



## ELECTRONIC TUBE REFERENCE

## DF91

Voltage Pentode or Tetrode (under 100V) electronic tube

CONSOLIDATED TECHNICAL DATA

**1 SECTION**  
CONSTRUCTION  
**PENTODE**

Equivalent designation printed with the 1T4 directly heated variable-mu RF/IF pentode. It provides controlled high-frequency gain while using a low-power filament suited to battery-operated receivers.

## GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | B7G               | BASE PINS            | 7             |
| NOMINAL HEATER      | 1.4 V / 50 mA     | PARALLEL HEATER      | 1.4 V / 50 mA |
| HEATING             | Direct            | SERIES OPERATION     | Capable       |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

## SECTION RATINGS

|                                             |                 |
|---------------------------------------------|-----------------|
| <b>SECTION 1</b> Pentode                    |                 |
| PLATE RESISTANCE                            | 800000 $\Omega$ |
| TRANSCONDUCTANCE                            | 0.00075 S       |
| MAXIMUM PLATE VOLTAGE                       | 90 V            |
| MAXIMUM SCREEN VOLTAGE                      | 67.5 V          |
| MAXIMUM PLATE DISSIPATION                   | 0.5 W           |
| MAXIMUM SCREEN DISSIPATION                  | 0.2 W           |
| MAXIMUM CATHODE CURRENT                     | 5.5 mA          |
| <i>RF/IF pentode for battery receivers.</i> |                 |

Equivalent designation printed on the 1T4 source for the directly heated variable-mu RF/IF pentode.



## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 1951 Mullard Valve and Service Manual

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

## 1951 MULLARD VALVE AND SERVICE MANUAL

## Section 1 · Pentode

| CHARACTERISTICS                               |                 |                         |
|-----------------------------------------------|-----------------|-------------------------|
| PARAMETER                                     | PUBLISHED VALUE | CONDITION / NOTE        |
| Anode Voltage                                 | 90 V            | —                       |
| Screen Voltage                                | 67.5 V          | —                       |
| Anode Current                                 | 3.5 mA          | —                       |
| Screen Current                                | 1.4 mA          | —                       |
| Control Grid Voltage for Low Transconductance | -16 V           | Transconductance=10uA/V |



## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 1961 Ferranti Technical Handbook

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

## 1961 FERRANTI TECHNICAL HANDBOOK

## Section 1 · Pentode

| CHARACTERISTICS       |                 |                  |
|-----------------------|-----------------|------------------|
| PARAMETER             | PUBLISHED VALUE | CONDITION / NOTE |
| Cutoff characteristic | Variable-mu     | —                |

| APPLICATION |                   |                  |
|-------------|-------------------|------------------|
| PARAMETER   | PUBLISHED VALUE   | CONDITION / NOTE |
| Application | RF / IF amplifier | —                |

## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 1963 Mullard

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

## 1963 MULLARD

## Section 1 · Pentode

| CHARACTERISTICS               |                 |                  |
|-------------------------------|-----------------|------------------|
| PARAMETER                     | PUBLISHED VALUE | CONDITION / NOTE |
| Filament Voltage              | 1.4 V           | DCOnly           |
| Filament Current              | 50 mA           | DCOnly           |
| Transconductance              | 900 $\mu$ S     | Representative   |
| Plate Resistance              | 500000 ohm      | Representative   |
| Input Capacitance             | 3.6 pF          | —                |
| Output Capacitance            | 7.5 pF          | —                |
| Plate-Grid Capacitance        | 0.01 pF         | Maximum          |
| Grid Voltage at gm=10 $\mu$ S | -16 V           | Representative   |

| OTHER                   |                 |                  |
|-------------------------|-----------------|------------------|
| PARAMETER               | PUBLISHED VALUE | CONDITION / NOTE |
| Plate Voltage           | 90 V            | RFAmplifier      |
| Screen Voltage          | 67.5 V          | RFAmplifier      |
| Plate Current           | 3.5 mA          | RFAmplifier      |
| Screen Current          | 1.4 mA          | RFAmplifier      |
| Maximum Plate Voltage   | 90 V            | —                |
| Maximum Screen Voltage  | 67.5 V          | —                |
| Maximum Cathode Current | 5.5 mA          | —                |

