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VHF BEAM POWER AMPLIFIER

9-PIN MINIATURE TYPE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:		
Voltage	6.0	ac or dc volts
Current	0.75	amp
Transconductance for plate current of 45 ma.	7000	μmhos
Mu-Factor, Grid No.2 to Grid No.1	16	
Direct Interelectrode Capacitances:[o]		
Grid No.1 to Plate	0.3 max.	μμf
Input	9.5	μμf
Output	4.5	μμf

[o] with no external shield.

Mechanical:

Mounting Position	Any
Maximum Overall Length	2-5/8"
Maximum Seated Length	2-3/8"
Length, Base Seat to Bulb Top (excluding tip)	2" ± 3/32"
Maximum Diameter	7/8"
Bulb	T-6-1/2
Base	Small-Button Noval 9-Pin
Basing Designation for BOTTOM VIEW	9K

Pin 1 - Plate
Pin 2 - No Connection
Pin 3 - Grid No.3
Pin 4 - Heater

Pin 5 - Heater
Pin 6 - Grid No.2
Pin 7 - Cathode
Pin 8 - Grid No.1
Pin 9 - Grid No.1

RF POWER AMPLIFIER & OSCILLATOR - Class C Telegraphy[oo]

and

RF POWER AMPLIFIER - Class C FM Telephony

Maximum CCS• Ratings, *Absolute Values*:

DC PLATE VOLTAGE	300 max.	volts
DC GRID-No.3 (SUPPRESSOR) VOLTAGE	0 max.	volts
DC GRID-No.2 (SCREEN) VOLTAGE	250 max.	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE	-125 max.	volts
DC PLATE CURRENT	50 max.	ma
DC GRID-No.2 CURRENT	15 max.	ma
DC GRID-No.1 CURRENT	5 max.	ma
PLATE INPUT	15 max.	watts
GRID-No.2 INPUT	2 max.	watts
PLATE DISSIPATION	12 max.	watts

• oo: See next page.

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PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	100 max.	volts
Heater positive with respect to cathode.	100 max.	volts
BULB TEMPERATURE AT HOTTEST POINT ON BULB SURFACE	250 max.	°C

Typical Operation at 50 Mc:

DC Plate Voltage	300	volts
Grid No.3	Connected to cathode at socket	
DC Grid-No.2 Voltage	250	volts
DC Grid-No.1 Voltage®	−60	volts
	22000	ohms
Peak RF Grid-No.1 Voltage	80	volts
DC Plate Current	50	ma
DC Grid-No.2 Current	5	ma
DC Grid-No.1 Current (Approx.)	3	ma
Driving Power (Approx.)	0.35	watt
Power Output (Approx.)°	8	watts

FREQUENCY MULTIPLIER

Maximum CCS® Ratings, *Absolute Values*:

DC PLATE VOLTAGE	300 max.	volts
DC GRID-No.3 (SUPPRESSOR) VOLTAGE	0 max.	volts
DC GRID-No.2 (SCREEN) VOLTAGE	250 max.	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE	−125 max.	volts
DC PLATE CURRENT	50 max.	ma
DC GRID-No.2 CURRENT	15 max.	ma
DC GRID-No.1 CURRENT	5 max.	ma
PLATE INPUT	15 max.	watts
GRID-No.2 INPUT	2 max.	watts
PLATE DISSIPATION	12 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	100 max.	volts
Heater positive with respect to cathode.	100 max.	volts
BULB TEMPERATURE AT HOTTEST POINT ON BULB SURFACE	250 max.	°C

Typical Operation:

	Doubler to 175 Mc	*Tripler to 175 Mc*	
DC Plate Voltage	300	300	volts
Grid No.3	Connected to cathode at socket		
DC Grid-No.2 Voltage	*	*	volts

□□ 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.

° Useful power output is approximately 7 watts.

●, ⊕, *: See next page.

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	Doubler to 175 Mc	*Tripler to 175 Mc*	
DC Grid-No.1 Voltage●	−75	−100	volts
	75000	100000	ohms
Peak RF Grid-No.1 Voltage	95	120	volts
DC Plate Current	40	35	ma
DC Grid-No.2 Current	4	5	ma
DC Grid-No.1 Current (Approx.)	1	1	ma
Driving Power (Approx.)	0.6	0.6	watt
Power Output (Approx.)#	3.6	2.8	watts

Maximum Circuit Values (for maximum rated conditions):

Grid-No.1-Circuit Resistance	0.1 max.	megohm

CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

	Note	*Min.*	*Max.*	
Heater Current	1	0.69	0.81	amp
Grid No.1-Plate Capacitance♦	–	–	0.3	μμf
Input Capacitance♦	–	8.0	11.0	μμf
Output Capacitance♦	–	3.8	5.2	μμf

♦ With no external shield.

