

ELECTRONIC TUBE REFERENCE

8AW8A

Voltage - Triode Pentode electronic tube

CONSOLIDATED TECHNICAL DATA  
2 SECTIONS  
CONSTRUCTION  
PENTODE-TRIODE

High-mu triode plus sharp-cutoff pentode for television IF, video, AGC/reactance, oscillator, sync, and phase-splitter circuits.

GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | 9DX               | BASE PINS            | 9             |
| NOMINAL HEATER      | 8.4 V / 450 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 Triode                                                                                  |                |
|--------------------------------------------------------------------------------------------------|----------------|
| PLATE RESISTANCE                                                                                 | 17500 $\Omega$ |
| TRANSCONDUCTANCE                                                                                 | 0.004 S        |
| AMPLIFICATION FACTOR                                                                             | 70             |
| MAXIMUM PLATE VOLTAGE                                                                            | 330 V          |
| MAXIMUM PLATE 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 Pentode                                                                                 |                 |
|--------------------------------------------------------------------------------------------------|-----------------|
| PLATE RESISTANCE                                                                                 | 200000 $\Omega$ |
| TRANSCONDUCTANCE                                                                                 | 0.0095 S        |
| MAXIMUM PLATE VOLTAGE                                                                            | 330 V           |
| MAXIMUM SCREEN VOLTAGE                                                                           | 330 V           |
| MAXIMUM PLATE DISSIPATION                                                                        | 3.75 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> |                 |

High-mu triode plus sharp-cutoff pentode for television IF, video, AGC/reactance, oscillator, sync, and phase-splitter circuits.



## 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 2 · Pentode

| CHARACTERISTIC          |                 |                  |
|-------------------------|-----------------|------------------|
| PARAMETER               | PUBLISHED VALUE | CONDITION / NOTE |
| PentodeTransconductance | 9500 $\mu$ S    | Section2         |



## SOURCE OPERATING CONDITIONS

# 1965 Sylvania Electronic Tubes Vol3

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

1965 SYLVANIA ELECTRONIC TUBES VOL3

## Section 1 · Triode

| CHARACTERISTIC               |                 |                                       |
|------------------------------|-----------------|---------------------------------------|
| PARAMETER                    | PUBLISHED VALUE | CONDITION / NOTE                      |
| Heater voltage               | 8.4 V           | Rated heater condition                |
| Heater current               | 450 mA          | Rated heater condition                |
| Plate Current                | 4 mA            | Plate Current ..... 4.0 Ma.           |
| Grid I Cutoff Voltage® . . , | -5 V            | Grid I Cutoff Voltage® . . , -5 Volts |

| OTHER                    |                 |                                                                                              |
|--------------------------|-----------------|----------------------------------------------------------------------------------------------|
| PARAMETER                | PUBLISHED VALUE | CONDITION / NOTE                                                                             |
| Voltage (ac or dc)       | 8.4 V           | Voltage (ac or dc) ..... 6.3 8.4 Volts Uni, Unit                                             |
| Warm-up Time (Approx.) A | 11 s            | Warm-up Time (Approx.) A ..... 11 11 Seconds<br>Grid 2 Supply Voltage. . , -- 330 max. Volts |

1965 SYLVANIA ELECTRONIC TUBES VOL3

## Section 2 · Pentode

| CHARACTERISTIC |                 |                        |
|----------------|-----------------|------------------------|
| PARAMETER      | PUBLISHED VALUE | CONDITION / NOTE       |
| Heater voltage | 8.4 V           | Rated heater condition |
| Heater current | 450 mA          | Rated heater condition |



SOURCE DATA APPENDIX

### 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 | 200 V           | SyncSeparator    |

| CHARACTERISTIC       |                 |                  |
|----------------------|-----------------|------------------|
| PARAMETER            | PUBLISHED VALUE | CONDITION / NOTE |
| Plate_current        | 4 mA            | SyncSeparator    |
| Amplification_factor | 70              | SyncSeparator    |
| Transconductance     | 4000 uS         | SyncSeparator    |

## 1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

### Section 2 · Pentode

| OTHER                 |                 |                  |
|-----------------------|-----------------|------------------|
| PARAMETER             | PUBLISHED VALUE | CONDITION / NOTE |
| Plate_voltage         | 200 V           | VideoAmplifier   |
| Screen_voltage        | 150 V           | VideoAmplifier   |
| Cathode_bias_resistor | 150 ohm         | VideoAmplifier   |

| CHARACTERISTIC |                 |                  |
|----------------|-----------------|------------------|
| PARAMETER      | PUBLISHED VALUE | CONDITION / NOTE |
| Plate_current  | 15 mA           | VideoAmplifier   |
|                |                 |                  |

| PARAMETER        | PUBLISHED VALUE | CONDITION / NOTE |
|------------------|-----------------|------------------|
| Screen_current   | 3.5 mA          | VideoAmplifier   |
| Plate_resistance | 200000 ohm      | VideoAmplifier   |
| Transconductance | 9500 uS         | VideoAmplifier   |



