DATING THE RCA (CUNNINGHAM) COMPOSITION-BASE RADIO RECEIVING TUBES

FROM MID-1924 THRU 1941 (START OF WW II)

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This guide, a classic in its field, is being reproduced in the TCA environment to commemorate the works of Bro. Dowd and continue its availability. Date codes for "modern" RCA tubes through 1968 were given in TC *for April 1999. - Ed.*

(The following material is limited to the examination and interpretation of the external 'Company Markings' on RCA (and Cunningham) composition-base receiving tubes from mid-1924 to the start of WW II. Exception is made in the period prior to April 1929 (1st RCA Dating Code), where external physical changes (length of tube base, type of pins, etc.) must be combined with the external tube-markings for more precise dating.

The bulk of the information contained in the following pages was gathered from the RCA Standardizing Notices from 1924 thru 1935. Later Notices were not available at the time this was prepared. The information gathered had to be combined, condensed and, in a number of cases, interpreted. The material for the period from 1936 thru 1941 was completed by extrapolating information obtained from the earlier RCA Notices, by making use of data from previous research I had done in this area and by the examination of literally many, many 'bushels' of tubes from this period (courtesy of Howie Schrader, Gerry Tyne, Bob Morris and Bruce Kelley).

In many cases the dates listed are approximate. There are many reasons for this: There is no way of determining the exact time-lapse between the announcement of a change and its implementation. It is impossible to even guess at the time interval that might exist between manufacture, warehouse storage, labeling and final release. Before implementation of many changes the Factories were directed to exhaust existing supplies (change from 'long bases' to 'short bases', brass pins to nickel-plated pins, a number of label changes, etc.). Since a number of factories were involved in the manufacture of each tube, it is most probable that the 'existing stock' was exhausted at different times at each factory.

These notes should not in any way be considered definitive. Much research yet remains to be done. There are many 'gray areas' that must be more specifically defined. The notes can be used for a handy reference guide and as a starting point for continued research. To help expand the project the AWA members who are in a position to do so, are asked to contribute suggestions, corrections, and additional information.

For the present it is hoped that the following information will encourage the collection and preservation of tubes in this period. These have been virtually ignored by the tube collector. Tubes of this era represent a very significant phase of development and are fast becoming more difficult to obtain, particularly vintage tubes.

USING THESE NOTES

First become familiar with the contents of these notes. Then make a close and thorough examination of the tube. With a little practice, even a casual examination of a tube can tell you much. The type, location, presence or absence of a marking or a physical characteristic can be very informative.

Suggested check-list:

BASE: Material (brass, composition, Isolantite, Micanol, etc.).

SIDE OF BASE: Label Style (type, branded or rubber-stamped - if stamped, check color of ink); 'License Clause'; Monogram; Dating and/or Factory, Production,

Distribution Code information; tube-type; size (relative length and diameter); shape (cylindrical or tapered); bayonet pin.

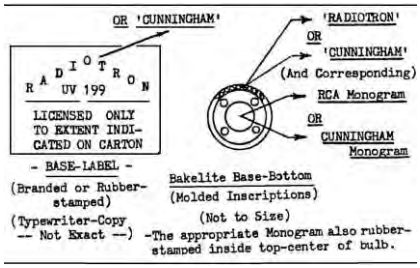
BOTTOM OF BASE: Molded 'License Clause' and/or Monogram, brand name; branded production-code information; base pins - material (brass or nickel-plated), relative length, number.

BULB: Material (glass, metal); tube-type; 'Made in U.S.A.'; polygon (gap or continuous); monogram (top or side); Monogram Circle (gap, dot, continuous); relative physical size; shape (pear, tubular, dome); top cap.

With a little experience you will have dated the tube before finishing the above check-list. If not, locate the corresponding base label-style diagram (left-hand column - pages 3-5), read notes adjacent to this label and check indicated references. For Cunningham tubes, determine the number of the corresponding label style on page9. Information on this label style may be found under the same-numbered RCA label style. [For] UV-tubes, see notes below.

DATING THE EARLY 'UV' COMPOSITION-BASE TUBES

Composition tube bases were first used by RCA about mid-1924. The first base-labels were rubber- stamped (on side of the base) with silver paint. See Base-Label *below*]. Branded-bases (same label style) were first used in early 1925.



