

Power Pentode

9-PIN MINIATURE TYPE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage (AC or DC)	6.3 $\pm$ 10%	volts
Current at 6.3 volts.	0.76	amp

Direct Interelectrode Capacitances:^a

Grid No.1 to plate.	0.14 max.	μ f
Grid No.1 to cathode, grid No.3 & internal shield, grid No.2, and heater.	10	μ f
Plate to cathode, grid No.3 & internal shield, grid No.2, and heater.	7	μ f

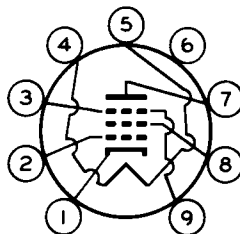
Characteristics, Class A₁ Amplifier:

Plate Supply Voltage.	250	volts
Grid-No.2 Supply Voltage.	250	volts
Cathode Resistor.	135	ohms
Mu-Factor, Grid No.2 to Grid No.1	19	
Plate Resistance (Approx.).	38000	ohms
Transconductance.	11300	μ hos
Plate Current	48	ma
Grid-No.2 Current	5.5	ma

Mechanical:

Operating Position.	Any
Maximum Overall Length.	3-1/16"
Maximum Seated Length	2-13/16"
Length, Base Seat to Bulb Top (Excluding tip)	2-7/16" $\pm$ 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.	9GK

Pin 1 - Cathode
Pin 2 - Grid No.1
Pin 3 - Grid No.3,
Internal
Shield
Pin 4 - Heater
Pin 5 - Heater



Pin 6 - No Con-
nection
Pin 7 - Plate
Pin 8 - Grid No.2
Pin 9 - Grid No.3,
Internal
Shield

AF POWER AMPLIFIER — Class A₁

Maximum Ratings, Design-Maximum Values:

PLATE SUPPLY VOLTAGE.	600 max.	volts
PLATE VOLTAGE	330 max.	volts
GRID-No.2 SUPPLY VOLTAGE.	600 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE	330 max.	volts



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

Negative-bias value	100 max.	volts
CATHODE CURRENT	65 max.	ma

GRID-No.2 INPUT:

Peak	4 max.	watts
Average	2 max.	watts
PLATE DISSIPATION	13.2 max.	watts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode. .	100 max.	volts
Heater positive with respect to cathode. .	100 max.	volts

Typical Operation:

Plate Supply Voltage.	250	volts
Grid-No.2 Supply Voltage.	250	volts
Cathode Resistor.	135	ohms
Peak AF Grid-No.1 Voltage	7.3	volts
Zero-Signal Plate Current	48	ma
Max.-Signal Plate Current	50.6	ma
Zero-Signal Grid-No.2 Current	5.5	ma
Max.-Signal Grid-No.2 Current	10	ma
Effective Load Resistance	5200	ohms
Total Harmonic Distortion	10	%
Max.-Signal Power Output.	5.7	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

For fixed-bias operation.	0.3 max.	megohm
For cathode-bias operation.	1 max.	megohm

PUSH-PULL AF POWER AMPLIFIER — Class AB₁

Maximum Ratings, Design-Maximum Values:

PLATE SUPPLY VOLTAGE.	600 max.	volts
PLATE VOLTAGE	330 max.	volts
GRID-No.2 SUPPLY VOLTAGE.	600 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE	330 max.	volts

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

Negative-bias value	100 max.	volts
CATHODE CURRENT	65 max.	ma

GRID-No.2 INPUT:

Peak	4 max.	watts
Average	2 max.	watts
PLATE DISSIPATION	13.2 max.	watts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode. .	100 max.	volts
Heater positive with respect to cathode. .	100 max.	volts

Typical Operation:

Values are for 2 tubes

Plate Supply Voltage.	250	300	volts
Grid-No.2 Supply Voltage.	250	300	volts
Cathode Resistor.	130	130	ohms
Peak AF Grid-No.1-to-Grid-No.1 Voltage. . .	22.4	28	volts
Zero-Signal Plate Current	62	72	ma



Max.-Signal Plate Current	75	92	ma
Zero-Signal Grid-No.2 Current	7	8	ma
Max.-Signal Grid-No.2 Current	15	22	ma
Effective Load Resistance (Plate to plate).	8000	8000	ohms
Total Harmonic Distortion	3	4	%
Max.-Signal Power Output.	11	17	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

For fixed-bias operation.	0.3 max.	megohm
For cathode-bias operation.	1 max.	megohm

PUSH-PULL AF POWER AMPLIFIER — Class B

Maximum Ratings, Design-Maximum Values:

