

ELECTRONIC TUBE REFERENCE

9AU7

Voltage - Dual Triode (similar) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TRIODE-TRIODE

Medium-mu twin triode usable as phase inverter, push-pull amplifier, multivibrator, oscillator, and television deflection oscillator/amplifier in series-heater receivers.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9A	BASE PINS	9
NOMINAL HEATER	9.4 V / 225 mA	PARALLEL HEATER	4.7 V / 450 mA
HEATING	Indirect	SERIES OPERATION	Capable
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

9A - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – 2P	B	P – Plate (Anode)	CONNECTED
PIN2 – 2G1	B	G1 – Control Grid	CONNECTED
PIN3 – 2K	B	K – Cathode	CONNECTED
PIN4 – H	–	H – Heater	CONNECTED
PIN5 – H	–	H – Heater	CONNECTED
PIN6 – 1P	A	P – Plate (Anode)	CONNECTED
PIN7 – 1G1	A	G1 – Control Grid	CONNECTED
PIN8 – 1K	A	K – Cathode	CONNECTED
PIN9 – HCT	–	HCT – Heater Center Tap	CONNECTED

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	7700 Ω
TRANSCONDUCTANCE	0.0022 S
AMPLIFICATION FACTOR	17
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	2.75 W
MAXIMUM CATHODE CURRENT	22 mA
<i>Representative row for two identical triode units; 5.5 W is the combined two-plate/two-unit dissipation.</i>	

SECTION2 Triode	
PLATE RESISTANCE	7700 Ω
TRANSCONDUCTANCE	0.0022 S
AMPLIFICATION FACTOR	17
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	2.75 W
MAXIMUM CATHODE CURRENT	22 mA
<i>Inherited from explicit parent 12AU7A; supplied 9AU7 sheet changes heater characteristics only.</i>	

Medium-mu twin triode used as phase inverter, push-pull amplifier, multivibrator, oscillator, and television deflection oscillator/amplifier.



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 - series	9.4 V	Series
Heater current - series	225 mA	Series
Heater voltage - parallel	4.7 V	Parallel
Heater current - parallel	450 mA	Parallel
Heater warm-up time average	11 s	Parallel
Peak positive pulse plate voltage	1200 V	VerticalDeflectionOscillator
Peak cathode current	66 mA	VerticalDeflectionOscillator

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	1.5 pF	EachUnit



SOURCE OPERATING CONDITIONS

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1966 Tung Sol Electronic Tubes 2 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	100 V	ClassA1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid Voltage	0 V	ClassA1
Plate Current	11.8 mA	ClassA1
Plate Voltage	250 V	ClassA1
Grid Voltage	-8.5 V	ClassA1
Plate Current	10.5 mA	ClassA1
Peak Positive Pulse Plate Voltage	1200 V	VerticalDeflection


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1971 RCA HB3 Binder 5 of 7

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

1971 RCA HB3 BINDER 5 OF 7

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage series	12.6 V	SeriesHeater
Heater current series	150 mA	SeriesHeater
Heater voltage parallel	6.3 V	ParallelHeater
Heater current parallel	300 mA	ParallelHeater
Plate voltage	100 V	ClassA1;PublishedPoint1
Plate voltage	250 V	ClassA1;PublishedPoint2
Grid voltage	0 V	ClassA1;PublishedPoint1
Grid voltage	-8.5 V	ClassA1;PublishedPoint2
Amplification factor	19.5	ClassA1;PublishedPoint1
Amplification factor	17	ClassA1;PublishedPoint2
Plate resistance	6250 ohm	ClassA1;PublishedPoint1
Plate resistance	7700 ohm	ClassA1;PublishedPoint2
Transconductance	3100 μS	ClassA1;PublishedPoint1
Transconductance	2200 μS	ClassA1;PublishedPoint2
Plate current	11.8 mA	ClassA1;PublishedPoint1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate current	10.5 mA	ClassA1;PublishedPoint2

