

\$2.25

Technical Manual

MAGNETIC TAPE SYSTEM 15Kc
Model 9146/9148

SDS 900014B-1

Volume 2 of 2

April 1964
(Revised February 1966)



SCIENTIFIC DATA SYSTEMS • 1649 Seventeenth Street • Santa Monica, Calif. • (213) 871-0960

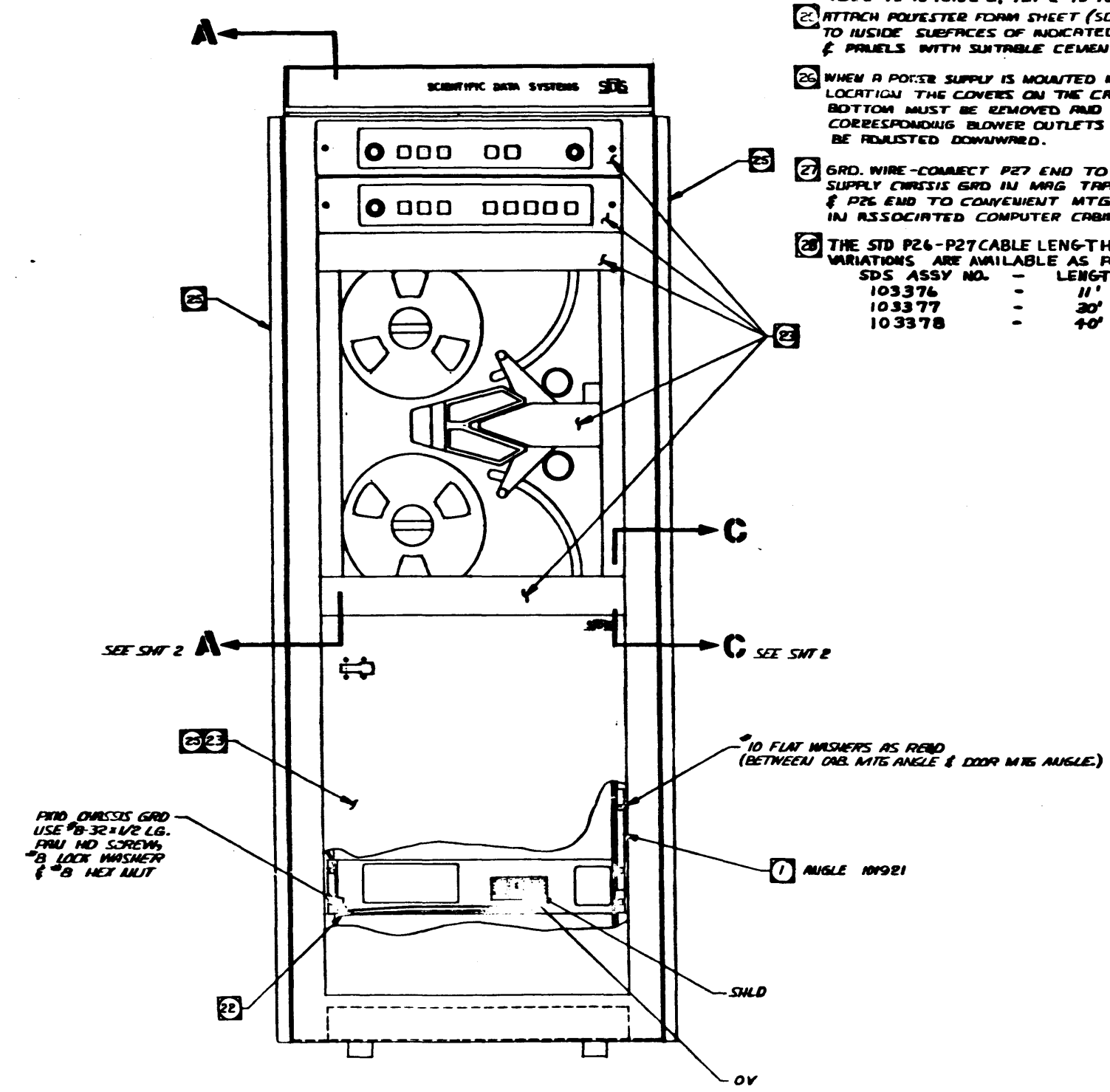
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I. INTRODUCTION

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



- 24 PART OF 102021 INT. CONTROL PANEL CONNECT AS FOLLOWS: TB1-E-50 TO TB10-E-1, TB1-E-51 TO TB10-E-3, TB1-E-43 TO TB10-E-2, TB1-E-43 TO TB10-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	30'
103378	40'

- NOTES UNLESS OTHERWISE SPECIFIED
- 1 PART OF 9145 MAG. TAPE UNIT 104645
 - 2 ALL HARDWARE USED IN MOUNTING 9146 MAG TAPE UNIT & 9148 MAG TAPE CONTROL UNIT IS FURNISHED WITH RESPECTIVE UNIT.
 - 3 MOUNT WITH #10-32 x 3/8 LG. PAN HD SCREWS, #10 FLAT WASHERS & #10 LOCK WASHERS.
 - 4 MOUNT WITH #10-32 x 1/4 LG. PAN HD SCREWS, #10 FLAT WASHERS & #10 LOCK WASHERS.
 - 5 MOUNT WITH #1/4-20 x 3/4 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 104682
 - 8 REF MODULE LOCATION CHART 101791.
 - 9 INSTALL IN LOCATION 116 OF 910 OR 920 COMPUTER.
 - 10 REF INSTALLATION DWG 101941
 - 11 MOUNT WITH #10-32 x 1/2 LG. HEX HD SCREWS, & #10 LOCK WASHERS.
 - 12 MOUNT WITH #10-32 x 1 1/2 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 TB1 ON 9148 TO TB1 ON 9146 ELECTRONICS CHASSIS AS INDICATED ON TR65.
 - 15 COLLECT POWER WIRES FROM TB1 ON 9146 ELECTRONICS CHASSIS TO BARRIER STRAP ON ASSOCIATED POWER SUPPLY AS FOLLOWS:
 TB1-E-3 TO 0V
 TB1-E-4 TO +8V
 TB1-E-5 TO -25V
 TB1-E-6 TO +25V
 AFTER CONNECTING LACE WIRES TOGETHER WITH SUITABLE LACING CORD.
 - 16 REF INSTALLATION DWG 101007 (910) & 101006 (919)
 - 17 ATTACH WITH #6-32 x 1/2 LG. PAN HD SCREWS.
 - 18 SPACER TO BE MOUNTED FOR USE ON 910 OR 919 CHASSIS.
 - 19 MOUNT WITH #6-32 x 3/8 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).

REVISIONS			
REV.	DESCRIPTION	DATE	BY
A	ISSUED TO 104645	10/15/63	ED3
B	SEE REVISION E.O.		
C	SEE REVISION E.O.		
D	SEE REVISION E.O.		

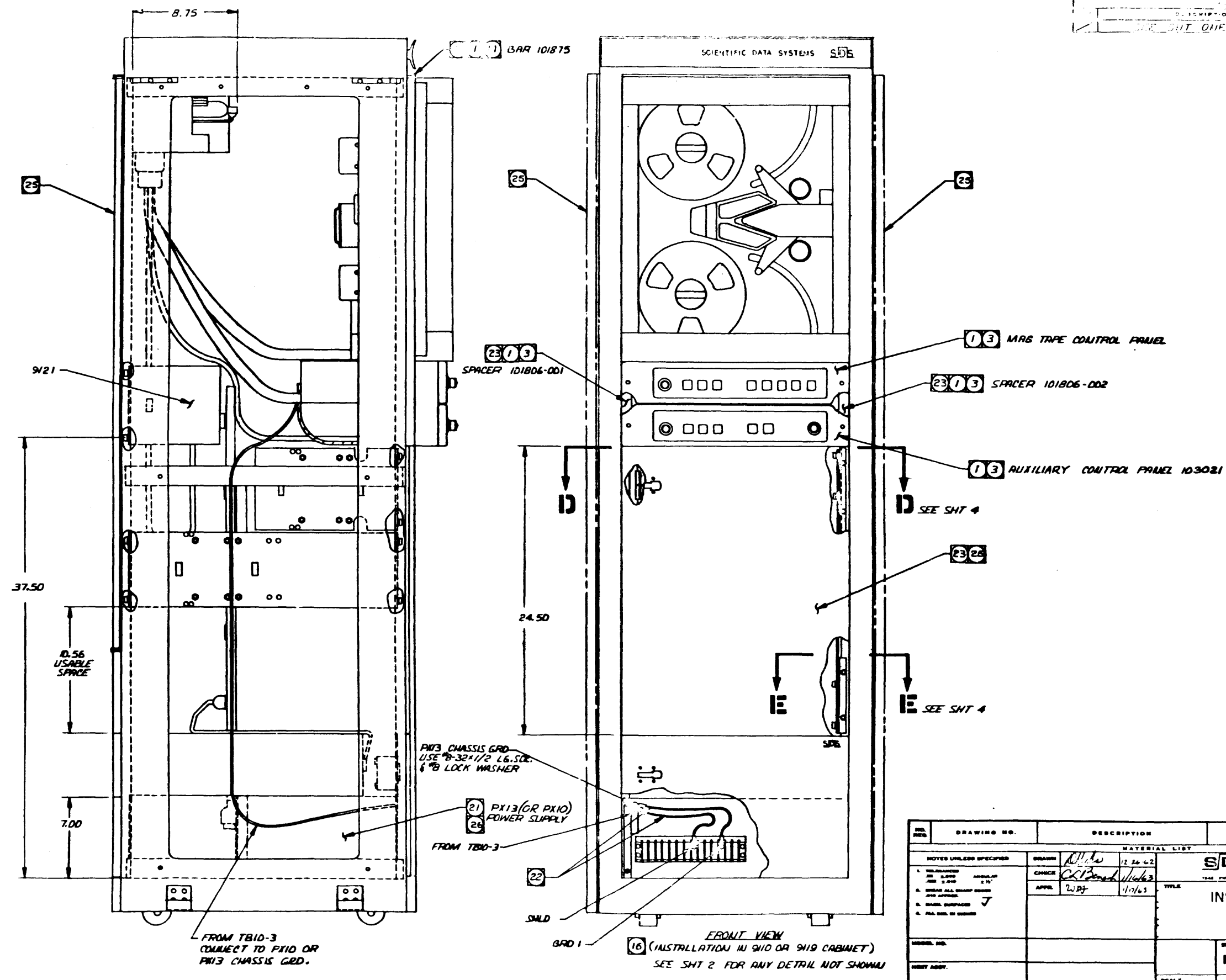
FRONT CHASSIS GRD
 USE #8-32 x 1/2 LG.
 PAN HD SCREWS,
 #8 LOCK WASHER
 & #8 HEX NUT

FRONT VIEW
 (INSTALLATION IN 9210 CABINET)

NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	DATE
NOTES UNLESS SPECIFIED				
DRAWN: J.H.S.		MATERIAL LIST		
CHECK: J.H.S.		ED3 SCIENTIFIC DATA SYSTEMS		
APPR: J.H.S.		1440 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA		
TITLE: J.H.S.		INSTALLATION DWG MAG TAPE		
MODEL NO. 9145, 9140 9143, 9145		REV. NO. D		DWG. NO. 102215
REV. NO. 101872 102342		REV. NO. D		DWG. NO. 102215
DATE: 10/15/63		DO NOT SCALE DRAWING		SHEET 1 OF 6

102215-1D

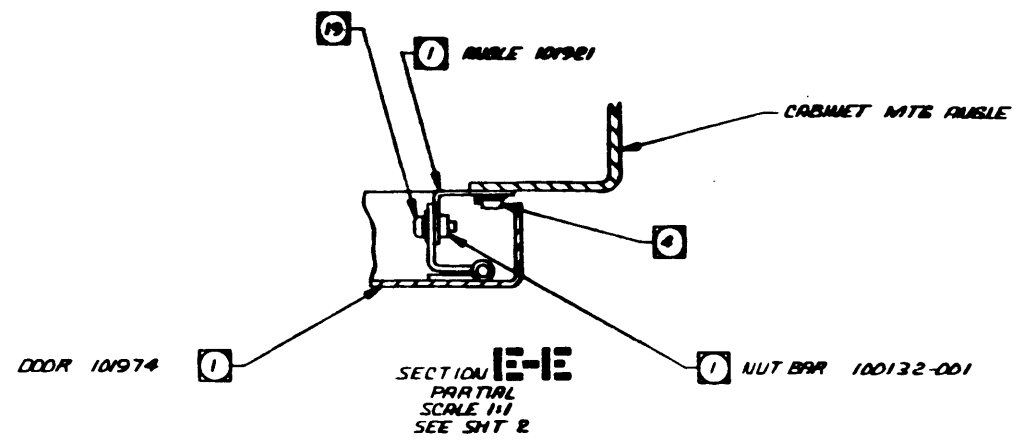
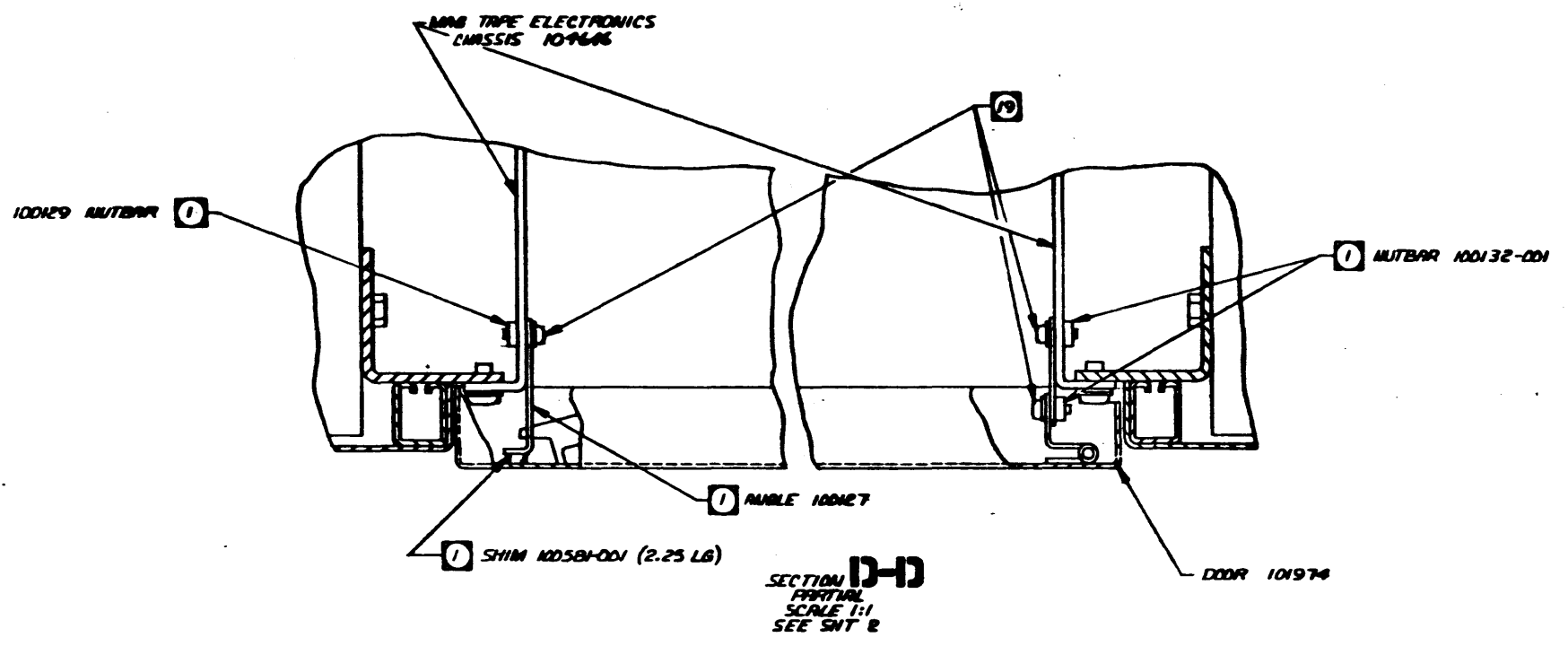
DESCRIPTION	DATE	BY
SEE SHT ONE		



REV. NO.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION
NOTES UNLESS SPECIFIED		MATERIAL LIST	
1. DIMENSIONS UNLESS SPECIFIED ARE IN INCHES AND DECIMALS ARE TO THE NEAREST THIRDS	2. ALL DIMENSIONS ARE TO CENTER UNLESS NOTED OTHERWISE	3. ALL DIMENSIONS ARE TO CENTER UNLESS NOTED OTHERWISE	4. ALL DIMENSIONS ARE TO CENTER UNLESS NOTED OTHERWISE
DESIGNED BY CHECKED BY APPROVED BY	DRAWN BY DATE 12 26 62	DATE 1/7/63	TITLE INSTALLATION DWG MAG TAPE
SCALE	DO NOT SCALE DRAWING	NO. OF SHEETS 3 OF 5	SDS SCIENTIFIC DATA SYSTEMS 1245 PATTERSON STREET, SANTA BARBARA, CALIFORNIA
REV. NO.	REV. DATE	REV. DESCRIPTION	REV. BY

102215 | D |

REVISIONS			
REV.	DESCRIPTION	CHKD.	DATE
	SEE SHT ONE		



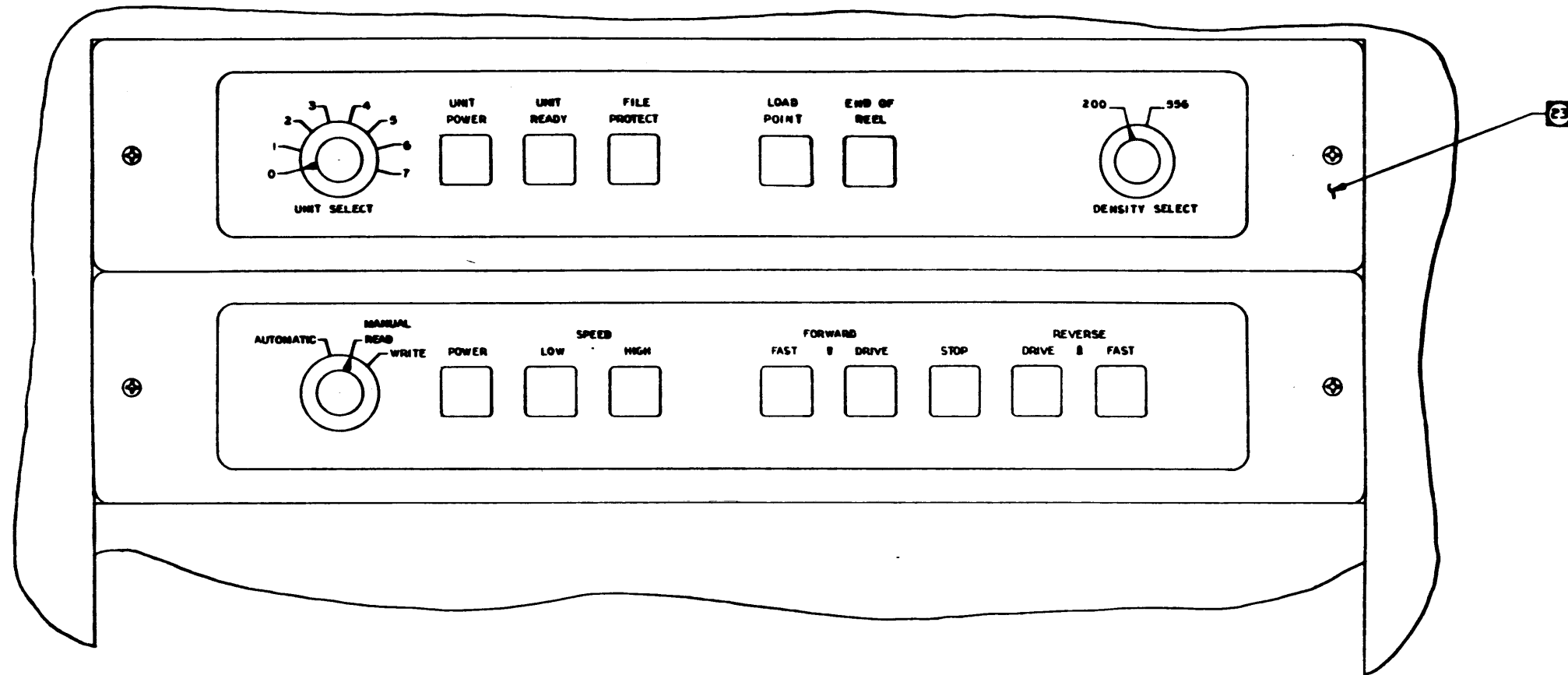
DWG. NO.	DESCRIPTION	REFERENCE DESIGNATION	REV.
102215	INSTALLATION DWG MAG TAPE		D

NOTES UNLESS SPECIFIED		MATERIAL LIST	
1. TOLERANCES DIM. ±.005 ANGULAR DIM. ±.5°	CHECK <i>Calhoun</i> 1/16/63	DATE 2-20-62	SCALE 1/16"=1"
2. FINISH ALL SURFACES AND EDGES	APPR. <i>WAF</i> 1/17/63		
3. HOLE SURFACES			
4. ALL DIM. IN INCHES			

MODEL NO.	DWG. NO.	REV.	DATE
	102215	D	
NEXT ASSY.	SCALE	DO NOT SCALE DRAWING	SHEET 4 OF 6

102215 | D |

REVISIONS		102215
NO.	DESCRIPTION	CHK DATE APP
1	SEC SH1 ONE	

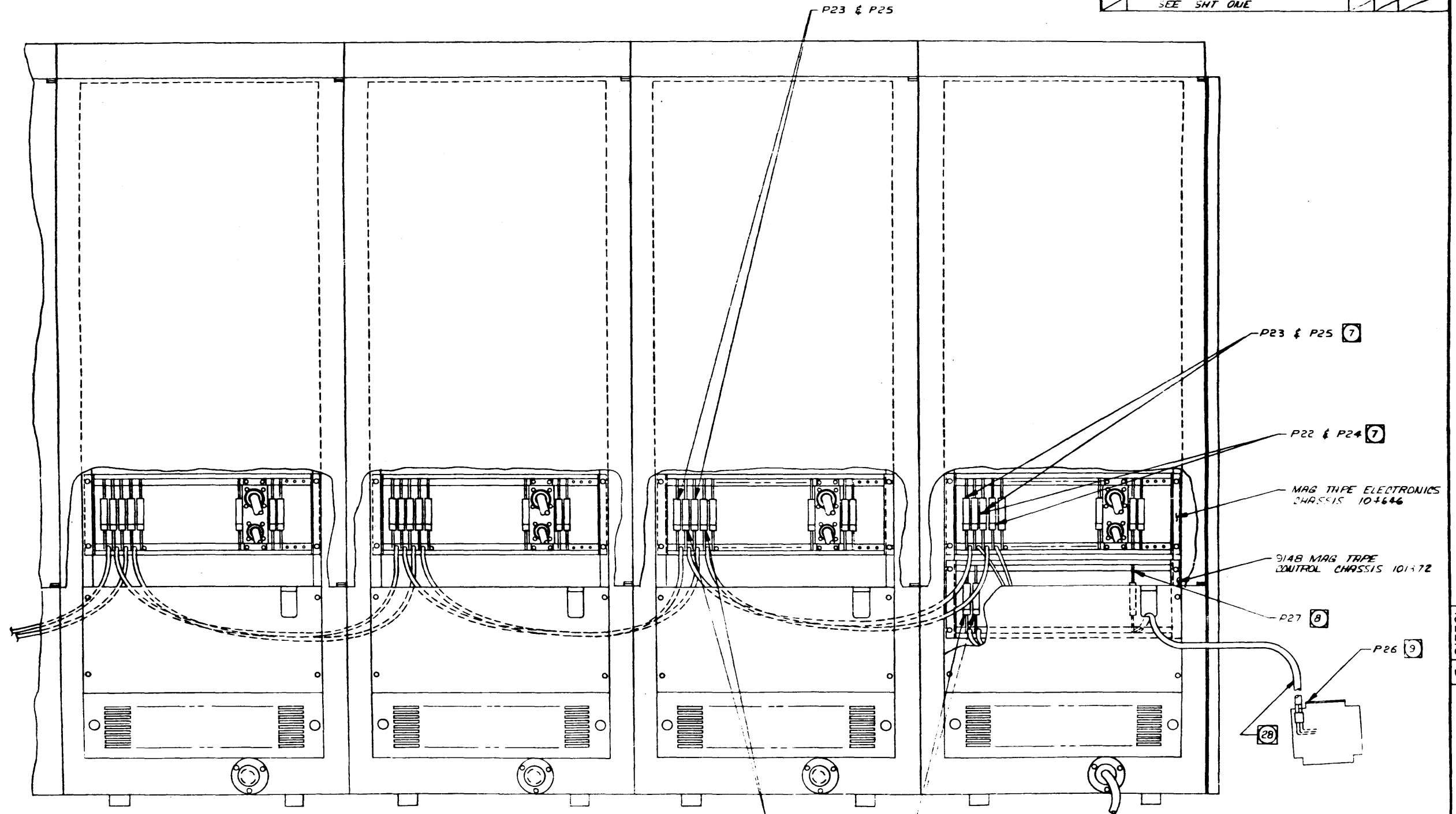


DETAIL F
SCALE 1:1
SEE SH1 2

NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DESIGN: <i>2/26/65</i>		
1. TOLERANCES UNLESS SPECIFIED	2. DIMENSIONS UNLESS SPECIFIED	CHECK: <i>2/26/65</i>	1045 PATENT ST. ST. LOUIS, MISSOURI 63103	
3. BREAK ALL SHARP EDGES 0.015 RADIUS	4. HOLE SURFACES 0.005 RADIUS	APPR: <i>W.P.</i>	TITLE	
5. ALL DIM. IN INCHES			INSTALLATION DWG MAG TAPE	
MODEL NO.			REV. NO.	D 102215
NEXT APP.			SCALE	D
			DO NOT SCALE DIMENSIONS	SHEET 5 OF 6

102215 D

REVISIONS				102215	D
REV	DESCRIPTION	CHK	DATE	APPROVED	
	SEE SH1 ONE				

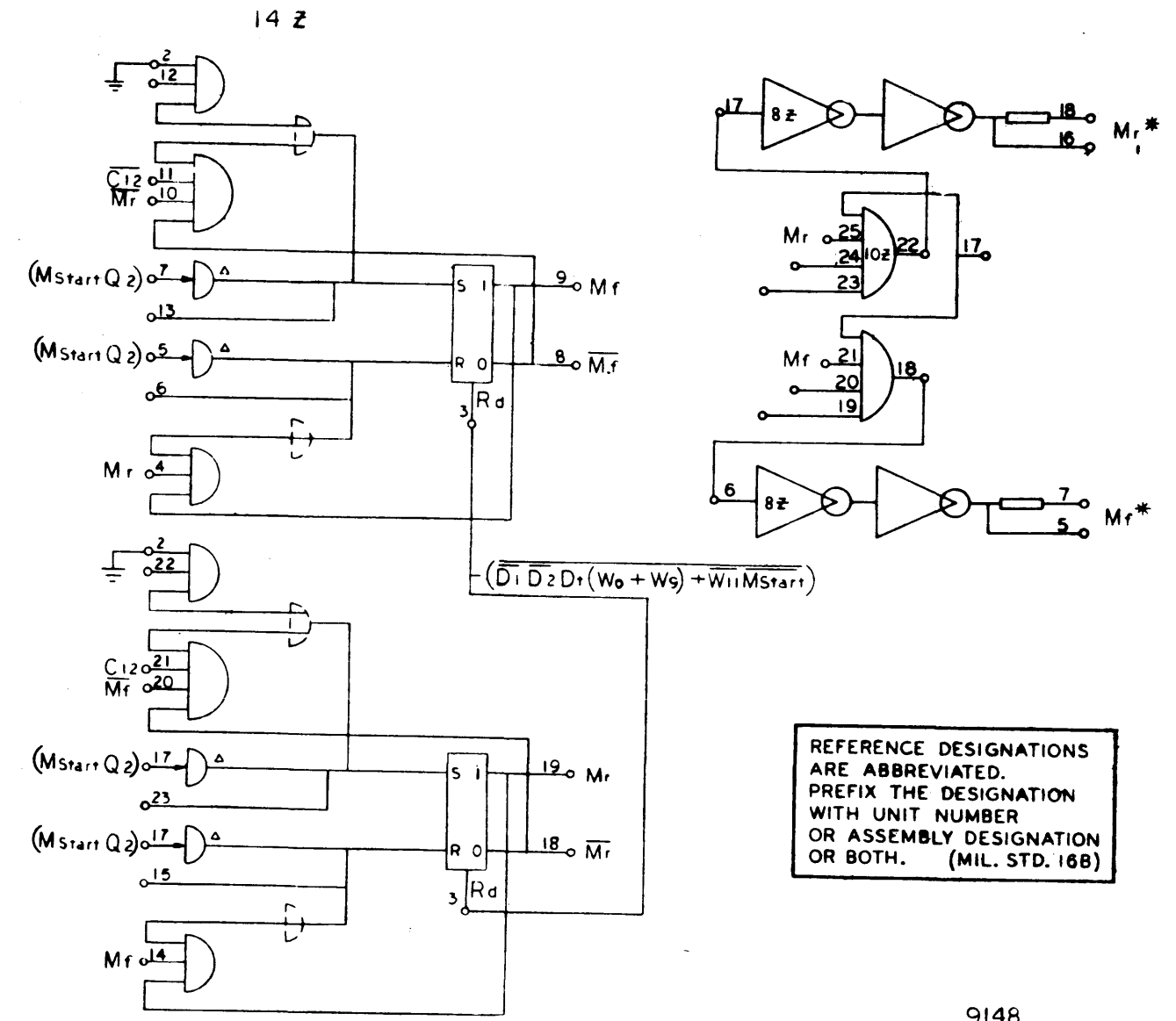


TYPICAL MULTIPLE
CABINET INSTALLATION
WITH SIDE PANELS REMOVED
& CABINETS BOLTED TOGETHER

NO.	REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED					
TOLERANCES		DRAWN	MATERIAL LIST		
AS SHOWN	ANGULAR	CHECK	SDS SCIENTIFIC DATA SYSTEMS		
±.005	±.010	APPR	242 FIFTEENTH STREET SANTA MONICA, CALIFORNIA		
BREAK ALL SHARP CORNERS BY APPROX		TITLE		INSTALLATION DWG	
DASH SURFACES		MODEL NO.		D 102215	
ALL DIM IN INCHES		NEXT ASSY		D	
SCALE			DO NOT SCALE DRAWING		SHEET # 5

