862-A

TRANSMITTING TRIODE
WATER & FORCED-AIR COOLED

GENERAL DATA

Electrical:

Filament: Tungsten

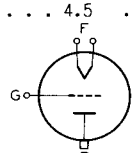
Voltage	33	a-c or d-c volts
Current	207	amp.

Starting – The current should never exceed 400 amperes, even momentarily.

Amplification Factor	45	
Direct Interelectrode Capacitances (Approx.):		
Grid to Plate	70	μμf
Grid to Filament	53	μμf
Plate to Filament	4.5	μμf

Physical:

Terminal Legend:
F – Stranded Filament Terminal
G – Ribbon Grid Terminal
P – Water-cooled Plate Terminal



Mounting Position	Vertical only, glass end up
Maximum Overall Length	60-3/8"
Greatest Radius	10"
Base (with nozzle for air-cooling of filament seal)	No.3908
Water Jacket (with nozzle for air-cooling of bulb)	Type UT-1289-A
Gasket	RCA Stock No.17879

Cooling – *Water flow* of 15 to 25 gallons per minute must start before application of any voltages and continue for at least 10 minutes after removal of all voltages. Water temperature must not exceed 70°C at socket outlet under any conditions of operation. *Air flow* of 15 cubic feet per minute in bulb nozzle and 3 cubic feet per minute in filament-seal nozzle is required before the application of any voltages and must continue for at least 10 minutes after removal of voltages to limit the glass temperature to 150°C at the hottest part.

This tube can often be operated at reduced filament voltage as explained on sheet TYPES OF CATHODES in General Section.

A-F POWER AMPLIFIER & MODULATOR – Class B

Maximum Ratings, *Absolute Values*:

D-C PLATE VOLTAGE	15000 max.	volts
MAX.-SIGNAL D-C PLATE CURRENT*	7.5 max.	amp.
MAX.-SIGNAL PLATE INPUT*	100 max.	kw
PLATE DISSIPATION*	50 max.	kw

Typical Operation:

Unless otherwise specified, values are for 2 tubes

D-C Plate Voltage	12000	volts
D-C Grid Voltage°	0	volts
Peak A-F Grid-to-Grid Voltage	2000	volts
Zero-Signal D-C Plate Current	3	amp.
Max.-Signal D-C Plate Current	13	amp.
Effective Load Res. (plate to plate)	1800	ohms
Max.-Signal Driving Power	450	approx. watts
Max.-Signal Power Output	90	approx. kw

* Averaged over any audio-frequency cycle of sine-wave form.
° For a-c filament supply.

862-A

TRANSMITTING TRIODE

(continued from preceding page)

R-F POWER AMPLIFIER – Class B Telephony

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

Maximum Ratings, *Absolute Values*:

D-C PLATE VOLTAGE	20000 max.	volts
D-C PLATE CURRENT	5 max.	amp.
PLATE INPUT	100 max.	kw
PLATE DISSIPATION	75 max.	kw

Typical Operation:

D-C Plate Voltage	12000	15000	18000	volts
D-C Grid Voltage°	-100	-150	-200	volts
Peak R-F Grid Voltage	500	625	750	volts
D-C Plate Current	2.8	3.5	4.2	amp.
Driving Power #,**	0.5	0.75	1.1	approx. kw
Power Output	11	17.5	25	approx. kw

** At crest of a-f cycle with modulation factor of 1.0.
° For a-c filament supply.

PLATE MODULATED R-F POWER AMPLIFIER – Class C Telephony

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

Maximum Ratings, *Absolute Values*:

D-C PLATE VOLTAGE	12000 max.	volts
D-C GRID VOLTAGE	-3000 max.	volts
D-C PLATE CURRENT	5 max.	amp.
D-C GRID CURRENT	1.25 max.	amp.
PLATE INPUT	60 max.	kw
PLATE DISSIPATION	50 max.	kw

Typical Operation:

D-C Plate Voltage	8000	10000	12000	volts
D-C Grid Voltage	-700	-750	-800	volts
Peak R-F Grid Voltage	1700	1850	2000	volts
D-C Plate Current	4	4.5	5	amp.
D-C Grid Current,#	1	1	1	approx. amp.
Driving Power #	1.7	1.85	2	approx. kw
Power Output	24	34	45	approx. kw

R-F POWER AMPLIFIER & OSCILLATOR – Class C Telegraphy

Key-down conditions per tube without modulation **

Maximum Ratings, *Absolute Values*:

D-C PLATE VOLTAGE	20000 max.	volts
D-C GRID VOLTAGE	-3000 max.	volts
D-C PLATE CURRENT	10 max.	amp.
D-C GRID CURRENT	1 max.	amp.
PLATE INPUT	200 max.	kw
PLATE DISSIPATION	100 max.	kw

#, ##: See next page.

