



6AG7

POWER PENTODE

SINGLE-ENDED METAL TYPE

6AG7

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage . . . . . 6.3 . . . . . ac or dc volts
Current . . . . . 0.65 . . . . . amp

Direct Interelectrode Capacitances:

With Pin No.1 and Pin No.3 connected to Pin No.5

Grid No.1 to Plate . . . . . 0.06 max. . . . . μf
Input . . . . . 13 . . . . . μf
Output . . . . . 7.5 . . . . . μf

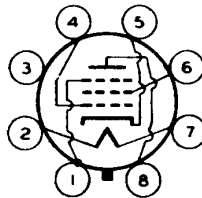
Characteristics, Amplifier Class A1

Plate Voltage . . . . . 300 volts
Grid-No.2 Voltage . . . . . 150 volts
Grid-No.1 Voltage . . . . . -3 volts
Peak AF Grid-No.1 Signal Voltage . . . . . 3 volts
Zero-Signal DC Plate Current . . . . . 30 ma
Max.-Signal DC Plate Current . . . . . 30.5 ma
Zero-Signal DC Grid-No.2 Current . . . . . 7 ma
Max.-Signal DC Grid-No.2 Current . . . . . 9 ma
Plate Resistance (Approx.) . . . . . 0.13 megohm
Transconductance . . . . . 11000 μmhos
Load Resistance . . . . . 10000 ohms
Total Harmonic Distortion . . . . . 7 per cent
Max.-Signal Power Output . . . . . 3 watts

Mechanical:

Mounting Position . . . . . Any
Maximum Overall Length . . . . . 3-1/4"
Seated Length . . . . . 2-19/32" ± 3/32"
Maximum Diameter . . . . . 1-5/16"
Bulb . . . . . Metal Shell, MT-8
Base . . . . . Small-Wafer Octal 8-Pin (JETEC No. BB-21)
Basing Designation for BOTTOM VIEW . . . . . 8Y

Pin 1 - Shell, Grid No.3
Pin 2 - Heater
Pin 3 - No Connection
Pin 4 - Grid No.1



Pin 5 - Cathode
Pin 6 - Grid No.2
Pin 7 - Heater
Pin 8 - Plate

AMPLIFIER - Class A1

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE . . . . . 300 max. volts
GRID-No.2 (SCREEN) VOLTAGE . . . . . 300 max. volts

← Indicates a change

6AG7



6AG7

**POWER PENTODE**

GRID-No.1 (CONTROL-GRID) VOLTAGE:		
Positive bias value . . . . .	0 max.	volts
PLATE DISSIPATION . . . . .	9 max.	watts
GRID-No.2 INPUT . . . . .	1.5 max.	watts

→ PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	90 max.	volts
Heater positive with respect to cathode	90 max.	volts

**Typical Operation in 4-Mc Bandwidth Video Amplifier  
Circuit of Fig. 1:**

*With Grid-Resistor Bias*

*Used where dc restoration is accomplished in grid-No.1 circuit of the 6AG7*

Plate Supply Voltage . . . . .	300	volts
Grid-No.2 Voltage† . . . . .	115	volts
Zero-Signal Grid-No.1 Voltage . . . . .	0	volts
Grid-No.1 Resistor . . . . .	0.25 to 0.5	megohm
Grid-No.1 Signal Voltage (Peak to Peak) . . . . .	4	volts
Zero-Signal Plate Current . . . . .	45	ma
Zero-Signal Grid-No.2 Current . . . . .	13	ma
Load Resistor . . . . .	3500	ohms
Voltage Output (Peak to Peak) . . . . .	135	volts

*With Cathode-Resistor Bias*

Plate Supply Voltage . . . . .	300	volts
Grid-No.2 Voltage <sup>o</sup> . . . . .	125	volts
<i>from series resistor of . . . . .</i>	25000	ohms
Grid-No.1 Voltage . . . . .	-2	volts
Cathode Resistor (Bypassed with capacitor of 250 $\mu$ f, approx.) . . . . .	57	ohms
Grid-No.1 Signal Voltage (Peak to Peak) . . . . .	4	volts
Zero-Signal Plate Current . . . . .	28	ma
Zero-Signal Grid-No.2 Current . . . . .	7	ma
Load Resistor . . . . .	3500	ohms
Voltage Output (Peak to Peak) . . . . .	140	volts

**Maximum Circuit Values:**

Grid-No.1-Circuit Resistance:		
For fixed-bias operation . . . . .	0.25 max.	megohm
For cathode-bias operation . . . . .	1.0 max.	megohm

† obtained from supply having good regulation.

