



## ELECTRONIC TUBE REFERENCE

5603

Power - Pentode Single (NOT beam) (under 10W) electronic tube

CONSOLIDATED TECHNICAL  
DATA

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

Western Electric filamentary power pentode for low-voltage power-amplifier service, with approximately 8 W plate dissipation.

## GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | B8-11             | BASE PINS            | 8             |
| NOMINAL HEATER      | 6.3 V / 500 mA    | PARALLEL HEATER      | – / –         |
| HEATING             | Direct            | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

## SECTION RATINGS

|                                                                                                                                                                                           |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>SECTION 1</b> Pentode                                                                                                                                                                  |                |
| PLATE RESISTANCE                                                                                                                                                                          | 17000 $\Omega$ |
| TRANSCONDUCTANCE                                                                                                                                                                          | 0.0054 S       |
| AMPLIFICATION FACTOR                                                                                                                                                                      | 92             |
| MAXIMUM PLATE VOLTAGE                                                                                                                                                                     | 150 V          |
| MAXIMUM SCREEN VOLTAGE                                                                                                                                                                    | 150 V          |
| MAXIMUM PLATE DISSIPATION                                                                                                                                                                 | 8 W            |
| MAXIMUM SCREEN DISSIPATION                                                                                                                                                                | 2 W            |
| MAXIMUM CATHODE CURRENT                                                                                                                                                                   | 75 mA          |
| <i>Typical characteristics at plate 135 V and screen 135 V: plate current 50 mA, screen current 4 mA, amplification factor 92, plate resistance 17 kohm and transconductance 5400 uS.</i> |                |

The 5603 is a Western Electric filamentary power pentode amplifier with published ratings and operating

characteristics.



## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 1960 Western Electric Random 2

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

1960 WESTERN ELECTRIC RANDOM 2

## Section 1 · Pentode

| OTHER                  |                 |                  |
|------------------------|-----------------|------------------|
| PARAMETER              | PUBLISHED VALUE | CONDITION / NOTE |
| Typical plate voltage  | 135 V           | —                |
| Typical screen current | 4 mA            | —                |



## SOURCE OPERATING CONDITIONS

# 2026 Western Electric 300s

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

2026 WESTERN ELECTRIC 300S

## Section 1 · Pentode

| OTHER                                            |                 |                  |
|--------------------------------------------------|-----------------|------------------|
| PARAMETER                                        | PUBLISHED VALUE | CONDITION / NOTE |
| ControlGridToFilamentScreenSuppressorCapacitance | 9.5 pF          | —                |
| PlateToControlGridCapacitance                    | 0.3 pF          | —                |
| PlateToFilamentScreenSuppressorCapacitance       | 7.5 pF          | —                |
| Cathode Bias Resistor                            | 230 ohm         | —                |
| SignalGridVoltage                                | 8.5 V AC        | —                |
| Load Resistance                                  | 2500 ohm        | —                |

| CHARACTERISTIC |                 |                           |
|----------------|-----------------|---------------------------|
| PARAMETER      | PUBLISHED VALUE | CONDITION / NOTE          |
| Plate Current  | 50 mA           | Plate=135 V; Screen=135 V |
| Screen Current | 4 mA            | Plate=135 V; Screen=135 V |

| PARAMETER    | PUBLISHED VALUE | CONDITION / NOTE |
|--------------|-----------------|------------------|
| Power Output | 2.2 W           | —                |



SOURCE DATA APPENDIX

## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 2026 Western Electric Other

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

## 2026 WESTERN ELECTRIC OTHER

### Section 1 · Pentode

| OTHER                      |                 |                                          |
|----------------------------|-----------------|------------------------------------------|
| PARAMETER                  | PUBLISHED VALUE | CONDITION / NOTE                         |
| Plate Voltage Maximum      | 150 V           | Design-center value                      |
| Plate Dissipation Maximum  | 8 W             | Design-center value                      |
| Screen Voltage Maximum     | 150 V           | Design-center value                      |
| Screen Dissipation Maximum | 2.5 W           | Design-center value                      |
| Cathode Current Maximum    | 75 mA           | Design-center value                      |
| Filament Voltage           | 6.3 V           | Operating conditions and characteristics |
| Filament Current           | 500 mA          | Operating conditions and characteristics |
| Plate Voltage              | 135 V           | Published operating condition            |
| Screen Voltage             | 135 V           | Published operating condition            |
| Suppressor-Grid Voltage    | 0 V             | Published operating condition            |
| Cathode Bias Resistor      | 230 ohm         | Published operating condition            |
| Signal Grid Voltage        | 8.5 V ac        | Published operating condition            |
| Load Resistance            | 2500 ohm        | Published operating condition            |

| CHARACTERISTIC       |                 |                               |
|----------------------|-----------------|-------------------------------|
| PARAMETER            | PUBLISHED VALUE | CONDITION / NOTE              |
| Plate Current        | 50 mA           | Published operating condition |
| Screen Current       | 4 mA            | Published operating condition |
| Amplification Factor | 92              | Published operating condition |
| Plate Resistance     | 17000 ohm       | Published operating condition |
| Transconductance     | 5400 uS         | Published operating condition |

| PARAMETER    | PUBLISHED VALUE | CONDITION / NOTE              |
|--------------|-----------------|-------------------------------|
| Power Output | 2.2 W           | Published operating condition |

| CAPACITANCE                                            |                 |                  |
|--------------------------------------------------------|-----------------|------------------|
| PARAMETER                                              | PUBLISHED VALUE | CONDITION / NOTE |
| Control-grid to filament/screen/suppressor capacitance | 9.5 pF          | No shield        |
| Plate to control-grid capacitance                      | 0.3 pF          | No shield        |
| Plate to filament/screen/suppressor capacitance        | 7.5 pF          | No shield        |