

ELECTRONIC TUBE REFERENCE

45

Power - Triode electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
TRIODE

Classic directly heated low-mu audio output triode for battery-era and early AC receivers. Manufacturer operating data emphasize Class A power output at modest plate voltage, making it a receiving-set output device rather than a transmitting tube.

GENERAL CHARACTERISTICS

BASE DESIGNATION	4D	BASE PINS	4
NOMINAL HEATER	2.5 V / 1.5 A	PARALLEL HEATER	– / –
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	1650 Ω
TRANSCONDUCTANCE	0.002125 S
AMPLIFICATION FACTOR	3.5
MAXIMUM PLATE VOLTAGE	275 V
MAXIMUM PLATE DISSIPATION	10 W
MAXIMUM CATHODE CURRENT	36 mA
Published promoted fields populated by semantic headings; identical repeated sections compressed.	

Directly heated Type 45 audio output triode. The supplied Emission Labs sheet was read for filament data, maximum ratings, representative operating points, gm/rp/mu, output conditions, capacitances, and rectifier filter conditions as applicable.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1932 Cunningham Radio Tubes

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

1932 CUNNINGHAM RADIO TUBES

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-plate capacitance	8 pF	Published direct interelectrode capacitance
Grid-filament capacitance	5 pF	Published direct interelectrode capacitance
Plate-filament capacitance	3 pF	Published direct interelectrode capacitance
Undistorted power output	2000 mW	Published operating characteristic
Load resistance	3500 ohm	Published operating characteristic



SOURCE OPERATING CONDITIONS

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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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	275 V	ClassA
Grid Voltage	-56 V	ClassA
Plate Current	36 mA	ClassA
Load Resistance	4600 ohm	ClassA
Power Output	2 W	ClassA



SOURCE OPERATING CONDITIONS

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193X Cunningham

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193X CUNNINGHAM

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament voltage	2.5 V	Published nominal
Heater/filament current	1.5 A	Published nominal
Transconductance	2000 μ S	Published characteristic
Amplification factor	3.5	Published characteristic
Plate resistance	1750 Ω m	Published characteristic



SOURCE OPERATING CONDITIONS

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1940 RCA

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1940 RCA

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	2.5 V	Nominal
HeaterCurrentNominal	1.5 A	Nominal
Maximum Plate Voltage	275 V	—
Maximum Cathode Current	36 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	2050 μ S	Typical

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification Factor	3.5	Typical
Plate Resistance	1700 ohm	Typical


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1948 Brimar Radio Valve Manual

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1948 BRIMAR RADIO VALVE MANUAL

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	250 V	—
Plate Current	36 mA	—
Grid Voltage	-50 V	—
Optimum Load	3900 ohm	—
Power Output	1.6 W	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	1600 ohm	—
Transconductance	2200 μ S	—
Amplification Factor	3.5	—


SOURCE DATA APPENDIX

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195X General Electric Essential Characteristics

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195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	275 V	ClassA
Grid Voltage	-56 V	ClassA
Plate Current	36 mA	ClassA
Load Resistance	4600 ohm	ClassA
Power Output	2 W	ClassA



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1961 Tung Sol

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CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	1650 ohm	Typical
Transconductance	2125 uS	Typical
Amplification Factor	3.5	Typical

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Power Output	18 W	PushPull



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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2026 Emission Labs

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Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament voltage	2.5 V	—
Filament current	1.5 A	—
Plate resistance	1750 ohm	ClassA
Amplification factor	3.5	ClassA
Transconductance	2000 uS	ClassA

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	ClassA
Plate current	34 mA	ClassA
Grid voltage	-50 V	ClassA
Load resistance	3900 ohm	ClassA
Output power	1.6 W	ClassA
Maximum Class A output power	2.5 W	—