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

| OTHER                     |                 |                  |
|---------------------------|-----------------|------------------|
| PARAMETER                 | PUBLISHED VALUE | CONDITION / NOTE |
| Heater voltage nominal    | 6.3 V           | —                |
| Heater current            | 600 mA          | —                |
| Maximum plate voltage     | 330 V           | ClassA1          |
| Maximum plate dissipation | 1.1 W           | ClassA1          |
| Heater voltage nominal    | 8.4 V           | —                |
| Heater current nominal    | 450 mA          | —                |

| CHARACTERISTICS      |                 |                  |
|----------------------|-----------------|------------------|
| PARAMETER            | PUBLISHED VALUE | CONDITION / NOTE |
| Heater warm-up time  | 11 s            | Average          |
| Plate supply voltage | 200 V           | ClassA1          |
| Grid voltage         | -2 V            | ClassA1          |
| Amplification factor | 70              | ClassA1          |
| Plate resistance     | 17500 ohm       | ClassA1          |
| Transconductance     | 4000 μS         | ClassA1          |
| Plate current        | 4 mA            | ClassA1          |

1971 RCA HB3 BINDER 5 OF 7

| OTHER                           |                 |                  |
|---------------------------------|-----------------|------------------|
| PARAMETER                       | PUBLISHED VALUE | CONDITION / NOTE |
| Heater voltage nominal          | 6.3 V           | —                |
| Heater current                  | 600 mA          | —                |
| Maximum plate voltage           | 330 V           | ClassA1          |
| Maximum plate dissipation       | 3.75 W          | ClassA1          |
| Maximum screen supply voltage   | 330 V           | ClassA1          |
| Maximum screen input at <=165 V | 1.1 W           | ClassA1          |
| Heater voltage nominal          | 8.4 V           | —                |
| Heater current nominal          | 450 mA          | —                |

| CHARACTERISTICS       |                 |                  |
|-----------------------|-----------------|------------------|
| PARAMETER             | PUBLISHED VALUE | CONDITION / NOTE |
| Heater warm-up time   | 11 s            | Average          |
| Plate supply voltage  | 150 V           | ClassA1          |
| Screen supply voltage | 150 V           | ClassA1          |
| Cathode resistor      | 150 ohm         | ClassA1          |
| Plate resistance      | 200000 ohm      | ClassA1          |
| Transconductance      | 9500 μS         | ClassA1          |
| Plate current         | 15 mA           | ClassA1          |
| Screen current        | 3.5 mA          | ClassA1          |



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 · Triode

| OTHER                                  |                 |                                                              |
|----------------------------------------|-----------------|--------------------------------------------------------------|
| PARAMETER                              | PUBLISHED VALUE | CONDITION / NOTE                                             |
| Heater Voltage (ac/dc) 6.3             | 8.4 V           | Published in approved 8AW8A target datasheet entry; Section1 |
| Heater Current 0.6                     | 450 mA          | Published in approved 8AW8A target datasheet entry; Section1 |
| Heater Warm-up Time (Average) 11       | 11 seconds      | Published in approved 8AW8A target datasheet entry; Section1 |
| Plate Voltage 330                      | 330 V           | Published in approved 8AW8A target datasheet entry; Section1 |
| Grid-No.2 (Screen-Grid) Supply Voltage | 330 V           | Published in approved 8AW8A target datasheet entry; Section1 |
| 0                                      | 0 V             | Published in approved 8AW8A target datasheet entry; Section1 |
| Plate Dissipation 1.1                  | 3.75 W          | Published in approved 8AW8A target datasheet entry; Section1 |
| For grid-No.2 voltages up to           | 165 V           | Published in approved 8AW8A target datasheet entry; Section1 |
| For grid-No.2 voltages between 165 and | 330 V           | Published in approved 8AW8A target datasheet entry; Section1 |
| Plate Resistance (Approx.) –           | 0.2 MΩ          | Published in approved 8AW8A target datasheet entry; Section1 |
| •                                      |                 |                                                              |
| Plate Current 4                        | 15 mA           | Published in approved 8AW8A target datasheet entry; Section1 |
| Grid-No. 2 Current                     | 3.5 mA          | Published in approved 8AW8A target datasheet entry; Section1 |
| 20 fiA –5                              | -8 V            | Published in approved 8AW8A target datasheet entry; Section1 |
| For fixed-bias operation 0.5           | 0.25 MΩ         | Published in approved 8AW8A target datasheet entry; Section1 |
| For cathode-bias operation 1           | 1 MΩ            | Published in approved 8AW8A target datasheet entry; Section1 |

| CAPACITANCE                                |                 |                                                              |
|--------------------------------------------|-----------------|--------------------------------------------------------------|
| PARAMETER                                  | PUBLISHED VALUE | CONDITION / NOTE                                             |
| Grid to Plate 2.2                          | 2.2 pF          | Published in approved 8AW8A target datasheet entry; Section1 |
| Grid No.3, Internal Shield, and Heater 3.2 | 3.4 pF          | Published in approved 8AW8A target datasheet entry; Section1 |
|                                            |                 |                                                              |