<sup>o</sup> obtained preferably from 300-volt plate supply through resistor of value shown.

→ indicates a change

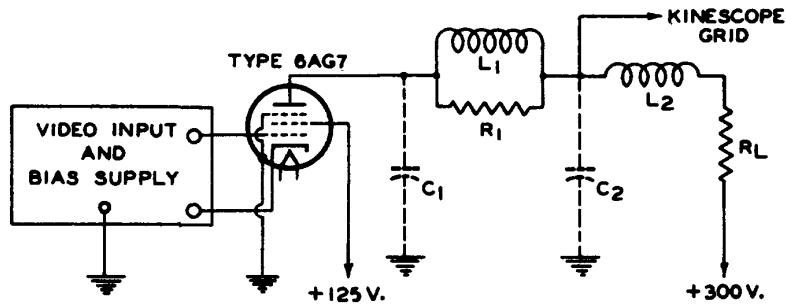


6AG7

## POWER PENTODE

6AG7

Fig. 1 - Typical Video Voltage Amplifier Circuit  
Having Bandwidth of 4 Mc.



$C_1 = 9.5 \mu\mu f =$  Tube Output Capacitance + Socket Capacitance + Wiring Capacitance + Coil Capacitance

$C_2 = 19 \mu\mu f =$  Kinescope Capacitance + Socket Capacitance + Wiring Capacitance + Coil Capacitance

$L_1 = 250 \mu h$  Filter Inductor

$L_2 = 125 \mu h$  Filter Inductor

$R_1 = 20000\text{-Ohm}$ , Non-Reactve Resistor

$R_L = 3500\text{-Ohm}$ , 10-Watt, Non-Reactve Resistor

Devices and arrangements shown or described herein may use patents of RCA or others. Information contained herein is furnished without responsibility by RCA for its use and without prejudice to RCA's patent rights.