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	330 V	ClassA1
Maximum cathode current	22 mA	ClassA1
Maximum plate dissipation	2.75 W	ClassA1
Peak heater-cathode voltage	200 V	—
Peak negative-pulse grid voltage	660 V	HorizontalDeflectionOscillator
Peak cathode current	330 mA	HorizontalDeflectionOscillator
Peak negative-pulse grid voltage	440 V	VerticalDeflectionOscillator
Peak cathode current	66 mA	VerticalDeflectionOscillator
Peak positive-pulse plate voltage	1200 V	VerticalDeflectionAmplifier
Heater voltage nominal	9.4 V	—
Heater current nominal	225 mA	—
Heater voltage series	9.4 V	Series
Heater current series	225 mA	Series
Heater voltage parallel	4.7 V	Parallel
Heater current parallel	450 mA	Parallel

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	1.5 pF	—
Grid-to-cathode-and-heater capacitance	1.6 pF	—
Plate-to-cathode-and-heater capacitance	0.5 pF	—

1971 RCA HB3 BINDER 5 OF 7

Section 2 · Triode

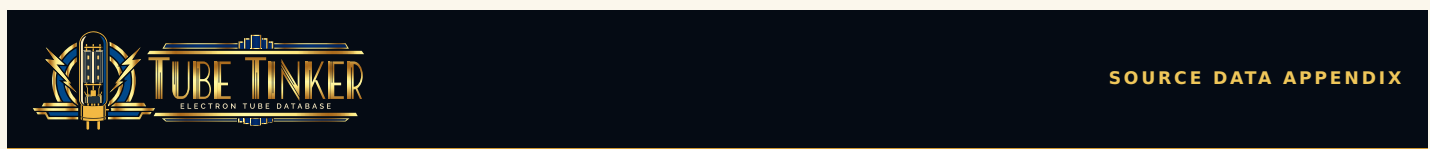
CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage series	12.6 V	SeriesHeater

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater current series	150 mA	SeriesHeater
Heater voltage parallel	6.3 V	ParallelHeater
Heater current parallel	300 mA	ParallelHeater
Plate voltage	100 V	ClassA1;PublishedPoint1
Plate voltage	250 V	ClassA1;PublishedPoint2
Grid voltage	0 V	ClassA1;PublishedPoint1
Grid voltage	-8.5 V	ClassA1;PublishedPoint2
Amplification factor	19.5	ClassA1;PublishedPoint1
Amplification factor	17	ClassA1;PublishedPoint2
Plate resistance	6250 ohm	ClassA1;PublishedPoint1
Plate resistance	7700 ohm	ClassA1;PublishedPoint2
Transconductance	3100 μ S	ClassA1;PublishedPoint1
Transconductance	2200 μ S	ClassA1;PublishedPoint2
Plate current	11.8 mA	ClassA1;PublishedPoint1
Plate current	10.5 mA	ClassA1;PublishedPoint2

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	330 V	ClassA1
Maximum cathode current	22 mA	ClassA1
Maximum plate dissipation	2.75 W	ClassA1
Peak heater-cathode voltage	200 V	—
Peak negative-pulse grid voltage	660 V	HorizontalDeflectionOscillator
Peak cathode current	330 mA	HorizontalDeflectionOscillator
Peak negative-pulse grid voltage	440 V	VerticalDeflectionOscillator
Peak cathode current	66 mA	VerticalDeflectionOscillator
Peak positive-pulse plate voltage	1200 V	VerticalDeflectionAmplifier
Heater voltage nominal	9.4 V	—
Heater current nominal	225 mA	—
Heater voltage series	9.4 V	Series
Heater current series	225 mA	Series

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage parallel	4.7 V	Parallel
Heater current parallel	450 mA	Parallel

