



ELECTRONIC TUBE REFERENCE

241B

Power - Triode (over 1000V 100W) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Filamentary transmitting triode designed for radio-frequency power amplification and oscillator operation. Published service data emphasize transmitter duty, high plate loading, and useful RF output.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	14 V / 6 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
PLATE RESISTANCE	1900 Ω
TRANSCONDUCTANCE	0.0085 S
AMPLIFICATION FACTOR	16
MAXIMUM PLATE VOLTAGE	3000 V
MAXIMUM PLATE DISSIPATION	275 W
MAXIMUM CATHODE CURRENT	350 mA
<i>Promoted fields mapped from published ratings/characteristics; additional published values preserved in parameter table.</i>	

The Western Electric 241B is a triode listed in the supplied catalog table. It is an air-cooled transmitting type intended for RF power service.



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 · Triode

CHARACTERISTICS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum/Typical Power Output	150 W	Catalog-table value

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	3000 V	Catalog-table value
Maximum Plate Dissipation	275 W	Catalog-table value



SOURCE OPERATING CONDITIONS

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1971 Machlette Laboratories

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

1971 MACHLETTE LABORATORIES

Section 1 · Triode

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum ratings of [1]	3 kV	Maximum ratings of 3 kVdc and 350 milliamperes apply at hausted by a straight-line, high-voltage process assuring the
Maximum ratings of [2]	350 kV	Maximum ratings of 3 kVdc and 350 milliamperes apply at hausted by a straight-line, high-voltage process assuring the
missible with plate voltage reduced to	1 kV	missible with plate voltage reduced to 1 kVdc. and super-voltage x-ray tubes.
Filament Current at [1]	14 V	Filament Current at 14 volts 6 amperes

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament Current at [2]	6 V	Filament Current at 14 volts 6 amperes
Amplification Factor	16	Amplification Factor 16
Grid-Plate Transconductance	8500	Grid-Plate Transconductance 8500 ubfhos
Direct Plate Voltage	3600 V	Direct Plate Voltage 3600 volts
Direct Plate Current	350 A	Direct Plate Current .. 350 milliamperes
Plate Dissipation	275 W	Plate Dissipation 275 watts
Direct Grid Current	75 A	Direct Grid Current 75 milliamperes
Frequency e,	7.5 MHz	Frequency e, 7.5 megacycles
Direct Plate Current [1]	170 A	Direct Plate Current 170 200 milliamperes
Direct Plate Current [2]	200 A	Direct Plate Current 170 200 milliamperes
Published value [1]	103 ohm	1,03(! Impedance .. 5000 3000 ohms
Published value [2]	5000 ohm	1,03(! Impedance .. 5000 3000 ohms
Published value [3]	3000 ohm	1,03(! Impedance .. 5000 3000 ohms
Plate Dissipation	175 W	Plate Dissipation 175 watts
Load IMpedance ...o.ooiiiesecaeieestee e	8000 ohm	Load IMpedance ...o.ooiiiesecaeieestee e 8000 ohms
Peak POWer OUIPUL oot ettt et eeteeneeterese et e rseeeeaenreanee	200 W	Peak POWER OUIPUL oot ettt et eeteeneeterese et e rseeeeaenreanee 200 watts
Plate Dissipation ..o [1]	250 W	Plate Dissipation ..o 250 200 watts
Plate Dissipation ..o [2]	200 W	Plate Dissipation ..o 250 200 watts
Load Resistance (plate-io-plate) [1]	8000 ohm	Load Resistance (plate-io-plate) . 8000 5900 ohms
Load Resistance (plate-io-plate) [2]	5900 ohm	Load Resistance (plate-io-plate) . 8000 5900 ohms
Load Resistance (per tube) [1]	2000 ohm	Load Resistance (per tube) . 2000 1475 ohms
Load Resistance (per tube) [2]	1475 ohm	Load Resistance (per tube) . 2000 1475 ohms
Recommended Power for driving SIage ..o [1]	50 W	Recommended Power for driving SIage ..o 50 50 watts
Recommended Power for driving SIage ..o [2]	50 W	Recommended Power for driving SIage ..o 50 50 watts
Direct Plate Current [1]	300 A	Direct Plate Current 300 270 milliamperes
Direct Plate Current [2]	270 A	Direct Plate Current 300 270 milliamperes

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Dissipation [1]	275 W	Plate Dissipation 275 275 watts
Plate Dissipation [2]	275 W	Plate Dissipation 275 275 watts
Direct Plate Current [1]	300 A	Direct Plate Current . 300 300 milliamperes
Direct Plate Current [2]	300 A	Direct Plate Current . 300 300 milliamperes
Direct Grid Current [1]	75 A	Direct Grid Current ... 75 75 milliamperes
Direct Grid Current [2]	75 A	Direct Grid Current ... 75 75 milliamperes
Nominal Cartier Power Output for use with [1]	100	Nominal Cartier Power Output for use with 100% modulation ... 300 200 wats
Nominal Cartier Power Output for use with [2]	300	Nominal Cartier Power Output for use with 100% modulation ... 300 200 wats
Nominal Cartier Power Output for use with [3]	200	Nominal Cartier Power Output for use with 100% modulation ... 300 200 wats
voltage for frequencies between [1]	7.5 MHz	voltage for frequencies between 7.5 and 22,5 megacycles
voltage for frequencies between [2]	225 MHz	voltage for frequencies between 7.5 and 22,5 megacycles


