPEX) & THE 9146P (POTTER) MAG TAPE UNITS THE FOLLOWING CHART INDICATES THE USE OF INDIVIDUAL PAGES.

PAGE NO	9 46A ONLY	9146P ONLY	BOTH
1			X
2			X
3			X
4			X
5			X
6			X
7	X		
8	X		
9			X
10			X
11			X
12			X
13			X
14			X
15	X		
16	X		
17	X		
18	X		
19	X		
20		X	
21		X	
22		X	
23		X	

- NOTES:  
 1. REV. LETTERS LISTED INDICATE STATUS OF EACH SHEET OF THIS MULTIPLE SHT. DWG.  
 2. CHECK INDIVIDUAL SHEETS FOR REV. LETTER AGAINST THIS SHT. BEFORE USING THIS DWG.

MAC TAPE UNIT  
 9146A, 9146P  
 PAGE 14

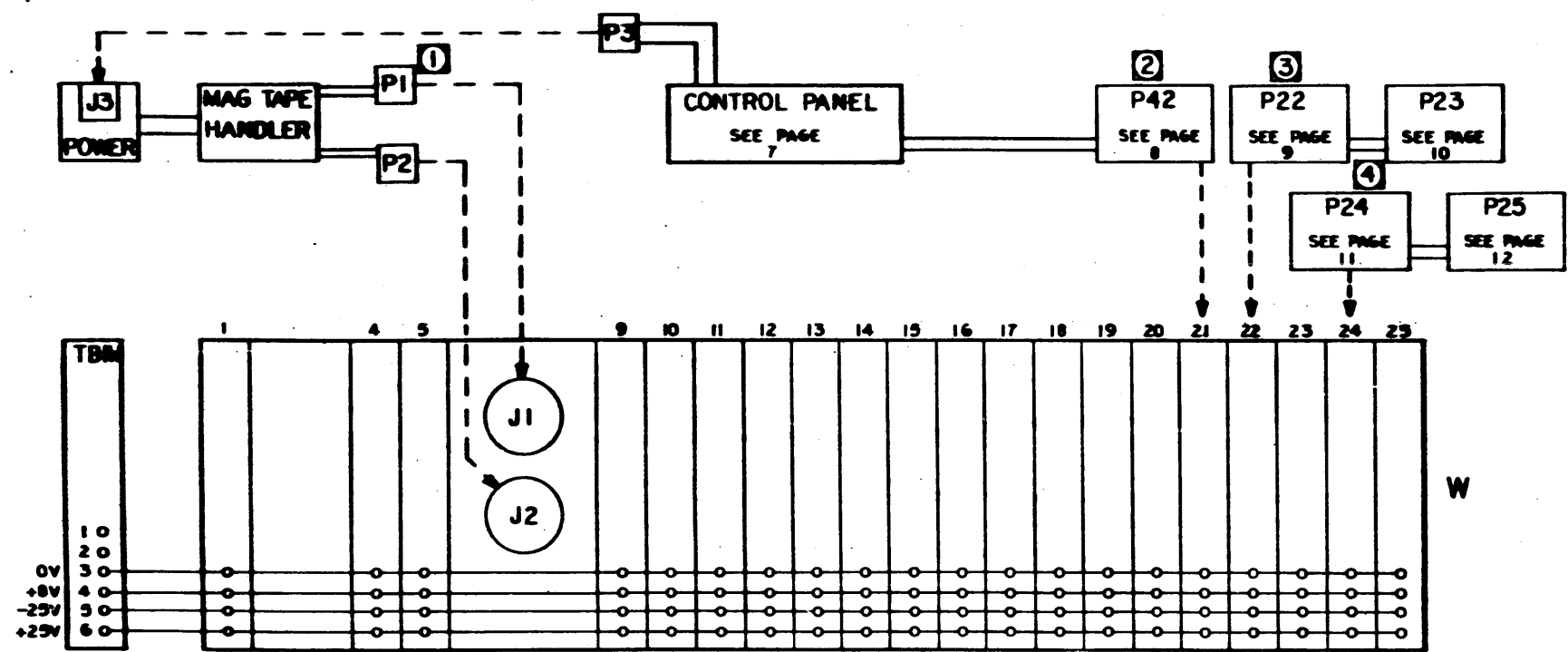
NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN: <i>REINHART</i> / <i>11/22/63</i>	<b>SDS</b> SCIENTIFIC DATA SYSTEMS 1542 FIFTEENTH STREET SANTA MONICA CALIFORNIA	
1. TOLERANCE XX - .000 ANGULAR SEE 2. DIM 2.5"		CHECK: <i>[Signature]</i> / <i>12/1/63</i>	TITLE: <b>DIAGRAM LOGIC MAG. TAPE</b>	
2. BREAK ALL SHARP EDGES DIM APPROX		APPR: <i>[Signature]</i> / <i>1/15/64</i>		
3. HATCH SURFACES <input checked="" type="checkbox"/>				
4. ALL DIM. IN INCHES				
MODEL NO.	9146	SIZE	DWG NO.	C
NEXT ASSY.	104645	SCALE	DO NOT SCALE DRAWING	SHEET 14 OF 23

104654 C

REVISIONS			
REV	DESCRIPTION	CHK	DATE
A	RELEASED TO MPB	CLB	11/16/63
B	SEE REV. E.O.	MPB	1/21/64

④ RECEPTACLE J(24W) IS PROVIDED FOR THE P24 TO P25 CABLE. P25 CONNECTS TO J(25Z) OF THE MODEL 9148 CONTROL UNIT OR TO J(25W) OF A SECOND MODEL 9146.

- NOTES UNLESS OTHERWISE SPECIFIED
- ① RECEPTACLES J1 & J2 ARE PROVIDED FOR CONNECTION TO THE READ & WRITE HEADS OF THE MAG TAPE UNIT
  - ② RECEPTACLE J(21W) IS PROVIDED FOR P42 FROM CONTROL PANEL
  - ③ RECEPTACLE J(22W) IS PROVIDED FOR THE P22 TO P23 CABLE. P23 CONNECTS TO RECEPTACLE J(24Z) OF THE MODEL 9148 CONTROL UNIT OR TO J(23W) OF A SECOND MODEL 9146.



9146A  
MAG TAPE  
PAGE 15  
B

104654 B

REV	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRWN	R. M. PEET 11-16-63	
1. TELEPHONE		CHECK	CLB 11/21/63	
2. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED		APPR	MPB 1/21/64	
3. BREAK ALL SHARP CORNERS AND SPICES				
4. HATCH SURFACES				
5. ALL DIM. TO CENTER				
			TITLE	
			SDS	
			1425 TWENTY STREET SANTA MONICA CALIFORNIA	
			DIAGRAM, LOGIC MAG TAPE	
MODEL NO.	9146	REV	D	DWG NO.
NEXT ASSY	104645			104654
		SCALE	DO NOT SCALE DRAWING	SHEET
				B

REVISIONS		104654	B
REV.	DESCRIPTION	DATE	APPROVED
A	RELEASED TO MFG		
B	SEE REV. E.O.		

