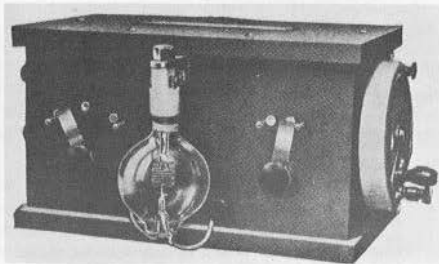


De Forest Audion Detector



Improved Type R. J. 4

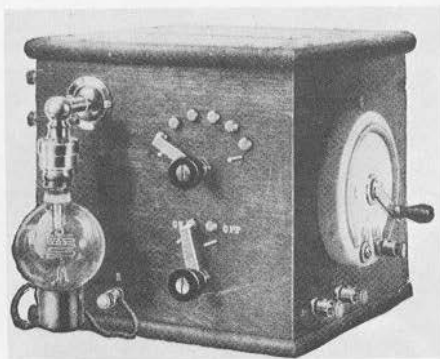
One of the highest developments of detecting apparatus known to science is the Audion Detector.

This class of detector has a number of advantages peculiar to itself; two of its most prominent features being its reliability and extreme sensitiveness, seldom, if ever, equalled by crystal or other types of detector. Its adjustment is almost instantaneous, and is unaffected by mechanical or electrical disturbances.

Each instrument is complete in itself, and all connections are plainly marked on the box. Tests conducted by the United States Bureau of Standards show this instrument to be remarkably sensitive (Bulletin, Bureau of Standards, Vol. VI, No. 4, p. 540).

The R. J. 4 type is now furnished with a five-point battery switch in place of the three-point switch shown in the illustration. As there is nothing to lose its adjustment, not only is the annoyance of frequent attention avoided, but the novice can not fail to secure its satisfactory action at the first attempt and always be certain of freedom from detector troubles.

These detectors require for their operation either a four or six-volt storage battery or three dry cells; but for best results a storage battery must be used. Each detector is tested before shipment, and is guaranteed to leave the factory in first-class condition.



Improved Type R. J. 5

To get the very best results the following instructions must be followed explicitly.

Do not connect over six volts storage battery to the binding posts marked + and —, and note that the positive pole of battery is connected to binding post marked + and negative pole of battery to binding post marked —.

The two-point switch lights the filament of the lamp, and before turning this on see that the rheostat switch is on the "in" position. Then adjust the rheostat until the lamp burns at normal brightness. Then adjust both battery switch and rheostat until signals come in with maximum sensitiveness.

Never keep the lamp burning when not using the instrument. After once adjusting the detector as above, it is only necessary to throw the two-point storage battery switch on and off to place the detector in and out of service, and other adjustments need not be disturbed.

In connecting up the Audion Detector, connect the grid to G and the wing to W as marked below the binding posts. The grid is the zigzag wire, and the wing is the plate, and if the bulb is capped the green wire leads to the grid and the red to the wing.

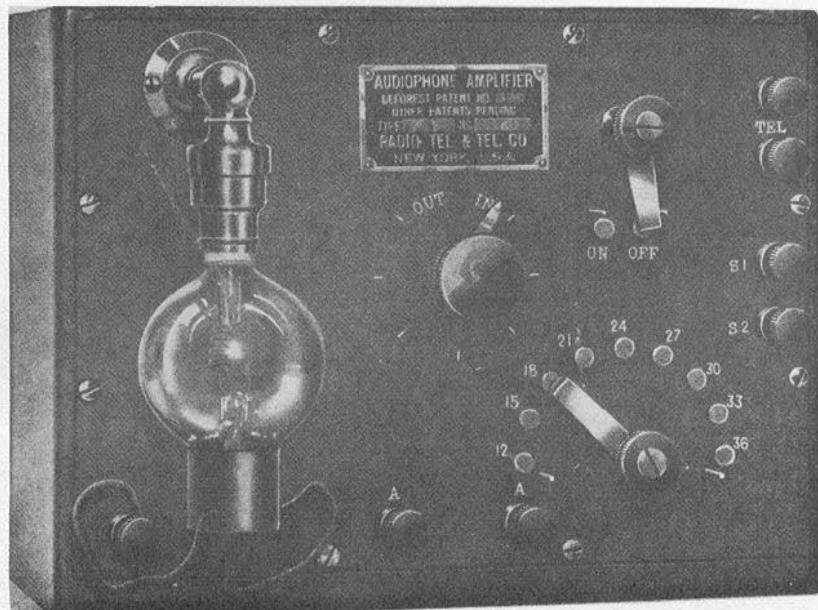
Each bulb has two filaments, so that after one burns out the other may be used, thereby doubling the life of the bulb. To connect in the second after the first has been consumed, wind the little copper wire tight around the brass base of the lamp underneath the rubber band.

