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## VHF POWER PENTODE

MINIATURE TYPE

## GENERAL DATA

## Electrical:

Filament, Coated:

Filament Arrangement	Series*	Parallel**	
Voltage. . . . .	6.0 ± 10%	3.0 ± 10%	ac or dc volts
Current. . . . .	0.23	0.46	amp

Direct Interelectrode Capacitances:<sup>0</sup>

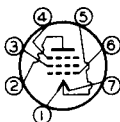
Grid No.1 to Plate . . . . .	0.24		μf
Input. . . . .	7.0		μf
Output . . . . .	5.0		μf

<sup>0</sup> With no external shield.

## Mechanical:

Mounting Position. . . . .	Vertical, or Horizontal with pins No.1 & No.5 in a horizontal plane
Maximum Overall Length . . . . .	2-5/8"
Maximum Seated Length. . . . .	2-3/8"
Length from Base Seat to Bulb Top (excluding tip). . . . .	2" ± 3/32"
Maximum Diameter . . . . .	3/4"
Bulb . . . . .	T-5-1/2
Base . . . . .	Small-Button Miniature 7-Pin
Basing Designation for BOTTOM VIEW . . . . .	7CU

Pin 1 - Filament (-)  
 Pin 2 - Plate  
 Pin 3 - Grid No.2  
 Pin 4 - Grid No.3,  
 Int. Shield



Pin 5 - Filament  
 Mid-Tap  
 Pin 6 - Grid No.1  
 Pin 7 - Filament (+)

AF POWER AMPLIFIER & MODULATOR—Class A<sub>1</sub>Maximum ICAS<sup>00</sup> Ratings, Absolute Values:

DC PLATE VOLTAGE . . . . .	300 max.	volts
DC GRID-NO.2 (SCREEN) VOLTAGE. . . . .	125 max.	volts
GRID-NO.2 INPUT. . . . .	2 max.	watts
PLATE DISSIPATION. . . . .	5 max.	watts

## Typical Operation:

Filament Arrangement	Series*	Parallel**
DC Plate Voltage . . . . .	250	250 volts
DC Grid-No.3 Voltage . . . . .	0*	0** volts
DC Grid-No.2 Voltage . . . . .	75	75 volts
DC Grid-No.1 (Control-Grid) Voltage <sup>■</sup> . . . . .	-8	-8 volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage. . . . .	8	8 volts

\*, \*\*, 00, ■: See next page.

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Zero-Signal DC Plate Current . . . . .	16	19	ma
Max.-Signal DC Plate Current . . . . .	17.5	20.5	ma
Zero-Signal DC Grid-No.2 Current . . . . .	1.5	2.0	ma
Max.-Signal DC Grid-No.2 Current . . . . .	3.5	4.5	ma
Transconductance . . . . .	3500	3600	μmhos
Effective Load Resistance (plate to plate). . . . .	12000	12000	ohms
Total Harmonic Distortion. . . . .	10	10	%
Max.-Signal Power Output . . . . .	1.2	1.4	watts

**Circuit Values:**

Grid-No.1-Circuit Resistance . . . . .	{	5000 min.	ohms
		100000 max.	ohms

RF POWER AMPLIFIER & OSCILLATOR—Class C Telegraphy<sup>□□</sup>

and

RF POWER AMPLIFIER—Class C FM Telephony

**Maximum ICAS<sup>••</sup> Ratings, Absolute Values:**

DC PLATE VOLTAGE . . . . .	300 max.	volts
DC GRID-No.2 (SCREEN) VOLTAGE. . . . .	125 max.	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE. . . . .	-125 max.	volts
DC PLATE CURRENT . . . . .	30 max.	ma
DC GRID-No.1 CURRENT . . . . .	3 max.	ma
PLATE INPUT. . . . .	7.5 max.	watts
GRID-No.2 INPUT. . . . .	2 max.	watts
PLATE DISSIPATION. . . . .	5 max.	watts