102215 | D1

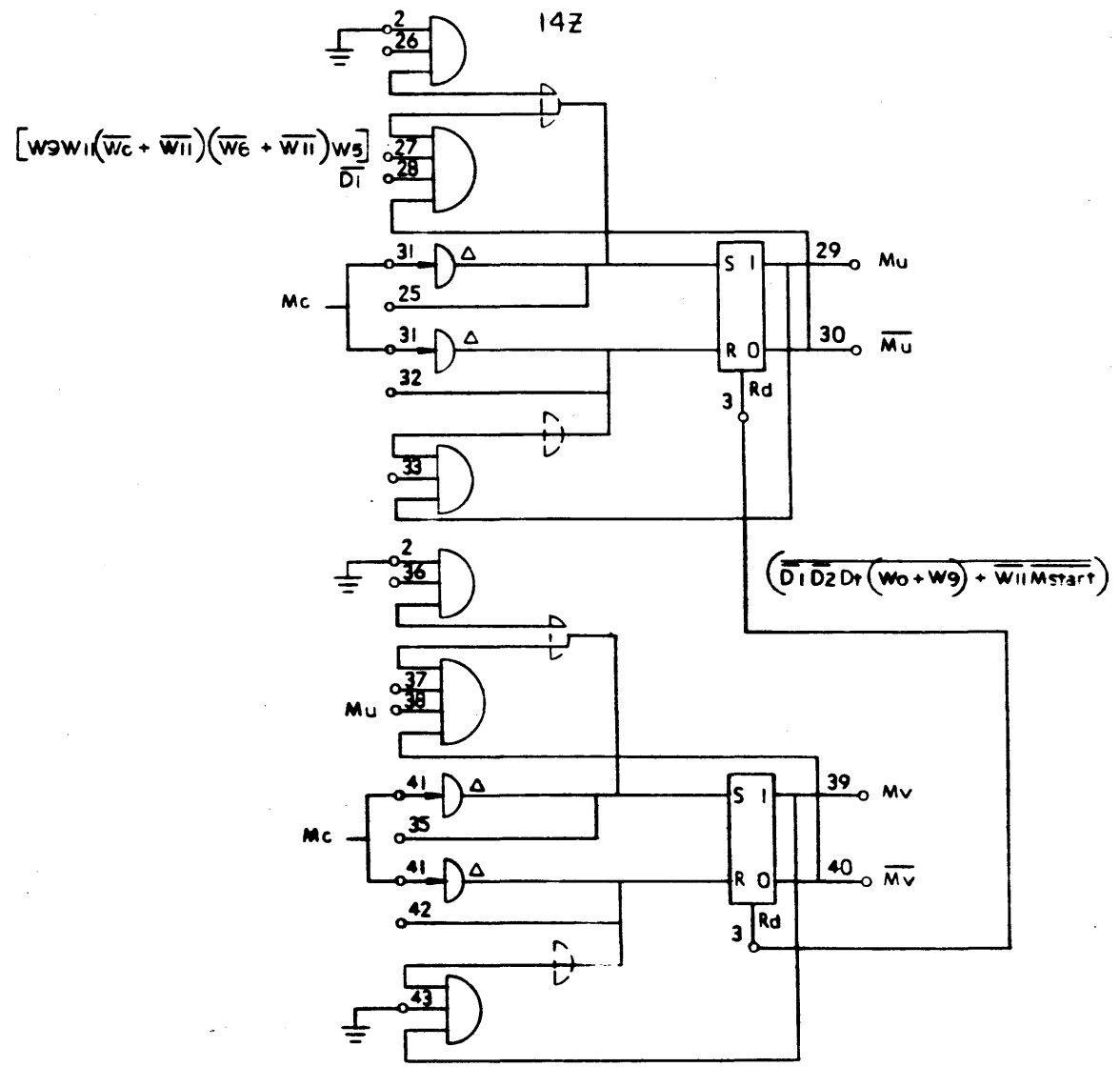
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	REL. TO MFG.	1/18/58	[Signature]
E	SEE REV. E.O.	1/18/58	[Signature]



9148
15KC TAPE CONTROL UNIT
PAGE 1
E

NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	FORM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		CHECK	SDS ORIENTING DATA SYSTEMS 1842 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA	
1. TOLERANCES UNLESS SPECIFIED DIM 2.000 ANGULAR DIM 2.000 2 1/2°		APPR. [Signature]	TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT	
2. BREAK ALL SHARP EDGES AND ANGLES			MODEL NO. 9148	REV. NO. D 102338
3. HATCH SURFACES			SHEET NO. 101872	E
4. ALL DIM. IN INCHES			SCALE	DO NOT SCALE DRAWING

REVISIONS			
REV.	DESCRIPTION	CHK.	DATE
A	REL. TO MFG.	GLE	2/11/63



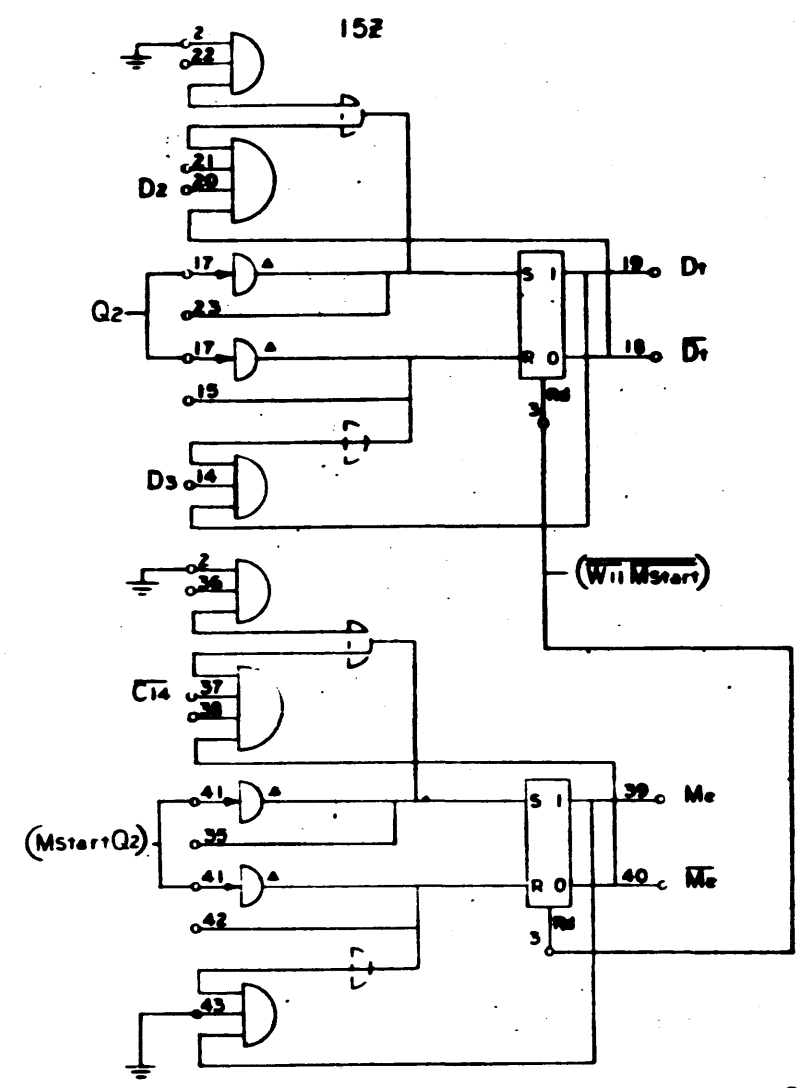
9148
15 KC TAPE CONTROL UNIT
PAGE 2
A

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

MATERIAL LIST			
QUANTITY	DESCRIPTION	UNIT	REMARKS
1	WIRE	24-63	
1	WIRE	24-63	

102338 | A | A

REVISIONS		102338	E
REV	DESCRIPTION	DATE	APPROVED
A	REL. TO MFG.		
E	SEE REV E0		

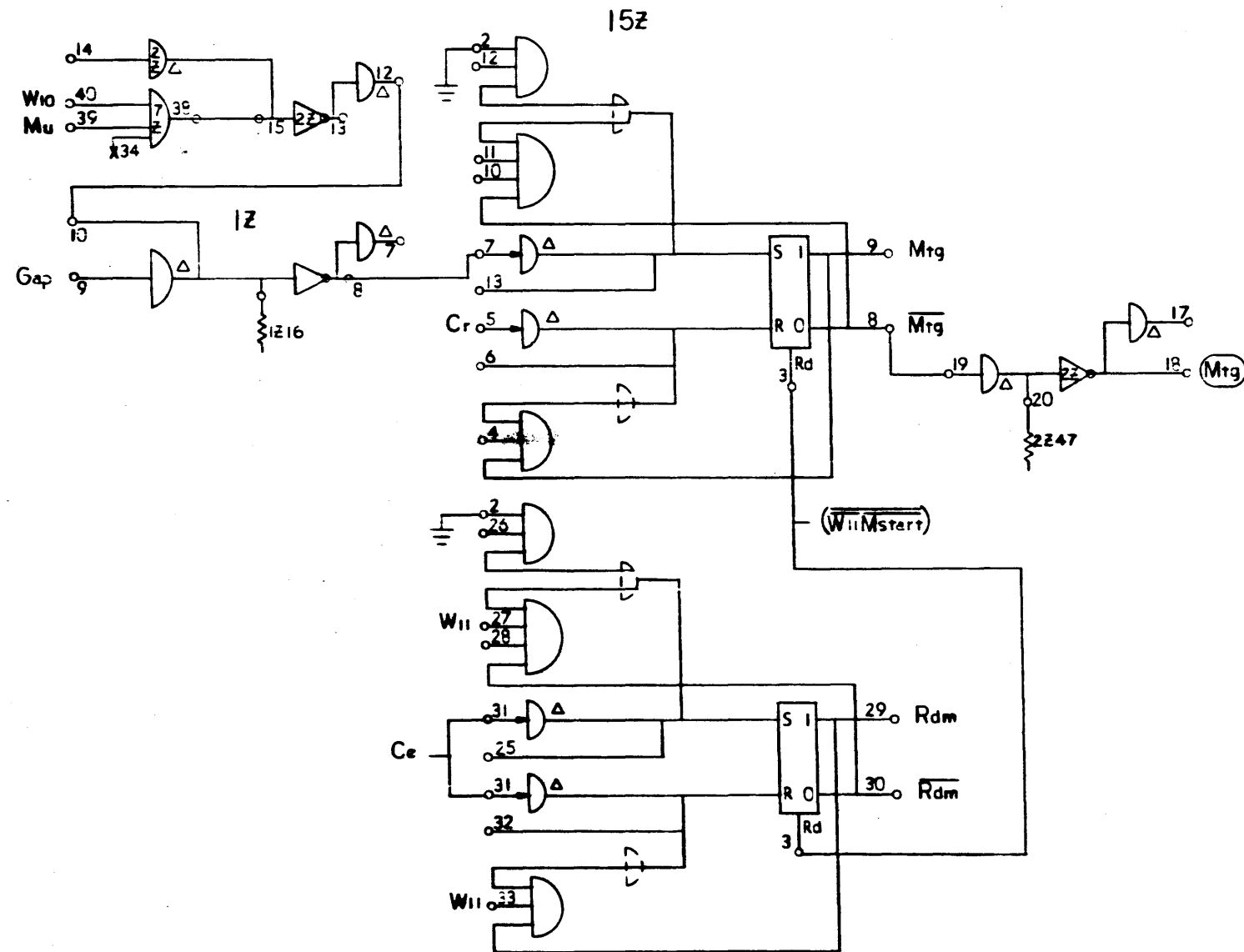


9148
15 KC TAPE CONTROL UNIT
PAGE 3
E

NO	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	REV
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	CHECK	APPR
<ul style="list-style-type: none"> • TOLERANCES UNLESS SPECIFIED • DIMENSIONS UNLESS SPECIFIED • BREAK ALL SHARP EDGES • HATCH SURFACES • ALL DIM IN INCHES 				
MODEL NO 9148		TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		
NEXT ASSY 10:872		REV D	DWG NO 102338	E
SCALE		DO NOT SCALE DRAWING		SHEET

102338 E

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

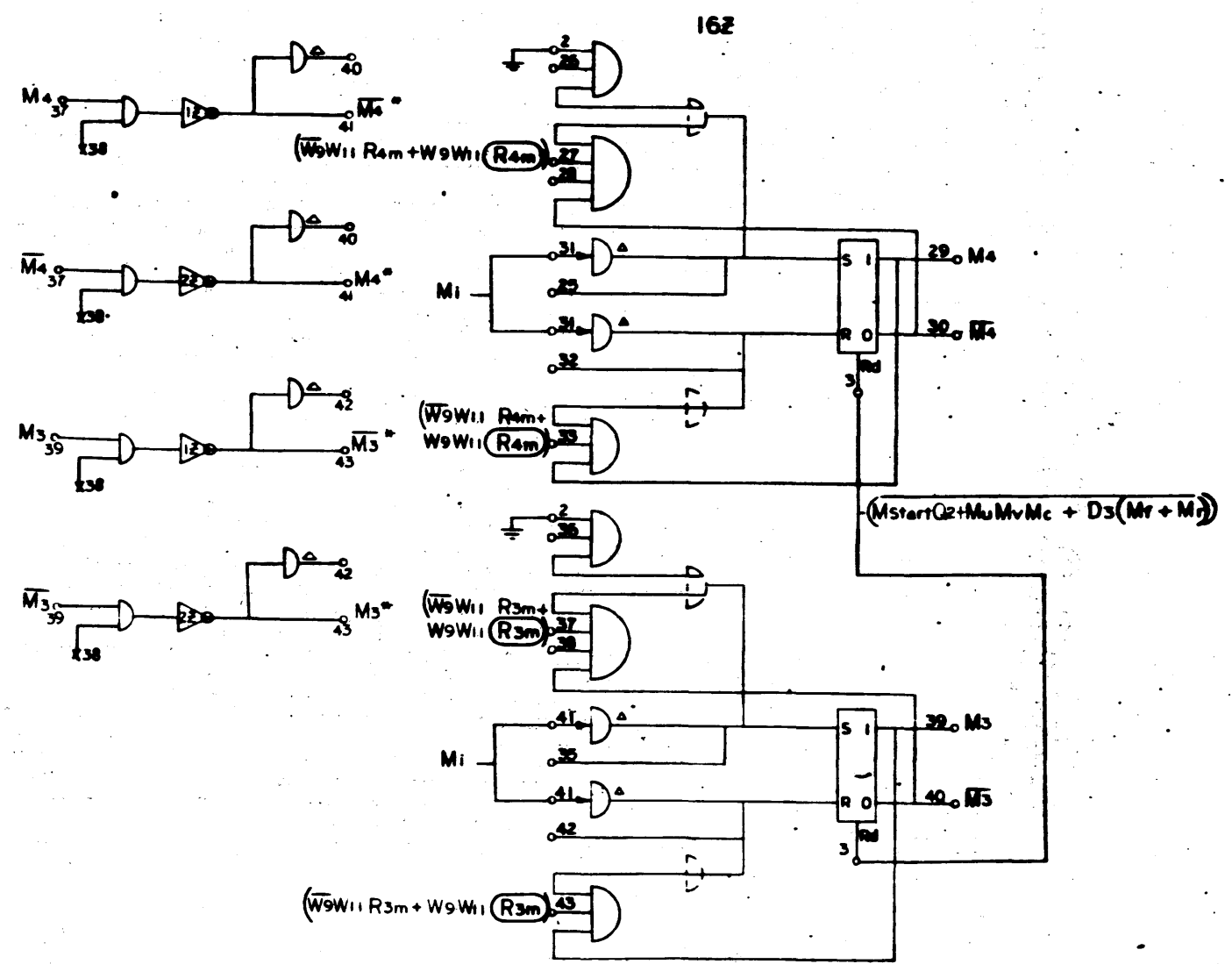


9148
15Kc TAPE CONTROL UNIT
PAGE 4
C

DRAWING NO.		DESCRIPTION		REFERENCE DESIGNATION	
MATERIAL LIST					
DESIGNED BY	DRWN	E. REIBERT	8/14/68	 DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT	
CHECKED BY	CHKD	R. WATSON	8/14/68		
APPROVED BY	APPR	WKF	8/14/68		
ISSUE NO.	9148			D	102338
REV. NO.	101872			C	

102338 | C | A

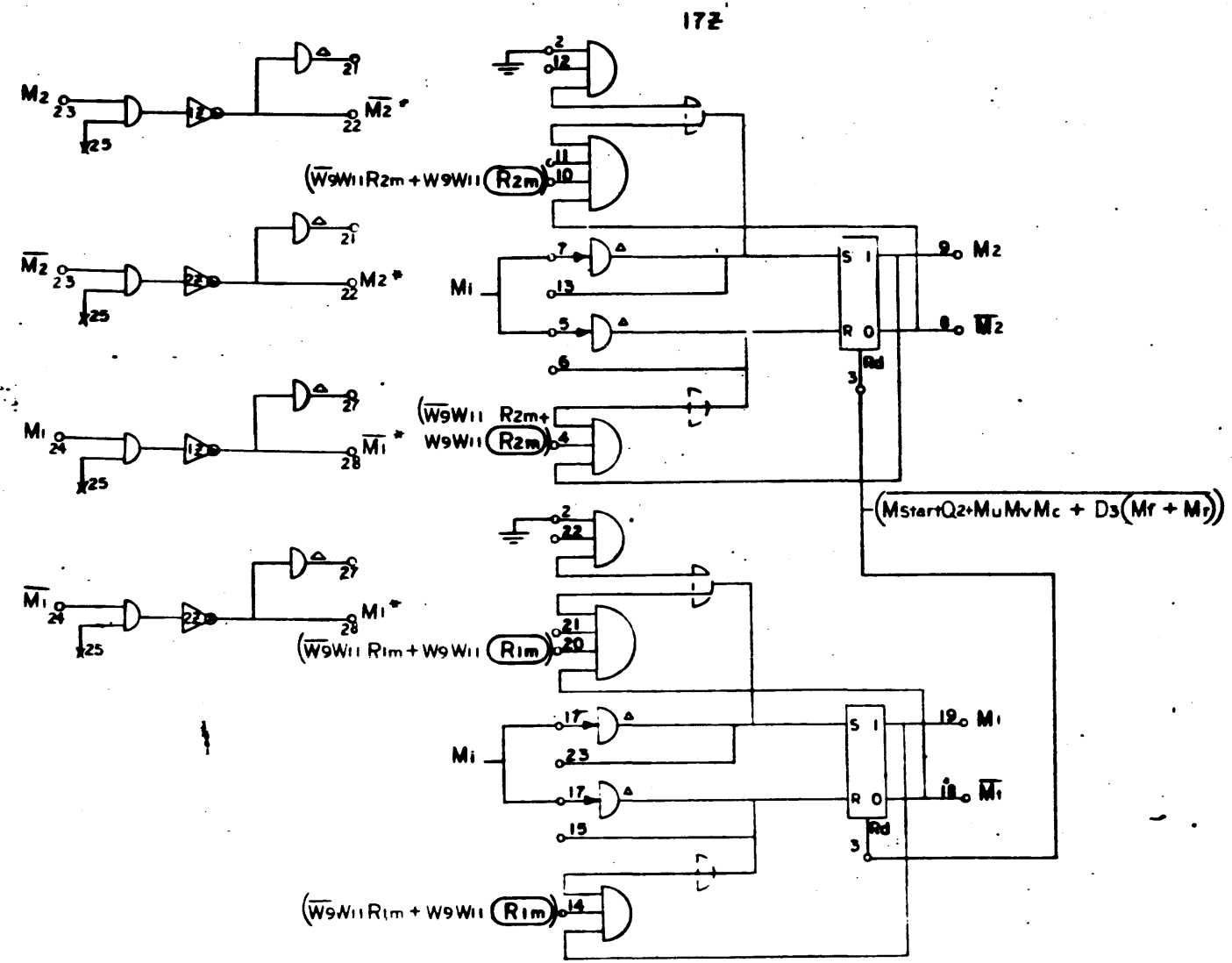
REVISIONS		102338	A
REV	DESCRIPTION	DATE	APPROVED
A	REL. TO MFG.		9/14/64



9148
15 KC TAPE CONTROL UNIT
PAGE 7
A

NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	DATE
NOTES UNLESS SPECIFIED		MATERIAL LIST		
<ul style="list-style-type: none"> 1. TELETYPE 2. TELETYPE 3. TELETYPE 4. TELETYPE 5. TELETYPE 		DRAWN CHECK APPR.	SDS DIGITIZED DATA SYSTEMS 1542 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA	
		TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		
MODEL NO.	9148		D 102338	A
DESY APPR.	101872		SCALE	DO NOT SCALE DRAWING

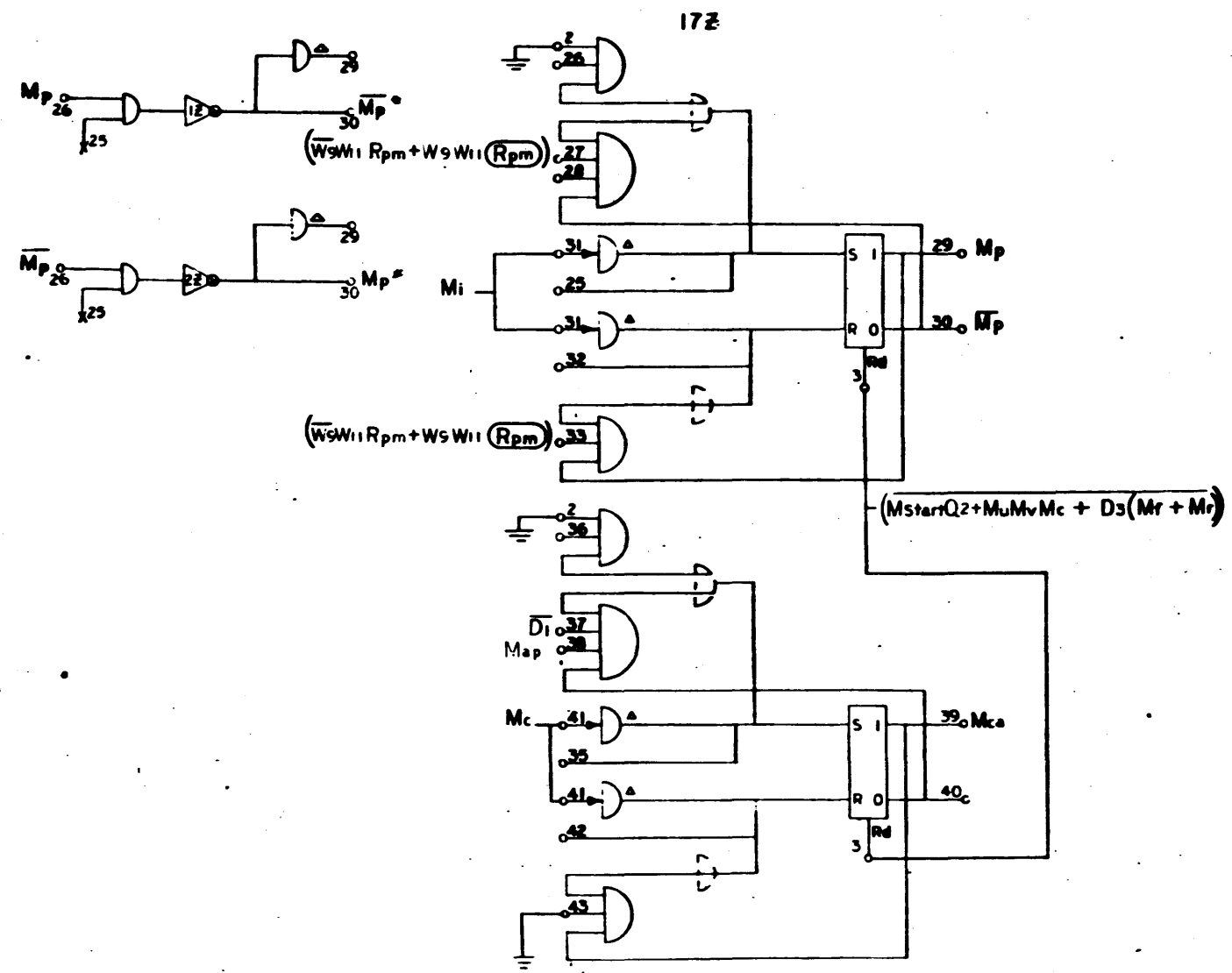
REVISIONS			102338	A
REV	DESCRIPTION	CHK	DATE	APPROVED
A	REL. TO MFG.	CB	1/16/64	Glenn



9148
15 KC TAPE CONTROL UNIT
PAGE 8
A

NO	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	REV
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	CHECK	APPV
<ul style="list-style-type: none"> 1. DIMENSIONS 2. TOLERANCES 3. CLEAR ALL SHARP EDGES 4. HATCH SURFACES 5. ALL DIM IN INCHES 				
MODEL NO 9148		TITLE SDS DATA SYSTEMS 1625 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		
NEXT ASSY 101872		REV D	DWG NO 102338	SHEET A
SCALE		DO NOT SCALE DRAWING		

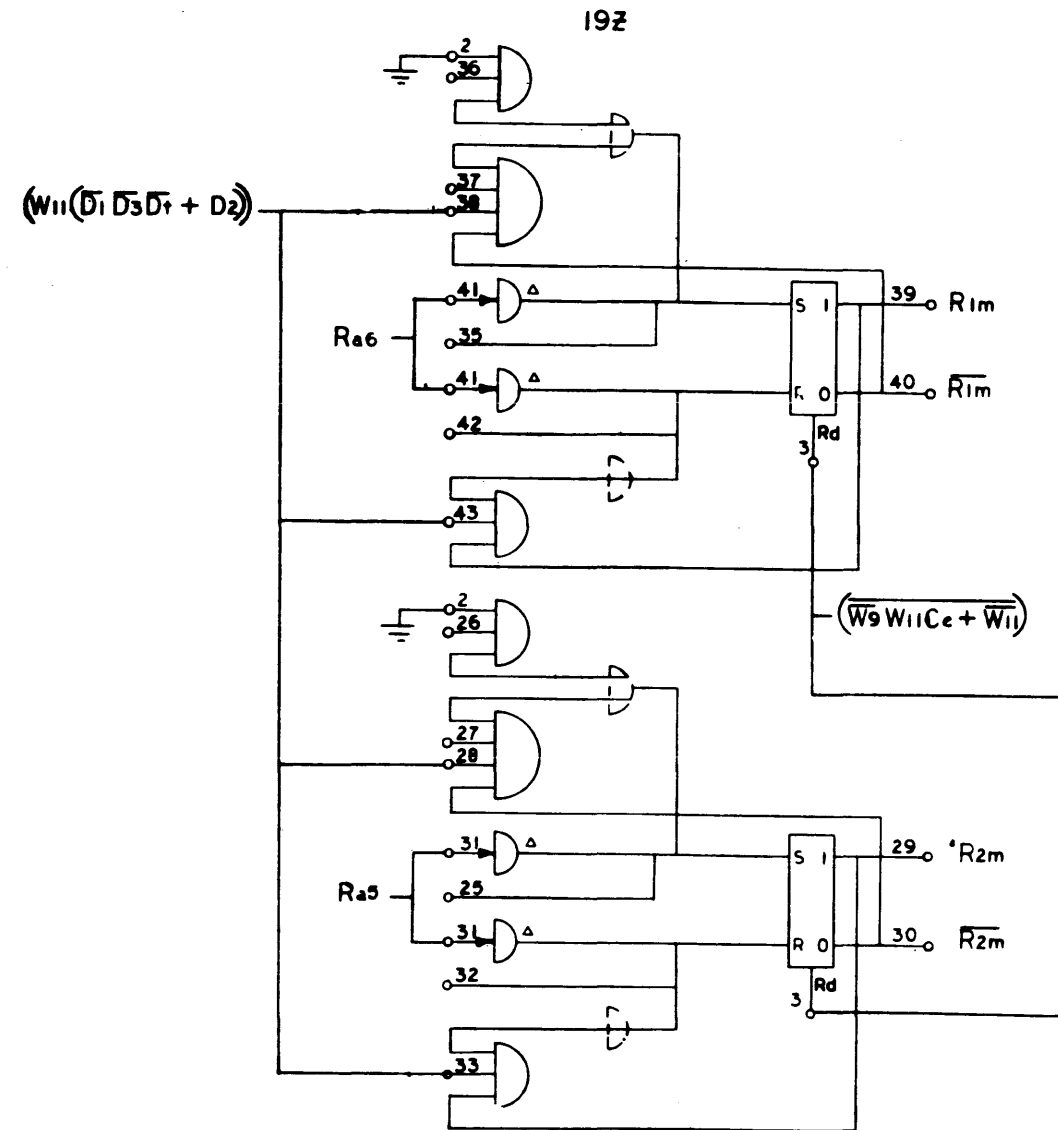
REV		DESCRIPTION		DATE		APPROVED	
F		SEE REV. E0					