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

2026 Western Electric 200s

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

2026 WESTERN ELECTRIC 200S

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament voltage	14 volt	Filament voltage 14 volts
Average thermionic emission	4 amperes	Average thermionic emission 4 amperes
Average Characteristics at	2000 volts	Average Characteristics at 2000 volts direct plate potential and minus 90 volts grid bias.
Amplification factor	16	Amplification factor 16
Plate resistance	1900 ohms	Plate resistance 1900 ohms
Grid to plate transconductance	8500 micromhos	Grid to plate transconductance 8500 micromhos

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Direct plate voltage	1500 volt	Direct plate voltage .1500 1250 volts
Grid bias	-5 volts	Grid bias . - 5 8 -40 volts
Direct plate current	170 milliamperes	Direct plate current . 170 200 milliamperes
Plate dissipation	250 watts	Plate dissipation . 250 250 watts
Load impedance	5000 ohms	Load impedance .5000 3000 ohms
Undistorted output	50 watts	Undistorted output . 50 40 watts
Plate dissipation	175 watts	Plate dissipation 175 watts
Load impedance	8000 ohms	Load impedance 8000 ohms
Peak power output	200 watts	Peak power output 200 watts
Plate dissipation	275 watts	Plate dissipation 275 200 watts
Load resistance plate-to-plate	8000 ohms	Load resistance plate-to-plate 8000 5900 ohms
Load resistance per tube	2000 ohms	Load resistance per tube 2000 1475 ohms
Direct plate current	200 milliamperes	Direct plate current 200 270 milliamperes
Plate dissipation	275 watts	Plate dissipation 275 275 watts
Grid bias	-120 volts	Grid bias —120 — 90 volts
Direct plate current	300 milliamperes	Direct plate current 300 300 milliamperes
Grid bias	-185 volts	Grid bias —185 to —250 —150 to —200 volts
Nominal power output	400 watts	Nominal power output 400 300 watts
fuse or circuit breaker should remove the plate voltage if the plate current exceeds	450 volt	fuse or circuit breaker should remove the plate voltage if the plate current exceeds 450 milliamperes.
circuit, reduced plate voltage or a series resistance of	1000 volt	circuit, reduced plate voltage or a series resistance of 1000 to 5000 ohms in the plate circuit should
A	5 volt	A 5% decrease in filament voltage reduces the thermionic emission approximately 25%. Either
resistance of	30 ohms	resistance of 30 to 40 ohms of ten watt rating is suitable.
voltages off,	30 volt	voltages off, 30% above normal voltage for 10 minutes followed by a longer period at normal
culated on the basis of	5	culated on the basis of 5% second harmonic distortion.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
An audio voltage is superimposed on the grid driving voltage to modulate the signal	100 volt	An audio voltage is superimposed on the grid driving voltage to modulate the signal 100%.
of the plate voltage. For complete or	100 volt	of the plate voltage. For complete or 100% modulation, the plate voltage varies from zero
fourth of the peak power output under	100 volt	fourth of the peak power output under 100% modulation. In this case, since the plate voltage
frequency limit of	22.5 megacycles	frequency limit of 22.5 megacycles and for frequencies between these two limits the plate voltage

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum direct plate voltage	3000 volt	Maximum direct plate voltage 3000 volts
Maximum direct plate current	350 milliamperes	Maximum direct plate current 350 milliamperes
Maximum plate dissipation	275 watts	Maximum plate dissipation 275 watts
Maximum direct grid current	75 milliamperes	Maximum direct grid current 75 milliamperes
Maximum r-f grid current	5 amperes	Maximum r-f grid current 5 amperes
Maximum frequency for the above ratings	7.5 megacycles	Maximum frequency for the above ratings.. . 7.5 megacycles
Maximum plate voltage for upper frequency limit of	2 volt	Maximum plate voltage for upper frequency limit of 22.5 Mc 1000 volts
Maximum plate voltage for frequencies between	7.5 volt	Maximum plate voltage for frequencies between 7.5 and 22.5 Mc in
Direct plate voltage	3000 volt	Direct plate voltage 3000 volts (Max.)
Direct plate voltage	2000 volt	Direct plate voltage 2000 (Max.) 1500 volts
Approximate maximum output	650 watts	Approximate maximum output 650 500 watts
Direct plate voltage	2000 volt	Direct plate voltage 2000 (Max.) 1300 volts
Direct plate voltage	1500 volt	Direct plate voltage 1500 (Max.)

TUBE TINKER

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