Assembly and Operation of the

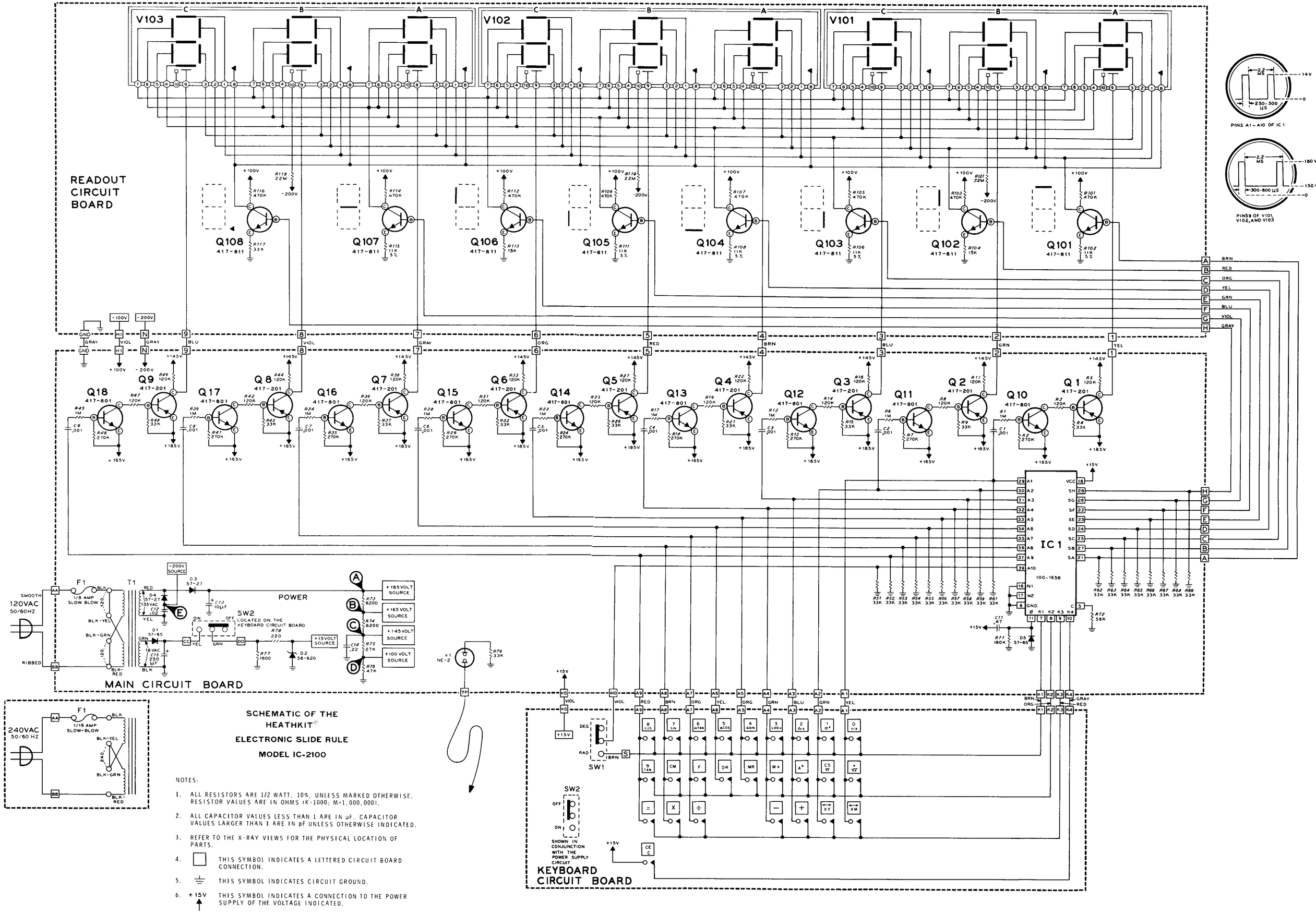
HEATHKIT®

ELECTRONIC SLIDE RULE

MODEL IC-2100

TABLE OF CONTENTS

HEATH COMPANY
BENTON HARBOR, MICHIGAN 49022

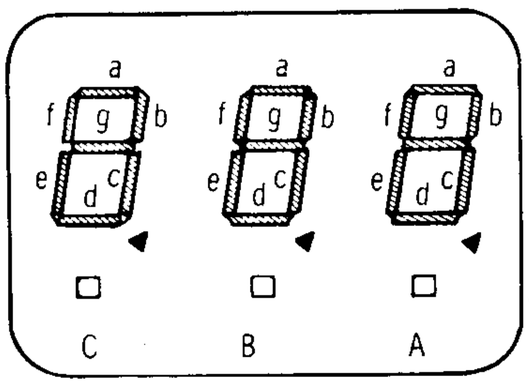


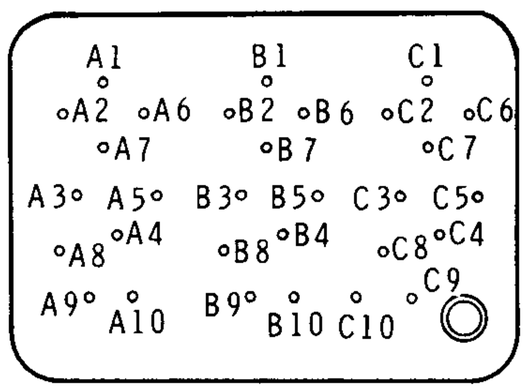
SCHEMATIC OF THE HEATHKIT® ELECTRONIC SLIDE RULE MODEL IC-2100

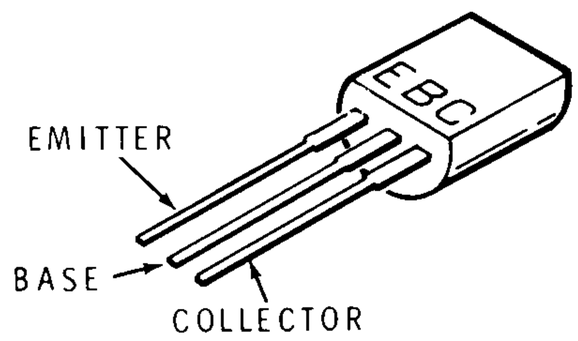
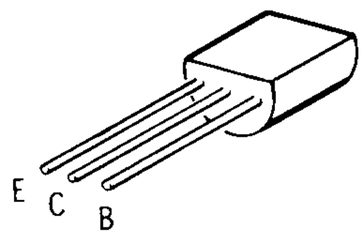
NOTES:

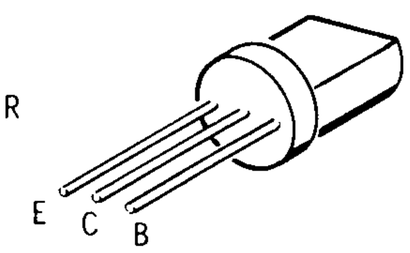
1. ALL RESISTORS ARE 1/2 WATT, 10%, UNLESS MARKED OTHERWISE. RESISTOR VALUES ARE IN OHMS (K=1000; M=1,000,000).
2. ALL CAPACITOR VALUES LESS THAN 1 ARE IN µF. CAPACITOR VALUES LARGER THAN 1 ARE IN pF UNLESS OTHERWISE INDICATED.
3. REFER TO THE X-RAY VIEWS FOR THE PHYSICAL LOCATION OF PARTS.
4. □ THIS SYMBOL INDICATES A LETTERED CIRCUIT BOARD CONNECTION.
5. ⏚ THIS SYMBOL INDICATES CIRCUIT GROUND.
6. +15V ↑ THIS SYMBOL INDICATES A CONNECTION TO THE POWER SUPPLY OF THE VOLTAGE INDICATED.

