



PLIOTRON

DESCRIPTION

The GL-5692 is a medium-mu twin triode, high-vacuum tube designed particularly for use in industrial applications as a balanced d-c amplifier, multivibrator, blocking oscillator, and resistance-coupled amplifier.

The heaters for the two triode units of the 5692

are connected in series so that failure of either heater in bridge circuits makes both units inoperative. Other features of this tube are stability and uniformity of characteristics, resistance to shock and vibration, and long life.

TECHNICAL INFORMATION

These data are for reference only. For design information refer to specifications.

GENERAL

Electrical Data

Cathode—Indirectly heated			
Heater voltage (a-c or d-c)			6.3 $\pm$ 5%* volts
Heater current			0.6 ampere
Direct interelectrode capacitances, with no external shield			
Triode Unit No. 1—			
Grid to plate	Minimum	Average	Maximum
Grid to cathode	3.0	3.5	4.0 uuf
Plate to cathode	1.8	2.3	2.8 uuf
Triode Unit No. 2—			
Grid to plate	2.0	2.5	3.0 uuf
Grid to cathode			
Plate to cathode	2.8	3.3	3.8 uuf
Grid to plate	2.1	2.6	3.1 uuf
Grid to cathode	2.2	2.7	3.2 uuf
Plate to cathode			
Plate of Triode Unit No. 1 to			
Plate of Triode Unit No. 2	2.7	3.2	3.7 uuf

GENERAL  ELECTRIC


Electronic
TUBE

TECHNICAL INFORMATION (CONT'D)

Mechanical Data

Mounting position—any

Net weight, approximate..... 3 ounces

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

Values are for each Unit

Maximum ratings, absolute values

D-c plate voltage.....	275 max	volts
D-c plate supply voltage.....	330 max	volts
Grid voltage		
Negative bias value.....	—1** min to —100 max	volts
Negative peak value.....	—200 max	volts
D-c grid current.....	2 max	milliamperes
D-c cathode current.....	15 max	milliamperes
Plate dissipation.....	1.75 max	watts
Peak heater-cathode voltage		
Heater negative with respect to cathode.....	100 max	volts
Heater positive with respect to cathode.....	100 max	volts
Ambient temperature range.....	—55 to +90	C

Maximum circuit value (for any operating condition)

Grid-circuit resistance.....	2 max	megohms
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Characteristics and range values

Heater voltage.....	6.3	volts
Plate voltage.....	250	volts
Grid voltage.....	—9	volts

	Minimum	Average	Maximum	
Heater current.....	0.55	0.6	0.65	amperes
Heater-cathode current with heater-cathode voltage of ± 100 volts.....			5	microamperes
Plate current.....	4.8	6.5	8.2	milliamperes
Plate current for grid voltage of —24 volts.....			15	microamperes
Difference in plate current between triode units.....			2.0	milliamperes
Reverse grid current.....			0.2	microampere
Amplification factor.....	18	20	22	
Plate resistance.....		9100		ohms
Transconductance.....	1825	2200	2575	micromhos

Typical operation—resistance-coupled amplifier (each triode unit)

Plate-supply voltage	90			180			300			volts
Plate load resistor.....	0.05	0.1	0.25	0.05	0.1	0.25	0.05	0.1	0.25	megohms
Grid resistor (of following stage).....	0.1	0.25	0.5	0.1	0.25	0.5	0.1	0.25	0.5	megohms
Cathode resistor.....	2070	3940	9760	1490	2830	7000	1270	2440	5770	ohms
Cathode by-pass capacitor†.....	2.66	1.29	0.55	2.86	1.35	0.62	2.96	1.42	0.64	uf
Blocking capacitor†.....	0.029	0.012	0.007	0.032	0.012	0.007	0.034	0.0125	0.0075	uf
Peak output voltage‡.....	14	17	18	30	34	36	51	56	57	volts
Voltage gain△.....	12	13	13	13	14	14	14	14	14	

*May deviate ± 10 per cent from rated value provided such deviation occurs for less than 2 per cent of the operating time.

**For resistance-coupled amplifier applications, the negative bias may be as low as —0.5 volt.

†The cathode by-pass capacitors and blocking capacitors have been chosen to give output voltages at 100 cycles per second (f_1) which are equal to 0.8 of the mid-frequency value. For any other value of (f_1), multiply the values of cathode by-pass and blocking capacitors by $100/f_1$.