MODULE LIST

ITEM	DESCRIPTION	MODEL	QTY
1	WRITE DRIVER	M52	2
2	UNIVERSAL F.F.	FL7	1
3	DIODE GATE 1	G457	2
4	READ PRE AMP	HY68	3
5	INVERTER AMP	IK51	1
6	ONE SHOT MULT.	OX13	1
7	RELAY DRIVER	RX10	1
8	RESISTOR	ZK57	2
9	AND INVERTER	K12	1
10	OPERATIONAL AMP	HX20-0	1

REPLACEMENT PARTS LIST

ITEM	DESCRIPTION	DESIGNATION	QTY	SUPPLIER CODE (SEE INDEX)
1	RESISTOR, 10K ±2%	(P23) R1	1	16,17
2	RESISTOR, 3.9K	(P24) R1 THRU R12 (P25) R1 THRU R5	17	16,17
3	RESISTOR, 8.2K	(P25) R6 THRU R11 (P26) R6, R7, R12, R13	10	16,17
4	RESISTOR, 3.3K	(P42) R1, R2, R3	3	16,17
5	RESISTOR, 1MΩ	(P42) R4, R5, R6, R8	4	16,17
6	RESISTOR, 1K	(P42) R7, R9	2	16,17
7	RESISTOR, 1.8K	(TB2) R1	1	16,17
8	RESISTOR, 15K	(TB2) R2	1	16,17
9	RESISTOR, 180Ω	(TB2) R3	1	16,17
10	RESISTOR, 390Ω	(TB2) R4, R5, R6	3	16,17
11	RESISTOR, 470Ω ±2%	(TB2) R7, R8, R9	3	16,17
12	CAP, MYLAR, .0001MFD ±10%	(P23) C2 THRU C10	9	26,27,77
13	CAP, MYLAR, .0033MFD ±10%	(P42) C1, C2	2	26,27,77
14	CAP, MYLAR, .0068MFD ±10%	(P42) C3, C4	2	26,27,77
15	CAPACITOR, TANTALUM 4.7MFD ±20% 50V	(P42) C5	1	23,77
16	CAP, MYLAR, 470MFD ±5%	(P23) C1	1	19,20,21
17	DIODE, SILICON, SWITCHING IN919A	(P42) CR1 THRU CR7	7	4,12,13,14
18	DIODE, SILICON, SWITCHING IN907A IN914A IN3069 IN3065	(P24) CR1 THRU CR6 (P25) CR1 THRU CR6	12	4,13 4,12,13,14 4,6 4
19	DIODE, VOLTAGE REGULATOR IN964A	(TB2) VR2, VR3, VR4	3	2,6,14,65
20	DIODE, VOLTAGE REGULATOR IN752	(TB2) VR1	1	2,12,13,14
21	CONNECTOR, SOLDER TAIL 47 CONTACT #700B-47	J(1Y) J(4Y) J(5Y) J(9Y) THRU J(25Y)	20	82
22	TRANSISTOR, SILICON SWITCHING 2N1132	(TB2) Q1	1	3,10,11
23	CAPACITOR, TANTALUM 4.7MFD ±20% 50V	(TB2) C1	1	23,77
24	RESISTOR, WW 10Ω ±5%	R1 THRU R5	5	99,100

PARTS LIST (CONT.)

25	PLUG, 19 PIN #SK1932S	J2	1	134
26	RECEPTACLE, 19 PIN #RSK19-31SL	J1	1	134
27	SWITCH, ROTARY #02163	S1, S2	2	SDS
28	LAMP, INCANDESCENT #47	DS1 THRU DS5	5	84
29	RELAY, DPDT #DOSX-7T #BD-6A-115WAC	K1 THRU K4	4	78 79

9146A  
MAG TAPE  
PAGE 16  
B

DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION
9146	DIAGRAM, LOGIC MAG TAPE	
104645		

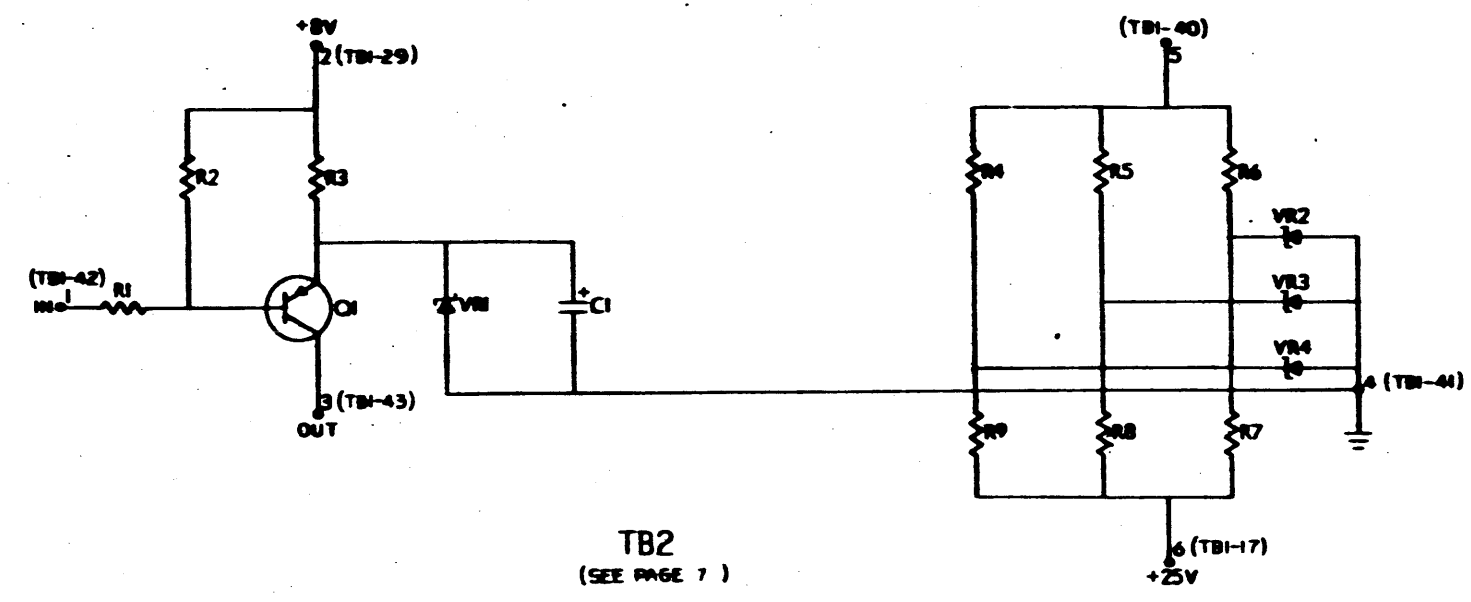
NOTES UNLESS SPECIFIED	DATE	BY	INITIALS
1. TELEPHONED ON 5-20-65 AND 5-21-65	11-14-65	R. KEMP	nbk
2. CHECKED ALL DRAWINGS AND APPROVED		W. B.	nbk
3. CHECKED DRAWING			
4. ALL DIM. IN INCHES			

