



ELECTRONIC TUBE REFERENCE

4CX3000A

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

CONSOLIDATED TECHNICAL
DATA

1 SECTION
CONSTRUCTION
TETRODE

Forced-air-cooled 3 kW transmitting tetrode for high-power linear RF and professional transmitter service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	9 V / 41.5 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Tetrode	
AMPLIFICATION FACTOR	5.5
MAXIMUM PLATE VOLTAGE	7000 V
MAXIMUM SCREEN VOLTAGE	1000 V
MAXIMUM PLATE DISSIPATION	3000 W
MAXIMUM SCREEN DISSIPATION	175 W
MAXIMUM GRID DISSIPATION	50 W
<i>Promoted maximum ratings/characteristics populated from published headings; service-specific values retained in parameters.</i>	

The EIMAC 8169/4CX3000A is a ceramic and metal power tetrode designed to be used as a Class-AB; linear ampli- of low intermodulation distortion make it especially suitable This tube is unique in that a production test is included to insure minimum distortion products. The 8169/4CX3000A must produce a minimum of 5300 watts in Class AB; service

SOURCE OPERATING CONDITIONS

1962 Eimac

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

1962 EIMAC

Section 1 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage	9 V	Voltage - - - - 9.0 volts
Current [1]	39.5 A	Current - - - - 39.5 43.5 amps
Current [2]	43.5 A	Current - - - - 39.5 43.5 amps
Amplification Factor (Grid Screen)	5.5	Amplification Factor (Grid Screen) 5.5
Frequency For Maximum Ratings	150 MHz	Frequency For Maximum Ratings 150 MHz
Output [1]	10.5 pF	Output - - - - 10.5 14.5 pF
Output [2]	14.5 pF	Output - - - - 10.5 14.5 pF
Output - = - = « [1]	4 pF	Output - = - = « 4« - « < « - - - - 105 145 pF
Output - = - = « [2]	105 pF	Output - = - = « 4« - « < « - - - - 105 145 pF
Output - = - = « [3]	145 pF	Output - = - = « 4« - « < « - - - - 105 145 pF
OR OSCILLATOR DC Plate Voltage [1]	5000 V	OR OSCILLATOR DC Plate Voltage - - - - - 5000 7000 volts
OR OSCILLATOR DC Plate Voltage [2]	7000 V	OR OSCILLATOR DC Plate Voltage - - - - - 5000 7000 volts
Class-C Telegraphy or FM Telephony DC Screen Voltage [1]	500 V	Class-C Telegraphy or FM Telephony DC Screen Voltage - - - - - 500 500 volts
Class-C Telegraphy or FM Telephony DC Screen Voltage [2]	500 V	Class-C Telegraphy or FM Telephony DC Screen Voltage - - - - - 500 500 volts
(Key-down conditions) DC Grid Voltage [1]	280	(Key-down conditions) DC Grid Voltage - - - - - 280 —300volts
(Key-down conditions) DC Grid Voltage [2]	-300	(Key-down conditions) DC Grid Voltage - - - - - 280 —300volts
DC Plate Current [1]	1.9 A	DC Plate Current - - - - - 1.9 1.9 amps