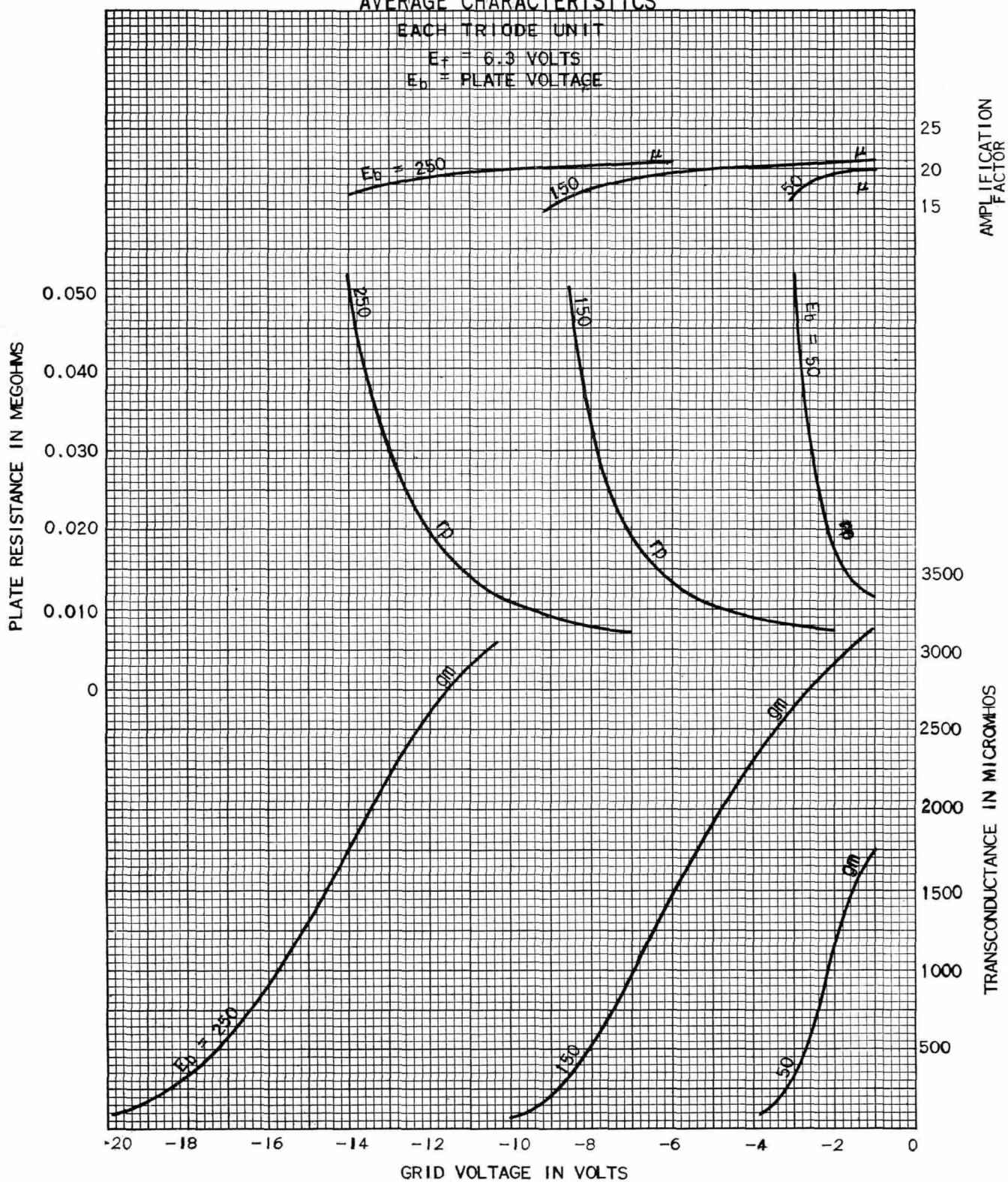
‡This peak output voltage is obtained across the grid resistor of the following stage at any frequency within the flat region the output vs frequency curve, and is for the condition where the signal level is adequate to swing the grid of the resistance-coupled amplifier tube to the point where its grid starts to draw current.

△At an output voltage of 5 volts rms.