If too much battery current is applied between the grid and wing, a blue glow will appear in the bulb, causing a decrease in sensitiveness. This glow can be removed by readjusting the five-point switch on the R. J. 4 or the six-point on the R. J. 5.

Never burn the filament at excessive brilliancy.

It makes some difference which of the two terminals marked "tuner" is connected to either terminal of the receiving transformer, and these connections should be reversed to observe which connection gives the louder signal.

The Audion One Step Amplifier



This instrument is particularly designed for telephone and telegraph amplification up to five to ten times original intensity. It will render signals easily read, which would be otherwise entirely inaudible, and also will so increase the volume of sound that much looser coupling than usual may be employed, thereby cutting out interference, which it would otherwise be impossible to do.

This amplifier while particularly adapted for use with the Audion Detector may be used with any detector with good results. Please note, however, that the amplifier is not itself a detector and can not be used as such.

PRICE LIST

R. J. 4 Audion Detector, as illustrated	\$ 18.00
R. J. 5 Audion Detector, as illustrated	25.00
P. J. 1 One Step Amplifier	65.00
P. 2 Two Step Amplifier	300.00
P. N. Audion Detector, licensed for commercial work	50.00
4-volt 30 ampere hour storage battery	5.00
6-volt 60 ampere hour storage battery (recommended by us)	12.00

Audion Bulbs for Renewals

With all De Forest Audion Instruments we recommend the use of "Hudson Filament" bulbs, the life of which is from three to five times that of the ordinary filament.

They can be furnished with R. J. 4 Detectors at an additional cost of \$1.50, and with the R. J. 5 at an additional cost of \$2.50 in place of bulb regularly supplied. Audion bulbs are sold only as renewals, and upon the return of old bulbs, and are furnished in two grades, S or Standard, and X or Extra Sensitive. The same two grades are also furnished with the Hudson Filament.

Renewal Bulbs, S grade, each	\$ 3.50
Renewal Bulbs, X grade, each	5.00
Renewal Bulbs, S grade, Hudson Filament, each	5.00
Renewal Bulbs, X grade, Hudson Filament, each	7.50
Renewal Bulbs, Amplifier, each	7.50
Renewal Bulbs, Amplifier, Hudson Filament, each	10.00

THE FIRST POPULAR TUBE DETECTOR

Many requests concerning the famous de Forest RJ-4 and RJ-5 prompts us to re-produce the original writeups so you will know what to look for -- and we say LOOK for they are extremely rare. These detector units were popular with amateurs in the early teens and to the best of our knowledge were the FIRST tube receivers ever manufactured for general use --- a real collector's item. The "RJ" means "Radio Junior". We really can't understand why there are not more of these units around since they were listed in several catalogs and magazines. The used, the spherical audion, in comparison, is not so difficult to find. The present day value of a RJ-4 in good condition is between \$75 to \$100. If the nameplate is missing the value drops to maybe \$40...interesting? The RJ-5, made more for commercial use, may be worth somewhere around \$100 to \$125. For the layman, the RJ-4 is only a box to hold the batteries with filament rheostat, switches and socket -- you had to provide the RF section!