9148
15 KC TAPE CONTROL UNIT
PAGE 9
F

NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED				
1. UNLESS SPECIFIED IN T&E		CHECK	DATE	
2. CHECK ALL SHOWN DIMENSIONS		APPR.		
3. MAKE SURFACE				
4. ALL DIM IN INCHES				
MODEL NO. 9148				
NEXT ASSY C1872		TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		
		REV. D	DWG. NO. 102338	
		SCALE		DO NOT SCALE DRAWING SHEET

REVISIONS				102338	A
REV.	DESCRIPTION	CHK.	DATE	APPROVED	
A	REL. TO MFG.	CUB	1/16/63	[Signature]	

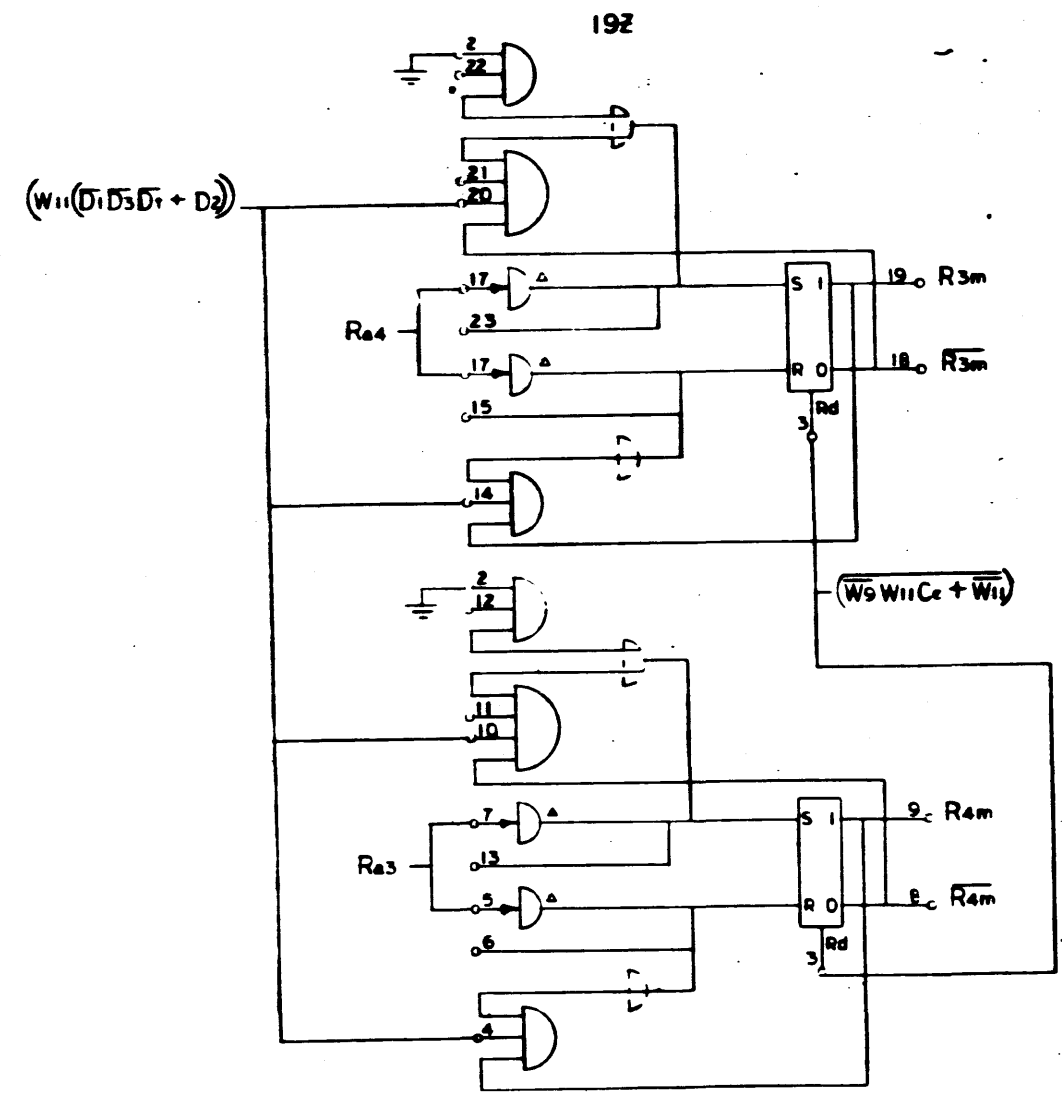


9148
15 KC TAPE CONTROL UNIT
PAGE 10
A

102338 | A |

NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	FILE NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	SDS SCIENTIFIC DATA SYSTEMS 1545 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA	
1. TOLERANCES XX 0.000 X 0.010 X 0.015	CHECK	APPR.	TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT	
2. BREAK ALL SHARP EDGES BY APPROX.				
3. HAZEL SURFACES				
4. ALL DIM. IN INCHES				
MODEL NO. 9148		REV. D	DWG. NO. 102338	A
NEXT ASSY. 101872		SCALE	DO NOT SCALE DRAWING	SHEET

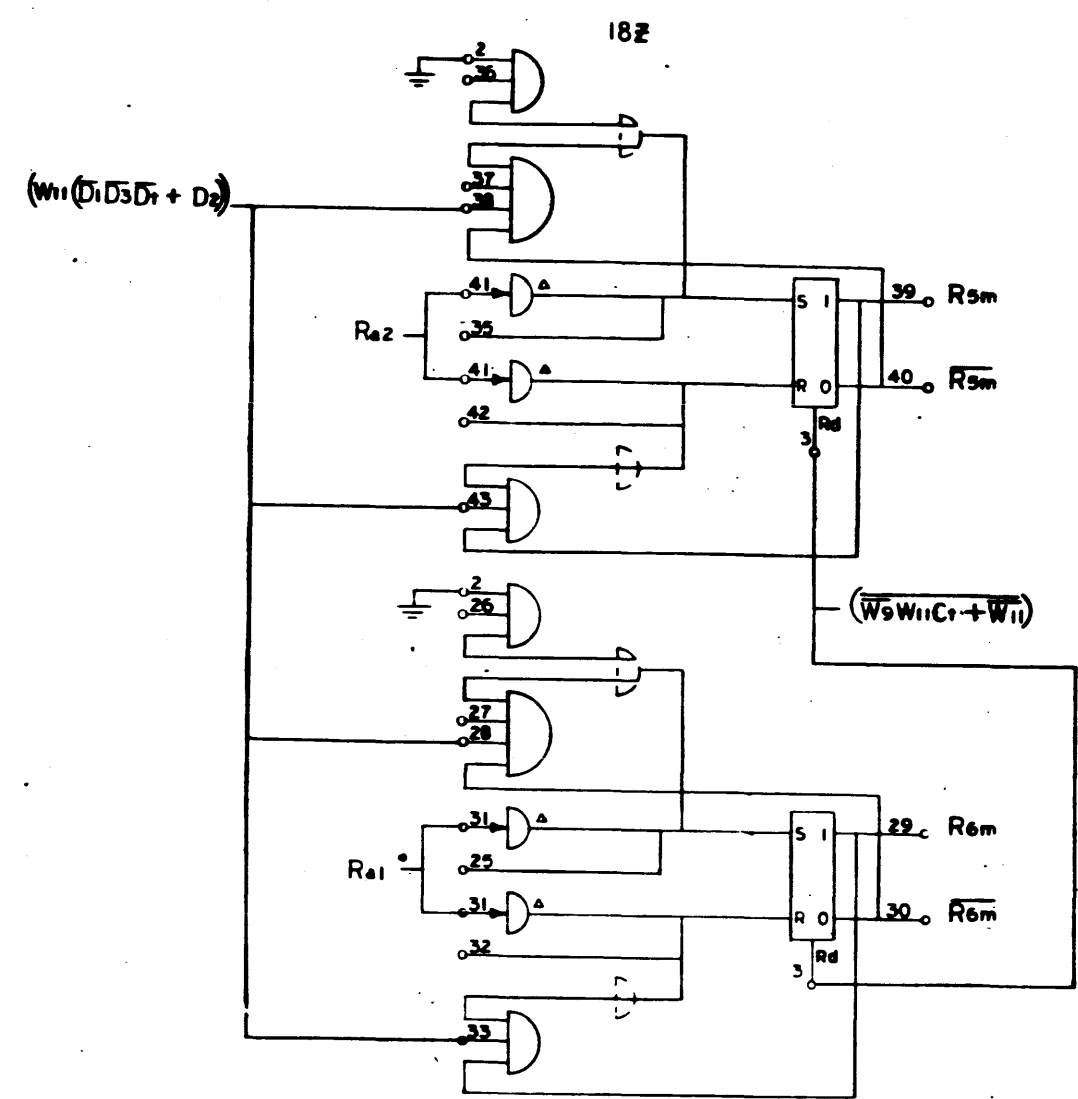
REVISIONS			
REV	DESCRIPTION	CHKD	DATE
A	REL. TO MFG.	CB	10/2/60



9148
15 KC TAPE CONTROL UNIT
PAGE 11
A

DWG NO	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION
MATERIAL LIST			
NOTES UNLESS SPECIFIED: 1. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED. 2. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION. 3. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED. 4. DIMENSIONS ARE TO SURFACE UNLESS OTHERWISE SPECIFIED. 5. DIMENSIONS ARE TO HOLE UNLESS OTHERWISE SPECIFIED.			
MODEL NO. 9148		TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT	
PART NO. 101872		D 102338	A
SCALE		DO NOT SCALE DRAWING	

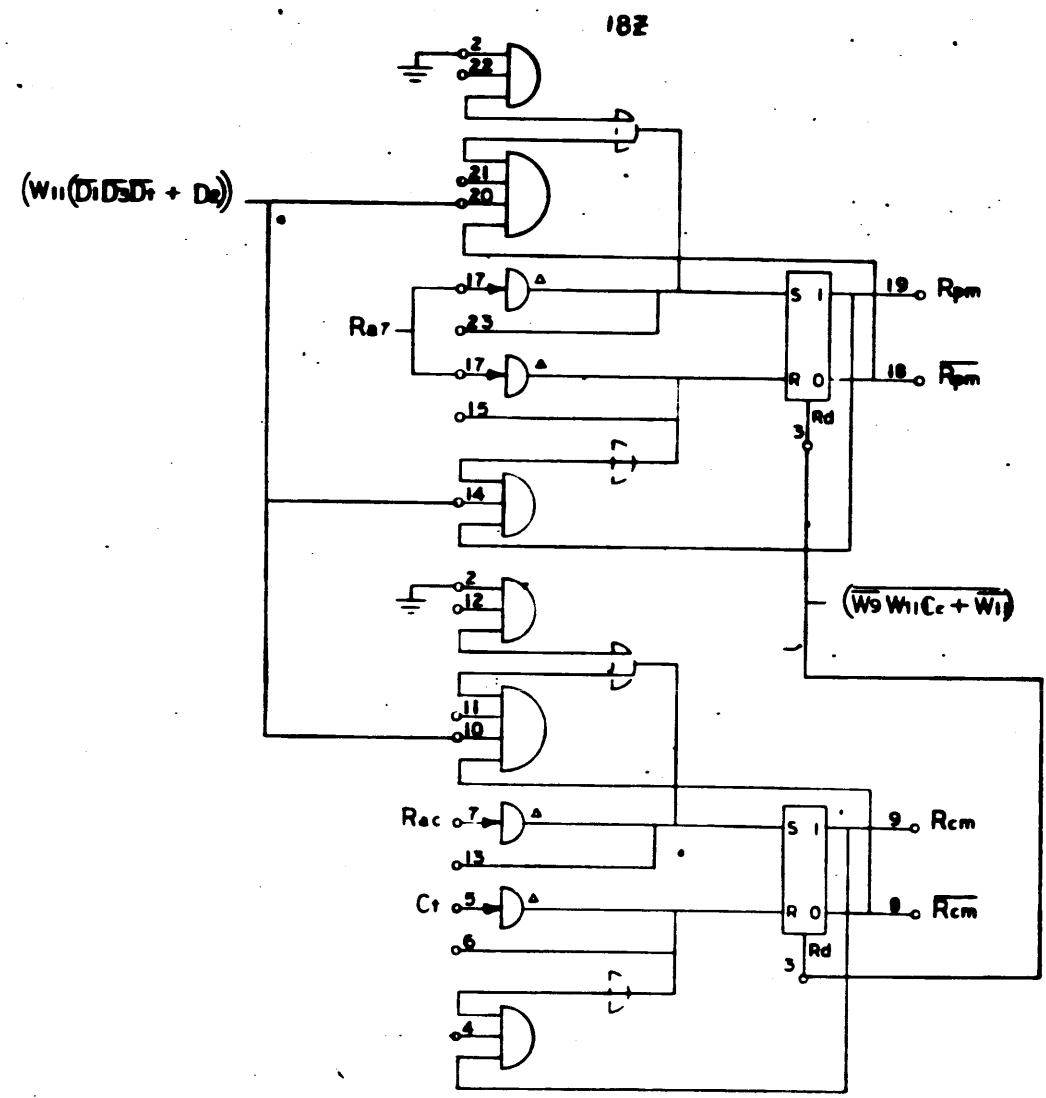
REVISIONS				102338	A
REV	DESCRIPTION	CHK	DATE	APPROVED	
A	REL TO MFG.				



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15 KC TAPE CONTROL UNIT
PAGE 12
A

NO.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	CHECK	APPR
<ul style="list-style-type: none"> 1. DIMENSIONS UNLESS SPECIFIED 2. DIMENSIONS IN PARENTHESIS ARE TOLERANCES 3. DIMENSIONS IN SQUARE BRACKETS ARE TOLERANCES 4. DIMENSIONS IN CIRCLES ARE TOLERANCES 5. DIMENSIONS IN TRIANGLES ARE TOLERANCES 6. DIMENSIONS IN DIAMOND SHAPES ARE TOLERANCES 7. DIMENSIONS IN PARALLELOGRAMS ARE TOLERANCES 8. DIMENSIONS IN OVALS ARE TOLERANCES 9. DIMENSIONS IN ELLIPSES ARE TOLERANCES 10. DIMENSIONS IN HEXAGONS ARE TOLERANCES 11. DIMENSIONS IN OCTAGONS ARE TOLERANCES 12. DIMENSIONS IN DECAGONS ARE TOLERANCES 13. DIMENSIONS IN DODECAGONS ARE TOLERANCES 14. DIMENSIONS IN OTHER POLYGONS ARE TOLERANCES 15. DIMENSIONS IN OTHER SHAPES ARE TOLERANCES 				
TITLE SDS IDENTIFIED DATA SYSTEMS 1645 FIFTEENTH STREET SANTA MONICA CALIFORNIA		TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		
MODEL NO.	9148	REV. NO.	D	102338
REV. NO.		REV. NO.		A
NEXT ASSY	101872	SCALE	DO NOT SCALE DRAWING	OTHER

REV		DESCRIPTION		DATE		APPROVED	
A		REL TO MFG.		01/16/64		[Signature]	

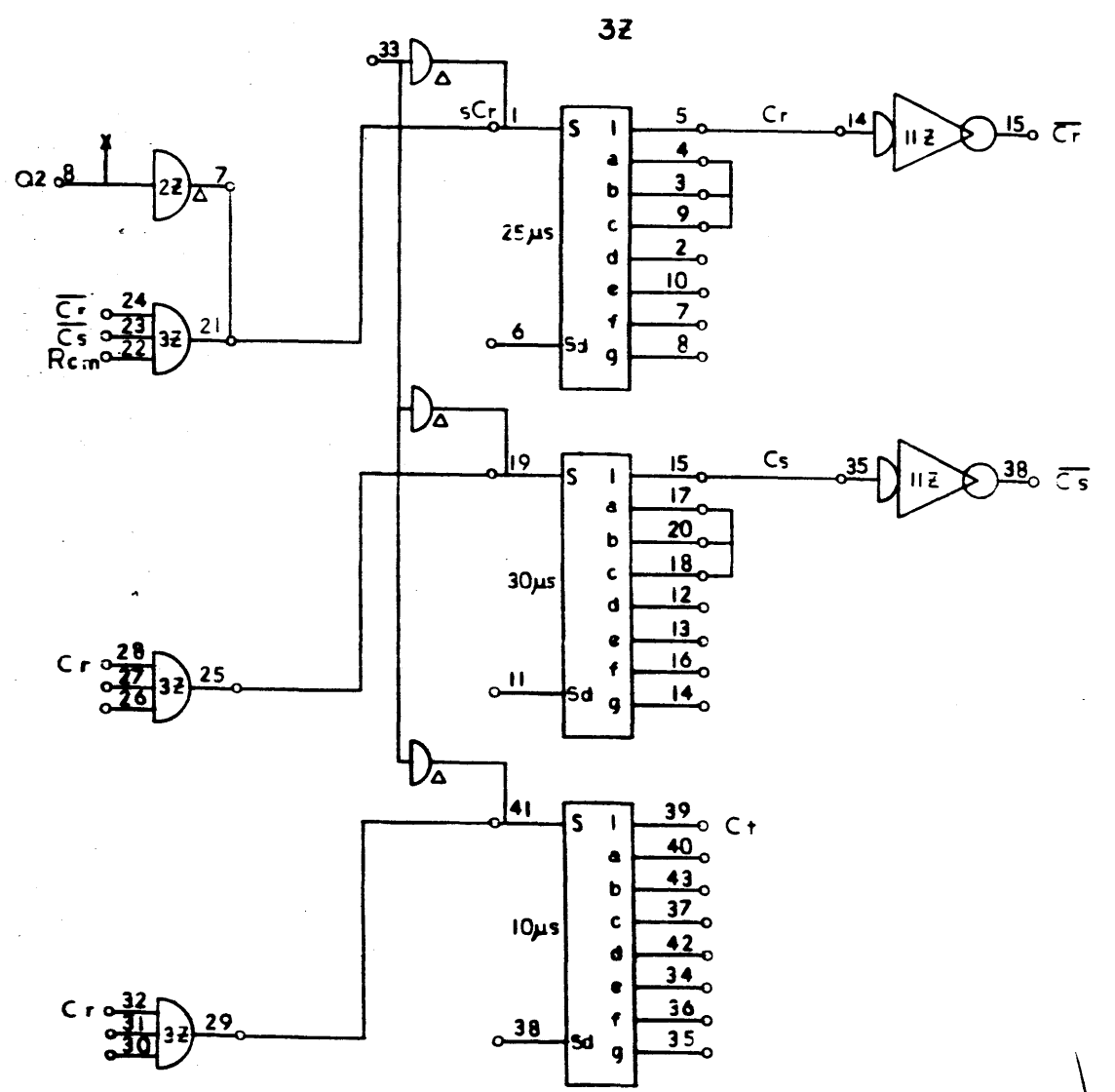


9148
15 KC TAPE CONTROL UNIT
PAGE 13
A

NO	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	REV
NOTES UNLESS SPECIFIED				
1. TOLERANCES UNLESS SPECIFIED		CHECK	SDS SCIENTIFIC DATA SYSTEMS	
2. DIMENSIONS UNLESS SPECIFIED		APPV	101 FIFTEENTH STREET SANTA MONICA CALIFORNIA	
3. SEE ALL SHARP CORNERS		TITLE		
4. HOLE LOCATIONS		DIAGRAM, LOGIC		
5. HOLE SIZES		MAG. TAPE		
6. ALL DIMS TO CENTER		CONTROL UNIT		
MODEL NO	9148	REV	D	102338
DRAWN BY	101872	SCALE	DO NOT SCALE DRAWING	

102338 A

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

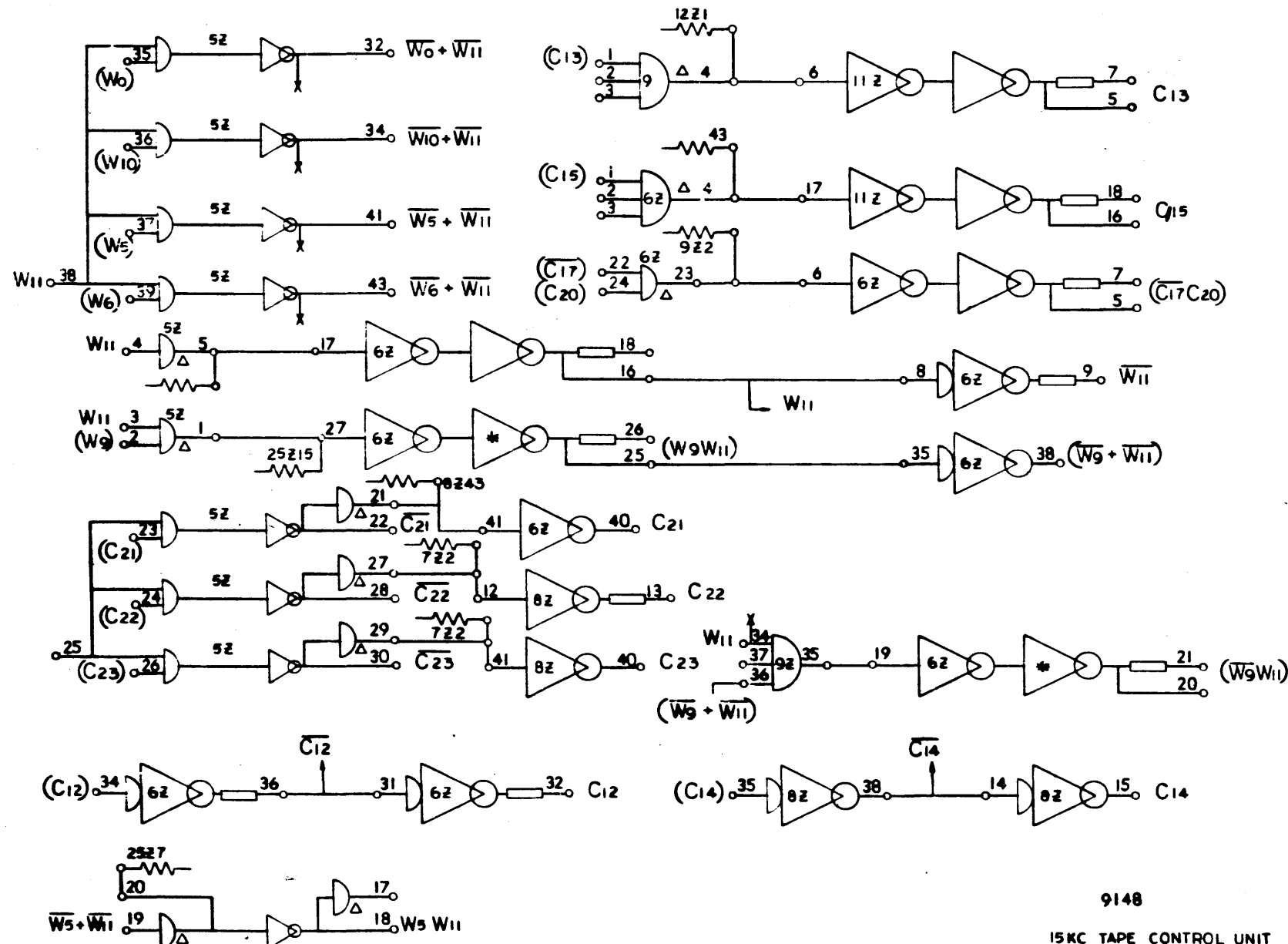


9148
 15 KC TAPE CONTROL UNIT
 PAGE 14
 G

102338 G

DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	FORM NO.
9148	DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		
101872			
MATERIAL LIST PARTS LISTED SPECIFIED 1. VOLTMETER 2. AMP 3. RESISTOR 4. CAPACITOR 5. DIODE 6. TRANSISTOR 7. IC		DRAWN: P. GERT CHECKED: K. WATSON APPROVED: WKF	DATE: 1-28-67 TITLE:
SCALE: DO NOT SCALE DRAWING		102338 G	G

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



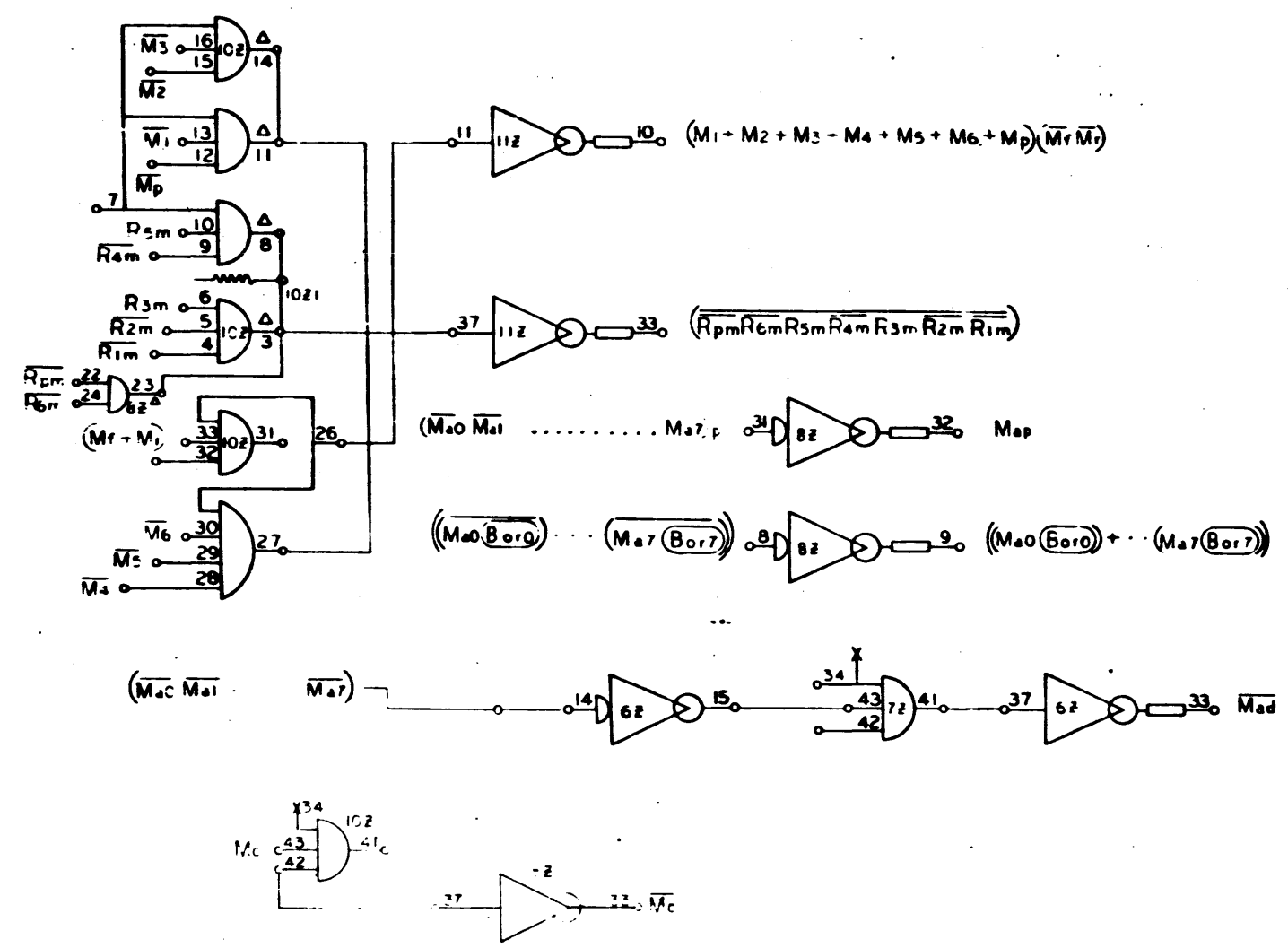
9148
15KC TAPE CONTROL UNIT
PAGE 15

B

DRAWING NO.		DESCRIPTION		REFERENCE DESIGNATION	
MATERIAL LIST					
REVISED UNLESS SPECIFIED	DRG	R KEIGAT	2/12/63	 DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT	
CHKD	F WATSON	2/12/63			
APPL	WKF	2/12/63			
MODEL NO.	9148			REV. NO.	D 102338
UNIT NO.	101872			SCALE	DO NOT SCALE DRAWING

