

GENERAL ELECTRIC

Transmitting Tube GL-862 - - Description and Rating

TECHNICAL INFORMATION

The GL-862 is a three-electrode power tube designed for use as a radio-frequency amplifier, oscillator, or Class B modulator. The plate is water-cooled and is capable of dissipating 50 to 100 kw, depending upon the class of service in which the tube is operated.

CHARACTERISTICS AND RATINGS

Filament Voltage	33	Volts
Filament Current	207	Amperes
Amplification Factor	48	
Grid-plate Transconductance, $I_b = 3.0$	17200	Micromhos
Direct Interelectrode Capacitances:		
Grid-plate	75	μmf
Input	52	μmf
Output	2	μmf
Frequency for Maximum Ratings	1.6	Megacycle
Type of Cooling	Water	
Net Weight (approx)	30	Pounds

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

CLASS B A-F POWER AMPLIFIER (TWO TUBES):

D-c Plate Voltage	12000	15000 max	Volts
Maximum Signal Plate Current (per tube)*		7.5 max	Amperes
D-c Maximum Signal Plate Input (per tube)*		100 max	Kilowatts
Plate Dissipation (per tube)*		50 max	Kilowatts
D-c Grid Voltage	0		Volts
Peak A-f Grid Input Voltage	2000		Volts
Zero Signal Plate Current	3		Amperes
Maximum Signal Plate Current	13		Amperes
Maximum Signal Plate Input*	156		Watts
Maximum Signal Driving Power (approx)	450		Watts
Effective Load Resistance (plate-to-plate)	1800		Ohms
Maximum Signal Plate Power Output	90		Kilowatts

CLASS B R-F POWER AMPLIFIER:

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

D-c Plate Voltage	12000	15000	18000	20000 max	Volts
D-c Grid Voltage	-100	-150	-200		Volts
D-c Plate Current	2.8	3.5	4.2	5.0	Amperes
Plate Input				100 max	Kilowatts
Plate Dissipation				75 max	Kilowatts
Peak R-f Grid Input Voltage	500	625	750		Volts
Driving Power (approx)**	0.5	0.75	1.1		Kilowatt
Plate Power Output	11	17.5	25		Kilowatts

CLASS C R-F POWER AMPLIFIER AND OSCILLATOR - PLATE-MODULATED:

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

D-c Plate Voltage	8000	10000	12000	12000 max	Volts
D-c Grid Voltage	-700	-750	-800	-3000 max	Volts
D-c Plate Current	4	4.5	5	5.0 max	Amperes
D-c Grid Current (approx)	1	1	1	1.25 max	Ampere
Plate Input				60 max	Kilowatts
Plate Dissipation				50 max	Kilowatts
Peak R-f Grid Input Voltage (approx)	1700	1850	2000		Volts
Driving Power (approx)	1.7	1.85	2		Kilowatts
Plate Power Output	24	34	45		Kilowatts

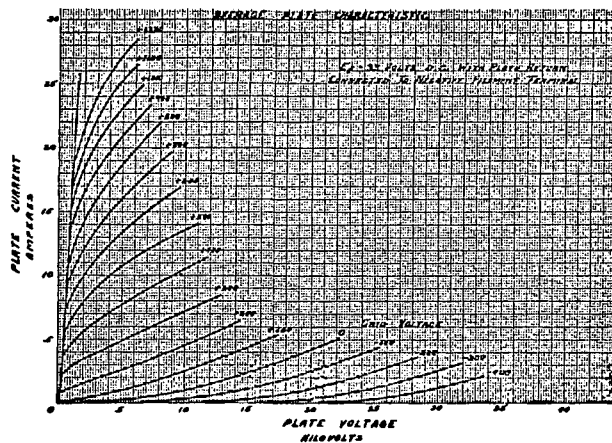
CLASS C R-F POWER AMPLIFIER AND OSCILLATOR:
Key-down conditions per tube without modulation #

D-c Plate Voltage	12000	15000	18000	20000 max	Volts
D-c Grid Voltage	-800	-900	-1000	-3000 max	Volts
D-c Plate Current (approx)	6.25	7.5	8.33	10 max	Amperes
D-c Grid Current (approx)	0.8	0.85	0.9	1.0 max	Ampere
Plate Input				200 max	Kilowatts
Plate Dissipation				100	Kilowatts
Peak R-f Grid Input Voltage (approx)	2050	2300	2550		Volts
Driving Power (approx)	1.6	2	2.4		Kilowatts
Plate Power Output	50	75	100		Kilowatts

