



898-A

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TRANSMITTING TRIODE

WATER & FORCED-AIR COOLED

GENERAL DATA

Electrical:

Filament: Tungsten, Three-Section Type
 Excitation 1 ϕ AC, 3 ϕ AC, or DC
 Voltage per section. 33 volts
 Current per section. 70 amp.
 (See **FILAMENT CONNECTIONS AND EXCITATION CIRCUITS** under this type)
 Starting - The current per section should never exceed 105 amperes, even momentarily.

Amplification Factor 45

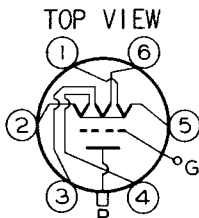
Direct Interelectrode Capacitances (Approx.):

Grid to Plate.	62	μ mf
Grid to Filament	52	μ mf
Plate to Filament.	4.2	μ mf

Mechanical:

Terminal Connections:

Term.1-Fil. No.3
 Term.2-Fil. No.2
 Term.3-Fil. No.1
 Term.4-Fil. No.2
 Term.5-Fil. No.3
 Term.6-Fil. No.1



G-Ribbon
Grid Terminal

P-Water-cooled
Plate
Terminal

TERMINAL No5 IS ABOVE GRID ARM

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.6628
 Water Jacket (with nozzle for air-cooling of bulb) 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 jacket 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 1500°C at the hottest part. The incoming air temperature must not exceed 50°C.

This tube can often be operated with 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

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

Nov. 15, 1945

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

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(continued from preceding page)

Typical Operation:

Unless otherwise specified, values are for 2 tubes

D-C Plate Voltage	12000		volts
D-C Grid Voltage•	-100		volts
Peak A-F Grid-to-Grid Voltage	2200		volts
Zero-Sig. D-C Plate Current	2		amp.
Max.-Sig. D-C Plate Current	13		amp.
Effective Load Res. (plate-to-plate).	2000		ohms
Max.-Sig. Driving Power	6	approx.	kw
Max.-Sig. Power Output.	90	approx.	kw

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	-175	-250		volts
Peak R-F Grid Voltage	525	650	775		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

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	12000		volts
D-C Grid Voltage.	-800		volts
Peak R-F Grid Voltage	2000		volts
D-C Plate Current	5		amp.
D-C Grid Current #	1	approx.	amp.
Driving Power #	2	approx.	kw
Power Output	45	approx.	kw

•; **; #; See next page.



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(continued from preceding page)

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

Typical Operation:

D-C Plate Voltage.	12000	15000	18000	. . . volts
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	. . . amp.
D-C Grid Current #	0.8	0.85	0.9	approx. amp.
Driving Power #	1.6	2.0	2.4	approx. kw
Power Output	50	75	100	approx. kw

● With a-c filament excitation.