102338 B

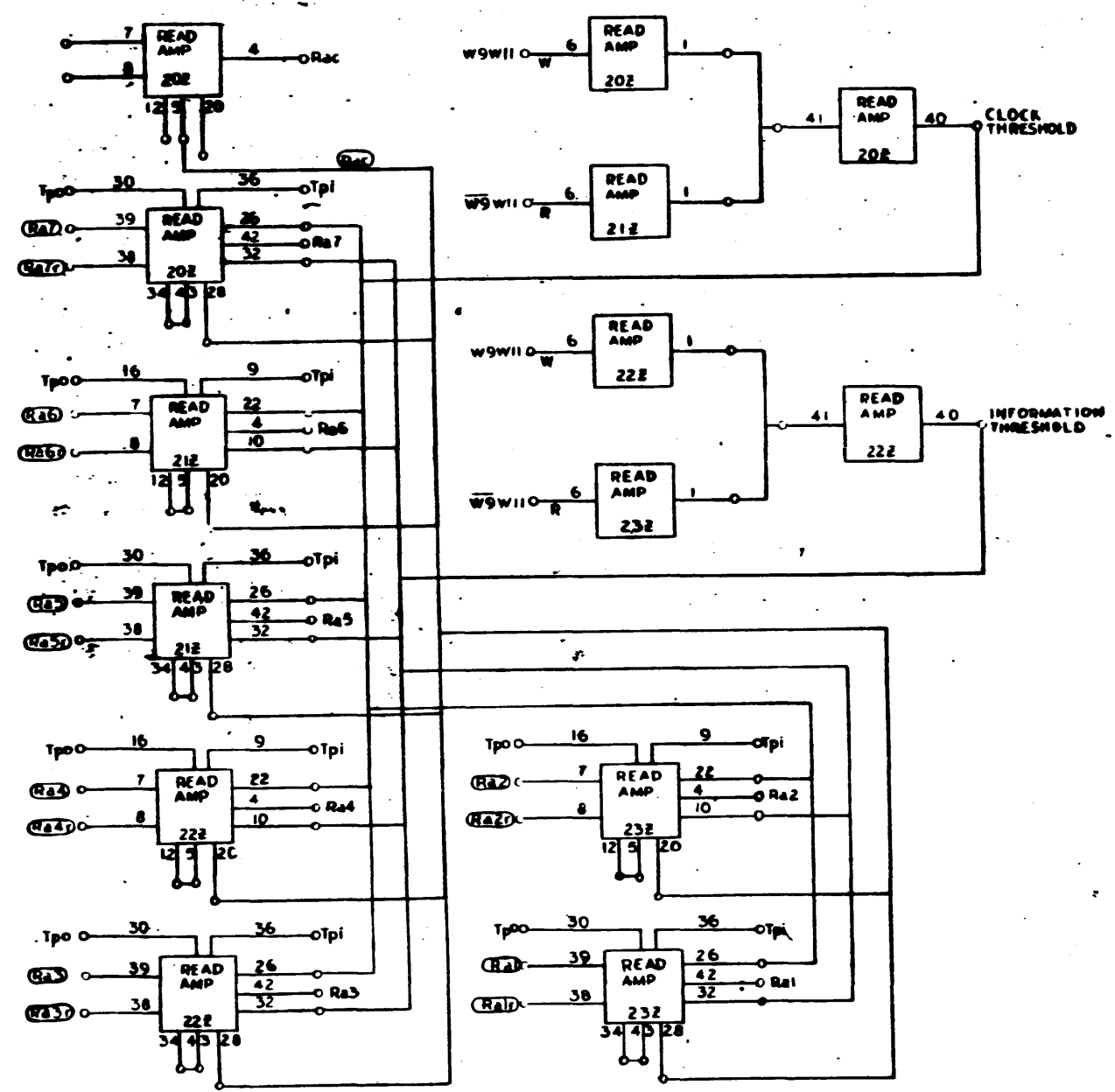
REVISIONS			
REV	DESCRIPTION	CHK	DATE
F	SEE REV. E O		



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 15KC TAPE CONTROL UNIT
 PAGE 15
 F

NO	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	REV
MATERIAL LIST				
NOTES UNLESS SPECIFIED				
1. DIMENSIONS	DRAWN	CHECK	SDS SCIENTIFIC DATA SYSTEMS	
IN 1/32"	ANGULAR	APPR	1025 PATENTED - GREAT SANTA MONICA CALIFORNIA	
SEE 1/16"	2 1/2"		TITLE	
2. BREAK ALL SHARP CORNERS	DIAGRAM, LOGIC			
3. USE APPROX.	MAG. TAPE			
4. HIDE SURFACES	CONTROL UNIT			
5. HIDE DIMENSIONS				
MODEL NO	9148		REV	D
NEXT ASSY	102338		DATE	102338
	102372		SCALE	DO NOT SCALE DRAWING

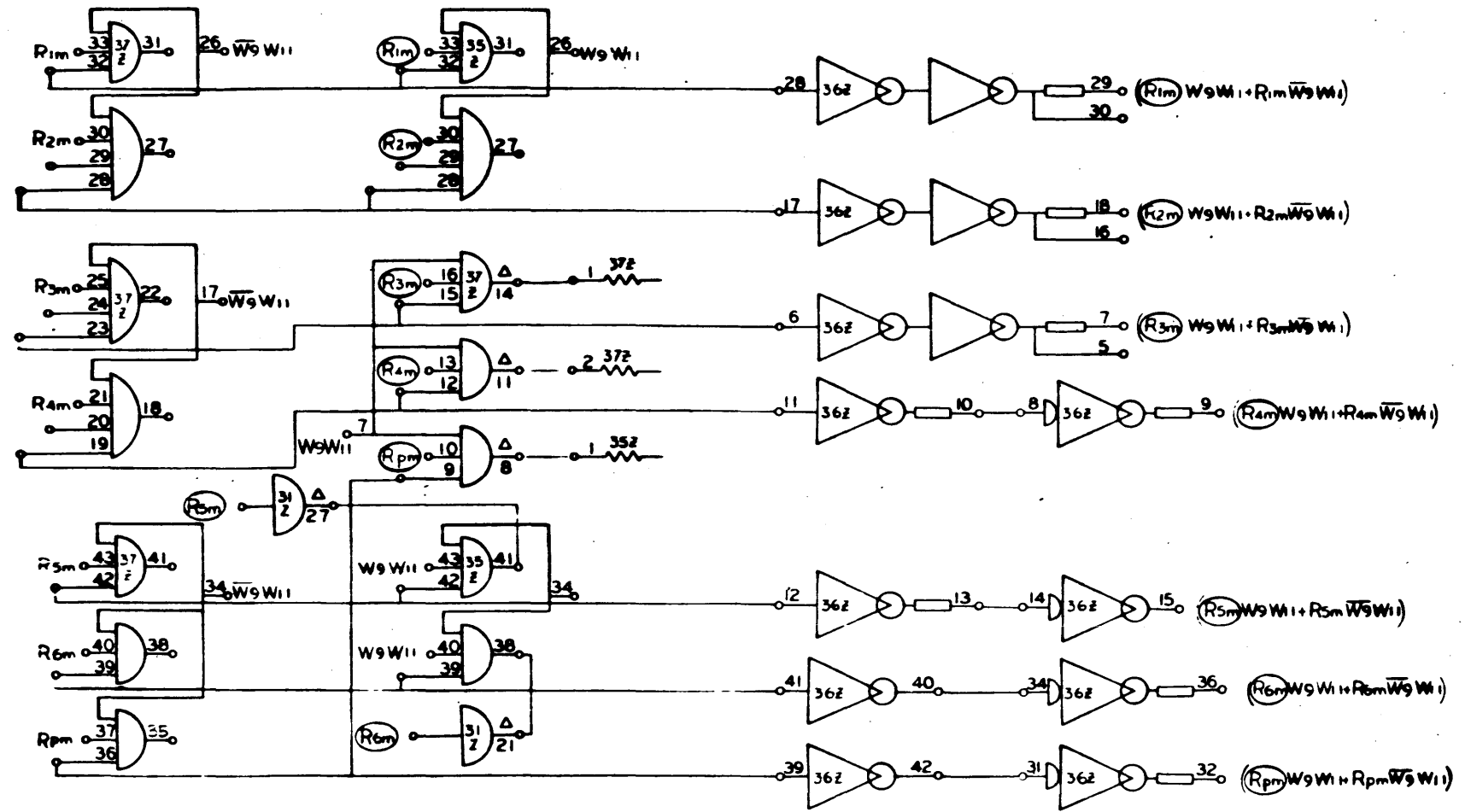
REV		DESCRIPTION	DATE	BY	APPROVED
A		REL. TO MFG.			



9148
15 KC TAPE CONTROL UNIT
PAGE 20
A

NO.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV.
MATERIAL LIST				
NOTES UNLESS SPECIFIED: • TOLERANCES: .001 ANGULAR .1° • UNLESS ALL DIMENSIONS ARE SPECIFIED • HOLE DEPTH: 7 • ALL DIM IN INCHES				
MODEL NO. 9148		TITLE SDS SCIENTIFIC DATA SYSTEMS 1645 FIFTEENTH STREET SANTA MONICA, CALIFORNIA DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		
NEXT ASSY 101872		REV. D	DRAWING NO. 102338	SHEET A
SCALE		NO NET SCALE DRAWING SHEET		

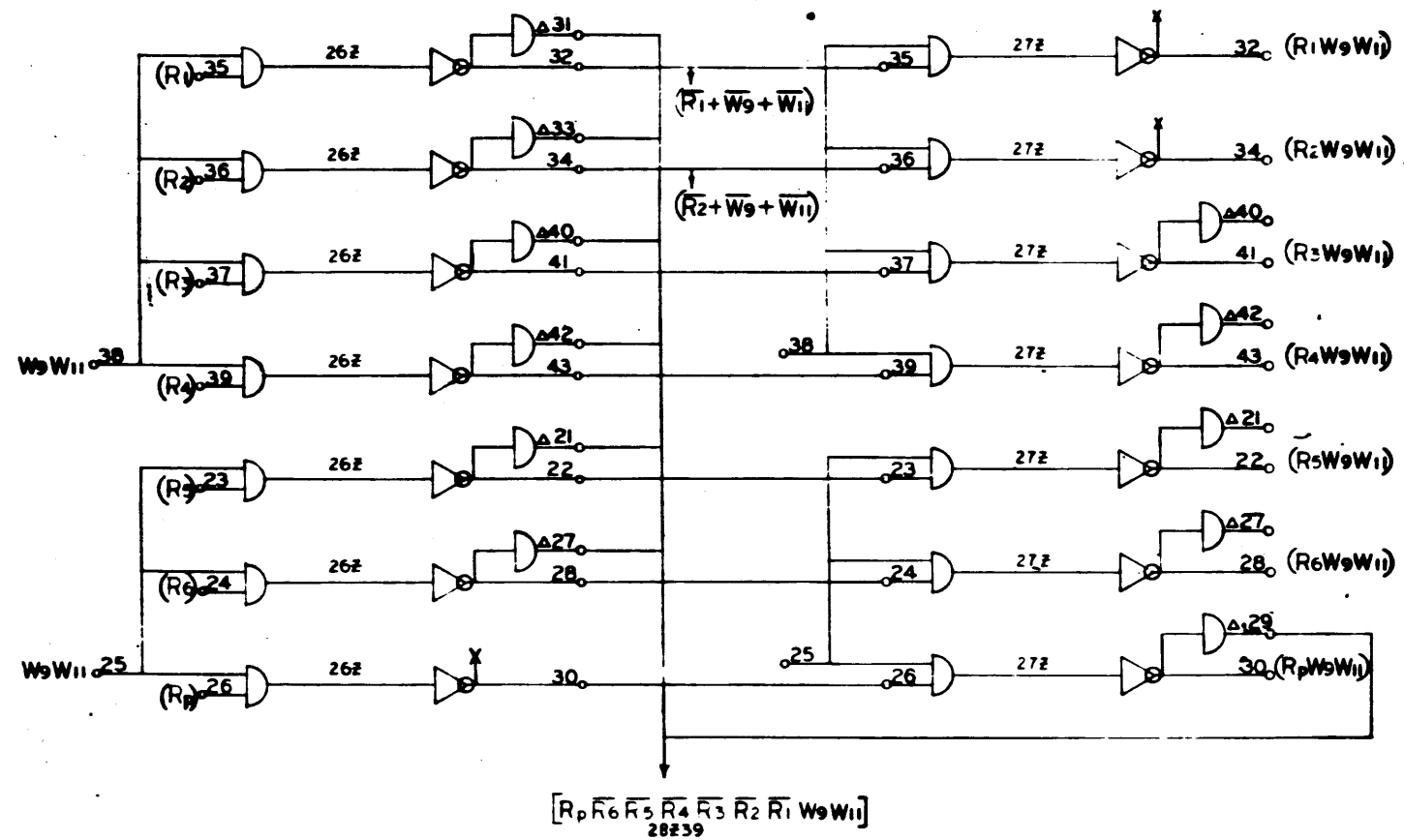
REV		DESCRIPTION	CHK	DATE	APPROVED
A		DEL. TO YFG.			
E		SEE REV. E.O.			



9148
15KC TAPE CONTROL UNIT
PAGE 21
E

REV	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	REV
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRW		
TOLERANCES		CHECK		
UNLESS OTHERWISE SPECIFIED		APPD		
<ul style="list-style-type: none"> • DIMENSIONS ARE IN INCHES • DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED • ALL DIMENSIONS ARE TO BE TAKEN FROM THE UNLESS OTHERWISE SPECIFIED 		 SCIENTIFIC DATA SYSTEMS 1845 15TH STREET, SANTA MONICA, CALIFORNIA		
		DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		
MODEL NO	9148	REV	D	102338
PART NO	101872	SCALE	BY NOT SCALE DRAWING	

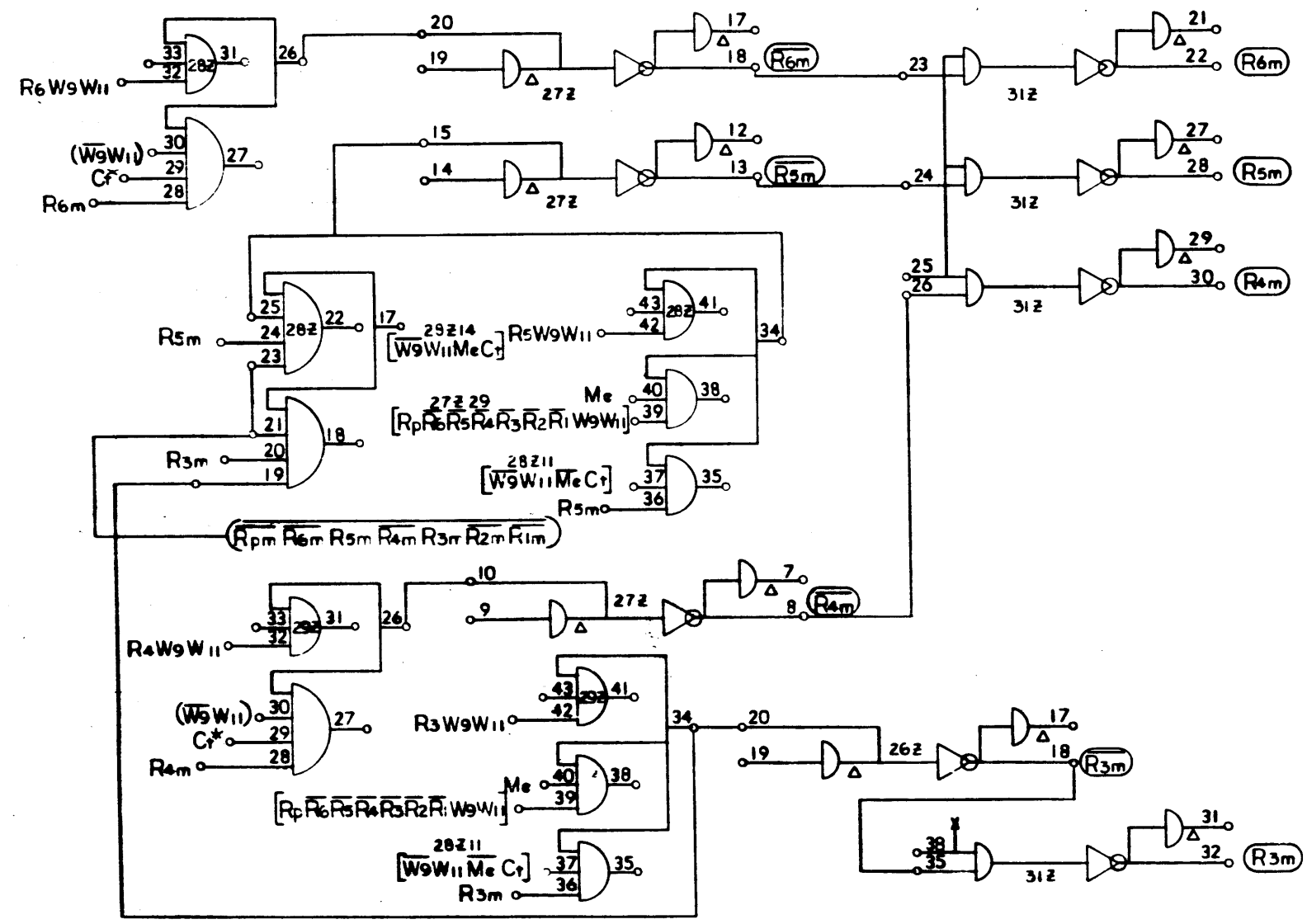
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	REL. TO MFG.	1/18/57	W. J. ...



9148
15 Kc TAPE CONTROL UNIT
PAGE 22
A

NO	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION
MATERIAL LIST			
NOTES UNLESS SPECIFIED: 1. TOLERANCES AS SHOWN 2. DIMENSIONS IN INCHES 3. FINISH ALL SURFACES 4. HOLE SURFACES 5. ALL DIM TO CENTER			
DRAWN: _____ CHECK: _____ APPR: _____		SDS COMPUTING DATA SYSTEMS 1845 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA	
MODEL NO 9148		PART NO D 102338	
NEXT ASSY 101872		SCALE: _____ DRAWN BY: _____	

REV.		DESCRIPTION		DATE		APPROVED	
A		REL. TO MFG.		CLB		JAL	

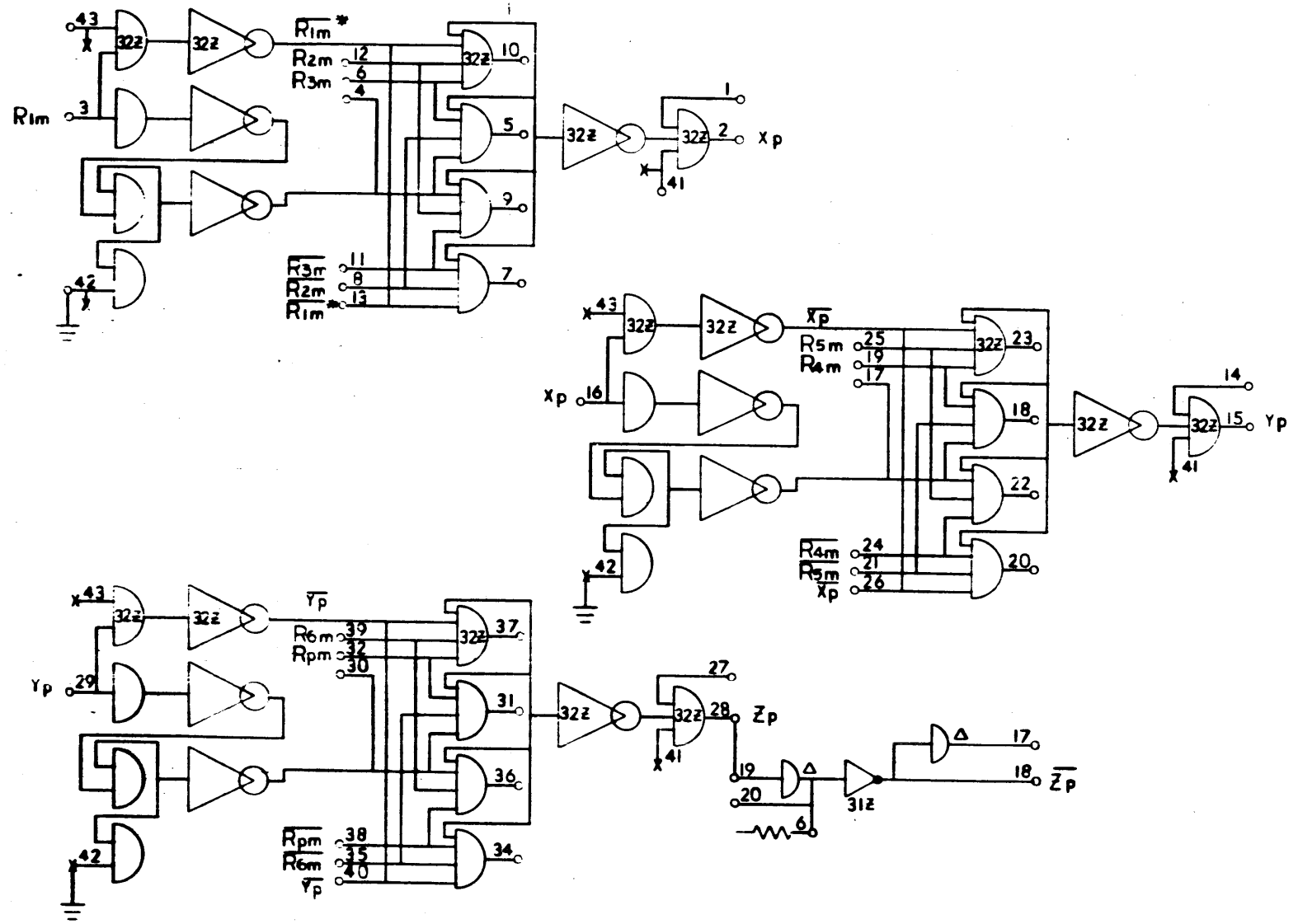


9148
15 KC TAPE CONTROL UNIT
PAGE 23
A

DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV.
9148	DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		A
MATERIAL LIST			
REVISED UNLESS OTHERWISE SPECIFIED	DRAWN R. KEIPERT 2/18/63	SDS SCIENTIFIC DATA SYSTEMS 5700 CENTRAL EXPRESSWAY DENVER, COLORADO	
1. CHECK ALL DIMENSIONS	CHECKED K. Wilson 7/17/63	TITLE	
2. CHECK ALL DIMENSIONS	APPROVED WKF 2/19/63		
3. CHECK ALL DIMENSIONS		SCALE	
4. CHECK ALL DIMENSIONS			
5. CHECK ALL DIMENSIONS		DO NOT SCALE DRAWING	
MODEL NO.	9148	REV. NO.	D
REV. NO.	101872	REV. NO.	102338

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			

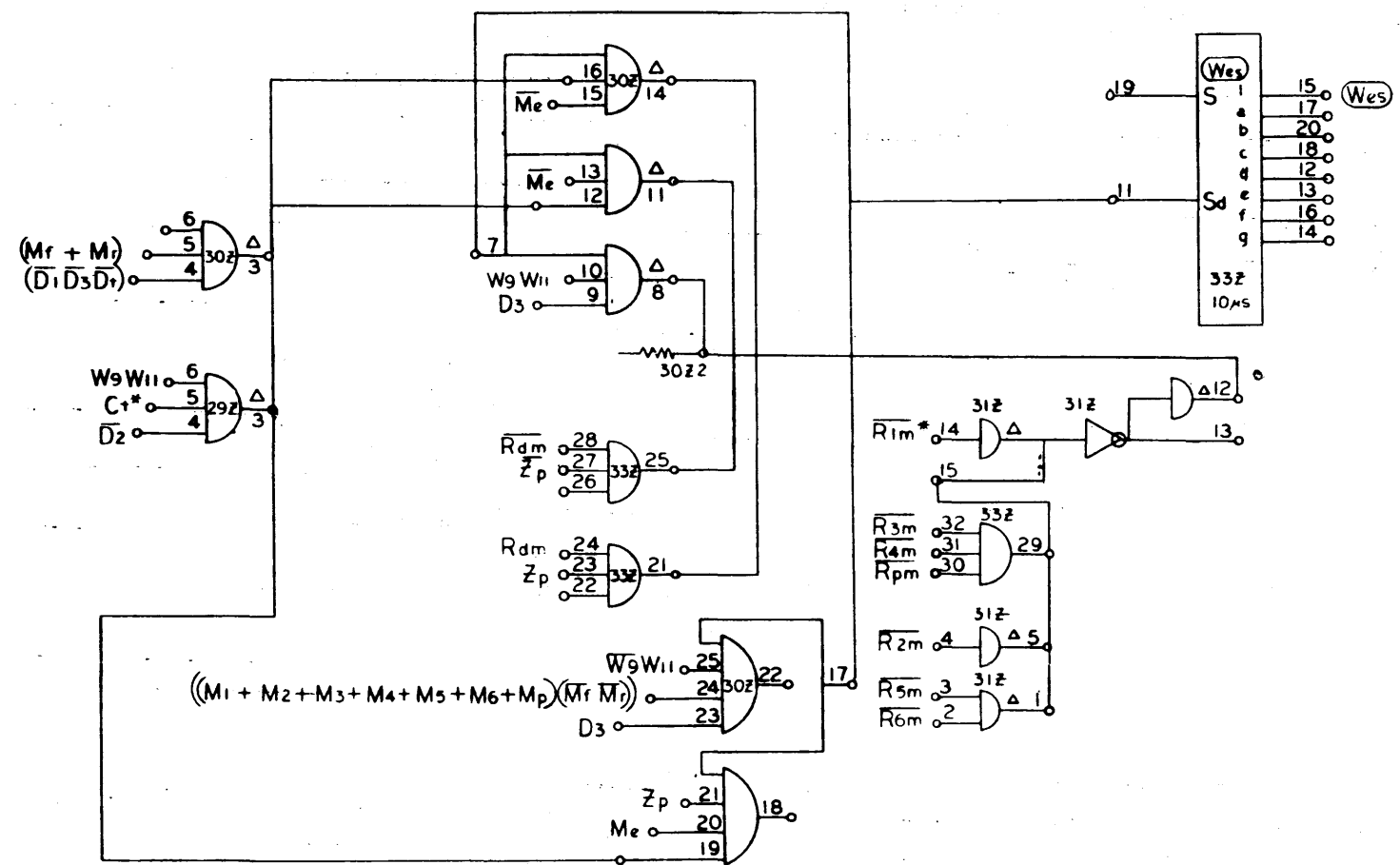
MATERIAL LIST			
REV.	DESCRIPTION	QTY.	UNIT
1	RESISTORS		
2	CAPACITORS		
3	TRANSISTORS		
4	DIODES		
5	RELAYS		
6	PLUGS		
7	WASHERS		
8	SCREWS		
9	SPACERS		
10	OTHER		

DESIGNED BY	R. WEIPERT	DATE	2/12/61
CHECKED BY	K. WATSON	DATE	2/15/61
APPROVED BY	W. K. F.	DATE	1/11/65

SCALE	DO NOT SCALE DRAWING	SHEET	31
-------	----------------------	-------	----

102338 A

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

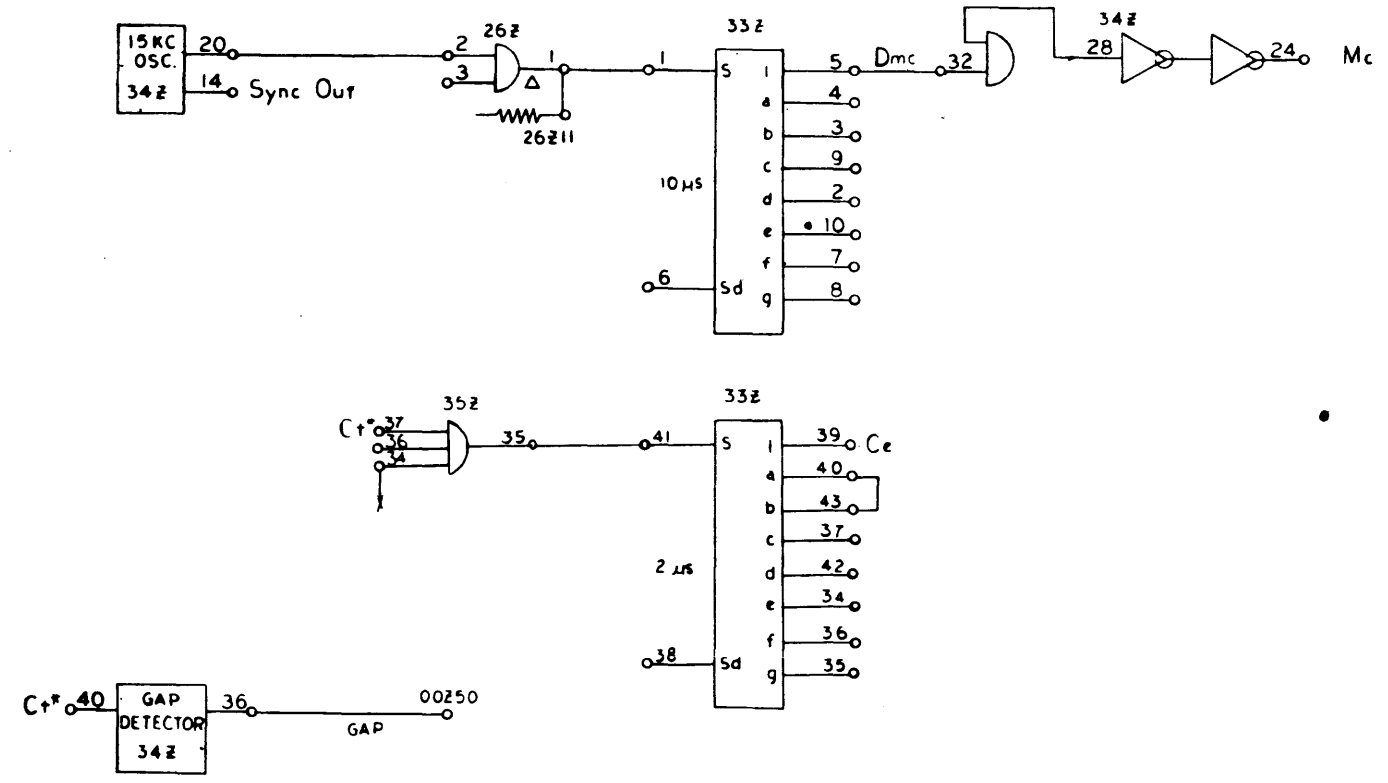


9148
 15KC TAPE CONTROL UNIT
 PAGE 26
 A

102338 | A |

NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV. NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	SDS SCIENTIFIC DATA SYSTEMS 1845 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA	
1. TOLERANCES XX .000 ANGULAR XXX .010	CHECK	DATE	TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT	
2. BREAK ALL SHARP EDGES 3. HATCH SURFACES 4. ALL DIM. IN DECIMALS	APPR.	DATE	MODEL NO. 9148	
NEXT ASSY. 101872		DATE D		DATE 102338
SCALE		DO NOT SCALE DIM. FROM THIS SHEET		REV. NO. A