**Typical Operation:<sup>•</sup>**

	Up to 40 Mc	At 80 Mc	
DC Plate Voltage . . . . .	300	300	volts
DC Grid-No.3 Voltage <sup>•</sup> . . . . .	0	0	volts
DC Grid-No.2 Voltage <sup>□</sup> . . . . .	{ 75	75	volts
	{ 32000	32000	ohms
DC Grid-No.1 Voltage <sup>■••</sup> . . . . .	{ -45	-45	volts
	{ 30000	30000	ohms
	{ 1400	1400	ohms
Peak RF Grid-No.1 Voltage. . . . .	65	65	volts
DC Plate Current . . . . .	25	25	ma
DC Grid-No.2 Current . . . . .	7	7	ma
DC Grid-No.1 Current (Approx.) . . . . .	1.5	1.5	ma
Driving Power (Approx.) . . . . .	0.2	0.3	watt
Power Output (Approx.) ♦ . . . .	5.4	5.2	watts

**Circuit Values:**

Grid-No.1-Circuit Resistance . . . . .	{	5000 min.	ohms
		100000 max.	ohms

♦ Useful power output is approximately 5.0 watts for 40 Mc and 4.5 watts for 80 Mc.

x, ••, □, □□, ■, ■■, •: See next page.

OCTOBER 15, 1947

TUBE DEPARTMENT

TENTATIVE DATA 1

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY



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## VHF POWER PENTODE

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## FREQUENCY MULTIPLIER

## Maximum ICAS\*\* Ratings, Absolute Values:

DC PLATE VOLTAGE . . . . .	300 max.	volts
DC GRID-No.2 (SCREEN) VOLTAGE. . . . .	125 max.	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE. . . . .	-125 max.	volts
DC PLATE CURRENT . . . . .	30 max.	ma
DC GRID-No.1 CURRENT . . . . .	3 max.	ma
PLATE INPUT. . . . .	7.5 max.	watts
GRID-No.2 INPUT. . . . .	2 max.	watts
PLATE DISSIPATION. . . . .	5 max.	watts

## Typical Operation:\*

	Doubler to 80 Mc	Tripler to 80 Mc	
DC Plate Voltage . . . . .	300	300	volts
DC Grid-No.3 Voltage <sup>Ⓢ</sup> . . . . .	0	0	volts
DC Grid-No.2 Voltage <sup>Ⓢ</sup> . . . . .	{ 75	75	volts
	{ 41000	41000	ohms
DC Grid-No.1 Voltage <sup>Ⓢ</sup> . . . . .	{ -125	-125	volts
	{ 68000	68000	ohms
Peak RF Grid-No.1 Voltage. . . . .	160	160	volts
DC Plate Current . . . . .	25	25	ma
DC Grid-No.2 Current . . . . .	5.5	5.5	ma
DC Grid-No.1 Current (Approx.) . . . . .	1.85	1.85	ma
Driving Power (Approx.) . . . . .	0.75	0.75	watt
Power Output (Approx.) <sup>Ⓢ</sup> . . . . .	4.2	3.4	watts

## Circuit Values:

Grid-No.1-Circuit Resistance . . . . .	{ 5000 min.	ohms
	{ 100000 max.	ohms

Ⓢ Useful power output is approximately 3.5 watts for doubler service and 2.7 watts for tripler operation.

\* For series filament arrangement, filament voltage is applied between pins No.1 and No.7. The grid-No.1 voltage is referred to pin No.1, and grid-No.3 (pin No.4) is connected to pin No.1.

\*\* For parallel filament arrangement, filament voltage is applied between pin No.5 and pins No.1 and No.7 connected together. The grid-No.1 voltage is referred to pin No.5 and grid No.3 (pin No.4) is connected to pin No.5.

Ⓢ Intermittent Commercial and Amateur Service.

■ For dc filament supply.

■ Obtained from a fixed supply or by a grid-No.1 resistor (30000) or cathode resistor (1400).

□ Obtained from a separate source, or from the plate voltage supply with a voltage divider. Series screen resistor of value shown should be used only where the 5618 is employed as a buffer amplifier and is not keyed.

□□ Key-down conditions per tube without amplitude modulation. Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.

● Filament may be connected in either parallel or series arrangement. With parallel connection, grid No.3 (pin No.4) is connected to pin No.5; for series operation, connect pin No.4 to pin No.1.

