



889R-A

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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.

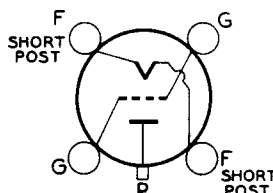
Amplification Factor 21

Direct Interelectrode Capacitances (Approx.):

Grid to Plate 18.5 μmf Grid to Filament 23.3 μmf Plate to Filament 3.0 μmf **Mechanical:**

Terminal Connections:

TOP VIEW

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" $\pm$ 3/8"Radiator Clamp Diameter 10-7/8" $\pm$ 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. $^{\circ}\text{C}$ Input Air Temperature (to Radiator) 50 max. $^{\circ}\text{C}$ Radiator Temperature. 180 max. $^{\circ}\text{C}$ *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.

889R-A



889R-A

TRANSMITTING TRIODE

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.



889R-A

889R-A

TRANSMITTING TRIODE

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

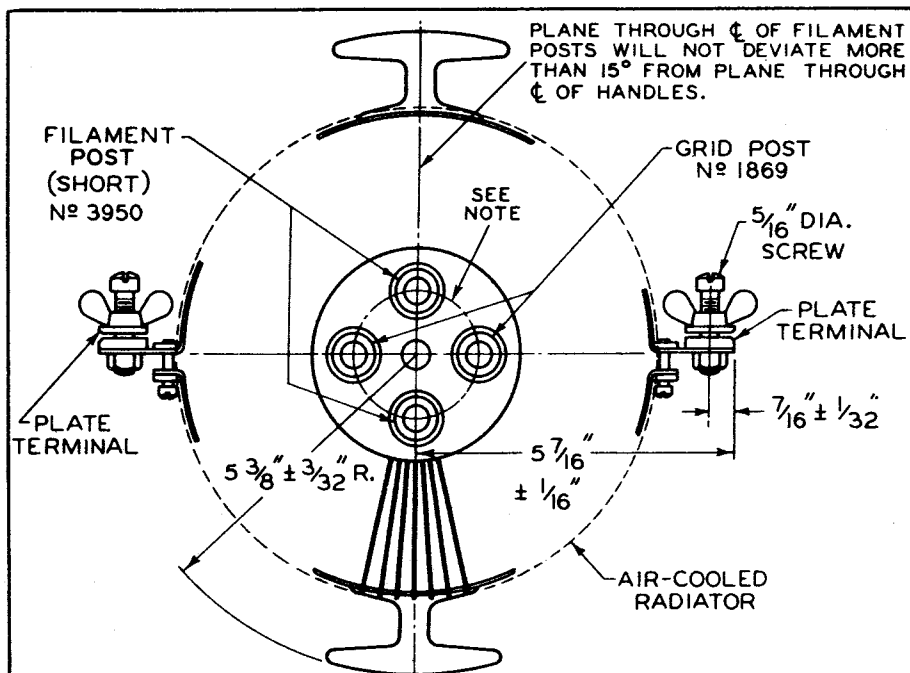
FOR THE 889R-A ARE THE SAME
AS THOSE FOR TYPE 889-A

889R-A

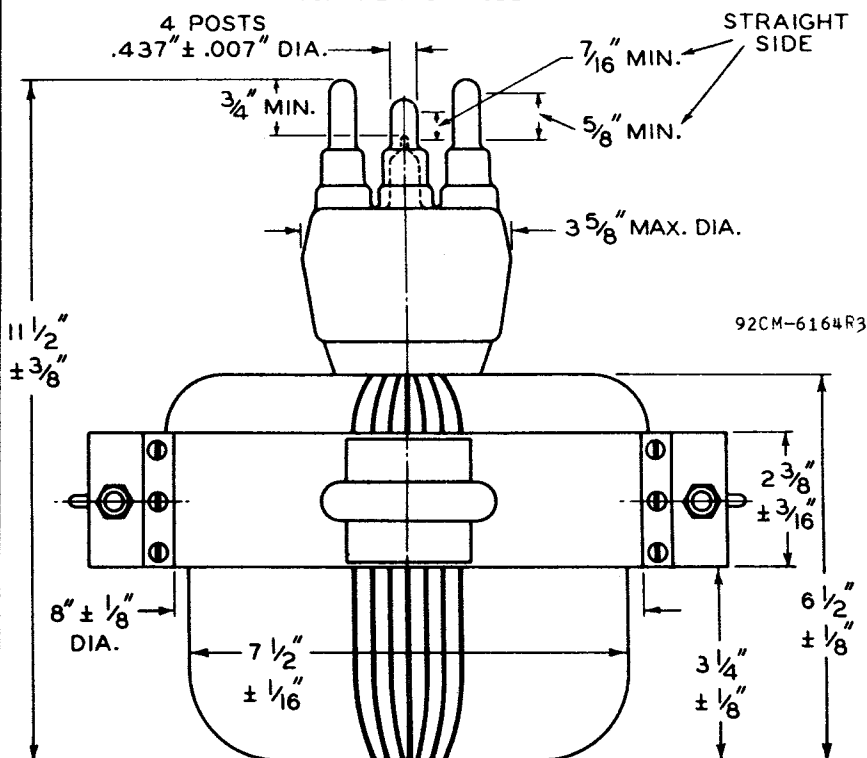


889R-A

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TOP VIEW OF TUBE



NOTE: THE TUBE BASE SHALL BE CAPABLE OF ENTERING TO A DISTANCE OF $5 \frac{5}{8}$ " IN A FLAT-PLATE GAUGE HAVING FOUR HOLES $.536 \pm .001$ " DIAMETER ARRANGED ON A CIRCLE OF $2.125 \pm .001$ " DIAMETER AT ANGLES OF $90^\circ \pm 10^\circ$.