** At crest of a-f 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.

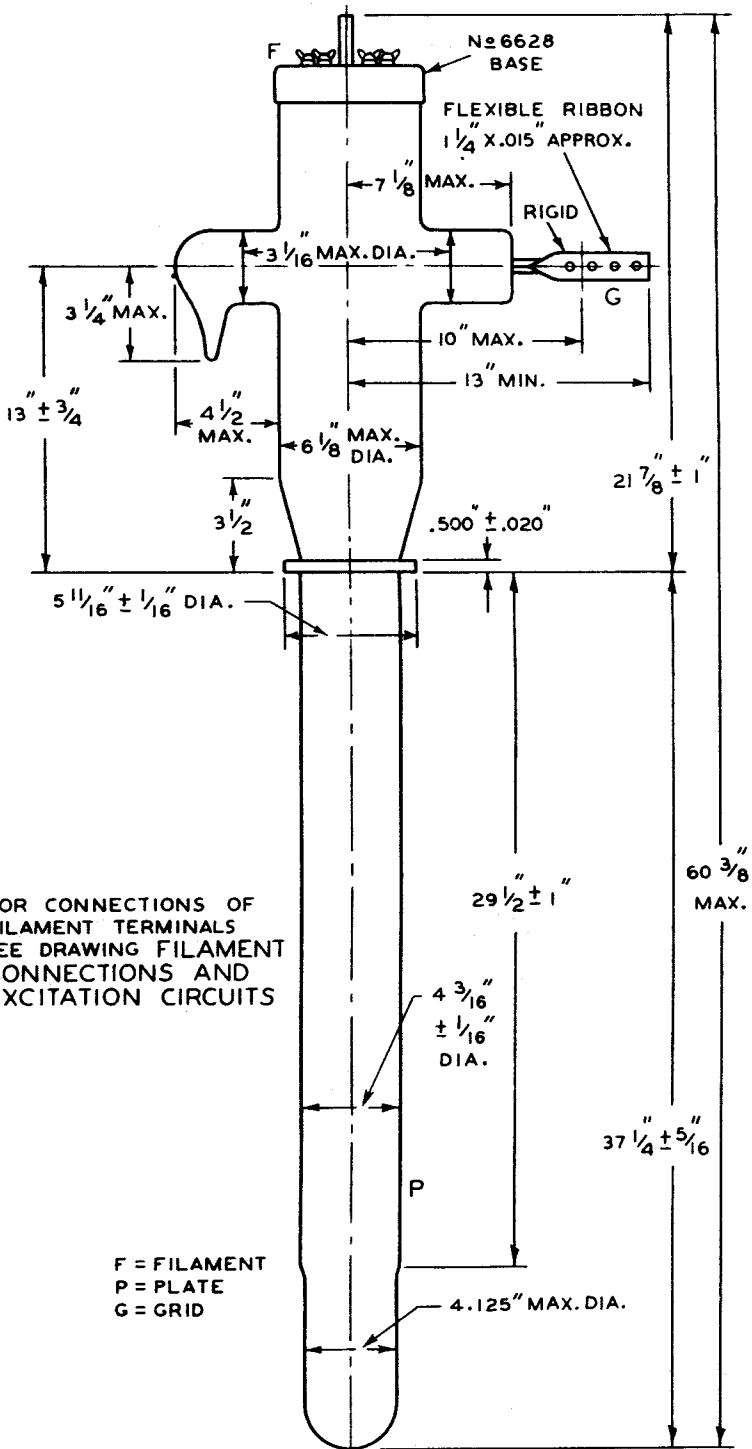
Data on operating frequencies for the 898-A are given on the sheet TRANS. TUBE RATINGS vs FREQUENCY.

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TRANSMITTING TRIODE



92CM-4382R2

MAR. 30, 1945

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DATA 2



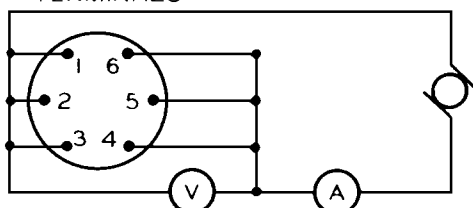
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FILAMENT CONNECTIONS AND EXCITATION CIRCUITS

D-C FILAMENT
EXCITATION

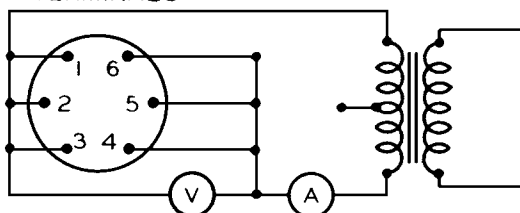
FILAMENT BASE
TERMINALS



V = 33 VOLTS
A = 210 AMP.

SINGLE-PHASE
A-C FILAMENT
EXCITATION

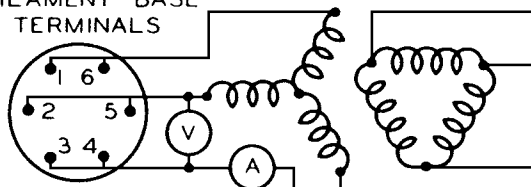
FILAMENT BASE
TERMINALS



V = 33 VOLTS
A = 210 AMP.

