

ELECTRONIC TUBE REFERENCE

7591A

Power - Beam (NOT sweep) electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
BEAMPOWER

Glass-octal beam-power pentode designed for high-quality low-frequency audio power-output stages, particularly high-fidelity amplifier applications.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	8
NOMINAL HEATER	6.3 V / 800 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Beam Power	
PLATE RESISTANCE	29000 Ω
TRANSCONDUCTANCE	0.0099 S
AMPLIFICATION FACTOR	16.8
MAXIMUM PLATE VOLTAGE	550 V
MAXIMUM SCREEN VOLTAGE	440 V
MAXIMUM PLATE DISSIPATION	19 W
MAXIMUM SCREEN DISSIPATION	4.5 W
MAXIMUM CATHODE CURRENT	90 mA
Published ratings and characteristics promoted from the approved source.	

Glass-octal power pentode for high-quality audio-frequency power-output applications.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1947 Westinghouse

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1947 WESTINGHOUSE

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
BEAM POWER AMPLIFIER TYPE	7591	BEAM POWER AMPLIFIER TYPE 7591A
watts with	450	watts with 1,5% total harmonic distortion is available in push-pull Class AB1 opplication with 450 volt plate
voltage and	400	voltage and 400 screen voltage.
e e e T	550	e e e T-9 Glass Plote Vols 550 Volt
Screen Voltage o	440	Screen Voltage o . 440
.. 19.0 Watts	19	.. 19.0 Watts
evnting Fesitio	3.3	evnting Fesitio 4 Screen Dissipation(Nete 1), ... 3.3 Watts
Heater Voltage, ACor DC	0.3	Heater Voltage, ACor DC 6.3 Volts With Fixed Bias .., ... 0.3 Megohms
Heater Current	1	Heater Current. 6.80 Amperes With Cathode Bias 1.0 Megohms
Total DC ond Peak . . «	300	Total DC ond Peak . . « . 200 Volts Plote Yoltage « .. s e s o, .. . 60 (Note 2) 300 Yolts
X	100	X 100 Volts ';"kNA""F'
Total D.C. and Peak. S	0	- Total D.C. and Peak. S 200 Volts Plote Current {Zoro Signal) - . . - 140 (Note 3) 0 Ma.
Output. v v e v	10200	Output. v v e v 5.0 et Transconductance -« v oo s o s 50 *= 10,200 Micromhos
Triode Amplification Focotor. . . =	16.8	Triode Amplification Focotor. . . = 16.8 -
Lood Resistancoe s we e v v ay oy o	3000	Lood Resistancoe s we e v v ay oy o 3000 Ohms
Power QOutput	4	Power QOutput 4+ eo s s vt v ev v s = M Watts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Supply Voltage	425	Plate Supply Voltage 400 425 Volts
Grid 1 Voltage	-20.5	Grid 1 Voltage. -20.5 .- Volts
r_{p1}	185	r_{p1} 25, Tubes) 185 Ohms
Max. Peak A.F. Grid-to-Grid Voltage	42	Max. Peak A.F. Grid-to-Grid Voltage 42 Volts
UW Intermediate Effective Load, Plate-to-Plate	46600	UW Intermediate Effective Load, Plate-to-Plate 6600 46600 Ohms
. . . . 32 26 Watts	26	 32 26 Watts
Plate Supply Voltage	450	Plate Supply Voltage 300 350 400 450 450 450 Volts
Screen Supply Voltage	400	Screen Supply Voltage , 300 350 350 350 400 400 Volts
Common Cathode Resistor	200	Common Cathode Resistor - .- .- .- .- 200 Ohms
Effective Load, Plate-to-Plate	6600	Effective Load, Plate-to-Plate 6600 6600 6600 65600 6600 Qoo Ohms
1. Screen dissipation may be permitted to exceed & watts during	1	1. Screen dissipation may be permitted to exceed & watts during the periods of maximum input of speech and music
2. Applied for short interval (2 seconds maximum) so as not	2	2. Applied for short interval (2 seconds maximum) so as not to damage tube,
E_p Plate Volts =	450	E_p Plate Volts = 450
E_{g1}	35	E_{g1} Grid 2 Volts = 400 cent HHEE 35
25° 20 e e T TR 5	5	25° 20 e e T TR 5
° Eamanpds RRA	8	° Eamanpds RRA 8 "Total Harmonic D _{isi} 'crtlgln
° i H	7	° i H 7 " fsus
L E	111	L E 111 D' 'ssfpu"" e
θ_o [o] =] o [=] [=] o [=] [=] o [=] =] [=] [=] L] o	0	θ_o [o] =] o [=] [=] o [=] [=] o [=] =] [=] [=] L] o 0°
Plate Volts =	500	Plate Volts = 500

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance. + s s e v v ca su ==	29000	Plate Resistance. + s s e v v ca su == 29,000 Ohms
o g Load Resistance =	6600	o g Load Resistance = 6600 QOhms HLL =

SOURCE OPERATING CONDITIONS

1965 Sylvania Electronic Tubes Vol3

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1965 SYLVANIA ELECTRONIC TUBES VOL3

Section 1 · Beam Power

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	6.3 V	—
Heater Current	800 mA	—
Transconductance	10200 μ S	—
Plate Resistance	29000 ohm	—
Amplification Factor	16.8	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	300 V	ClassA
Screen Voltage	300 V	ClassA
Grid Voltage	-10 V	ClassA
PlateCurrentZeroSignal	60 mA	ClassA
PlateCurrentMaximumSignal	75 mA	ClassA
ScreenCurrentZeroSignal	8 mA	ClassA
ScreenCurrentMaximumSignal	15 mA	ClassA
Load Resistance	3000 ohm	ClassA
Power Output	11 W	ClassA
Power Output	32 W	TwoTubes;PushPull;ClassAB;UltraLinear;PlateSupply=400V
Power Output	45 W	TwoTubes;PushPull;ClassAB;Plate=450V

1975 RCA RC30

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1975 RCA RC30

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Heater-Cathode Voltage	200 V	AbsoluteValue
Average Heater-Cathode Voltage	100 V	AbsoluteValue
Typical Plate Voltage	300 V	ClassA
Typical Screen Voltage	300 V	ClassA
Grid No.1 Voltage	-10 V	ClassA
Zero-Signal Plate Current	60 mA	ClassA
Maximum-Signal Plate Current	75 mA	ClassA
Maximum-Signal Screen Current	15 mA	ClassA
Load Resistance	3000 ohm	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	29000 ohm	ClassA
Transconductance	10200 uS	ClassA

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

[Catalog](#) [Tube types](#) [Full books](#) [Blog](#) [Feedback & corrections](#)

© 2026 Tube Tinker