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TRANSMITTING TRIODE**WATER & FORCED-AIR COOLED***Supersedes Type 889*GENERAL DATA**Electrical:**

Filament, Tungsten:

Voltage 11 volts

Current 125 amp

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

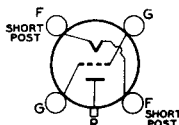
Amplification Factor. 21

Direct Interelectrode Capacitances (Approx.):

Grid to Plate 17.5 μmf Grid to Filament. 23.3 μmf Plate to Filament 2.7 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 10-7/16" $\pm$ 1/4"

Maximum Diameter 3-5/8"

Water Jacket Type UT-4000

Water Flow: 3 to 6 gallons per minute must start before application of any voltages, and must continue for at least 5 minutes after removal of all voltages. Water temperature at jacket outlet must not exceed 70°C under any conditions of operation.

Air Flow: 15 cu.ft. per minute through a 3-inch diameter nozzle must be directed downward toward grid and plate seals before and during the application of any voltages to limit temperature of glass at hottest point to 150°C.

*This tube can often be operated at 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 max. amp

MAX.—SIGNAL PLATE INPUT* 12 max. kw

PLATE DISSIPATION* 5 max. kw

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

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

• See next page.



TRANSMITTING TRIODE

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.	kw
PLATE DISSIPATION	5.0 max.	kw

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	6.0 max.	kw
PLATE DISSIPATION	3.0 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
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

[•], **, #, ##: See next page.



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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.	1200	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.

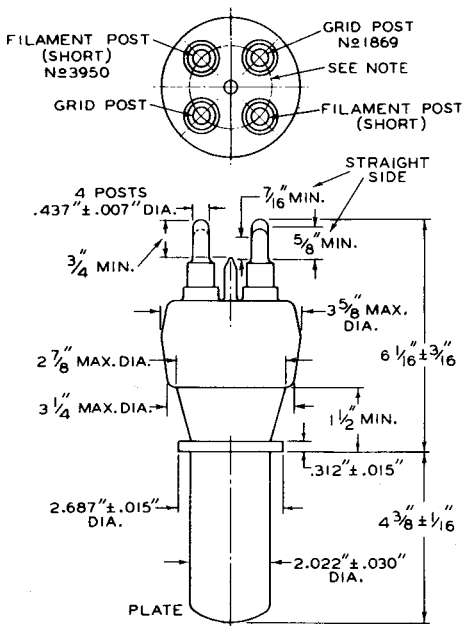
Data on operating frequencies for the 889-A are given on the sheet TRANS. TUBE RATINGS vs FREQUENCY.

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TRANSMITTING TRIODE



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'.

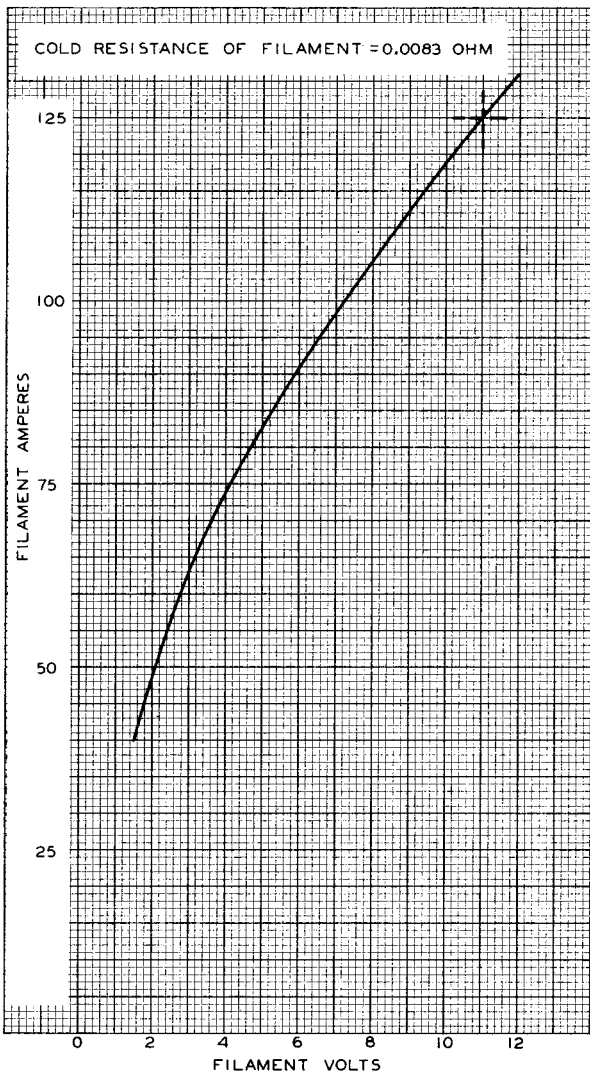
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AVERAGE FILAMENT CHARACTERISTIC



