

# JINGGUANG 4CX7500A Tetrode



The JingGuang 4CX7500A is a forced-air cooled, 7500-watt plate dissipation, ceramic and metal tetrode. 4CX7500A is a compact tetrode designed to be used in VHF power amplifier service. It features a type of internal structure which results in high RF operating efficiency up to 200 MHz. A dense mesh filament is used which contributes to the high performance capability of the tubes. This tube is also recommended for use as a VHF TV liner amplifier. The JingGuang 4CX7500A is manufactured in the JingGuang Electrical Manufactory. JingGuang has achieved the improved performance described above with exact replacement compatibility with the 4CX7500A manufactured in the United States.



# JINGGUANG 4CX7500A

## General Characteristics

### Electrical

Filament Thoriated-tungsten mesh	
Voltage	7.00 ±0.37 V
Current @7.00V	110 A
Amplification factor	8.0
Direct interelectrode capacitances (grounded cathode):*	
Input	145.0 pF
Output	20.0 pF
Feedthrough	0.53 pF
Direct interelectrode capacitances (grounded Grid):*	
Input	74.1 pF
Output	20.6 pF
Feedthrough	0.07 pF
Maximum frequency for full ratings (CW)	220 MHz

### Mechanical

Cooling	Forced air
Base	Special Coaxial
Air socket	SK-340
Air Chimney	
Operating position	Vertical, Base up or down
Maximum operating temperature	250° C
Maximum dimensions:	
Length	235.46 mm (9.27 in.)
Diameter	143.76mm (5.66 in.)
Net weight	3.8 kg (8.4 lb)

\* Capacitance values are for a cold tube measured in a shielded fixture

### RF Amplifier- Class C

Maximum Ratings	
DC plate voltage	6500V
DC plate current	3A
Plate dissipation	7500W
Grid dissipation	50W
Screen dissipation	165W

### Typical Operation

DC plate voltage	6450V
DC screen voltage	650V
DC plate current	2.2A
Driving Power	240W
Plate output power	13.6kW

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## RF Linear Amplifier – Class AB<sub>1</sub>

Maximum Ratings	
DC plate voltage	8,000V
DC plate current	2.5A
Plate dissipation	7,500W
Grid dissipation	50W
Screen dissipation	165W

## Typical Operation

DC plate voltage	7,500V
DC screen voltage	1,250V
Maximum signal plate current	2.25A
Plate output power	10,0KW

## Filament Voltage

The JG4CX7500A is designed to operate with 7.00 Volts applied to the filament. Under no circumstances should filament voltage be allowed to deviate from this value by more than 5%. The useful life of the tube can be extended by adhering to this value as closely as possible.

## Cooling

Forced air cooling of the base, base seals, and other external tube surfaces is required for all classes of operation. The use of the SK-340 socket, in conjunction with a blower capable of sustaining the required air flow is highly recommended. It should be noted that maintaining surface temperatures below the maximum values will substantially prolong the useful life of the tube. The air flow required to sustain the tube surface temperature at 200°C (at sea level) have been tabulated below. It is necessary to keep in mind that high altitude operation, operation where ambient air temperatures exceed 50°C will require addition air flow to maintain the desired tube surface temperature.

Recommended cooling conditions		
Dissipation (W)	Air flow(CFM)	Pressure drop(Inches of H <sub>2</sub> O)
2000	74	0.4
3000	105	0.7
4000	145	1.1
5000	190	1.5
6000	230	2.0

## JG 4CX7500A Outline drawing

