

ELECTRONIC TUBE REFERENCE

6Y6G

Power - Beam (NOT sweep) electronic tube

CONSOLIDATED TECHNICAL DATA  
1 SECTION  
CONSTRUCTION  
BEAMPOWER

Beam-power amplifier designed for Class-A audio-output service, providing several watts from comparatively low plate and screen supply voltages.

GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | 7AC               | BASE PINS            | 8             |
| NOMINAL HEATER      | 6.3 V / 1.25 A    | PARALLEL HEATER      | – / –         |
| HEATING             | Indirect          | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

7AC - TERMINAL PINOUT

| TERMINAL     | SECTION | ELEMENT                 | STATUS               |
|--------------|---------|-------------------------|----------------------|
| PIN1 – Pin 1 | –       | –                       | NC · verified        |
| PIN2 – Pin 2 | –       | H – Heater              | CONNECTED · verified |
| PIN3 – Pin 3 | A       | P – Plate (Anode)       | CONNECTED · verified |
| PIN4 – Pin 4 | A       | G2 – Screen Grid        | CONNECTED · verified |
| PIN5 – Pin 5 | A       | G1 – Control Grid       | CONNECTED · verified |
| PIN7 – Pin 7 | –       | H – Heater              | CONNECTED · verified |
| PIN8 – Pin 8 | A       | BP – Beam-Forming Plate | CONNECTED · verified |
| PIN8 – Pin 8 | A       | K – Cathode             | CONNECTED · verified |

# SECTION RATINGS

|                                                                                  |          |
|----------------------------------------------------------------------------------|----------|
| SECTION1 Beam Power                                                              |          |
| PLATE RESISTANCE                                                                 | 18300 Ω  |
| TRANSCONDUCTANCE                                                                 | 0.0071 S |
| MAXIMUM PLATE VOLTAGE                                                            | 200 V    |
| MAXIMUM SCREEN VOLTAGE                                                           | 200 V    |
| MAXIMUM PLATE DISSIPATION                                                        | 12.5 W   |
| MAXIMUM SCREEN DISSIPATION                                                       | 1.75 W   |
| Beam-power section; the three envelope variants share the same electrical entry. |          |

6Y6G is a BeamPower vacuum tube documented in the RCA Receiving Tube Manual. The supplied excerpt was reviewed for heater data, section arrangement, maximum ratings, electrical characteristics, interelectrode capacitances, typical operating conditions, and stated applications.

## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 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 · Beam Power

| OTHER                         |                 |                  |
|-------------------------------|-----------------|------------------|
| PARAMETER                     | PUBLISHED VALUE | CONDITION / NOTE |
| Plate voltage                 | 135 V           | ClassA           |
| Screen voltage                | 135 V           | ClassA           |
| Control-grid voltage          | -13.5 V         | ClassA           |
| Signal peak voltage           | 13.5 V          | ClassA           |
| No-signal plate current       | 58 mA           | ClassA           |
| Maximum-signal plate current  | 60 mA           | ClassA           |
| No-signal screen current      | 3 mA            | ClassA           |
| Maximum-signal screen current | 17 mA           | ClassA           |
| Load resistance               | 2000 $\Omega$   | ClassA           |
| Second harmonic distortion    | 2.5 %           | ClassA           |
| Third harmonic distortion     | 9 %             | ClassA           |
| Power output                  | 3.6 W           | ClassA           |

| CHARACTERISTIC       |                    |                  |
|----------------------|--------------------|------------------|
| PARAMETER            | PUBLISHED VALUE    | CONDITION / NOTE |
| Amplification factor | 70                 | ClassA           |
| Plate resistance     | 10000 $\Omega$     | ClassA           |
| Transconductance     | 7000 $\mu\text{S}$ | ClassA           |

# 1938 Raytheon

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

1938 RAYTHEON

## Section 1 · Beam Power

| OTHER                                                   |                 |                                                               |
|---------------------------------------------------------|-----------------|---------------------------------------------------------------|
| PARAMETER                                               | PUBLISHED VALUE | CONDITION / NOTE                                              |
| Heater Current                                          | <b>1.35 A</b>   | Heater Current 1,35 amp                                       |
| No=Signal Plate Current                                 | <b>58 mA</b>    | No=Signal Plate Current 58 ma                                 |
| Heater voltage (ac or dc). . . . .<br>. . . o . e v oo+ | <b>6.3 V</b>    | Heater voltage (ac or dc). . . . . o . e v oo+ 6.3 volts      |
| Heater negative with respect to cathode . e o o o       | <b>180 V</b>    | . Heater negative with respect to cathode . e o o o 180 volts |
| Maximum plate voltage, . . . . .<br>. . . e.0o o o o    | <b>200 V</b>    | Maximum plate voltage, . . . . . e.0o o o o 200 volts         |
| Maximum grid #2 supply voltage . e o o o o              | <b>200 V</b>    | Maximum grid #2 supply voltage . e o o o o 200 volts          |
| Fixead bias, . . . . . o o o o<br>e e oo o              | <b>0.1 MΩ</b>   | Fixead bias, . . . . . o o o o e e oo o 0,1 megohm            |
| Heater voltage , L . 6.3                                | <b>6.3 V</b>    | Heater voltage , L . 6.3 6.3 volts                            |
| Heater current , L] LJ 1.25                             | <b>1.25 A</b>   | Heater current , L] LJ 1.25 1.25 amperes                      |
| Grid #2 voltage, L L 135                                | <b>135 V</b>    | Grid #2 voltage, L L 135 135 volts                            |
| Transconductance , . . , .<br>7000                      | <b>7100 μS</b>  | Transconductance , . . , . 7000 7100 umhos                    |
| Zero-signal plate current,<br>58                        | <b>61 mA</b>    | Zero-signal plate current, 58 61 ma                           |
| Zero-signal grid #2 current,<br>. 3 3.5                 | <b>2.2 mA</b>   | Zero-signal grid #2 current, . 3 3.5 2.2 ma                   |
| Maximum-signal grid #2 current L) 1.5                   | <b>9 mA</b>     | Maximum-signal grid #2 current L) 1.5 9 ma                    |



