

De Forest Type T Tubular Audion Bulb

“There is only one Audion - The De Forest”



Manufactured by
DeForest Radio Telephone & Telegraph Co.
Sales Office 101 Park Avenue,
New York.

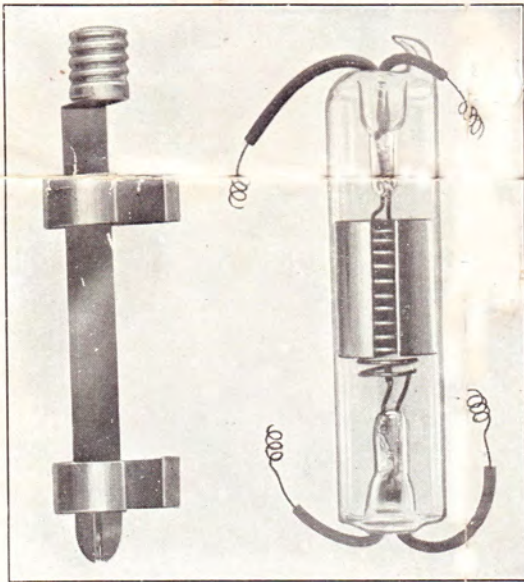
Cable Address: Radiotel, N. Y.



"THERE IS ONLY ONE AUDION—THE DE FOREST."

The Audion Detector is the most sensitive detector in existence. The Bulletin of the U. S. Bureau of Standards, Vol. 6, No. 4, Page 540, states that it is fully 50 per cent. more sensitive than any other known form of detector. It is the only reliable sensitive detector.

For the benefit of those amateurs who desire to experiment, and who do not wish to buy complete Audion Detectors with the necessary accessories, and for those whose limited means will not permit the complete instruments to be purchased, we have brought out the Type T Tubular Audion Bulb.



Commencing March 15th, 1916, this type of Audion will be sold separately, without the other parts necessary for a complete Audion Detector. It is licensed for amateur use only and is NOT interchangeable with the regular round Audion Bulbs.

This type of Audion Bulb gives very loud response to signals. Every bulb passes two tests by our experts and is thoroughly up to our standard of sensitive qualities. It is finished in only one grade—the best.

The life of the Type T Tubular Bulb is exceptionally long on account of the fact that the single straightline filament has no loops, and as there is no second filament, the Edison discharge to same is completely eliminated.

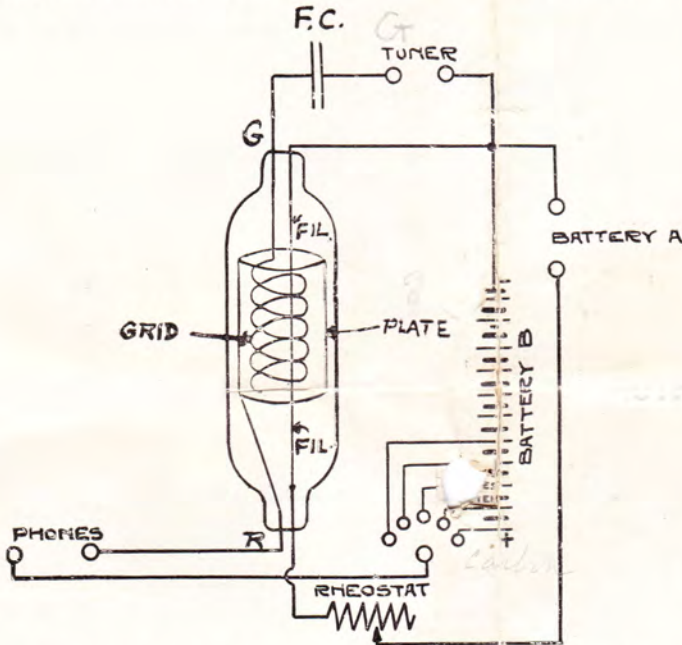
The plate or wing is in contact with the glass, preventing overheating. The filament is surrounded by a spiral grid.

This type of bulb is an excellent oscillator for the reception of continuous waves, being different in this respect than round Audion Detector Bulbs

The grid is the spiral inside the tube and is connected to the green covered wire. The plate is connected to the red covered wire. The filament terminals are the white covered wires.

