



ELECTRONIC TUBE REFERENCE

310A

Voltage Pentode electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

PENTODE

Western Electric heater-cathode general-purpose pentode designed for voltage amplification.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7K	BASE PINS	7
NOMINAL HEATER	10 V / 320 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Pentode	
PLATE RESISTANCE	750000 Ω
TRANSCONDUCTANCE	0.0018 S
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM SCREEN VOLTAGE	180 V
MAXIMUM PLATE DISSIPATION	2.5 W
MAXIMUM SCREEN DISSIPATION	0.4 W
MAXIMUM CATHODE CURRENT	10 mA
<i>Promoted fields audited from printed ratings/characteristics; remaining published values preserved as parameters.</i>	

General-purpose heater-cathode pentode for voltage amplification.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1956 Western Electric Tubes

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

1956 WESTERN ELECTRIC TUBES

Section 1 · Pentode

APPLICATION

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Service	General-purpose voltage amplification	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

195X Raytheon Special Purpose Tubes

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

195X RAYTHEON SPECIAL PURPOSE TUBES

Section 1 · Pentode

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	135 V	—
Grid 1 Voltage	-3 V	—
Grid 2 Voltage	135 V	—
Plate Current	5.5 mA	—

CHARACTERISTIC

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	0.75 Mohm	—
Transconductance	1800 uS	—



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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	10 volt	Heater voltage 10.0 volts, a.c. or d.c.
Nominal heater current	0.32 ampere	Nominal heater current 0.32 ampere
are shown in Figures	3 volt	are shown in Figures 3 and 4, respectively, as functions of control-grid voltage for several values
screen-grid current characteristics as functions of plate voltage are given in Figures	8 volt	screen-grid current characteristics as functions of plate voltage are given in Figures 8 and 9,
respectively, for several values of control-grid voltage, a screen-grid voltage of	135 volt	respectively, for several values of control-grid voltage, a screen-grid voltage of 135 volts, and zero
of plate voltage for several values of suppressor-grid voltage, a screen-grid voltage of	135 volt	of plate voltage for several values of suppressor-grid voltage, a screen-grid voltage of 135 volts,
and a control-grid voltage of	-3 volt	and a control-grid voltage of —3 volts. These last characteristics are of particular interest in
HEATER VOLTAGE =	10 VOLT	HEATER VOLTAGE =10 VOLTS $E_p=E_{ca}=180$ 1575
— SUPPRESSOR-GRID VOLTAGE =	0 VOLT	— SUPPRESSOR-GRID VOLTAGE =0 AL LA
HEATER VOLTAGE =	10 VOLT	HEATER VOLTAGE =10VOLTS
SUPPRESSOR GRID VOLTAGE =	0 VOLT	SUPPRESSOR GRID VOLTAGE =0
HEATER VOLTAGE =	10 VOLT	HEATER VOLTAGE = 10 VOLTS
SCREEN-GRID VOLTAGE =	135 VOLT	SCREEN-GRID VOLTAGE =135 VOLTS
Published value	14 VOLT	14 SUPPRESSOR-GRID VOLTAGE = 0
\\ SCREEN - GRID VOLTAGE =	135 VOLT	\\ SCREEN - GRID VOLTAGE =135 VOLTS
Published value	4 VOLT	4 SUPPRESSOR-GRID VOLTAGE =0
HEATER VOLTAGE=	10 VOLT	HEATER VOLTAGE=10 VOLTS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
SCREEN-GRID VOLTAGE =	135 VOLT	SCREEN-GRID VOLTAGE =135 VOLTS $E_{c1}=-6$
SUPPRESSOR-GRID VOLTAGE =	0 VOLT	SUPPRESSOR-GRID VOLTAGE =0 V_{e-5}

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	250 volt	Maximum plate voltage 250 volts
Maximum screen-grid voltage	180 volt	Maximum screen-grid voltage 180 volts
Maximum cathode current (screen-grid current plus plate current)	10 milliamperes	Maximum cathode current (screen-grid current plus plate current) 10 milliamperes
Maximum screen-grid current	2.5 milliamperes	Maximum screen-grid current 2.5 milliamperes