SOURCE DATA APPENDIX

# 1950 Sylvania

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

## 1950 SYLVANIA

### Section 1 · Beam Power

| OTHER                 |                 |                  |
|-----------------------|-----------------|------------------|
| PARAMETER             | PUBLISHED VALUE | CONDITION / NOTE |
| Typical plate voltage | 135 V           | —                |



SOURCE DATA APPENDIX

# 195X General Electric Essential Characteristics

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

## 195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

### Section 1 · Beam Power

| CAPACITANCE               |                 |                  |
|---------------------------|-----------------|------------------|
| PARAMETER                 | PUBLISHED VALUE | CONDITION / NOTE |
| Input capacitance         | 15 pF           | —                |
| Output capacitance        | 11 pF           | —                |
| Grid-to-plate capacitance | 0.7 pF          | —                |

| OTHER               |                 |                  |
|---------------------|-----------------|------------------|
| PARAMETER           | PUBLISHED VALUE | CONDITION / NOTE |
| Plate voltage       | 200 V           | ClassA           |
| Screen-grid voltage | 135 V           | ClassA           |
| Grid voltage        | -14 V           | ClassA           |
| Load resistance     | 2600 ohm        | ClassA           |
| Power output        | 6 W             | ClassA           |

| Characteristic   |                 |                  |
|------------------|-----------------|------------------|
| Parameter        | Published Value | Condition / Note |
| Plate resistance | 18300 ohm       | ClassA           |
| Transconductance | 4100 uS         | ClassA           |



SOURCE DATA APPENDIX

## 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 · Beam Power

| Other                     |                 |                         |
|---------------------------|-----------------|-------------------------|
| Parameter                 | Published Value | Condition / Note        |
| Heater voltage            | 6.3 V           | Nominal                 |
| Heater current            | 1.25 A          | Nominal                 |
| Plate voltage             | 135 V           | ClassA; OperatingPoint1 |
| Screen voltage            | 135 V           | ClassA; OperatingPoint1 |
| Grid 1 voltage            | -13.5 V         | ClassA; OperatingPoint1 |
| Load resistance           | 2000 ohm        | ClassA; OperatingPoint1 |
| Power output              | 3.6 W           | ClassA; OperatingPoint1 |
| Total harmonic distortion | 10 %            | ClassA; OperatingPoint1 |
| Plate voltage             | 200 V           | ClassA; OperatingPoint2 |
| Screen voltage            | 135 V           | ClassA; OperatingPoint2 |
| Grid 1 voltage            | -14 V           | ClassA; OperatingPoint2 |
| Load resistance           | 2600 ohm        | ClassA; OperatingPoint2 |
| Power output              | 6 W             | ClassA; OperatingPoint2 |
| Total harmonic distortion | 10 %            | ClassA; OperatingPoint2 |

| Characteristic             |                 |                         |
|----------------------------|-----------------|-------------------------|
| Parameter                  | Published Value | Condition / Note        |
| Zero-signal plate current  | 58 mA           | ClassA; OperatingPoint1 |
| Zero-signal screen current | 3.5 mA          | ClassA; OperatingPoint1 |

| PARAMETER                  | PUBLISHED VALUE | CONDITION / NOTE        |
|----------------------------|-----------------|-------------------------|
| Plate resistance           | 9300 ohm        | ClassA; OperatingPoint1 |
| Transconductance           | 7000 uS         | ClassA; OperatingPoint1 |
| Zero-signal plate current  | 61 mA           | ClassA; OperatingPoint2 |
| Zero-signal screen current | 2.2 mA          | ClassA; OperatingPoint2 |
| Plate resistance           | 18300 ohm       | ClassA; OperatingPoint2 |
| Transconductance           | 7100 uS         | ClassA; OperatingPoint2 |


SOURCE DATA APPENDIX

## 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 · Beam Power

| OTHER                          |                 |                  |
|--------------------------------|-----------------|------------------|
| PARAMETER                      | PUBLISHED VALUE | CONDITION / NOTE |
| Plate voltage                  | 200 V           | ClassA           |
| Grid #2 voltage                | 135 V           | ClassA           |
| Grid #1 voltage                | -14 V           | ClassA           |
| Zero-signal plate current      | 61 mA           | ClassA           |
| Maximum-signal plate current   | 66 mA           | ClassA           |
| Zero-signal grid #2 current    | 2.2 mA          | ClassA           |
| Maximum-signal grid #2 current | 9 mA            | ClassA           |
| Plate resistance               | 14300 ohm       | ClassA           |
| Load resistance                | 2600 ohm        | ClassA           |
| Power output                   | 6 W             | ClassA           |
| Total harmonic distortion      | 10 %            | ClassA           |

| CHARACTERISTIC   |                 |                  |
|------------------|-----------------|------------------|
| PARAMETER        | PUBLISHED VALUE | CONDITION / NOTE |
| Transconductance | 5100 uS         | ClassA           |

| CAPACITANCE               |                 |                  |
|---------------------------|-----------------|------------------|
| PARAMETER                 | PUBLISHED VALUE | CONDITION / NOTE |
| Grid-to-plate capacitance | <b>0.8 pF</b>   | —                |
| Input capacitance         | <b>13 pF</b>    | —                |
| Output capacitance        | <b>7 pF</b>     | —                |