



RCA MANUFACTURING COMPANY, INC.

A RADIO CORPORATION OF AMERICA SUBSIDIARY

*Harrison, New Jersey*

RCA RADIOTRON  
D I V I S I O N

APPLICATION NOTE No.95  
August 17, 1938

APPLICATION NOTE  
ON  
OPERATING POSITIONS OF RECEIVING TUBES

A number of requests have been received for a tabulation of recommended operating positions for receiving-tube types. This Note furnishes such a tabulation. The first column lists the tube types, which are identified as filament and heater types; the second column shows the recommended operating position of each type (vertical or horizontal); and the third and fourth columns specify the conditions under which horizontal operation is recommended. The position of the base pins given in the third and fourth columns is such that the plane of the filament in filament-cathode-type tubes is vertical and the sag of the cathode sleeve in heater-cathode-type tubes is a minimum. In the tabulation, the letters V and H are abbreviations for the words vertical and horizontal, respectively. It should be noted that the vertical position includes the up-side-down position and that tube types recommended for use in vertical and horizontal positions are also recommended for use at intermediate angles under the conditions specified in the third and fourth columns.

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AN-95-6-23-38  
Printed in U.S.A.



TUBE TYPE	RECOMMENDED TUBE OPERATING POSITION	PIN POSITIONS FOR HORIZONTAL OPERATION (RMA Base-Pin Numbering)	
		V-Plane	H-Plane
* 00-A, 01-A	V	-	-
● 0A4-G	V and H	No restrictions	No restrictions
* 1A4-P	V and H	Pins 1 and 4	-
* 1A6	V and H	Pins 1 and 6	-
* 1B4-P	V and H	Pins 1 and 4	-
* 1B5/25S, 1C6	V and H	Pins 1 and 6	-
* 1C7-G, 1D5-GP, 1D7-G, 1E5-GP, 1E7-G	V and H	Pins 2 and 7	-
* 1F4	V and H	Pins 1 and 5	-
* 1F5-G	V and H	Pins 2 and 7	-
* 1F6	V and H	Pins 1 and 6	-
* 1F7-GV, 1G5-G, 1H4-G, 1H6-G	V and H	Pins 2 and 7	-
* 1J6-G	V and H	Pins 1 and 4	-
1-v	V and H	No restrictions	No restrictions
* 2A3	V and H	-	Pins 1 and 4 (in new equipment)
2A5, 2A6, 2A7, 2B7	V and H	No restrictions	No restrictions
* 5T4	V and H	Pins 2 and 4	-
* 5U4-G	V and H	-	Pins 2 and 7
5V4-G	V and H	No restrictions	No restrictions
* 5W4	V and H	Pins 2 and 8	-
* 5X4-G, 5Y3-G, 5Y4-G	V and H	-	Pins 2 and 7
* 5Z3	V and H	-	Pins 1 and 4
5Z4	V and H	No restrictions	No restrictions
* 6A4	V and H	Pins 1 and 5	-
6A6, 6A7, 6A8, 6A8-G, 6AC5-G, 6AF6-G, 6B7, 6B8, 6B8-G, 6C5, 6C5-G, 6C6, 6C8-G, 6D6, 6D8-G, 6E5, 6F5, 6F5-G, 6F6, 6F6-G, 6F7, 6F8-G, 6G5, 6G6-G, 6H6, 6H6-G, 6J5, 6J5-G, 6J7, 6J7-G, 6K5-G, 6K6-G, 6K7, 6K7-G, 6K8, 6L5-G, 6L6, 6L6-G, 6L7, 6L7-G, 6N5, 6N7, 6N7-G, 6Q7, 6Q7-G, 6R7, 6R7-G, 6S7, 6S7-G, 6T7-G, 6U5, 6U7-G, 6V6, 6V6-G	V and H	No restrictions	No restrictions
6X5	V and H	-	Pins 3 and 5
6X5-G	V and H	No restrictions	No restrictions
6Y6-G	V and H	Pins 2 and 7	-
6Z7-G, 6ZY5-G	V and H	No restrictions	No restrictions
* 10, 11, 12	V	-	-
12A7, 12Z3	V and H	No restrictions	No restrictions
15	V and H	No restrictions	No restrictions
* 19	V and H	-	Pins 1 and 6
* 20, 22	V	-	-
24-A	V and H	No restrictions	No restrictions
25A6, 25A6-G, 25A7-G, 25B6-G, 25L6, 25L6-G, 25Z5, 25Z6, 25Z6-G	V and H	No restrictions	No restrictions
* 26	V	-	-
27	V and H	No restrictions	No restrictions
* 30, 31, 32	V and H	Pins 1 and 4	-
* 33	V	-	-
* 34	V and H	Pins 1 and 4	-
35, 36, 37, 38, 39/44	V and H	No restrictions	No restrictions
* 40	V	-	-
41, 42, 43	V and H	No restrictions	No restrictions
* 45	V and H	Pins 1 and 4	-
* 46, 47	V and H	Pins 1 and 5	-
48	V and H	Pins 2 and 5	-
* 49, 50	V	-	-
53, 55, 56, 57, 58, 59	V and H	No restrictions	No restrictions
* 71-A	V	-	-
75, 76, 77, 78, 79	V and H	No restrictions	No restrictions
* 80	V and H	-	Pins 1 and 4
* 81, 82, 83	V	-	-
83-v, 84/6Z4, 85, 89	V and H	No restrictions	No restrictions
* 99, 112-A	V	-	-

\* Indicates that types have a filament; no asterisk indicates that types have heater and cathode.  
● Cold cathode, gas type.