Note 1: With 6 volts ac on heater.

● Continuous Commercial Service.

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

Useful power output is approximately 2.1 watts for doubler service and 1.3 watts for tripler service.

* Obtained from plate supply voltage of 300 volts through a series resistor of 12500 ohms.

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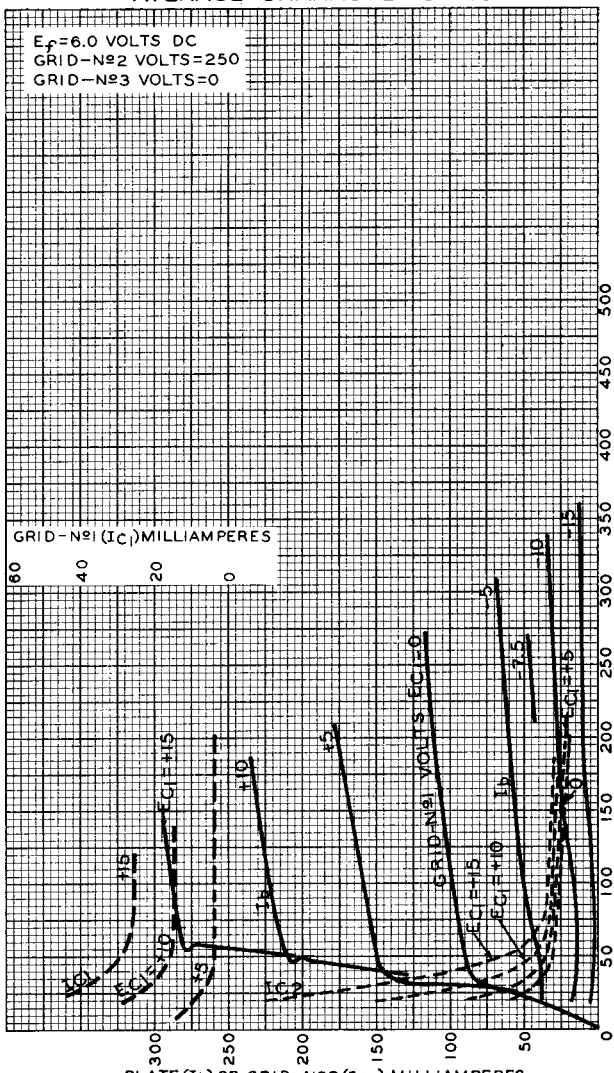
AVERAGE CHARACTERISTICS



JAN.12,1949 TUBE DEPARTMENT 92CM-7160

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

RCA

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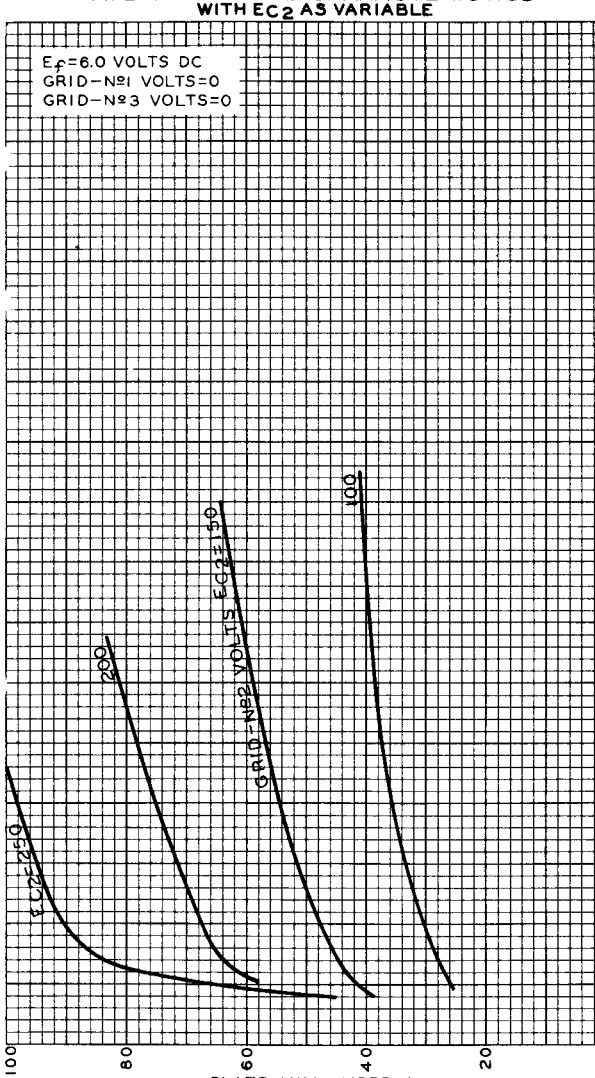
AVERAGE PLATE CHARACTERISTICS
WITH E_{C2} AS VARIABLE