PLATE SUPPLY VOLTAGE.	600 max.	volts
PLATE VOLTAGE	330 max.	volts
GRID-No.2 SUPPLY VOLTAGE.	600 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE	330 max.	volts
GRID-No.1 (CONTROL-GRID) VOLTAGE:		
Negative-bias value	100 max.	volts
CATHODE CURRENT	65 max.	ma
GRID-No.2 INPUT:		
Peak.	4 max.	watts
Average	2 max.	watts
PLATE DISSIPATION	13.2 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	100 max.	volts
Heater positive with respect to cathode.	100 max.	volts

Typical Operation:

Values are for 2 tubes

Plate Voltage	250	300	volts
Grid-No.2 Voltage	250	300	volts
Grid-No.1 Voltage	-11.6	-14.7	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage.	22.4	28	volts
Zero-Signal Plate Current	20	15	ma
Max.-Signal Plate Current	75	92	ma
Zero-Signal Grid-No.2 Current	2.2	1.6	ma
Max.-Signal Grid-No.2 Current	15	22	ma
Effective Load Resistance (Plate to plate).	8000	8000	ohms
Total Harmonic Distortion	3	4	%
Max.-Signal Power Output.	11	17	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

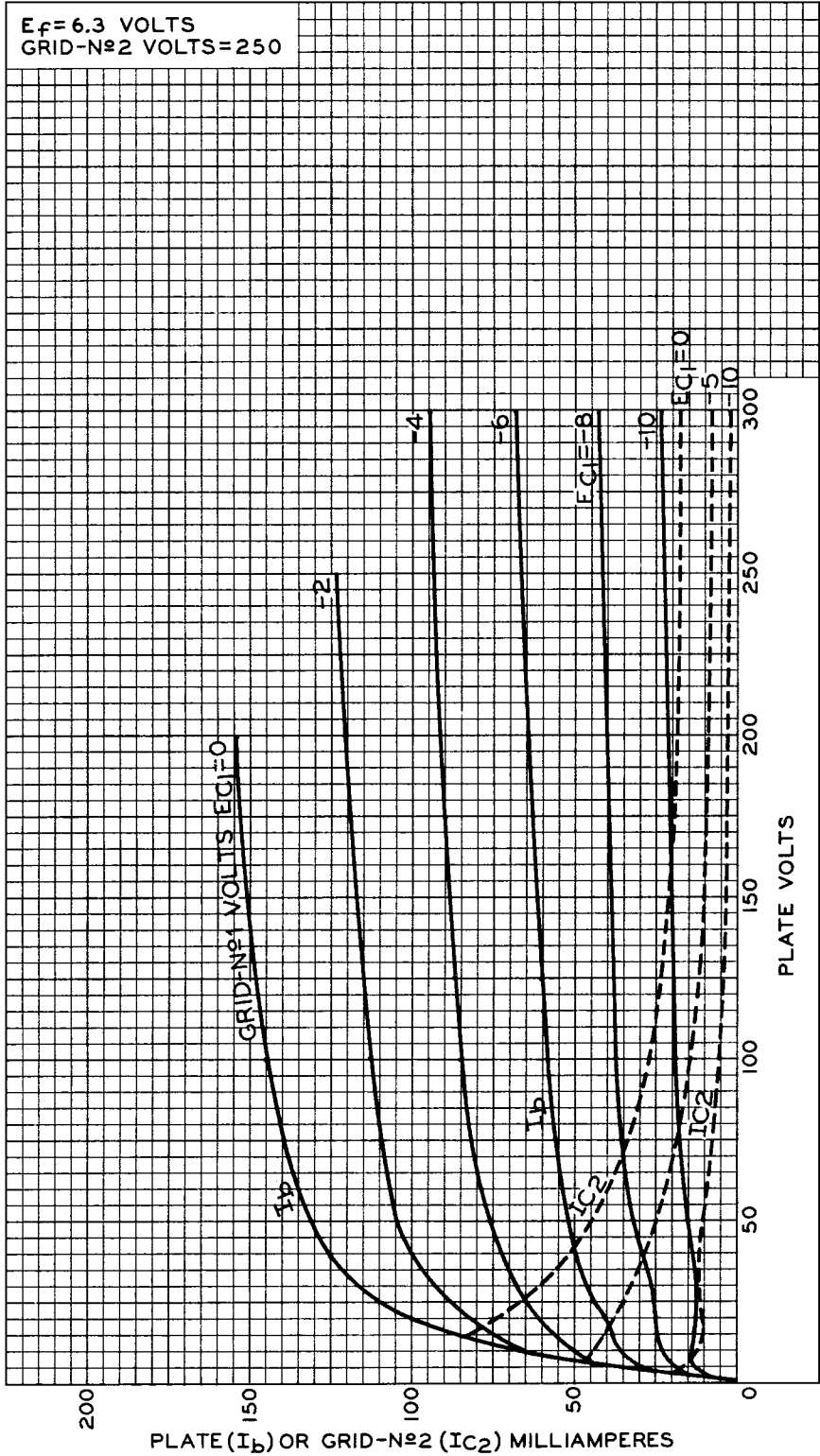
For fixed-bias operation.	0.3 max.	megohm
For cathode-bias operation.	1 max.	megohm

^a Without external shield.



