



TRIODE

DESCRIPTION

GL-830-B, a three-electrode transmitting tube, is used as a Class B modulator, radio-frequency amplifier, and oscillator. This tube, as an r-f amplifier or oscillator, can be operated at maximum rat-

ings at frequencies up to 15 megacycles. For Class C telegraph and Class B services the plate dissipation is 60 watts. Two tubes of this type can deliver an output of 175 watts in Class B audio service.

TECHNICAL INFORMATION

These data are for reference only. For design information refer to specifications.

GENERAL CHARACTERISTICS

Electrical

Cathode—Filamentary	10 volts
Filament voltage	2 amperes
Filament current	25
Amplification factor	11 micromicrofarads
Direct interelectrode capacitances, approx	5 micromicrofarads
Grid-plate	1.8 micromicrofarad
Grid-filament	15 megacycles
Plate-filament	
Frequency for maximum ratings	

GENERAL ELECTRIC



TECHNICAL INFORMATION (CONT'D)

Mechanical

Cap.	Small metal
Base or terminal description	Medium 4-pin bayonet
Net weight, approx.	3 ounces
Shipping weight, approx.	3 pounds
Mounting position	vertical, base down

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

	Typical Operation		Maximum Ratings
CLASS B AUDIO-FREQUENCY POWER AMPLIFIER (TWO TUBES)			
D-c plate voltage.....	800	1000	1000 π volts
Maximum signal plate current*.....			150 π milliamperes
D-c maximum signal plate input*.....			150 π watts
Plate dissipation*.....			60 π watts
D-c grid voltage.....	-27	-35	volts
Peak a-f grid-to-grid voltage.....	250	270	volts
Zero signal plate current.....	20	20	milliamperes
Maximum signal plate current.....	280	280	milliamperes
Maximum signal driving power, approx.....	5	6	watts
Effective load, plate-to-plate.....	6000	7600	ohms
Maximum signal plate power output.....	135	175	watts

CLASS B RADIO-FREQUENCY POWER AMPLIFIER

Carrier conditions per tube for use with a max modulation factor of 1.0

Filament voltage, a-c	10	10	volts
D-c grid voltage Δ	-27	-35	volts
D-c plate voltage	800	1000	1000 π volts
D-c plate current	95	85	100 π milliamperes
Plate input			90 π watts
Plate dissipation			60 π watts
Peak r-f grid input voltage	85	85	volts
D-c grid current, approx§	7	6	milliamperes
Driving power, approx§†	9	6	watts
Plate power output, approx	23	26	watts

CLASS C RADIO-FREQUENCY POWER AMPLIFIER AND OSCILLATOR—PLATE MODULATED

Carrier conditions per tube for use with a max modulation factor of 1.0

Filament voltage, a-c	10	10	volts
D-c plate voltage	600	800	800 π volts
D-c grid voltage	-140	-150	-300 π volts
D-c plate current	95	95	100 π milliamperes
D-c grid current, approx§	30	20	30 π milliamperes
Plate input			80 π watts
Plate dissipation			40 π watts
Peak r-f grid input voltage, approx	255	265	volts
Driving power, approx§	7	5	watts
Plate power output	38	50	watts

CLASS C RADIO-FREQUENCY POWER AMPLIFIER AND OSCILLATOR

Key-down conditions per tube without modulation†

Filament voltage, a-c	10	10	10	volts
D-c plate voltage	600	800	1000	1000 π volts
D-c grid voltage	-95	-105	-110	-300 π volts
D-c plate current	140	140	140	150 π milliamperes
D-c grid current, approx§	30	30	30	30 π milliamperes
Plate input				150 π milliamperes
Plate dissipation				60 π watts
Peak r-f grid input voltage, approx	235	245	250	volts
Driving power, approx§	7	7	7	watts
Plate power output, approx	45	70	90	watts

‡Modulation, essentially negative, may be used if the positive peak of the audio-frequency envelope does not exceed 115 per cent of the carrier conditions.

