

6KM8

Diode— Sharp-Cutoff Three-Plate Tetrode

9-PIN MINIATURE TYPE

For Frequency-Divider and Complex-Wave-Generator
Circuits of Electronic Musical Instruments

GENERAL DATA

Electrical:

Heater Characteristics and Ratings (*Design-Maximum Values*):

Voltage (AC or DC) 6.3 ± 0.6 volts

Current at heater volts = 6.3 0.300 amp

Peak heater-cathode voltage:

Heater negative with
respect to cathode 200 max. volts

Heater positive with
respect to cathode 200^a max. volts

Direct Interelectrode Capacitances:^b

Tetrode Unit:

Grid No.1 to plate 1A 0.02 max. pf

Grid No.1 to plate 1B 0.02 max. pf

Grid No.1 to plate 2 0.06 max. pf

Grid No.1 to cathode & internal
shield, grid No.2, and heater 5.5 pf

Plate 1A to cathode & internal
shield, grid No.2, and heater 1.2 pf

Plate 1B to cathode & internal
shield, grid No.2, and heater 1.3 pf

Plate 2 to cathode & internal
shield, grid No.2, and heater 1.8 pf

Tetrode grid No.1 to diode plate 0.024 max. pf

Tetrode plate 1A to diode plate 0.18 pf

Tetrode plate 1B to diode plate 0.024 pf

Tetrode plate 2 to diode plate 0.013 pf

Characteristics, Class A₁ Amplifier (Tetrode Unit):

Plates 1A, 1B, and 2 connected together at socket

Plate Voltage 100 volts

Grid-No.2 Voltage 100 volts

Grid-No.1 Supply Voltage 0 volts

Grid-No.1 Resistor (Bypassed) 2.2 megohms

Plate Resistance (Approx.) 30000 ohms

Transconductance 3400 μ mhos

Plate Current 4.2 ma

Grid-No.2 Current 1.7 ma

Grid-No.1 Voltage (Approx.)
for plate $\mu_a = 20$ -4 volts

Triode Connection—

Grid No.2 connected to plates 1A, 1B, and 2 at socket

Plate Voltage 100 volts

Grid-No.1 Supply Voltage 0 volts



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Grid-No.1 Resistor (Bypassed)	2.2	megohms
Transconductance.	4500	μ mhos
Amplification Factor.	45	
Plate Current	5.5	ma

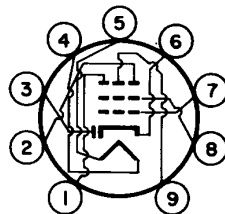
Separate plate operation, plates not under test grounded

Plate Voltage:		
Plate 1A.	100	volts
Plate 1B.	100	volts
Plate 2	100	volts
Grid-No.2 Voltage	100	volts
Grid-No.1 Supply Voltage.	0	volts
Grid-No.1 Resistor (Bypassed)	2.2	megohms
Transconductance:		
Grid No.1 to plate 1A	2000	μ mhos
Grid No.1 to plate 1B	2000	μ mhos
Grid No.1 to plate 2.	1800	μ mhos
Plate Resistance (Approx.):		
Plate 1A.	0.1	megohm
Plate 1B.	0.1	megohm
Plate 2	0.12	megohm
Plate Current:		
Plate 1A.	2.3	ma
Plate 1B.	2.3	ma
Plate 2	2.1	ma
Grid-No.2 Current:		
For plate 1A volts = 100.	3.8	ma
For plate 1B volts = 100.	3.8	ma
For plate 2 volts = 100	3.3	ma

Mechanical:

Operating Position.	Any
Type of Cathode	Coated Unipotential
Maximum Overall Length.	2-5/8"
Maximum Seated Length	2-3/8"
Length, Base Seat to Bulb Top (Excluding tip)	2" $\pm$ 3/32"
Diameter.	0.750" to 0.875"
Dimensional Outline	See <i>General Section</i>
Bulb.	T6-1/2
Base.	Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW. 90G	

Pin 1 -Tetrode
Plate 1B
Pin 2 -Tetrode
Plate 1A
Pin 3 -Diode
Plate
Pin 4 -Heater
Pin 5 -Heater



Pin 6 -Cathode,
Internal
Shield
Pin 7 -Tetrode
Grid No.1
Pin 8 -Tetrode
Grid No.2
Pin 9 -Tetrode
Plate 2