THREE-PHASE
A-C FILAMENT
EXCITATION

FILAMENT BASE
TERMINALS



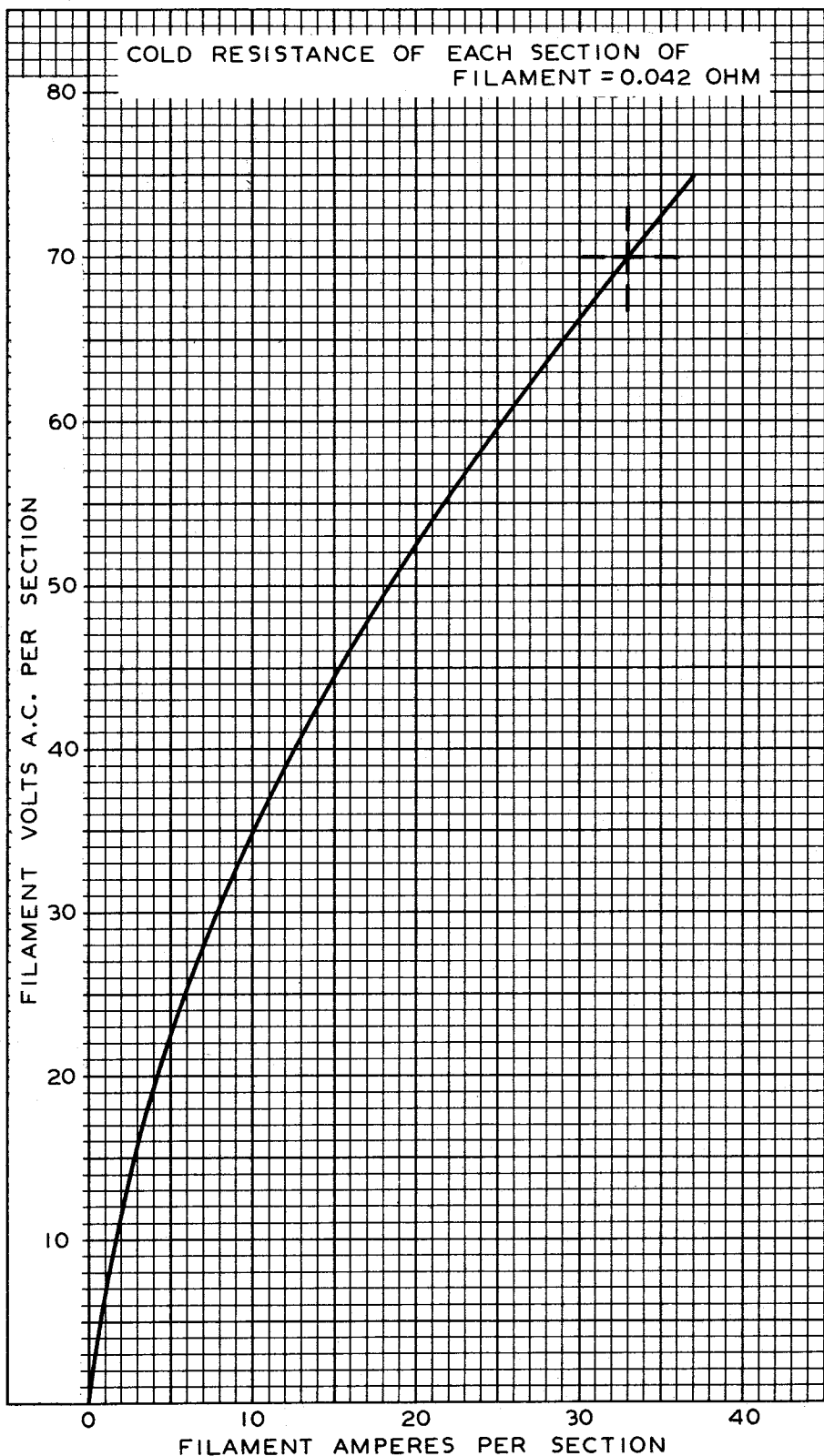
V = 28.6 VOLTS
A = 140 AMP.