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VHF BEAM POWER TUBE

9-PIN MINIATURE TYPE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:		
Voltage	6.0 ± 10%	ac or dc volts
Current	0.75	amp
Transconductance for plate current of 45 ma.	7000	μmhos
Mu-Factor, Grid No.2 to Grid No.1	16	
Direct Interelectrode Capacitances:°		
Grid No.1 to Plate	0.3 max.	μμf
Input	9.5	μμf
Output	4.5	μμf

° With no external shield.

Mechanical:

Mounting Position	Any
Maximum Overall Length	2-5/8"
Maximum Seated Length	2-3/8"
Length, Base Seat to Bulb Top (excluding tip)	2" ± 3/32"
Maximum Diameter	7/8"
Bulb	T-6-1/2
Base	Small-Button Noval 9-Pin (JETEC No.E9-1)
Basing Designation for BOTTOM VIEW	9K

Pin 1 - Plate
Pin 2 - No Connection
Pin 3 - Grid No.3
Pin 4 - Heater

Pin 5 - Heater
Pin 6 - Grid No.2
Pin 7 - Cathode
Pin 8 - Grid No.1
Pin 9 - Grid No.1

PLATE-MODULATED RF POWER AMPLIFIER--Class C Telephony

Carrier conditions per tube for use with a max. modulation factor of 1.0

Maximum Ratings, *Absolute Values:*	*CCS*●	*ICAS*●●	
DC PLATE VOLTAGE	250 max.	300 max.	volts
DC GRID-No.3 (SUPPRESSOR) VOLTAGE	0 max.	0 max.	volts
DC GRID-No.2 (SCREEN) VOLTAGE	250 max.	250 max.	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE	-125 max.	-125 max.	volts
DC PLATE CURRENT	40 max.	50 max.	ma
DC GRID-No.2 CURRENT	15 max.	15 max.	ma
DC GRID-No.1 CURRENT	5 max.	5 max.	ma
PLATE INPUT	10 max.	15 max.	watts
GRID-No.2 INPUT	1.5 max.	1.5 max.	watts
PLATE DISSIPATION	8 max.	12 max.	watts

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VHF BEAM POWER TUBE

	CCS●	ICAS●●	
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode . . .	100 max.	100 max.	volts
Heater positive with respect to cathode . . .	100 max.	100 max.	volts
BULB TEMPERATURE (At hottest point on bulb surface) .	250 max.	250 max.	°C
Typical Operation up to 30 Mc:			
DC Plate Voltage	250	300	
Grid No.3	Connected to cathode at socket		
DC Grid-No.2 Voltage● . . .	250	250	volts
DC Grid-No.1 Voltage★ . . .	-39	-42.5	volts
From a grid resistor of	39000	18000	ohms
Peak RF Grid-No.1 Voltage .	46.5	53.5	volts
DC Plate Current	40	50	ma
DC Grid-No.2 Current	5.6	6	ma
DC Grid-No.1 Current (Approx.) . . .	1	2.4	ma
Driving Power (Approx.) . .	0.05	0.15	watt
→ Useful Power Output (Approx.)	6.4■	10■	watts
Maximum Circuit Values (CCS or ICAS Conditions):			
Grid-No.1-Circuit Resistance	0.1 max.		megohm

RF POWER AMPLIFIER & OSCILLATOR--Class C Telegraphy□ and RF POWER AMPLIFIER--Class C FM Telephony

	CCS●	ICAS●●	
Maximum Ratings, *Absolute Values:*			
DC PLATE VOLTAGE	300 max.	350 max.	volts
DC GRID-No.3 (SUPPRESSOR) VOLTAGE	0 max.	0 max.	volts
DC GRID-No.2 (SCREEN) VOLTAGE	250 max.	250 max.	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE	-125 max.	-125 max.	volts
DC PLATE CURRENT	50 max.	50 max.	ma
DC GRID-No.2 CURRENT	15 max.	15 max.	ma
DC GRID-No.1 CURRENT	5 max.	5 max.	ma
PLATE INPUT	15 max.	17 max.	watts

● Obtained preferably from a separate source modulated with the plate supply, or from the modulated plate supply through a series resistor.

★ Obtained from grid-No.1 resistor or from a combination of grid-No.1 resistor with either fixed supply or cathode resistor.

□ 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.

