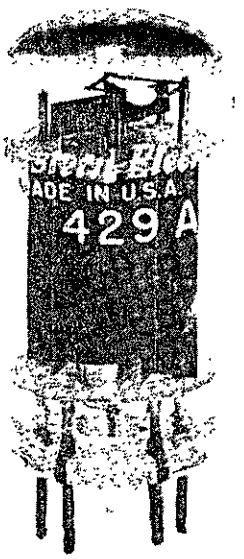
ELECTRON TUBE DATA SHEET
WESTERN ELECTRIC 429A ELECTRON TUBE



DESCRIPTION

The 429A is a beam pentode of the indirectly heated cathode type. The tube was designed, initially, for use in the #2 and #9B Telegraph Service Board Circuits. It is also suitable for use as an audio-frequency amplifier.

CHARACTERISTICS

Heater Voltage		20 volts
Plate Current	(E_{c1} = -3 volts, $E_b = E_{c2}$ = 130 volts)	41 milliamperes
Transconductance	(E_{c1} = -3 volts, $E_b = E_{c2}$ = 130 volts)	6600 micromhos

File: General Purpose Section
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GENERAL CHARACTERISTICS

ELECTRICAL DATA

Heater Voltage (Note 1)	20 volts
Heater Current	140 milliamperes
Direct Interelectrode Capacitances (without external shield)	
Grid to Plate (maximum)	1.5 μμf
Input	8.5 μμf
Output	5.0 μμf

MECHANICAL DATA

Cathode	Coated unipotential
Bulb	T9
Base	Button Stem 9-Pin
Mounting Position	Any

MAXIMUM RATINGS, Absolute System (Note 2)

Plate Voltage	275 volts
Screen Grid Voltage	150 volts
Plate Current	75 ma
Plate Dissipation	12.0 watts
Screen Grid Dissipation	2.0 watts
Heater-Cathode Voltage	130 volts
Bulb Temperature	130°Centigrade

MAXIMUM CIRCUIT VALUES

Grid Circuit Resistance:	
For Fixed Bias	0.1 megohms
For Cathode Bias.	0.3 megohms

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

Plate Voltage	130 volts
Screen Grid Voltage	130 volts
Control Grid Voltage	-3 volts
Peak A-F Grid Voltage	3 volts
Zero Signal Plate Current	41 ma
Maximum Signal Plate Current	43 ma
Zero Signal Screen Grid Current	2.0 ma
Maximum Signal Screen Grid Current	3.5 ma
Transconductance (Note 3, See Page 4)	6600 umhos
Plate Resistance	37000 ohms
Load Resistance.	5000 ohms

Note 1: For optimum life, the heater voltage should be regulated to within ± 2% of the rated value.

Note 2: In the "Absolute System" the maximum ratings specified are limiting values above which the serviceability of the tube may be impaired from the viewpoint of life and satisfactory performance. Maximum ratings, as such, do not constitute a set of operating conditions and all values may not, therefore, be attained simultaneously.

