

RADIOTRON

6V6-GT

BEAM POWER AMPLIFIER

6V6-GT
SHEET 1

Heater	Coated Unipotential Cathode	
Voltage	6.3	a-c or d-c volts
Current	0.45	amp.
Direct Interelectrode Capacitances (Approx.):		
Grid to Plate	0.7	$\mu\text{F.}$
Input	9.5	$\mu\text{F.}$
Output	7.5	$\mu\text{F.}$
Maximum Overall Length	3-5/16"	
Maximum Seated Height	2-3/4"	
Maximum Diameter	1-5/16"	
Bulb	T-9	
Base	Intermediate Shell Octal 7-Pin.	
Pin 1-No Connection	Pin 5-Grid	
Pin 2-Heater	Pin 7-Heater	
Pin 3-Plate	Pin 8-Cathode	
Pin 4-Screen		
Mounting Position	Any	



BOTTOM VIEW (G-7AC)

Maximum Ratings are Design-Centre Values.

SINGLE VALVE AMPLIFIER—Class A₁

Plate Voltage				315 max. volts
Screen Voltage				285 max. volts
Plate Dissipation				12 max. watts
Screen Dissipation				2 max. watts
Typical Operation:				
Plate Voltage.	180	250	250	315 volts
Screen Voltage	180	100	250	225 volts
Grid Voltage	-8.5	-5	-12.5	-13 volts
Cath. Bias Res.	250	250	232	317 ohms
Peak A-F Grid Volts	8.5	5	12.5	13 volts
Zero-Sig. Plate Cur.	29	17.5	45	34 mA.
Max.-Sig. Plate Cur.	30	18.4	47	35 mA.
Zero-Sig. Scrn. Cur. *	3	0.7	4.5	2.2 mA.
Max.Sig. Scrn. Cur. *	4	1.3	7	6 mA.
Plate Resistance	.058	.094	.052	.077 meg.
Transconductance	3,700	3,440	4,100	3,750 $\mu\text{mhos.}$
Load Resistance	5,500	14,000	5,000	8,500 ohms
Total Harm. Dist.	8	5	8	12 %
Max.-Sig. Pwr. Output	2	1.5	4.5	5.5 watts

AMPLIFIER - Class A₁ (Triode Connection. *)

Plate Voltage				300 max. volts
Plate & Screen Dissipation (Total)				12.5 max. watts
Typical Operation:				
Plate Voltage	250		300	volts
Grid Voltage Δ o	-15		-20	volts
Cathode Bias Res ϕ	400		513	ohms
Zero-Sig. Plate Cur.	37.5		39	mA.
Amplification Factor	9.6		9.6	
Plate Resistance	2,400		2,400	ohms
Transconductance	4,000		4,000	μmhos
Load Resistance	3,500		4,800	ohms
Second Harm. Dist.	5		5	%
Max.-Sig. Pwr. Output	1.0		1.65	watts

PUSH-PULL AMPLIFIER - Class AB₁

Plate Voltage				315 max. volts
Screen Voltage				285 max. volts
Plate Dissipation				12 max. watts
Screen Dissipation				2 max. watts
Typical Operation:				
Values are for two valves				
Plate Voltage	250	285	315	volts

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Screen Voltage	250	285	250**	volts
Grid Voltage ▲	-15	-19	-15.6**	volts
Peak A-F Volts (G-G)	30	38	30	volts
Zero-Sig. Plate Cur.	70	70	76.5	mA.
Max.-Sig. Plate Cur.	79	92	70	mA.
Zero-Sig. Screen Cur. *	5	4	4.9	mA.
Max.-Sig. Screen Cur. *	13	13.5	10.5	mA.
Eff. Load Res. (P-P)	10,000	8,000	12,000	ohms
Total Harm. Distortion	5	3.5	-	%
Max.-Sig. Pwr. Output	10	14	13	watts

PUSH-PULL AMPLIFIER (Triode Connection.)

Plate Voltage	300 max.	volts
Plate & Screen Dissipation (Total)	12.5 max.	watts
Typical Operation:		

	<u>Class A₁</u>	<u>Class AB₁</u>	
Plate Voltage	300	300	volts
Grid Voltage ▲	-20	-25	volts
Cathode Bias Resistor	258	-	ohms
Peak A-F Volts (G-G)	40	50	volts
Zero-Sig. Plate Cur.	78	42	mA.
Eff. Load Res. (P-P)	9,600	6,000	ohms
Max.-Sig. Power Output	3.3	4.75	watts