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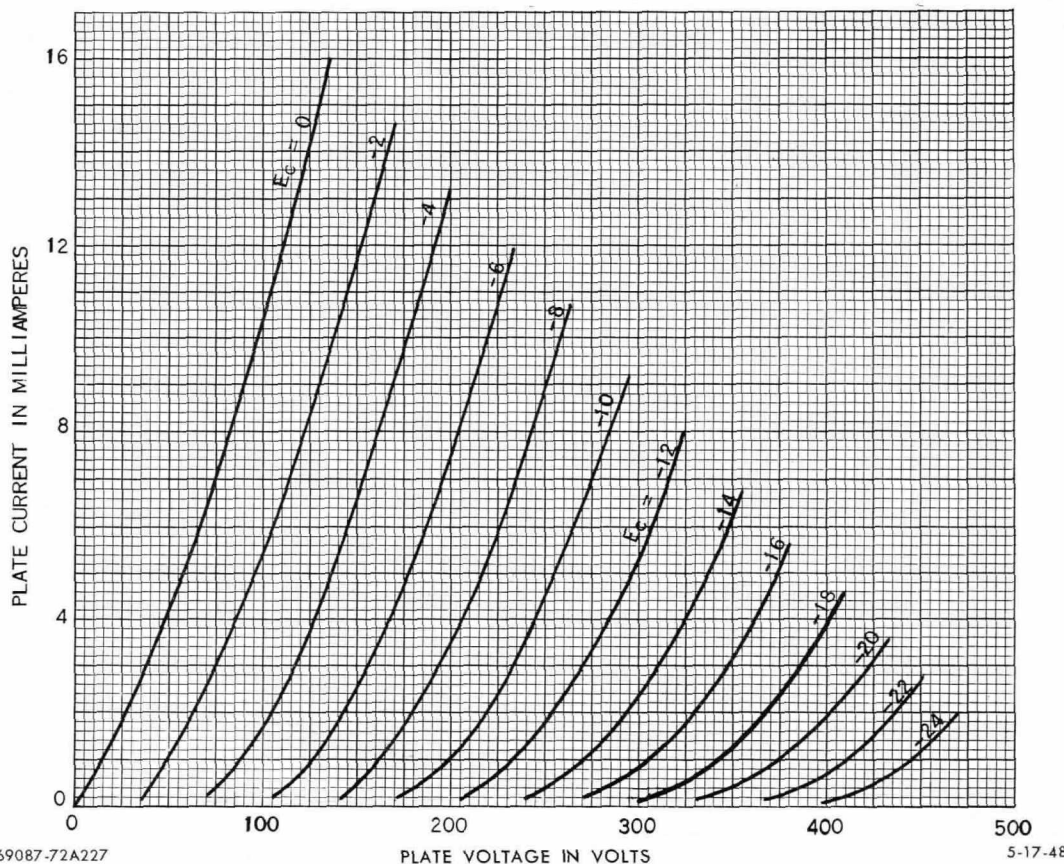
AVERAGE CHARACTERISTICS

EACH TRIODE UNIT

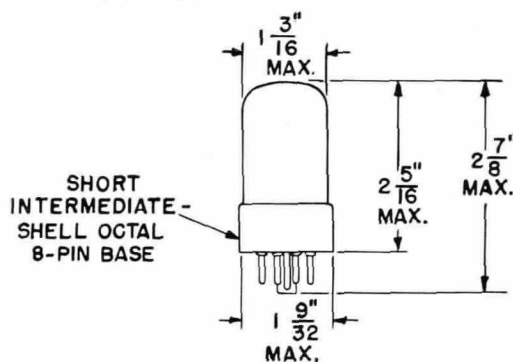
 $E_f = 6.3$ VOLTS $E_b =$ PLATE VOLTAGE

GL-5692

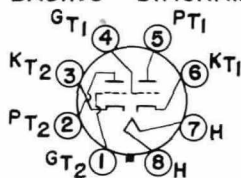
AVERAGE PLATE CHARACTERISTICS

EACH TRIODE UNIT $E_1 = 6.3$ VOLTS

OUTLINE GL-5692 PIOTRON



BASING DIAGRAM



- PIN 1: GRID OF TRIODE UNIT NO. 2
 PIN 2: PLATE OF TRIODE UNIT NO. 2
 PIN 3: CATHODE OF TRIODE UNIT NO. 2
 PIN 4: GRID OF TRIODE UNIT NO. 1
 PIN 5: PLATE OF TRIODE UNIT NO. 1
 PIN 6: CATHODE OF TRIODE UNIT NO. 1
 PIN 7: HEATER
 PIN 8: HEATER

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Electronics Department

GENERAL ELECTRIC

Schenectady, N. Y.