MODEL NO.	DRAWING NO.	SCALE	DO NOT SCALE DRAWING
9146	104654	D	B
104645			

104654 B

REV		DESCRIP	DATE	APPROVED
A		HEL TO MTG	1/12/63	[Signature]
B		SEE REV. E.O.	1/12/63	[Signature]



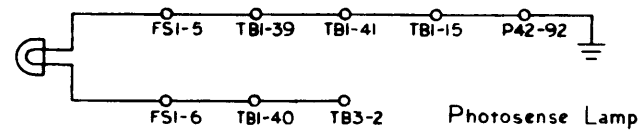
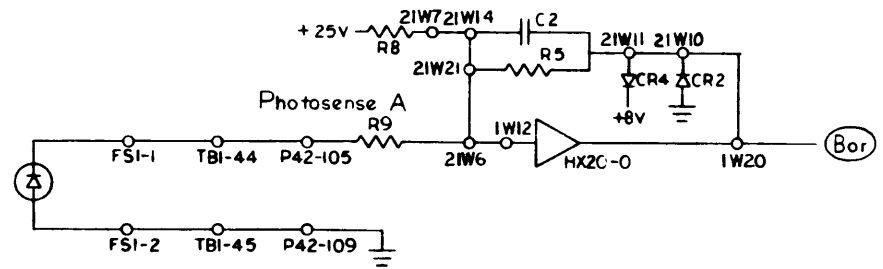
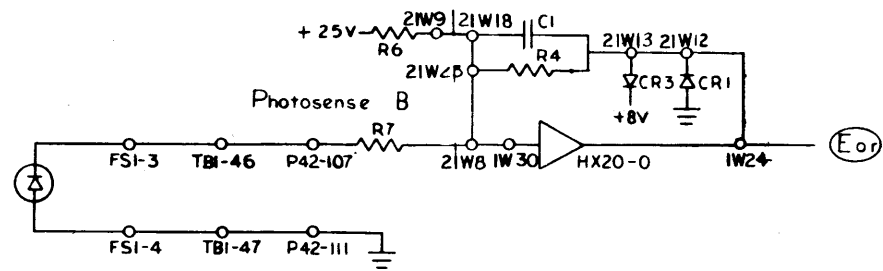
TB2  
(SEE PAGE 7)

9146A  
MAG TAPE UNIT  
PAGE 17  
B

104654 | B

NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED		MATERIAL LIST		
1. TOLERANCES	DRAWN	R. KERRAS	1-12-63	<b>SDS</b> SCIENTIFIC DATA SYSTEMS 1825 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA
2. DIMENSIONS	CHECK	[Signature]	1/12/63	
3. DRILL ALL SHARP CORNERS	APPR	[Signature]	1/12/63	
4. DRILL ALL SHARP EDGES				TITLE
5. DRILL SURFACES				DIAGRAM, LOGIC MAG TAPE
6. ALL DIM. IN INCHES				
MODEL NO.	9146		REV. NO.	D
HEAT AMP.	104645		DWG. NO.	104654
				B
		SCALE	DO NOT SCALE DRAWING	SHEET

