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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.

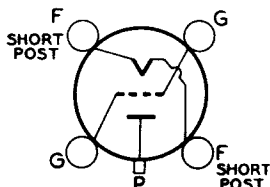
Amplification Factor. 21

Direct Interelectrode Capacitances (Approx.):

Grid to Plate 17.5 $\mu\mu\text{f}$ Grid to Filament. 23.3 $\mu\mu\text{f}$ Plate to Filament 2.7 $\mu\mu\text{f}$ **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.

JUNE 20, 1946

TUBE DIVISION

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

DATA 1



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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TRANSMITTING TRIODE

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.

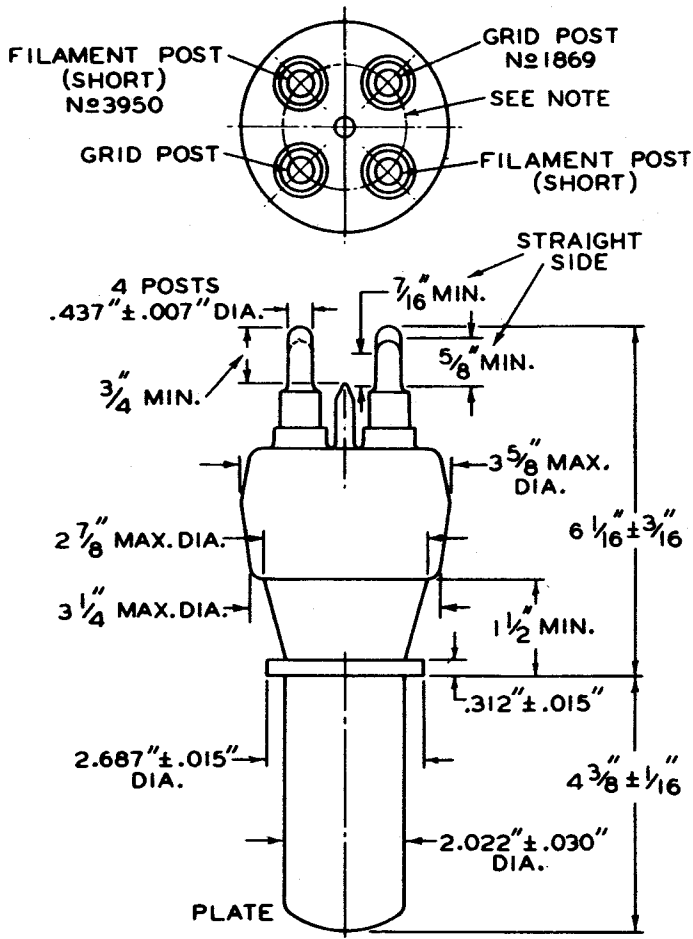
Data on operating frequencies for the 889-A are given on the sheet TRANS. TUBE RATINGS vs FREQUENCY.

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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" $\pm$.001" DIAMETER ARRANGED ON A CIRCLE OF 2.125" $\pm$.001" DIAMETER AT ANGLES OF 90° $\pm$ 10'.

