

ELECTRONIC TUBE REFERENCE

8CX8

Power - Pentode (NOT beam) electronic tube

CONSOLIDATED TECHNICAL DATA
2 SECTIONS
CONSTRUCTION
PENTODE-TRIODE

Triode/pentode combination for television video, sound-IF, sweep-oscillator, and synchronization circuitry.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9DX	BASE PINS	9
NOMINAL HEATER	8 V / 600 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

9DX - TERMINAL PINOUT

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

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	70000 Ω
TRANSCONDUCTANCE	0.01 S
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	5 W
MAXIMUM SCREEN DISSIPATION	1.1 W
MAXIMUM HEATER-CATHODE VOLTAGE	200 V
WARM-UP TIME	11 s
<i>Published promoted fields populated semantically; identical repeated sections compressed.</i>	

SECTION2 Triode	
PLATE RESISTANCE	8700 Ω
TRANSCONDUCTANCE	0.0046 S
AMPLIFICATION FACTOR	40
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	2 W
MAXIMUM HEATER-CATHODE VOLTAGE	200 V
WARM-UP TIME	11 s
<i>Published promoted fields populated semantically; identical repeated sections compressed.</i>	

Medium-mu triode plus sharp-cutoff pentode for television video amplification and sound-IF, sweep-oscillator, sync-separator/amplifier/clipper service.



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 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PentodeTransconductance	10000 μ S	Section1

1961 TUNG SOL

Section 2 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
TriodeTransconductance	4600 μ S	Section2



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate_voltage	125 V	VideoAmplifier
Screen_voltage	125 V	VideoAmplifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate_current	24 mA	VideoAmplifier

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate_resistance	70000 ohm	VideoAmplifier
Transconductance	10000 uS	VideoAmplifier

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	0.06 pF	—
Input capacitance	9 pF	—
Output capacitance	4.4 pF	—

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate_voltage	150 V	SyncAmplifier
Heater_warmup_time	11 s	SyncAmplifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate_current	9.2 mA	SyncAmplifier
Plate_resistance	8700 ohm	SyncAmplifier
Transconductance	4600 uS	SyncAmplifier

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	4.4 pF	—
Input capacitance	2.2 pF	—
Output capacitance	0.38 pF	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	8 V	—
HeaterCurrentNominal	600 mA	—
Typical Plate Voltage	200 V	ClassA
Typical Screen Voltage	125 V	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	70000 Ohm	—
Transconductance	10000 uS	—

1968 GENERAL ELECTRIC CO

Section 2 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	8700 Ohm	—
Transconductance	4600 uS	—
Amplification Factor	40	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical Plate Voltage	150 V	ClassA



SOURCE DATA APPENDIX

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 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 6.3	8 V	Published in approved 8CX8 target datasheet entry; Section2
Heater Current 0.75	600 mA	Published in approved 8CX8 target datasheet entry; Section2
Heater Warm-up Time (Average)	11 V	Published in approved 8CX8 target datasheet entry; Section2
Plate Voltage 330	330 V	Published in approved 8CX8 target datasheet entry; Section2
Grid-No.2 (Screen-Grid) Voltage	330 V	Published in approved 8CX8 target datasheet entry; Section2
Grid-No.1 (Control-Grid) Voltage, Positive-bias value 0	0 V	Published in approved 8CX8 target datasheet entry; Section2
Plate Dissipation 2	5 W	Published in approved 8CX8 target datasheet entry; Section2
For grid-No.2 voltages up to	165 V	Published in approved 8CX8 target datasheet entry; Section2
For grid-No. voltages between 165 and	330 V	Published in approved 8CX8 target datasheet entry; Section2
Plate Supply Voltage 150	200 V	Published in approved 8CX8 target datasheet entry; Section2
For fixed-bias operation 0.5	0.25 MΩ	Published in approved 8CX8 target datasheet entry; Section2
For cathode-bias operation 1	1 MΩ	Published in approved 8CX8 target datasheet entry; Section2
Heater Voltage (ac/dc) 2.4 2.9	6.3 V	Published in approved 8CX8 target datasheet entry; Section2
Heater Current 0.6 0.45	200 mA	Published in approved 8CX8 target datasheet entry; Section2
Heater Warm-up Time (Average) 11	11 seconds	Published in approved 8CX8 target datasheet entry; Section2
Plate Voltage	180 V	Published in approved 8CX8 target datasheet entry; Section2
Grid-No.2 (Screen-Grid) Supply Voltage	180 V	Published in approved 8CX8 target datasheet entry; Section2
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0 V	Published in approved 8CX8 target datasheet entry; Section2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode Current	20 mA	Published in approved 8CX8 target datasheet entry; Section2
Plate Dissipation	2 W	Published in approved 8CX8 target datasheet entry; Section2
For grid-No.2 voltages up to	90 V	Published in approved 8CX8 target datasheet entry; Section2
For grid-No.2 voltages up to 90 volts	0.5 W	Published in approved 8CX8 target datasheet entry; Section2
For grid-No.2 voltages between 90 and	180 V	Published in approved 8CX8 target datasheet entry; Section2
Plate Voltage	125 V	Published in approved 8CX8 target datasheet entry; Section2
Grid-No.1-Circuit Resistance	0.6 MΩ	Published in approved 8CX8 target datasheet entry; Section2

