

## ELECTRON TUBES WESTERN ELECTRIC MARKING AND DATING

CONTENTS	PAGE	(A) Date of Manufacture
1. GENERAL . . . . .	1	2.04 The year and quarter of manufacture are indicated by four digits. The first two digits indicate the year of manufacture as follows:
2. CURRENT SYSTEM OF MARKING . . . . .	1	
(A) Date of Manufacture . . . . .	1	56 indicates 1956
(B) Base Marking . . . . .	2	57 indicates 1957
(C) Bulb Marking . . . . .	2	58 indicates 1958
3. PREVIOUS METHODS OF MARKING . . . . .	2	59 indicates 1959
		60 indicates 1960
		61 indicates 1961
		etc.
1. GENERAL		
1.01 This section is reissued to cover the latest methods of marking of codes and dates of manufacture on Western Electric electron tubes.		Since this system was adopted during the first quarter of 1956, some electron tubes manufactured during that quarter may still be marked in accordance with the previous method of date coding. These tubes will be marked with a single digit 6 to indicate 1956. All tubes manufactured after the first quarter of 1956 will be marked in accordance with the new system.
1.02 Several methods have been employed from time to time to mark the codes of electron tubes and to indicate their date of manufacture. Since individual tubes designated in accordance with any of these methods may still be in active use, information on previous practices is included in Part 3.		
2. CURRENT SYSTEM OF MARKING		
2.01 The present uniform system of marking Western Electric electron tubes was adopted during the first quarter of 1956.		2.041 The next two digits indicate the quarter of manufacture according to the Western Electric fiscal calendar as follows:
2.02 Three types of marking are employed: base, side of bulb and top of bulb. The type of marking is dictated by manufacturing methods employed, size of bulb and base, quantity manufactured, etc.		13 indicates approximately January to March, inclusive
2.03 In general, the larger or more expensive types of electron tubes employ serial numbers in addition to the date markings. This number is usually placed on the side of the bulb.		26 indicates approximately April to June, inclusive
		39 indicates approximately July to September, inclusive
		52 indicates approximately October to December, inclusive
		The number 5626 marked on a tube indicates that the tube was manufactured in the period from April to June, 1956.

**(B) Base Marking**

2.05 Some of the electron tubes such as the 310A, 101F, 373A, etc., are marked on the base of the tube as indicated in Fig. 1.

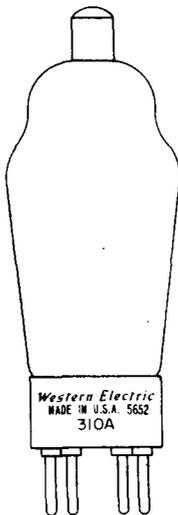


Fig. 1

**(C) Bulb Marking**

2.06 In general, cold cathode tubes are marked on the top of the bulb as indicated in Fig. 2 for the 313C tube. Miniature cold cathode tubes are marked as specified under Paragraph 2.07. Some hot cathode types such as the 380A tube are also marked on top of the bulb. The same method of marking for year and period of manufacture and serial number, if employed, will be used as outlined above.



Fig. 2

2.07 Miniature type electron tubes such as the 407A and certain electron tubes having a

short base such as the 398A are marked on the side of the glass envelope as indicated in Figs. 3 and 4.

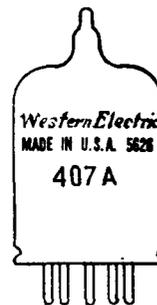


Fig. 3

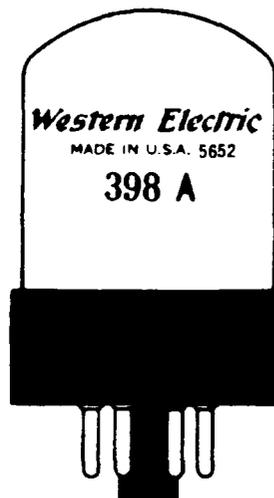


Fig. 4

**3. PREVIOUS METHODS OF MARKING**

3.01 Prior to 1936 practically all tubes had their code and other pertinent information stamped on the base of the tube. In addition, some types of tubes had their code but no other details stamped on the end or side of the glass bulb as well as on the base. Beginning about July, 1936 additional symbols were added to the base markings to indicate the date of manufacture.

3.011 Fig. 5 shows a 101F electron tube of the spherical bulb type. As indicated, the manufacturer's name, place of origin, and code are stamped on the tube base. In addition, two letters (AP in the example shown in Fig. 5) have been stamped on the base to indicate the date of manufacture. As shown below the first letter signifies the year and the second letter the month in which a given tube of this general type was produced.

Letter	Significance of	
	First Letter	Second Letter
A	Year 1936	Jan.
B	" 1937	Feb.
C	" 1938	March
D		April
E		May
H		June
K		July
L		August
M		Sept.
N		Oct.
P		Nov.
S		Dec.