The first "UX" tubes were released about mid-1925. Base-label style #1 (see page 3) was used. The RCA (but not the Cunningham) monogram and the 'License Clause' were molded on the bottom of the tube-base. The RCA (or Cunningham) Monogram was rubber-stamped inside the top center of the bulb where possible, or on the side of the bulb. These features were standard for the UX- and UY-tubes until early 1928.

FACTORY CODE

Tube dating did not come into use until 1929. However, a Factory Code (indicating the factory of origin) was in use from at least 1924. Variations in the tube label-line (solid or broken) combined with the presence or absence of dashes & hyphens in the tube-type were used to identify the Factory of Origin. (A defective tube - in warranty - had to be replaced by the factory involved). The earliest codes (1924 to 1926) are listed below.

Bloomfield	-UV-201-A-
Cleveland	UV-201-A
E. Pittsburgh	UV-201-A
Harrison	UV 201-A
Newark.	UV 201-A

(Complete list, page 11.)

The UV-tube conversion to the standard UX-tube markings probably began shortly after mid-1925 and continued for an indefinite period of time before completion. 'Exhausting existing stocks' probably helped to prolong the changeover. During this interim period, several types of molded-base inscriptions were used in combination with several base-label' styles. UV-tubes with an 'odd-ball' combination of these markings can be traced to this period. Gummed RCA and Cunningham monogram labels were used on the side of the bulb on, at least, the early painted-label UV composition-base tubes. The bulb-etched G. E. and Westinghouse monograms continued to be used through, at least, the early branded-label UV-tubes.

SAMPLE RECEIVING TUBE 'BASE-LABELS,' 1925 - WW II

(Branded Labels)

Note: In many cases; the dates listed below are approximate. Label reproductions are not exact - these are "typewriter copies." Refer to page 9 for the corresponding Cunningham period labels.

Die-Points (corner points) formed part of the branding die of the composition-base tubes of the '20s and early '30s. These die-points were needed to prevent slippage of the tube-base during the branding process. In the early '30s a new type of branding machine was added. In these machines, the .branding die was rolled over the tube-base and the die-points were not necessary. In the older machines the tube-base was rolled over the branding-die. The use of the branding-die corner-points was eventually left to the judgment and skill of the machine operator.

1) "RADIOTRON" / UX 210

Mid-1925 to April 1928 (approx.) - No dating code was in use during this period, only a factory code (see page 11) was employed. However, external physical tube changes help with the dating:

1925 - long base and brass pins.

1926 to mid-1927 - short base and brass pins.

Mid-1927 to April 1928 - short base and nickel-plated pins.

UV-tubes used a two-line 'license clause': LICENSED ONLY TO EXTENT INDICATED ON CARTON located just underneath, and as part of, branded label styles #1 and Nos. 2A/B from approximately mid-1927 to mid-1928.

Other Characteristics of This Period

-- The RCA (or Cunningham) monogram (logo) was rubber-stamped on the top (inside) of the bulb. Later in this period, on tubes requiring top-tubulation, the monogram was rubber-stamped (outside) on the side of the bulb. The monogram (RCA tubes only) was also imprinted at the center of bottom of the molded tube base.

-- The 'License Clause' ("LICENSED ONLY TO EXTENT INDICATED ON CARTON") was imprinted (in a circle) on the bottom of the molded base, just outside the pin-ring.

April 1928 to March 1932 - This label was in general use throughout the remainder of the '20s and in limited use during the early '30s. Its use in the early '30s was restricted to the re-released tubes of the

2A) RCA / "RADIOTRON" / UX 210

2B) RCA "RADIOTRON" / UX 199

'20s. In the early '30s the newly released tubes use base-label-Style '3A.' The tubes of the '20s that remained popular were changed to modern base-label early in 1932. A few of the tubes of the '20s (intended for replacement only) continued with the '2A/B' labels through 1933.

Label Style '2A' was used for the standard-size base. Label Style '2B' was used with the smaller-size base (UX-199, UX-120, etc).

2C) RCA / "RADIOTRON" / RCA 221

UX and UY tube-type prefixes dropped from new-tube releases starting in late 1929 (only 221).

Other Characteristics of This Period

-- The RCA Monogram was removed from the bottom of the base when it was made part of .the base-label. The top .and side bulb monograms continued in use. In April of 1929, a. specifically located break in the circle of the bulb monogram was used as the first RCA dating code. (See page 6). The "License Clause' continued to be imprinted on the bottom of the molded base.

