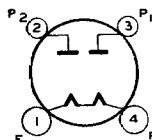


# RCA-80

## FULL-WAVE RECTIFIER

The 80 is a full-wave rectifying tube intended for use in d-c power-supply devices which operate from the a-c supply line.



### CHARACTERISTICS

FILAMENT VOLTAGE (A. C.).....	5.0	Volts
FILAMENT CURRENT .....	2.0	Amperes
1 { A-C PLATE VOLTAGE PER PLATE (RMS).....	350	Volts
{ D-C OUTPUT CURRENT.....	125 max.	Milliamperes
2 { A-C PLATE VOLTAGE PER PLATE (RMS).....	400 max.	Volts
{ D-C OUTPUT CURRENT.....	110 max.	Milliamperes
3* { A-C PLATE VOLTAGE PER PLATE (RMS).....	550 max.	Volts
{ D-C OUTPUT CURRENT.....	135 max.	Milliamperes
BULB .....		ST-14
BASE .....		Medium 4-Pin

\* This rating is permissible only with filter circuits having an input choke of at least 20 henries

### INSTALLATION

The base pins of the 80 fit the standard four-contact socket which should be mounted preferably to hold the tube in a vertical position. If it is necessary to place the tube in a horizontal position, the socket should be mounted with both of the filament-pin openings, either at the top or at the bottom. This precaution locates the filament-plane vertical for most satisfactory performance. Provision should be made for free circulation of air around the bulb since it becomes quite hot during operation.

The coated filament of the 80 is designed to operate from the a-c line through a step-down transformer. The voltage applied to the filament terminals should be the rated value of 5.0 volts under operating conditions and average line voltage.

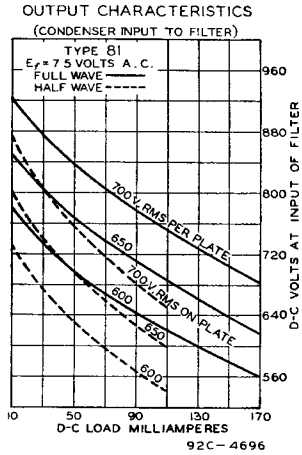
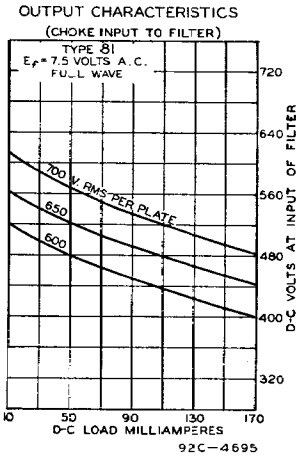
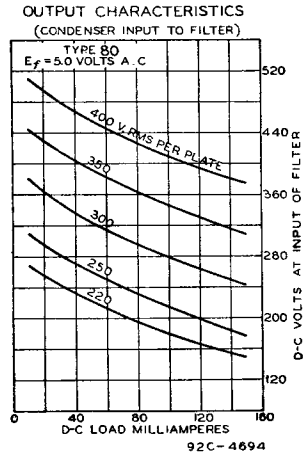
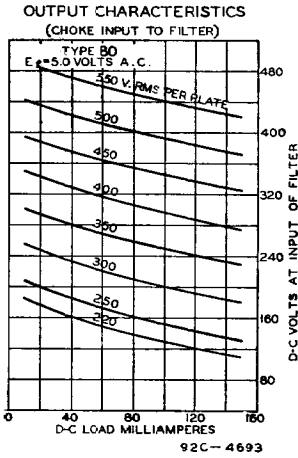
The approximate d-c output voltage of the 80 for various values of a-c input voltage may be obtained from the curves, page 156. For the d-c voltage available at the radio set, it is necessary to subtract the voltage drop across the filter from the value read from the curves.

### APPLICATION

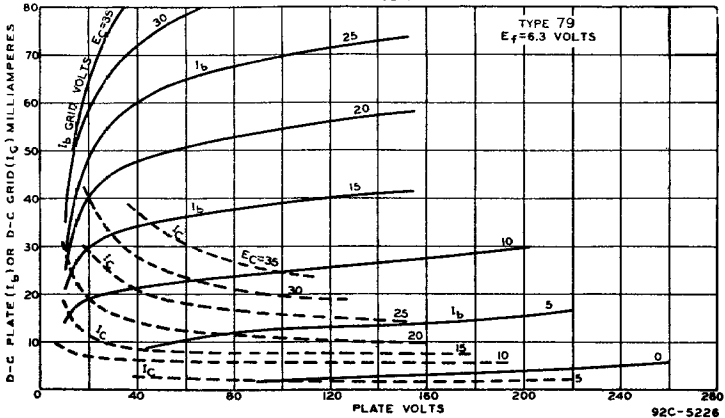
As a full-wave rectifier, the 80 may be operated with condenser-input or choke-input filter under conditions not to exceed the ratings given under CHARACTERISTICS.

As a half-wave rectifier, two 80's may be operated in a full-wave circuit with reasonable serviceability to deliver more d-c output current than can be obtained from one tube. For this use, the plates of each 80 are tied together at the socket. The allowable voltage and load conditions per tube are the same as for full-wave service.

The filter may be of either the condenser-input or choke-input type. If an input condenser is used, consideration must be given to the instantaneous peak value of the a-c input voltage. The peak voltage is about 1.4 times the RMS value as measured by most a-c voltmeters. Filter condensers, therefore, especially the input condenser, should have a rating high enough to withstand the instantaneous peak value, if breakdown is to be avoided. When the input-choke method is used, the available d-c output voltage will be somewhat lower than with the in-put condenser method for a given a-c plate voltage. However, improved regulation, together with lower peak current, will be obtained.



AVERAGE PLATE CHARACTERISTICS  
EACH TRIODE UNIT





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