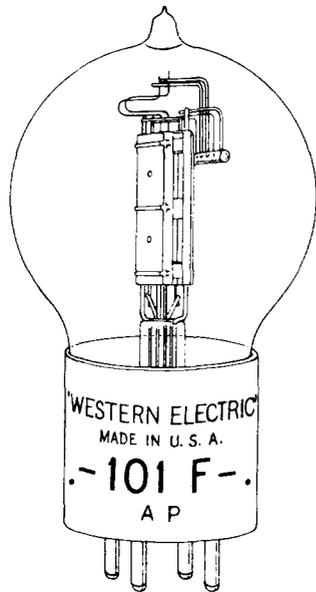


Fig. 5 — Typical Example of Base Marking

3.012 In accordance with the above scheme, the letters shown in Fig. 5 indicate a tube manufactured during the month of November, 1936. This type of marking was applied to the 101F, 102F, 102D, D86326, and D86327 electron tubes, and was continued in effect until these types of tubes were superseded by corresponding dome type tubes.

3.02 With the advent of the dome type tubes, such as the 101F electron tube, the code and other markings were placed on the end of the bulb. The general appearance of the markings employed is shown in perspective in Fig. 6 and in more detail in Fig. 7.

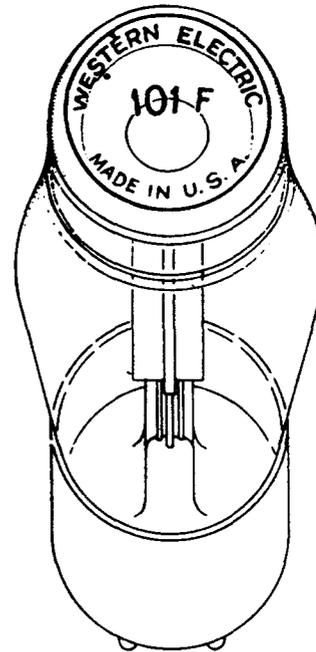


Fig. 6 — Typical Example of Bulb Marking



Fig. 7 — Detailed Marking on End of Bulb

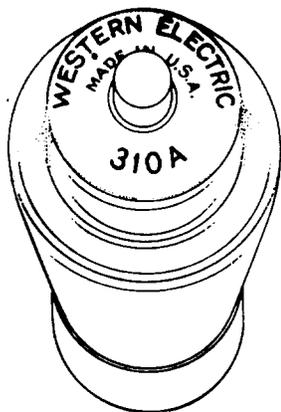
3.021 As may be noted, there are two indices, namely, a small radial line attached to the circle shown in Fig. 7 and a dot placed under one of the letters in the name "WESTERN ELECTRIC" (under the letter S in this case). The position of these indices with respect to the letters in "WESTERN ELECTRIC" indicates the date of manufacture in accordance with the following scheme:

Letter	Index Under	Index Over
	Letter	Letter
W	Year	Month
E	1938	Jan.
S	1939	Feb.
T	1940	Mar.
E	1941	April
R	1942	May
N	1943	June
E	1944	July
L	1945	Aug.
E	1946	Sept.
C	1947	Oct.
T	1948	Nov.
	1949	Dec.

3.022 In accordance with the above scheme, the date of manufacture of the tube shown in Fig. 6 would be May, 1940.

**3.023** When the dome tubes were first produced and until about the middle of the year 1941 a slight variation in the marking shown in Fig. 7 was employed. In this case, both indices were attached to the circle shown in that figure, one inside and one outside. The outside and inside indices indicated the year and month, respectively, by their positions with respect to the letters in "WESTERN ELECTRIC" being interpreted in accordance with the table given in Paragraph 3.021. This type of marking was superseded by that shown in Figs. 6 and 7.

**3.024** The bulb marking described above was also applied to tubes such as the 310A in which an external grid cap protrudes through the center of the dome. However, in the case of such tubes the circle shown in Fig. 7 was omitted for manufacturing reasons and the outer index took the form of a dot placed over one of the letters in "WESTERN ELECTRIC" as shown in Figs. 8 and 9.



**Fig. 8** — Typical Example of Bulb Marking for Tubes Having External Grid Caps

**Fig. 9** — Detailed Marking for Tubes Having External Grid Caps

**3.025** The date indications shown in Figs. 8 and 9 are interpreted in accordance with the information given in Paragraph 3.021. From this it may be seen that the date of manufacture of a tube marked as shown in these figures would be August, 1941.

**3.03** During an interim period and until about the middle of the year 1941 a special marking in the form of a red dot was placed on the grid cap of the 310A, 311A, 328A, and 329A electron tubes to indicate improved characteristics. This type of marking was discontinued when bulb marking was applied to these tubes.

**3.04** During the second quarter of 1947 a system of marking Western Electric electron tubes was adopted which was consistent with the recommendations of the Joint Electron Tube Engineering Council at that time.

**3.041** This system of marking is similar to the present method as covered in Paragraphs 2.02 to 2.07 except that only three digits were used to indicate the year and quarter of manufacture as follows:

- 6 indicates 1946
- 7 indicates 1947
- 8 indicates 1948
- 9 indicates 1949
- 0 indicates 1950
- 1 indicates 1951
- 2 indicates 1952
- 3 indicates 1953
- 4 indicates 1954
- 5 indicates 1955

The next two digits indicate the quarter of manufacture as outlined in Paragraph 2.041. Thus, the number 652 marked on a tube indicates that the tube was manufactured in the period from October to December, 1946. This system of date coding was superseded by the present method during the first quarter of 1956.