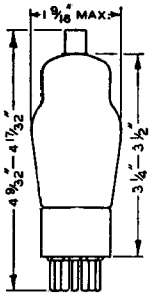
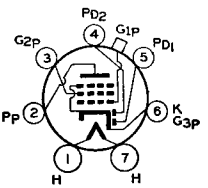


RCA-6B7

DUPLEX-DIODE PENTODE



The 6B7 is a heater type of tube consisting of two diodes and a pentode in a single bulb. It is recommended for service as combined detector, amplifier (radio-frequency, intermediate-frequency or audio-frequency), and automatic-volume-control tube in radio receivers. For diode-detector considerations, refer to page 26.

CHARACTERISTICS

Heater Voltage (A. C. or D. C.)	6.3	Volts
Heater Current	0.3	Ampere
Grid-Plate Capacitance (With shield-can)	0.007 *max.*	μμf
Input Capacitance	3.5	μμf
Output Capacitance	9.5	μμf
Bulb		ST-12
Cap		Small Metal
Base		Small 7-Pin

Pentode Unit—As Class A_1 Amplifier

Plate Voltage	100	180	250	250 *max.*	Volts
Screen Voltage (Grid No. 2)	100	75	100	125 *max.*	Volts
Grid Voltage† (Grid No. 1)	—3	—3	—3	—3	Volts
Plate Current	5.8	3.4	6.0	9.0	Milliamperes
Screen Current	1.7	0.9	1.5	2.3	Milliamperes
Plate Resistance	0.3	1.0	0.8	0.65	Megohm
Amplification Factor	285	840	800	730	
Transconductance	950	840	1000	1125	Micromhos
Grid Bias Volt. (Approx.)*	—17	—13	—17	—21	Volts

* For cathode current cut-off.

† The total resistance in the grid circuit of the 6B7 should be limited to 1.0 megohm.

Diode Units

Two diode plates are placed around a cathode, the sleeve of which is common to the pentode unit. Each diode plate has its own base pin. Operation curves for the diode units are given under type 6B7.

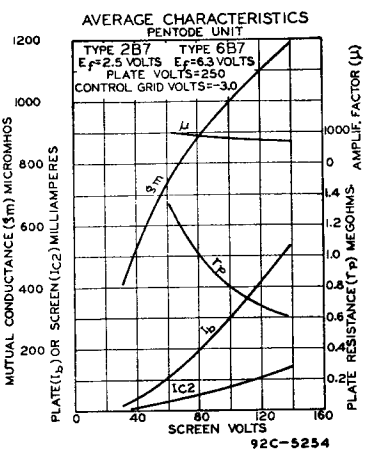
INSTALLATION AND APPLICATION

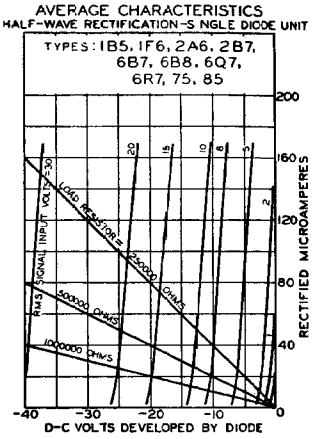
The base pins of the 6B7 fit the standard seven-pin (0.75-inch pin-circle diameter) socket which may be installed to hold the tube in any position.

For heater and cathode operation, refer to type 6A8.

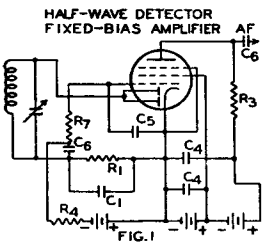
Complete shielding of detector circuits employing the 6B7 is generally necessary to prevent r-f or i-f coupling between the diode circuits and the circuits of other stages.

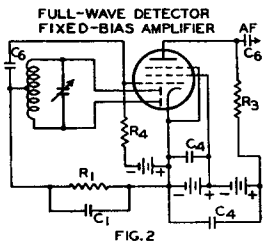
Refer to APPLICATION on the type 6B8. Plate characteristics of pentode unit are shown under type 2B7.

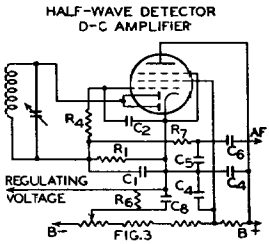


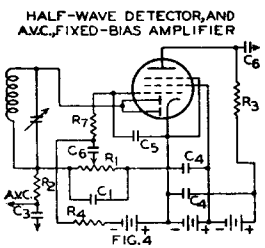


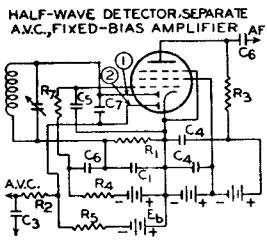
TYPICAL DUPLEX-DIODE PENTODE CIRCUITS
USING TYPES 2B7 OR 6B7

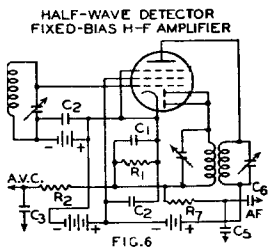












APPROXIMATE VALUES

R_1=0.5-1.0 MEGOHM
R_2=1.0-1.5 MEGOHMS
R_3=0.1-0.2 MEGOHM
R_4=0.5-1.0 MEGOHM
R_5=1.0 MEGOHM
R_6=30000-100000 OHMS
R_7=0.1-0.2 MEGOHM
E_b=VOLTAGE FOR SENSITIVITY CONTROL

C_1= { 150 μμf FOR 500-1500 KC.
{ 450 μμf FOR 175 KC.
C_2=0.1 μf
C_3=0.1 μf
C_4=0.5 μf OR LARGER
C_5=0.0001 μf OR SMALLER
C_6=0.01-0.1 μf
C_7=0.0005-0.001 μf
C_8=0.1 μf OR LARGER

NOTE: Suppressor connected to cathode within bulb.

6B7

page	sheet	date
1	66	1937
2	67	1937
3	FP	1999.10.10