

Beam Power Tube

9-PIN MINIATURE TYPE

For Use in Communications Equipment Operating from 6-Cell Storage-Battery Systems

GENERAL DATA

Electrical:

Heater Characteristics and Ratings:

Voltage range	12 to 15	volts
Current at heater volts = 13.5	0.360	amp

Peak heater-cathode voltage:

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

Direct Interelectrode Capacitances:⁰

Grid No.1 to plate	0.15 max.	pf
Grid No.1 to cathode, grid No.3, grid No.2, and heater	10.0	pf
Plate to cathode, grid No.3, grid No.2, and heater	5.5	pf

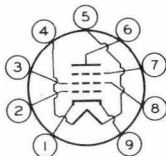
Characteristics, Class A₁ Amplifier:

Heater Voltage	13.5	volts
Plate Voltage	250	volts
Grid No.3	Connected to cathode at socket	
Grid-No.2 Voltage	250	volts
Grid-No.1 Voltage	-18	volts
Mu-Factor, Grid No.2 to Grid No.1	8.7	
Transconductance	5300	μ mhos
Plate Current	40	ma
Grid-No.2 Current	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 General Section
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW	9LK

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



Pin 6-Plate
Pin 7-Grid No.3
Pin 8-Grid No.2
Pin 9-Cathode



Bulb Temperature (At hottest point on bulb surface). 225 max. °C

→ AF POWER AMPLIFIER & MODULATOR — Class AB₁†

Maximum CCS* Ratings, Absolute-Maximum Values:

DC PLATE VOLTAGE.	375 max.	volts
GRID No.3 (SUPPRESSOR GRID)	0 max.	volts
DC GRID-No.2 (SCREEN-GRID) VOLTAGE.	300 max.	volts
MAX.-SIGNAL DC PLATE CURRENT [■]	70 max.	ma
MAX.-SIGNAL PLATE INPUT [■]	21 max.	watts
MAX.-SIGNAL GRID-No.2 INPUT [■]	2 max.	watts
PLATE DISSIPATION [■]	10 max.	watts

Typical CCS Push-Pull Operation:

Values are for 2 tubes

Heater Voltage.	13.5	volts
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§	-21	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage.	40	volts
Zero-Signal DC Plate Current.	40	ma
Max.-Signal DC Plate Current.	125	ma
Zero-Signal DC Grid-No.2 Current.	2	ma
Max.-Signal DC Grid-No.2 Current.	14	ma
Effective Load Resistance (Plate to plate).	5000	ohms
Max.-Signal Driving Power	0	watts
Total Harmonic Distortion	5	%
Max.-Signal Power Output (Approx.).	20.5	watts

Maximum Circuit Values:

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

→ RF POWER AMPLIFIER & OSCILLATOR — Class C Telegraphy† and

RF POWER AMPLIFIER — Class C FM Telephony

Maximum Ratings, Absolute-Maximum Values:

	CCS [●]	Ut to 175 Mc ICAS ^{●●}	
DC PLATE VOLTAGE.	375 max.	375 max.	volts
GRID No.3 (SUPPRESSOR GRID)	0 max.	0 max.	volts
DC GRID-No.2 (SCREEN-GRID) VOLTAGE	300 max.	300 max.	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE	-125 max.	-125 max.	volts
DC PLATE CURRENT.	70 max.	80 max.	ma
DC GRID-No.2 CURRENT.	15 max.	15 max.	ma
DC GRID-No.1 CURRENT.	5 max.	5 max.	ma
PLATE INPUT	21 max.	24 max.	watts
GRID-No.2 INPUT	2 max.	2 max.	watts
PLATE DISSIPATION	10 max.	12 max.	watts

→ Indicates a change.



Typical Operation:

As amplifier at 175 Mc
CCS

ICAS

Heater Voltage.	13.5	13.5	13.5	volts
DC Plate Voltage.	250	300	300	volts
Grid No.3	Connected to cathode at socket			
DC Grid-No.2 Voltage ^{□□}	200	200	250	volts
DC Grid-No.1 Voltage ^{⊕⊕}	-40	-42	-55	volts
Peak RF Grid-No.1 Voltage	47	52	62	volts
DC Plate Current.	60	70	80	ma
DC Grid-No.2 Current.	3.7	3.7	5.1	ma
DC Grid-No.1 Current (Approx.).	1.5	2.1	1.6	ma
Driver Power Output (Approx.) ^{▲▲}	1	1	1.5	watts
Useful Power Output (Approx.) [*]	6.5	8.5	10	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance.	0.1 max.	0.1 max.	megohm
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PLATE-MODULATED RF POWER AMPLIFIER — Class C Telephony ←

Carrier conditions per tube for use
with a maximum modulation factor of 1

Maximum Ratings, Absolute-Maximum Values:

Up to 175 Mc

CCS

ICAS

DC PLATE VOLTAGE.	300 max.	300 max.	volts
GRID No.3 (SUPPRESSOR GRID)	0 max.	0 max.	volts
DC GRID-No.2 (SCREEN-GRID) VOLTAGE	300 max.	300 max.	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE	-125 max.	-125 max.	volts
DC PLATE CURRENT.	60 max.	70 max.	ma
DC GRID-No.2 CURRENT.	10 max.	10 max.	ma
DC GRID-No.1 CURRENT.	5 max.	5 max.	ma
PLATE INPUT	15 max.	17.5 max.	watts
GRID-No.2 INPUT	1.4 max.	1.4 max.	watts
PLATE DISSIPATION	7 max.	8 max.	watts

Typical Operation:

At 175 Mc

Heater Voltage.	13.5	13.5	volts
DC Plate Voltage.	250	250	volts
Grid No.3	Connected to cathode at socket		
DC Grid-No.2 Voltage [▲]	250	250	volts
DC Grid-No.1 Voltage [*]	-70	-75	volts
From a grid-No.1 resistor of	33000	33000	ohms
RF Grid-No.1 Voltage.	75	80	volts
DC Plate Current.	60	70	ma
DC Grid-No.2 Current.	2.5	3	ma
DC Grid-No.1 Current (Approx.).	2.1	2.3	ma
Driving Power (Approx.) ^{▲▲}	1	1	watt
Useful Power Output [*]	6.5	7.5	watts

← Indicates a change.



CCS

ICAS

Maximum Circuit Values:

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

FREQUENCY MULTIPLIER**Maximum Ratings, Absolute-Maximum Values:**

CCS

ICAS

DC PLATE VOLTAGE.	375 max.	375 max.	volts
GRID No.3 (SUPPRESSOR GRID) . . .	0 max.	0 max.	volts
DC GRID-No.2 (SCREEN-GRID) VOLTAGE	300 max.	300 max.	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE	-125 max.	-125 max.	volts
DC PLATE CURRENT.	50 max.	60 max.	ma
DC GRID-No.2 CURRENT.	15 max.	15 max.	ma
DC GRID-No.1 CURRENT.	5 max.	5 max.	ma
PLATE INPUT	13 max.	15 max.	watts
GRID-No.2 INPUT	2 max.	2 max.	watts
PLATE DISSIPATION	10 max.	12 max.	watts

Typical Operation:*As doubler to 175 Mc*

Heater Voltage.	13.5	13.5	volts
DC Plate Voltage.	250	250	volts
Grid No.3	Connected to cathode at socket		
DC Grid-No.2 Voltage.	200	250	volts

→ Indicates a change.

