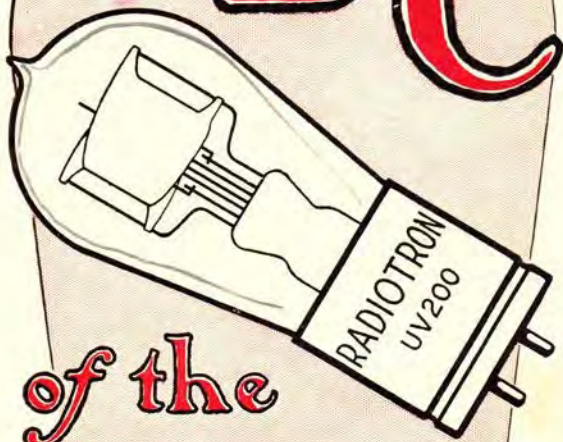


A B C



of the
RADIOTRON



THIS little story describes in simple words the process of "detecting" a signal and the Vacuum Tube thus used is known as a Detector Tube.

To further increase the strength of signals two circuits are joined together—the wires normally connected to the telephones of the first tube are connected through an "amplifying transformer" to the filament and grid of the second tube. The same basic action takes place as before and the signals are greatly magnified. This process is called amplifying and the tube thus used is known as an Amplifier Tube. It differs in some details from the Detector Tube. From one to three additional Radiotrons may be used in a like manner.

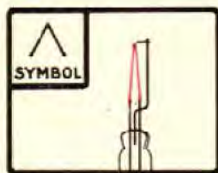
To give maximum detection and amplification a vacuum tube must be sensitive, long lived and rugged. These highly necessary qualities are incorporated in all Radiotron Vacuum Tubes.

- For detection there is the Radiotron Model UV-200.....Price \$5.00
- and for amplification the Radiotron Model UV-201.....Price \$6.50

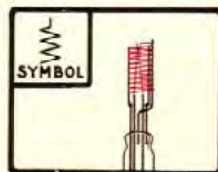


Radiotrons are licensed for amateur experimental and entertainment uses only. The licenses obtained by the purchaser are fully explained in the notices on the boxes and cartons and in the current catalog of the Radio Corporation of America.

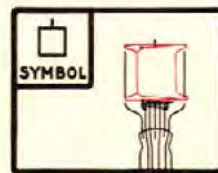
A **RADIOTRON** vacuum tube has three elements, a filament, a grid and a plate. The filament which is rendered incandescent by a battery, emits electrons. These electrons act as carriers of the current.



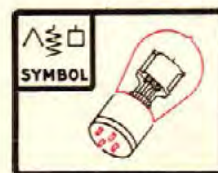
THE grid is a spiral of wire surrounding the filament but insulated from it. It acts as an electrical shutter to control the flow of electrons from the filament, whenever current from an incoming signal is impressed on it.



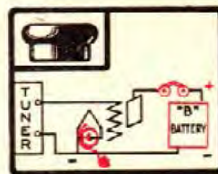
THE plate is a metallic envelope surrounding the grid and filament, which acts as a terminal for the current of the "B" battery, flowing to the filament.



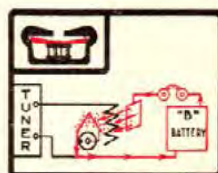
THESE three elements are sealed in a glass bulb which has been carefully exhausted to a high vacuum. Four wires from the elements are hermetically sealed in the glass stem of the tube. These wires lead out to four prongs on the base of the tube, which connect to the socket accommodating it.



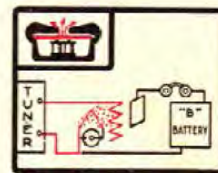
THE tuner is connected to the grid and to the filament. Next the telephone receivers and high voltage "B" battery are connected between the plate and filament. The filament is lighted by a storage or dry cell battery.



CURRENT from the "B" battery normally flows quietly through the telephones and the space between plate and filament. The diaphragms of the telephone receivers are therefore drawn in and held thus.



WHEN even the weakest current, such as an incoming signal, is impressed on the grid this electrical shutter "closes," stopping the flow of current through the telephone receivers. This allows the diaphragm to snap back to its normal position causing an audible sound.



WITH each vibration of the human voice or music the telephone diaphragm gives one pulse and thus the incoming current is converted into a reproduction of the original sound.