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AVERAGE CHARACTERISTICS

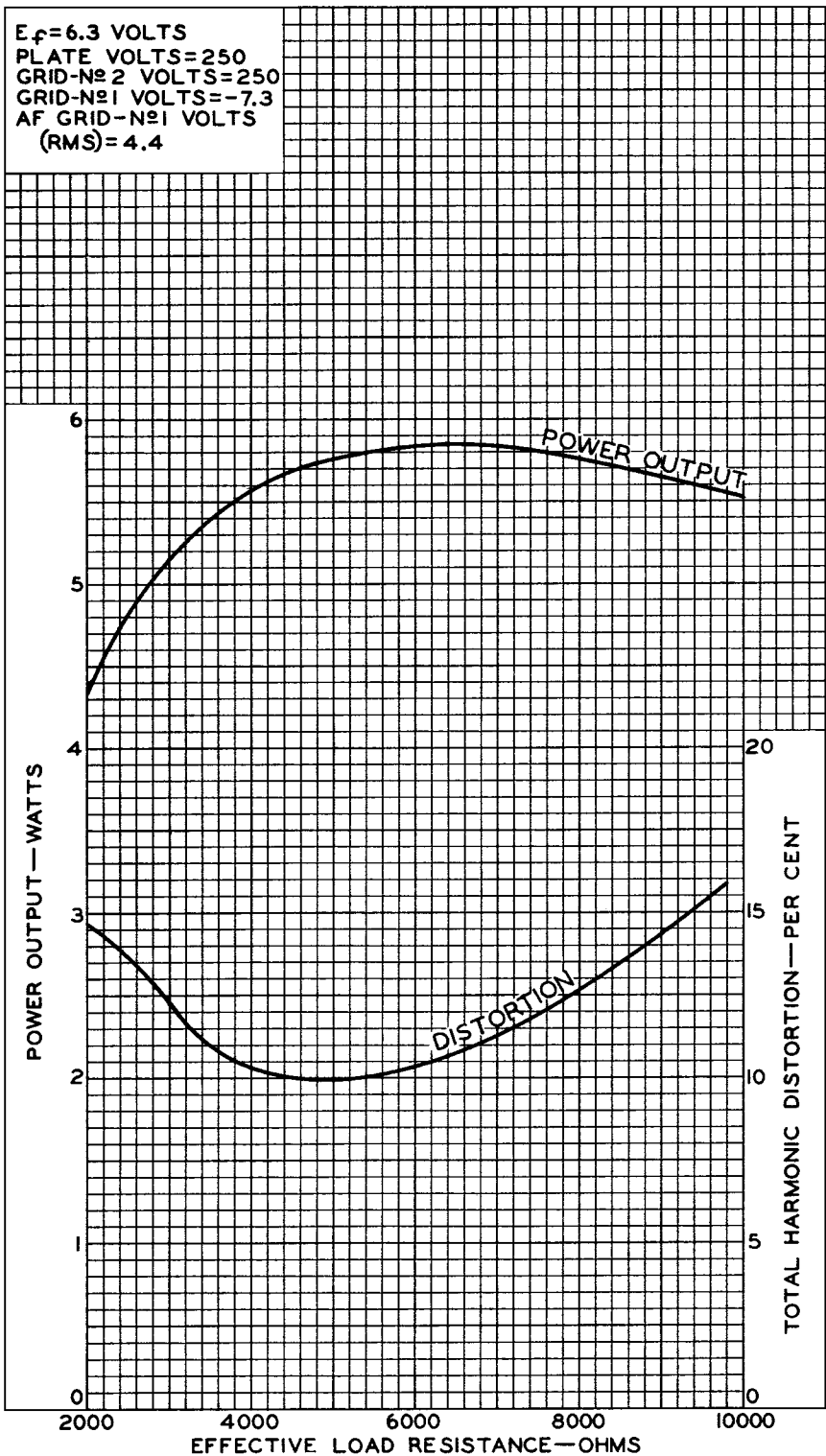


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OPERATION CHARACTERISTICS

$E_f = 6.3$ VOLTS
 PLATE VOLTS = 250
 GRID-Nº 2 VOLTS = 250
 GRID-Nº 1 VOLTS = -7.3
 AF GRID-Nº 1 VOLTS
 (RMS) = 4.4



92CM-9902