- The heater should be operated at 6.3 volts. Under maximum dissipation conditions, the heater voltage should never fluctuate so that it exceeds 7.0 volts. The potential difference between heater and cathode should be kept as low as possible.
- ▲ The type of input coupling used should not introduce too much resistance in the grid circuit. Transformer or impedance coupling devices are recommended. When the grid circuit has a resistance not higher than 0.1 megohm, fixed bias may be used; for higher values, cathode bias is required. With cathode bias, the grid circuit may have a resistance not to exceed 0.5 megohm, provided the heater voltage is not allowed to rise more than 10% above the rated value under any condition of operation.
- The requisite negative bias may be obtained from an external source or, alternatively, may be derived from a cathode bias resistor of the stated value. For this particular service the type of bias has only a small effect on the operation.
- Screen connected to plate at the socket.
- Conditions as used in Radiotron circuit 1504. The two screens are fed through a common 3,000 ohm resistor from the plate supply voltage; a bleed resistor of 15,000 ohms is connected between the screens and the cathodes, the common cathode bias resistor being 150 ohms. Both screens and cathodes must be suitably bypassed.

* Nominal value; subject to variations from valve to valve.

← Indicates a change.

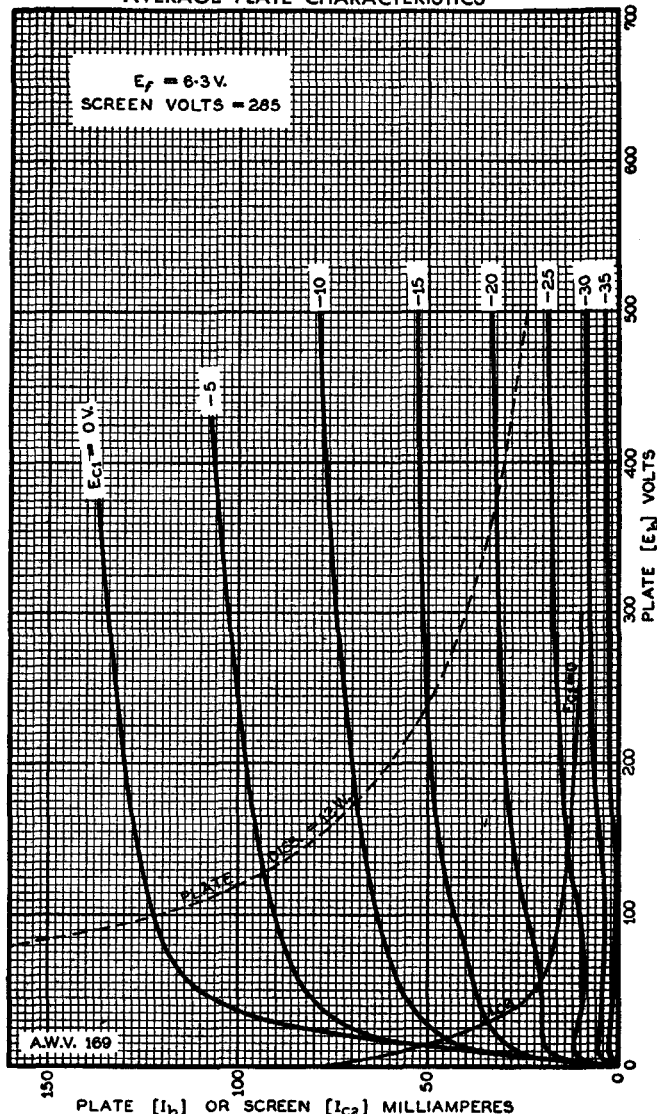
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6V6-G (T)