MAY 22, 1939

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

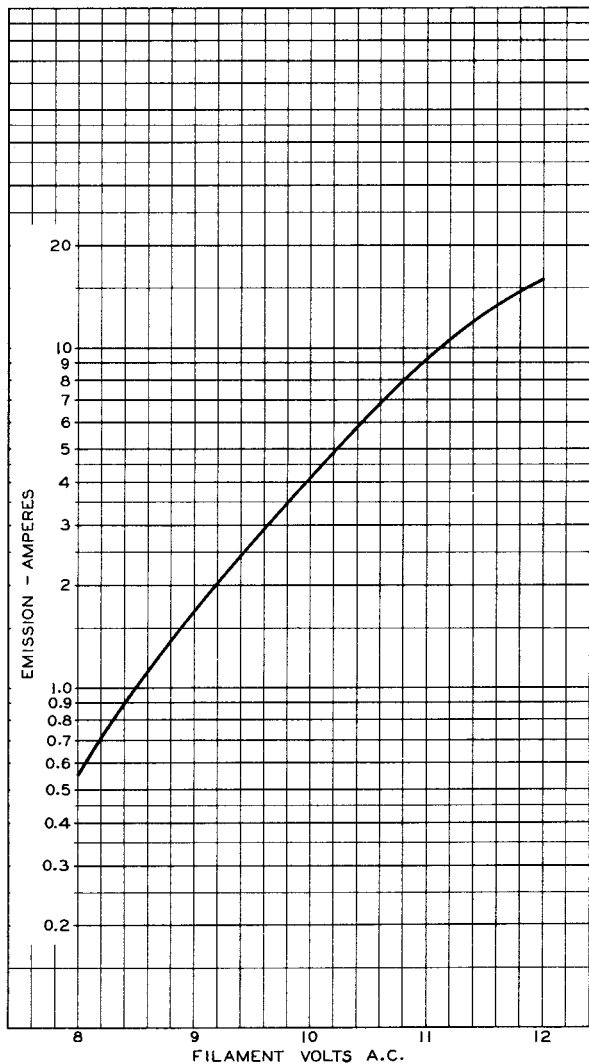
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AVERAGE FILAMENT-EMISSION CHARACTERISTIC



JUNE 10, 1940

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

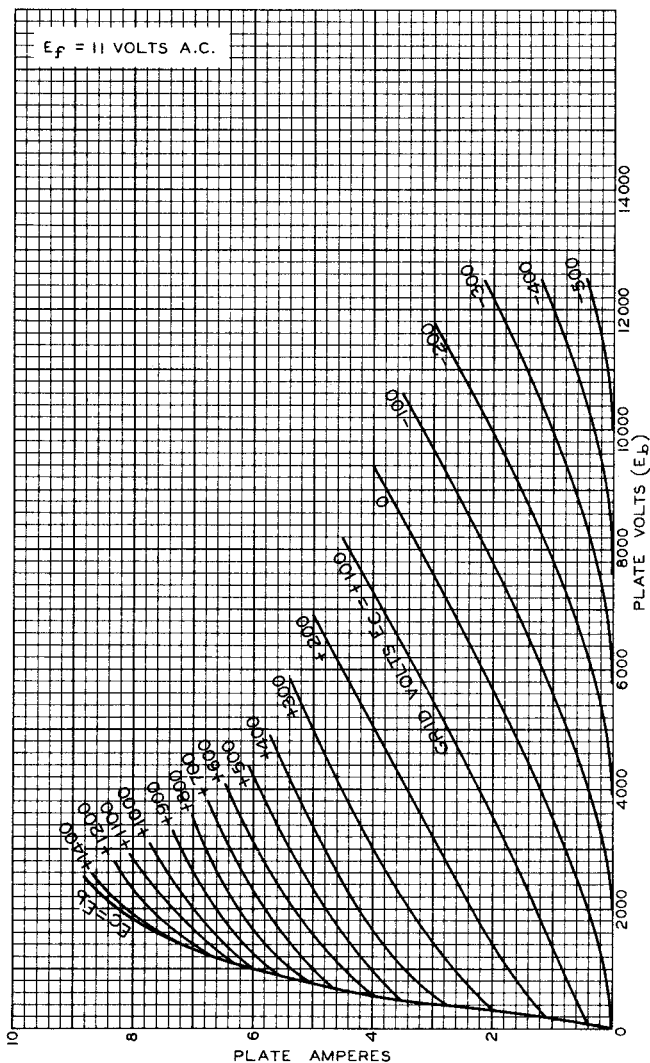
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AVERAGE PLATE CHARACTERISTICS

