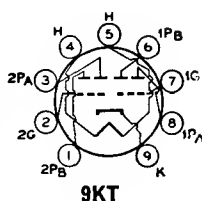


12EA6	Refer to chart at end of section.
12EC8	Refer to chart at end of section.
12ED5	Refer to chart at end of section.
12EG6	Refer to chart at end of section.
12EH5	Refer to chart at end of section.
12EK6	Refer to chart at end of section.
12EL6	Refer to chart at end of section.
12EM6	Refer to chart at end of section.
12EN6	Refer to chart at end of section.
12EQ7	Refer to type 6EQ7.
12F5GT	Refer to chart at end of section.
12F8	Refer to chart at end of section.
12FK6	Refer to chart at end of section.
12FM6	Refer to chart at end of section.

12FQ8**HIGH-MU
TWIN DOUBLE-PLATE TRIODE**

Miniature type used in frequency-divider and complex-wave-generator circuits of electronic musical instruments. Outlines section, 6B; requires miniature 9-contact socket.

**9KT**

Heater Voltage (ac/dc)	12.6	volts
Heater Current	0.15	ampere
Heater-Cathode Voltage:		
Peak value	±200 max	volts
Average value	100 max	volts
Direct Interelectrode Capacitances (Approx.):		
Grid to Either Plate (Each Unit)	0.9	pF
Grid to Cathode, and Heater (Each Unit)	1.8	pF
Plate A of Unit No.1 to Cathode, and Heater	0.34	pF
Plate B of Unit No.1 to Cathode, and Heater	0.24	pF
Plate A of Unit No.2 to Cathode, and Heater	0.3	pF
Plate B of Unit No.2 to Cathode, and Heater	0.18	pF
Plate A to Plate B (Each Unit)	0.7	pF
Plate A of Unit No.1 to Plate A of Unit No.2	0.4	pF

Class A₁ Amplifier (Each Unit)

CHARACTERISTICS*		
Plate Voltage	250	volts
Grid Voltage	—1.5	volts
Amplification Factor	95	
Plate Resistance (Approx.)	76000	ohms
Transconductance	1250	μmhos
Plate Current	1.5	mA

* Using either plate A or plate B, with plate not in use connected to ground.

Frequency-Divider and Complex-Wave Generator (Each Unit)**MAXIMUM RATINGS (Design-Maximum Values)**

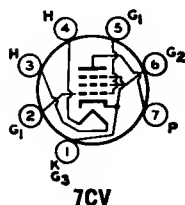
Plate A Voltage	330	volts
Plate B Voltage	330	volts
Grid Voltage, Positive-bias value	0	volts
Plate A Dissipation	0.5	watt
Plate B Dissipation	0.5	watt

12FR8

Refer to chart at end of section.

Refer to chart at end of section.

12FV7



POWER PENTODE

12FX5

60FX5

Miniature type used in output stages of audio amplifiers. Outlines section, 5D; requires miniature 7-contact socket. Type 60FX5 is identical with type 12FX5 except for heater ratings.

Heater Voltage (ac/dc)	12.6	60	volts
Heater Current	0.45	0.1	ampere
Heater Warm-up Time (Average)	11	—	seconds
Heater-Cathode Voltage:			
Peak value	±200 max	±200 max	volts
Average value	100 max	100 max	volts
Direct Interelectrode Capacitances (Approx.):			
Grid No.1 to Plate		0.65	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3		17	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3		9	pF

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	150	volts
Grid-No.2 (Screen-Grid) Voltage	130	volts
Plate Dissipation	5.5	watts
Grid-No.2 Input	2	watts
Bulb Temperature (At hottest point)	225	°C

TYPICAL OPERATION

Plate Supply Voltage	110	volts
Grid-No.2 Supply Voltage	115	volts
Cathode-Bias Resistor	62	ohms
Peak AF Grid-No.1 Voltage	3	volts
Zero-Signal Plate Current	36	mA
Maximum-Signal Plate Current	35	mA
Zero-Signal Grid No.2 Current	10	mA
Maximum-Signal Grid No.2 Current	12	mA
Plate Resistance	17500	ohms
Transconductance	13500	μmhos
Load Resistance	3000	ohms
Total Harmonic Distortion	8	per cent
Maximum-Signal Power Output	1.3	watts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.1	megohm
For cathode-bias operation	0.5	megohm

Refer to chart at end of section.

12FX8
12FX8A

Refer to chart at end of section.

12GA6

Refer to chart at end of section.

12GC6

Refer to type 6GE5.

12GE5

Refer to chart at end of section.

12GJ5

Refer to type 6GJ5A.

12GJ5A

Refer to chart at end of section.

12GN7