

ELECTRONIC TUBE REFERENCE

5EA8

Voltage - Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA
2 SECTIONS
CONSTRUCTION
PENTODE-TRIODE

Medium-mu triode and sharp-cutoff pentode used as a combined television oscillator and mixer.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9AE	BASE PINS	9
NOMINAL HEATER	4.7 V / 600 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

9AE - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – 2P	B	P – Plate (Anode)	CONNECTED
PIN2 – 1G1	A	G1 – Control Grid	CONNECTED
PIN3 – 1G2	A	G2 – Screen Grid	CONNECTED
PIN4 – H	–	H – Heater	CONNECTED
PIN5 – H	–	H – Heater	CONNECTED
PIN6 – 1P	A	P – Plate (Anode)	CONNECTED
PIN7 – 1G3	A	G3 – Suppressor Grid	CONNECTED
PIN7 – IS	A	IS – Internal Screen	CONNECTED
PIN7 – 1K	A	K – Cathode	CONNECTED
PIN8 – 2K	B	K – Cathode	CONNECTED
PIN9 – 2G1	B	G1 – Control Grid	CONNECTED

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	5000 Ω
TRANSCONDUCTANCE	0.008 S
AMPLIFICATION FACTOR	40
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	2.5 W
<i>Referenced ratings not printed in this source; not inferred.</i>	

SECTION2 Pentode	
PLATE RESISTANCE	200000 Ω
TRANSCONDUCTANCE	0.0064 S
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	3.1 W
MAXIMUM SCREEN DISSIPATION	0.55 W
<i>Referenced ratings not printed in this source; not inferred.</i>	

Miniature medium-mu triode-sharp-cutoff pentode used as a combined oscillator and mixer in television receivers with an intermediate frequency around 40 MHz.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	4.7 V	—
Heater current	600 mA	—

1961 TUNG SOL

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	4.7 V	—
Heater current	600 mA	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1965 Westinghouse Data Book

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

1965 WESTINGHOUSE DATA BOOK

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Triode typical plate voltage	125 V	—
Heater-cathode voltage maximum	200 V	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Triode transconductance	8500 μ S	—
Triode amplification factor	40	—
Triode plate resistance	5000 ohm	—
Heater warm-up time	11 s	—

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Oscillator / phase inverter / vertical oscillator	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Triode grid-to-plate capacitance	1.7 pF	—

1965 WESTINGHOUSE DATA BOOK

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pentode/tetrode typical plate voltage	125 V	—
Pentode/tetrode grid2 voltage	125 V	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pentode/tetrode transconductance	6400 μ S	—
Pentode/tetrode plate resistance	200000 ohm	—

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Mixer / IF / video / general-purpose amplifier	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pentode grid1-to-plate capacitance maximum	0.01 pF	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1966 Tung Sol Electronic Tubes 1 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 1 OF 4

Section 2 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament voltage	4.7 V	Published rating
Heater/filament current	600 mA	Published rating
Pentode transconductance	6400 μ S	PentodeSection
Pentode plate resistance	200000 ohm	PentodeSection
Triode transconductance	8500 μ S	TriodeSection
Triode amplification factor	40	TriodeSection
Triode plate resistance	5000 ohm	TriodeSection

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	Television amplifier/oscillator service	TelevisionService
Electrical equivalence	6EA8 except heater ratings	Published statement
Pentode plate voltage	225 V	PentodeSection
Pentode screen voltage	125 V	PentodeSection
Pentode grid voltage	-1 V	PentodeSection
Pentode plate current	12 mA	PentodeSection
Pentode screen current	4 mA	PentodeSection
Triode plate voltage	150 V	TriodeSection
Triode plate current	18 mA	TriodeSection



SOURCE OPERATING CONDITIONS

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1968 General Electric Co

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

1968 GENERAL ELECTRIC CO

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Warmup Time	11 s	—



SOURCE OPERATING CONDITIONS

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1971 RCA HB3 Binder 4 of 7

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

1971 RCA HB3 BINDER 4 OF 7

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	150 V	Triode;ClassA
Plate current	18 mA	Triode;ClassA
Maximum plate voltage	330 V	Triode
Maximum plate dissipation	2.5 W	Triode
Heater/filament voltage	4.7 V	DerivativeSheet
Heater/filament current	600 mA	DerivativeSheet
Heater warm-up time	11 s	ControlledWarmup

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	5000 ohm	Triode
Transconductance	8500 uS	Triode

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor	42	Triode

1971 RCA HB3 BINDER 4 OF 7

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	125 V	Pentode;ClassA
Screen voltage	125 V	Pentode;ClassA
Grid voltage	-1 V	Pentode;ClassA
Plate current	12 mA	Pentode;ClassA
Screen current	4 mA	Pentode;ClassA
Maximum plate voltage	330 V	Pentode
Maximum screen voltage	330 V	Pentode
Maximum plate dissipation	3.1 W	Pentode
Maximum screen dissipation	0.55 W	Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	200000 ohm	Pentode
Transconductance	6400 uS	Pentode



TUBE TINKER
ELECTRON TUBE DATABASE

SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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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 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	1.7 pF	Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Cathode/Heater/Pentode Cathode/Pentode Grid No.3/Internal Shield	3 pF	Section1
Plate to Cathode/Heater/Pentode Cathode/Pentode Grid No.3/Internal Shield	1.4 pF	Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Supply Voltage	150 V	ClassA

1975 RCA RC30

Section 2 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to Plate	0.02 pF	Section2
Grid No.1 to Cathode/Heater/Grid No.2/Grid No.3/Internal Shield	5 pF	Section2
Plate to Cathode/Heater/Grid No.2/Grid No.3	2.6 pF	Section2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.2 Voltage	125 V	ClassA
Grid-No.1 Voltage	-1 V	ClassA
Plate Current	12 mA	ClassA
Grid-No.2 Current	4 mA	ClassA

TUBE TINKER

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

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