REVISIONS				104654	B
REV	DESCRIPTION	CHK	DATE	APPROVED	
A	REL. TO MFG.				
F					

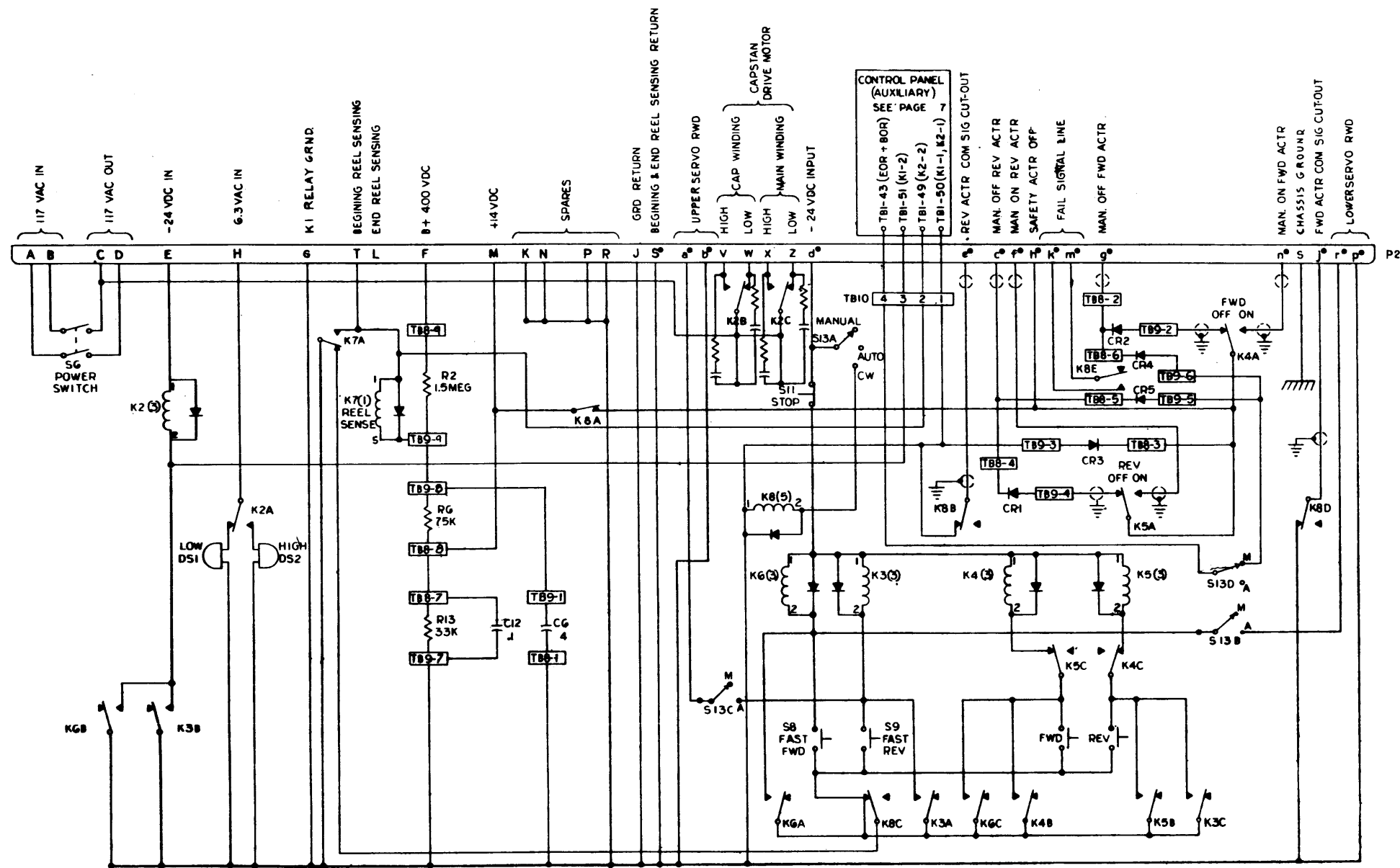


9146A  
TAPE ELECTRONICS  
PAGE 18  
B

NO. REQ	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED				
1. TOLERANCES XX 2.000 XX 2.010		2. ANGULAR 2.5°	3. BREAK ALL SHARP EDGES 0.10 APPROX.	
4. HATCH SURFACES		✓	5. ALL DIM. IN INCHES	
DRAWN R. KEPERT		11-18-63	SDS SCIENTIFIC DATA SYSTEMS 1545 FIFTEENTH STREET SANTA MONICA, CALIFORNIA	
CHECK [Signature]		11/20/63	TITLE DIAGRAM, LOGIC, MAG TAPE	
APPR. [Signature]		11/1/63	MODEL NO. 9146	
NEXT ASSY. 104645		DWG. NO. D 104654		B
SCALE		DO NOT SCALE DRAWING		SHEET

104654 B

REVISIONS		CHK	DA	APPROVED
REV	DESCRIPTION			
A	REL TO MFG			
B	SEE REV. E.O.			



- 7. SIGNIFIES CHASSIS GRND. SIGNIFIES COMMON GROUND.
  - 6. USED WITH ASSY NO. 310543710
  - 5. S13-D-E NOT USED.
  - 4. ALL DIODES ARE IN2069.
  - 3. ALL RELAYS SHOWN IN DEENERGIZED POSITION
  - 2. ALL RESISTORS IN OHMS
  - 1. ALL CAPACITORS IN MICROFARADS
- NOTES UNLESS OTHERWISE SPECIFIED

MANUAL CONTROL PANEL

9146A  
MAG TAPE UNIT  
PAGE 19  
B

104654 B

NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED				
1. TOLERANCES UNLESS OTHERWISE SPECIFIED				
2. BREAK ALL SHARP EDGES 0.10 APPROX.				
3. HATCH SURFACES				
4. ALL DIM. IN INCHES				
DRAWN: <i>K. J. [unclear]</i>		DATE: 11-19-63		
CHECK: <i>CB</i>		DATE: 1/27/64		
APPR: <i>WXT</i>		DATE: 1/4/64		
1342 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA				
TITLE: DIAGRAM, LOGIC MAG TAPE				
MODEL NO. 9146		SIZE D	DWG. NO. 104654	B
NEXT ASSY. 104645		SCALE: DO NOT SCALE DRAWING SHEET		

REVISIONS		104654	B
NO.	DESCRIPTION	DATE	BY
A	RELEASED TO APPS		
B	SEE REV. E.O.		

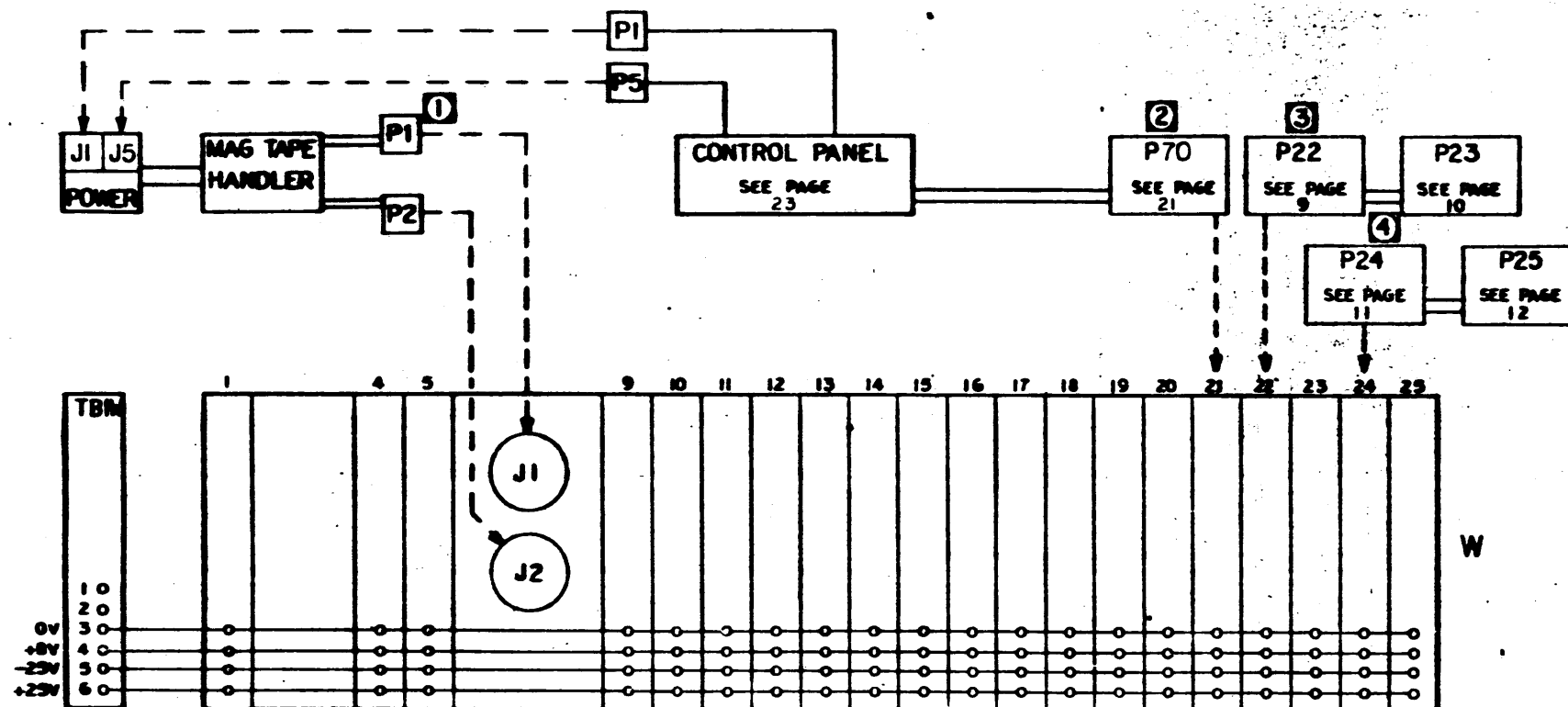
NOTES UNLESS OTHERWISE SPECIFIED

④ RECEPTACLE J(24W) IS PROVIDED FOR THE P24 TO P25 CABLE. P25 CONNECTS TO J(25Z) OF THE MODEL 9148 CONTROL UNIT OR TO J(25W) OF A SECOND MODEL 9146.