REVISIONS			
REV.	DESCRIPTION	CHK	DATE
A	REL. TO MFG.	CAB	1/13/68



9148
15KC TAPE CONTROL UNIT
PAGE 27
A

NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	SDS SCIENTIFIC DATA SYSTEMS 1542 FIFTEENTH STREET SANTA MONICA, CALIFORNIA	
1 TOLERANCES XX ± 0.00 ANGULAR XX ± 0.10 ± 10° 2 BREAK ALL SHARP EDGES 3 HATCH SURFACES ✓ 4 ALL DIM. IN INCHES		CHECK		
MODEL NO.		APPR.	TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT	
9148				
NEXT ASSY.		SCALE		ITEM NO.
101872		DO NOT SCALE DRAWING		A

102338/A

9148 DIRECTORY

PAGE	TERM
27	Ce
14	Cr
14	Cc
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 (Bor0) ... Ma7 (Bor7))
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) (Mf Mr)
16	QZ
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 R6m R5m R4m R3m R2m R1m)
22	(Rp R6 R5 R4 R3 R2 R1 W9 W11)
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)

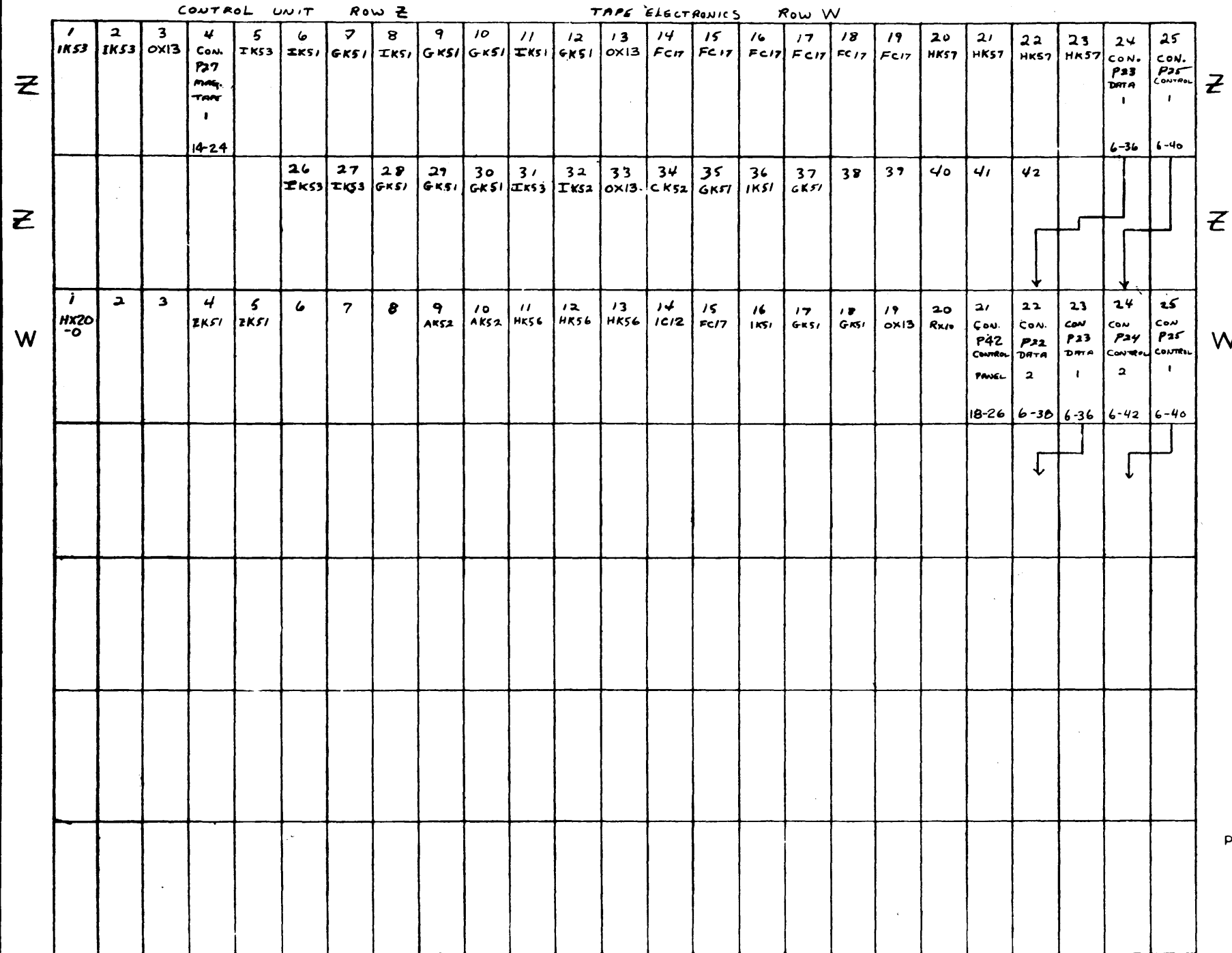
PAGE	TERM
22	(R2 W9 W11)
22	(R2 + W9 + W11)
21	(R2m W9 W11 + R2m W9 W11)
11	R3m
11	R3m
23	(R3m)
23	(R3m)
22	(R3 W9 W11)
21	(R3m W9 W11 + R3m W9 W11)
11	R4m
11	R4m
23	(R4m)
23	(R4m)
22	(R4 W9 W11)
21	(R4m W9 W11 + R4m W9 W11)
12	R5m
12	R5m
23	(R5m)
23	(R5m)
22	(R5 W9 W11)
21	(R5m W9 W11 + R5m W9 W11)
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 Ci)
24	(W9 W11 Me Ci)
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	(Mf Mr Dt D3 Dt)

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

NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED				
1. TOLERANCES UNLESS SPECIFIED		DRAWN R. HEART 11-18-63	SDS SCIENTIFIC DATA SYSTEMS	
2. BREAK ALL SHARP EDGES 3/16 APPROX.		CHECK C. DEWITT 11/27/63	1545 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA	
3. HATCH SURFACES		APPR. WJC 11/15/63	TITLE	
4. ALL DIM. IN INCHES			DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT	
MODEL NO. 9148			REV. D	DATE 102338
NEXT ASSY. 101872				F
SCALE			DO NOT SCALE DRAWING SHEET	

REVISIONS				102338	F
REV.	DESCRIPTION	CHK.	DATE	APPROVED	
F	SEE REV. E0	W	11/27/63	W	

9148 - 9148 MAGNETIC TAPE SYSTEM



9148
PAGE 29
F

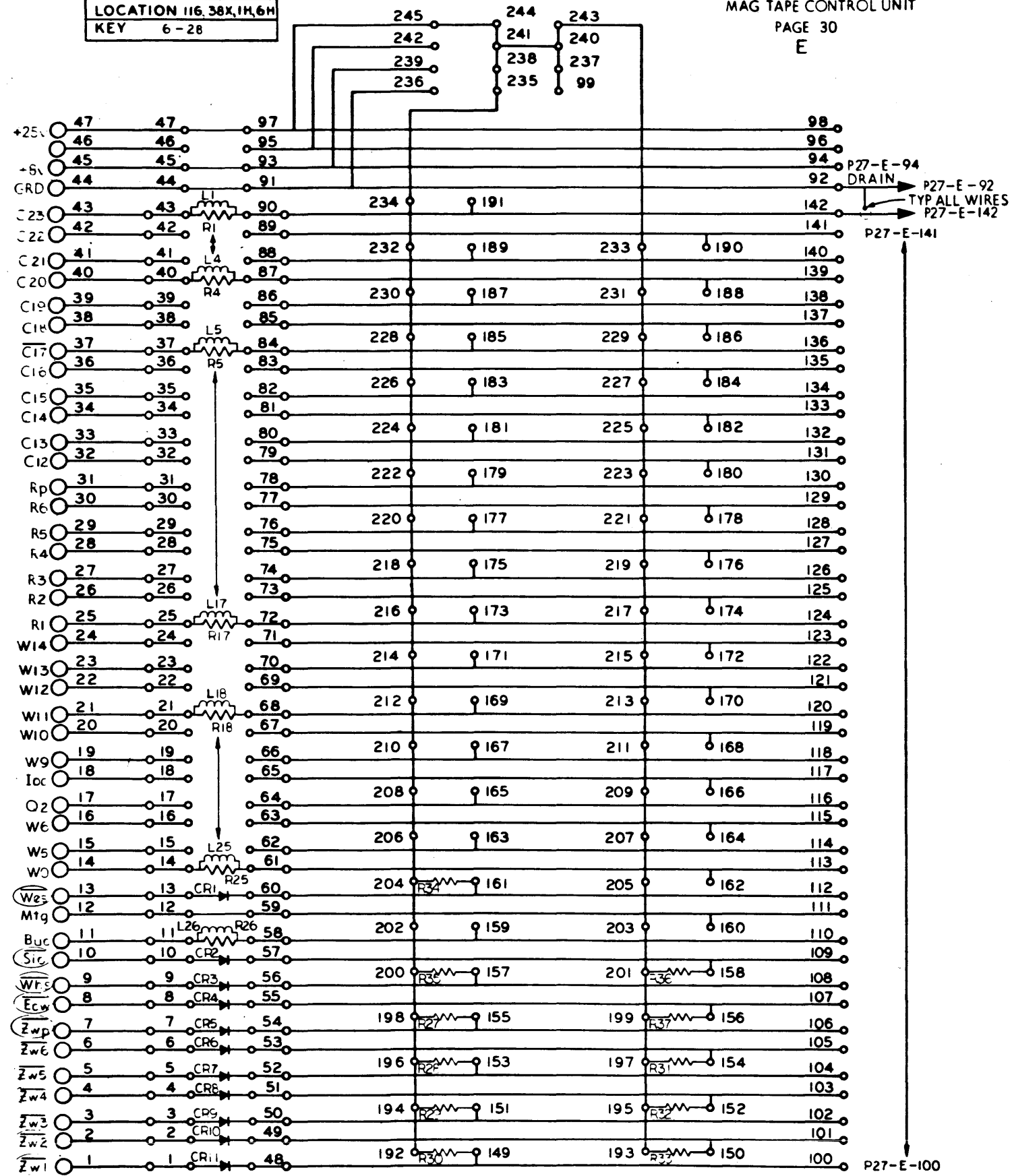
NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	FILE NO.
NOTES UNLESS SPECIFIED				
1 TOLERANCES 25 ± 0.00 ANGULAR 25 ± 0.10 ± 15°		DRAWN R.K. 11/18/63		
2 BREAK ALL SHARP EDGES 0.10 APPROX.		CHECK C.J. 11/27/63		
3 HACH. SURFACES ✓		APPR. W.K. 1/15/64		
4 ALL DIM. IN INCHES		MATERIAL LIST		
MODEL NO. 9148		SDS SCIENTIFIC DATA SYSTEMS 1542 FIFTEENTH STREET SANTA MONICA, CALIFORNIA		
NEXT ASSY. 101872		TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT		
SCALE		SIZE DWG. NO. D 102338		F
		DO NOT SCALE DRAWING		SHEET

102338 F

REVISIONS		22338	E
REV	DESCRIPTION	CHK	DATE
A	REL. TO MFG.		
E	SEE REV. E.O.		

DESIGNATION P2E
 LOCATION 116, 38X, 1H, 6H
 KEY 6-28

CABLE PLUG MODULE
 9148
 MAG TAPE CONTROL UNIT
 PAGE 30
 E

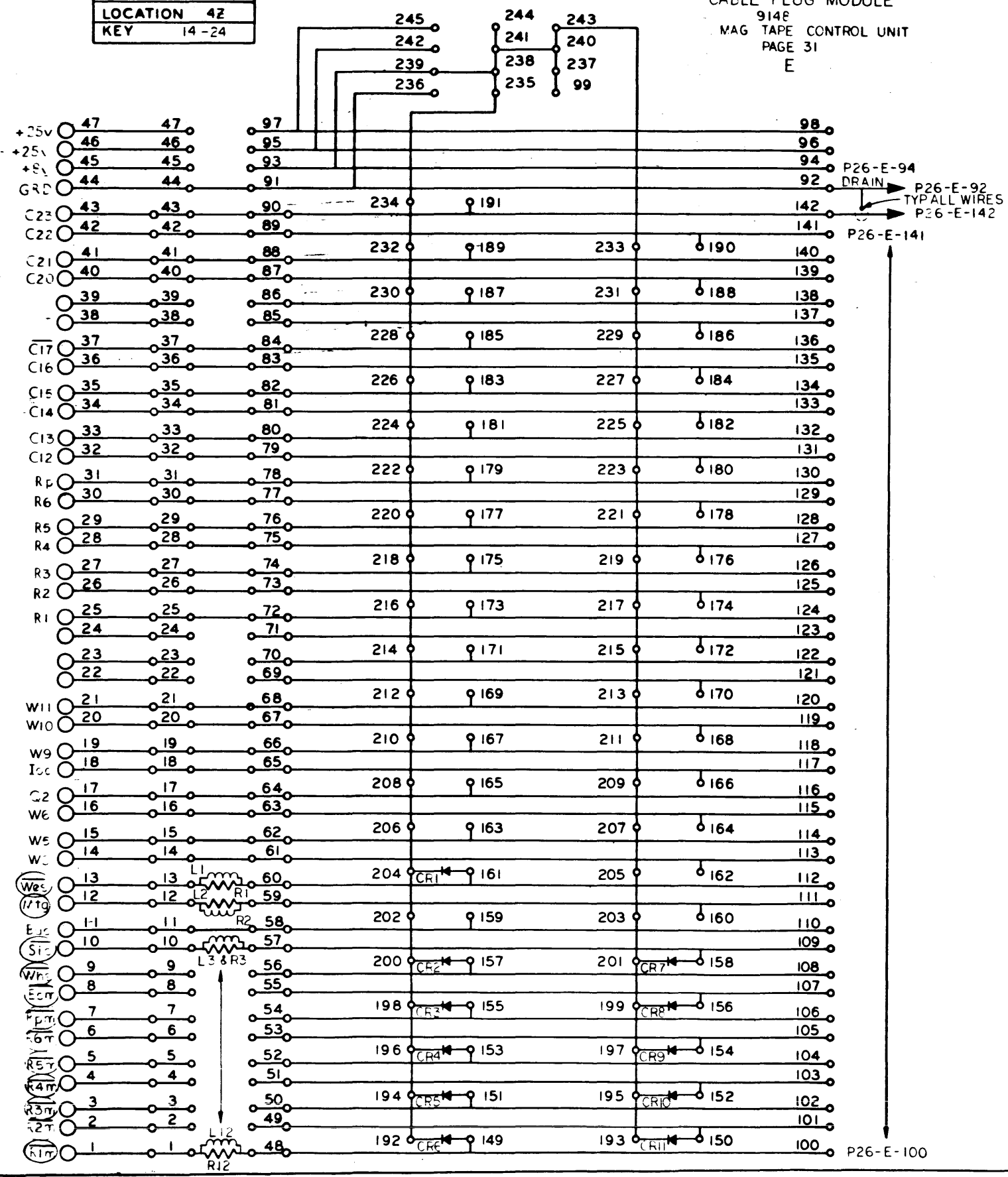


NO	REQ	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED					
1 TOLERANCES 22 ± .030 ANGULAR 25 ± .010					
2 BREAK ALL SHARP EDGES 0.10 APPROX					
3 MACH SURFACES ✓					
4 ALL DIM IN INCHES					
MATERIAL LIST					
SDS SCIENTIFIC DATA SYSTEMS 1542 FIFTEENTH STREET SANTA MONICA, CALIFORNIA					
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	APPROVED
4	PEL. TC MFG.			
C	SEE REV E C			
E	SEE REV E C			

DESIGNATION P27
LOCATION 4Z
KEY 14-24

CABLE PLUG MODULE
9148
MAG TAPE CONTROL UNIT
PAGE 31
E



NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	<div style="text-align: center;"> <p>1425 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA</p> <p>TITLE: DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT</p> </div>	
1. TOLERANCES XX = 0.005 XXX = 0.010		CHECK		
2. BREAK ALL SHARP EDGES 0.10 APPROX		APPR		
3. MACH SURFACES ✓ 4. ALL DIM IN INCHES				
MODEL NO.	9148	SIZE	DWG NO.	E
NEXT ASSY	101872	SCALE	DO NOT SCALE DRAWING	SHEET

REVISIONS			
REV	DESCRIPTION	CHK	DATE
F	SEE REV. E0		10/28/67
G	SEE REV. E0		11/2/67

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	E								
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	B								
33	E								
34	F								

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

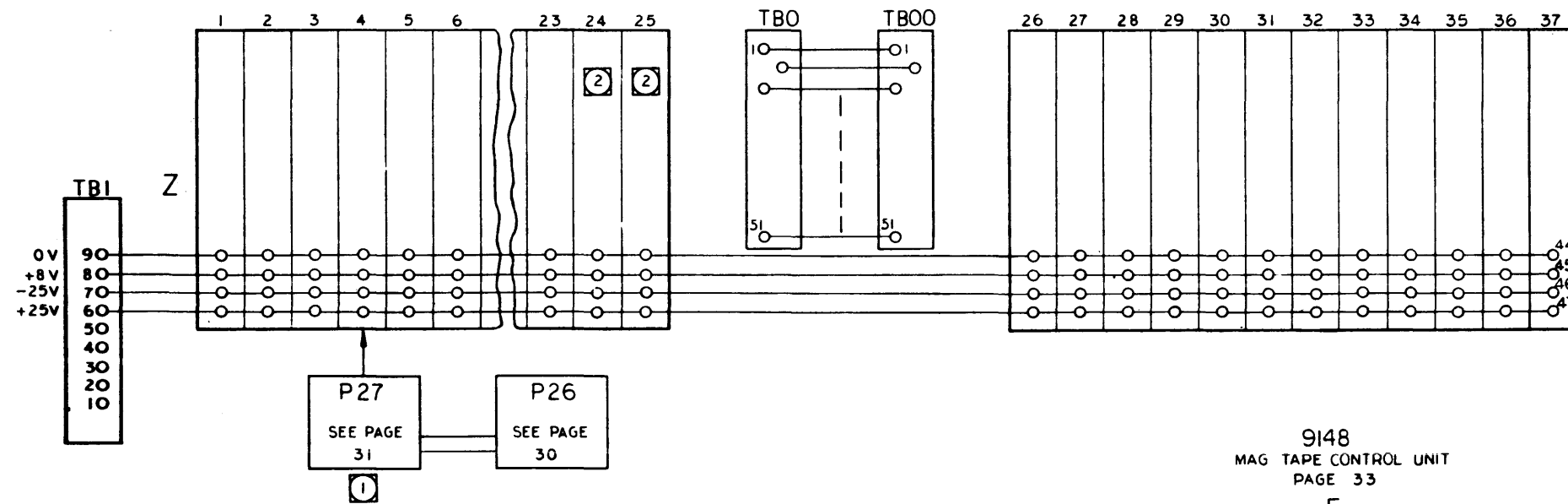
DWG
PAGE 38
G

NO.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION
NOTES UNLESS SPECIFIED: DRAWN: S. M. GIBBY 11-10-67 CHECK: [Signature] 11/2/67 APP: [Signature] 11/2/67 1. DRAWN TO SCALE 2. CHECK ALL DIMENSIONS 3. ALL DIMENSIONS IN INCHES			
MATERIAL LIST SDS ENGINEERING DRAWING SYSTEMS 100 EASTERN STREET, SANTA MONICA, CALIFORNIA		TITLE DIAGRAM, LOGIC MAG. TAPE CONTROL UNIT	
MODEL NO. 9148	REV. NO. D	DRAWING NO. 102338	SHEET NO. G
NEXT ASSY 101872	SCALE DO NOT SCALE DRAWING	CHECKED	

REVISIONS				102338 E
REV	DESCRIPTION	CHK	DATE	APPROVED
A	SEE REV. E.O.	e/b	7/9/63	WJK

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

NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN <i>J. B. ...</i> 6-4-63	SDS SCIENTIFIC DATA SYSTEMS 1545 FIFTEENTH STREET SANTA MONICA, CALIFORNIA	
1. TOLERANCES XX ± .030 ANGULAR XXX ± .010 ± 1/2°		CHECK <i>G. B. ...</i> 7/9/63		
2. BREAK ALL SHARP EDGES D10 APPROX		APPR <i>WJK</i> 7/11/63	TITLE DIAGRAM, LOGIC MAG TAPE CONTROL UNIT	
3. MACH SURFACES ✓ 4. ALL DIM. IN INCHES			MODEL NO. 9148	SIZE D
NEXT ASSY 101872			DWG NO. 102338	SHEET .E
		SCALE	DO NOT SCALE DRAWING	SHEET

102338 E

REVISIONS				102338	F
REV.	DESCRIPTION	CHK.	DATE	APPROVED	
F	SEE REV. E0	CLD	1/15/64	WKE	

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 Ω \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 μ 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

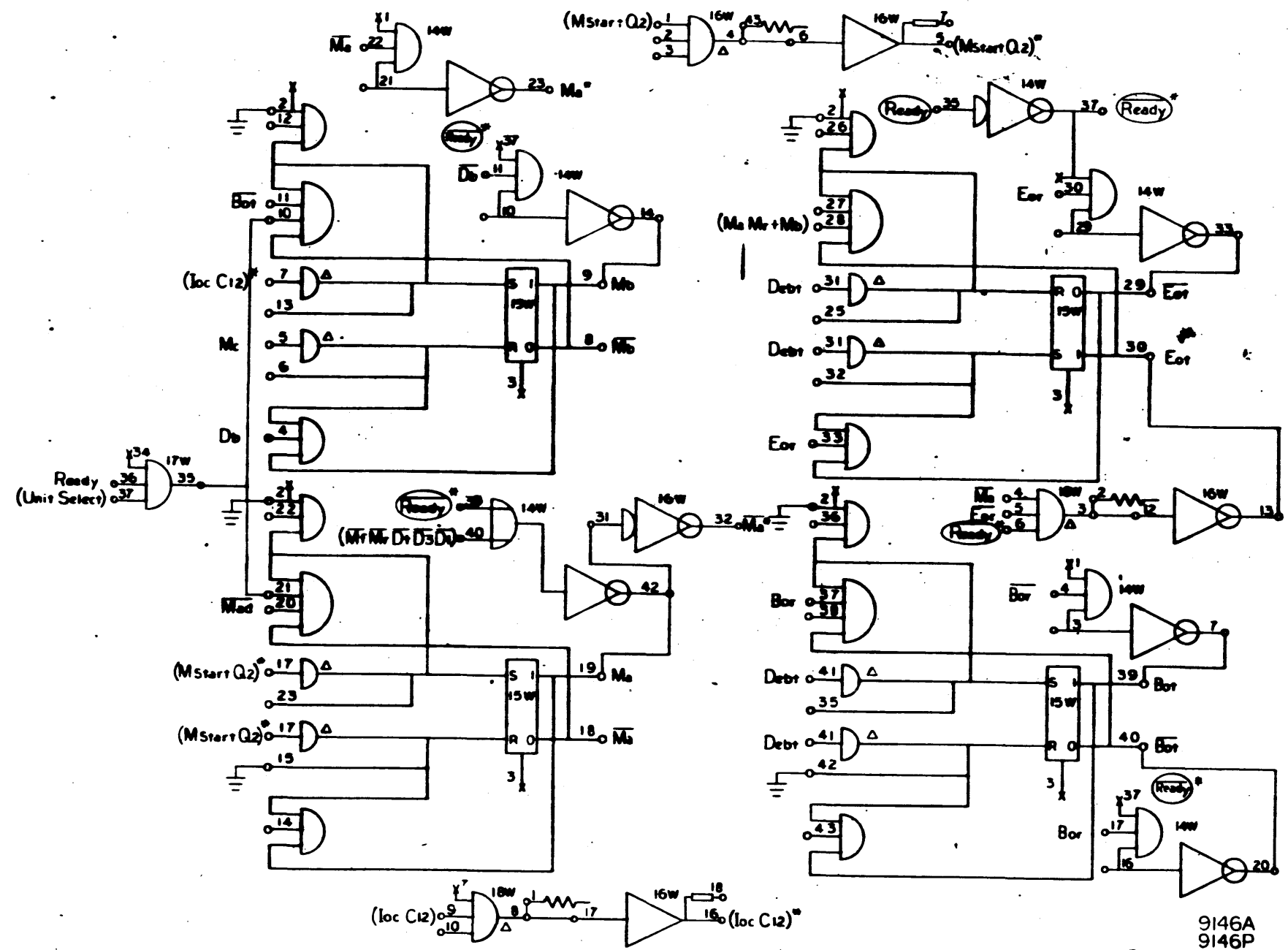
ITEM	DESCRIPTION	CABLE LENGTH				DESIGNATION	QTY.	SUPPLIER CODE (SEE INDEX)
		11'	20'	30'	40'			
6	RESISTOR	390 Ω \pm 2%	330 Ω \pm 2%	270 Ω \pm 2%	220 Ω \pm 2%	(P26) R1 THRU R26	26	16, 17

9148
MAG TAPE CONTROL UNIT
PAGE 34
F

NO. REG.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	R. VEIPE RT	11-18-63
1. TOLERANCES XX \pm .030 ANGULAR XXX \pm .010 \pm .10"		CHECK	CLD	1/15/64
2. BREAK ALL SHARP EDGES 0.10 APPROX.		APPR.	WKE	1/15/64
3. HATCH SURFACES <input checked="" type="checkbox"/>				
4. ALL DIM. IN INCHES				
MODEL NO.		9148		SIZE
NEXT ASSY.		101872		DWG. NO.
				D
				102338
				F
				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.				

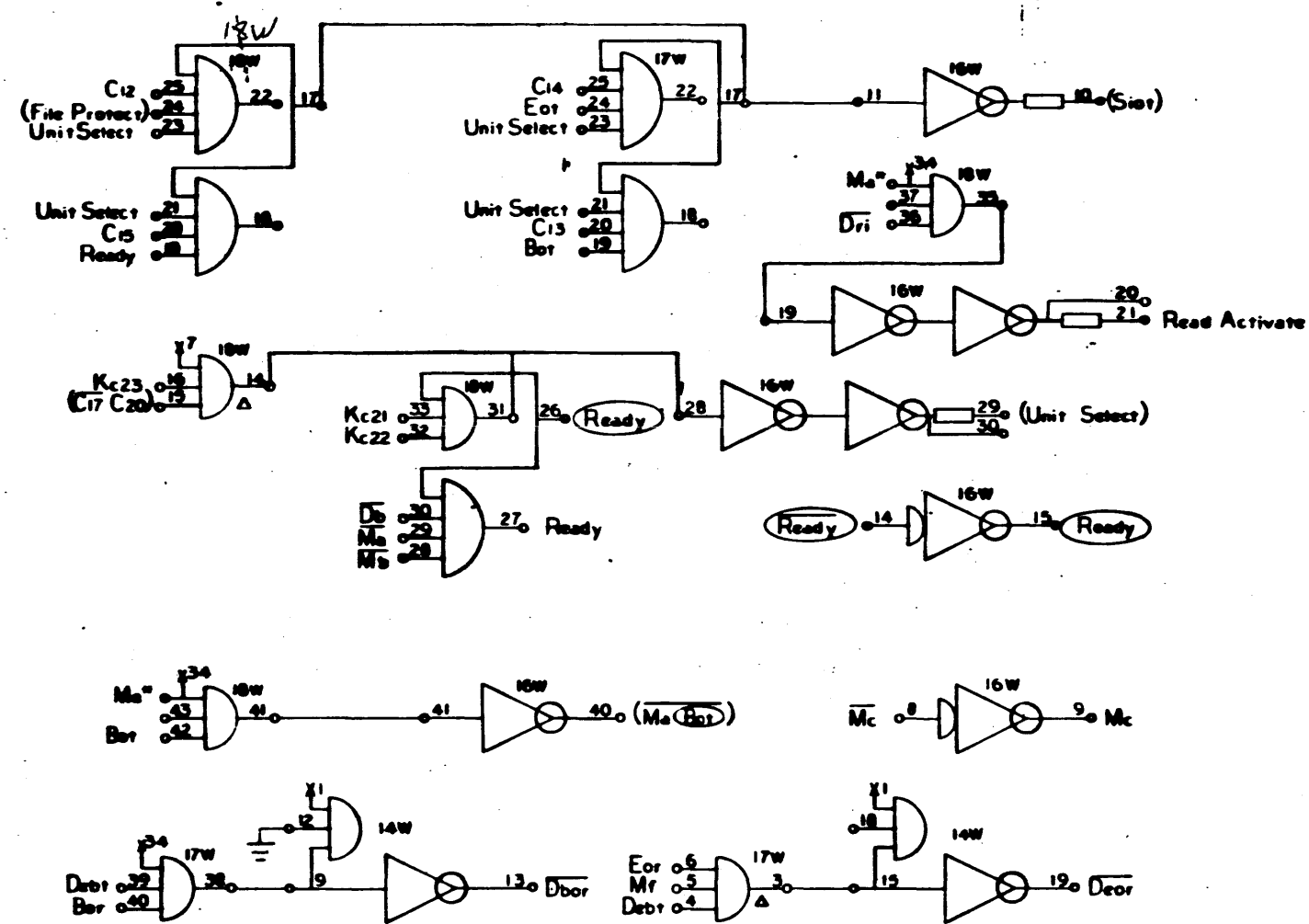


9146A
9146P
15KC TAPE UNIT ELECTRONICS
PAGE 1
B

104654 | B |

NO.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV. NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED: 1. DIMENSIONS IN 1/16" INCREMENTS 2. BREAK ALL SHARP EDGES 3. HATCH SURFACES 4. ALL DIM IN INCHES				
MODEL NO. 9146 NEXT ASSY. 04645		TITLE DIAGRAM, LOGIC MAG. TAPE		
DRAWN: [Signature] CHECK: [Signature] APPR: [Signature]		DATE: 12-43 Dwg No. 104654 SHEET 3		
SCALE: DO NOT SCALE DRAWING				

REV		DESCRIPTION	DATE	BY	APPROVED
A		RELEASED TO MFG	2/12/67		
B		SEE REV. E.O.			

