889R-A

TRANSMITTING TRIODE

FORCED-AIR COOLED

Supersedes Type 889-R

GENERAL DATA

Electrical:

Filament, Tungsten:

Voltage	11	volts
Current	125	amp

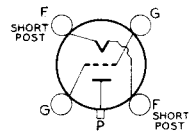
Starting Current: The filament current must never exceed 187 amperes, even momentarily.

Amplification Factor	21	
Direct Interelectrode Capacitances (Approx.):		
Grid to Plate	18.5	μμf
Grid to Filament	23.3	μμf
Plate to Filament	3.0	μμf

Mechanical:

Terminal Connections:

F – Filament (Short Terminals)
G – Grid (Long Terminals)



P – Water-Cooled Plate Terminal

Mounting Position	Vertical only, glass end up
Overall Length	11-1/2" ± 3/8"
Radiator Clamp Diameter	10-7/8" ± 1/8"
Radiator	Integral part of tube

Air Flow:

	For Plate Dissipation of 3.3 Kw	4.0 Kw	5.0 Kw	
Through Radiator	325 min.	390 min.	500 min.	cfm
At Pressure of	0.38 min.	0.5 min.	0.7 min.	in. of water

The specified air flow should be delivered by a blower vertically upward through the radiator before and during the application of any voltages.

To Grid and Filament Seals . . . . . 15 . . . cfm

The specified air flow must be directed vertically downward from a 3-inch diameter nozzle upon the grid and filament seals before and during the application of any voltages in order to limit the temperature of the glass at the hottest part to the maximum specified value.

Bulb Temperature	150 max.	°C
Input Air Temperature (to Radiator)	50 max.	°C
Radiator Temperature	180 max.	°C

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

AF POWER AMPLIFIER & MODULATOR – Class B

Maximum Ratings, *Absolute Values*:

DC PLATE VOLTAGE	8500 max.	volts
MAX.-SIGNAL DC PLATE CURRENT*	2.0 max.	amp
MAX.-SIGNAL PLATE INPUT*	12 max.	kw
PLATE DISSIPATION*	5.0 max.	kw

* Averaged over any audio-frequency cycle of sine-wave form.

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Typical Operation:

Unless otherwise specified, values are for two tubes

DC Plate Voltage	5000	6000	7500	volts
DC Grid Voltage●	-180	-230	-300	volts
Peak AF Grid-to-Grid Volt.	1460	1680	1700	volts
Zero-Signal DC Plate Cur.	0.4	0.4	0.4	amp
Max.-Signal DC Plate Cur.	3.2	3.6	3.2	amp
Effective Load Resistance (plate-to-plate)	2520	3680	5000	ohms
Max.-Signal Driving Power (Approx.)	170	180	150	watts
Max.-Signal Power Output (Approx.)	8.8	12	15	kw

RF POWER AMPLIFIER – Class B Telephony

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

Maximum Ratings, *Absolute Values*:

DC PLATE VOLTAGE	8500 max. volts
DC PLATE CURRENT	1.0 max. amp
PLATE INPUT	7.5 max. watts
PLATE DISSIPATION	5.0 max. watts

Typical Operation:

DC Plate Voltage	6000	7500	volts
DC Grid Voltage	-250	-300	volts
Peak RF Grid Voltage	920	1000	volts
DC Plate Current	0.9	0.9	amp
Driving Power (Approx.)**#	95	80	watts
Power Output (Approx.)	1.5	2	kw

PLATE-MODULATED RF POWER AMPLIFIER – Class C Telephony

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

Maximum Ratings, *Absolute Values*:

DC PLATE VOLTAGE	6000 max. volts
DC GRID VOLTAGE●	-1000 max. volts
DC PLATE CURRENT	1.0 max. amp
DC GRID CURRENT	0.25 max. amp
PLATE INPUT	6 max. kw
PLATE DISSIPATION	3 max. kw

Typical Operation:

DC Plate Voltage	5000	6000	volts
DC Grid Voltage	-800	-900	volts
Peak RF Grid Voltage	1300	1420	volts
DC Plate Current	0.9	1.0	amp
DC Grid Current (Approx.)#	0.12	0.1	amp

●, **, #: See next page.

