

RADIOTRON

UX-864



INSTRUCTIONS

RC-40613 (3-29)

Radio Corporation of America

261 Fifth Avenue
New York City

100 West Monroe Street
Chicago, Ill.

Sante Fe Building-Unit No. 1
Dallas, Texas

235 Montgomery Street
San Francisco, Cal.

101 Marietta Street
Atlanta, Ga.

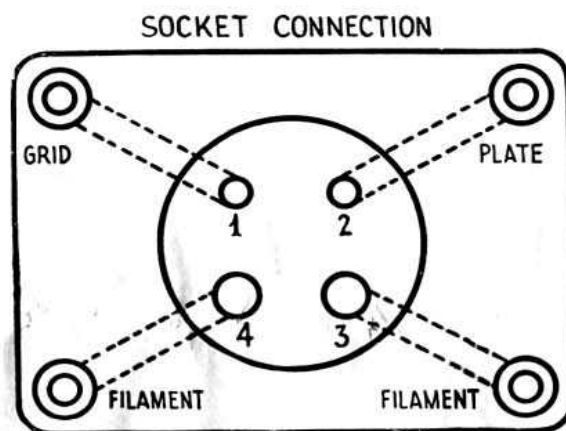


FIG. 1

RCA-Radiotron

UX-864

AMPLIFIER, DETECTOR

Radiotron UX-864 is a general purpose, three-electrode vacuum tube for use under conditions where freedom from microphonic tube disturbances is desired. It is applicable to aircraft radio receivers, microphone amplifiers, photo-electric tube amplifiers and to similar equipment which may be subject to impact or continuous vibration. It may be used either as a detector or as an amplifier in any application where a three-electrode receiving tube is normally used.

RATING AND DATA

The rating and summarized data for Radiotron UX-864 are as follows:

Filament Voltage	- - - - -	1.1 Volts
Filament Current	- - - - -	0.25 Amperes
Plate Voltage	- - - - -	90 Volts Maximum
Average Characteristic Values (See Fig. 2)		

at $E_b = 90$ volts, $E_c = -4.5$ volts, $E_f = 1.1$ volts

Plate Current	- - - - -	2.5 Milliamperes
Plate Resistance	- - - - -	15500 Ohms
Mutual Conductance	- - - - -	425 Micromhos
Amplification Factor	- - - - -	6.6

Maximum Over-all Dimensions

Length	- - - - -	4"
Diameter	- - - - -	1 $\frac{3}{16}$ "

Note 1: E_b = DC Voltage on Plate
 E_c = DC Bias Supply Voltage on Grid
 E_f = Heating Voltage Across Filament Terminals

Note 2: In the above data the grid bias voltage is given with respect to the negative end of the filament.

INSTALLATION

Radiotron UX-864 is designed for use with the standard UX receiving tube socket, which should be mounted so that the Radiotron is held in a vertical position. Owing to the construction of the Radiotron, cushioning of the socket will generally be unnecessary except in circuits developing a considerable amount of over-all amplification. In such cases, some or all of the stages may require socket cushioning.

OPERATION

The voltage applied to the filament of Radiotron UX-864 should not exceed the rated value of 1.1 volts. In circuits where the filaments are connected in series, the current through the filament of Radiotron UX-864 should not exceed 0.25 ampere.

Any convenient source of filament supply may be used for heating the filament provided that proper control is supplied to prevent the voltage or current from exceeding the rated values. In circuits having a filament voltmeter, it is important that the filament voltage be read at the filament terminals of the Radiotron rather than at the power source.

Detector

Radiotron UX-864 may be used either as a grid-leak or grid-bias detector. For grid-leak detection (grid rectification), a plate voltage of 45 volts and a grid leak of from two to five megohms resistance are recommended. Critical adjustment of the grid leak or the plate voltage is not required. For grid-bias detection (plate rectification), a plate voltage of 45 volts, with a negative grid bias of 4.5 volts, is recommended.

Amplifier

When Radiotron UX-864 is used as an amplifier, a plate voltage of 90 volts, with a negative grid bias of 4.5 volts is recommended for both radio and audio frequency stages. Under no circumstances should the UX-864 be operated in amplifier circuits without negative grid bias.

In resistance coupled audio frequency amplifiers, the actual voltage on the plate of Radiotron UX-864 should not exceed the maximum value of 90 volts. Any desired value of coupling resistor and plate voltage supply may be used so long as the voltage on the plate itself does not exceed the maximum value. If the actual voltage on the plate is less than 45 volts, the negative grid bias may be reduced to 3 volts.

GUARANTEE

THIS RADIOTRON

is

GUARANTEED

to be

FREE FROM ELECTRICAL AND MECHANICAL DEFECTS

It has

PASSED THE MOST RIGID TESTS BEFORE SHIPMENT

* * * * *

RCA Radiotrons are scientifically designed and built to give quality operation.

Should this Radiotron be received in a damaged (inoperative) condition, a claim should be filed immediately against the transportation company.

