

RADIOTRON Model WX-12

RATING

Filament Volts - - - 1.1
Filament Amperes - - - .25
Plate Volts (Maximum) - 135

GENERAL

The WX-12 Radiotron is a high vacuum tube designed for use as a detector, radio and audio amplifier. It is electrically identical with the Model WD-12 Radiotron, being intended primarily for dry cell operation.

MOUNTING

The Radiotron WX-12 should be mounted vertically, with the base downward wherever possible. It is also desirable to use cushion supports, especially when this Radiotron is used as a detector.

LARGE STANDARD RADIOTRON BASE

The new large standard Radiotron base with which the WX-12 Radiotron is equipped will fit practically all of the present Navy bayonet type sockets as well as the new "push-type" socket. The connections of the Radiotron elements to the contact pins in the base are shown in the diagram below.

FILAMENT SUPPLY

The filament of the WX-12 is oxide coated and gives great electron emission at low temperatures, at which it is designed to operate. At its rated voltage the filament will glow at a dull red heat, usually invisible in daylight and frequently barely visible in darkness. If the filament voltage, which is controlled by the rheostat, is allowed to exceed its rated value, the Radiotron may be permanently damaged.

While the WX-12 Radiotron may be operated from one dry cell, greater battery economy will be realized by using two cells per Radiotron. All "A" battery cells should be connected in parallel so that the total "A" battery potential remains at 1.5 volts. While primarily intended for dry battery operation, the WX-12 Radiotron may be used with a 2 volt storage "A" battery.

The recommended rheostat resistance for one Radiotron is 6 ohms.

CONNECTIONS

All wires from other apparatus to Radiotrons should be as short as possible. All joints should be soldered or clamped tightly under screws or nuts.

Particular care should be taken to prevent the connection of the plate battery to the filament through any part of the filament circuit. It is advisable to remove Radiotrons from their sockets when making or changing connections. It is also advisable to connect the filament battery first and to make sure that the filaments work properly before connecting the plate or "B" battery.

FOR DETECTION

The characteristics of the WX-12 are such that it works best as a detector when the grid return lead is connected to the positive end of the filament, as shown in Fig. 2. Normal plate voltage for detection is 20. In some circuits it may be advisable to use more than 20. A mica grid condenser of .00025 microfarad and a grid leak of from 2 to 5 megohms should be used.

FOR AMPLIFICATION

With Plate Voltages Exceeding 45 Volts:

When the WX-12 Radiotron is employed as an amplifier, a "C" battery is employed when the plate potential exceeds 45 volts. The filament rheostat should be placed in the negative lead of the "A" battery, and the grid return lead should be connected to the negative side of the "C" battery. The positive side of the "C" battery is connected to the negative side of the Radiotron filament, as shown in Fig. 1.

PLATE VOLTAGE

22.5 Volts
45.0 Volts
67.5 Volts
99.0 Volts
112.5 Volts
135.0 Volts

NEG. GRID BIAS

0.0 Volts
1.5 Volts
3.0 Volts
4.5 Volts
6.0 Volts
7.5 Volts

With Plate Voltages of 45 Volts or Less:

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When no "C" battery is used, and the plate voltage is 45 volts or less, it is important that the filament rheostat should be placed in the negative lead of the "A" battery, and that the return lead from the grid circuit should be connected to the negative side of the "A" battery and not to the negative side of the filament. This method places a desirable negative bias on the grid.

RETURN OF DEFECTIVE APPARATUS

ANY RADIOTRON WHICH IS BELIEVED DEFECTIVE SHOULD BE RETURNED TO THE DEALER OR DISTRIBUTOR FROM WHOM IT WAS PURCHASED, WHO HAS COMPLETE INSTRUCTIONS FOR HANDLING SUCH CASES.