AVERAGE PLATE CHARACTERISTICS

6V6-G (T)
SHEET 2

$E_f = 6.3V.$
SCREEN VOLTS = 285



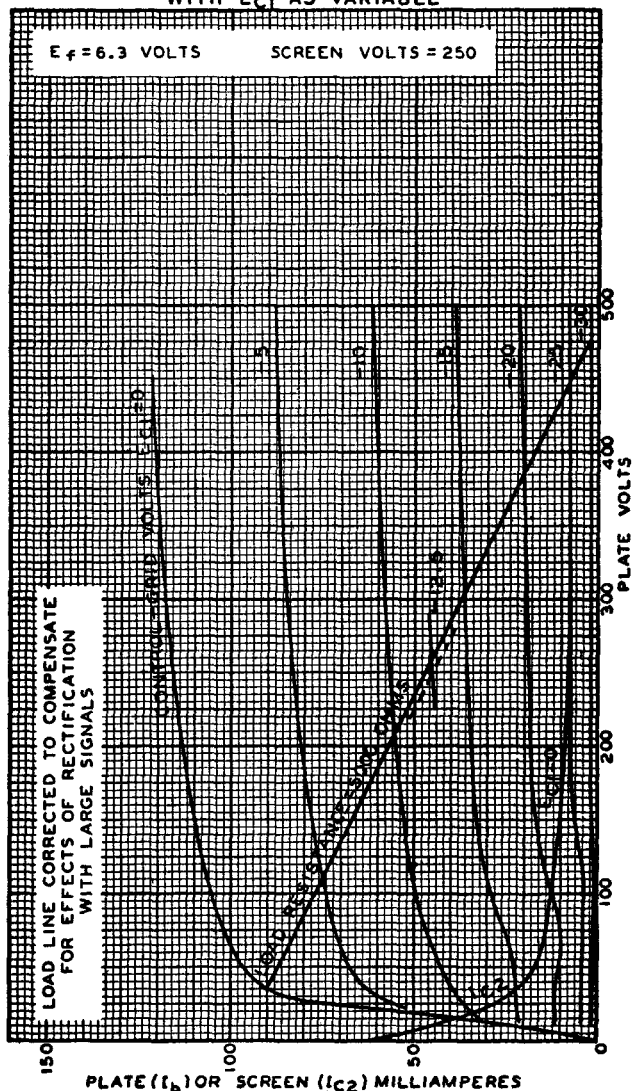
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6V6-G (T)

RADIOTRON

6V6-G (T)

AVERAGE PLATE CHARACTERISTICS
WITH E_{c1} AS VARIABLE



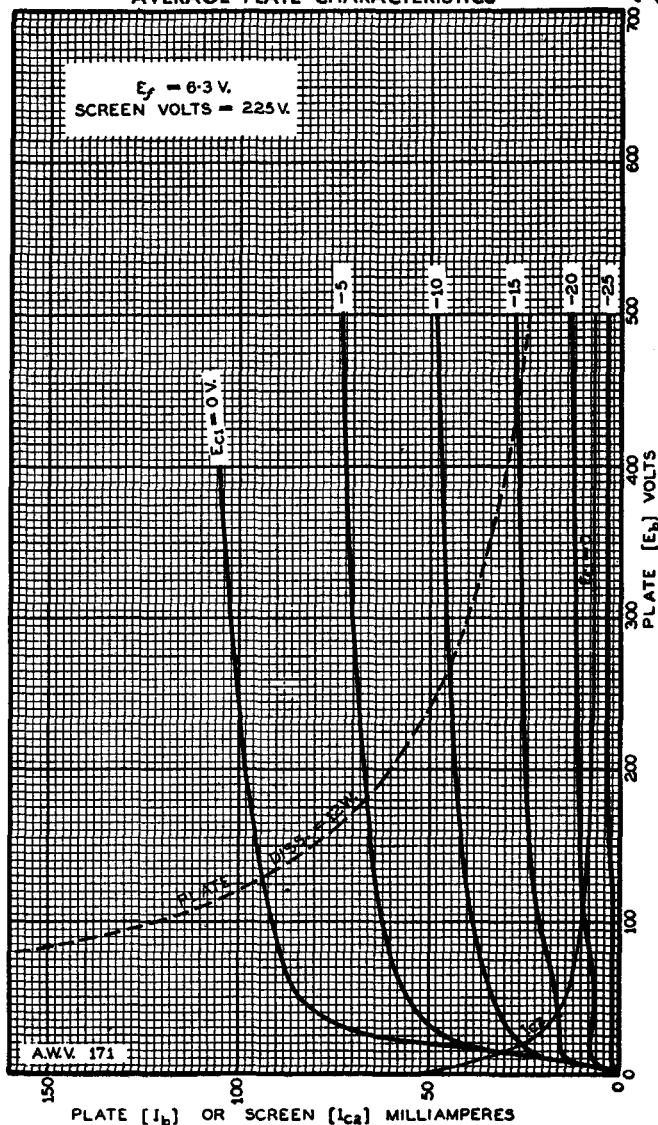
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6V6-G(T)

AVERAGE PLATE CHARACTERISTICS

6V6-G(T)
SHEET 3

$E_f = 6.3 \text{ V.}$
SCREEN VOLTS = 225 V.