① RECEPTACLES J1 & J2 ARE PROVIDED FOR CONNECTION TO THE READ & WRITE HEADS OF THE MAG TAPE UNIT.

② RECEPTACLE J(21W) IS PROVIDED FOR P70 FROM CONTROL PANEL.

③ RECEPTACLE J(22W) IS PROVIDED FOR THE P22 TO P23 CABLE. P23 CONNECTS TO RECEPTACLE J(24Z) OF THE MODEL 9148 CONTROL UNIT OR TO J(23W) OF A SECOND MODEL 9146.



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MAG TAPE  
PAGE 20  
B

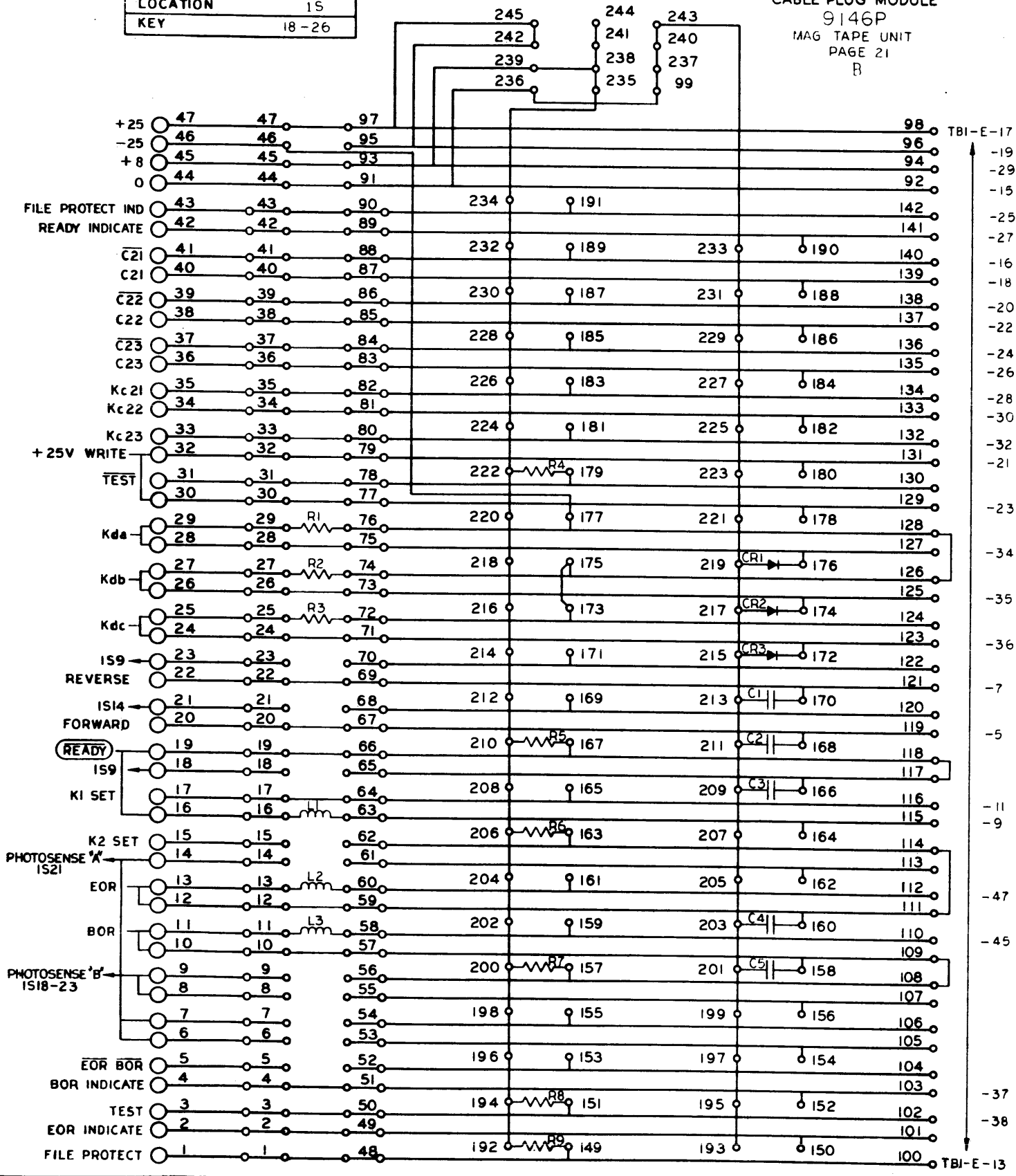
104654 B

NO. AND	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ISS. NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED				
1. TELETYPE	2. DIM.	3. ANGLE	4. FIN.	5. H.
6. BREAK ALL SHARP EDGES AND APPROX.	7. CHECK	8. APPR.	TITLE	
9. BACK SURFACES	10. SCALE	11. DATE	<b>SDS</b> SCIENTIFIC DATA SYSTEMS 142 FIFTEENTH STREET SANTA MONICA CALIFORNIA <b>DIAGRAM, LOGIC MAG TAPE</b>	
12. HALL MARK IN DIMENSIONS				
DOC. NO.	9146P	REV. NO.	D	104654
BY	104645	DATE	B	
SCALE			DO NOT SCALE DRAWING	

REVISIONS			
REV	DESCRIPTION	CHK	DATE
1	SEE REV. E.O.		

DESIGNATION	P70
LOCATION	15
KEY	18-26

CABLE PLUG MODULE  
9146P  
MAG TAPE UNIT  
PAGE 21  
B



NO	REQ	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO
MATERIAL LIST					
NOTES UNLESS SPECIFIED		DRAWN	WINNIE A/2/68	 1542 FIFTEENTH STREET SANTA MONICA CALIFORNIA	
1. TOLERANCES XX .000 ANGULAR SEE 2 D10 .25"		CHECK			
2. BREAK ALL SHARP EDGES 0.10 APPROX		APPR		TITLE DIAGRAM, LOGIC MAG TAPE UNIT	
3. MACH. SURFACES 4. ALL DIM. IN INCHES					
MODEL NO.		9146		SIZE	DWG NO.
NEXT ASSY.				D	104654
				SCALE	DO NOT SCALE DRAWING SHEET

104654 B



REVISIONS				104654	B
REV.	DESCRIPTION	CHKD	DATE	APPROVED	
B	SEE REV. E.O.	CLB	1/16/64	[Signature]	


MODULE LIST

ITEM	DESCRIPTION	MODEL	QTY
1	WRITE DRIVER	AKS2	2
2	UNIVERSAL F.F.	FC17	1
3	DIODE GATE 1	6KS1	2
4	READ PRE AMP	HK63	3
5	AND INVERTER	K12	1
6	INVERTER AMP	IKS1	1
7	ONE SHOT MULT.	OX13	1
8	RELAY DRIVER	BX10	1
9	RESISTOR	ZKS1	2

