



ELECTRONIC TUBE REFERENCE

4CX5000A

Power - Tetrode (NOT beam) (over 1000V 100W) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
TETRODE

Large ceramic/metal transmitting tetrode for high-power RF and audio applications, supporting broadcast and industrial amplifier service with roughly 5–6 kW plate dissipation.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	7.5 V / 78 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Tetrode	
TRANSCONDUCTANCE	0.021 S
AMPLIFICATION FACTOR	5
MAXIMUM PLATE VOLTAGE	7500 V
MAXIMUM SCREEN VOLTAGE	1500 V
MAXIMUM PLATE DISSIPATION	5000 W
MAXIMUM SCREEN DISSIPATION	250 W
MAXIMUM GRID DISSIPATION	75 W
MAXIMUM CATHODE CURRENT	2.8 A
Single electrical section; values mapped from printed ratings/characteristics.	

Coaxial metal-ceramic tetrode for frequencies up to 110 MHz, forced-air-cooled; particularly suitable for use as RF amplifier, AF amplifier and linear amplifier in single-sideband transmitters. Cathode/control

grid, screen grid ck/g1g2 ≈ 47 pF Control grid/screen grid, cathode cg1/g2k ≈ 106 pF



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1962 Eimac

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

1962 EIMAC

Section 1 · Tetrode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor	4.5	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum DC plate voltage	7500 V	—
Maximum DC screen voltage	1500 V	—
Maximum plate dissipation	5000 W	—
Maximum screen dissipation	250 W	—
Maximum grid dissipation	75 W	—
Maximum cathode/plate current	2.8 A	—



SOURCE OPERATING CONDITIONS

1963 Siemens

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

1963 SIEMENS

Section 1 · Tetrode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor	4.5	—
Transconductance	21000 μ S	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor of screen grid	4,5	—
Transconductance	21 mA/V mA/V	—
I A = 0,9	1,2 A A	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	7,5 V V	—
Heater current	≈ 78 A A	—
Frequency	30 60 110 MHz MHz	—
Anode voltage (dc)	7,5 7,0 6,5 kV kV	—
Screen grid voltage (dc)	1500 1500 1500 V V	—
Anode current (dc)	3,0 2,8 2,6 A A	—
Anode dissipation	5,0 5,0 5,0 kW kW	—
Screen grid dissipation	250 250 250 W W	—
Control grid dissipation	75 75 75 W W	—
Frequency	≤ 30 ≤ 110 MHz MHz	—
Output power	16 10 kW 1) kW	—
Anode voltage (dc)	7,5 6,5 kV kV	—
Screen grid voltage (dc)	500 750 V V	—
Control grid voltage (dc)	– 350 – 350 V V	—
Peak control grid voltage (ac)	590 430 V V	—
Anode current (dc)	2,8 2,3 A A	—
Screen grid current (dc)	0,50 0,20 A A	—
Control grid current (dc)	0,25 0,05 A A	—
Anode input power	21 15 kW A	—
Drive power	150 25 W 1) W	—
Anode dissipation	5,0 5,0 kW kW	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Efficiency	77 67 %	—
Transmitter Tetrode	2014 CL	—
Frequency	30 MHz MHz	—
Anode voltage (dc)	5,5 kV kV	—
Screen grid voltage (dc)	1000 V V	—
Anode current (dc)	2,5 A A	—
Anode dissipation	6,0 kW kW	—
Screen grid dissipation	250 W W	—
Control grid dissipation	75 W W	—
Frequency	≤ 30 MHz MHz	—
Carrier power	5,8 kW 1) kW	—
Anode voltage (dc)	5,0 kV kV	—
Screen grid voltage (dc)	500 V V	—
Control grid voltage (dc)	– 400 V V	—
Peak control grid voltage (ac)	520 V V	—
Anode current (dc)	1,4 A A	—
Screen grid current (dc)	0,26 A A	—
Control grid current (dc)	0,05 A A	—
Drive power	25 W 1) W	—
Anode dissipation	1,1 kW 2) kW	—
Modulation factor	100 %	—
Peak screen grid voltage (ac)	450 V V	—
Anode dissipation during modulation	1,7 kW kW	—
the anode dissipation increases	1,5 times the power dissipation stated for the carrier value.	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transmitter Tetrode	2014 CL	—
Anode voltage (dc)	7,5 kV kV	—
Screen grid voltage (dc)	1500 V V	—
Anode current (dc)	4,0 A A	—
Anode dissipation	6,0 kW kW	—
Screen grid dissipation	250 W W	—
Control grid dissipation	75 W W	—
Output power	11,5 13,5 17 17,5 kW kW	—
Anode voltage (dc)	4,0 5,0 6,0 7,0 kV kV	—
Screen grid voltage (dc)	1250 1250 1250 1250 V V	—
Control grid voltage (dc)	– 270 – 280 – 310 – 325 V V	—
between	2 tubes Ugg m 500 480 540 470 V V	—
Anode current (dc)	2 × 2,55 2 × 2,20 2 × 2,10 2 × 1,80 A A	—
Zero signal anode current (dc)	2 × 0,75 2 × 0,50 2 × 0,41 2 × 0,35 A A	—
Screen grid current (dc)	2 × 0,17 2 × 0,16 2 × 0,15 2 × 0,12 A A	—
Anode dissipation	2 × 4,20 2 × 4,20 2 × 4,20 2 × 4,20 kW kW	—
Effective load resistance	1500 2370 2940 4100 Ω Ω	—
Transmitter Tetrode	2014 CL	—
The temperature of the ceramic-metal parts must not	250 °C at any point.	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode/control grid, screen grid ck/glg2	≈ 47 pF pF	—
Control grid/screen grid, cathode cg1/g2k	≈ 106 pF pF	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode/cathode	$\approx 0,14 \text{ pF}$ 1) pF	—
Anode/control grid	$\approx 0,75 \text{ pF}$ 1) pF	—
Anode/screen grid, cathode ca/g2k	$\approx 18 \text{ pF}$ pF	—
Anode/control grid, screen grid, cathode ca/glg2k	$\approx 18 \text{ pF}$ pF	—
Transmitter Tetrode	2014 CL	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1965 Eimac Tube Manual

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

1965 EIMAC TUBE MANUAL

Section 1 · Tetrode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/Filament Voltage	7.5 V	—
Heater/Filament Current	73-78 A	—
Amplification Factor	4.6	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum DC Plate Voltage	7500 V	—
Maximum DC Screen Voltage	1500 V	—
Maximum Plate/Cathode Current	2.5 A	—
Maximum Plate Dissipation	6000 W	—
Maximum Screen Dissipation	250 W	—
Maximum Grid Dissipation	75 W	—
Frequency for Maximum Ratings	110 MHz	—
Typical Plate Output Power	16 W	—

CONSTRUCTION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cooling	Forced air	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1971 English Electric Valve

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

1971 ENGLISH ELECTRIC VALVE

Section 1 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament voltage	7.5 V	—
Filament current	75 A	—
Frequency for full ratings	30 MHz	—
Output power, class C telegraphy	16 kW	—
Frequency at reduced ratings	110 MHz	—

TUBE TINKER

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