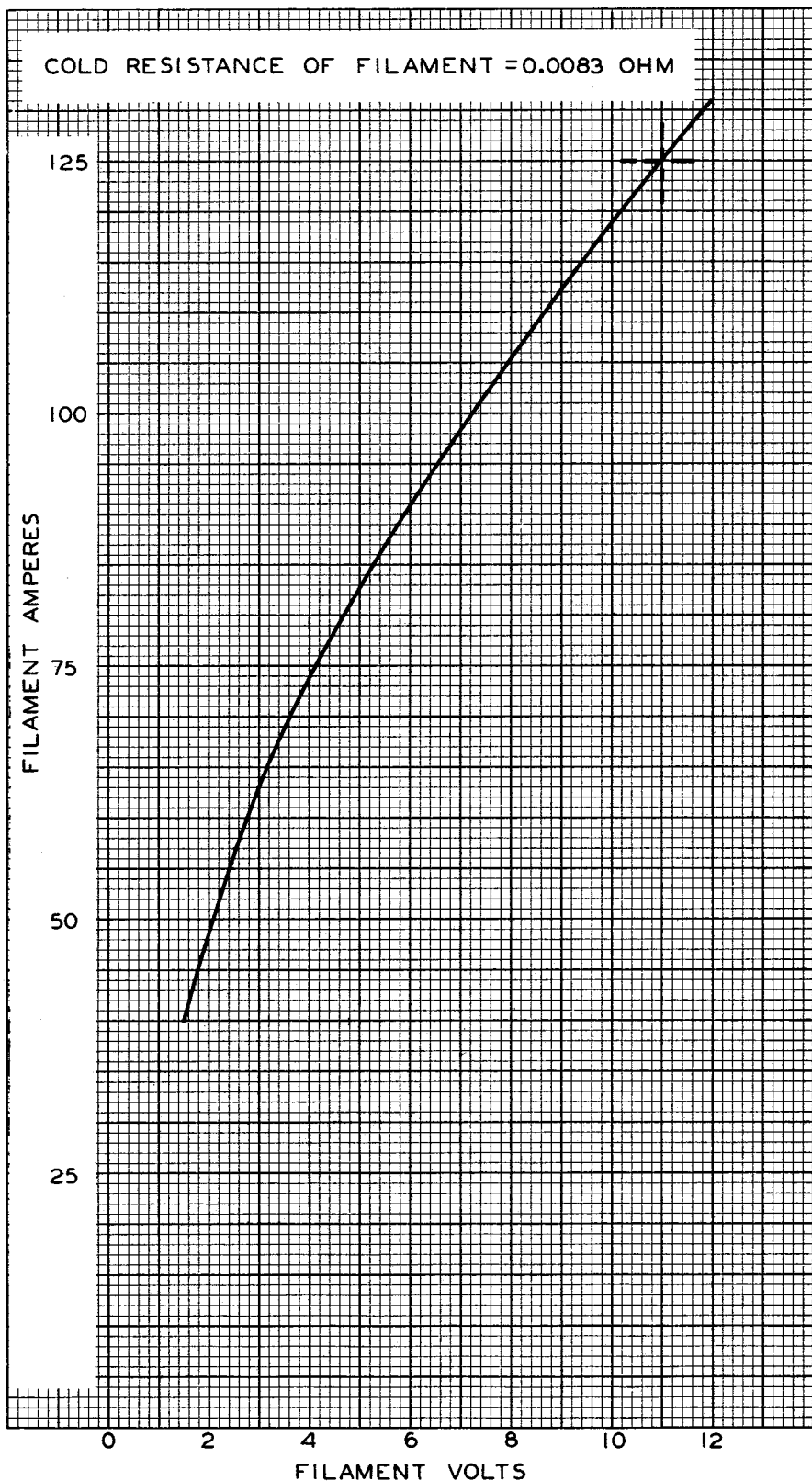
92CM-6039R2



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AVERAGE FILAMENT CHARACTERISTIC



MAY 22, 1939

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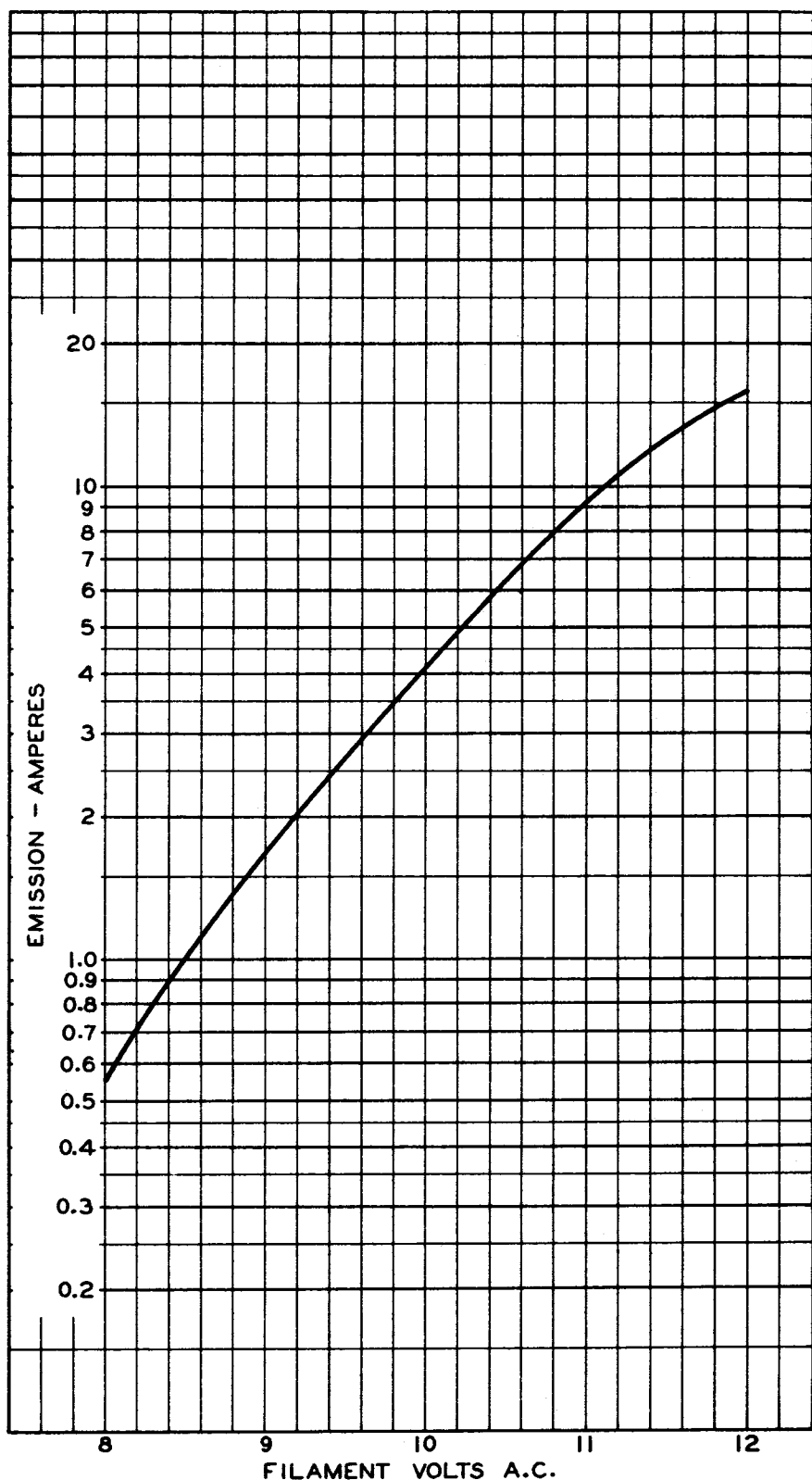
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AVERAGE FILAMENT-EMISSION CHARACTERISTIC