REPLACEMENT PARTS LIST

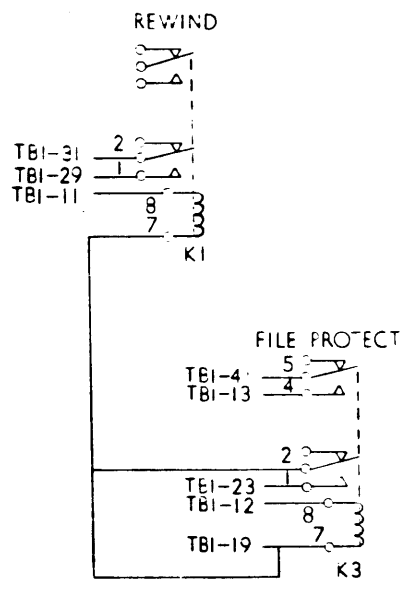
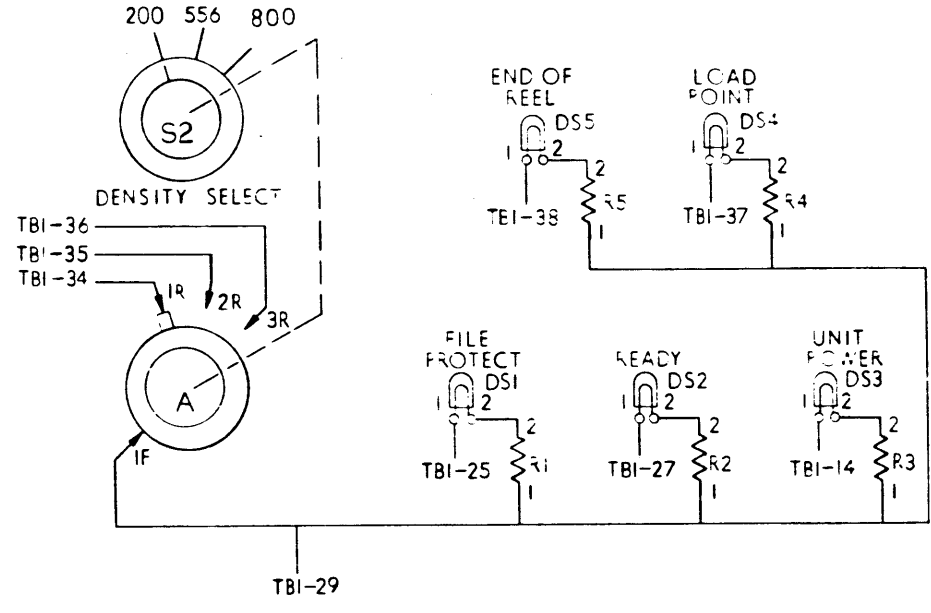
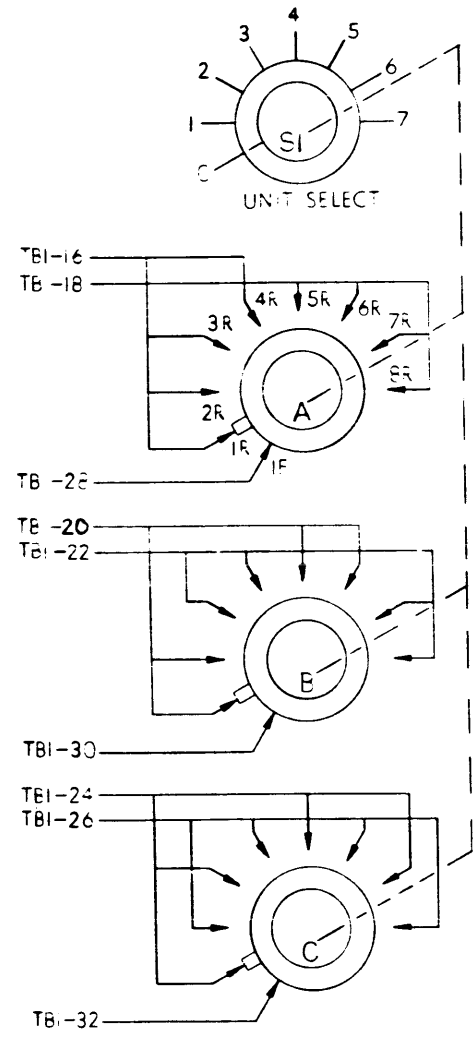
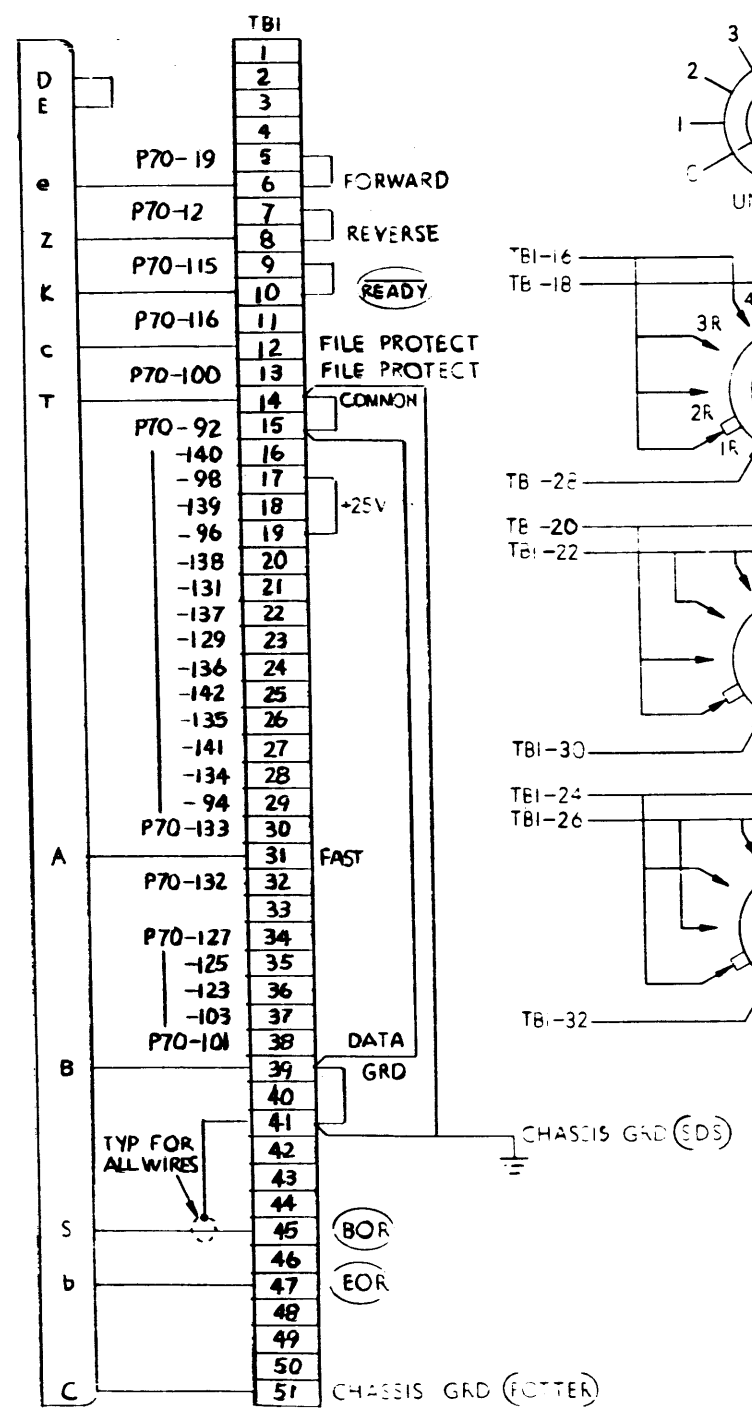
ITEM	DESCRIPTION	DESIGNATION	QTY	SUPPLIER CODES (SEE INDEX)
1	RESISTOR, 3.3 K ± 2%	(P70) R1, R2, R3	3	16, 17
2	560 Ω	(P70) R5	1	
3	1.8 K	(P70) R6, R7	2	
4	RESISTOR, 8.2 K ± 2%	(P70) R4, R8, R9	3	16, 17
5	CAPACITOR, MYLAR, .0068 μF ± 10%	(P70) C1, C2	2	26, 27, 74
6	CAPACITOR, MYLAR, .0010 μF ± 10%	(P70) C3	1	26, 27, 74
7	CAPACITOR, MYLAR, .0033 μF ± 10%	(P70) C4, C5	2	26, 27, 74
8	DIODE, SILICON SWITCHING, 1N914R	(P70) CR1, CR2, CR3	3	4, 12, 13, 14
9	INDUCTOR, MOLDED, 330 μH ± 5%	(P70) L1	1	42, 90, 91
10	INDUCTOR, MOLDED, 10000 μH ± 5%	(P70) L2, L3	2	42, 90, 91
11	RECEPTACLE, 19 PIN # BSK 19-315L	J1	1	134
12	PLUG, 19 PIN # SK19-32S	J2	1	134
13	SWITCH, ROTARY, # 102K3	S101, S102	2	505
14	RESISTOR, W W, 10 Ω ± 5%	R1 THRU R5	5	99, 100
15	RELAY, DPDT # DSK-77 # 80-6A/HSWC	K, K3	2	78 79
16	SWITCH, TOGGLE DPDT, # 83064-38	S1 (S)	1	106
17	CONNECTOR, SOLDER TAIL 47 CONTACT # 7008-47	J(W), J(4W), J(5W), J(9W) THRU J(25W)	20	82
18	LAMP, MINIATURE # 328	DS101 THRU DS105	20	83, 84
19	CAPACITOR, TANTALUM, 4.7 μF ± 20% 50V	C1 (W)	1	23, 77