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC Plate Current [2]	1.9 A	DC Plate Current - - - - - 1.9 1.9 amps
MAXIMUM RATINGS DC Screen Current [1]	250 mA	MAXIMUM RATINGS DC Screen Current - - - - - 250 230 mA
MAXIMUM RATINGS DC Screen Current [2]	230 mA	MAXIMUM RATINGS DC Screen Current - - - - - 250 230 mA
DC P_{e_g} ENV\C/)gIL/%Eé [1]	7000 mA	DC P_{e_g} ENV\C/)gIL/%Eé - - - - 7000 V8LTS DC Grid Current - - - - - . 100 100 mA
DC P_{e_g} ENV\C/)gIL/%Eé [2]	100 mA	DC P_{e_g} ENV\C/)gIL/%Eé - - - - 7000 V8LTS DC Grid Current - - - - - . 100 100 mA
DC P_{e_g} ENV\C/)gIL/%Eé [3]	100 mA	DC P_{e_g} ENV\C/)gIL/%Eé - - - - 7000 V8LTS DC Grid Current - - - - - . 100 100 mA
DC PLATE CURRENT [1]	2 V	DC PLATE CURRENT - - - - 2.0 AMPS iy RFPG"d Voltage 322 43? volts
DC PLATE CURRENT [2]	322 V	DC PLATE CURRENT - - - - 2.0 AMPS iy RFPG"d Voltage 322 43? volts
DC PLATE CURRENT [3]	43 V	DC PLATE CURRENT - - - - 2.0 AMPS iy RFPG"d Voltage 322 43? volts
PLATE DISSIPATION	3000 W	PLATE DISSIPATION - - - - 3000 WATTS riving Power - - - - - watts
SCREEN DISSIPATION [1]	175 W	SCREEN DISSIPATION - - - 175 WATTS Plate Dissipation - - - - - 1900 2300 watts
SCREEN DISSIPATION [2]	1900 W	SCREEN DISSIPATION - - - 175 WATTS Plate Dissipation - - - - - 1900 2300 watts
SCREEN DISSIPATION [3]	2300 W	SCREEN DISSIPATION - - - 175 WATTS Plate Dissipation - - - - - 1900 2300 watts
GRID DISSIPATION [1]	50 W	GRID DISSIPATION - - - . 50 WATTS Plate Output Power - - - - - 7600 11,000 watts
GRID DISSIPATION [2]	7600 W	GRID DISSIPATION - - - . 50 WATTS Plate Output Power - - - - - 7600 11,000 watts
GRID DISSIPATION [3]	11000 W	GRID DISSIPATION - - - . 50 WATTS Plate Output Power - - - - - 7600 11,000 watts
POWER AMPLIFIER DC Plate Voltage B	5000 V	POWER AMPLIFIER DC Plate Voltage B 5000 volts
DC Grid Voltage B	-375 V	DC Grid Voltage B —375 volts
DC SCREEN VOLTAGE [1]	600 V	DC SCREEN VOLTAGE - - - - 600 VOLTS DC Screen Current - - - .. - - 170 mA
DC SCREEN VOLTAGE [2]	170 V	DC SCREEN VOLTAGE - - - - 600 VOLTS DC Screen Current - - - .. - - 170 mA

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PLATE DISSIPATION* [1]	2000 V	PLATE DISSIPATION* - - - 2000 WATTS Peak RF Grid Voltage - e e e - . 455 volts
PLATE DISSIPATION* [2]	455 V	PLATE DISSIPATION* - - - 2000 WATTS Peak RF Grid Voltage - e e e - . 455 volts
GRID DISSIPATION [1]	50 W	GRID DISSIPATION - - - - 50 WATTS Plate Dissipation - - - - - 1250 watts
GRID DISSIPATION [2]	1250 W	GRID DISSIPATION - - - - 50 WATTS Plate Dissipation - - - - - 1250 watts
*Corresponds to [1]	3000 W	*Corresponds to 3000 watts at 100 percent sine- wave modulation. Plate Output Power - - - - - 5750 watts
*Corresponds to [2]	100 W	*Corresponds to 3000 watts at 100 percent sine- wave modulation. Plate Output Power - - - - - 5750 watts
*Corresponds to [3]	5750 W	*Corresponds to 3000 watts at 100 percent sine- wave modulation. Plate Output Power - - - - - 5750 watts
OR MODULATOR DC Plate Voltage [1]	5000 V	OR MODULATOR DC Plate Voltage - - - - - 5000 6000 volts
OR MODULATOR DC Plate Voltage [2]	6000 V	OR MODULATOR DC Plate Voltage - - - - - 5000 6000 volts
DC Grid Voltage* - - - - - = [1]	180 V	DC Grid Voltage* - - - - - =180 —200 volts
DC Grid Voltage* - - - - - = [2]	-200 V	DC Grid Voltage* - - - - - =180 —200 volts
MAXMUM RATINGS (Per Tube) Max-Signal Plate Current - - ~ [1]	3.6 A	MAXMUM RATINGS (Per Tube) Max-Signal Plate Current - - ~ - - 3.6 3.1 amps
MAXMUM RATINGS (Per Tube) Max-Signal Plate Current - - ~ [2]	3.1 A	MAXMUM RATINGS (Per Tube) Max-Signal Plate Current - - ~ - - 3.6 3.1 amps
DC PLATE VOLTAGE [1]	6000 V	DC PLATE VOLTAGE - - - - 6000 VOLTS Zero- Signal Plate Current - - - 1.0 0.7 amp
DC PLATE VOLTAGE [2]	1 V	DC PLATE VOLTAGE - - - - 6000 VOLTS Zero- Signal Plate Current - - - 1.0 0.7 amp
DC PLATE VOLTAGE [3]	0.7 V	DC PLATE VOLTAGE - - - - 6000 VOLTS Zero- Signal Plate Current - - - 1.0 0.7 amp
DC SCREEN VOLTAGE [1]	1000 V	DC SCREEN VOLTAGE - - - . 1000 VOLTS Max- Signal Screen Current** - - - 170 120 mA
DC SCREEN VOLTAGE [2]	170 V	DC SCREEN VOLTAGE - - - . 1000 VOLTS Max- Signal Screen Current** - - - 170 120 mA