●, ●●, ■: See next page. → Indicates a change

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VHF BEAM POWER TUBE

	CCS●	ICAS●●	
GRID-No.2 INPUT	2 max.	2 max.	watts
PLATE DISSIPATION	12 max.	13.5 max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	100 max.	100 max.	volts
Heater positive with respect to cathode	100 max.	100 max.	volts
BULB TEMPERATURE (At hottest point on bulb surface)	250 max.	250 max.	°C
Typical Operation up to 30 Mc:			
DC Plate Voltage	300	350	volts
Grid No.3	Connected to cathode at socket		
DC Grid-No.2 Voltage	250	250	volts
DC Grid-No.1 Voltage●	-28.5	-28.5	volts
From a grid resistor of	18000	18000	ohms
Peak RF Grid-No.1 Voltage	37.5	37	volts
DC Plate Current	50	48.5	ma
DC Grid-No.2 Current	6.6	6.2	ma
DC Grid-No.1 Current (Approx.)	1.6	1.6	ma
Driving Power (Approx.)	0.1	0.1	watt
Useful Power Output (Approx.)	10.3■	12■	watts ←
Typical Operation at 50 Mc:			
DC Plate Voltage	300	-	volts
Grid No.3	Connected to cathode at socket		
DC Grid-No.2 Voltage	250	-	volts
DC Grid-No.1 Voltage●	-60	-	volts
From a grid resistor of	22000	-	ohms
Peak RF Grid-No.1 Voltage	80	-	volts
DC Plate Current	50	-	ma
DC Grid-No.2 Current	5	-	ma
DC Grid-No.1 Current (Approx.)	3	-	ma
Driving Power (Approx.)	0.35	-	watt
Useful Power Output (Approx.)	7■	-	watts ←
Maximum Circuit Values (CCS or ICAS Conditions):			
Grid-No.1-Circuit Resistance		0.1 max.	megohm

FREQUENCY MULTIPLIER

Maximum CCS● Ratings, *Absolute Values:*

DC PLATE VOLTAGE	300 max. volts
DC GRID-No.3 (SUPPRESSOR) VOLTAGE	0 max. volts
DC GRID-No.2 (SCREEN) VOLTAGE	250 max. volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE	-125 max. volts
DC PLATE CURRENT	50 max. ma

● Continuous Commercial Service.
●● Intermittent Commercial and Amateur Service.
●,■: See next page. ← Indicates a change

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VHF BEAM POWER TUBE

DC GRID-No.2 CURRENT	15 max.	ma
DC GRID-No.1 CURRENT	5 max.	ma
PLATE INPUT	15 max.	watts
GRID-No.2 INPUT	2 max.	watts
PLATE DISSIPATION	12 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	100 max.	volts
Heater positive with respect to cathode	100 max.	volts
BULB TEMPERATURE (At hottest point on bulb surface)	250 max.	°C

Typical Operation:	*Doubler to 175 Mc*	*Tripler to 175 Mc*	
DC Plate Voltage	300	300	volts
Grid No.3	Connected to cathode at socket		
DC Grid-No.2 Voltage	*	*	volts
DC Grid-No.1 Voltage●	-75	-100	volts
From grid resistor of	75000	100000	ohms
Peak RF Grid-No.1 Voltage	95	120	volts
DC Plate Current	40	35	ma
DC Grid-No.2 Current	4	5	ma
DC Grid-No.1 Current (Approx.)	1	1	ma
Driving Power (Approx.)	0.6	0.6	watt
Useful Power Output (Approx.)	2.1■	1.3■	watts

Maximum Circuit Values (For maximum rated conditions):

→ Grid-No.1-Circuit Resistance	0.1 max.	megohm

→ **CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN**

	Note	*Min.*	*Max.*	
Heater Current	1	0.69	0.81	amp
Grid No.1-Plate Capacitance	2	-	0.3	μμf
Input Capacitance	2	8.0	11.0	μμf
Output Capacitance	2	3.8	5.2	μμf
Transconductance	1,3	5100	8900	μmhos
Plate Current	1,3	33	57	ma
Grid-No.2 Current	1,3	-	10	ma
Reverse Grid-No.1 Current	1,4	-	2	μamp

NOTE 1: With 6 volts ac or dc on heater.

NOTE 2: With no external shield.

NOTE 3: With dc plate voltage of 250 volts, dc grid-No.2 voltage of 250 volts, and dc grid-No.1 voltage of -7.5 volts.

NOTE 4: With dc plate voltage of 250 volts, dc grid-No.2 voltage of 250 volts, dc grid-No.1 voltage of -7.5 volts, and grid-No.1-circuit resistance of 0.1 megohm.

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

■ This value of useful power is measured at load of output circuit.

Data on Operating Frequencies for the 5763 are given on the sheet TRANS. TUBE RATINGS vs FREQUENCY

→ Indicates a change

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY