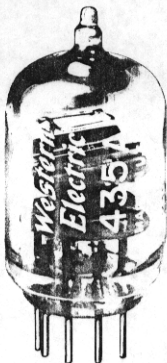


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ELECTRON TUBE DATA SHEET  
WESTERN ELECTRIC 435A ELECTRON TUBE

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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 | $\left. \begin{array}{l} E_b = 190 \text{ volts; } E_{c2} = 160 \text{ volts} \\ E_{c1} = +7.5 \text{ volts; } R_k = 630 \text{ ohms} \end{array} \right\}$ | $\left\{ \begin{array}{l} 14.3 \text{ milliamperes} \\ 15500 \text{ micromhos} \end{array} \right.$ |

GENERAL CHARACTERISTICSELECTRICAL 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  |
| 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  | -1.5  | +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        |
| Modulation                             |       |       |       |                   |
| 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.