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JUNE 14, 1939

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

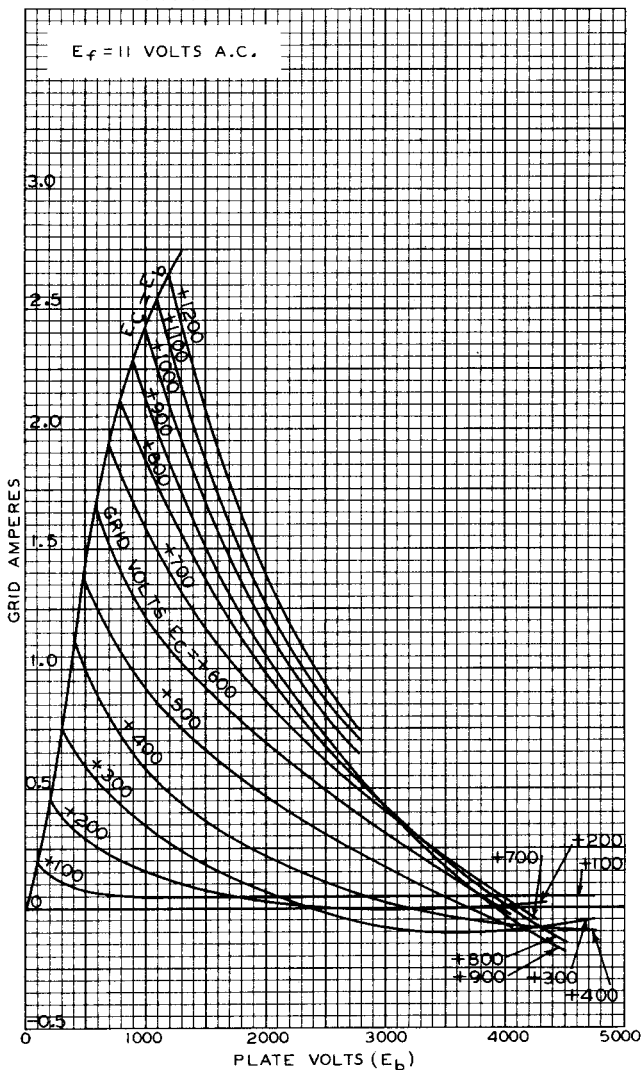
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TYPICAL CHARACTERISTICS



JUNE 15, 1939

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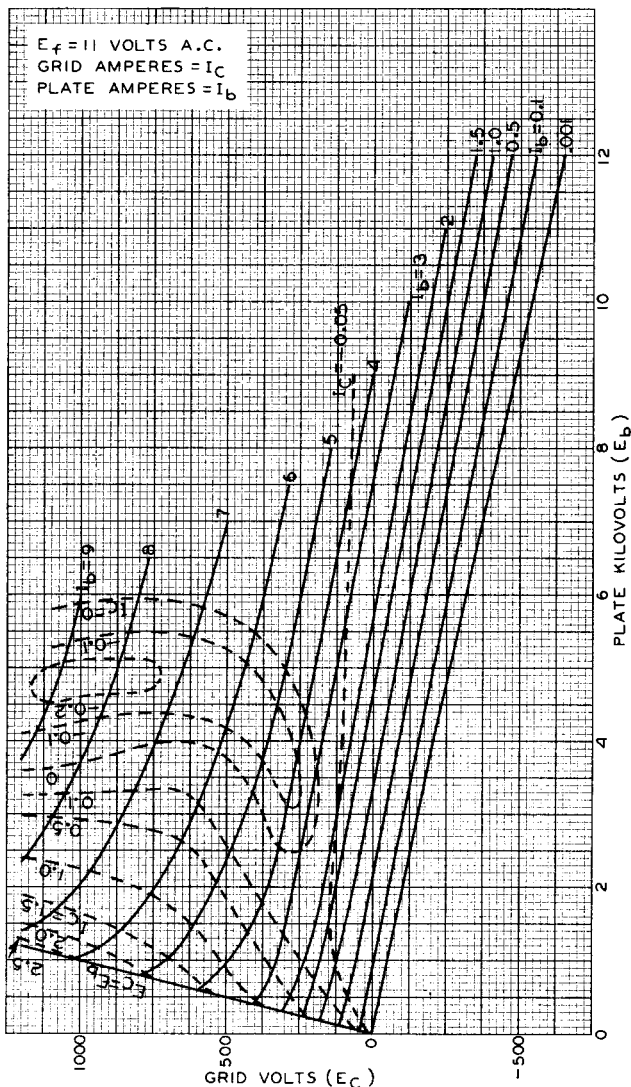
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AVERAGE CONSTANT-CURRENT CHARACTERISTICS



MAY 22, 1939

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