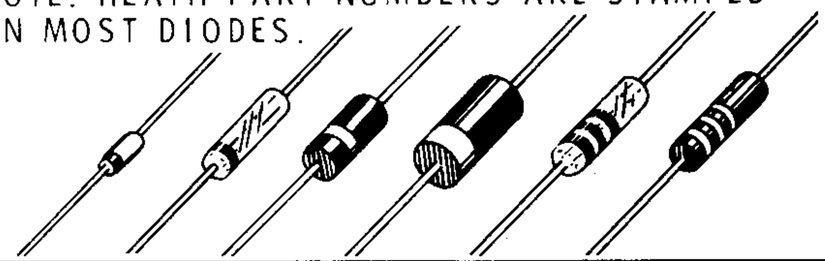
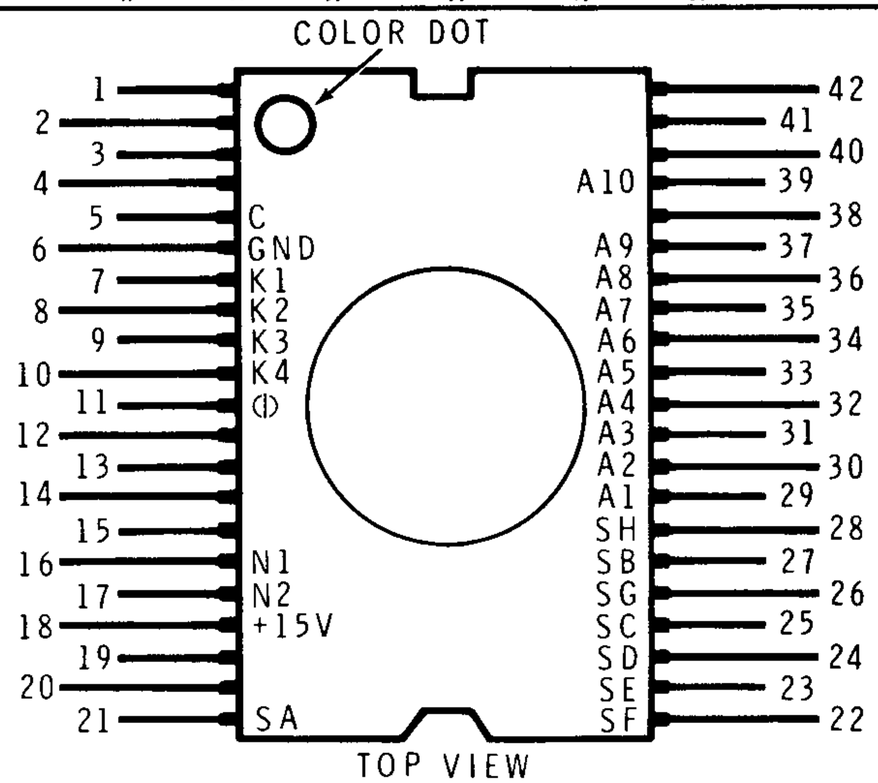
Semiconductor Identification Charts