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AVERAGE FILAMENT CHARACTERISTIC



FEB. 3, 1945

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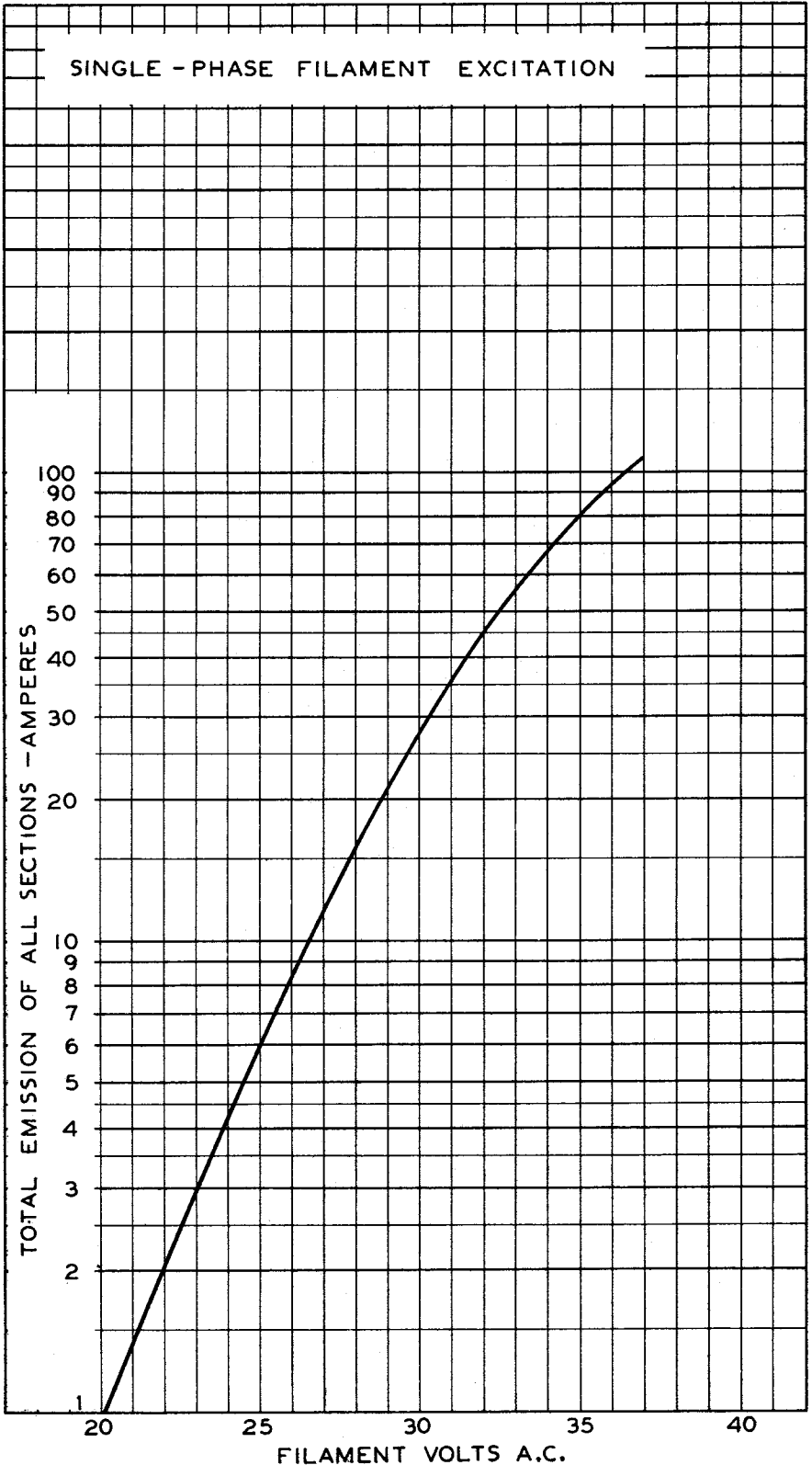
92CM-4389R2