862-A

TRANSMITTING TRIODE

(continued from preceding page)

Typical Operation:

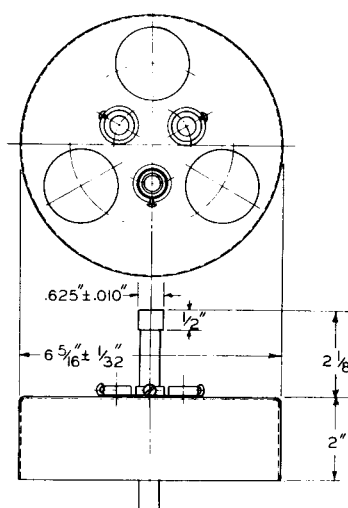
D-C Plate Voltage	12000	15000	18000	
D-C Grid Voltage.	-800	-900	-1000	. . . volts
Peak R-F Grid Voltage . .	2050	2300	2550	. . . volts
D-C Plate Current	6.25	7.5	8.33	. . . volts
D-C Grid Current #	0.8	0.85	0.9	approx. amp.
Driving Power #	1.6	2	2.4	approx. kw
Power Output.	50	75	100	approx. kw

Subject to wide variations as explained on sheet TUBE RATINGS in General Section.

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

Data on operating frequencies for the 862-A are given on the sheet TRANS. TUBE RATINGS vs FREQUENCY.

Nº 3908 BASE OUTLINE



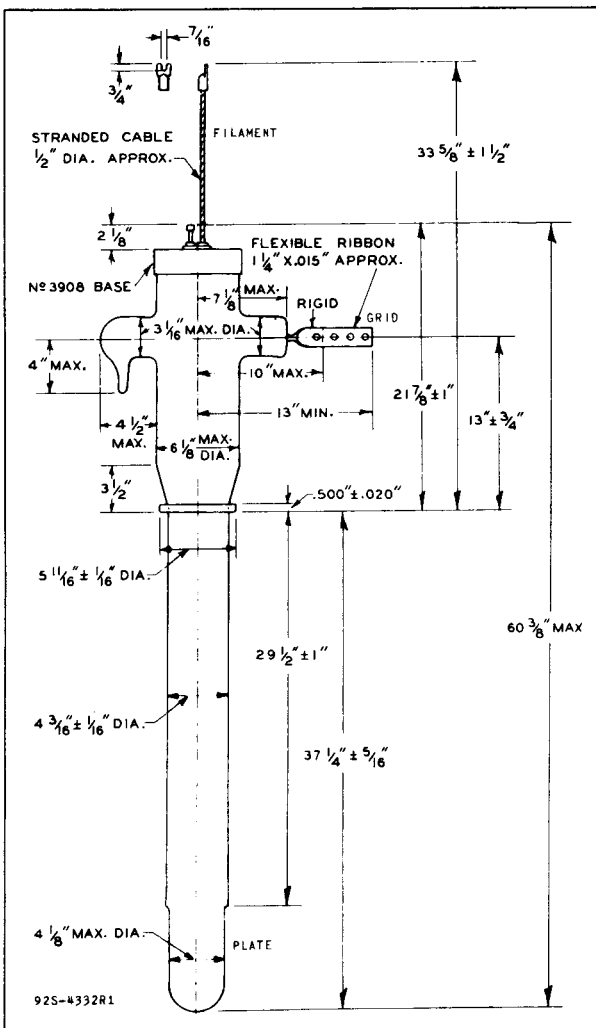
92CS-6577

RCA VICTOR DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

RCA

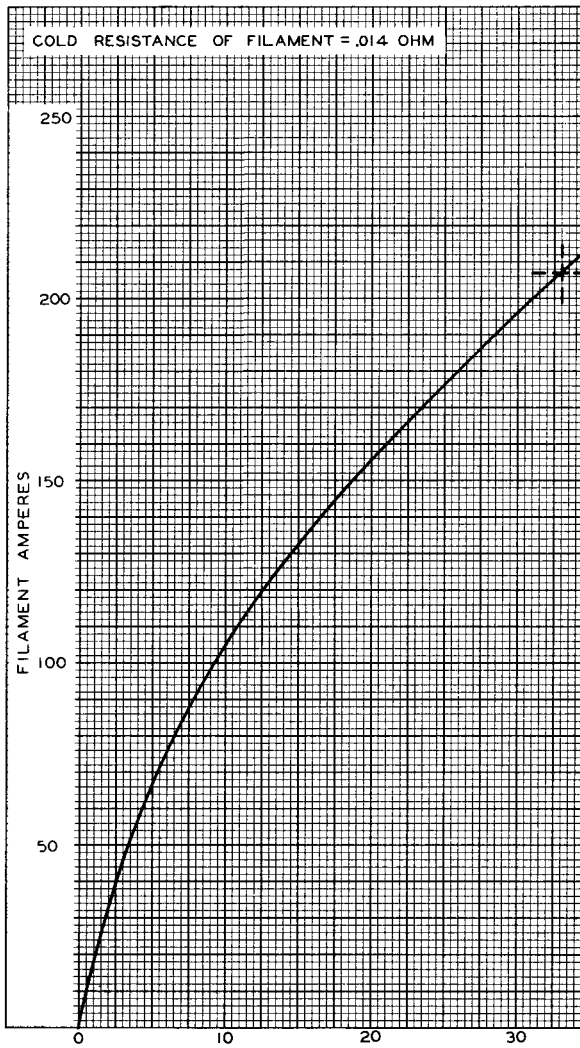
862-A

TRANSMITTING TRIODE



862-A

AVERAGE FILAMENT CHARACTERISTIC



862-A

TRANSMITTING TRIODE

ADDITIONAL CURVES
FOR THE 862-A ARE THE SAME AS
THOSE FOR TYPE 898-A