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	4.4 pF	Published in approved 8CX8 target datasheet entry; Section2
Grid to Cathode and Heater	2.2 pF	Published in approved 8CX8 target datasheet entry; Section2
Plate to Cathode and Heater	0.38 pF	Published in approved 8CX8 target datasheet entry; Section2
Grid No.1 to Plate	0.06 pF	Published in approved 8CX8 target datasheet entry; Section2
Internal Shield	9 pF	Published in approved 8CX8 target datasheet entry; Section2
Internal Shield	4.4 pF	Published in approved 8CX8 target datasheet entry; Section2
Grid-No.1 to Plate	0.03 pF	Published in approved 8CX8 target datasheet entry; Section2
Grid-No.1 to Cathode, Heater, Grid No.2 and Internal Shield	4.5 pF	Published in approved 8CX8 target datasheet entry; Section2
Plate to Cathode, Heater, Grid No.2, and Internal Shield	3 pF	Published in approved 8CX8 target datasheet entry; Section2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.2 Supply Voltage	125 V	Published in approved 8CX8 target datasheet entry; Section2
Cathode-Bias Resistor 150	68 Ω	Published in approved 8CX8 target datasheet entry; Section2
Plate Resistance (Approx.) 8700	70000 Ω	Published in approved 8CX8 target datasheet entry; Section2
Transconductance 4600	10000 μS	Published in approved 8CX8 target datasheet entry; Section2
Plate Current 9.2	24 mA	Published in approved 8CX8 target datasheet entry; Section2
Grid-No.2 Current	5.2 mA	Published in approved 8CX8 target datasheet entry; Section2
100 /1A -5	-8.5 V	Published in approved 8CX8 target datasheet entry; Section2
Transconductance	8000 μS	Published in approved 8CX8 target datasheet entry; Section2
Plate Current	10 mA	Published in approved 8CX8 target datasheet entry; Section2
Grid-No.2 Current	1.5 mA	Published in approved 8CX8 target datasheet entry; Section2
Grid-No.1 Voltage (Approx.) for plate current of 20 /1A	-6 V	Published in approved 8CX8 target datasheet entry; Section2

