



ELECTRON TUBES AND SEMICONDUCTORS

Amperex[®] ELECTRONIC CORPORATION

CABLE: AMPRONICS, NEW YORK

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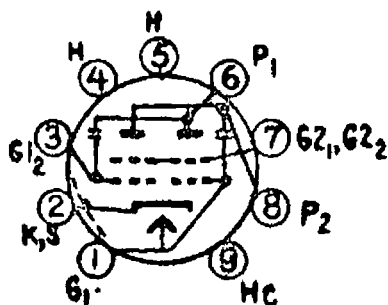
AMPEREX TUBE TYPE 7699

The Amperex 7699 is a wide band push-pull amplifier tube for application in test instruments, distributed amplifiers and computers. Stability of the Class A characteristics and low cathode interface are important features of this tube. The push-pull construction offers a high gain band width product coupled with low output capacity. The screen and cathode, common to both halves of the tube, result in high input impedance due to low internal inductance. A high dissipation of 3 W per section enables the tube to drive low load impedances. This tube is intended for long-life reliable circuits, and not for transmitting purposes.

GENERAL CHARACTERISTICS

MECHANICAL

Bulb temperature	225°C max
Overall length	2-5/8 inches max
Seated height	2-3/8 inches max
Diameter	7/8 inches max
Base	Novel, 9 pin, JEDEC E9-1



PIN CONNECTIONS

- Pin No. 1 - Control grid of unit No. 1
- Pin No. 2 - Cathode and beam plates
- Pin No. 3 - Control grid of unit No. 2
- Pin No. 4 - Heater
- Pin No. 5 - Heater
- Pin No. 6 - Plate of unit No. 1
- Pin No. 7 - Screen grid
- Pin No. 8 - Plate of unit No. 2
- Pin No. 9 - Heater center tap

Push-Pull, Class A Amplifier
Maximum Ratings, Absolute Values
(Frequency up to 500 Mc)

	<u>CCS</u>
Plate voltage	275 volts
Plate current	2x15 mA
Plate dissipation	2x3 watts
Plate input power	2x3 watts
Screen grid dissipation	2x1.25 watts
Control grid voltage	-100 volts
Cathode current	2x50 mA
Voltage between cathode and heater	+ 90 volts

Typical Operation, Push-Pull

	<u>CCS</u>	<u>CCS</u>
Plate voltage	150	200 volts
Screen grid voltage	150	150 volts
Effective load resistance (plate to plate)	10,560	17,400 ohms
Grid No. 1 voltage	-3.5	-3.5 volts
Peak grid No. 1 to grid No. 1 voltage	7	7 volts
Zero signal plate current	2x13.5	2x14 mA
Maximum signal plate current	2x15.8	2x15.8 mA
Zero signal screen current	2x1.8	2x3.0 mA
Maximum signal screen current	2x6.1	2x7.7 mA
Transconductance (per section)	7000	7500 micromhos
Total distortion	1.0	2.0 %
Tube power output	1.75	2.66 watts

ELECTRICAL

Cathode	indirectly heated, oxide coated	
	<u>Parallel</u>	<u>Series</u>
Heater voltage	6.3	12.6 volts
Heater current	0.6	0.3 amps
<u>Direct Interelectrode Capacitances</u>		
	<u>Each Unit</u>	<u>Both Units Push-Pull</u>
Output	1.6	0.95 uuf
Input	6.4	3.8 uuf
Plate to grid No. 1 (internally neutralized)		0.15
Amplification Factor (each unit)		
Grid No. 2 to Grid No. 1		
($E_p = E_{g2} = 150V$; $I_p = 25 \text{ mA}$)		31
Mutual Conductance (each unit)		
($E_p = E_{g2} = 150V$; $I_p = 25 \text{ mA}$)		10,500 micromhos