JUNE 10, 1940

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92C-6174

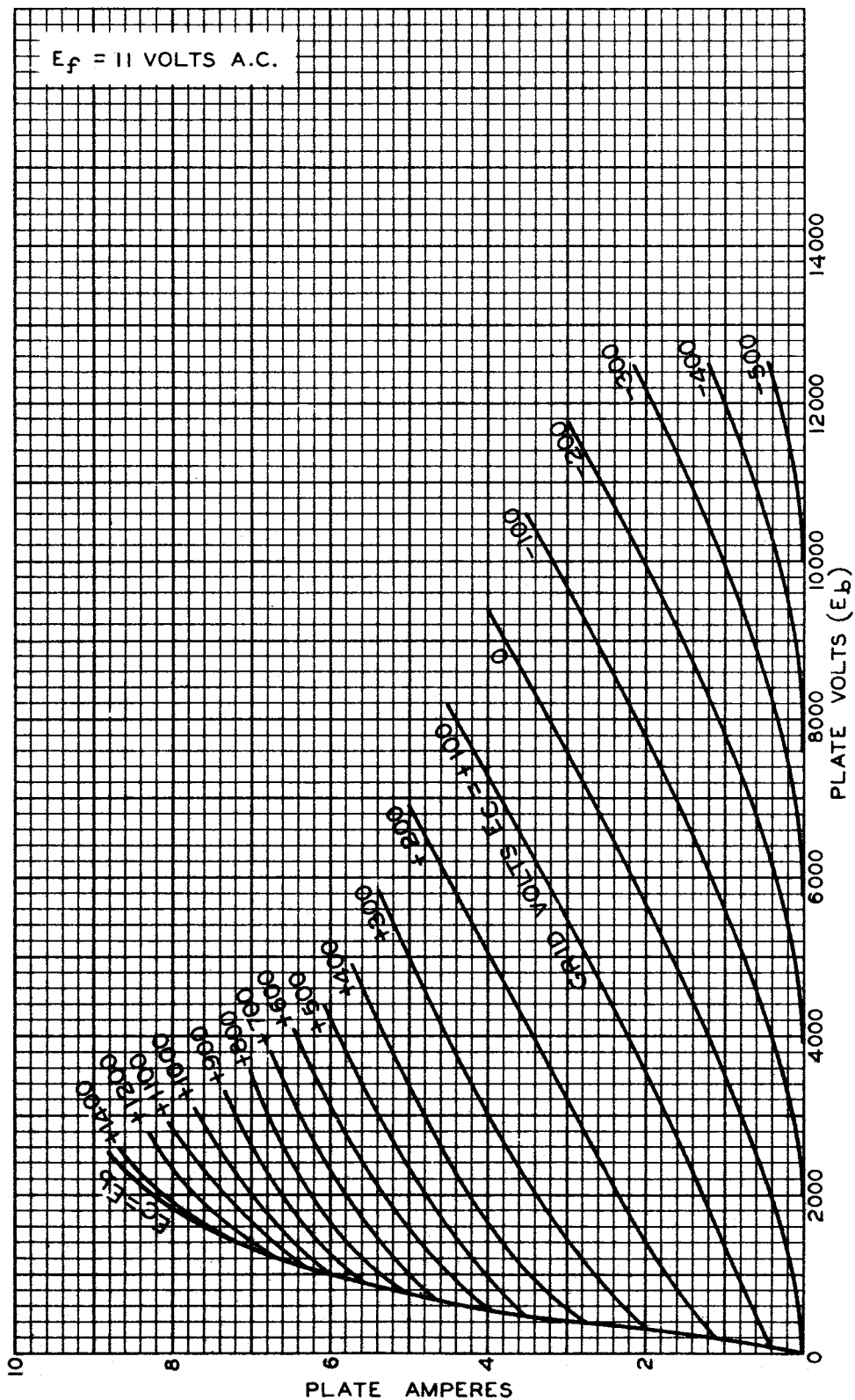


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AVERAGE PLATE CHARACTERISTICS