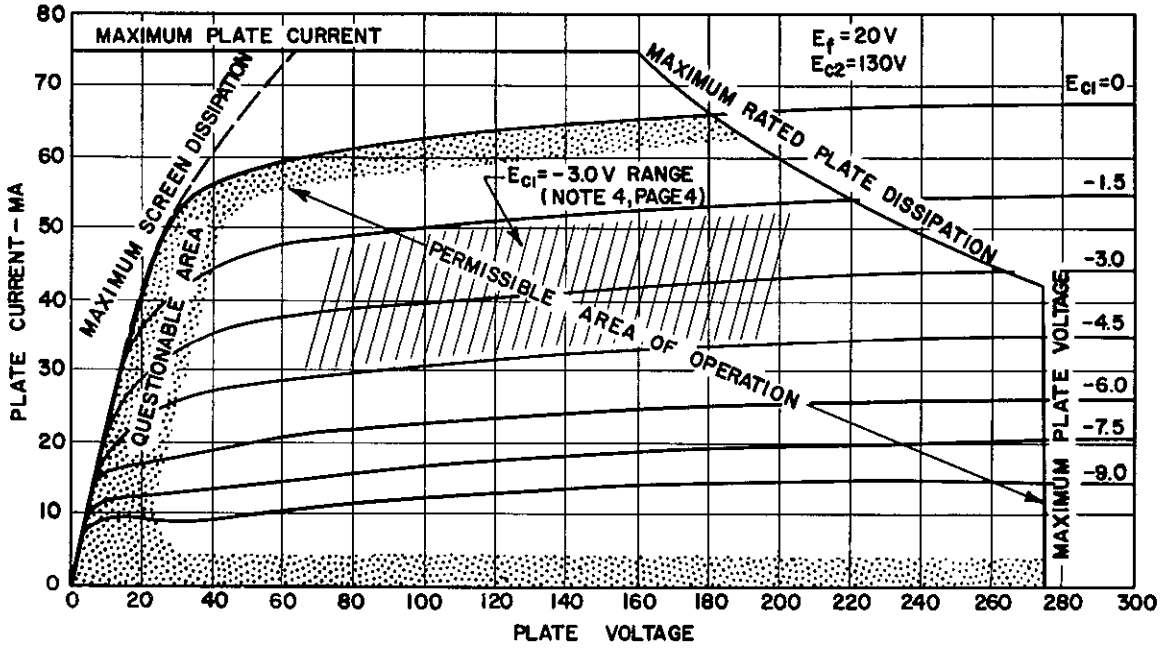


FIG. 1

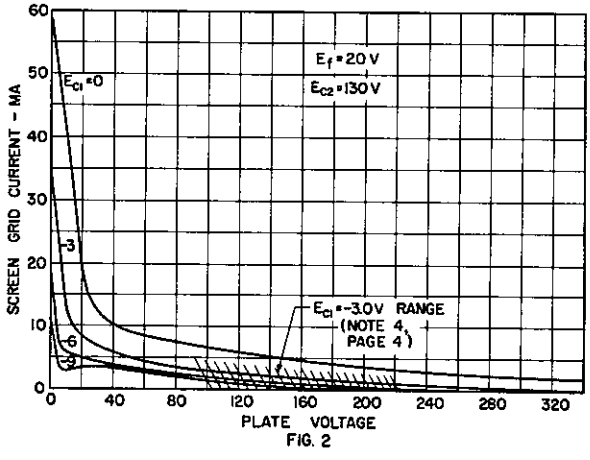


FIG. 2

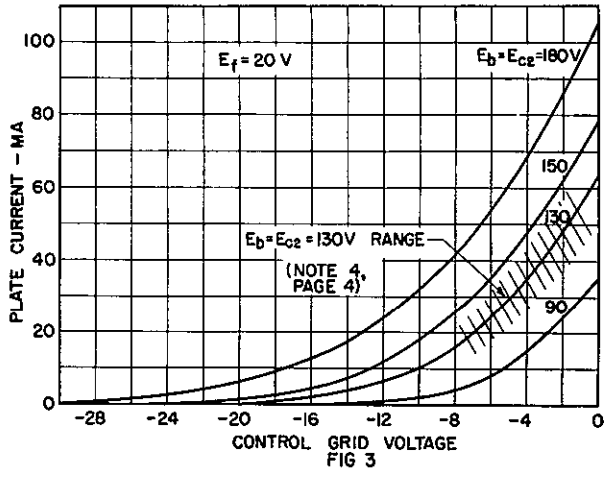


FIG 3

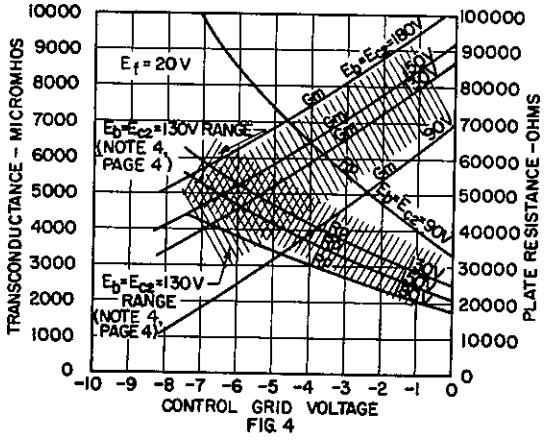


FIG. 4

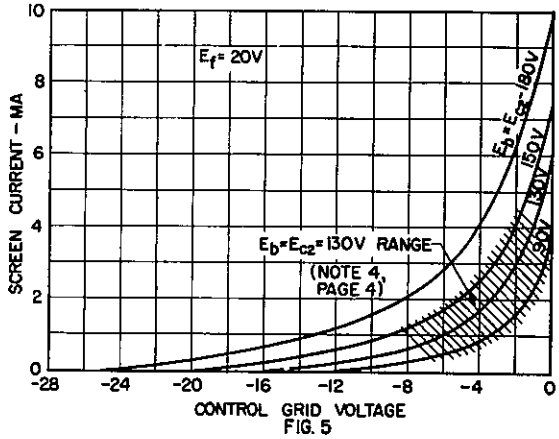
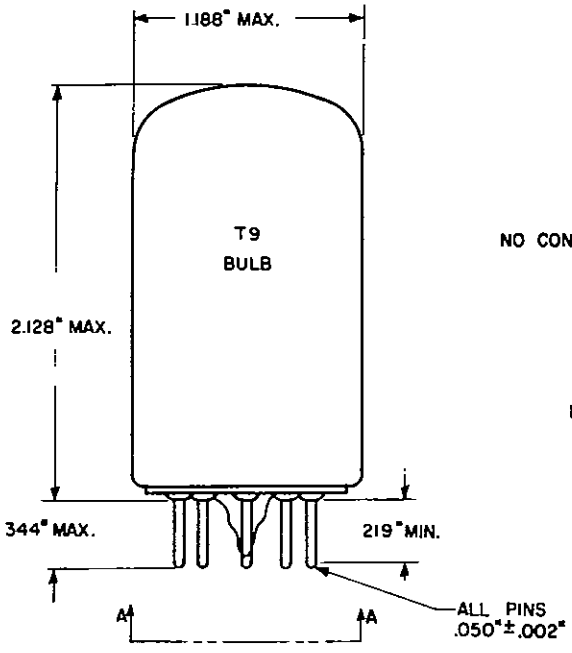
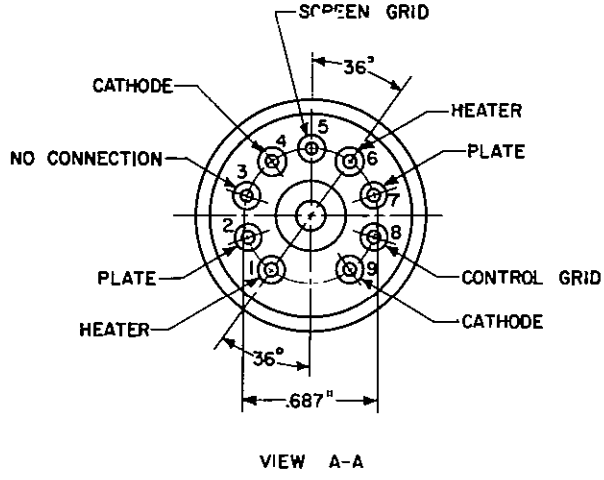


FIG. 5

→ Indicates a change





VIEW A-A

Note 3: The 429A tube is considered to have reached the end of useful life when one or more of the following conditions occur under the conditions shown: a) The transconductance decreases to 65% of the typical value shown, b) The change in transconductance exceeds 30% when the heater voltage is reduced 10%, c) The grid current exceeds 5 microamperes. To obtain optimum life the equipment should be capable of tolerating this order of tube parameter degredation.

Note 4: These curves represent electrical characteristics exhibited by typical tubes. While it is expected that characteristics will be centered around the bogey values shown by the curves, individual tubes will deviate to some extent from these values. The shaded areas (unless stated otherwise) are intended to define the approximate limits of such deviation.

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