(The RCA Radiotron Manufacturing Co. *[was]* formed January 1st, 1930.)

3A) "RADIOTRON" C A 230

June, 1930 to March, 1932 - Starting with the RCA-221 (the last RCA receiving tube released in 1929) the tube-type prefixes (UV, UX, UY) were dropped from the tube types of new releases.

Other Characteristics of This Period

-- The top and side bulb monograms (RCA and Cunningham) continued in use. The monogram-circle dating code system continued in use and was expanded. (See page 6.)

-- The factory code system remained in use (See page 11).

-- The 'license clause' continued to be imprinted on the bottom of the base.

3B) "RADIOTRON" C A 30

Starting in December 1931, the first digit of the tube-type number was dropped. Base-label Style '3B' came into use. The tube-type remained part of the base-brand. This style continued until March, 1932.

4A) E RCA 3 RADIOTRON

April 1932 to mid-1933 - In April 1932 the practice of placing the RCA (or Cunningham) monogram on the top or side of the bulb was dropped and with it went the monogram-circle dating system. A new dating code system was placed in use (see Dating System # 2, page 7.) At this time, also, the factory code was no longer considered necessary and was not incorporated in the new label ('4A'). The new dating code used a letter-number system. The letter indicated the year and, depending or which letter was used, indicated whether the tube was supplied to a set manufacturer or to a distributor. It had a built-in distribution code. The number indicated the month of the year.

With the advent of the new base-label the tube-type was no longer a part of the base-brand. The tube-type was rubber-stamped (enclosed in a polygon) on the side of the bulb above the base-label. (See 1A/B, page 6.)

The 'license clause' continued to be imprinted on the bottom of the base.

4B) RCA RADIOTRON

For a period of time, probably from May through December of 1932, label-style ('4B') and the corresponding Cunningham label-style were branded on opposite sides of the base. The dating code appeared on only one side (either the "RCA" or the "Cunningham" side) and the bulb tube-type label was placed above the dated side base-label. This system was probably an economic experiment.

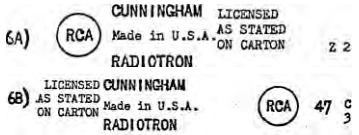
5A) RCA CUNNINGHAM RADIOTRON

5B) RCA CUNNINGHAM RADIOTRON F 2

Mid-1933 to mid-1935 - In mid-1933 base-label styles '5A/B'`replaced style '4A.' During the remainder of 1933 both styles were used. Style '5A' did not use a dating code. Style '5B' used dating code system # 2 (See page 7.). At this time, also, a new bulb tube-type inscription (2A/B) was added. (See page 3.) Both bulb inscription styles (1A/B and 2A/B) were used interchangeably with base styles '5A/B.' Tubes with Style '5A' base-label can be dated to mid-1933 to end of 1933.

In early Jan. 1934 dating (production) code system #3 (see page 8) gradually began to replace dating code system #2 (see page 7). Daring the transition period the letter 'L' (which represented the year 1934 under code system #2) and the letter 'J' (which represented the year 1934 under the new code system) were used concurrently. It is most probable that the number part of the Code System used with the letter 'L' was taken from Table #1 (see page

7); and the number part of the code system, used with the letter 'J,' was taken from Table #2 (see page 8). Evidence seems to indicate that the production unit (2,000,000 tubes) was selected because it represented, at least at that time, the approximate monthly tube production. If this is so, the difference is purely academic. Base-label Style '5B' was used during the transition period and bulb tube-type inscription '2A/B' became standard after 'existing stocks' were exhausted.



Mid-1935 to mid-1936 - These two base styles came into use in mid-1935 and continued for about a year. They are the last of the branded-base styles. Style '6A' was used with bulb inscription style 'A/B.' The tube-type became part of the base-brand with Style '6B' 'Made in U.S.A.'' and a shortened 'Licence Clause' also became part of the base-brand and the 'License Clause' was dropped from the bottom of the base. The dating code was removed from the bottom of the base and branded on the lower half of the side of the base, away from the label inscriptions. When first moved from the bottom to the side of the base, the letter and number part of the code were placed adjacent to each other (C3). Shortly thereafter the number was placed under the letter and a dash added to the left or right side to form part of a factory code. This code was in use for only a short period of time. It was not carried into 1936. The letter 'Z' was used to indicate 1936. (See page 11.) From 1936 on, the number and letter parts of the code were placed adjacent to each other (Z5, U2, T1, etc.). Evidence seems to indicate that the letter (year) part of dating code system #3 remained unchanged until at least the beginning of WW II. However, the number part of this system seems to have been redefined in 1936, since only single-digit numbers have been observed from 1936 through the start of WW II. (See page 9.)