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MAG TAPE UNIT  
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DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	SHEET
			22
MATERIAL LIST			
NOTES UNLESS SPECIFIED	DRAWN WINTWOK 1/16/64	 SCIENTIFIC DATA SYSTEMS SANTA MONICA, CALIFORNIA	
1. TOLERANCES UNLESS SPECIFIED	CHECK	TITLE	
2. DIMENSIONS IN PARENTHESIS ARE	APPROV.	DIAGRAM, LOGIC, MAG TAPE UNIT	
3. DIMENSIONS IN SQUARE BRACKETS ARE			
4. DIMENSIONS IN CIRCLES ARE			
5. DIMENSIONS IN TRIANGLES ARE			
MODEL NO.		REV. NO.	LETTER
		D 104654	B
NEXT ASSY.		SCALE	DO NOT SCALE DRAWINGS SHEET

104654 B

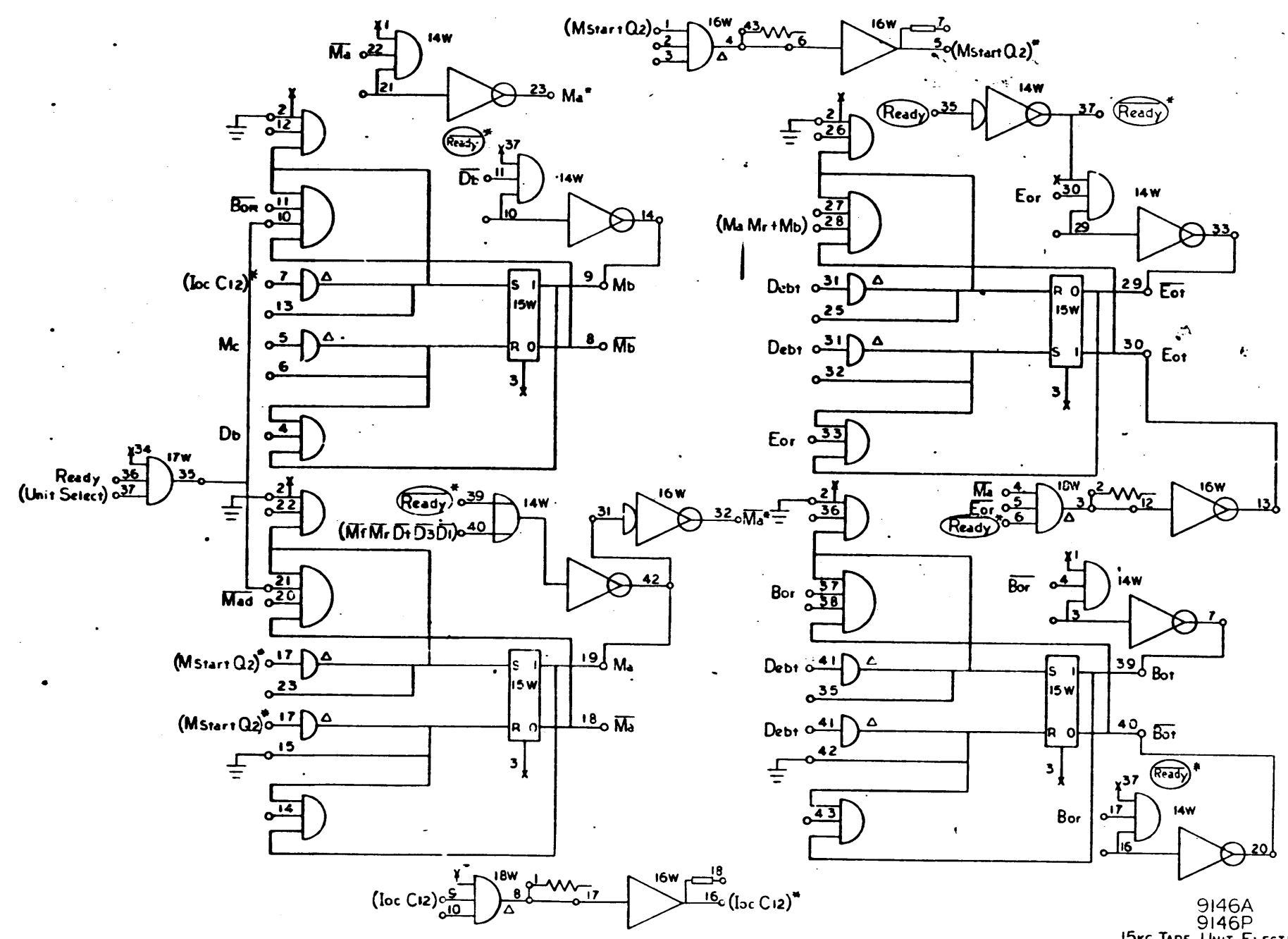
REVISIONS				
REV.	DESCRIPTION	CHK.	DATE	APPROVED
B	SEE REV. E.O.			



