

CHARACTERISTICS AND TYPICAL OPERATION

	S. T. Class A	P-P Class AB Fixed Bias			P-P Class AB Self Bias	
Plate Voltage	250	250	350	400	300	310 Volts
Grid No. 2 Voltage	250	250	280	290	300	310 Volts
Grid No. 1 Voltage	-15	-15	-22	-25	—	— Volts
Cathode Resistor	—	—	—	—	230	270 Ohms
Peak AF Grid No. 1 Voltage	—	15	22	25	24	22.5 Volts
Plate Current (Zero Signal)	46	92	58	50	80	77 Ma
Plate Current (Max. Signal)	—	105	106	107	96	92 Ma
Grid No. 2 Current (Zero Signal) ..	3.5	7	3.5	2.5	6	5 Ma
Grid No. 2 Current (Max. Signal) ..	—	16	14	13.7	14	14 Ma
Transconductance	4.8K	—	—	—	—	— μ mhos
Plate Resistance	73K	—	—	—	—	— Ohms
Load Resistance (P to P)	—	8K	7.5K	8K	5.5K	6K Ohms
Power Output	—	12.5	20	24	15	17 Watts
Total Harmonic Distortion	—	2	1.5	2	2	4 Percent
E _{c1} for I _b = 100 μ a	-40	—	—	—	—	— Volts

Class AB Ultra-Linear Conn.

Plate Supply Voltage	375 ⁽¹⁾	370 ⁽²⁾	Volts
Grid No. 1 Voltage	-33.5	—	Volts
Cathode Resistor	—	355	Ohms
Peak AF Grid No. 1 Voltage	33.5	31	Volts
Cathode Current (Zero Signal)	62	74	Ma
Cathode Current (Maximum Signal) ..	95	84	Ma
Load Resistance (P to P)	12.5K	13K	Ohms
Power Output	18.5	15	Watts
Total Harmonic Distortion	1.5	1.2	Percent

NOTES:

- (1) Obtained from taps on the primary winding of the output transformer. The taps are located on each side of the center tap so as to apply 50 percent of the plate signal voltage to Grid No. 2 of each output tube.
- (2) Obtained from taps on the primary winding of the output transformer. The taps are located on each side of the center tap so as to supply 43 percent of the plate signal voltage to Grid No. 2 of each output tube.

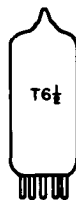
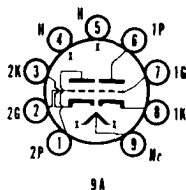
7025

Color Television Type

AF AMPLIFIERS or
PHASE INVERTERS

Double High Mu Triode

Construction Miniature T-6½
 Base Button 9 Pin, E9-1
 Basing 9A
 Outline 6-2
 Maximum Diameter 0.875 In.
 Maximum Seated Height 1.937 In.
 Maximum Overall Height 2.187 In.
 The Type 7025 is identical to the Type 12AX7/ECC83 except for improved noise and hum characteristics.

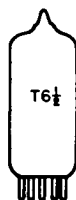
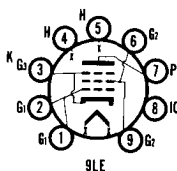


7189A

AUDIO POWER AMPLIFIER

Beam Power Pentode

Construction Miniature T-6½
 Base Button 9 Pin, E9-1
 Basing 9LE
 Outline 6-4
 Maximum Diameter 0.875 In.
 Maximum Seated Height 2.812 In.
 Maximum Overall Height 8.062 In.



ELECTRICAL DATA

HEATER OPERATION

Heater Voltage.....	6.3 Volts
Heater Current	760 Ma
Maximum Heater-Cathode Voltage	
Heater Negative with Respect to Cathode	100 Volts
Heater Positive with Respect to Cathode	100 Volts

DIRECT INTERELECTRODE CAPACITANCES

Grid No. 1 to Plate (Max.).....	0.5 Pf
Input	10.8 Pf
Output	6.5 Pf
Grid No. 1 to Heater (Max.)	0.25 Pf

RATINGS (Design Maximum Rating System)

	Class AB Pentode Conn.	Class AB Ultra-linear Conn.
Plate Voltage (Max.)	440	415 Volts
Grid No. 2 Voltage (Max.) ⁽¹⁾	400	415 Volts
Plate Dissipation (Max.)	13.2	13.2 Watts
Grid No. 2 Dissipation (Zero Signal) (Max.)	2.2	2.2 Watts
Grid No. 2 Dissipation (Max. Signal) (Max.).....	4.4	4.4 Watts
Cathode Current (Max.).....	72	72 Ma
Grid No. 1 Circuit Resistance		
Fixed Bias (Max.)	0.3	0.3 Megohm
Cathode Bias (Max.)	1.0	1.0 Megohm

CHARACTERISTICS AND TYPICAL OPERATION

	Pentode Conn. Single Tube Class A1	Class AB Push-Pull	Ultra-linear Conn. Class AB Push-Pull
Plate Voltage	250	400	375 Volts
Grid No. 2 Voltage	250	300	Note 1 Volts
Grid No. 1 Voltage	-7.3	-15	— Volts
Cathode Resistor	—	—	220 Ohms
Grid Voltage (RMS) ⁽²⁾	—	10.5	12.5 Volts
Plate Current (Zero Signal)	48	30	70 Ma
Plate Current (Max. Signal)	—	105	81 Ma
Grid No. 2 Current (Zero Signal)	5.5	1.6	— Ma
Grid No. 2 Current (Max. Signal)	—	25	— Ma
Transconductance	11.3K	—	— μ mhos
Amplification Factor ⁽³⁾	19.5	—	—
Plate Resistance.....	40K	—	— Ohms
Load Resistance (P to P)	—	8K	11K Ohms
Maximum Signal Power Output	—	24	16.5 Watts
Total Harmonic Distortion	—	4.0	3 Percent

NOTES:

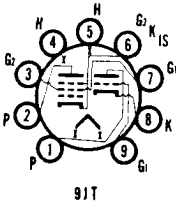
- (1) Grid No. 2 voltage is obtained from taps located at 43 percent of the output transformer windings.
(2) Per grid
(3) Measured from Grid No. 1 to Grid No. 2.

PREAMPLIFIER (P)
PHASE INVERTER (T)

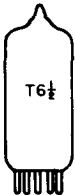
7199

Medium Mu Triode and
Sharp Cutoff Pentode

Construction	Miniature T-6½
Base	Button 9 Pin, E9-1
Basing	9JT
Outline	6-2
Maximum Diameter	0.875 In.
Maximum Seated Height	1.937 In.
Maximum Overall Height	2.187 In.



9JT



ELECTRICAL DATA

HEATER OPERATION

Heater Voltage.....	6.3 Volts
Heater Current	450 Ma