

ELECTRONIC TUBE REFERENCE

6V6

Power - Beam (NOT sweep) electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
BEAMPOWER

Classic beam-power output tube designed for audio-frequency power amplification, with extensive manufacturer operating data for Class-A and push-pull receiver output stages.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7AC	BASE PINS	8
NOMINAL HEATER	6.3 V / 450 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

7AC - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – Pin 1	–	–	NC · verified
PIN2 – Pin 2	–	H – Heater	CONNECTED · verified
PIN3 – Pin 3	A	P – Plate (Anode)	CONNECTED · verified
PIN4 – Pin 4	A	G2 – Screen Grid	CONNECTED · verified
PIN5 – Pin 5	A	G1 – Control Grid	CONNECTED · verified
PIN7 – Pin 7	–	H – Heater	CONNECTED · verified
PIN8 – Pin 8	A	BP – Beam-Forming Plate	CONNECTED · verified
PIN8 – Pin 8	A	K – Cathode	CONNECTED · verified

SECTION RATINGS

SECTION1 Beam Power	
PLATE RESISTANCE	42000 Ω
TRANSCONDUCTANCE	0.0041 S
MAXIMUM PLATE VOLTAGE	315 V
MAXIMUM SCREEN VOLTAGE	285 V
MAXIMUM PLATE DISSIPATION	12 W
MAXIMUM SCREEN DISSIPATION	2 W
<i>Published ratings and characteristics promoted where clearly stated; identical repeated sections compressed when applicable.</i>	

6V6 is a BeamPower vacuum tube documented in the RCA Receiving Tube Manual. The supplied excerpt was reviewed for heater data, section arrangement, maximum ratings, electrical characteristics, interelectrode capacitances, typical operating conditions, and stated applications.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1937 Raytheon Radio Receiving Tubes

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

1937 RAYTHEON RADIO RECEIVING TUBES

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	180 V	ClassA
Screen voltage	180 V	ClassA
Grid bias	-8.5 V	ClassA
Plate current	29 mA	ClassA
Screen current	3 mA	ClassA
Load resistance	5500 Ω	ClassA
Power output	2 W	ClassA
Plate voltage	250 V	ClassA
Screen voltage	250 V	ClassA
Grid bias	-12.5 V	ClassA
Plate current	45 mA	ClassA
Screen current	4.5 mA	ClassA
Load resistance	5000 Ω	ClassA
Power output	4.25 W	ClassA
Plate voltage	300 V	ClassAB;PushPull;TwoTubes
Screen voltage	300 V	ClassAB;PushPull;TwoTubes
Grid bias	-20 V	ClassAB;PushPull;TwoTubes
Load resistance plate-to-plate	8000 Ω	ClassAB;PushPull;TwoTubes
Power output	13 W	ClassAB;PushPull;TwoTubes

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	52000 Ω	Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	4100 μ S	Section1



SOURCE OPERATING CONDITIONS

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1940 RCA

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

1940 RCA
Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HEATER VOLTAGE (A.C, or D.C.)##	6.3 V	HEATER VOLTAGE (A.C, or D.C.)## 6.3 Volts
HEATER CURRENT 0.4	5 A	HEATER CURRENT 0.4 5 Ampere
HEATER VOLTAGE	6.3 V	HEATER VOLTAGE 6.3
PLATE VOLTAGE	250 V	PLATE VOLTAGE 250
SCREEN VOLTAGE	250 V	SCREEN VOLTAGE 250
GRID VOLTAGE	-12.5 V	GRID VOLTAGE -12.5
AMPLIFICATION FACTOR	218	AMPLIFICATION FACTOR 218
PLATE CURRENT '42 amperes	42 A	PLATE CURRENT '42 amperes
PLATE VOLTAGE	250 V	PLATE VOLTAGE 250 max,
SCREEN VOLTAGE	250 V	SCREEN VOLTAGE 250 max,
Plate Voltage	250 V	Plate Voltage 180 250
Grid voltage	-12.5 V	Grid voltage -8.5 -12.5
Second	5 s	Second 5.5 4,5
PLATE VOLTAGE	300 V	PLATE VOLTAGE 300 max.
SCREEN VOLTAGE	300 V	SCREEN VOLTAGE 300 max.
Pl ate voltage	300 V	Pl ate voltage 250 300
Screen Voltan	300 V	Screen Voltan 250 300
6rid voltage	-20 V	6rid voltage - 15 -20
Peak A=F Grid=-to-Grid Voltage	40 V	Peak A=F Grid=-to-Grid Voltage 30 40