1975 RCA RC30

Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 6.3	8 V	Published in approved 8CX8 target datasheet entry; Section1
Heater Current 0.75	600 mA	Published in approved 8CX8 target datasheet entry; Section1
Heater Warm-up Time (Average)	11 V	Published in approved 8CX8 target datasheet entry; Section1
Plate Voltage 330	330 V	Published in approved 8CX8 target datasheet entry; Section1
Grid-No.2 (Screen-Grid) Voltage	330 V	Published in approved 8CX8 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.1 (Control-Grid) Voltage, Positive-bias value 0	0 V	Published in approved 8CX8 target datasheet entry; Section1
Plate Dissipation 2	5 W	Published in approved 8CX8 target datasheet entry; Section1
For grid-No.2 voltages up to	165 V	Published in approved 8CX8 target datasheet entry; Section1
For grid-No. voltages between 165 and	330 V	Published in approved 8CX8 target datasheet entry; Section1
Plate Supply Voltage 150	200 V	Published in approved 8CX8 target datasheet entry; Section1
For fixed-bias operation 0.5	0.25 MΩ	Published in approved 8CX8 target datasheet entry; Section1
For cathode-bias operation 1	1 MΩ	Published in approved 8CX8 target datasheet entry; Section1
Heater Voltage (ac/dc) 2.4 2.9	6.3 V	Published in approved 8CX8 target datasheet entry; Section1
Heater Current 0.6 0.45	200 mA	Published in approved 8CX8 target datasheet entry; Section1
Heater Warm-up Time (Average) 11	11 seconds	Published in approved 8CX8 target datasheet entry; Section1
Plate Voltage	180 V	Published in approved 8CX8 target datasheet entry; Section1
Grid-No.2 (Screen-Grid) Supply Voltage	180 V	Published in approved 8CX8 target datasheet entry; Section1
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0 V	Published in approved 8CX8 target datasheet entry; Section1
Cathode Current	20 mA	Published in approved 8CX8 target datasheet entry; Section1
Plate Dissipation	2 W	Published in approved 8CX8 target datasheet entry; Section1
For grid-No.2 voltages up to	90 V	Published in approved 8CX8 target datasheet entry; Section1
For grid-No.2 voltages up to 90 volts	0.5 W	Published in approved 8CX8 target datasheet entry; Section1
For grid-No.2 voltages between 90 and	180 V	Published in approved 8CX8 target datasheet entry; Section1
Plate Voltage	125 V	Published in approved 8CX8 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.1-Circuit Resistance	0.6 MΩ	Published in approved 8CX8 target datasheet entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	4.4 pF	Published in approved 8CX8 target datasheet entry; Section1
Grid to Cathode and Heater	2.2 pF	Published in approved 8CX8 target datasheet entry; Section1
Plate to Cathode and Heater	0.38 pF	Published in approved 8CX8 target datasheet entry; Section1
Grid No.1 to Plate	0.06 pF	Published in approved 8CX8 target datasheet entry; Section1
Internal Shield	9 pF	Published in approved 8CX8 target datasheet entry; Section1
Internal Shield	4.4 pF	Published in approved 8CX8 target datasheet entry; Section1
Grid-No.1 to Plate	0.03 pF	Published in approved 8CX8 target datasheet entry; Section1
Grid-No.1 to Cathode, Heater, Grid No.2 and Internal Shield	4.5 pF	Published in approved 8CX8 target datasheet entry; Section1
Plate to Cathode, Heater, Grid No.2, and Internal Shield	3 pF	Published in approved 8CX8 target datasheet entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.2 Supply Voltage	125 V	Published in approved 8CX8 target datasheet entry; Section1
Cathode-Bias Resistor 150	68 Ω	Published in approved 8CX8 target datasheet entry; Section1
Plate Resistance (Approx.) 8700	70000 Ω	Published in approved 8CX8 target datasheet entry; Section1
Transconductance 4600	10000 μS	Published in approved 8CX8 target datasheet entry; Section1
Plate Current 9.2	24 mA	Published in approved 8CX8 target datasheet entry; Section1
Grid-No.2 Current	5.2 mA	Published in approved 8CX8 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
100 / μ A -5	-8.5 V	Published in approved 8CX8 target datasheet entry; Section1
Transconductance	8000 μ S	Published in approved 8CX8 target datasheet entry; Section1
Plate Current	10 mA	Published in approved 8CX8 target datasheet entry; Section1
Grid-No.2 Current	1.5 mA	Published in approved 8CX8 target datasheet entry; Section1
Grid-No.1 Voltage (Approx.) for plate current of 20 / μ A	-6 V	Published in approved 8CX8 target datasheet entry; Section1

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