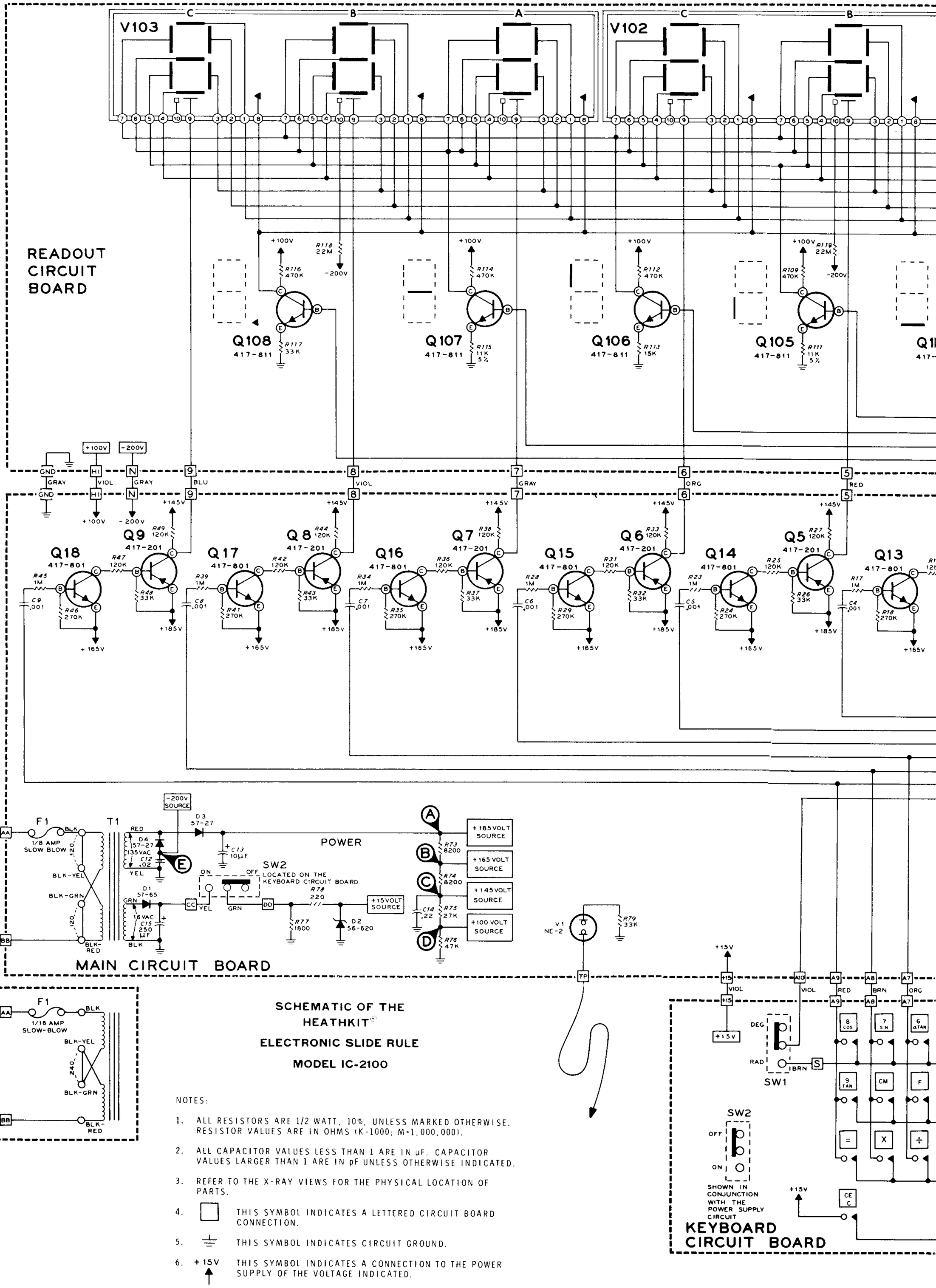
<table>
<tr><th>COMPONENT</th><th>HEATH
PART NUMBER</th><th>MAY BE
REPLACED WITH</th><th>IDENTIFICATION</th></tr>
<tr><td>V101, V102,
V103</td><td>411-290</td><td>SPERRY RAND
SP-353</td><td> 

SEGMENTS VIEWED FROM FRONT
 

PINS VIEWED FROM BACK
NOTE: A10 AND C10 NOT USED.
<table>
<tr><th>SEGMENT</th><th>PIN NUMBER</th></tr>
<tr><td>a</td><td>1</td></tr>
<tr><td>b</td><td>2</td></tr>
<tr><td>c</td><td>3</td></tr>
<tr><td>d</td><td>4</td></tr>
<tr><td>e</td><td>5</td></tr>
<tr><td>f</td><td>6</td></tr>
<tr><td>g</td><td>7</td></tr>
<tr><td>DECIMAL</td><td>8</td></tr>
<tr><td>ANODE</td><td>9</td></tr>
<tr><td>"KEEP ALIVE"</td><td>10</td></tr>
</table></td></tr>
<tr><td>Q101-Q108</td><td>417-811</td><td>MPS-L01</td><td rowspan="2"> 
</td></tr>
<tr><td>Q10-Q18</td><td>417-801</td><td>MPS-A20</td></tr>
<tr><td>Q1-Q9</td><td>417-201</td><td>X29A829</td><td> 