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FREQUENCY-DIVIDER & COMPLEX-WAVE-GENERATOR SERVICE

TETRODE UNIT

Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE:

PLATE 1A.	330 max.	volts
PLATE 1B.	330 max.	volts
PLATE 2	330 max.	volts

GRID-No.2 (SCREEN-GRID)

SUPPLY VOLTAGE.	330 max.	volts
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GRID-No.2 VOLTAGE See *Grid-No.2 Input Rating Chart*
at front of Receiving Tube Section

GRID-No.1 (CONTROL-GRID) VOLTAGE:

Negative-bias value	50 max.	volts
Positive-bias value	0 max.	volts

GRID-No.2 INPUT:

For grid-No.2 voltages up to 165 volts	0.65 max.	watt
For grid-No.2 voltages between 165 and 330 volts	. See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section	

PLATE 1A DISSIPATION.	1 max.	watt
PLATE 1B DISSIPATION.	1 max.	watt
PLATE 2 DISSIPATION	1 max.	watt

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

For grid-No.1-resistor- bias operation.	2.2 max.	megohms
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DIODE UNIT

Maximum Ratings, Design-Maximum Values:

PLATE CURRENT	1 max.	ma
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Characteristics, Instantaneous Test Condition:

Plate Current for plate volts = 10. . .	2	ma
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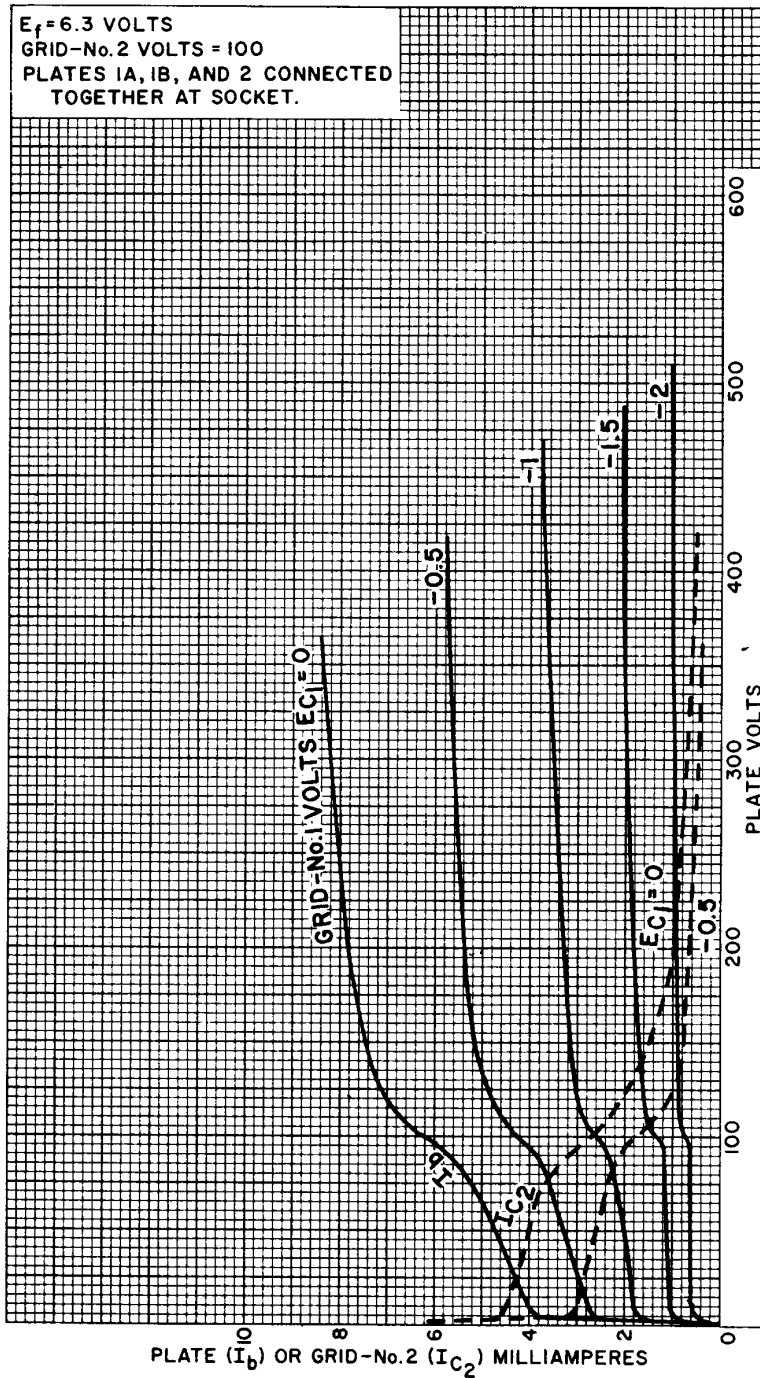
^a The dc component must not exceed 100 volts.