NOV. 1, 1952

TUBE DEPARTMENT  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

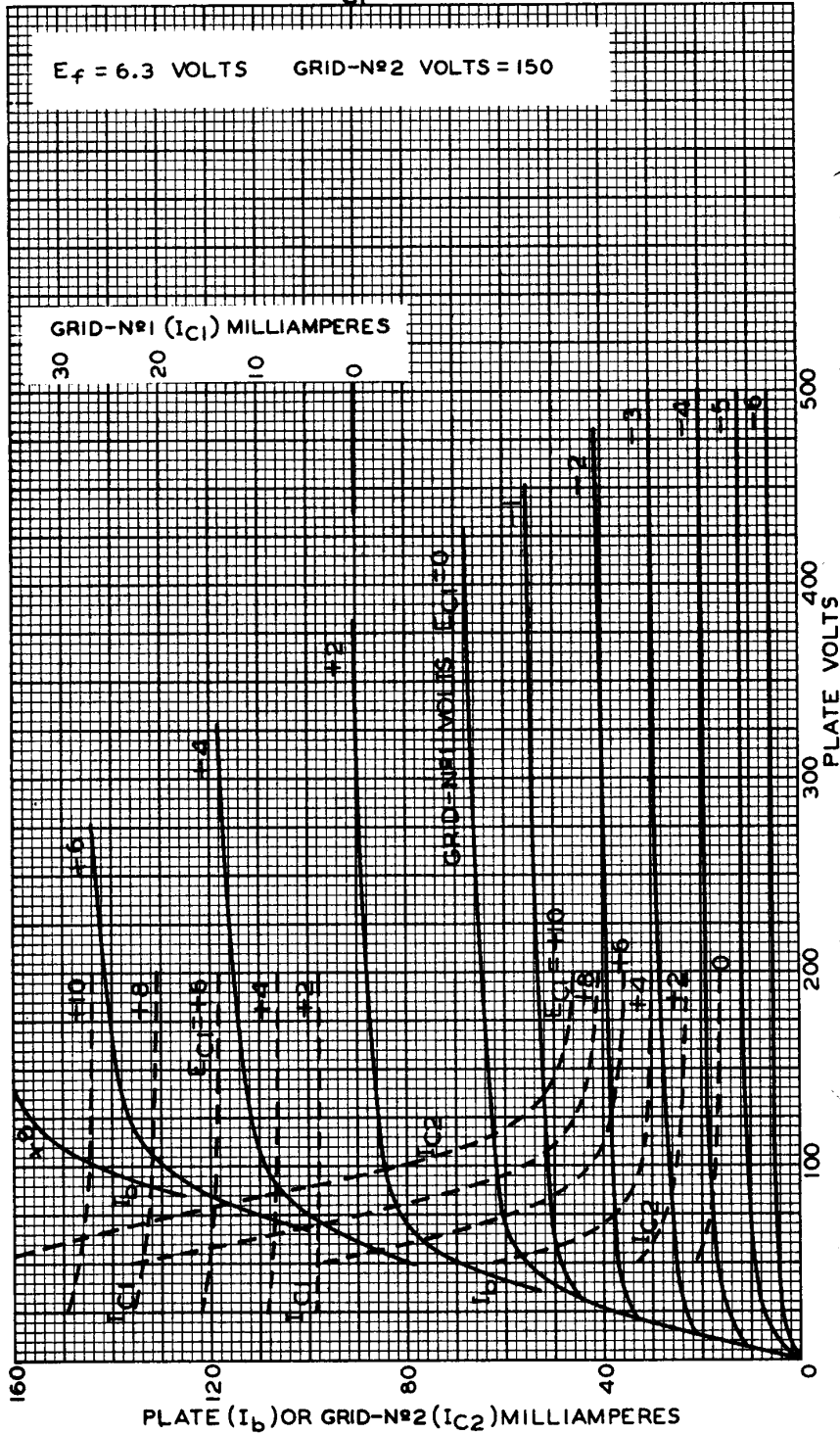
DATA 2

6AG7



6AG7

### AVERAGE PLATE CHARACTERISTICS WITH $E_{C1}$ AS VARIABLE



OCT. 2, 1952

TUBE DEPARTMENT  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-6034R2

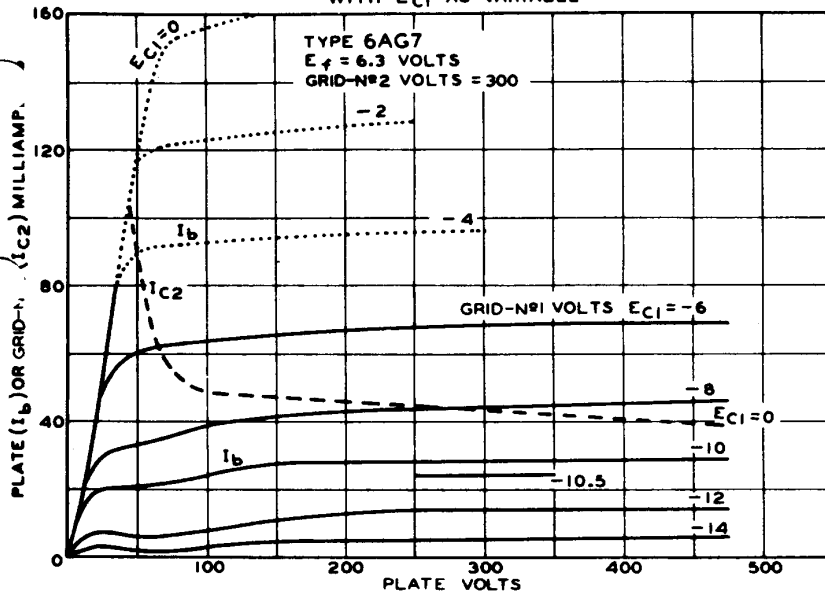


6AG7

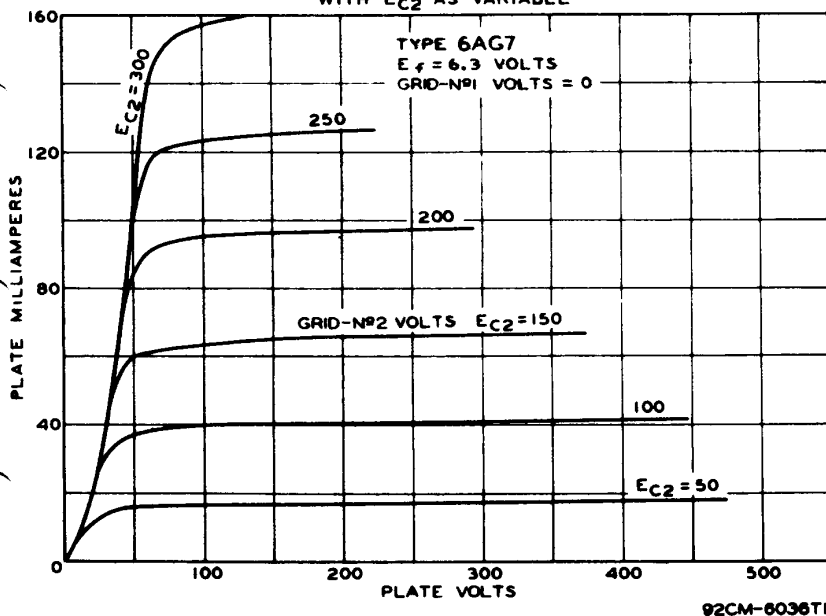
POWER PENTODE

6AG7

AVERAGE PLATE CHARACTERISTICS  
WITH  $E_{C1}$  AS VARIABLE