# 1963 Philips Electron Tubes Handbook V1

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

1963 PHILIPS ELECTRON TUBES HANDBOOK V1

## Section 1 · Pentode

| CAPACITANCE               |                 |                  |
|---------------------------|-----------------|------------------|
| PARAMETER                 | PUBLISHED VALUE | CONDITION / NOTE |
| Plate capacitance         | 7.5 pF          | —                |
| Grid-to-plate capacitance | —0.01 pF        | —                |

| OTHER          |                 |                  |
|----------------|-----------------|------------------|
| PARAMETER      | PUBLISHED VALUE | CONDITION / NOTE |
| Plate voltage  | 90 V            | RF/IF amplifier  |
| Screen voltage | 45 V            | RF/IF amplifier  |
| Plate current  | 1.8 mA          | RF/IF amplifier  |
| Screen current | 0.65 mA         | RF/IF amplifier  |

| CHARACTERISTIC   |                 |                  |
|------------------|-----------------|------------------|
| PARAMETER        | PUBLISHED VALUE | CONDITION / NOTE |
| Transconductance | 750 uS          | RF/IF amplifier  |
| Plate resistance | 0.8 Mohm        | —                |



TUBE TINKER  
ELECTRON TUBE DATABASE

SOURCE DATA APPENDIX

# 1967 Mullard Receiving Tubes for Maintenance

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

1967 MULLARD RECEIVING TUBES FOR MAINTENANCE

## Section 1 · Pentode

| CAPACITANCE                |                    |                      |
|----------------------------|--------------------|----------------------|
| PARAMETER                  | PUBLISHED VALUE    | CONDITION / NOTE     |
| Plate-to-Input Capacitance | <b>&lt;0.01 pF</b> | PublishedCapacitance |
| Input Capacitance          | <b>3.6 pF</b>      | PublishedCapacitance |
| Output Capacitance         | <b>7.5 pF</b>      | PublishedCapacitance |

| OTHER                                  |                 |                  |
|----------------------------------------|-----------------|------------------|
| PARAMETER                              | PUBLISHED VALUE | CONDITION / NOTE |
| Plate Voltage                          | <b>90 V</b>     | RForIFAmplifier  |
| Screen Voltage                         | <b>67.5 V</b>   | RForIFAmplifier  |
| Plate Current                          | <b>3.5 mA</b>   | RForIFAmplifier  |
| Screen Current                         | <b>1.4 mA</b>   | RForIFAmplifier  |
| Transconductance                       | <b>900 uS</b>   | RForIFAmplifier  |
| Plate Resistance                       | <b>500 kohm</b> | RForIFAmplifier  |
| Grid Voltage for 10uS Transconductance | <b>-16 V</b>    | RForIFAmplifier  |
| Plate Voltage                          | <b>90 V</b>     | PublishedLimits  |
| Screen Supply Voltage                  | <b>90 V</b>     | PublishedLimits  |
| Screen Voltage                         | <b>67.5 V</b>   | PublishedLimits  |
| Cathode Current                        | <b>5.5 mA</b>   | PublishedLimits  |



**SOURCE DATA APPENDIX**

### SOURCE OPERATING CONDITIONS

## 1968 Mazda Belvu

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

1968 MAZDA BELVU

## Section 1 · Pentode

| CHARACTERISTICS            |                 |                         |
|----------------------------|-----------------|-------------------------|
| PARAMETER                  | PUBLISHED VALUE | CONDITION / NOTE        |
| Heater or filament voltage | <b>1.4 V</b>    | Published nominal value |
| Heater or filament current | <b>50 mA</b>    | Published nominal value |

| PARAMETER        | PUBLISHED VALUE   | CONDITION / NOTE                   |
|------------------|-------------------|------------------------------------|
| Transconductance | 875 $\mu\text{S}$ | Published operating characteristic |
| Transconductance | 875 $\mu\text{S}$ | 67.5 V operating condition         |



SOURCE DATA APPENDIX

## SOURCE OPERATING CONDITIONS

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# 1999 Philips 0-D

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

1999 PHILIPS 0-D

## Section 1 · Pentode

| OTHER                   |                 |                           |
|-------------------------|-----------------|---------------------------|
| PARAMETER               | PUBLISHED VALUE | CONDITION / NOTE          |
| Parallel heater voltage | 1.4 V           | Published datasheet value |
| Series heater voltage   | 1.3 V           | Published datasheet value |
| Anode voltage           | 45 V            | Published datasheet value |
| Screen-grid voltage     | 45 V            | Published datasheet value |
| Anode current           | 1.7 mA          | Published datasheet value |
| Screen-grid current     | 0.7 mA          | Published datasheet value |

| CHARACTERISTICS                  |                   |                           |
|----------------------------------|-------------------|---------------------------|
| PARAMETER                        | PUBLISHED VALUE   | CONDITION / NOTE          |
| Transconductance                 | 700 $\mu\text{S}$ | Published datasheet value |
| Internal resistance              | 0.39 M $\Omega$   | Published datasheet value |
| Screen-grid amplification factor | 11                | Published datasheet value |
| Equivalent noise resistance      | 20 k $\Omega$     | Published datasheet value |
| Anode capacitance                | 7.5 pF            | Published datasheet value |
| Grid capacitance                 | 3.6 pF            | Published datasheet value |
| Anode-control-grid capacitance   | —0.01 pF          | Published datasheet value |