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TAPE ELECTRONICS  
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B


NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED: 1. TOLERANCES: ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED. 2. BREAK ALL SHARP EDGES .010 APPROX. 3. BACK SURFACES. 4. ALL DIM. IN INCHES.				
MODEL NO. 91-3 NEXT REV. 104645		TITLE: DIAGRAM, LOGIC MAG. TAPE UNIT SIZE: D DWG. NO.: 104634		
SCALE		DO NOT SCALE DRAWING SHEET		

REVISIONS				104554
REV.	DESCRIPTION	CHK.	DATE	APPROVED
A	RELEASED TO MFG			
B	SEE REV. E.O.			
C	SEE REV. E.O.			

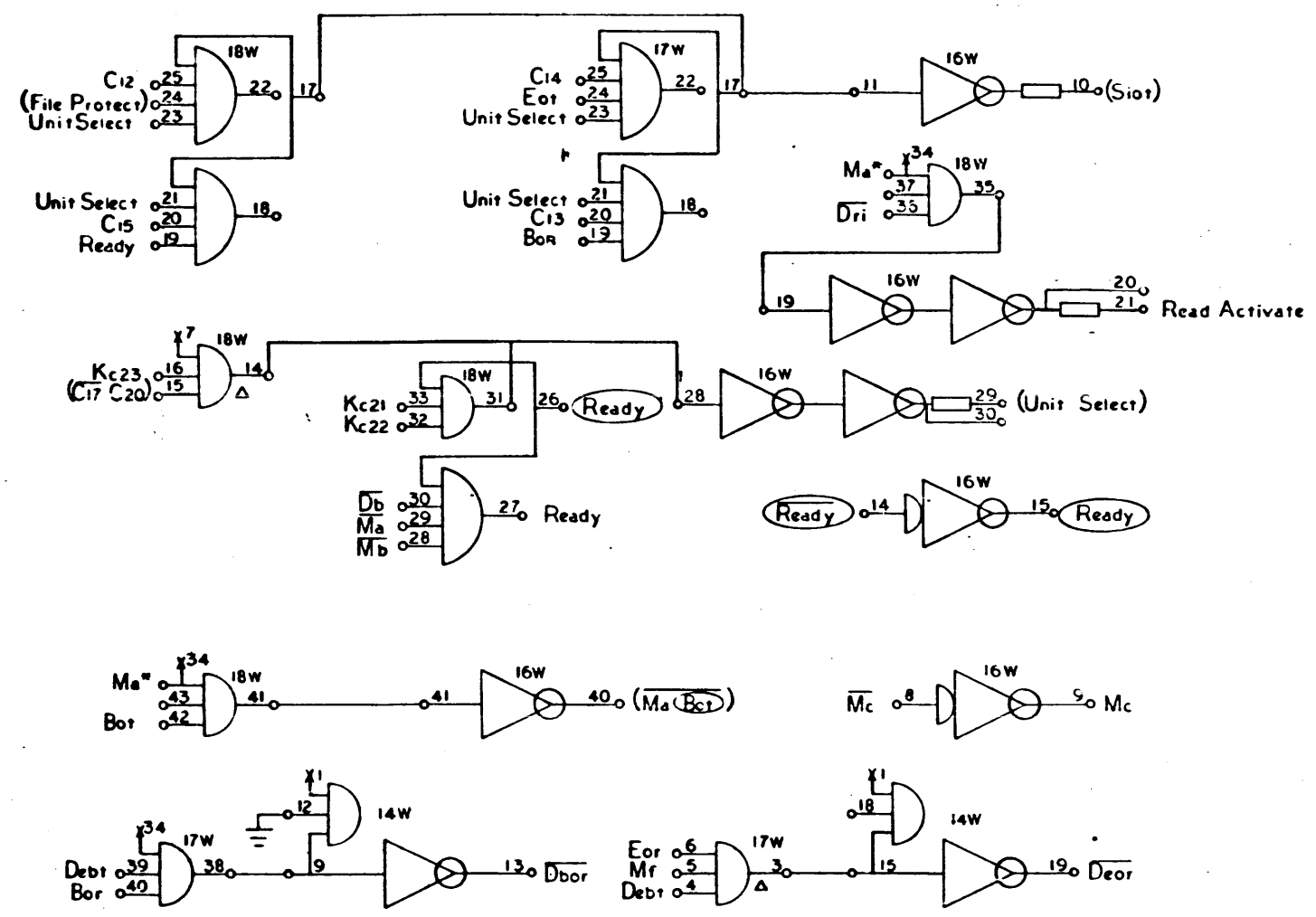


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15KC TAPE UNIT ELECTRONICS  
PAGE 1  
C

104554  
C

NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	 SCIENTIFIC DATA SYSTEMS SANTA MONICA, CALIFORNIA	
1. TOLERANCES UNLESS SPECIFIED ARE ± 0.10 ANGULAR ARE ± 0.10 2. BREAK ALL SHARP EDGES 3. BACK SURFACES 4. ALL DIM. IN INCHES		CHECK		
		APPR	DIAGRAM, LOGIC MAG. TAPE	
MODEL NO.	9146	SIZE	DWG. NO.	CHANGED LETTER
NEXT ASSY.	104645	SCALE	104654	C
			DO NOT SCALE DRAWING	SHEET 1 OF 23

REVISIONS				
REV.	DESCRIPTION	CHK	DATE	APPROVED
A	RELEASED TO MFG			
B	SEE REV. E.O.			
C	SEE REV. E.O.			



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15KC TAPE UNIT ELECTRONICS  
PAGE 2  
C

NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	CHECKED	DATE
1. TOLERANCES UNLESS SPECIFIED		APP'D		
2. DIMENSIONS UNLESS SPECIFIED				
3. BREAK ALL SHARP EDGES				
4. DIMENSIONS UNLESS SPECIFIED				
5. ALL DIM. IN INCHES				
MODEL NO.		Dwg. No.		CHANGES
9146		D 104654		C
NEXT ASSY.		SCALE		SHEET
104645		DO NOT SCALE DRAWING		2 of 23