
ELECTRON TUBE DATA SHEET
WESTERN ELECTRIC 435A ELECTRON TUBE



DESCRIPTION

The 435A electron tube is a high figure of merit miniature tetrode with an indirectly heated cathode. It was designed primarily for the input amplifier of the L-3 tandem two stage amplifier.

CHARACTERISTICS

Heater Voltage	- - - - -	6.3 volts
Cathode Current	} $E_b = 190$ volts; $E_{c2} = 160$ volts $E_{c1} = +7.5$ volts; $R_k = 630$ ohms	{ 14.3 milliamperes 15500 micromhos
Transconductance		

GENERAL CHARACTERISTICS

ELECTRICAL DATA

Heater Voltage - - - - -		6.3 volts	
Heater Current - - - - -		300 milliamperes	
Direct Interelectrode Capacitances	Without External Shield	With External Shield (RETMA #315)	
Grid to Plate (maximum) - - - - -	.035	.030	uuf
Input - - - - -	7.9	8.1	uuf
Output - - - - -	2.9	3.3	uuf

MECHANICAL DATA

Cathode - - - - -	Coated Unipotential
Bulb - - - - -	T6 1/2
Base - - - - -	Small Button 9 Pin
Mounting Position - - - - -	Any
Dimensions and pin connections shown in outline drawing on page 4	

MAXIMUM RATINGS, Design Center Values

Plate Voltage- - - - -	190 volts
Screen Grid Voltage- - - - -	160 volts
Plate Dissipation - - - - -	3.0 watts
Screen Grid Dissipation- - - - -	0.75 watt
Control Grid Dissipation - - - - -	See footnote *
Cathode Current - - - - -	36 milliamperes
Heater-Cathode Voltage - - - - -	50 volts
Bulb Temperature - - - - -	130 centigrade
<u>Maximum Grid Circuit Resistance for</u>	
Fixed Bias - - - - -	0.05 megohm
Cathode Bias - - - - -	0.10 megohm

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

Plate Voltage - - - - -	130	160	190 volts
Screen Grid Voltage - - - - -	130	160	160 volts
Control Grid Voltage ¹ - - - - -	-1.0	-1.5	+7.5 volts
Cathode Bias Resistor - - - - -	---	---	630 ohms
Plate Current - - - - -	10.3	11.6	11.5 milliamperes
Screen Grid Current - - - - -	3.8	4.3	2.8 milliamperes
Plate Resistance - - - - -	13000	13000	65000 ohms
Transconductance - - - - -	15300	15600	15500 micromhos
Control Grid Voltage (approximate) for Plate Current of 10 microamperes - -	-3.2	-3.9	---- volts
<u>Modulation</u>			
Second Order (2F)** - - - - -	----	----	35 db
Third Order (3F)** - - - - -	----	----	52 db
Load Resistance - - - - -	----	----	270 ohms

* Operation with the control grid positive with respect to cathode is not recommended.

** Ratio of product to fundamental at output for 0.1 volt rms signal from grid to cathode.

*** Ratio of product to fundamental at output for a 0.2 volt rms signal from grid to cathode.

Note 1: Reference point for "Control Grid Voltage" is the negative end of the cathode bias resistor.