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Driving Power (Approx.)#.	155	140	. .	watts
Power Output (Approx.).	2.75	4	. .	kw

RF POWER AMPLIFIER & OSCILLATOR – Class C Telegraphy

Key-down conditions per tube without modulation##

Maximum Ratings, *Absolute Values*:

DC PLATE VOLTAGE.	8500 max.	volts
DC GRID VOLTAGE●.	-1000 max.	volts
DC PLATE CURRENT.	2.0 max.	amp
DC GRID CURRENT	0.25 max.	amp
PLATE INPUT	16 max.	kw
PLATE DISSIPATION	5 max.	kw

Typical Operation:

DC Plate Voltage.	5000	6000	7500	. .	volts
DC Grid Voltage	-500	-600	-800	. .	volts
Peak RF Grid Voltage. . . .	1240	1460	1830	. .	volts
DC Plate Current.	1.5	1.8	2.0	. .	amp
DC Grid Current (Approx.)#. .	0.19	0.21	0.24	. .	amp
Driving Power (Approx.)#. . .	220	290	400	. .	watts
Power Output (Approx.). . . .	5	7	10	. .	kw

● With ac filament excitation.

** At crest of audio-frequency cycle with modulation factor of 1.0.

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 889R-A are given on the sheet TRANS. TUBE RATINGS vs FREQUENCY.

CURVES
FOR THE 889R-A ARE THE SAME
AS THOSE FOR TYPE 889-A

RCA

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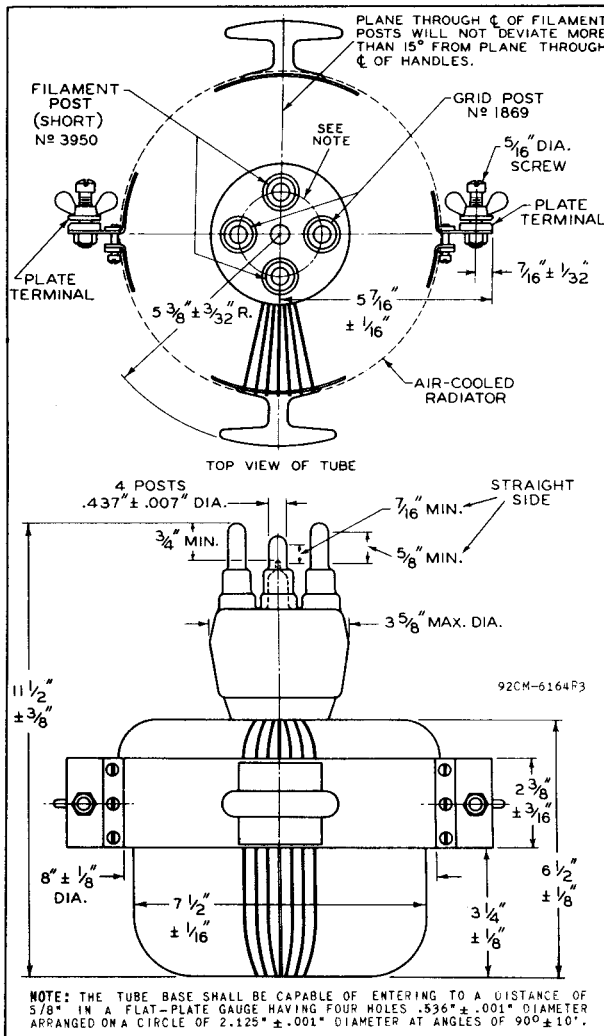

NOTE: THE TUBE BASE SHALL BE CAPABLE OF ENTERING TO A DISTANCE OF 5/8" IN A FLAT-PLATE GAUGE HAVING FOUR HOLES .536" ± .001" DIAMETER ARRANGED ON A CIRCLE OF 2.125" ± .001" DIAMETER AT ANGLES OF 90° ± 10'.