Mid-1936 to Mid-1938 - This base-label style was rubber-stamped, with red paint, on the side of composition-base receiving tubes during this two year period. They were referred to as 'Red Label' tubes. The date code was branded (in the relative position shown on the sample label) on the side of the tube-base. (Z - 1936, U - 1937, T - 1938). The significance of the number part of the date code is not known. However, after examining a number of RCA tagdated tubes plus a large number of other tubes (1936-1941), it was noted that the numbers ran only from 1 through 6 (in numerical order) and each number closely represented a two-month period of the year (U 6, Nov.-Dec., 1937; T 1, Jan.-Feb., 1938; etc.). Until more information is available, this method will give a good approximation.

Mid-1938 to Mid-1940 - The dating code became part of the painted base-label (silver) during this period (T - 1938, X - 1939, R - 1940). On some tubes during this period the letter 'E' was added between the letter and number of the dating code (TE4, XE5, RE2, etc.). The significance of the addition of this letter is not presently known.

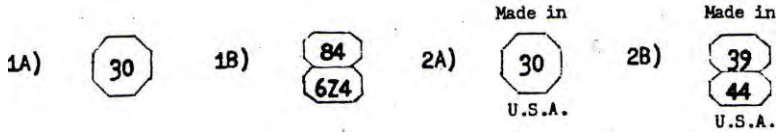
Mid-1940 to at least the end of 1941 - The 'License Clause' was removed from the base-label and returned to the bottom of the tube base. The date code remained part of the silver painted label (R - 1940, S - 1941). The dating code was either positioned as shown in the label sample (on a line with the top of the label) or lowered slightly to the center line of the label. The significance of this is not known.

RCA Victor receiving tubes started in the late 1930s - belong to the "painted label" era (silver). Date accordingly.

Occasionally you will come across a tube with some 'odd-ball' characteristics (old label, later dating code, newer label, etc.). This might possibly have resulted from a warehouse clean-out.

METAL TUBES - The dating of the metal receiving tubes of this period is covered in June 1976 *OTB* (Vol. 17, #1) on page 15 *[or* TC, *June 2010, pp. 10-11 - Ed.*]

RCA BULB TUBE-TYPE INSCRIPTIONS



RCA (CUNNINGHAM) DATING SYSTEM #1 (APR. 1, '29 - APR. 1, '32)

RCA started dating tubes as of April 1st, 1929. Before this time factory coding was all that was considered necessary. The RCA (and Cunningham) monogram was stamped inside the top center of the glass bulb. In those tubes having top-tubulation the monogram was stamped on the outside of the side of the bulb. A break in the circle surrounding the RCA (and Cunningham) monogram, at 45-degree intervals, indicated a specific quarter of a particular year during which the tube was manufactured (see Diagram 'A' below). When this sequence was used up, a dot was added just above the top center of the monogram circle and the sequence was continued (see Diagram 'B' below). This dating system was in use from April 1st, 1929 until April 3rd, 1932. In the second sequence (the 'dot' sequence) - each quarter began with the first Sunday of the quarter (starting on Oct. 4th, 1931). Dating code system #1 discontinued April 3rd, 1932.

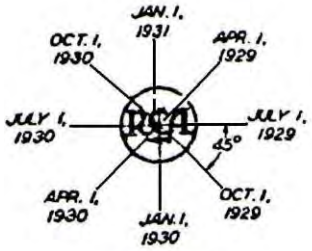


DIAGRAM 'A'

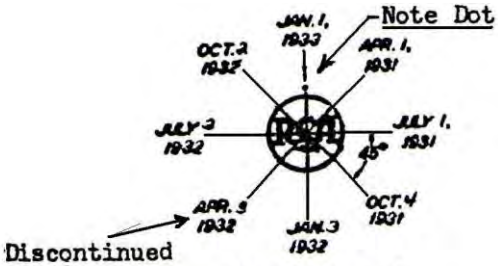


DIAGRAM 'B'