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
DC SCREEN VOLTAGE [3]	120 V	DC SCREEN VOLTAGE - - - . 1000 VOLTS Max-Signal Screen Current** - - - 170 120 mA
DC PLATE CURRENT [1]	2 A	DC PLATE CURRENT - - - - 2.0 AMPS Zero-Signal Screen Current - - - 0 0 mA
DC PLATE CURRENT [2]	0 mA	DC PLATE CURRENT - - - - 2.0 AMPS Zero-Signal Screen Current - - - 0 0 mA
DC PLATE CURRENT [3]	0 mA	DC PLATE CURRENT - - - - 2.0 AMPS Zero-Signal Screen Current - - - 0 0 mA
PLATE DISSIPATION [1]	3500 V	PLATE DISSIPATION - - - - 3500 WATTS Peak AF Driving Voltage* - - - 155 175 volts
PLATE DISSIPATION [2]	155 V	PLATE DISSIPATION - - - - 3500 WATTS Peak AF Driving Voltage* - - - 155 175 volts
PLATE DISSIPATION [3]	175 V	PLATE DISSIPATION - - - - 3500 WATTS Peak AF Driving Voltage* - - - 155 175 volts
SCREEN DISSIPATION [1]	175 W	SCREEN DISSIPATION - - - - 175 WATTS Driving Power - - - - - 0 0 watts
SCREEN DISSIPATION [2]	0 W	SCREEN DISSIPATION - - - - 175 WATTS Driving Power - - - - - 0 0 watts
SCREEN DISSIPATION [3]	0 W	SCREEN DISSIPATION - - - - 175 WATTS Driving Power - - - - - 0 0 watts
GRID DISSIPATION N [1]	50 W	GRID DISSIPATION N 50 WATTS Load Resistance, Plate-to-Plate - - - 3000 4160 ohms
GRID DISSIPATION N [2]	3000 W	GRID DISSIPATION N 50 WATTS Load Resistance, Plate-to-Plate - - - 3000 4160 ohms
GRID DISSIPATION N [3]	4160 W	GRID DISSIPATION N 50 WATTS Load Resistance, Plate-to-Plate - - - 3000 4160 ohms
Per tube Max-Signal Plate Dissipation [1]	3300 W	*Per tube Max-Signal Plate Dissipation* - - - 3300 3100 watts
Per tube Max-Signal Plate Dissipation [2]	3100 W	*Per tube Max-Signal Plate Dissipation* - - - 3300 3100 watts
**Approximate values Max-Signal Plate Output Power [1]	11400 W	**Approximate values Max-Signal Plate Output Power - - 11,400 12,400 watts
**Approximate values Max-Signal Plate Output Power [2]	12400 W	**Approximate values Max-Signal Plate Output Power - - 11,400 12,400 watts
Class-AB DC Plate Voltage	5000 V	Class-AB DC Plate Voltage - - - 5000 volts
DC Screen Voltage	850 V	DC Screen Voltage - - - 850 volts
MAXIMUM RATINGS DC Grid Voltage*	180 V	MAXIMUM RATINGS DC Grid Voltage* - - 180 volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Zero-Signal DC Plate Current	500 mA	Zero-Signal DC Plate Current - 0.5 amp
DC PLATE VOLTAGE [1]	6000 V	DC PLATE VOLTAGE - - - - 6000 VOLTS Single-Tone DC Plate Current - 1.65 amps
DC PLATE VOLTAGE [2]	1.65 V	DC PLATE VOLTAGE - - - - 6000 VOLTS Single-Tone DC Plate Current - 1.65 amps
DC SCREEN VOLTAGE [1]	1000 V	DC SCREEN VOLTAGE - - - - 1000 VOLTS Single-Tone DC Screen Current 25 mA