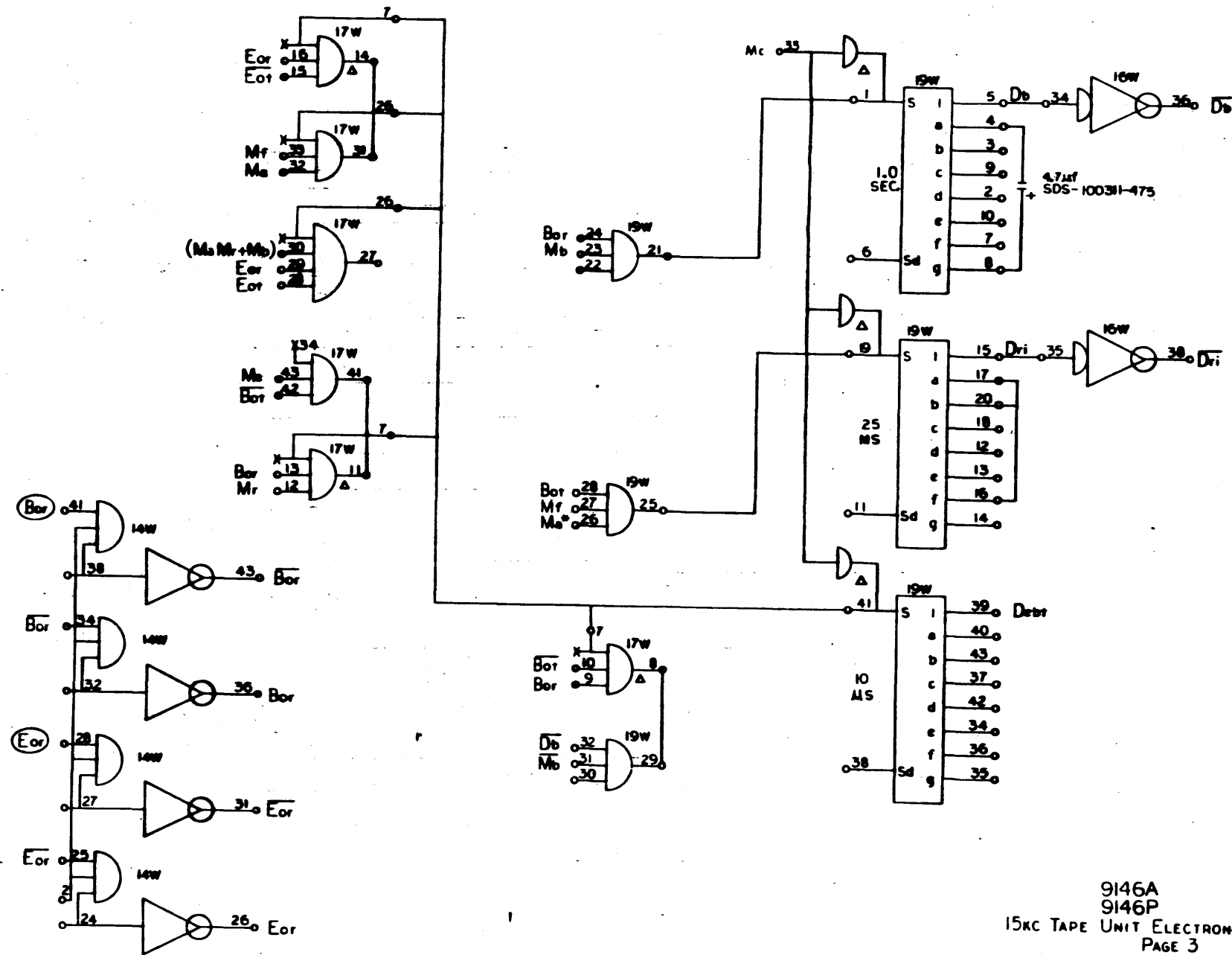


9146A
9146P
15KC TAPE UNIT ELECTRONICS
PAGE 2
B

104654 B

DRAWING NO.		DESCRIPTION	REFERENCE DESIGNATION	REV. NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED: 1. TOLERANCES: DIM. ± 0.005 ANGULAR ± 0.5° 2. BREAK ALL SHARP EDGES AND APPLICABLE 3. HATCH SURFACES ✓ 4. ALL DIM. IN INCHES				
MODEL NO. 9146 NEXT ASSY. 104645	DRAWN CHECK APPR.	DATE 2/12/67 2/15/67	TITLE DIAGRAM, LOGIC MAG. TAPE	Dwg. No. 104654 3
DO NOT SCALE DRAWING				

REVISIONS				104654	3
REV	DESCRIPTION	CHK	DATE	APPROVED	
A	RELEASED TO MFG			[Signature]	
B	SEE REV. E.O.			[Signature]	

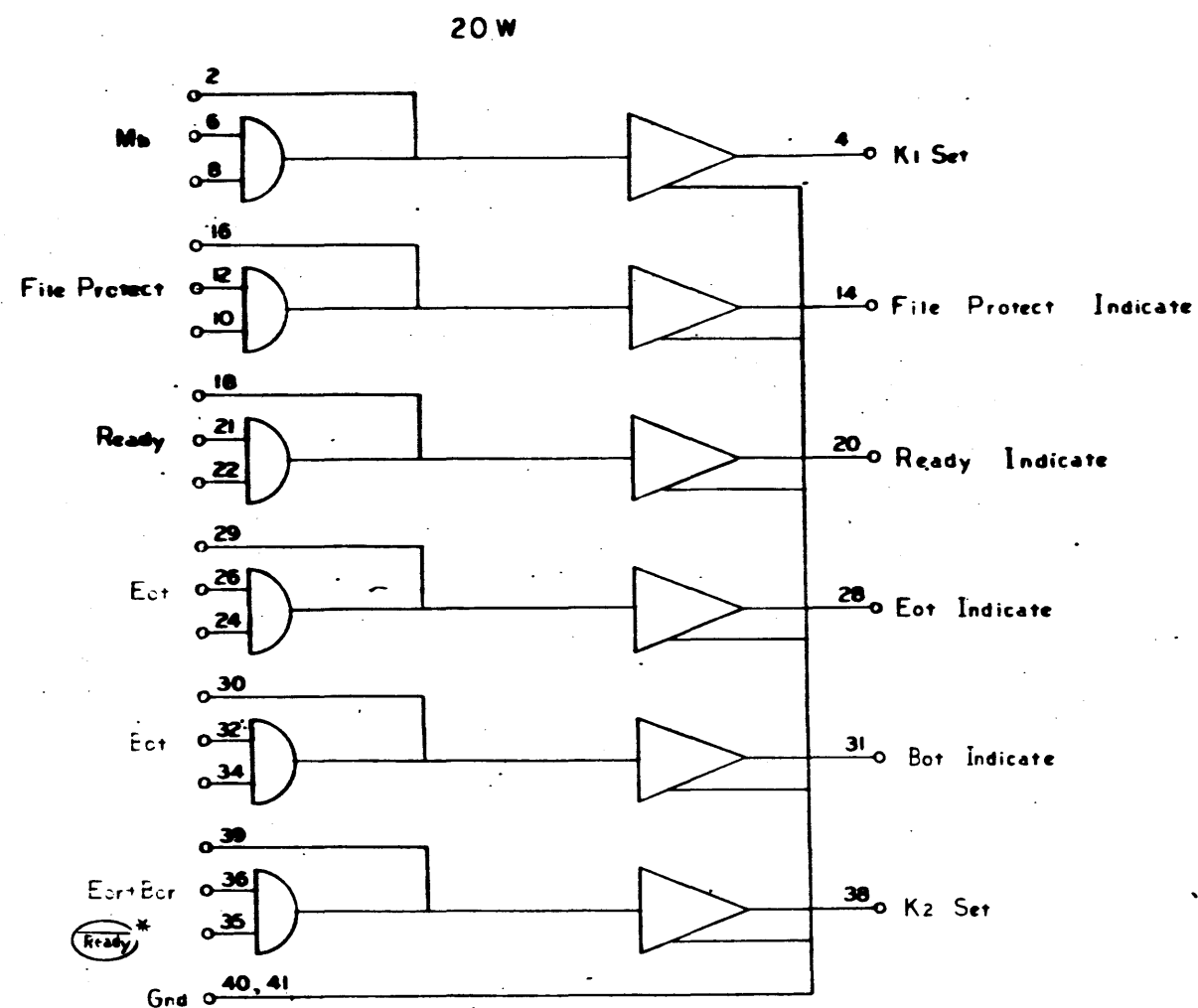


9146A
9146P
15KC TAPE UNIT ELECTRONICS
PAGE 3
B

104654 | B |

NO.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED				
1. TOLERANCES IN 2.000 ANGULAR DIM 2.000 ± 1/2°	2. DRAWN 2/15/65	3. CHECK [Signature]	4. DATE 11/15/65	5. TITLE DIAGRAM, LOGIC MAG, TAPE
6. UNLESS ALL SHARP EDGES R1W APPEAR	7. HATCH SURFACES	8. ALL DIMS IN INCHES		
MODEL NO. 9146	REV. NO. D	DRAWING NO. 104654		ITEM NO. B
NEXT ASSY. 104645	SCALE	DO NOT SCALE DRAWING		SHSET

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

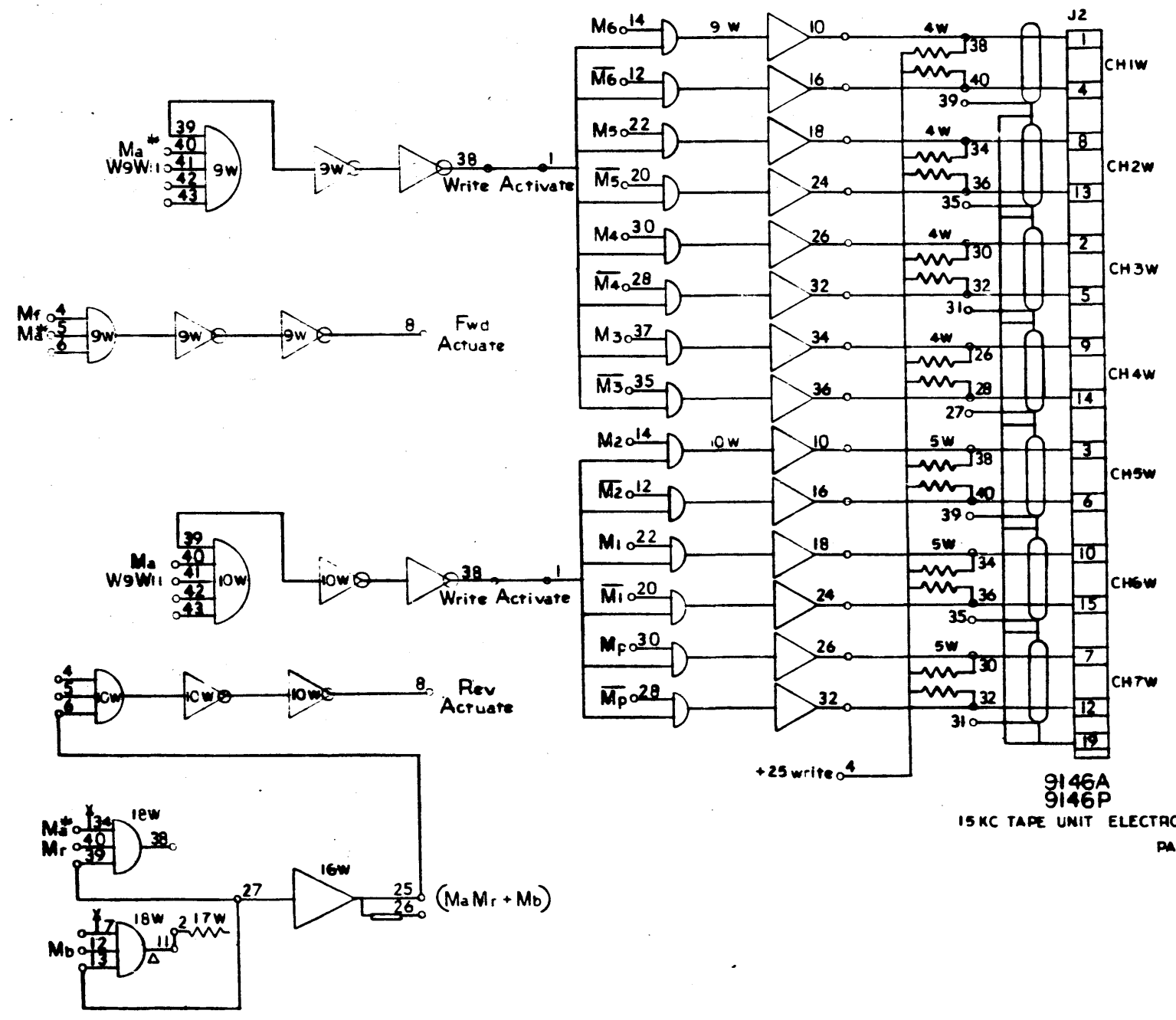


9146A
9146P
15 KC TAPE UNIT ELECTRONICS
PAGE 4
B

104654 | R

NO	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION
MATERIAL LIST			
NOTES UNLESS SPECIFIED		DRAWN: R. GIBBY CHECK: [] APPR: WFB DATE: 1/1/65	SDS SCIENTIFIC DATA SYSTEMS 1545 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA
1. UNLESS SPECIFIED, ALL DIMENSIONS ARE IN INCHES. 2. DIMENSIONS ARE TO UNLESS SPECIFIED. 3. DIMENSIONS ARE TO UNLESS SPECIFIED. 4. DIMENSIONS ARE TO UNLESS SPECIFIED.		DIAGRAM, LOGIC MAG. TAPE	
MODEL NO	9146		
NEXT ASSY	104645		
SCALE		DO NOT SCALE DRAWING	DATE

REVISIONS				104654	B
REV.	DESCRIPTION	CHK	DATE	APPROVED	
A	REL. TO MFG.	CLB	11-27-63	J. Hall	
B	SEE REV. E.O.	CLB	11-15-64	J. Hall	



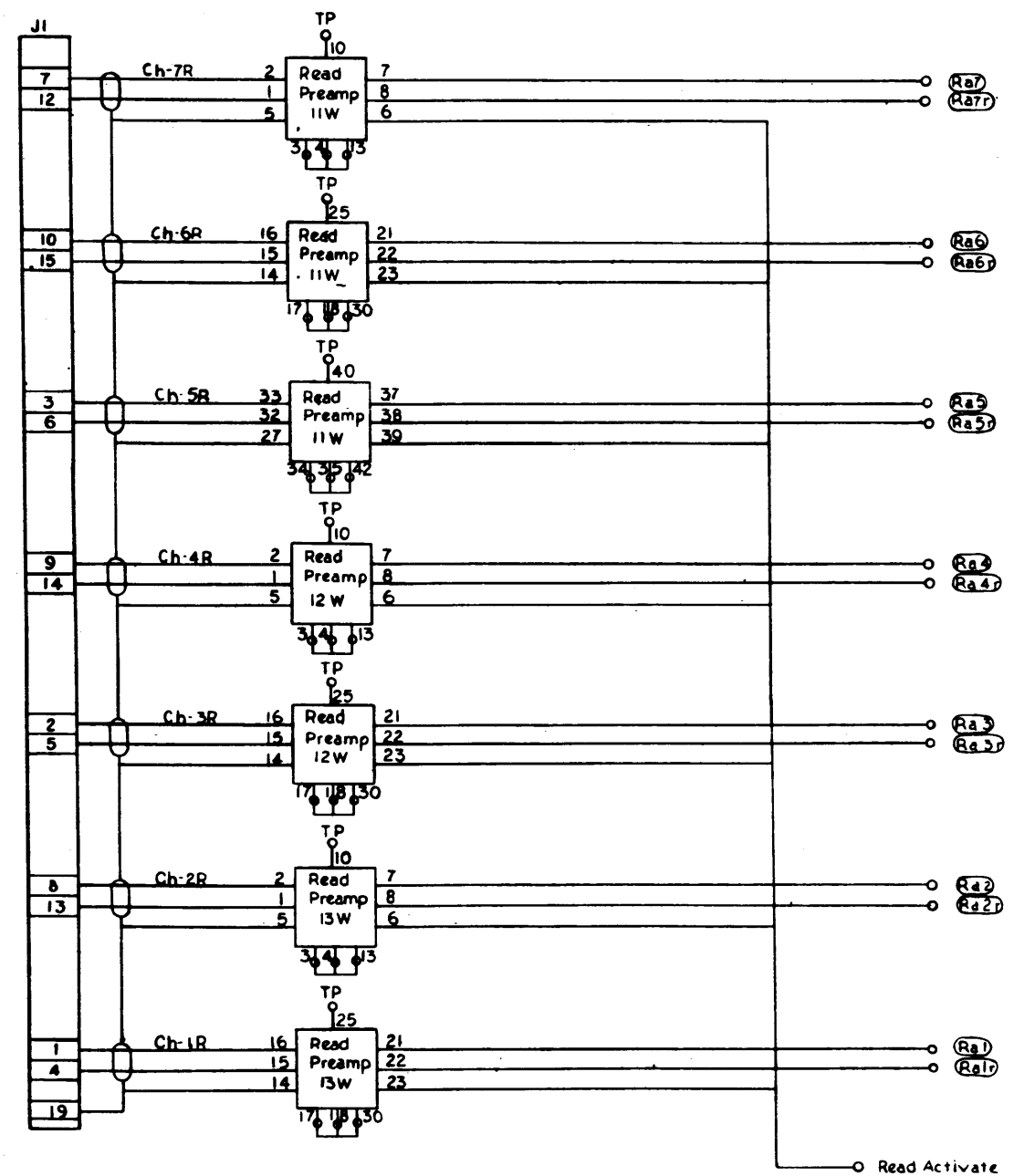
DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION
9146	DIAGRAM, LOGIC MAG. TAPE	
104645		

REV.	DESCRIPTION	CHK	DATE	APPROVED
1		R. KEIPERT	11-14-63	
2		CLB	11-27-63	
3		WKF	1-15-64	

9146	D	104654	B
104645			

104654 B

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



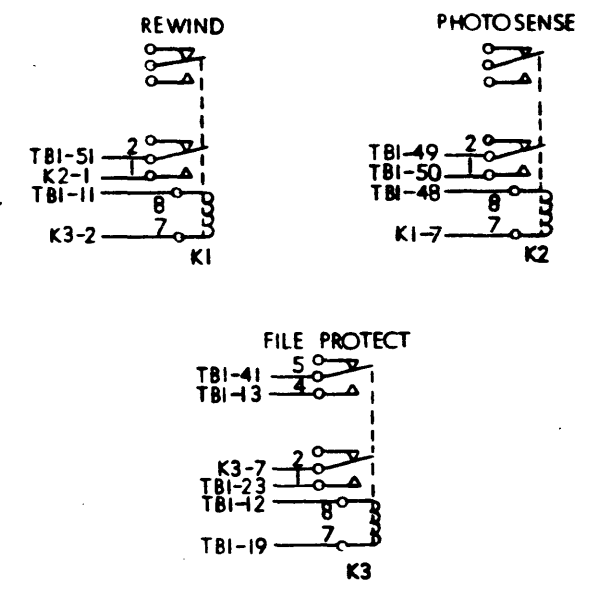
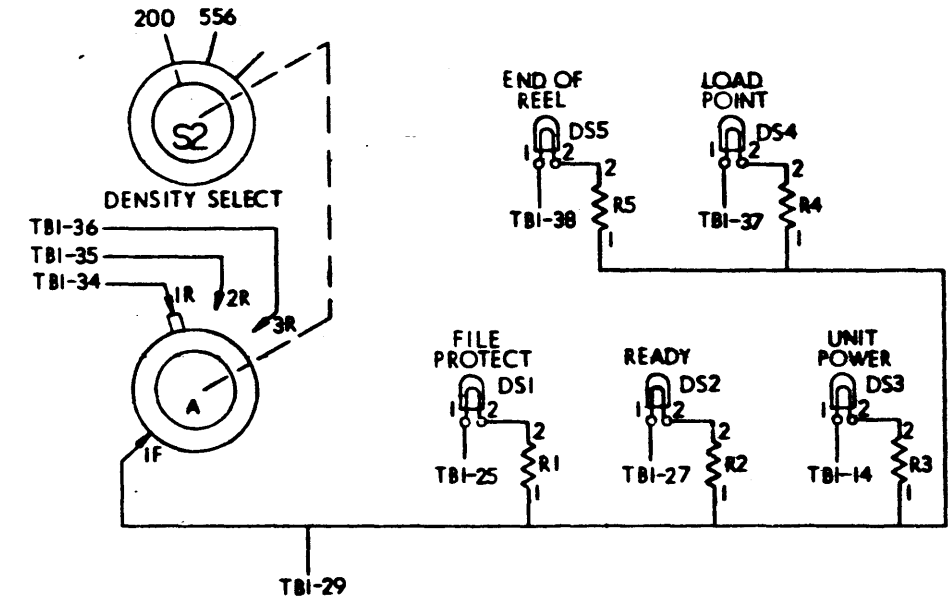
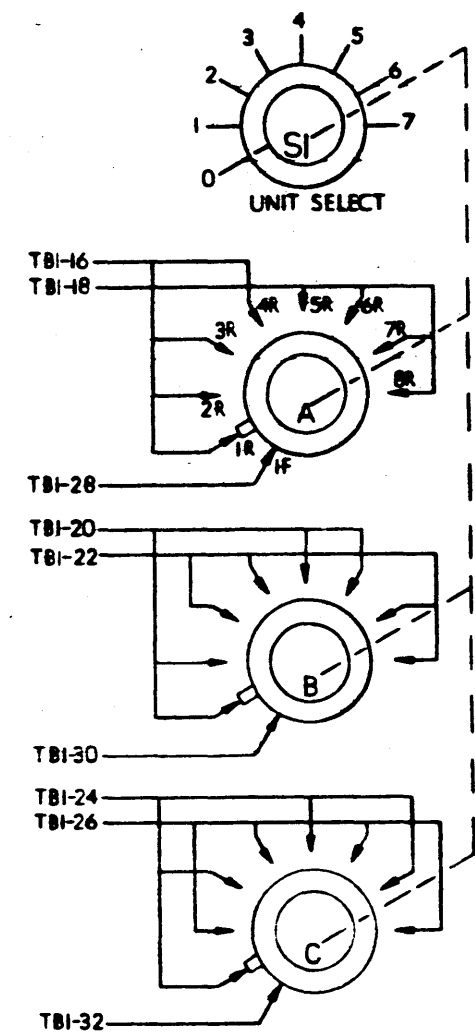
9146A
9146P
15KC TAPE UNIT ELECTRONICS
PAGE 6
B

104654 B

NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED				
1. TOLERANCES XX 2.000 ANGULAR XXX 2.010 2.5°				
2. BREAK ALL SHARP EDGES S10 APPROX.				
3. MACH. SURFACES ✓				
4. ALL DIM. IN INCHES				
DRAWN: R. K. BERT		DATE: 11/15/63		
CHECK: C. J. P.		DATE: 11/27/63		
APPR: W. K. F.		DATE: 1/13/64		
SDS SORENTWING DATA SYSTEMS 1845 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA				
DIAGRAM, LOGIC MAG. TAPE				
MODEL NO. 9146		REV. D		
NEXT ASSY. 104645		DWG. NO. 104654		
		SCALE: DO NOT SCALE DRAWINGS		
		SHEET: B		

REVISIONS				
REV.	DESCRIPTION	CHK.	DATE	APPROVED
A	REL. TO MFG.	CLB	1/17/64	J. Hall
B	SEE REV. E.O.	CLB	1/20/64	J. Hall

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	
142-103	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)

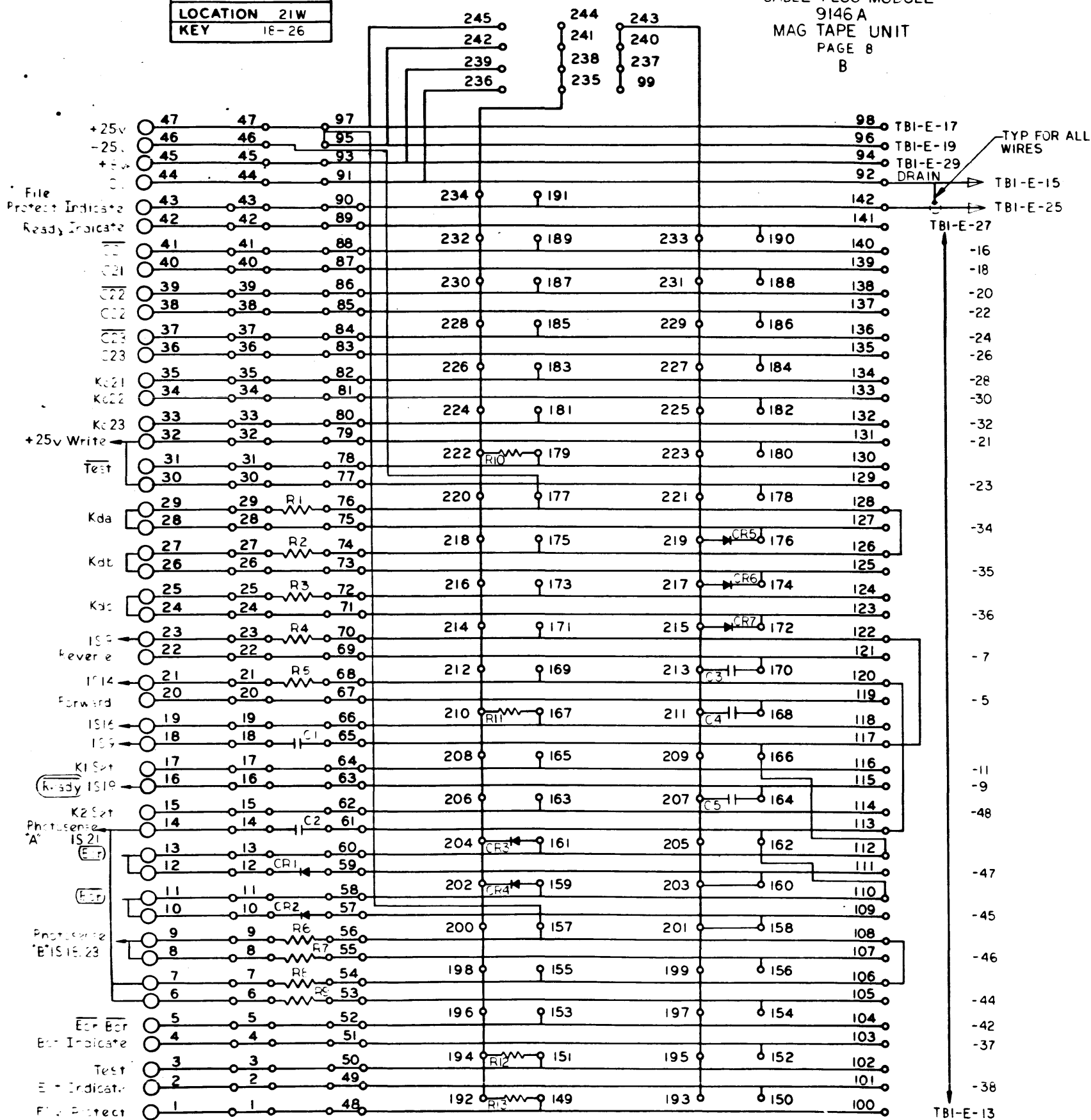
9146A
TAPE ELECTRONICS
PAGE 7
B

REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED: 1. DIMENSIONS AS SHOWN 2. UNLESS OTHERWISE SPECIFIED 3. ALL DIMENSIONS IN INCHES 4. ALL DIMENSIONS TO CENTER UNLESS OTHERWISE SPECIFIED				
DRAWN: WKF CHECK: CLB APPR: WKF		TITLE: DIAGRAM, LOGIC MAG. TAPE MODEL NO.: 9146 NEXT ASSY.: 104645		
SCALE: DO NOT SCALE DRAWING		SHEET: 104654 B		

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

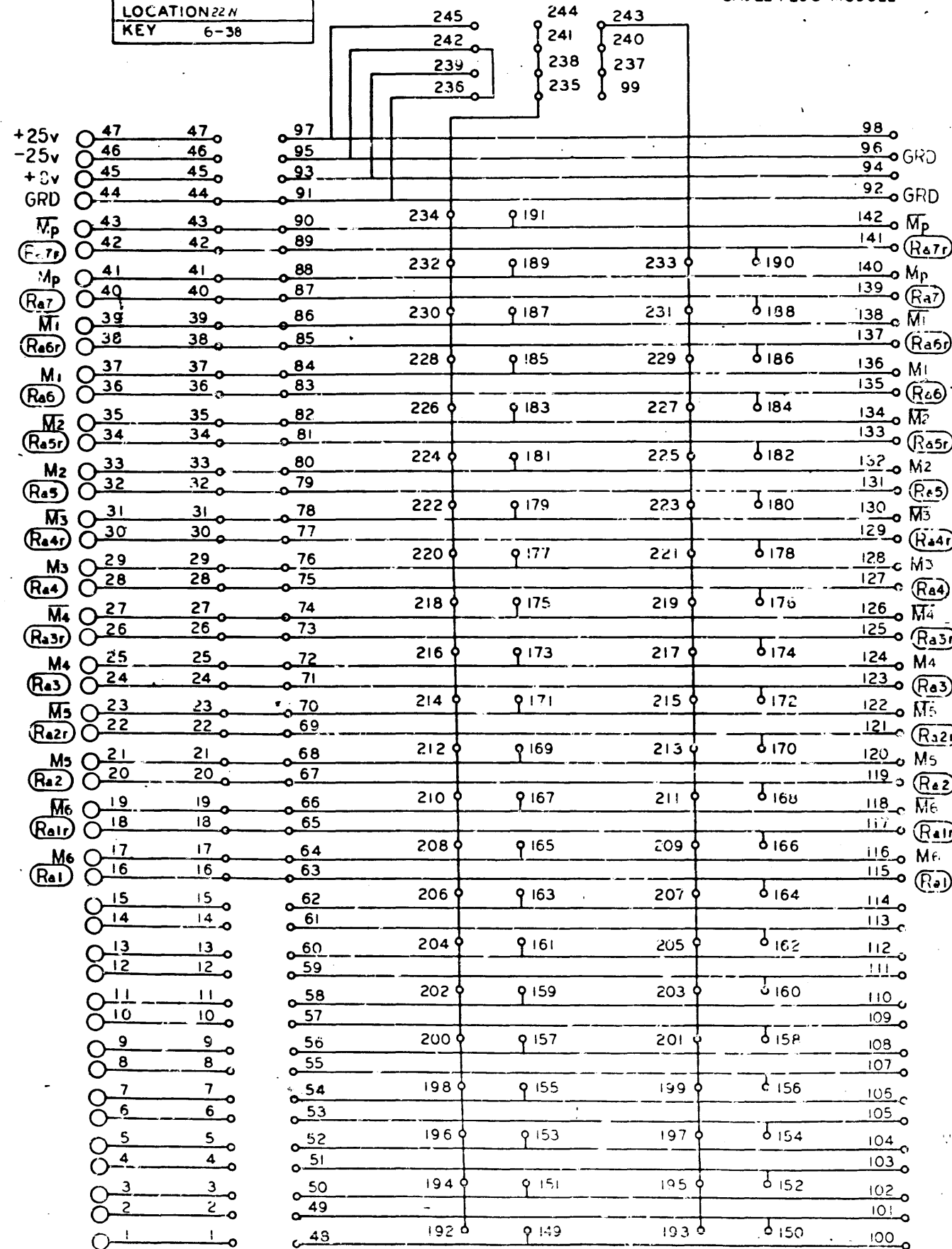


NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED				
1. TOLERANCES 28 - .000 32X - .010		2. BREAK ALL SHARP EDGES D10 APPROX	3. MACH SURFACES	4. ALL DIM IN INCHES
DRAWN		CHECK	APPR	
MODEL NO 9146		SDS SCIENTIFIC DATA SYSTEMS 1542 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA		TITLE D. AGRAM. LOGIC MAG TAPE
NEXT ASSY 104645		SIZE D	DWG NO 104654	3
SCALE		DO NOT SCALE DRAWING		SHEET

DESIGNATION P22
 LOCATION 22N
 KEY 6-38

CABLE PLUG MODULE

REVISIONS		104654
REV	DESCRIPTION	CHK
A	REL. TO MFR.	
B	SEE REV. E.O.	



