

## LINEAR BEAM-POWER PENTODE TYPE WL-7371

The WL-7371 is a beam-power pentode designed for service in the linear amplifier stages of Single-Sideband-Suppressed-Carrier transmitters. The radiation cooled anode can dissipate 75 watts. The cathode is a thoriated tungsten filament. Maximum ratings apply up to 175 megacycles.

The WL-7371 incorporates a vane-type suppressor grid which permits high-efficiency linear-radio-frequency-amplifier performance with zero suppressor-grid voltage. Its high-perveance design and high power sensitivity enable the WL-7371 to deliver high power output with low power-supply voltage and driving power requirements.

### ELECTRICAL:

|                                        |                             |       |                      |
|----------------------------------------|-----------------------------|-------|----------------------|
| Cathode                                | Thoriated Tungsten Filament |       |                      |
| Filament:                              | Min.                        | Bogey | Max.                 |
| Voltage                                | --                          | 6.3   | -- Volts             |
| Current                                | 3.0                         | 3.2   | 3.6 Amperes          |
| Grid 1 to Grid 2 Amplification Factor  | 5                           |       |                      |
| Direct Interelectrode Capacitances:    | Min.                        | Bogey | Max.                 |
| Grid 1 to Plate                        | --                          | 0.06  | 0.1 $\mu\mu\text{f}$ |
| Input                                  | 5.4                         | 7.5   | 7.6 $\mu\mu\text{f}$ |
| Output                                 | 3.5                         | 4.2   | 4.9 $\mu\mu\text{f}$ |
| Transconductance:                      |                             |       |                      |
| Plate Volts = 500, Grid 2 Volts = 400, |                             |       |                      |
| Plate Milliampères = 150               | 4500 $\mu\text{mhos}$       |       |                      |

### MECHANICAL:

|                          |                               |
|--------------------------|-------------------------------|
| Mounting Position        | Vertical                      |
| Cooling:                 |                               |
| Below 160 Mc.            | Unrestricted Convection       |
| Above 160 Mc.            | 15 CFM Air Flow on Anode Seal |
| Maximum Bulb Temperature | 180°C                         |
| Base                     | 7-Pin Septar (JEDEC E7-2)     |
| Top Cap.                 | Skirted Small                 |
| Net Weight               | 3.6 Ounces                    |
| Shipping Weight          | 3 Pounds                      |

### MAXIMUM RATINGS

Continuous Commercial Service

|                                | Class AB <sub>1</sub> | Class C         |
|--------------------------------|-----------------------|-----------------|
| DC plate Voltage               | 2000                  | 2000 max. Volts |
| DC Grid 2 Voltage              | 600                   | 600 max. Volts  |
| DC Grid 3 Voltage (Suppressor) | 100                   | 100 max. Volts  |
| DC Plate Current               | 175                   | 175 max. Ma.    |
| Grid 2 Power Input             | 10                    | 10 max. Watts   |
| Plate Dissipation              | 75                    | 75 max. Watts   |

### CLASS AB<sub>1</sub> LINEAR AMPLIFIER

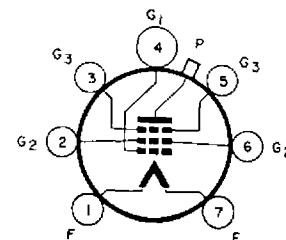
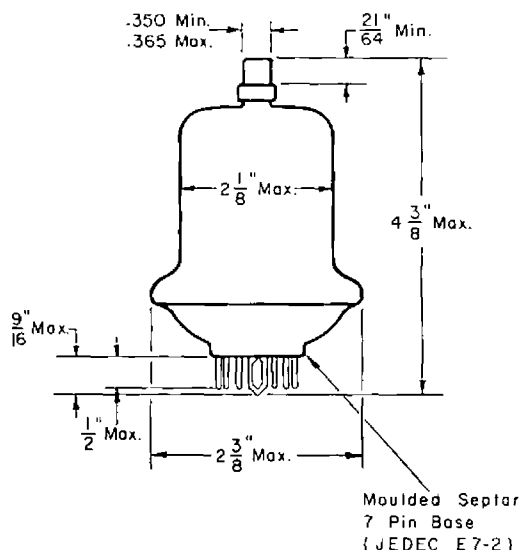
### TYPICAL OPERATING CHARACTERISTICS

