

The Radio Surprise of 1926



— *is yours*

when you slip this new alkali vapor tube in the detector socket of your radio and hear with your own ears the remarkable improvement in clarity and volume on distant reception.

Type
CX-300 A

Cunningham
RADIO TUBES



One Tube Will

- Ⓒ Give your receiver clearer and sweeter tone on distant signals.
- Ⓒ Reduce noise in comparison to signal strength.
- Ⓒ Increase volume on far away stations.
- Ⓒ Better year-round performance.
- Ⓒ Widen reception range.

*This tube is the **NEW***

Cunningham

Alkali Vapor
Detector Tube with .25
ampere filament

Type
CX-300A



DESIGNED to increase the receiving efficiency of every receiver using 5 volt tubes, the new Cunningham Alkali Vapor Detector Tube has done more to increase sensitivity of receiving sets than any radio tube development in recent years.

Just slip CX-300A in the Detector Socket

Type CX-300A, specially made for service only as a detector tube, can be installed immediately in the detector socket of any receiver using storage battery tubes without any change in receiver design or without the addition of any apparatus. Just slip the tube in the socket and—on distant reception—your set will perform as never before.

Utmost Sensitivity

In sensitivity, this new alkali vapor tube excels the best obtainable from Type CX-300—the tube heretofore attaining highest efficiency as a detector—when Type CX-300 was operating with plate and filament voltage most critically adjusted. When using CX-300A delicate and critical adjustments are unnecessary as the tube attains high efficiency at any plate voltage between 22.5 and 45. The recommended plate voltage is 45 and the filament, of thoriated tungsten, consumes only one-fourth of an ampere at 5 volts.

Clarity Improved

With this alkali vapor tube, any receiver will show a remarkable improvement in signal intensity and clarity of reception from distant stations. When receiving powerful local stations, no appreciable improvement in volume may be noticed when the new tube is substituted for either CX-301A or CX-300.

Reception Noise Reduced

Rigid support of elements positively eliminates microphonic action. The ratio of static, or background noises, to pure tone volume is reduced to a remarkable degree. The super-sensitive detector action, therefore, is obtained without excessive tube noise which has always been a limiting factor in special de-

detector types. A slight hiss is noticeable when the tube is first lighted. This hiss is not objectionable, however, and will stop in about a minute when the tube has warmed up.

How CX-300A Helps Improve Selectivity

While the use of CX-300A will not of itself improve the selectivity of a receiver, it is possible when the tube is used, to modify slightly the design of the receiver in such a way as to make the set more selective. For instance, the antenna may be coupled more loosely to the receiver or may be shortened, and the selectivity of the radio frequency stages may be improved at some sacrifice of gain. If CX-300A is then in the detector socket, there will be no loss of volume and a considerable gain in selectivity.

In Regenerative Sets

The new alkali vapor tube is especially adapted to service in regenerative receivers and in tuned radio frequency receivers which use a control for operating near the oscillating point. The tube goes into, and comes out of, oscillation very smoothly, allowing maximum regeneration without the tendency to “spill over” sometimes noticed when CX-301A is used as the detector. In regenerative receivers, the usual values of tickler or other feed-back are satisfactory.



What this Tube Means to Amateurs

As a detector for short wave reception, the high sensitivity and smooth regenerative action of CX-300A make it ideal for the purpose. Amateurs will find that this tube will increase their receiving range and reliability of operation. In the reception of code, where it is desirable to cut off the lower frequencies, the plate impedance may be raised by dropping the plate voltage to 22.5 if the tube is used in conjunction with sharply peaked audio transformers.

For Millions of Receivers

Detection-plus and new heights of efficient sensitivity, attained by this new tube, mean a new peak in the results obtainable from any receiver using storage battery tubes. In the average five tube receiver, the increased sensitivity gained by merely placing this tube in the detector socket is comparable to that gained by the addition of another stage of radio frequency amplification. When there is a special purpose tube available as a detector which will give such an astonishing improvement in results without the addition of any controls or other apparatus, certainly it is no exaggeration to say that it definitely belongs in millions of radio sets whose owners want only the best and most consistent reception.



SPECIFICATIONS

Type CX-300 A

Filament Voltage.....	5
Filament Current.....	.25 ampere
Plate Voltage.....	22.5-45
Amplification Constant.....	20
Plate Impedance.....	30,000 ohms (At recommended operating conditions)
Grid condenser.....	.00025 MF
Grid leak.....	2 megohms
Preferred grid return to negative filament	