Date of Mfg. (Original Code)	Position of Gap (Degrees)
Apr. 1, 1929 - June 30, 1929	45
July 1, 1929 - Sept. 30, 1929	90
Oct., 1, 1929 -. Dec. 31, 1929,	135
Jan., 1, 1930 - Mar., 31, 1930	180
Apr., 1, 1930, - June, 30, 1930	225
July, 1, 1930 - Sept, 30, 1930	270
Oct. 1, 1930 - Dec. 31, 1930	315
Jan. 1, 1931 - Mar. 31, 1931	0

Date of Mfg. (Dot Code)	Position of Gap (Degrees)
Apr. 1, 1931 - June 30, 1931	45
July 1, 1931 - Sept 30, 1931	90
Oct. 4, 1931 - Jan., 2, 1932	135
Jan. 3, 1932 - Apr., 2, 1932	180

The monogram 'dot code' was dropped at this time.

(Each angle is measured from an axis extending from the center of the circle, vertically through the top of the circle.)

DATING CODE #1 - Interpreting the Top & Side Bulb
RCA & Cunningham Monogram Circle Break.

No Dot (Diagram 'A')- page 7
Tube Manufactured between
April 1, 1929 & July 1, 1929.

With Dot (Diagram 'B')
Tube Manufactured between
July 1, 1931 & October 4, 1931.

No Monogram Circle Break - with Label Style '2A/B'
Tube Manufactured between (Approx.) April 1928 & April 1, 1929.

RCA (CUNNINGHAM) DATING SYSTEM #2 (APRIL, 1932 - DEC., 1933)

It was customary to base-brand the tubes at the warehouse prior to distribution and not at the time of manufacture. Since the RCA and Cunningham monograms were applied to the tube-bulbs at the time of manufacture, there was no leeway in the distribution of these tubes. For greater flexibility in the distribution of the manufactured tubes, the practice of monogramming the tube bulbs was discontinued at about the end of the first quarter of 1932. This enabled the warehouse to base-brand any of the manufactured tubes with either the RCA or the Cunningham brands.

At this time also:

a) The base-label was changed (label style '4A' replaced label style '3A/B' -- See pages 3-4).

b) The tube-type was removed from the base-brand and rubber-stamped (enclosed in a polygon) on the side of the glass-bulb over the base label.

c) A new Dating Code was adopted and made part of the base-brand. This new dating code served also as a distribution code. It was a letter-number code - the letter selected indicated the year of manufacture and whether the tube was being supplied to a set manufacturer or a distributor. (See label style '4A', page 4, and Table # 1 below). The letters and numbers did not follow an orderly sequence in order to prevent .an easy deciphering of the code. Wherever possible, the numbers and letters selected were open and/or rounded to prevent-clogging of the branding-die.

TABLE 1
YEAR DATING CODE
(April, 1932 to December 1933)

	Set Manufacturers	Distributors
1932	V	E
1933	A or O	F

MONTH DATING CODE

January	10	July	6
February	12	August	7
March	11	September	5
April	8	October	2
May	3	November	4
June	9	December	1

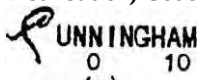
DATING CODE #2 - Interpreting Dating (and Distribution) Code #2

(a)

(a) Branded May 1932 for Distributor Shipments. (Note that the word 'Branded' replaces the. word 'Manufactured.')

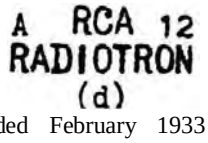
(b)

(b) Branded October 1932 for set-manufacturer shipments.



(c)

(c) Branded January 1933 for set-manufacturer shipments (West Coast).



(d)

(d) Branded February 1933 for set-manufacturer shipments. (The letter 'O' replaced 'A' after short period of time.)

F RCA 8
RADIOTRON
(e)

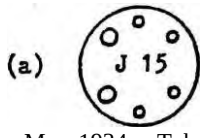
(e) Branded April 1933 for distributor shipments.

In mid-1933 a new base-label style (See '5A/B', page 4) replaced style '4A'. Base style '5A' used dating code #2 until the end of 1933. Base style '5B' did not use the dating code. The significance of this is not presently known. Tubes using base style '5B' and containing no other dating information can be dated to this six-month period (mid-1933 to end of 1933). During this period a. new bulb tube-type label was placed in service (see page 6, '2A/B). It is possible that, at first at least, this new style was intended for overseas use. Both bulb tube-type inscriptions (1A/B and 2A/B) were used interchangeably with both base label styles '5A/B'.