Frequency	15	30	60	megacycles
Percentage of maximum rated plate voltage and plate input				
Class B	100	87	74	per cent
Class C, plate modulated	100	77	54	per cent
Class C, telegraphy	100	77	54	per cent

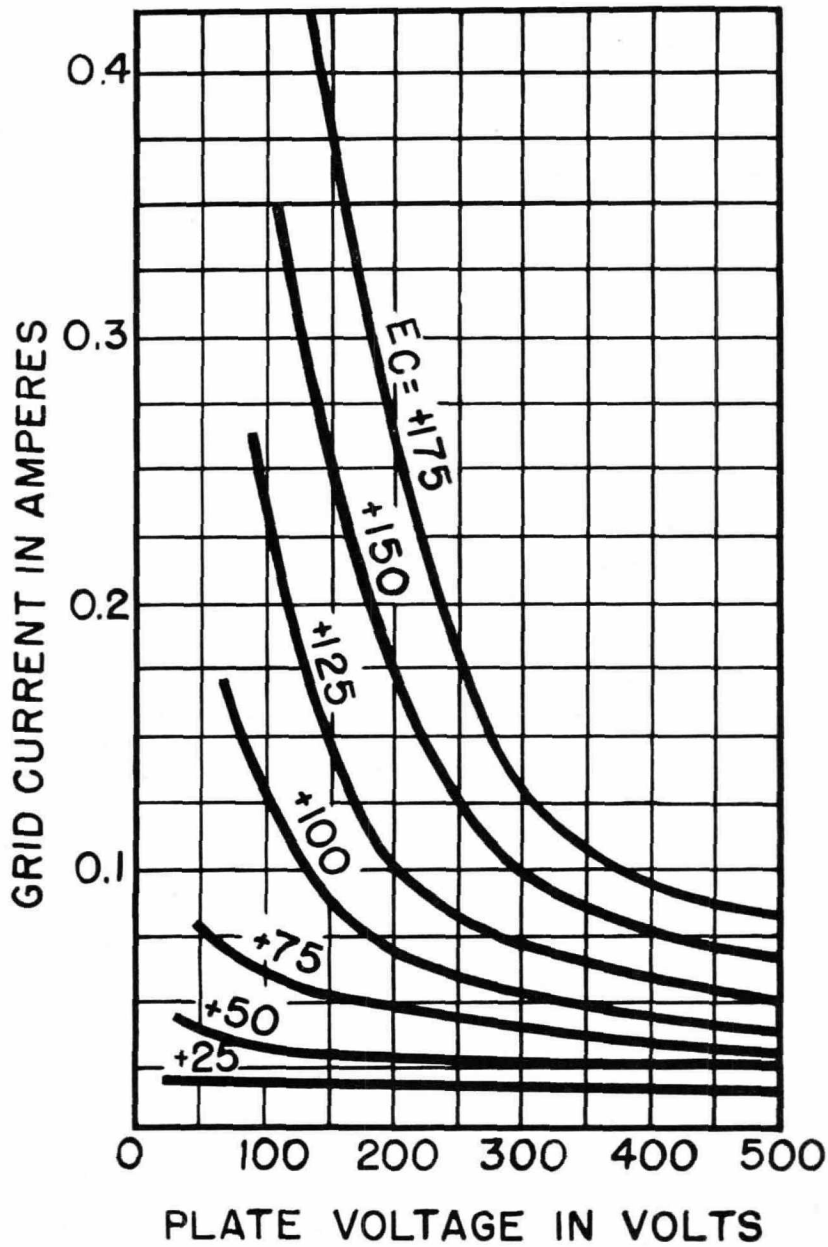
$E_f = 10$ VOLTS D-C

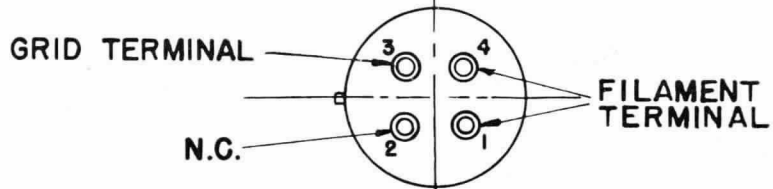
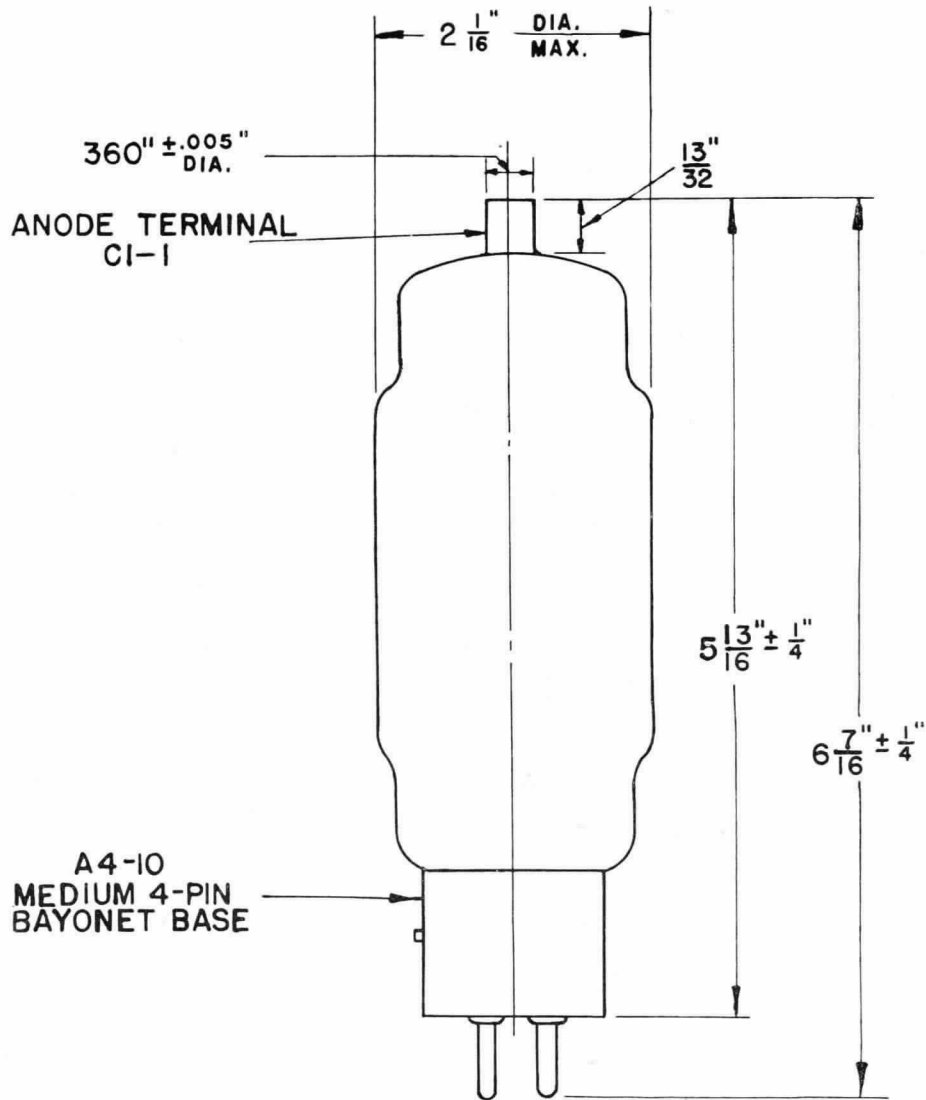
Y-axis: PLATE CURRENT IN AMPERES (0 to 1.4)

X-axis: PLATE VOLTAGE IN VOLTS (0 to 2000)

Curves for E_c values: +1.75, +1.50, +1.25, +1.00, +.75, +.50, +.25, $E_c=0$, -.25, -.50, -.75

GL-830-B AVERAGE CHARACTERISTICS
 $E_f = 10$ VOLTS D-C
GRID VOLTS = E_c





GL-830-B OUTLINE

Electronics Department
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Schenectady, N. Y.