DIRECTIONS FOR USING THE TYPE T TUBULAR AUDION BULB.

1. The diagram below illustrates the various accessories needed with the bulb. The rheostat is an ordinary battery rheostat, furnished by electrical supply houses. Battery B consists of 10 three cell flashlight batteries, each showing at least $3\frac{1}{2}$ volts on a *voltmeter*. They are connected in series, with zinc of one to carbon of the next, and so on throughout the



series. It is very important that each shows at least $3\frac{1}{2}$ volts to $4\frac{1}{2}$ volts and that they are properly connected together, otherwise the results will be very poor. The negative or zinc end of this battery *must* lead to the filament.

A switch is to be arranged as shown to cut in 6, 7, 8, 9 or 10 batteries at will.

The fixed condenser F.C. consists of two sheets of tin foil 2 inches square, separated by a *mica* sheet. This *must* be of first-class construction and of small capacity. A *small* variable condenser may be substituted.

Battery A should be a 6 volt storage battery of at least 40 Ampere hours capacity. Two sets of dry cells, each having 4 cells may be arranged in parallel instead, but the storage battery is recommended.

CAUTION

Do not permit either of the filament wires to come in contact with any circuit or any metal part carrying current. This might connect it to the Battery B and burn out the filament. *No credit* can be offered for a bulb burned out from *any* cause.

2. The bulb *must* be operated in a vertical position to give best service.
3. Always turn in all resistance on the rheostat before lighting the filament. Batteries recuperate on standing idle and the increase of voltage might burn out the filament.
4. Adjust rheostat to give normal filament brilliancy and adjust Battery B switch to best point. Then try reversing current from the lighting battery to find out which direction is better.
5. The bulb is most sensitive at a point just below that at which the hissing sound is heard in the telephones.
6. The receivers should be each of at least 1000 ohms resistance.
7. FOLLOW THESE DIRECTIONS TO THE LETTER. They are important.

GUARANTEE.

We guarantee the Type T Tubular Audion Bulb to have been tested by our expert and to have passed our standard which is fully 50 per cent more sensitive than any crystal or electrolytic detector, when leaving our factory.

We guarantee these bulbs to arrive in good condition. If a tubular Audion Bulb is broken in transit when shipped by us, and is returned *at once*, it will be replaced.

We will *not* replace any bulb for any other reason, whether due to breakage on account of negligence on the part of the operator or due to burning out of the filament.

No guarantee of life can be given as too much depends on the operator. Tests show an average life of over 800 burning hours when properly used.

RESTRICTIONS.

This and every other Audion Bulb and every conceivable method of using same is covered by one or more of the following patents, issued to Dr. Lee de Forest and owned or controlled by this company.

824,637	836,070	837,901	841,387	867,877	879,532	943,696
824,638	836,071	841,386	867,876	867,878	979,275	995,126

Other Patents Pending.

All and any infringers will be vigorously prosecuted.

Two injunctions have been obtained, one in New York and the other in California against makers and users of infringing bulbs.

The sale of this type of Audion Bulb is made with the specific understanding that the bulb is to be used for amateur purposes only. No right is conveyed to anyone to incorporate this bulb in any set of any kind for resale.

The purchase of one of these bulbs is acceptance of these conditions.

The Type T Tubular Bulbs are not interchangeable with round Audion Bulbs. Their sale is entirely separate and distinct. Round Audion Bulbs will be sold exactly as heretofore, for renewal purposes only for De Forest instruments, and then only on return of De Forest Bulbs of similar type.

PRICE.

The price of the Type T Tubular Audion Bulb only is \$5.50. The adapter to fit it to a screw socket will be furnished at 40 cents extra. It is not necessary to return the burned out bulb for renewal.

This Bulb and our other receiving equipment is furnished by 45 distributors conveniently located throughout the country. Name of nearest distributor furnished on request.

Write for Bulletins on Audion Detectors, Amplifiers and Receiving Sets if interested.

DE FOREST RADIO TELEPHONE & TELEGRAPH CO.

Sales office

101 Park Avenue

New York, N. Y.