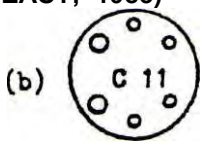
RCA (CUNNINGHAM) DATING CODE SYSTEM #3 (JANUARY 1934 THRU, AT LEAST, 1935)

At the start of 1934 a new dating system (# 3) replaced dating system #2. It was based on a letter/number(s) code. The letter part of the code represented the year but the number part of the code no longer represented the month, but a specific unit of tubes manufactured within a given year. (Each unit represented 2,000,000 tubes). (Refer to Table #2 below). I suspect that this number was selected because it represented the approximate monthly tube production at that time. The letter 'J' in the new code was to represent the year 1934. The letter 'L,' under the old code, was originally planned to represent the year 1934 (not indicated in Table #1 on page 7). Note that the first three numbers of each code (10, 12, 11) are identical. This was probably arranged to cover the interim period in the code change-over. The letter 'L' was dropped from use after a quarter or so. At this time the dating code was removed from the base-brand label and branded at the center of the pin-ring on the bottom of the base. Base label style '5A' replaced '5B.' (See below).

TUBE-BASE BOTTOMS
(Not to size -- License Clause omitted)



(a) Approx. May 1934 - Tube Manufactured during the fifth Production Unit in 1934



(b) Approx. March 1935 - Tube Manufactured during the third Production Unit in 1935.

This date-code branding location in use from April 1934 to mid-1935

TABLE #2
YEAR DATING CODE

1934	J-L (1st. Quarter)
1934	J (2nd Quarter)
1935	C
1936	Z
1937	U
1938	T
1939	X
1940	R ?
1941 (WW II)	Y ?

PRODUCTION UNIT DATING CODE
(Each Unit 2 million tubes

1st	10	9th	9
2nd	12	10th	6
3rd	11	11th	7
4th	13	12th	5
5th	15	13th	2
6th	14	14th	4
7th	8	15th	1
8th	3		

About mid-1935 the dating code was removed from the bottom of the base and branded on the side of the base independent of the label. When this change took place

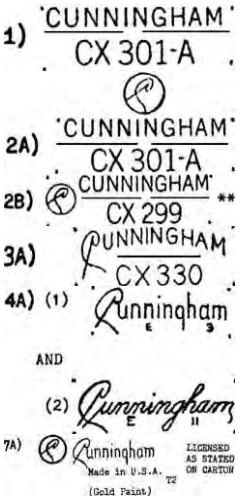
date code (C 3) became [C over 3] or [_C over 3] or [C over 3_]. (The lack of a dash or its position relative to the code was used to serve as a factory code (See page 11). At this time also, two new label styles came into use (See page 5, label Styles '6A/B'). 'Made in U.S.A.' was removed from the bulb tube-type inscription and made part of the base label. The 'License Clause' was removed from the bottom of the base and also made part of the base label. Base style '6A' used bulb tube-type inscription 1A/B. Base style '6B' used a base-brand tube-type as part of the base label. Note that in base label style '6A the 'License Clause' is placed immediately to the right of the main label. With base label style '6B' the 'License Clause' replaces the RCA logo, which is removed from the main label and placed adjacent to the branded tube-type.

Dating code system # 3 remained in use until at least the end of 1935. The letter part of this code continues until at least 1939. With 'educated guesses' the code letter 'R' has been added for 1940 and the letter 'Y' has been added for 1941 (start of WW II). The number part of the code seems to have been redefined during 1936, probably mid-year. Only the digits 1 though 6 have been observed after this date. These numbers appear to be used consecutively. Again, an 'educated guess' would indicate that reasonably accurate results can be obtained by letting each number, in sequence, represent a two-month period (1 = Jan. & Feb., 2 = Mar. & Apr., etc., through 6 = Nov. & Dec.).

CORRESPONDING CUNNINGHAM PERIOD-LABELS

(Label numbers below correspond to equivalent RCA label numbers).

For space considerationssome of the base labels habe been omitted. Styles 5A, 5B, 6A & 6B are common to both RCA and Cunningham. 7B & 7C have variations that are similar to corresponding RCA label variations.