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 9116P
 PAGE 9
 B

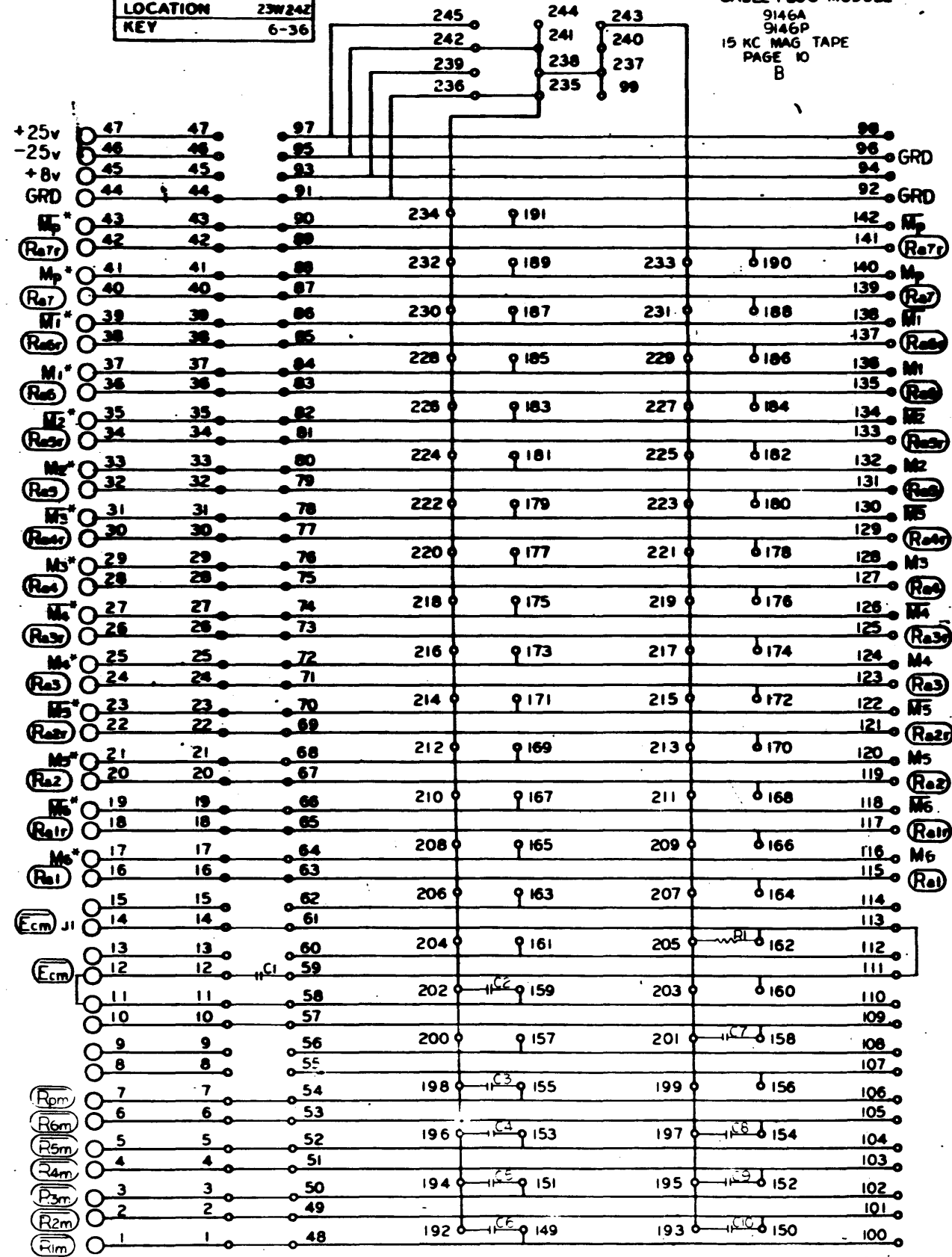
NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED:				
1. TOLERANCES AS - DIM ANGULAR AS - DIM		DRAWN R. E. P. E. A. T.	CHECK 1/1/68	104654
2. BREAK ALL SHARP EDGES 6/16 APPROX.		APPR G. H. B.		
3. HATCH SURFACES				
4. ALL DIM IN INCHES				
MODEL NO. 9146 NEXT ASSY. 104645			TITLE DIAGRAM, LOGIC MAG. TAPE	
SIZE D SCALE DO NOT SCALE DRAWING			SHEET NO. 104654 SHEET	

104654 11

DESIGNATION	P23
LOCATION	23W242
KEY	6-36

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

REVISIONS			
REV	DESCRIPTION	CHK	DATE
A	RELEASED TO MFG		
B	SEE REV. E.D.		



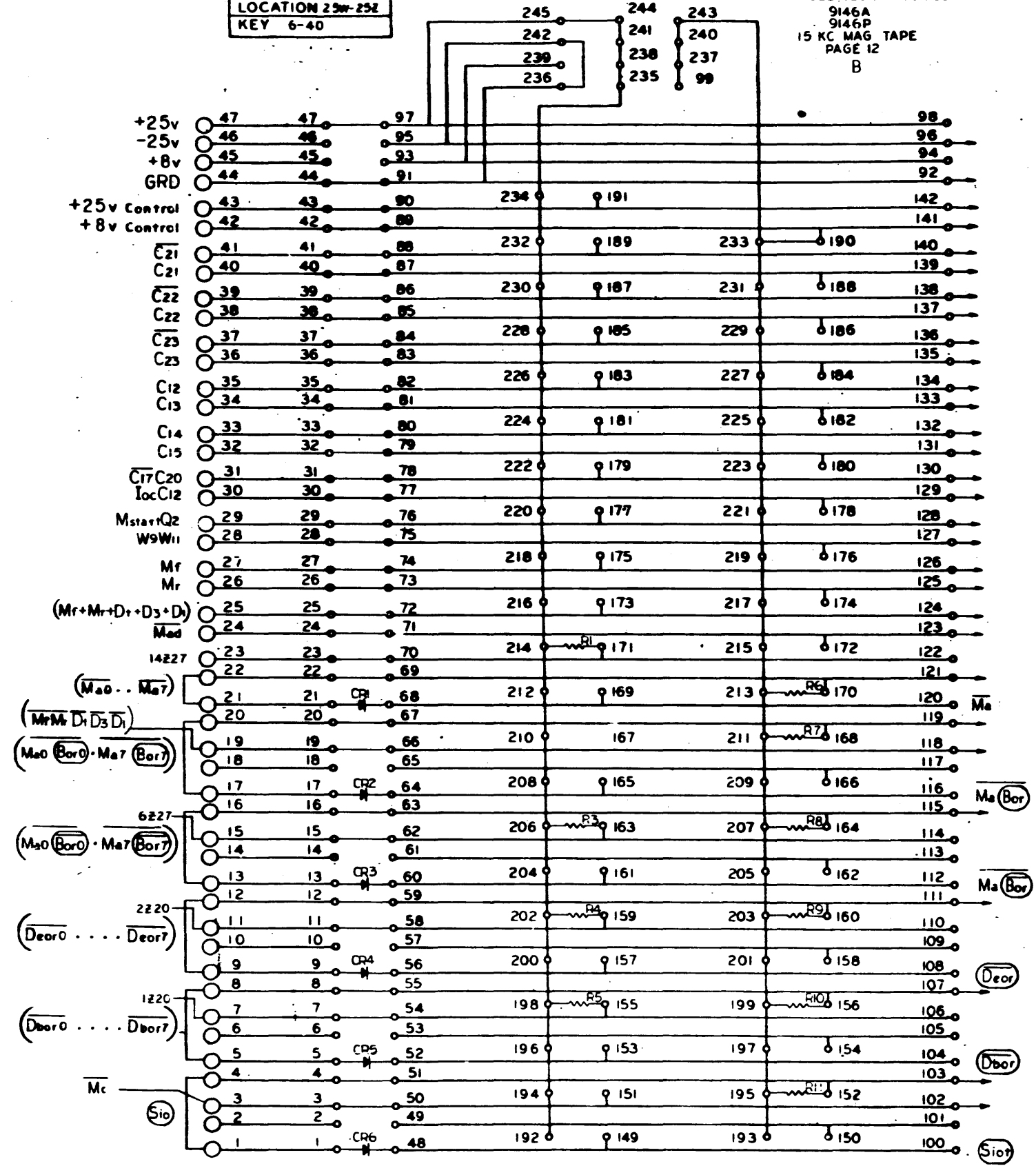
104654/B1

NO.	REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	DATE
NOTES UNLESS SPECIFIED					
1. TOLERANCES UNLESS SPECIFIED		DRAWN	BY	DATE	
2. DIMENSIONS UNLESS SPECIFIED		CHECK	DATE		
3. BREAK ALL DIMENSIONS ON ALL SURFACES		APP'D	DATE		
4. ALL DIM. IN INCHES					
SDS 1242 EASTERN AVENUE SANTA MONICA, CALIFORNIA					
DIAGRAM, LOGIC MAG. TAPE					
MODEL NO. 9146		REV. NO. D		DRAWING NO. 104654	
NEXT ASSY 104645		SCALE		DO NOT SCALE DRAWING	

DESIGNATION P25
LOCATION 23W-25Z
KEY 6-40

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

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



NO	REQ	DRAWING NO	DESCRIPTION	REFERENCE DESIGNATION	UNIT
NOTES UNLESS SPECIFIED					
1. TELETYPE UNIT 1-15-63					
2. CHECK ALL DIMENSIONS BY APPROV					
3. CHECK DIMENSIONS BY APPROV					
4. ALL DIM IN INCHES					
MATERIAL LIST					
SDS					
DIAGRAM, LOGIC MAG. TAPE					
MODEL NO. 9146			REV. NO. D 104654 B		
NEXT ASSY 104645			SCALE DO NOT SCALE DRAWING		

104654 B

REVISIONS				104654	B
REV.	DESCRIPTION	CHK	DATE	APPROVED	
A	REL. TO MFG.	CLB	11/15/63	[Signature]	
B	SEE REV. E.O.	CLB	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 Actuate
2	<u>Ma (or)</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

104654 | B

NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	R. KEMBERT	11-15-63
1. TOLERANCES XX 2.000 ANGULAR XX 2.010 2 X		CHECK	CLB	11/27/63
2. BREAK ALL SHARP EDGES BY APPROX. ✓		APPR.	WKE	11/15/64
3. HATCH SURFACES				
4. ALL DIM. IN INCHES				
MODEL NO. 9146		SDS SCIENTIFIC DATA SYSTEMS 1545 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA		TITLE DIAGRAM, LOGIC MAG. TAPE
NEXT ASSY. 104645		SIZE D	DWG. NO. 104654	B
SCALE		DO NOT SCALE DRAWING		SHEET

REVISIONS		DATE	BY	APPROVED
REV	DESCRIPTION			
A	REL. TO MFG.	3/20/64	W.A.	
B	SEE REV E.O.	3/26/64	W.A.	

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			XX
2			XXXX
3			XXXX
4			XXXX
5			XXXX
6			XX
7	XX		
8			
9			XX
10			XXXX
11			XXXX
12			XXXX
13			XXXX
14			XX
15	XXXX		
16	XXXX		
17	XXXX		
18	XXXX		
19	XXXX		
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	DRAWN R. HEBERT	DATE 11/1/63	SDS COMMERCIAL DATA SYSTEMS 1545 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA	
2. BREAK ALL SHARP EDGES AND CORNERS	CHECK C.B.	DATE 1/5/63	TITLE DIAGRAM LOGIC MAG. TAPE	
3. HATCH SURFACES	APPR. W.C.	DATE 1/16/63		
4. ALL DIM. IN INCHES				
MODEL NO. 9146			SIZE D	DWG. NO. 104654
NEXT ASSY. 104695			SCALE	B
			DO NOT SCALE DRAWING	SHEET

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

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

NOTE:
 THIS DWG APPLIES TO BOTH THE 9146A (AYREX)
 & 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			XX
3			XX
4			XX
5			XX
6			X
7	X		
8	X		
9			XX
10			XX
11			XX
12			XX
13			XX
14			X
15	X		
16	XX		
17	XX		
18	XX		
19	X		
20		X	
21		XX	
22		XX	
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

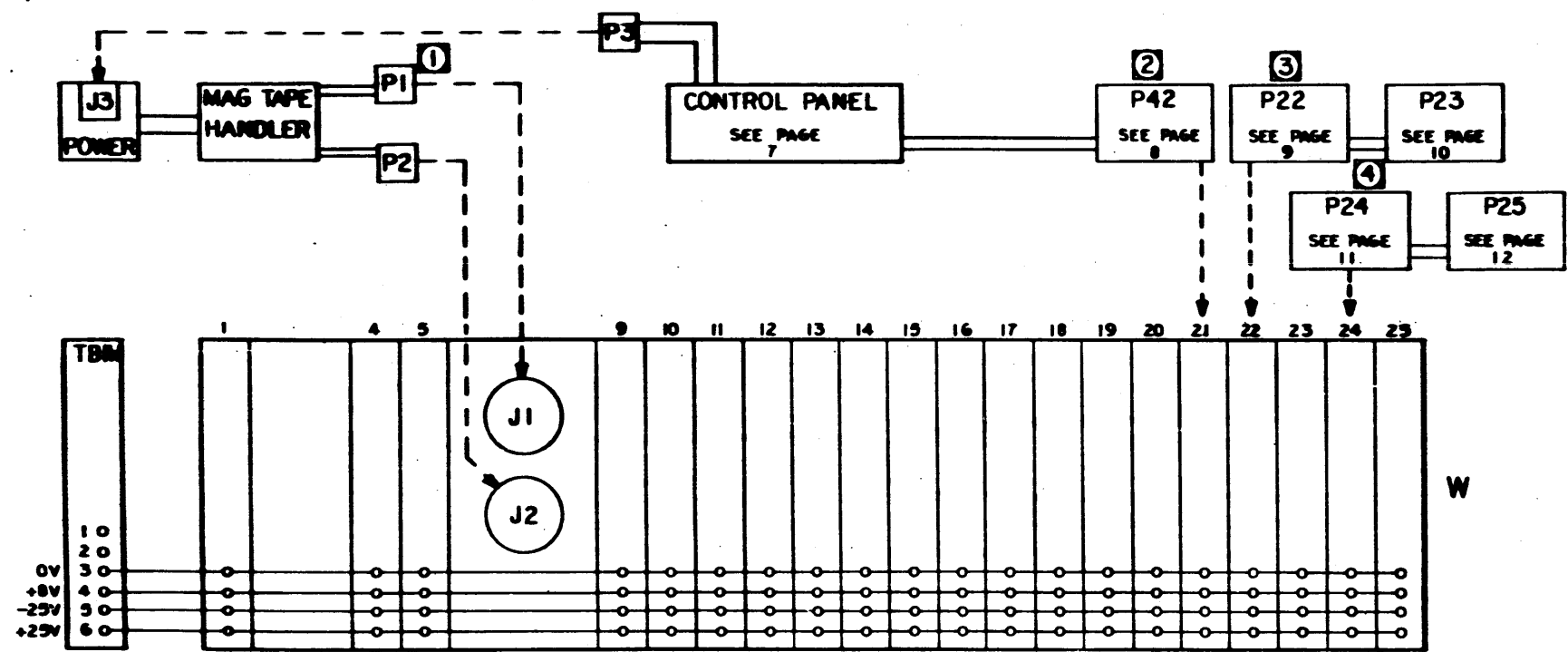
NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN: R. HENRY	CHECK: J. L. [initials]	DATE: 1/15/64
1. TOLERANCE: .000 ANGULAR ±.010		APPR: J. L. [initials]	TITLE: DIAGRAM LOGIC MAG. TAPE	
2. BREAK ALL SHARP EDGES .010 APPROX.		3. BACK SURFACES ✓		
4. ALL DIM. IN INCHES		MODEL NO. 9146		
NEXT ASSY: 104645		SCALE: DO NOT SCALE DRAWING		SHEET: 14 OF 23
		SDS SCIENTIFIC DATA SYSTEMS 1542 FIFTEENTH STREET SANTA MONICA, CALIFORNIA		DATE: 1/15/64
		D 104654		C

104654 C

REVISIONS		104654		B
NO.	DESCRIPTION	CHKD	DATE	APPROVED
A	RELEASED TO MPB	CLP	11/15/63	[Signature]
B	SEE REV. E.O.	NK	1/2/64	[Signature]

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 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

NO.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN R. M. PEET 11-11-63	SDS DESIGNING DATA SYSTEMS 140 FORTYTH STREET SANTA MONICA CALIFORNIA TITLE DIAGRAM, LOGIC MAG TAPE	
1. TELEPHONE 2. 1/8" DIA 3. 1/16" DIA 4. BREAK ALL SHARP CORNERS 5. DIMENSIONS 6. HATCH SURFACES 7. ALL DIM. IN INCHES		CHECK [Signature] 11/27/63		
		APPR [Signature] 1/2/64		
MODEL NO.	9146	REV.	D	104654 B
NEXT ASSY	104645	SCALE	DO NOT SCALE DRAWING	SHEET

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	MX52	2
2	UNIVERSAL F.F.	FL77	1
3	DIODE GATE 1	GX57	2
4	READ PRE AMP	HX68	3
5	INVERTER AMP	IX51	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) 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 #7008-47	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.)

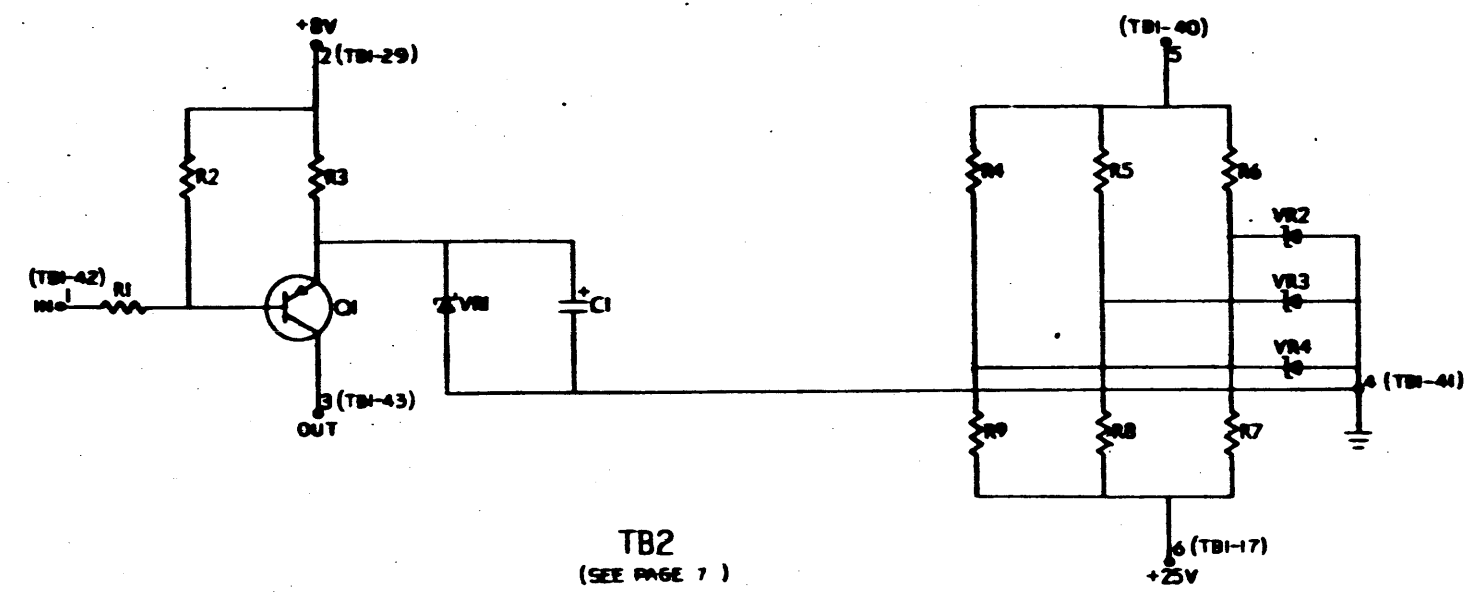
ITEM	DESCRIPTION	MODEL	QTY	REF. NO.
25	PLUG, 19 PIN #SK1932S	J2	1	134
26	RECEPTACLE, 19 PIN #RSK19-31SL	J1	1	134
27	SWITCH, ROTARY #02163	S1, S2	2	5DS
28	LAMP, INCANDESCENT #47	DS1 THRU DS5	5	84
29	RELAY, DPDT #D0SX-7T #D0-6A-115WAC	K1 THRU K4	4	78 79

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MAG TAPE
PAGE 16
B

REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV.
		MATERIAL LIST		
NOTES UNLESS SPECIFIED		DATE: 11-14-65	 <small>ODS SCIENTIFIC DATA SYSTEMS SANTA ANITA, CALIFORNIA</small>	
1. TOLERANCES UNLESS SPECIFIED ARE AS SHOWN	2. DIMENSIONS UNLESS SPECIFIED ARE AS SHOWN	3. ALL DIMENSIONS ARE IN INCHES	TITLE: DIAGRAM, LOGIC MAG TAPE	
4. UNLESS ALL DIMENSIONS AND APPROX.	5. DIMENSIONS SHOWN ARE APPROX.	6. ALL DIMENSIONS ARE IN INCHES	MODEL NO. 9146 NEXT ASSY. 104645	
		SCALE: DO NOT SCALE DRAWING	REV. NO. D	104654
				B

104654 B

REV		DESCRIP	DATE	APPROVED
A		HEL TO MTG		
B		SEE REV. E.O.		



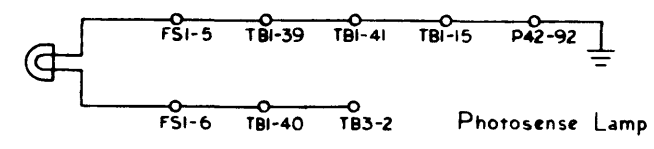
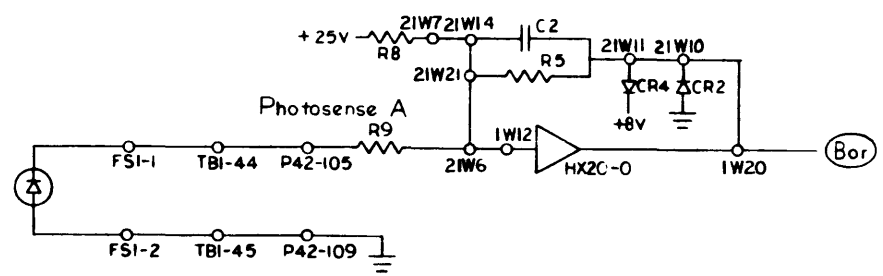
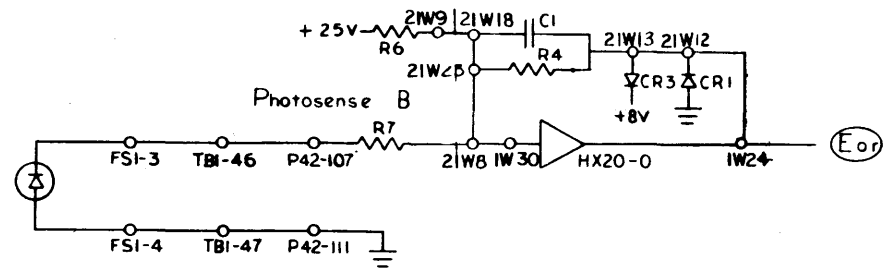
TB2
(SEE PAGE 7)

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. K. HARRIS	1-1-53	SDS SCIENTIFIC DATA SYSTEMS 1932 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA
2. DIMENSIONS	CHECK	G. B. HARRIS	1-1-53	
3. DRILL ALL HOLES TO SIZE	APPR	G. B. HARRIS	1-1-53	
4. DRILL SURFACES	TITLE			DIAGRAM, LOGIC MAG TAPE
5. ALL DIM. IN INCHES	MODEL NO.	9146	REV.	DWG NO.
	104645		D	104654
			SCALE	DO NOT SCALE DRAWING SHEET

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

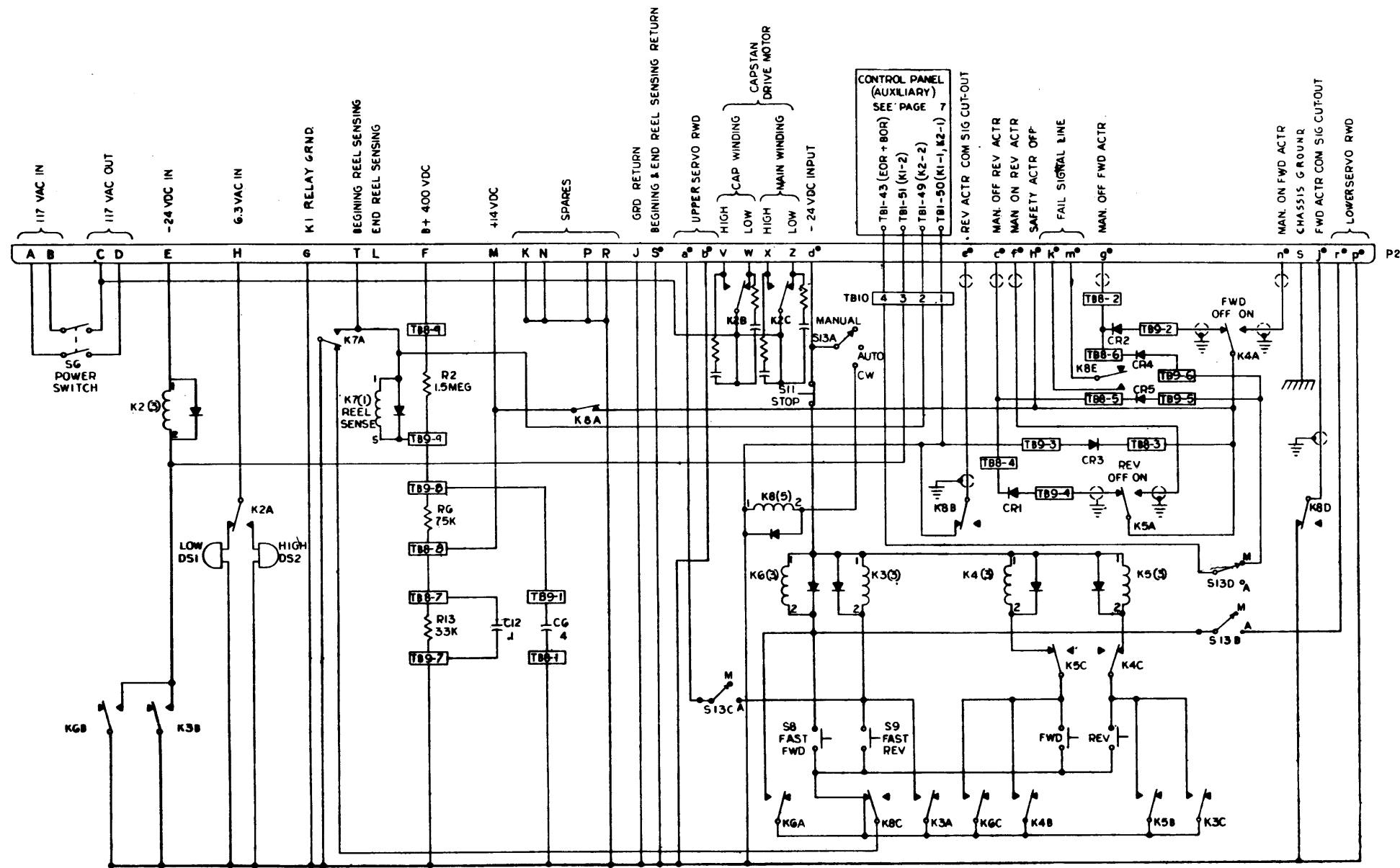


9146A
TAPE ELECTRONICS
PAGE 18
B

NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN	R. KETPERT	11-18-63
1. TOLERANCES XX ± .000 XXX ± .010		CHECK		11/20/63
2. BREAK ALL SHARP EDGES 0.10 APPROX.		APPR.	WKF	11/1/64
3. HATCH SURFACES ✓				
4. ALL DIM. IN INCHES				
MODEL NO. 9146		SDS SCIENTIFIC DATA SYSTEMS 1542 FIFTEENTH STREET SANTA MONICA, CALIFORNIA		TITLE DIAGRAM, LOGIC, MAG TAPE
NEXT ASSY. 104645		SIZE D	DWG. NO. 104654	B
SCALE		DO NOT SCALE DRAWING		SHEET