^b without external shield.



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AVERAGE CHARACTERISTICS Tetrode Unit



92CM-11713R1

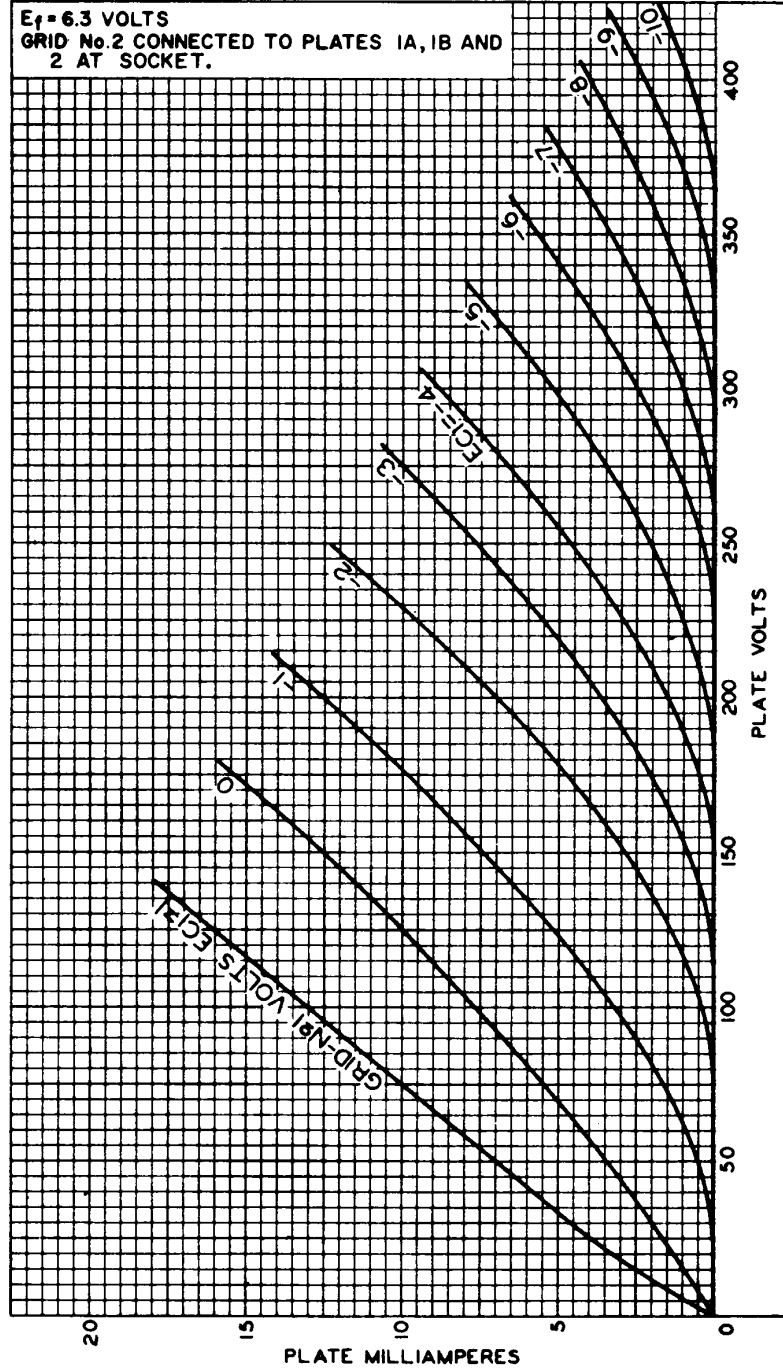
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AVERAGE PLATE CHARACTERISTICS Tetrode Unit—Triode Connection



92CM-11748



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