If this Radiotron shows a defect, a claim on account of such defect should be filed within a reasonable time from date of shipment from the RCA. If examination and test of the Radiotron at an RCA Service Station indicate a defect of quality, workmanship, or material, an adjustment will be allowed based upon the merit of each individual claim.

No adjustment, except for obvious manufacturing defects, will be considered when the conditions of operation have not been in accordance with the Electrical Rating and Operating Instructions supplied with the Radiotron.

If the Radiotron is believed to be defective and is to be returned, a request for a Return Radiotron Tag should be made to the RCA office from which it was purchased.

Upon receipt of the Return Authorization (Tag) and a Service Report form, the user should pack the Radiotron for shipment as carefully as when it was originally received, since damage in shipment will make proper examination impossible. The Service Report form filled in with information concerning actual life obtained and the conditions of operation should be packed with the Radiotron. Complete shipping instructions are given on the Tag.

LICENSE NOTICE

Licensed only for use authorized by contract of sale.

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**DO NOT USE EXCESSIVE FILAMENT
VOLTAGE**

DO NOT USE EXCESSIVE PLATE VOLTAGE

USE PROPER GRID BIAS

HANDLE RADIOTRON CAREFULLY

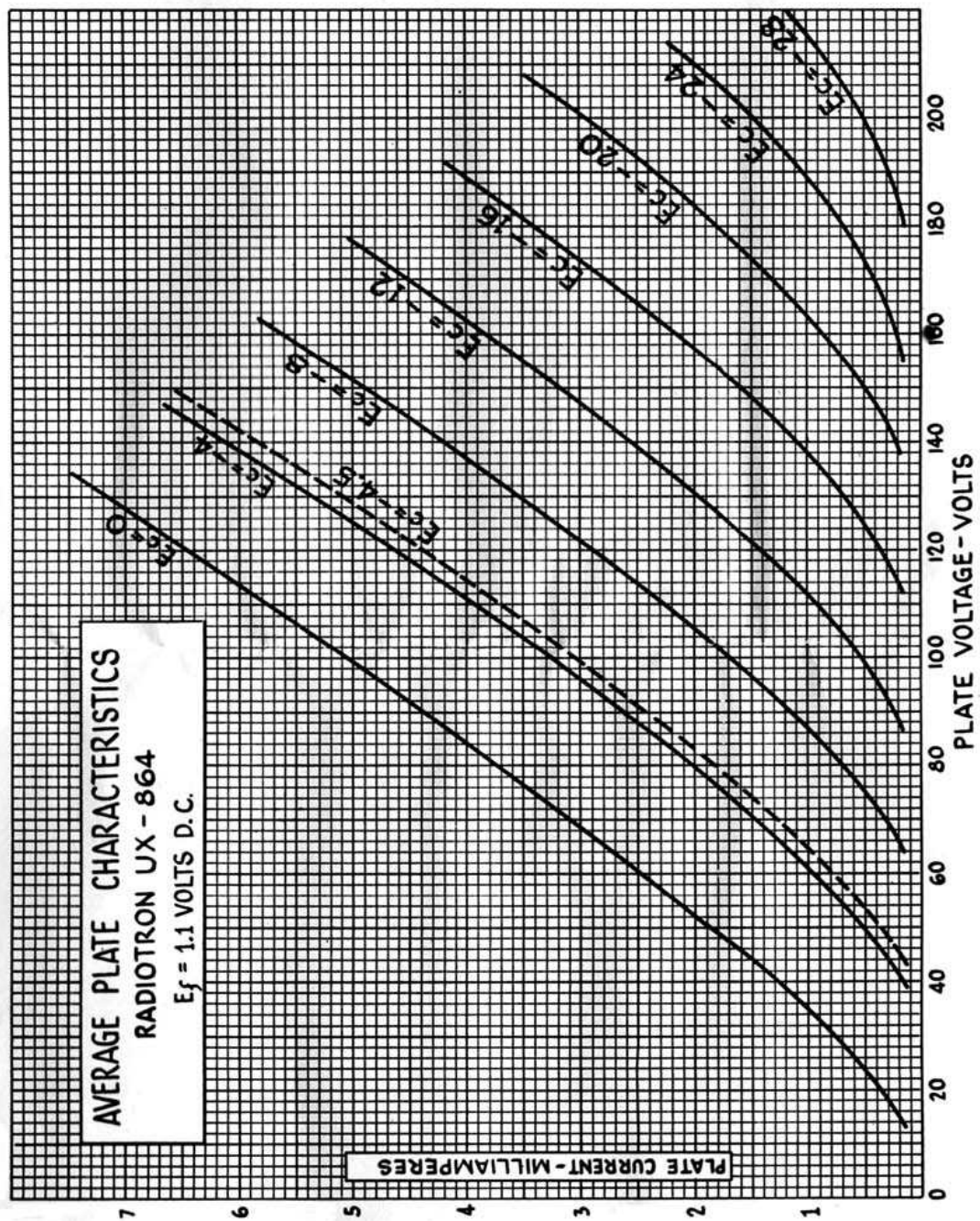


FIG. 2