AVERAGE PLATE CHARACTERISTICS  
WITH  $E_{C2}$  AS VARIABLE



NOV. 1, 1952

TUBE DEPARTMENT  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

CE-6035T1  
CE-6036T1

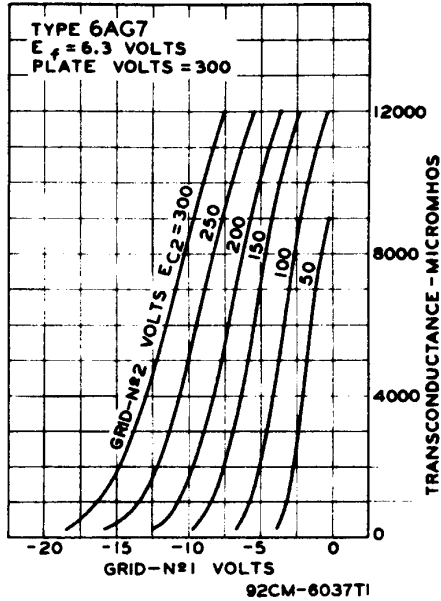
6AG7



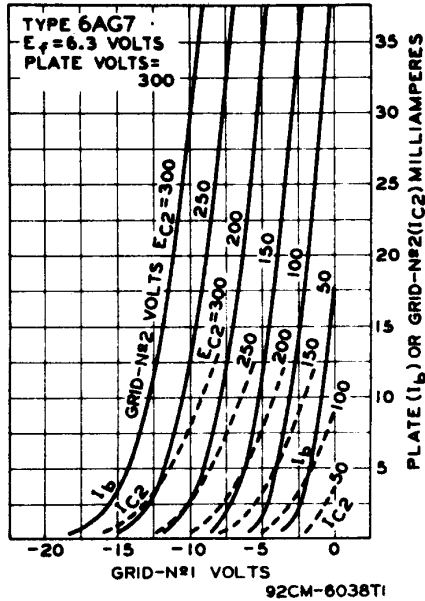
6AG7

### POWER PENTODE

#### AVERAGE CHARACTERISTICS



#### AVERAGE CHARACTERISTICS



NOV. 1, 1952

TUBE DEPARTMENT  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

CE-6037T1  
CE-6038T1