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$E_f = 11$ VOLTS A.C.



JUNE 14, 1939

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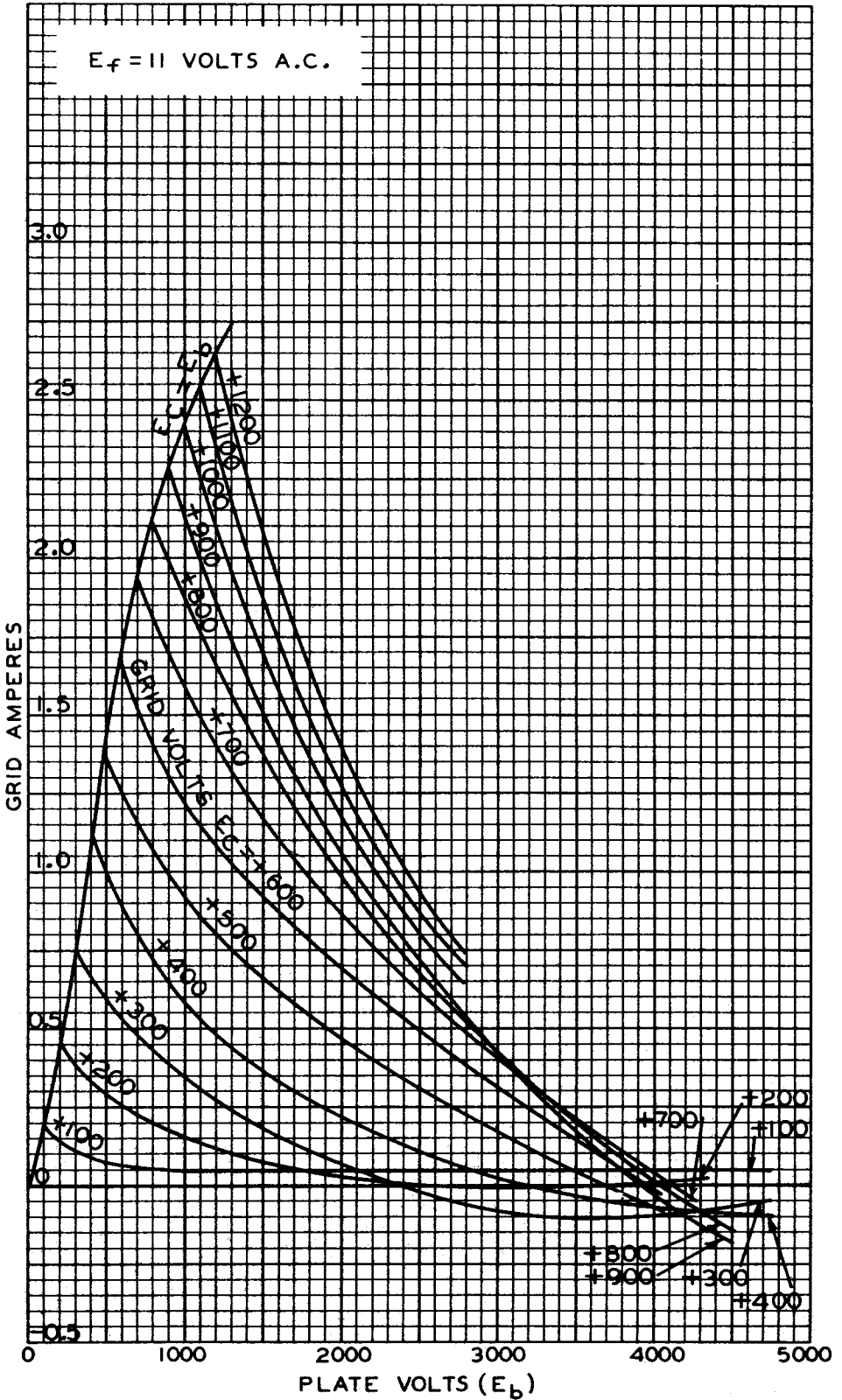
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TYPICAL CHARACTERISTICS



