

ELECTRON TUBE DATA SHEET

WESTERN ELECTRIC 436A ELECTRON TUBE



DESCRIPTION

The 436A electron tube is a high figure of merit tetrode with an indirectly heated cathode. It was designed primarily for the output 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 }	28.2 milliamperes
Transconductance { $E_{c1} = +7.5$ volts; $R_k = 315$ ohms }	30000 micromhos

File: General Purpose Section
Issue 1, 11-54

436A

GENERAL CHARACTERISTICSELECTRICAL DATA

Heater Voltage	6.3 volts		
Heater Current	450 milliamperes		
Direct Interelectrode Capacitances	Without	With External	
	External	Shield	
	Shield	(REIMA #309)	
Grid to Plate (maximum)	.07	.06	uuf
Input: g1 to (h+k+g2+i.s.)	15.0	15.2	uuf
Output: p to (h+k+g2+i.s.)	3.5	4.7	uuf

MECHANICAL DATA

Cathode	Coated Unipotential
Bulb	T9
Base	See outline drawing page 4
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	4.5 watts
Screen Grid Dissipation	2.0 watts
Control Grid Dissipation	see footnote *
Cathode Current	72 milliamperes
Heater-Cathode Voltage	50 volts
Bulb Temperature	130 centigrade

Maximum Grid Circuit Resistance for

Fixed Bias	0.05 megohm
Cathode Bias	0.10 megohm

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

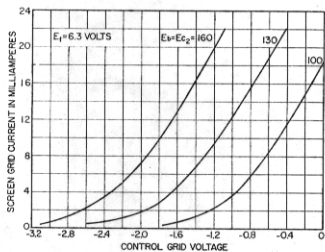
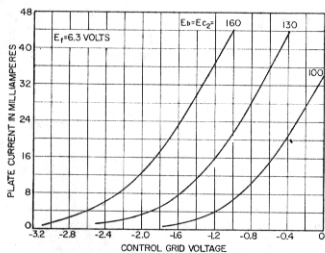
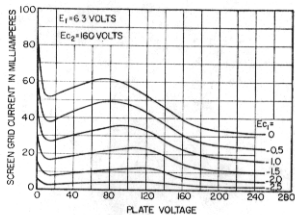
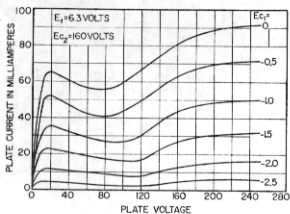
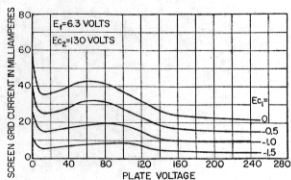
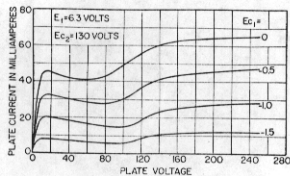
Plate Voltage	130	160	190 volts
Screen Grid Voltage	130	160	160 volts
Control Grid Voltage	-1.0	-1.75	--- volts
Control Grid Supply Voltage } 1	---	---	+7.5 volts
Cathode Bias Resistor	---	---	315 ohms
Plate Current	21.5	18.8	20.0 milliamperes
Screen Grid Current	12.5	10.8	8.2 milliamperes
Plate Resistance	5000	5000	36000 ohms
Transconductance	30000	28000	30000 micromhos
Control Grid Voltage (approximate) for			
Plate Current of 10 microamperes	-3.7	-4.7	--- volts
Modulation			
Second Order (2F)**	---	---	-32 db
Third Order (3F)***	---	---	-54 db
Load Resistance	---	---	270 ohms

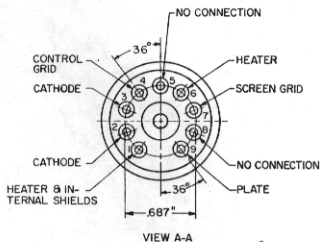
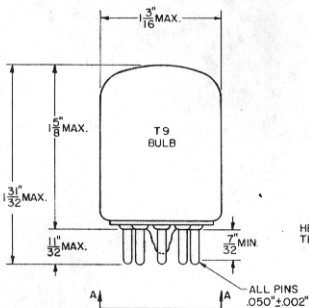
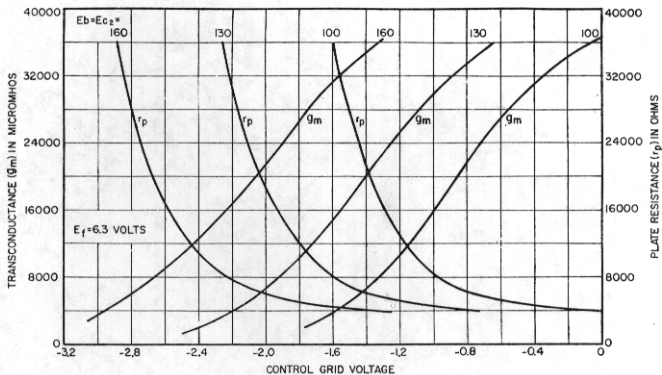
* Operation with the control grid positive with respect to cathode is not recommended.

** 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 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.





A development of Bell Telephone Laboratories, the research laboratories of the American Telephone and Telegraph Company and the Western Electric Company