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	1.5 pF	—
Grid-to-cathode-and-heater capacitance	1.6 pF	—
Plate-to-cathode-and-heater capacitance	0.35 pF	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Supply Voltage 100	250 V	Published in approved ECC82 target datasheet entry; Section1
Cathode-Bias Resistor 270	200 Ω	Published in approved ECC82 target datasheet entry; Section1
Plate Resistance (Approx.) 15000	10900 Ω	Published in approved ECC82 target datasheet entry; Section1
Transconductance 4000	5500 μS	Published in approved ECC82 target datasheet entry; Section1
Grid Voltage (Approx.) for plate current of 10 /iA -5	12 V	Published in approved ECC82 target datasheet entry; Section1
Plate Current 3.7	10 mA	Published in approved ECC82 target datasheet entry; Section1
Series 7 9.4	12.6 V	Published in approved ECC82 target datasheet entry; Section1
Parallel 3.5 4.7	6.3 V	Published in approved ECC82 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Series 0.3 0.225	150 mA	Published in approved ECC82 target datasheet entry; Section1
Parallel 0.6 0.45	300 mA	Published in approved ECC82 target datasheet entry; Section1
Heater Warm-up Time (Parallel, Average) 11	11 seconds	Published in approved ECC82 target datasheet entry; Section1
Plate Voltage	330 V	Published in approved ECC82 target datasheet entry; Section1
Cathode Current	22 mA	Published in approved ECC82 target datasheet entry; Section1
Each Plate	2.75 W	Published in approved ECC82 target datasheet entry; Section1
Both Plates (Both units operating)	5.5 W	Published in approved ECC82 target datasheet entry; Section1
Plate Resistance (Approx.) 6250	7700 Ω	Published in approved ECC82 target datasheet entry; Section1
Transconductance 3100	2200 μS	Published in approved ECC82 target datasheet entry; Section1
For fixed-bias operation	0.25 MΩ	Published in approved ECC82 target datasheet entry; Section1
For cathode-bias operation	1 MΩ	Published in approved ECC82 target datasheet entry; Section1
DC Plate Voltage 330	330 V	Published in approved ECC82 target datasheet entry; Section1
Peak Negative-Pulse Grid Voltage 440	660 V	Published in approved ECC82 target datasheet entry; Section1
Peak Cathode Current 66	330 mA	Published in approved ECC82 target datasheet entry; Section1
Average Cathode Current 22	22 mA	Published in approved ECC82 target datasheet entry; Section1
Each Plate 2.75	2.75 W	Published in approved ECC82 target datasheet entry; Section1
Both Plates (Both units operating) 5.5	5.5 W	Published in approved ECC82 target datasheet entry; Section1
Grid-Circuit Resistance 2.2	2.2 MΩ	Published in approved ECC82 target datasheet entry; Section1
DC Plate Voltage	330 V	Published in approved ECC82 target datasheet entry; Section1
Peak Positive-Pulse Plate Voltage#	1200 V	Published in approved ECC82 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Negative-Pulse Grid Voltage	275 V	Published in approved ECC82 target datasheet entry; Section1
Peak Cathode Current	66 mA	Published in approved ECC82 target datasheet entry; Section1
Average Cathode Current	22 mA	Published in approved ECC82 target datasheet entry; Section1
Each Plate	275 V	Published in approved ECC82 target datasheet entry; Section1
Grid-Circuit Resistance, for cathode-bias operation	2.2 MΩ	Published in approved ECC82 target datasheet entry; Section1
# Pulse duration must not exceed 15% of a vertical scanning cycle (	2.5 milliseconds	Published in approved ECC82 target datasheet entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate 1.5	1.5 pF	Published in approved ECC82 target datasheet entry; Section1
Grid to Cathode and Heater 1.6	1.6 pF	Published in approved ECC82 target datasheet entry; Section1
Plate to Cathode and Heater 0.5	0.35 pF	Published in approved ECC82 target datasheet entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current 11.8	10.5 mA	Published in approved ECC82 target datasheet entry; Section1

TUBE TINKER

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