



# Cunningham

## RADIO TUBES

*Standard Since 1915*



## When you lift the cover of your radio!

**R**ADIO TUBES are probably the most fascinating single unit of the four constituent parts that are the major factors responsible for quality radio reception. It is their sensitive function to take the merest whispering of the radio messages, or waves, from a broadcasting station, select the right ones to retain and then amplify these waves thousands, even millions of times to a point where they come clearly and vividly through your speaker.

Leading engineers in the field of radio are agreed that radio performance depends upon the efficiency of four important factors. Failure of any one of these will lessen tonal quality, no matter how perfect is the performance of the other three.

### They consist of:

1. Fidelity and efficiency of the loud speaker;
2. Circuit design of the receiver, which requires proper tone frequency characteristics of the radio circuits, and correct circuit constants for the particular tubes for which the receiver was designed;
3. Correct tubes for which the circuit was designed;
4. The use of correct voltages for most efficient operation of the tubes and circuit.

Intelligent selection of tubes is very important, as the use of tubes not adapted to the set is frequently the cause of poor radio reception. There is a Cunningham tube for every radio use and you not only enhance your radio enjoyment by their selection, but you actually protect your radio investment. You cannot guard a fortress that is betrayed from within and that is just what you do when you use inferior or improper tubes in the nerve center of your radio receiver.



**C-11: 1.1 volt, .25 Ampere Dry Cell Detector and Amplifier**

This dry cell tube has a special base designed for use in sets having special sockets. It is an excellent detector and audio frequency amplifier.



**CX-12: Similar to C-11 but with the Standard CX Base**

This tube is identical with C-11 in operating characteristics but is mounted on the standard CX base to allow the use of a dry cell tube in sets equipped with standard sockets.



**CX-299, C-299: 3.3 volt, .063 Ampere Dry Cell Detector and Amplifier**

Highly efficient in operation. A sensitive detector as well as an excellent radio and audio frequency amplifier.



**CX-220: 3.3 volt, .132 Ampere Dry Cell Power Amplifier**

This dry cell amplifier tube will provide increased loud speaker volume and improved quality of reproduction from dry battery operated sets. It is suitable for use only in the last stage of audio frequency amplification.



**CX-322: 3.3 volt, .132 Ampere Screen Grid Amplifier**

The unusual performance obtainable from this tube is made possible by the introduction of a second grid. This second grid is placed between the usual grid and plate.

The tube requires special circuit design and cannot be adapted to receivers already in service.



**CX-300A: 5 volt, .25 Ampere  
Super-Sensitive Detector**

Designed for use only in the detector socket, will give a receiver clearer and sweeter tone on distant signals, increase volume on far away stations.



**CX-301A: 5 volt, .25 Ampere Detector  
and Amplifier**

With storage batteries, this tube will give extreme amplification at either audio or radio frequency.



**CX-340: 5 volt, .25 Ampere Detector and  
Amplifier Tube for Resistance or  
Impedance Coupled Amplifiers**

The CX-340 may also be used to advantage as a detector.

It is very important that the proper value of grid bias voltages and plate and grid resistors be used with this tube.



**CX-326: 1.5 volt, 1.05 Ampere, A.C. Filament  
General Purpose Amplifier**

This tube is designed to fill the requirements of receivers to be operated direct from the A. C. lighting mains. It is designed for use only in radio and audio frequency amplifier circuits.



**C-327: 2.5 volt, (Max.) 1.75 Ampere,  
A. C. Heater Type**

This tube has the new type heater element which gives humless operation as a detector on A. C. current. The cathode is indirectly heated by the filament. It is primarily intended for use as a detector on an A. C. source in a receiver using the CX-326 tubes as amplifiers, but it can be used to good advantage as an amplifier.

## Quick Reference Log

CALL LETTERS	LOCATION	WAVE LENGTH	KILOCYCLES	POWER (WATTS)	DIAL SETTINGS









**CX-350: 7.5 volt, 1.25 Ampere Heavy Duty Power Amplifier**

The exceptional performance obtainable from the CX-310 has developed a demand for a tube capable of furnishing still greater undistorted power output. This demand is met by the CX-350 which is capable of furnishing a power output three times greater without increase in plate voltage, 250 to 450 volts being required by this tube.



**CX-380: 5 volt, 2 Ampere Full Wave Rectifier**

This full wave rectifier is of the heavy duty type, being capable of giving an output of 125 milliamperes with a maximum plate voltage per anode of 300 volts (R. M. S.). The large four prong base is provided.



**CX-381: 7.5 volt, 1.25 Ampere Half Wave Rectifier**

This heavy duty half wave rectifier is particularly suited for use in rectifier units which are designed to supply considerable power at high voltages.



**CX-374: Glow Lamp for Plate Voltage Regulation**

Develops 90 volts across terminals on any current up to 50 milliamperes. When placed in parallel with plate voltage supplied to receiving set, and with proper regulating resistance in series, voltage on amplifier tubes cannot exceed 90 volts, regardless of number of tubes in use or of fluctuations in line voltage.



**C-376: Ballast Lamp**

Designed for use in series with primary of transformer supplying "B" battery eliminators, and will maintain output voltage constant despite line voltage variations.



**C-386: Ballast Lamp**

Similar to type C-376 but designed for heavier currents; generally used in place of C-376 where current supply is 40 cycles and equipment is designed for 60 cycle supply.

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## The Nerve Center of Your Radio

**R**ADIO TUBES are rightly called the nerve center of your radio, because they supply your receiver with vital or natural power from the radio-laden air. One of the six heads under which the component parts of the major factors are classed in radio construction, is a cord-like structure composed of delicate filaments which help to transmit radio waves into audible sound.

Outside appearances may be similar or even identical between various makes of radio tubes. Ac-





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**STANDARD**  
**SINCE 1915**