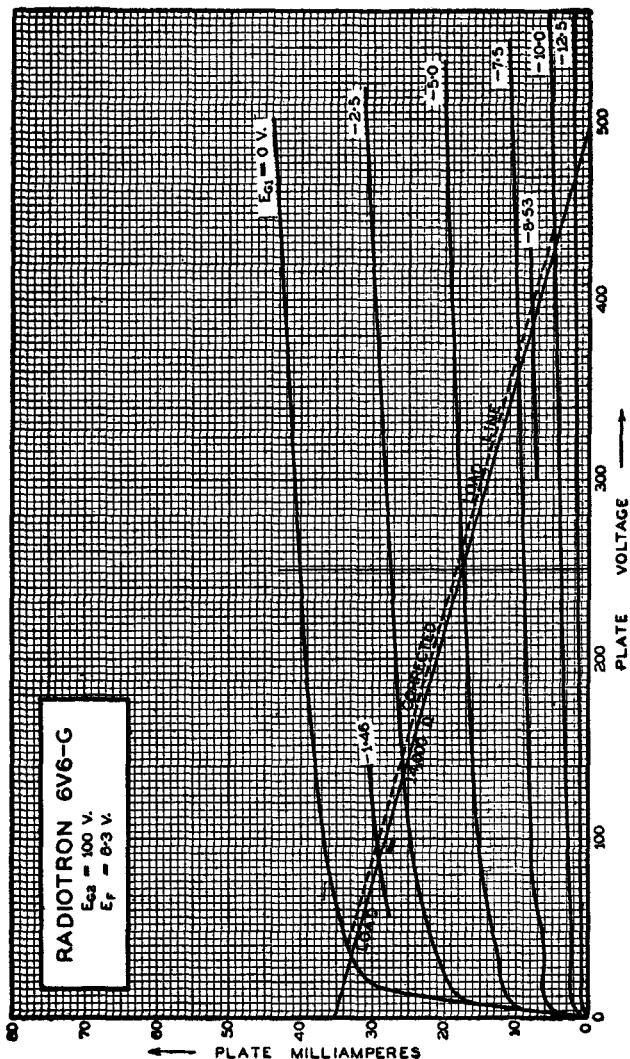
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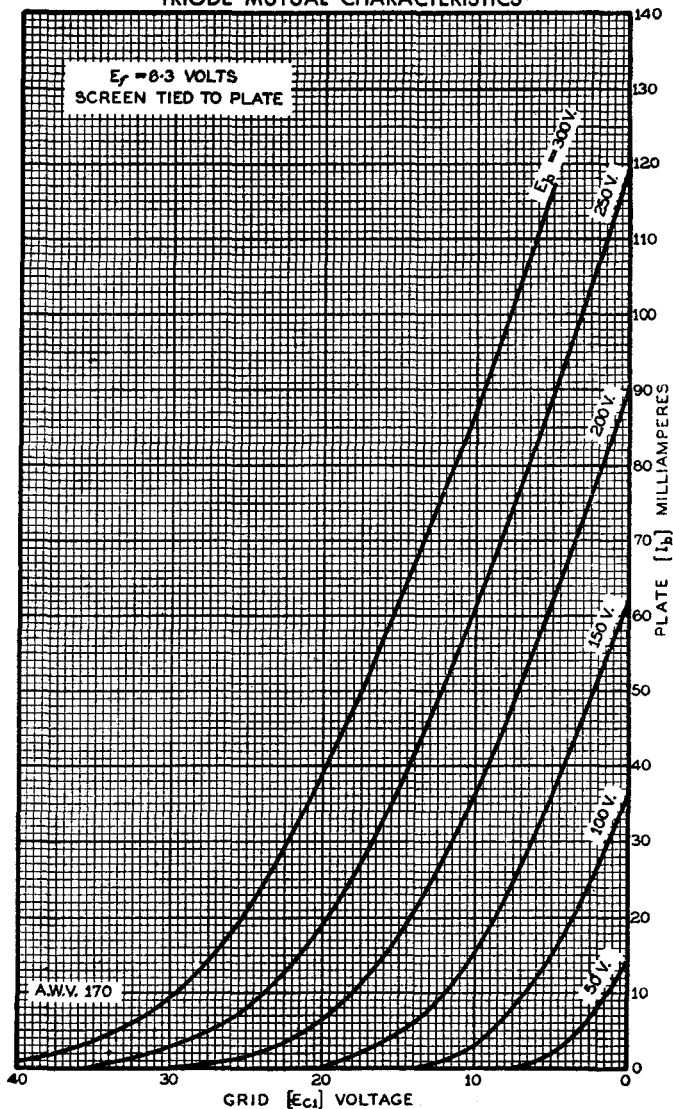
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6V6-G(T)

AVERAGE PLATE CHARACTERISTICS

with E_{c1} as variable



RADIOTRON**6V6-G****TRIODE MUTUAL CHARACTERISTICS****6V6-G**
SHEET 4

6V6-G

RADIOTRON

6V6-G

AVERAGE PLATE CHARACTERISTICS
TRIODE CONNECTION