| PARAMETER                                  | PUBLISHED VALUE | CONDITION / NOTE                                             |
|--------------------------------------------|-----------------|--------------------------------------------------------------|
| Grid No.3, Internal Shield, and Heater 1.8 | <b>3 pF</b>     | Published in approved 8AW8A target datasheet entry; Section1 |
| Grid No.3, and Internal Shield 10          | <b>10 pF</b>    | Published in approved 8AW8A target datasheet entry; Section1 |
| No.3, and Internal Shield 3.6              | <b>4.5 pF</b>   | Published in approved 8AW8A target datasheet entry; Section1 |

| CHARACTERISTIC           |                                |                                                              |
|--------------------------|--------------------------------|--------------------------------------------------------------|
| PARAMETER                | PUBLISHED VALUE                | CONDITION / NOTE                                             |
| Plate Supply Voltage 200 | <b>150 V</b>                   | Published in approved 8AW8A target datasheet entry; Section1 |
| Cathode-Bias Resistor    | <b>150 <math>\Omega</math></b> | Published in approved 8AW8A target datasheet entry; Section1 |

1975 RCA RC30

## Section 2 · Pentode

| OTHER                                  |                                 |                                                              |
|----------------------------------------|---------------------------------|--------------------------------------------------------------|
| PARAMETER                              | PUBLISHED VALUE                 | CONDITION / NOTE                                             |
| Heater Voltage (ac/dc) 6.3             | <b>8.4 V</b>                    | Published in approved 8AW8A target datasheet entry; Section2 |
| Heater Current 0.6                     | <b>450 mA</b>                   | Published in approved 8AW8A target datasheet entry; Section2 |
| Heater Warm-up Time (Average) 11       | <b>11 seconds</b>               | Published in approved 8AW8A target datasheet entry; Section2 |
| Plate Voltage 330                      | <b>330 V</b>                    | Published in approved 8AW8A target datasheet entry; Section2 |
| Grid-No.2 (Screen-Grid) Supply Voltage | <b>330 V</b>                    | Published in approved 8AW8A target datasheet entry; Section2 |
| 0                                      | <b>0 V</b>                      | Published in approved 8AW8A target datasheet entry; Section2 |
| Plate Dissipation 1.1                  | <b>3.75 W</b>                   | Published in approved 8AW8A target datasheet entry; Section2 |
| For grid-No.2 voltages up to           | <b>165 V</b>                    | Published in approved 8AW8A target datasheet entry; Section2 |
| For grid-No.2 voltages between 165 and | <b>330 V</b>                    | Published in approved 8AW8A target datasheet entry; Section2 |
| Plate Resistance (Approx.) – •         | <b>0.2 M<math>\Omega</math></b> | Published in approved 8AW8A target datasheet entry; Section2 |
| Plate Current 4                        | <b>15 mA</b>                    | Published in approved 8AW8A target datasheet entry; Section2 |

| PARAMETER                    | PUBLISHED VALUE | CONDITION / NOTE                                             |
|------------------------------|-----------------|--------------------------------------------------------------|
| Grid-No. 2 Current           | 3.5 mA          | Published in approved 8AW8A target datasheet entry; Section2 |
| 20 fiA -5                    | -8 V            | Published in approved 8AW8A target datasheet entry; Section2 |
| For fixed-bias operation 0.5 | 0.25 MΩ         | Published in approved 8AW8A target datasheet entry; Section2 |
| For cathode-bias operation 1 | 1 MΩ            | Published in approved 8AW8A target datasheet entry; Section2 |

| CAPACITANCE                                |                 |                                                              |
|--------------------------------------------|-----------------|--------------------------------------------------------------|
| PARAMETER                                  | PUBLISHED VALUE | CONDITION / NOTE                                             |
| Grid to Plate 2.2                          | 2.2 pF          | Published in approved 8AW8A target datasheet entry; Section2 |
| Grid No.3, Internal Shield, and Heater 3.2 | 3.4 pF          | Published in approved 8AW8A target datasheet entry; Section2 |
| Grid No.3, Internal Shield, and Heater 1.8 | 3 pF            | Published in approved 8AW8A target datasheet entry; Section2 |
| Grid No.3, and Internal Shield 10          | 10 pF           | Published in approved 8AW8A target datasheet entry; Section2 |
| No.3, and Internal Shield 3.6              | 4.5 pF          | Published in approved 8AW8A target datasheet entry; Section2 |

| CHARACTERISTIC           |                 |                                                              |
|--------------------------|-----------------|--------------------------------------------------------------|
| PARAMETER                | PUBLISHED VALUE | CONDITION / NOTE                                             |
| Plate Supply Voltage 200 | 150 V           | Published in approved 8AW8A target datasheet entry; Section2 |
| Cathode-Bias Resistor    | 150 Ω           | Published in approved 8AW8A target datasheet entry; Section2 |

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