104654 | B |

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



- 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

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MAG TAPE UNIT
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B

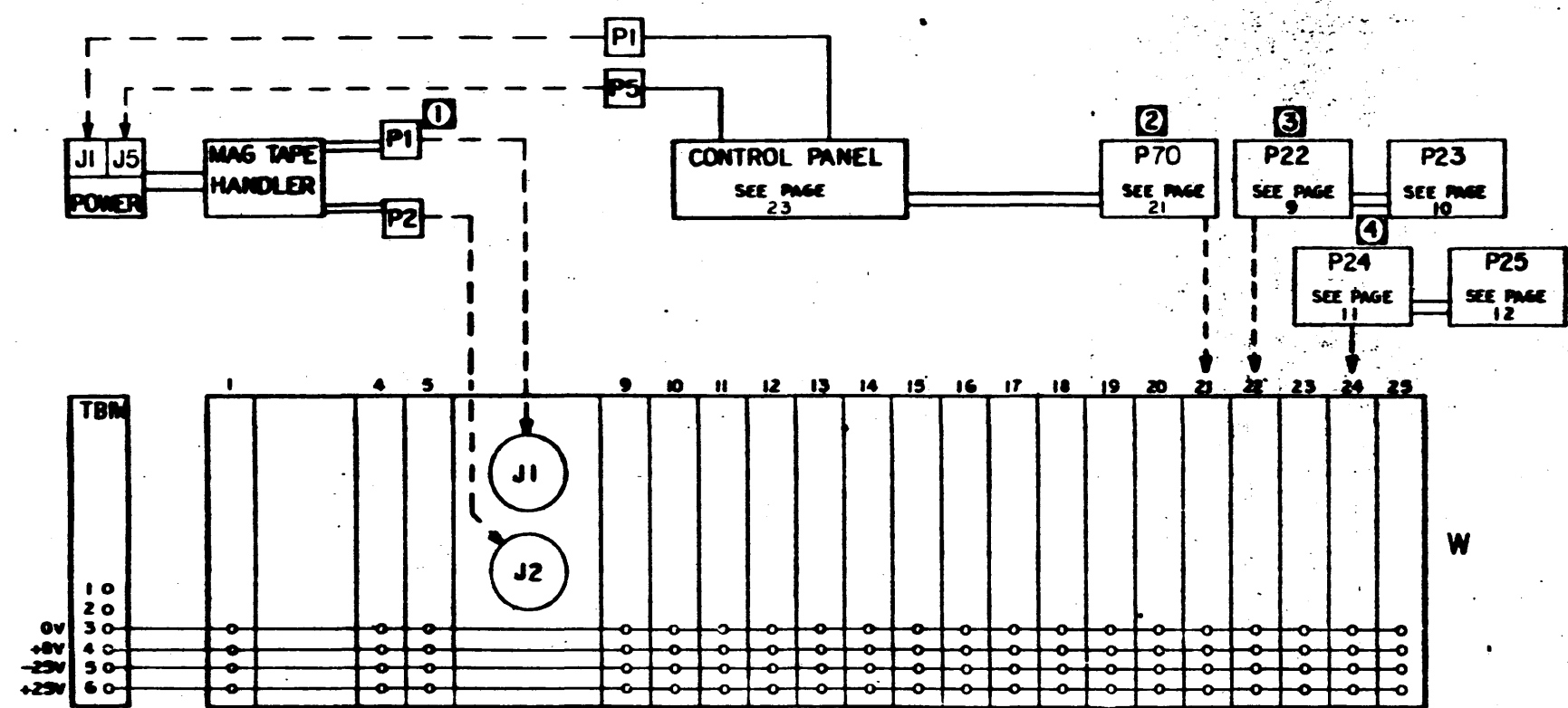
104654 | B

NO. REQ.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
NOTES UNLESS SPECIFIED				
1. TOLERANCES UNLESS SPECIFIED: ANGULAR ±.010, ALL OTHERS ±.010				
2. BREAK ALL SHARP EDGES 0.10 APPROX.				
3. MACH. SURFACES				
4. ALL DIM. IN INCHES				
DRAWN: <i>WXB</i>		DATE: 11-19-63		
CHECK: <i>WXB</i>		DATE: 1/27/64		
APPR: <i>WXB</i>		DATE: 1/4/64		
 1342 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA				
TITLE: DIAGRAM, LOGIC MAG TAPE				
MODEL NO. 9146		SIZE D	DWG. NO. 104654	SHEET B
NEXT ASSY. 104645		SCALE: DO NOT SCALE DRAWING		

REVISIONS		104654	B
NO.	DESCRIPTION	DATE	BY
A	RELEASED TO MPB		
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

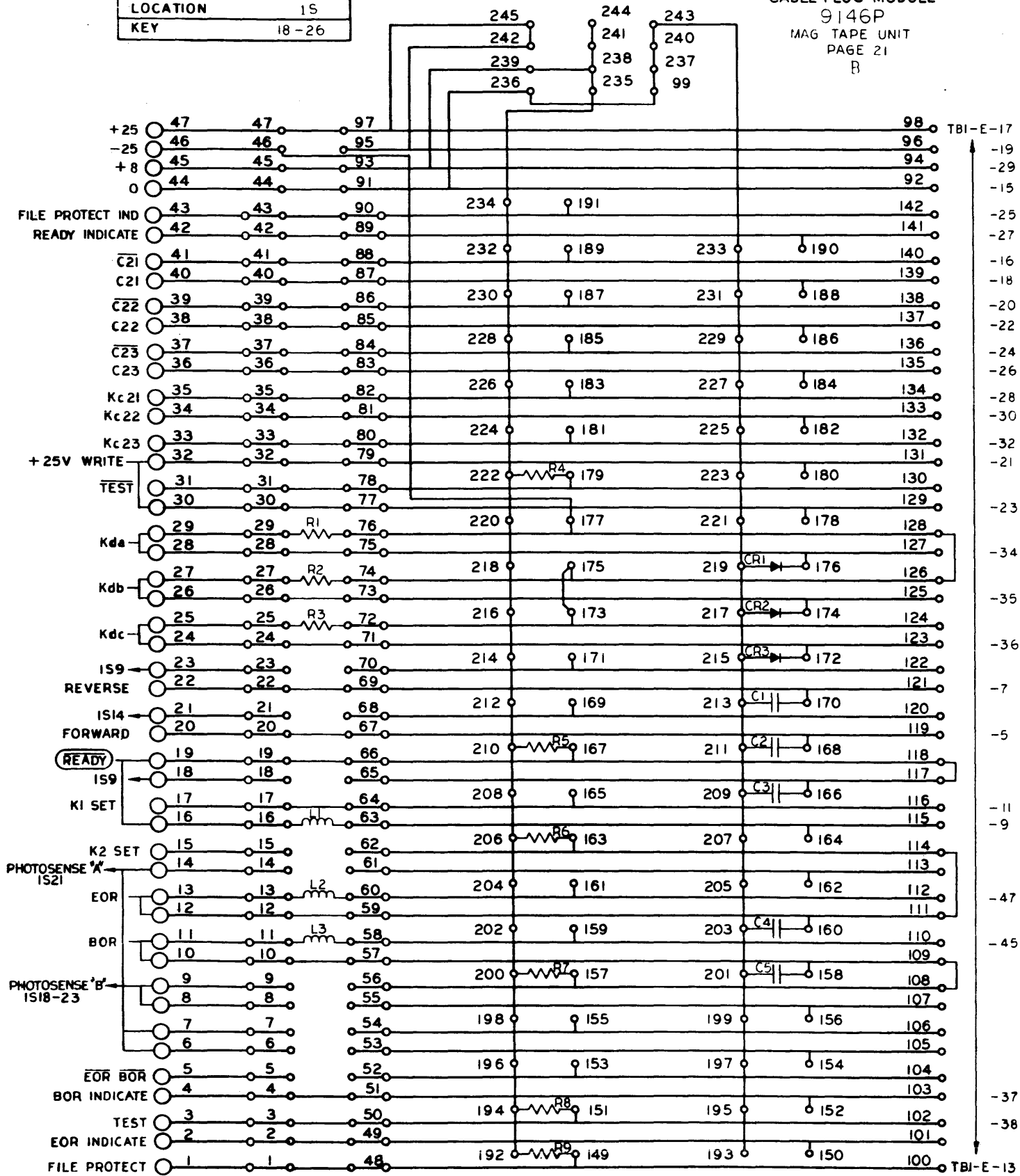
104654 B

NO. AND	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	REV.
MATERIAL LIST				
NOTES UNLESS SPECIFIED		DRAWN: <i>WHS-ER</i>	SDS SCIENTIFIC DATA SYSTEMS 142 FIFTEENTH STREET, SANTA MONICA, CALIFORNIA	
1. TELETYPE	2. 1/8" DIA	3. 1/4" DIA	4. 3/8" DIA	5. 1/2" DIA
6. 5/8" DIA	7. 3/4" DIA	8. 1" DIA	9. 1 1/4" DIA	10. 1 1/2" DIA
11. 1 3/4" DIA	12. 2" DIA	13. 2 1/4" DIA	14. 2 1/2" DIA	15. 3" DIA
16. 3 1/4" DIA	17. 3 1/2" DIA	18. 4" DIA	19. 4 1/4" DIA	20. 4 1/2" DIA
21. 5" DIA	22. 5 1/4" DIA	23. 5 1/2" DIA	24. 6" DIA	25. 6 1/4" DIA
26. 6 1/2" DIA	27. 7" DIA	28. 7 1/4" DIA	29. 7 1/2" DIA	30. 8" DIA
31. 8 1/4" DIA	32. 8 1/2" DIA	33. 9" DIA	34. 9 1/4" DIA	35. 9 1/2" DIA
36. 10" DIA	37. 10 1/4" DIA	38. 10 1/2" DIA	39. 11" DIA	40. 11 1/4" DIA
41. 11 1/2" DIA	42. 12" DIA	43. 12 1/4" DIA	44. 12 1/2" DIA	45. 13" DIA
46. 13 1/4" DIA	47. 13 1/2" DIA	48. 14" DIA	49. 14 1/4" DIA	50. 14 1/2" DIA
51. 15" DIA	52. 15 1/4" DIA	53. 15 1/2" DIA	54. 16" DIA	55. 16 1/4" DIA
56. 16 1/2" DIA	57. 17" DIA	58. 17 1/4" DIA	59. 17 1/2" DIA	60. 18" DIA
61. 18 1/4" DIA	62. 18 1/2" DIA	63. 19" DIA	64. 19 1/4" DIA	65. 19 1/2" DIA
66. 20" DIA	67. 20 1/4" DIA	68. 20 1/2" DIA	69. 21" DIA	70. 21 1/4" DIA
71. 21 1/2" DIA	72. 22" DIA	73. 22 1/4" DIA	74. 22 1/2" DIA	75. 23" DIA
76. 23 1/4" DIA	77. 23 1/2" DIA	78. 24" DIA	79. 24 1/4" DIA	80. 24 1/2" DIA
81. 25" DIA	82. 25 1/4" DIA	83. 25 1/2" DIA	84. 26" DIA	85. 26 1/4" DIA
86. 26 1/2" DIA	87. 27" DIA	88. 27 1/4" DIA	89. 27 1/2" DIA	90. 28" DIA
91. 28 1/4" DIA	92. 28 1/2" DIA	93. 29" DIA	94. 29 1/4" DIA	95. 29 1/2" DIA
96. 30" DIA	97. 30 1/4" DIA	98. 30 1/2" DIA	99. 31" DIA	100. 31 1/4" DIA
101. 31 1/2" DIA	102. 32" DIA	103. 32 1/4" DIA	104. 32 1/2" DIA	105. 33" DIA
106. 33 1/4" DIA	107. 33 1/2" DIA	108. 34" DIA	109. 34 1/4" DIA	110. 34 1/2" DIA
111. 35" DIA	112. 35 1/4" DIA	113. 35 1/2" DIA	114. 36" DIA	115. 36 1/4" DIA
116. 36 1/2" DIA	117. 37" DIA	118. 37 1/4" DIA	119. 37 1/2" DIA	120. 38" DIA
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131. 41 1/2" DIA	132. 42" DIA	133. 42 1/4" DIA	134. 42 1/2" DIA	135. 43" DIA
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141. 45" DIA	142. 45 1/4" DIA	143. 45 1/2" DIA	144. 46" DIA	145. 46 1/4" DIA
146. 46 1/2" DIA	147. 47" DIA	148. 47 1/4" DIA	149. 47 1/2" DIA	150. 48" DIA
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156. 50" DIA	157. 50 1/4" DIA	158. 50 1/2" DIA	159. 51" DIA	160. 51 1/4" DIA
161. 51 1/2" DIA	162. 52" DIA	163. 52 1/4" DIA	164. 52 1/2" DIA	165. 53" DIA
166. 53 1/4" DIA	167. 53 1/2" DIA	168. 54" DIA	169. 54 1/4" DIA	170. 54 1/2" DIA
171. 55" DIA	172. 55 1/4" DIA	173. 55 1/2" DIA	174. 56" DIA	175. 56 1/4" DIA
176. 56 1/2" DIA	177. 57" DIA	178. 57 1/4" DIA	179. 57 1/2" DIA	180. 58" DIA
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186. 60" DIA	187. 60 1/4" DIA	188. 60 1/2" DIA	189. 61" DIA	190. 61 1/4" DIA
191. 61 1/2" DIA	192. 62" DIA	193. 62 1/4" DIA	194. 62 1/2" DIA	195. 63" DIA
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201. 65" DIA	202. 65 1/4" DIA	203. 65 1/2" DIA	204. 66" DIA	205. 66 1/4" DIA
206. 66 1/2" DIA	207. 67" DIA	208. 67 1/4" DIA	209. 67 1/2" DIA	210. 68" DIA
211. 68 1/4" DIA	212. 68 1/2" DIA	213. 69" DIA	214. 69 1/4" DIA	215. 69 1/2" DIA
216. 70" DIA	217. 70 1/4" DIA	218. 70 1/2" DIA	219. 71" DIA	220. 71 1/4" DIA
221. 71 1/2" DIA	222. 72" DIA	223. 72 1/4" DIA	224. 72 1/2" DIA	225. 73" DIA
226. 73 1/4" DIA	227. 73 1/2" DIA	228. 74" DIA	229. 74 1/4" DIA	230. 74 1/2" DIA
231. 75" DIA	232. 75 1/4" DIA	233. 75 1/2" DIA	234. 76" DIA	235. 76 1/4" DIA
236. 76 1/2" DIA	237. 77" DIA	238. 77 1/4" DIA	239. 77 1/2" DIA	240. 78" DIA
241. 78 1/4" DIA	242. 78 1/2" DIA	243. 79" DIA	244. 79 1/4" DIA	245. 79 1/2" DIA
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251. 81 1/2" DIA	252. 82" DIA	253. 82 1/4" DIA	254. 82 1/2" DIA	255. 83" DIA
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266. 86 1/2" DIA	267. 87" DIA	268. 87 1/4" DIA	269. 87 1/2" DIA	270. 88" DIA
271. 88 1/4" DIA	272. 88 1/2" DIA	273. 89" DIA	274. 89 1/4" DIA	275. 89 1/2" DIA
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281. 91 1/2" DIA	282. 92" DIA	283. 92 1/4" DIA	284. 92 1/2" DIA	285. 93" DIA
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326. 106 1/2" DIA	327. 107" DIA	328. 107 1/4" DIA	329. 107 1/2" DIA	330. 108" DIA
331. 108 1/4" DIA	332. 108 1/2" DIA	333. 109" DIA	334. 109 1/4" DIA	335. 109 1/2" DIA
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386. 126 1/2" DIA	387. 127" DIA	388. 127 1/4" DIA	389. 127 1/2" DIA	390. 128" DIA
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481. 158 1/4" DIA	482. 158 1/2" DIA	483. 159" DIA	484. 159 1/4" DIA	485. 159 1/2" DIA
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491. 161 1/2" DIA	492. 162" DIA	493. 162 1/4" DIA	494. 162 1/2" DIA	495. 163" DIA
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501. 165" DIA	502. 165 1/4" DIA	503. 165 1/2" DIA	504. 166" DIA	505. 166 1/4" DIA
506. 166 1/2" DIA	507. 167" DIA	508. 167 1/4" DIA	509. 167 1/2" DIA	510. 168" DIA
511. 168 1/4" DIA	512. 168 1/2" DIA	513. 169" DIA	514. 169 1/4" DIA	515. 169 1/2" DIA
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521. 171 1/2" DIA	522. 172" DIA	523. 172 1/4" DIA	524. 172 1/2" DIA	525. 173" DIA
526. 173 1/4" DIA	527. 173 1/2" DIA	528. 174" DIA	529. 174 1/4" DIA	530. 174 1/2" DIA
531. 175" DIA	532. 175 1/4" DIA	533. 175 1/2" DIA	534. 176" DIA	535. 176 1/4" DIA
536. 176 1/2" DIA	537. 177" DIA	538. 177 1/4" DIA	539. 177 1/2" DIA	540. 178" DIA
541. 178 1/4" DIA	542. 178 1/2" DIA	543. 179" DIA	544. 179 1/4" DIA	545. 179 1/2" DIA
546. 180" DIA	547. 180 1/4" DIA	548. 180 1/2" DIA	549. 181" DIA	550. 181 1/4" DIA
551. 181 1/2" DIA	552. 182" DIA	553. 182 1/4" DIA	554. 182 1/2" DIA	555. 183" DIA
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571. 188 1/4" DIA	572. 188 1/2" DIA	573. 189" DIA	574. 189 1/4" DIA	575. 189 1/2" DIA
576. 190" DIA	577. 190 1/4" DIA	578. 190 1/2" DIA	579. 191" DIA	580. 191 1/4" DIA

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

DESIGNATION	P70
LOCATION	1S
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: WILNER A/23/68	SDS SCIENTIFIC DATA SYSTEMS 1942 FIFTEENTH STREET SANTA MONICA, CALIFORNIA	
1. TOLERANCES IN: .005 ANGULAR SEE 2.010 2.34"	CHECK	APPR	TITLE DIAGRAM, LOGIC MAG TAPE UNIT	
2. BREAK ALL SHARP EDGES 0.10 APPROX			MODEL NO. 9146	
3. MACH. SURFACES ✓			SIZE DWS NO. D 104654	
4. ALL DIM. IN INCHES			NEXT ASSY.	
SCALE			DO NOT SCALE DRAWING	SHEET

104654 B

REVISIONS				104654	B
REV.	DESCRIPTION	CHKD	DATE	APPROVED	
B	SEE REV. E.O.	ELB	2/16/64	[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

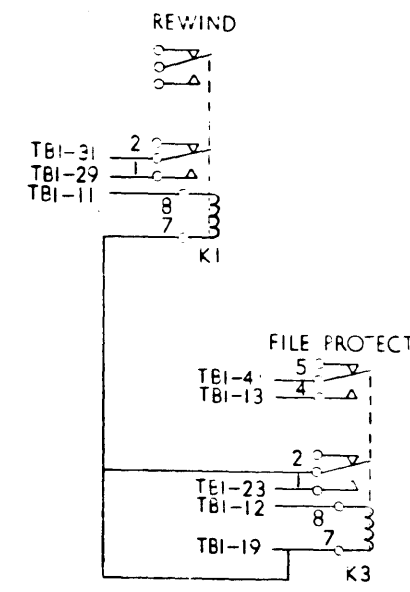
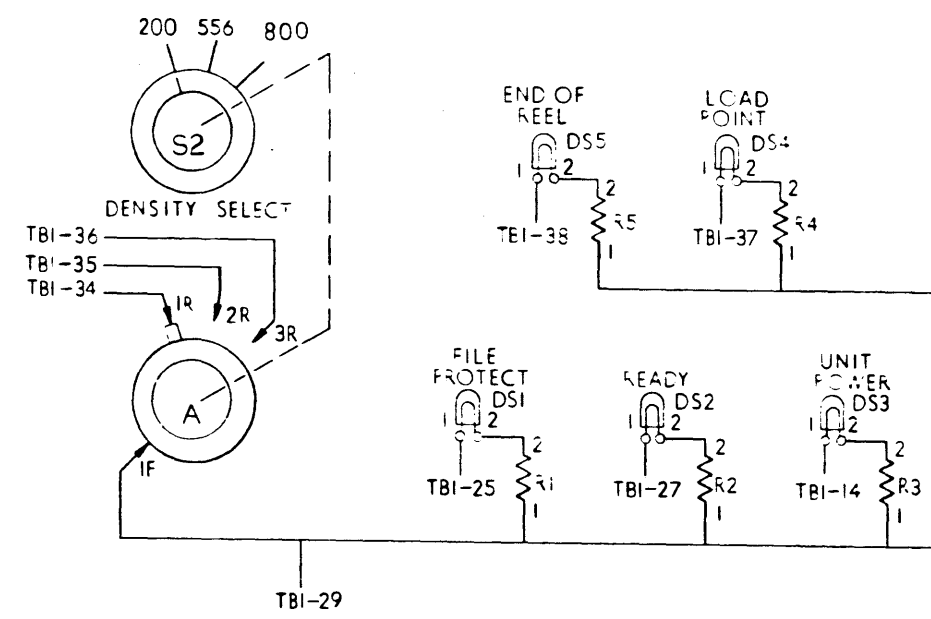
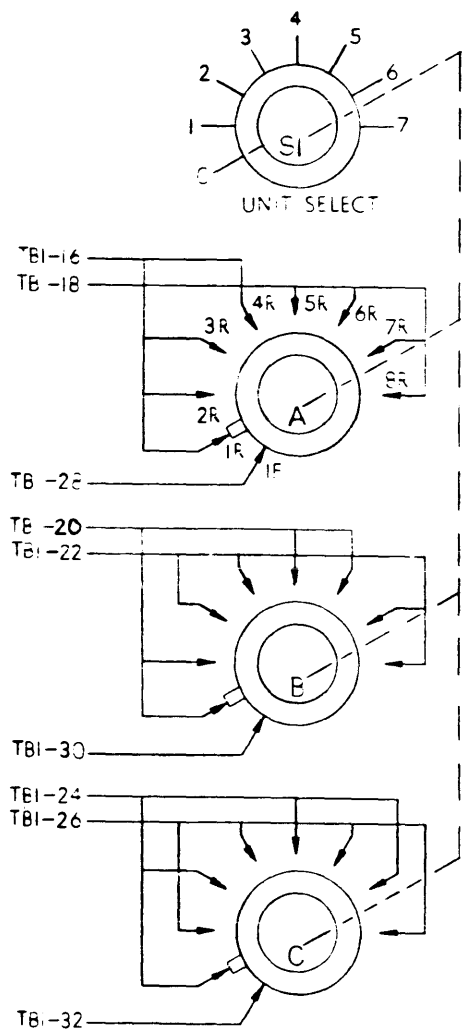
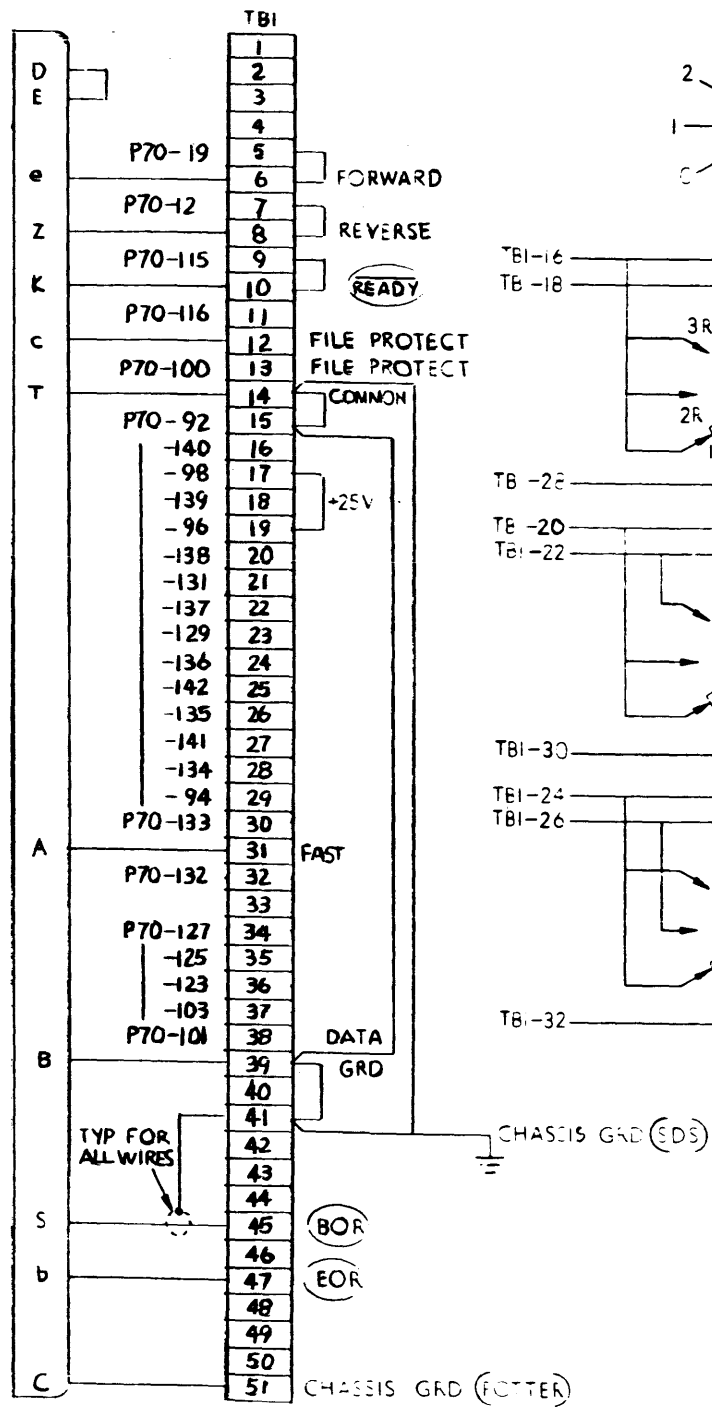
ITEM	DESCRIPTION	DESIGNATION	QTY	SUPPLIER CODES (SEE INDEX)
1	RESISTOR, 3.3 K ± 2%	(P70) R1, R2, R3	3	16, 17
2	560 Ω	(P70) R5	1	
3	1.8 K	(P70) R6, R7	2	
4	RESISTOR, 8.2 K ± 2%	(P70) R4, R8, R9	3	16, 17
5	CAPACITOR, MYLAR, .0068 μF ± 10%	(P70) C1, C2	2	26, 27, 74
6	CAPACITOR, MYLAR, .0010 μF ± 10%	(P70) 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, #102163	S101, S102	2	505
14	RESISTOR, W W, 10 Ω ± 5%	R1 THRU R5	5	99, 100
15	RELAY, DPDT #DOSX-77 #BO-6A/HSWC	K, K3	2	78 79
16	SWITCH, TOGGLE DPDT, #B3064-38	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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B

DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	SHEET
			25
MATERIAL LIST			
NOTES UNLESS SPECIFIED	DRAWN WINTWOK 4/2/64	 SCIENTIFIC DATA SYSTEMS SANTA MONICA, CALIFORNIA	
1. TOLERANCES UNLESS SPECIFIED	CHECK	TITLE	
2. DIMENSIONS UNLESS SPECIFIED	APPR.	DIAGRAM, LOGIC, MAG TAPE UNIT	
3. FINISHES UNLESS SPECIFIED		MODEL NO. D	
4. MATERIALS UNLESS SPECIFIED		PART NO. 104654	
		SHEET B	
DO NOT SCALE DRAWINGS		SHEET	

104654 | B

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



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TAPE ELECTRONICS
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B

NO. REV.	DRAWING NO.	DESCRIPTION	REFERENCE DESIGNATION	ITEM NO.
MATERIAL LIST				
NOTES UNLESS SPECIFIED				
1. TOLERANCES UNLESS SPECIFIED: ANGULAR ±.1°				
2. BREAK ALL SHARP EDGES AND APPROX.				
3. BACK SURFACE				
4. ALL DIM. IN INCHES				
MODEL NO. 91-8		SIZE D		DWG. NO. 104654
NEXT ASSY. 104645		SCALE		DO NOT SCALE DRAWING SHEET