JUNE 15, 1939

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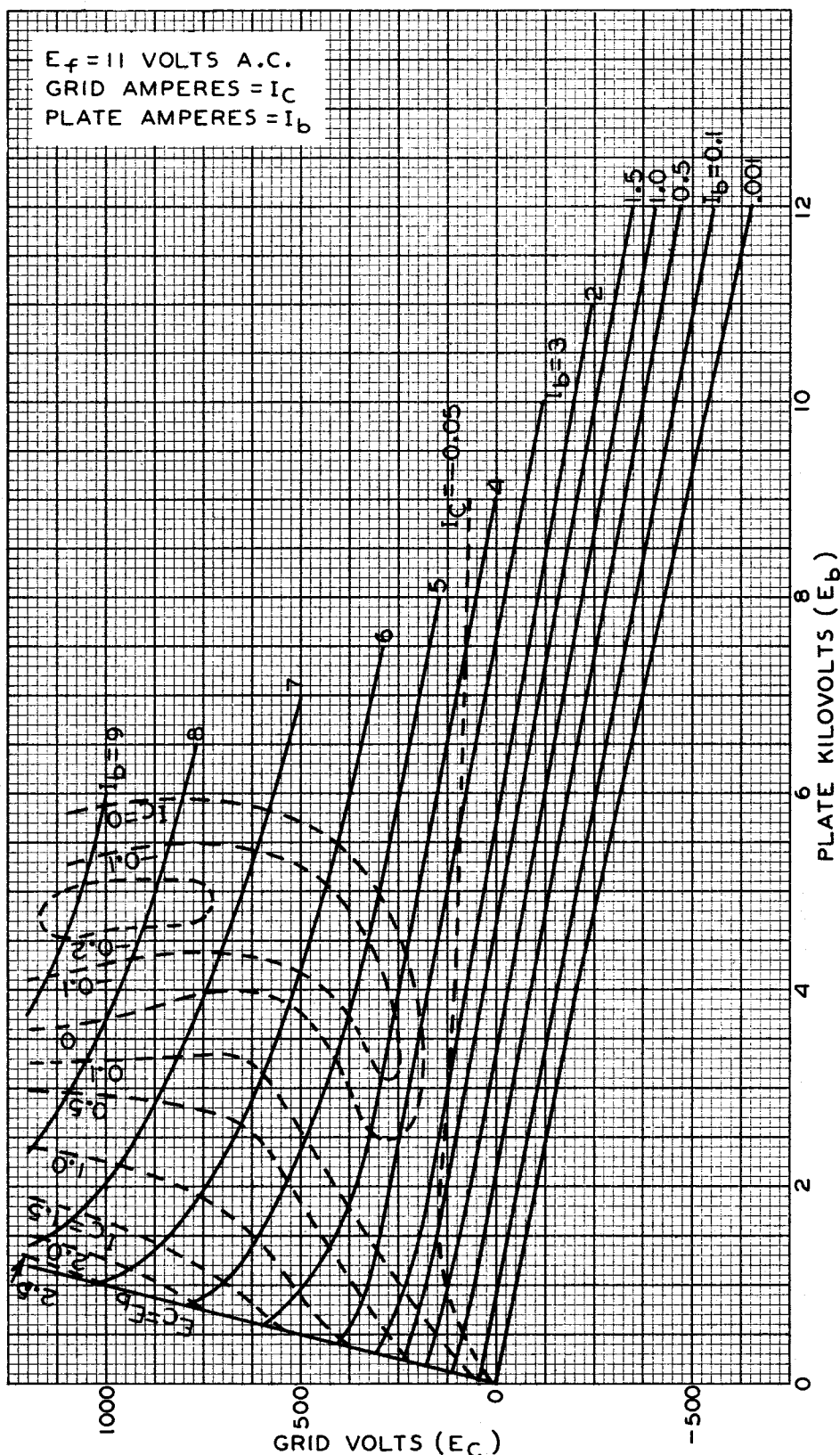
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AVERAGE CONSTANT-CURRENT CHARACTERISTICS



MAY 22, 1939

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92C-6088

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