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
## The heater should be operated at 6.3 volts, Under maximum dissipation conditions, the	6.3 V	## The heater should be operated at 6.3 volts, Under maximum dissipation conditions, the
heater voltage should never fluctuate so that It exceeds 7.0 volts, The potential	7 V	heater voltage should never fluctuate so that It exceeds 7.0 volts, The potential
sistance not to exceed 0.5 megohm, provided the heater voltage Is not allowed to rise	0.5 V	sistance not to exceed 0.5 megohm, provided the heater voltage Is not allowed to rise

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
clrcuit has a resistance not hi her than .05 megohm, fixed blas may be used; for	5 ohm	clrcuit has a resistance not hi her than .05 megohm, fixed blas may be used; for


SOURCE DATA APPENDIX

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1950 Sylvania

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

1950 SYLVANIA

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical plate voltage	250 V	ClassA


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1953 RFT Rundfunk Technik

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

1953 RFT RUNDFUNK TECHNIK

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater or filament voltage	6.3 V	Published nominal value
Heater or filament current	450 mA	Published nominal value
Transconductance	4100 μ S	Published operating characteristic

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Output power	4.5 W	Single-ended ClassA; 250 V plate and screen



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195X General Electric Essential Characteristics

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

195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	315 V	ClassA
Screen-grid voltage	225 V	ClassA
Grid voltage	-13 V	ClassA
Plate current	34 mA	ClassA
Screen-grid current	2.2 mA	ClassA
Load resistance	8500 ohm	ClassA
Power output	5.5 W	ClassA
Plate voltage	250 V	ClassA;PlateVoltage=250V
Screen-grid voltage	250 V	ClassA;PlateVoltage=250V
Grid voltage	-12.5 V	ClassA;PlateVoltage=250V
Plate current	45 mA	ClassA;PlateVoltage=250V
Screen-grid current	4.5 mA	ClassA;PlateVoltage=250V

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Load resistance	5000 ohm	ClassA;PlateVoltage=250V
Power output	4.5 W	ClassA;PlateVoltage=250V
Plate voltage	180 V	ClassA;PlateVoltage=180V
Screen-grid voltage	180 V	ClassA;PlateVoltage=180V
Grid voltage	-8.5 V	ClassA;PlateVoltage=180V
Plate current	29 mA	ClassA;PlateVoltage=180V
Screen-grid current	3 mA	ClassA;PlateVoltage=180V
Load resistance	5500 ohm	ClassA;PlateVoltage=180V
Power output	2 W	ClassA;PlateVoltage=180V
Plate voltage	285 V	ClassAB;PushPull;TwoTubes
Screen-grid voltage	285 V	ClassAB;PushPull;TwoTubes
Grid voltage	-19 V	ClassAB;PushPull;TwoTubes
Zero-signal plate current	70 mA	ClassAB;PushPull;TwoTubes
Zero-signal screen current	4 mA	ClassAB;PushPull;TwoTubes
Plate-to-plate load resistance	8000 ohm	ClassAB;PushPull;TwoTubes
Power output	14 W	ClassAB;PushPull;TwoTubes
Plate voltage	250 V	ClassAB;PushPull;TwoTubes
Screen-grid voltage	250 V	ClassAB;PushPull;TwoTubes
Grid voltage	-15 V	ClassAB;PushPull;TwoTubes
Zero-signal plate current	70 mA	ClassAB;PushPull;TwoTubes
Zero-signal screen current	5 mA	ClassAB;PushPull;TwoTubes
Plate-to-plate load resistance	10000 ohm	ClassAB;PushPull;TwoTubes
Power output	10 W	ClassAB;PushPull;TwoTubes

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	80000 ohm	ClassA;PlateVoltage=315V
Transconductance	3750 uS	ClassA;PlateVoltage=315V
Plate resistance	50000 ohm	ClassA;PlateVoltage=250V
Transconductance	4100 uS	ClassA;PlateVoltage=250V



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1961 Tung Sol

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

1961 TUNG SOL

Section 1 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Power Output	4.5 W	ClassA

TUBE TINKER

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and their source documents.

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