

NEW and IMPROVED RADIOTRON

Model UV-199

OPERATING DATA

Filament Volts	-	-	-	3.0
Filament Amperes	-	-	-	.06
Plate Volts	-	-	-	20 to 80

GENERAL

The new Radiotron UV-199 is a high-vacuum tube designed for use as an amplifier or detector. It contains a new type of tungsten filament, the characteristics of which are long life, low power consumption and low operating temperature. These new tubes have much the same operating characteristics as Radiotron UV-201, but are less critical in adjustment.

The filament of Radiotron UV-199 is designed for operation from three size No. 6 dry cells in series. Smaller sized dry cells may be used, but are not so economical.

Since the filament current of this tube is only 60 milliamperes (.06 ampere), rheostats of 2 to 10 ohms ordinarily employed are not suitable for use with this tube. Therefore, when using three dry cells in series, a filament rheostat of at least 30 ohms should be employed with one tube; a rheostat of 20 ohms for two tubes operated in parallel, and when three of these tubes are operated in parallel a 10 ohm rheostat should be used.

There are certain simple precautions which are outlined below that the user should follow, in order to secure the maximum useful life and obtain proper operating characteristics. If these precautions are carefully followed, the tube will be found very effective for detection; for both radio and audio frequency amplification, and in certain cases it may be used as an oscillator for laboratory measurements.

The filament of Radiotron UV-199 should always be operated at the lowest current which will give satisfactory results. Care should be taken to prevent the plate voltage from being accidentally applied to the filament.

If by accident excessive filament or plate voltage is applied to the tube, the tube may cease to function. Ordinarily, proper functioning may be restored by lighting the filament at rated voltage for ten to twenty minutes WITH PLATE VOLTAGE OFF.

These tubes should be mounted, preferably in a vertical position, on cushion supports to prevent noise from vibration. Fig. 3 shows the location of the terminals of the filament, grid and plate elements.

The bulbs are often discolored during the process of manufacture. This has no effect whatever on the operation of the tube.

AS A DETECTOR

When Radiotron UV-199 is used as a detector, it is usually preferable to connect the grid return to the positive side of the filament (as shown in Fig. 1). Not more than 40 volts should be used on the plate of the detector tube. Critical adjustment of the plate voltage is not required.

AS AN AMPLIFIER

When used as an amplifier, it is extremely important that the filament rheostat should be connected in the negative filament lead (as shown in Fig. 2), and that the return lead from the grid circuit should be connected to the negative side of the battery and NOT to the negative side of the filament. This puts a negative bias on the grid. If more than 40 volts are used on the plate, the negative grid bias voltage thus provided is not sufficient and an additional grid battery connected in series with the grid return lead should be used, consisting of one to four small flashlight dry cells. When the tube is used as an amplifier and the plate voltage is between 40 and 60 volts, a grid bias potential of 3 volts negative should be used, and when the plate voltage is between 60 and 80 volts, a grid bias potential of 6 volts negative should be used. It is recommended that not over 80 volts be used for plate voltage supply when the tube is used as an amplifier.

RETURN OF DEFECTIVE APPARATUS

Any tube which has proved defective should be returned to the dealer or distributor from whom it was purchased, who has complete instructions for handling such cases.

HANDLE VACUUM TUBES AS CAREFULLY AS YOU WOULD AN ELECTRIC LAMP.

THE MOST SATISFACTORY RESULTS CAN BE OBTAINED BY THE CONSISTENT USE OF RADIOTRONS IN RADIOLAS.

PATENT NOTICE

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for

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