OR
 
</td></tr>
</table>

COMPONENT	HEATH PART NUMBER	MAY BE REPLACED WITH	IDENTIFICATION
D1, D5	57-65	1N4002 SILICON DIODE, 1A, 100V.	NOTE: HEATH PART NUMBERS ARE STAMPED ON MOST DIODES. 
D2	56-620	1N4744A ZENER DIODE 15 VOLT, ±5%	
D3, D4,	57-27	1N2071 SILICON DIODE, 1A, 600V.	
IC1	100-1658	A4001	



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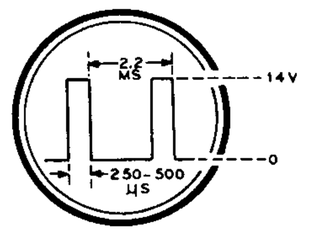
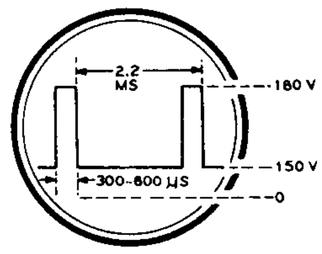
V101



PINS A1 – A10 OF IC 1



PINS 9 OF V101, V102, AND V103

Q105 417-811 — R109 470K, R119 22M, R111 11K 5%
Q104 417-811 — R107 470K, R108 11K 5%
Q103 417-811 — R105 470K, R106 11K 5%
Q102 417-811 — R103 470K, R121 22M, R104 15K
Q101 417-811 — R101 470K, R102 11K 5%

+100V, -200V

Q14 417-801 — R24 270K
Q5 417-201 — R25 120K, R27 120K, R26 33K
Q13 417-801 — R17 1M, R18 270K, C4 .001
Q4 417-201 — R19 120K, R22 120K, R21 33K
Q12 417-801 — R12 1M, R13 270K, C3 .001
Q3 417-201 — R14 120K, R16 120K, R15 33K
Q11 417-801 — R6 1M, R7 270K, C2 .001
Q2 417-201 — R8 120K, R11 120K, R9 33K
Q10 417-801 — R1 1M, R2 270K, C1 .001
Q1 417-201 — R3 120K, R5 120K, R4 33K

+145V, +185V, +165V

5	4	3	2	1				
RED	BRN	BLU	GRN	YEL				

A	B	C	D	E	F	G	H	
BRN	RED	ORG	YEL	GRN	BLU	VIOL	GRAY	

IC 1 100-1658

29 A1	30 A2	31 A3	32 A4	33 A5	34 A6	35 A7	36 A8	37 A9	39 A10
VCC 18	SH 28	SG 26	SF 22	SE 23	SD 24	SC 25	SB 27	SA 21	
16 N1	17 N2	6 GND	Ø	K1 11	K2 7	K3 8	K4 9	C 10	

+15V

R51 33K, R52 33K, R53 33K, R54 33K, R55 33K, R56 33K, R57 33K, R58 33K, R59 33K, R61 33K
R62 33K, R63 33K, R64 33K, R65 33K, R66 33K, R67 33K, R68 33K, R69 33K
C11 .47, R71 180K, D5 57-65, R72 56K

+15	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1
VIOL	VIOL	RED	BRN	ORG	YEL	ORG	GRN	BLU	GRN	YEL

K1	K2	K3	K4	
BRN	ORG	GRAY	RED	

SW1: DEG, RAD, BRN, S

8 COS	7 SIN	6 aTAN	5 aCOS	4 aSIN	3 LOG x	2 $\angle x$	1 e^x	0 1/X
9 TAN	CM	F	DR	MR	M+	A^x	CS π	$\sqrt{x}$
=	X	÷		−	+	XY	XM	

SW2: OFF, ON

SHOWN IN CONJUNCTION WITH THE POWER SUPPLY CIRCUIT

+15V, CE C

EYBOARD
IRCUIT BOARD