DC SCREEN VOLTAGE [2]	25 V	DC SCREEN VOLTAGE - - - - 1000 VOLTS Single-Tone DC Screen Current 25 mA
DC PLATE CURRENT [1]	2 A	DC PLATE CURRENT - - - - 2.0 AMPS Two-Tone DC Plate Current - 1.10 amps
DC PLATE CURRENT [2]	1.1 A	DC PLATE CURRENT - - - - 2.0 AMPS Two-Tone DC Plate Current - 1.10 amps
PLATE DISSIPATION [1]	3500 mA	PLATE DISSIPATION - - - - 3500 WATTS Two-Tone DC Screen Current - 20 mA
PLATE DISSIPATION [2]	20 mA	PLATE DISSIPATION - - - - 3500 WATTS Two-Tone DC Screen Current - 20 mA
SCREEN DISSIPATION [1]	175 V	SCREEN DISSIPATION - - - - 175 WATTS Peak RF Grid Voltage - - 155 volts
SCREEN DISSIPATION [2]	155 V	SCREEN DISSIPATION - - - - 175 WATTS Peak RF Grid Voltage - - 155 volts
GRID DISSIPATION [1]	50 W	GRID DISSIPATION - - - 50 WATTS Driving Power - - - 0 watts
GRID DISSIPATION [2]	0 W	GRID DISSIPATION - - - 50 WATTS Driving Power - - - 0 watts
*Approximate values Peak Envelope Useful Output Power	5300 W	*Approximate values Peak Envelope Useful Output Power 5300 watts
Resonant Load Impedance	1700 ohm	Resonant Load Impedance - 1700 ohms
as indicated with respect to IM distortion products and power output, (without negative feedback) –	-32	as indicated with respect to IM distortion products and power output, (without negative feedback) ---32db
Mounting – The [1]	4	Mounting — The 4CX3000A must be operated Filament Operation—The rated filament voltage
Mounting – The [2]	0	Mounting — The 4CX3000A must be operated Filament Operation—The rated filament voltage
with its axis vertical. The base of the tube may for the [1]	4 V	with its axis vertical. The base of the tube may for the 4CX3000A is 9.0 volts. Filament voltage,

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
with its axis vertical. The base of the tube may for the [2]	0 V	with its axis vertical. The base of the tube may for the 4CX3000A is 9.0 volts. Filament voltage,
with its axis vertical. The base of the tube may for the [3]	9 V	with its axis vertical. The base of the tube may for the 4CX3000A is 9.0 volts. Filament voltage,
for the external surfaces of the [1]	4	for the external surfaces of the 4CX3000A is Control Grid Operation — The rated dissipation
for the external surfaces of the [2]	0	for the external surfaces of the 4CX3000A is Control Grid Operation — The rated dissipation
Published value [1]	1500	1500 36.5 0.3 53 0.4 power, and carrier screen voltage.
Published value [2]	36.5	1500 36.5 0.3 53 0.4 power, and carrier screen voltage.

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

[Catalog](#) [Tube types](#) [Full books](#) [Blog](#) [Feedback & corrections](#)

© 2026 Tube Tinker