



ELECTRON TUBES AND SEMICONDUCTORS

# Amperex<sup>®</sup> ELECTRONIC CORPORATION

CABLE: AMPRONICS, NEW YORK

230 DUFFY AVENUE, HICKSVILLE, L. I., NEW YORK • Wells 1-6200

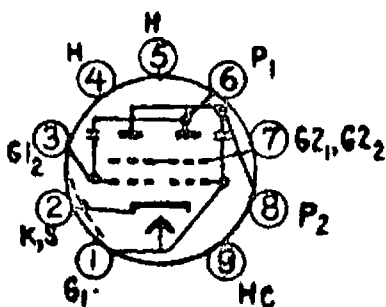
## AMPEREX TUBE TYPE 7699

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             | Noval, 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                      | 2x45 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            |