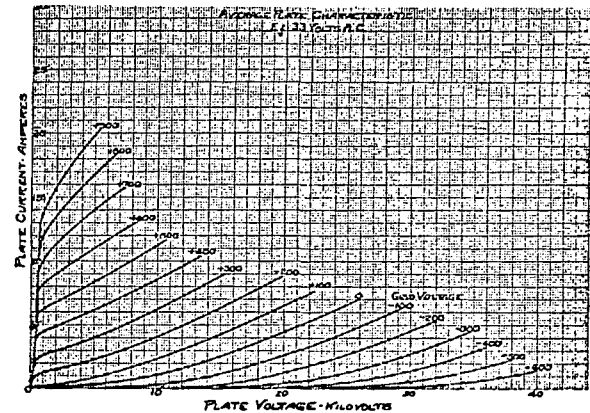
* Averaged over an audio-frequency cycle.

** At crest of audio-frequency cycle.

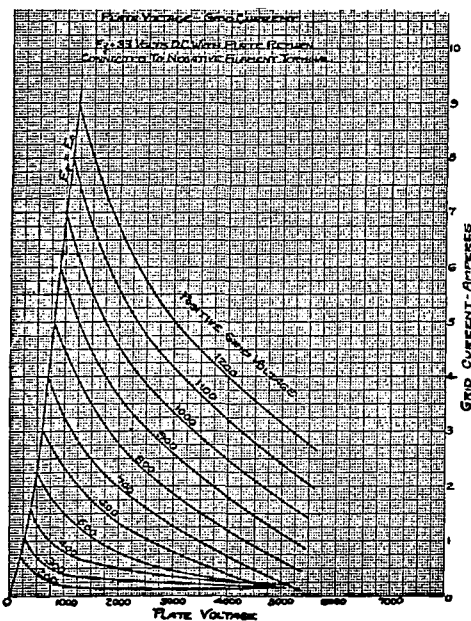
Modulation, essentially negative, may be used if the positive peak of the audio-frequency envelope does not exceed 115 per cent of the carrier conditions.



Average Plate Characteristics
for Transmitting Tube GL-862
K-7050573 4-26-33

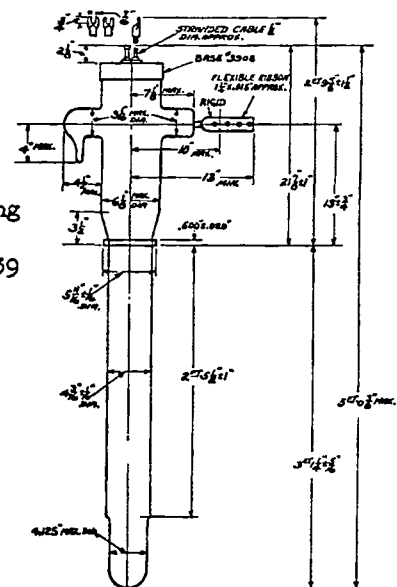


Average Plate Characteristics
for Transmitting Tube GL-862
K-7050415 2-14-33



Right--
Outline Transmitting
Tube GL-862
K-3846052 4-26-39

Left--
Plate Voltage Grid-
current for Trans-
mitting Tube GL-862
K-7050575 5-9-33



SUPPLEMENT TO GET-919 DESCRIPTION AND RATING SHEET FOR
TRANSMITTING TUBE GL-862

GENERAL CHARACTERISTICS

MECHANICAL

Gasket, Cat. No. 5182028P1

Type of Cooling

Water and Forced Air

Water Flow, gallons per minute

15-25

Air Flow, cubic feet per minute

To Bulb

15

To Stem

3

Shipping Weight, lb approx

175

Installation and Operation

GEH-1152

APPLICATION NOTES

Plate Series Protective Resistors (see paragraph describing plate circuit under
Installation in the Instructions).

Series Resistor, ohms

10

20

40

50

Maximum Power Output of

Rectifier, kilowatts

100

250

640

1600