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

PATENT NOTICE

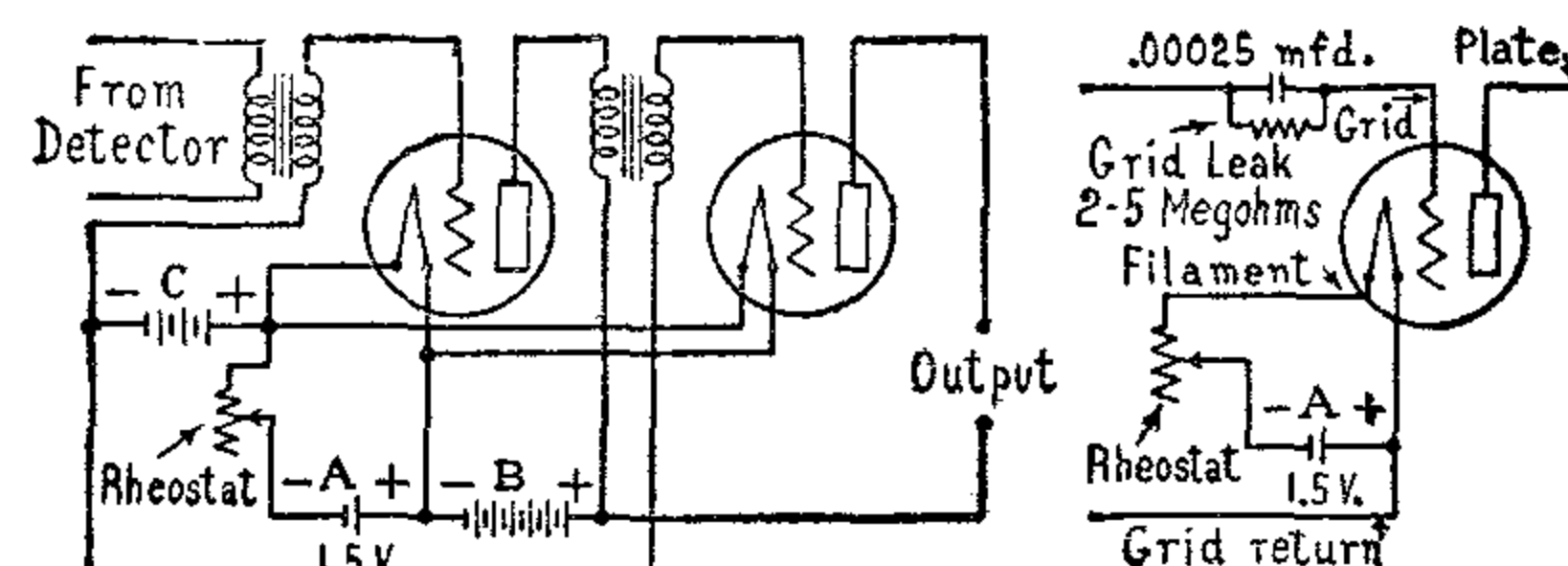
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The sale of this device carries a license under the patent claims of (a), but only for (1) talking machine uses, (2) radio amateur uses, (3) radio experimental uses and (4) radio broadcast reception; and only where no business features are involved.

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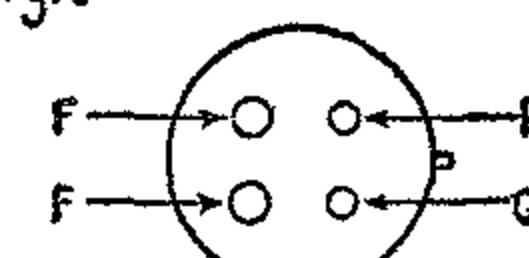
Radio Corporation of America

CAUTION!
DO NOT USE EXCESSIVE
FILAMENT OR PLATE
VOLTAGE.
HANDLE RADIOTRON
CAREFULLY.



Two Stage Audio Amplifier
Fig. 1

Detector
Fig. 2



Bottom of Base

Fig. 3