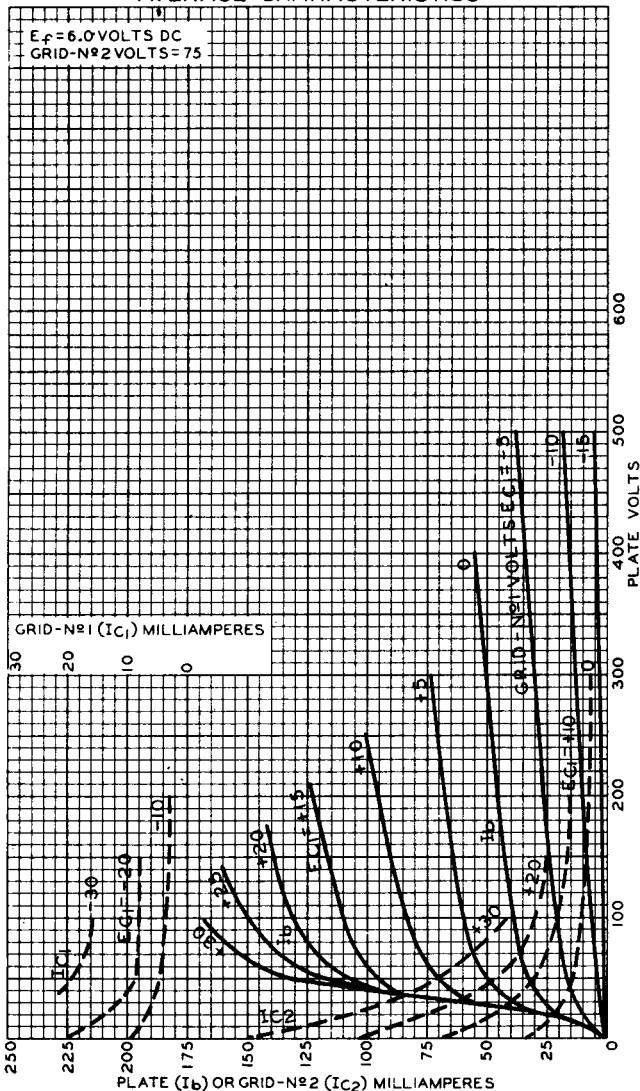
● Obtained from a fixed supply, or by a grid-No.1 resistor of value shown.



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### AVERAGE CHARACTERISTICS



AUG. 1, 1947

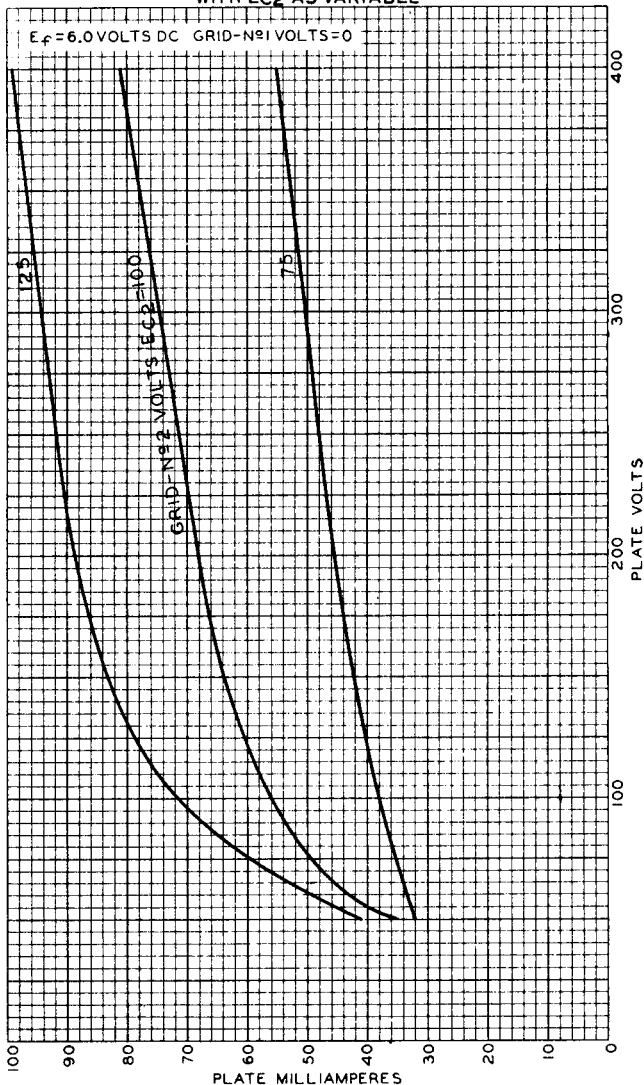
TUBE DEPARTMENT

92CM-6881

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AVERAGE PLATE CHARACTERISTICS  
WITH  $E_{c2}$  AS VARIABLE

AUG. 12, 1947

TUBE DEPARTMENT  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-6882