



**ADVANCE PRODUCT ANNOUNCEMENT
PRELIMINARY TECHNICAL DATA**

3CX800A7

**HIGH-MU
TRIODE**

The EIMAC 3CX800A7 is a power triode intended for use as a cathode-driven Class AB2 or Class B amplifier in rf applications including the VHF band. As a linear amplifier high power gain may be obtained without sacrifice of low intermodulation distortion characteristics. Low grid interception and high amplification factor combine to make the 3CX800A7 drive power requirements low for a tube of this power capacity. A single 3CX800A7 will operate at 2 kW PEP 1VS and 1 kW CW input power.

The anode is forced-air cooled and rated for 800 watts of dissipation capability.

GENERAL CHARACTERISTICS

ELECTRICAL

Cathode: Oxide Coated, Unipotential

Heater Voltage 13.5 ± 0.6 V

Heater Current, at 13.5 volts 1.5 A

MECHANICAL

Maximum Dimensions See Outline Drawing

Base Large Wafer Elevenar 11-Pin with Ring

Recommended Socket EIMAC P/N 154353
or E.F. Johnson #124-311-100

**RADIO FREQUENCY LINEAR AMPLIFIER
CATHODE DRIVEN Class AB2**

ABSOLUTE MAXIMUM RATINGS:

DC PLATE VOLTAGE	2500	VOLTS
DC PLATE CURRENT	0.6	AMPERE
PLATE DISSIPATION	800	WATTS
GRID DISSIPATION	4.0	WATTS

**TYPICAL OPERATION (CW), for 1 kW Input Power
Class AB2 Cathode Driven (key-down conditions)**

Plate Voltage	2000	Vdc
Cathode Bias Voltage	+8.2	Vdc
Plate Current	500	mAdc
Grid Current *	18	mAdc
Useful Output Power *	580	W
Driving Power *	14	W
Power Gain *	16	dB
Resonant Load Impedance ##	1800	Ohms

TYPICAL OPERATION

Class AB2 Cathode Driven, Peak Envelope
or Modulation Crest Conditions

Plate Voltage	2500	Vdc
Cathode Bias Voltage	+8.2	Vdc
Zero-Signal Plate Current *	40	mAdc
Single-Tone Plate Current #	800	mAdc
Two-Tone Plate Current	510	mAdc
Single-Tone Grid Current *	40	mAdc
Two-Tone Grid Current *	20	mAdc
Peak rf Cathode Voltage *	80	v
Peak Driving Power *	36	W
Single-Tone Useful Output Power *	1370	W
Power Gain *	15.5	dB
Resonant Load Impedance ##	1800	Ohms
Intermod. Distortion Products *,**		
3rd Order	-37	dB
5th Order	-35	dB

* Approximate value.

** Ref. to one tone of two equal tone signal.

Short-term duty should not exceed 50%. During testing "on-time" must be very brief.

Resonant load impedance for 2 kW PEP input SSB may be the same as for 1 kW CW input so that only the plate voltage is changed from 1 kW CW to 2 kW PEP SSB operating conditions.

APPLICATION

MOUNTING & SOCKETING - The tube may be mounted in any position. At least some of the air used for anode cooling must circulate past the base of the tube to provide cooling of these seal areas.

COOLING - Forced-air cooling is required. The data shown is for full rated (800 W) dissipation

with incoming cooling air at 25°C:

Sea Level		5000 feet	
Flow Rate (CFM)	Press. Drop In. Water	Flow Rate (CFM)	Press. Drop In. Water
19.0	0.35	23.0	0.39