** After several months Style '4A (1) became standard.

ANNUAL RECEIVING TUBE RELEASES BY RCA (CUNNINGHAM), 1925 THRU 1934

1925	**1926**	UX-280	**1930**	**1932**	5Z3	48	**1934**
WX-12	UX-171	UX-281	RCA 230	46	6A4-LA	49	1C6
UX-112	UX-200-A		RCA 231	56	6A7	53	6A6
UX-120	UX-225	**1928**	RCA 232	57	6B7	55	6C6
UV-196*	UX-288	UX-250		58	6F7	59	6D6
UX-199	UV-886	UX-859	**1931**	82	12Z3	75	76
UX-200		UX-864	RCA 233		25Z5	77	84/6Z4
UX-201-A	**1927**		RCA 234	**1933**	1	78	
UX-210	UX-112-A	**1929**	RCA 235	1A6	1-v	79	
UX-213	UX-171-A	UX-245	RCA 236	2A3	19	83	
UX-874	UX-222	UY-224	RCA 237	2A5	39/44	84	
UV-876*	UX-226	RCA-221	RCA 238	2A6	41	85	
UV-877*	UY-227		RCA 239	2A7	42	89	
	UX-240		RCA 247	2B7	43		

[Above] is a list of the RCA (Cunningham) annual receiving tube releases from 1925 through 1934. The tubes listed for 1932, 1933 and 1934 are taken from the RCA Receiving Tube Manuals (RC-10 - 1932, RC-11 - 1933 & RC-12 - 1934). Company tube manuals are excellent for obtaining a complete list of tube releases on an annual basis. Unfortunately, the tube manual's year of accuracy does not generally correspond to the calendar year. The tube manuals, at least during this period, were published about mid-year. These were prepared and sent to press probably some months prior to publication. Label changes and tube releases after the publication may not have been recorded. These facts must be considered when using this list. For example: a tube may be pictured in the tube manual with a label it was never released under, or a tube listed as a new release in the 1934 Tube Manual may show up with a 1933 date.

Notes: The UV tubes listed have brass bases.

(*) UX-225, UX-859 & UX-288 - limited production

UV-196 -- specialized use -- limited production

RCA 221 -- manufactured for export only

FACTORY CODE MARKINGS -- RCA RECEIVING TUBES

NOTES:

- The Factory Codes listed *[below]* apply to all Cunningham tubes with corresponding base-label styles (see page 9).

- Some of the factory codes listed in the last column (page 11) date back to at least 1926 and are used with base-label styles #1 (page 3).

- The die-points (corner-points) have been omitted from the above labels.

- The dashes and hyphens used with some of the tube-types are part of the factory codes (except when used to indicate an 'A' or 'B' variation of a tube-type -- 201-A, 216-B, etc.). These indicate a Westinghouse manufactured tube.

- For the earliest known factory codes, see page 2.

For a short period, probably from mid-1935 to the end of the year, the dating code was arranged to indicate the factory of manufacture:

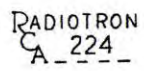
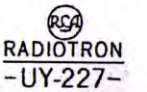
[C over 3] No dash -- Factory #1, Harrison

[C over 3_], dash to right..-- Factory #2, Harrison

[C over 3], dash to left --. Cleveland. This combination production - factory code was branded on the lower side of the composition base, separated from the regular base-label. This combination code was intended for metal-bulb tubes with composition bases but was used also on glass-bulb, composition-base tubes.

FACTORY CODE MARKINGS - RCA RECEIVING TUBES

(Solid line, no line, or interrupted line, combined with the presence or absence of tube-type dashes and hyphens, served as a Factory Code. Later, the absence or position of a gap in the Bulb Tube-type polygon served this purpose.)

	APPROXIMATE PERIODS OF USAGE OF DESIGNS AND CODE MARKS		
	MARCH 1932 TO (AT LEAST) MID-1935	JUNE 1930 TO MARCH 1932	PRIOR TO JUNE 1930
			SEE BASE-LABEL STYLE 2A/2B
HARRISON WORKS NO. 1			
HARRISON WORKS NO. 2			
IVANHOE WORKS NO. 3			
NEWARK WORKS NO. 2			
CLEVELAND VACUUM TUBE WORKS NO. 30			
GENERAL ELECTRIC VACUUM TUBE DEPT. SCHENECTADY			
INDIANAPOLIS WORKS NO. 5 (WESTINGHOUSE)			
WESTINGHOUSE LAMP CO. BLOOMFIELD WORKS NO. 324			
WESTINGHOUSE LAMP CO. BLOOMFIELD WORKS NO. 330