Single-Sideband-Suppressed-Carrier (Intermittent Modulation)\*

|                                     |      |      |      |       |
|-------------------------------------|------|------|------|-------|
| DC Plate Voltage                    | 1000 | 1500 | 2000 | Volts |
| DC Grid 3 Voltage (Suppressor)      | 0    | 0    | 0    | Volts |
| DC Grid 2 Voltage                   | 600  | 600  | 600  | Volts |
| DC Grid 1 Voltage (Control)         | -100 | -110 | -115 | Volts |
| Plate Current:                      |      |      |      |       |
| Zero Signal                         | 38   | 30   | 25   | Ma.   |
| Maximum Signal                      | 175  | 175  | 175  | Ma.   |
| Grid 2 Current: (Screen)            |      |      |      |       |
| Zero Signal                         | 0    | 0    | 0    | Ma.   |
| Maximum Signal                      | 10   | 8    | 7    | Ma.   |
| Peak RF Grid Voltage                | 100  | 110  | 115  | Volts |
| Maximum Signal Plate Power Input    | 175  | 260  | 350  | Watts |
| Maximum Signal Plate Dissipation    | 70   | 110* | 125* | Watts |
| Maximum Signal Power Output to Load | 96   | 140  | 210  | Watts |

\* Base fits Johnson No.122-101 or 122-247 or National No.HX-29 socket.

\* During normal voice modulation, average plate dissipation will not exceed 75 watts.



# CLASS C AMPLIFIER

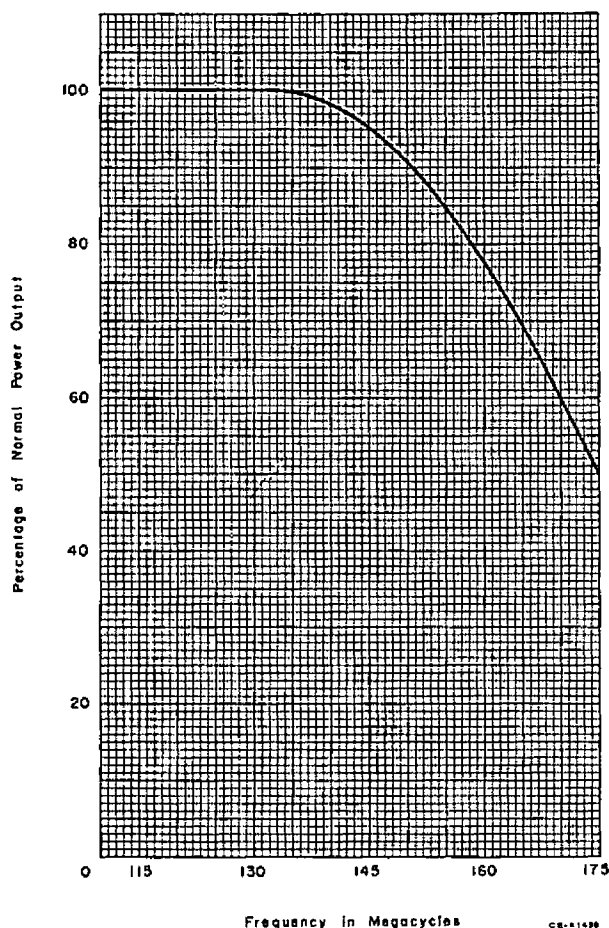
CW, or FM

## TYPICAL OPERATING CHARACTERISTICS

For Frequencies up to 175 Mc.

|                                |      |      |      |      |      |      |       |
|--------------------------------|------|------|------|------|------|------|-------|
| DC Plate Voltage               | 1000 | 1000 | 1500 | 1500 | 2000 | 2000 | Volts |
| DC Grid 3 Voltage (Suppressor) | 0    | +50  | 0    | +50  | 0    | +50  | Volts |
| DC Grid 2 Voltage              | 400  | 400  | 400  | 400  | 600  | 400  | Volts |
| DC Grid 1 Voltage (Control)    | -140 | -150 | -160 | -170 | -200 | -200 | Volts |
| DC Plate Current               | 127  | 166  | 140  | 146  | 144  | 140  | Ma.   |
| DC Grid 2 Current              | 19   | 10   | 18   | 8    | 9    | 6    | Ma.   |
| DC Grid 1 Current (Control)    | 5    | 5    | 3    | 3    | 2.5  | 2.5  | Ma.   |
| Peak RF Grid 1 Voltage         | 190  | 215  | 218  | 220  | 238  | 250  | Volts |
| Driving Power                  | 1.2  | 1.2  | 1.0  | 1.0  | 0.5  | 0.5  | Watts |
| Plate Power Input              | 127  | 166  | 210  | 219  | 288  | 280  | Watts |
| Grid 2 Power Input             | 7.5  | 4    | 7.2  | 3.2  | 5.4  | 2.4  | Watts |
| Plate Dissipation              | 47   | 52   | 60   | 58   | 69   | 61   | Watts |
| Power Output                   | 80   | 114  | 150  | 161  | 219  | 219  | Watts |

### FREQUENCY OPERATING CURVE



AVERAGE CONSTANT CURRENT CHARACTERISTICS

