



6AG7

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POWER PENTODE

SINGLE-ENDED METAL TYPE

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" $\pm$ 3/32" ←

Maximum Diameter 1-5/16"

Bulb Metal Shell, MT-8

Base Small-Wafer Octal 8-Pin (JETEC No.88-21)

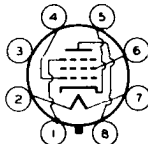
Basing Designation for BOTTOM VIEW 8Y ←

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

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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° 125 volts

from series resistor of 25000 ohms

Grid-No.1 Voltage -2 volts

Cathode Resistor (Bypassed with
capacitor of 250 μ 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.

° obtained preferably from 300-volt plate supply through resistor of value shown.

→ indicates a change

NOV. 1, 1952

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DATA 1

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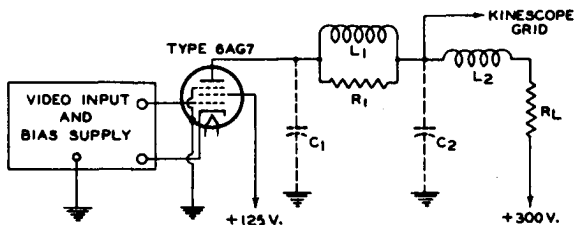


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Fig. 1 - Typical Video Voltage Amplifier Circuit
Having Bandwidth of 4 Mc.



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

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

$L_1 = 250 \mu\text{h}$ Filter Inductor

$L_2 = 125 \mu\text{h}$ Filter Inductor

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

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

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AVERAGE PLATE CHARACTERISTICS WITH E_{C1} AS VARIABLE

$E_f = 6.3$ VOLTS GRID-Nº2 VOLTS = 150

GRID-Nº1 (I_{C1}) MILLIAMPERES

30 20 10 0

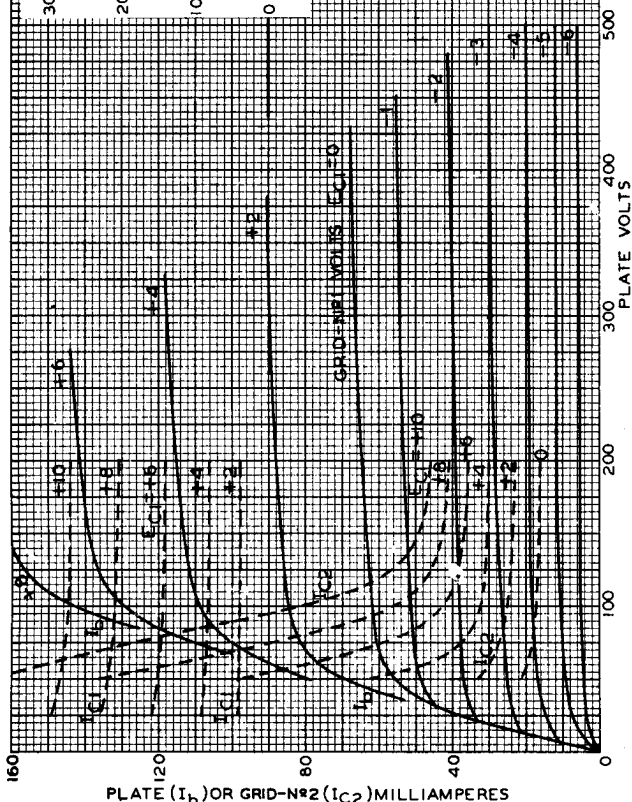


PLATE (I_b) OR GRID-Nº2 (I_{C2}) MILLIAMPERES

OCT. 2, 1952

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92CM-6034R2

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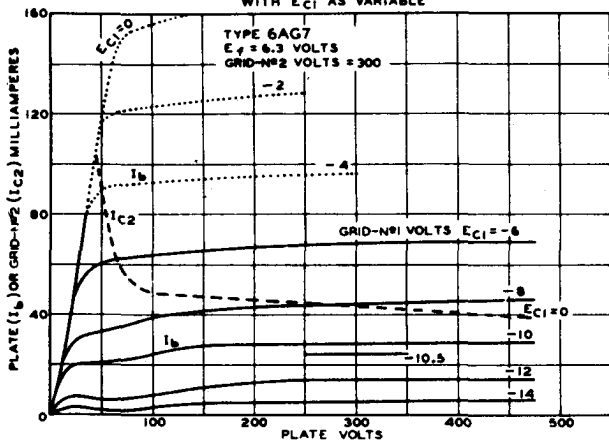


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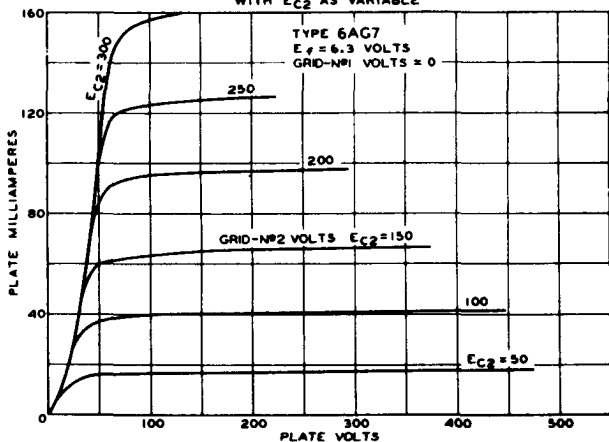
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AVERAGE PLATE CHARACTERISTICS
WITH E_{C1} AS VARIABLE



92CM-6035T1

AVERAGE PLATE CHARACTERISTICS
WITH E_{C2} AS VARIABLE



92CM-6036T1

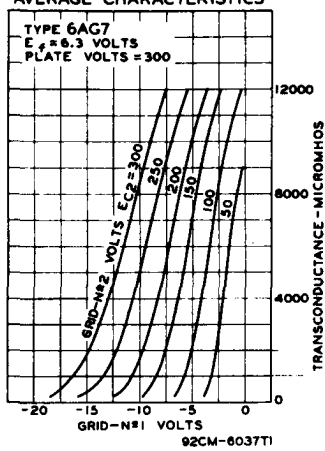
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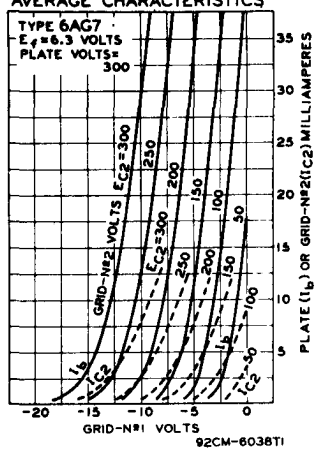
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AVERAGE CHARACTERISTICS



AVERAGE CHARACTERISTICS



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CE-6037T1
 CE-6038T1