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AVERAGE FILAMENT-EMISSION CHARACTERISTIC



FEB. 8, 1945

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92CM-4390R3

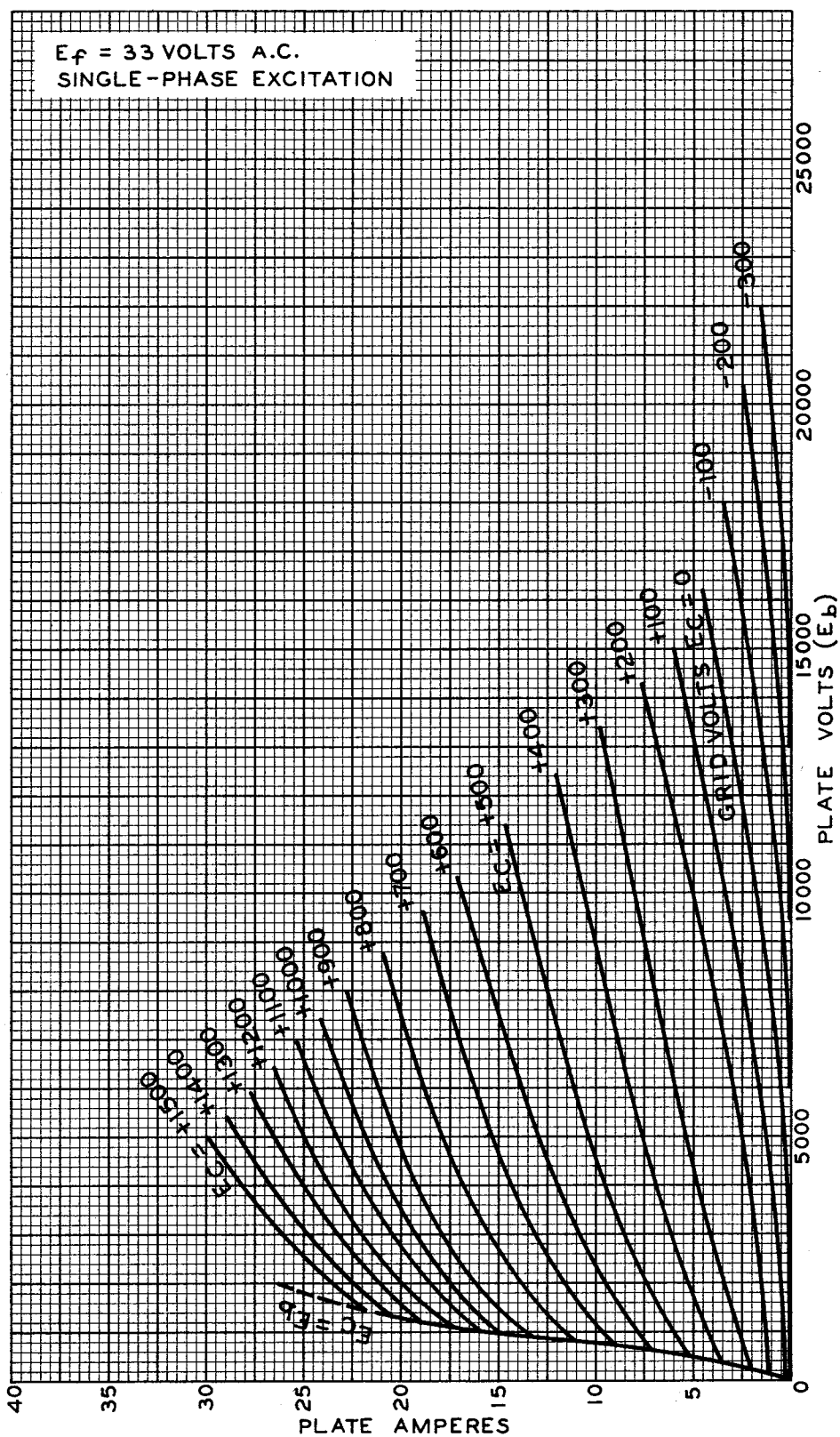
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AVERAGE PLATE CHARACTERISTICS

$E_f = 33$ VOLTS A.C.
SINGLE-PHASE EXCITATION



FEB. 7, 1945

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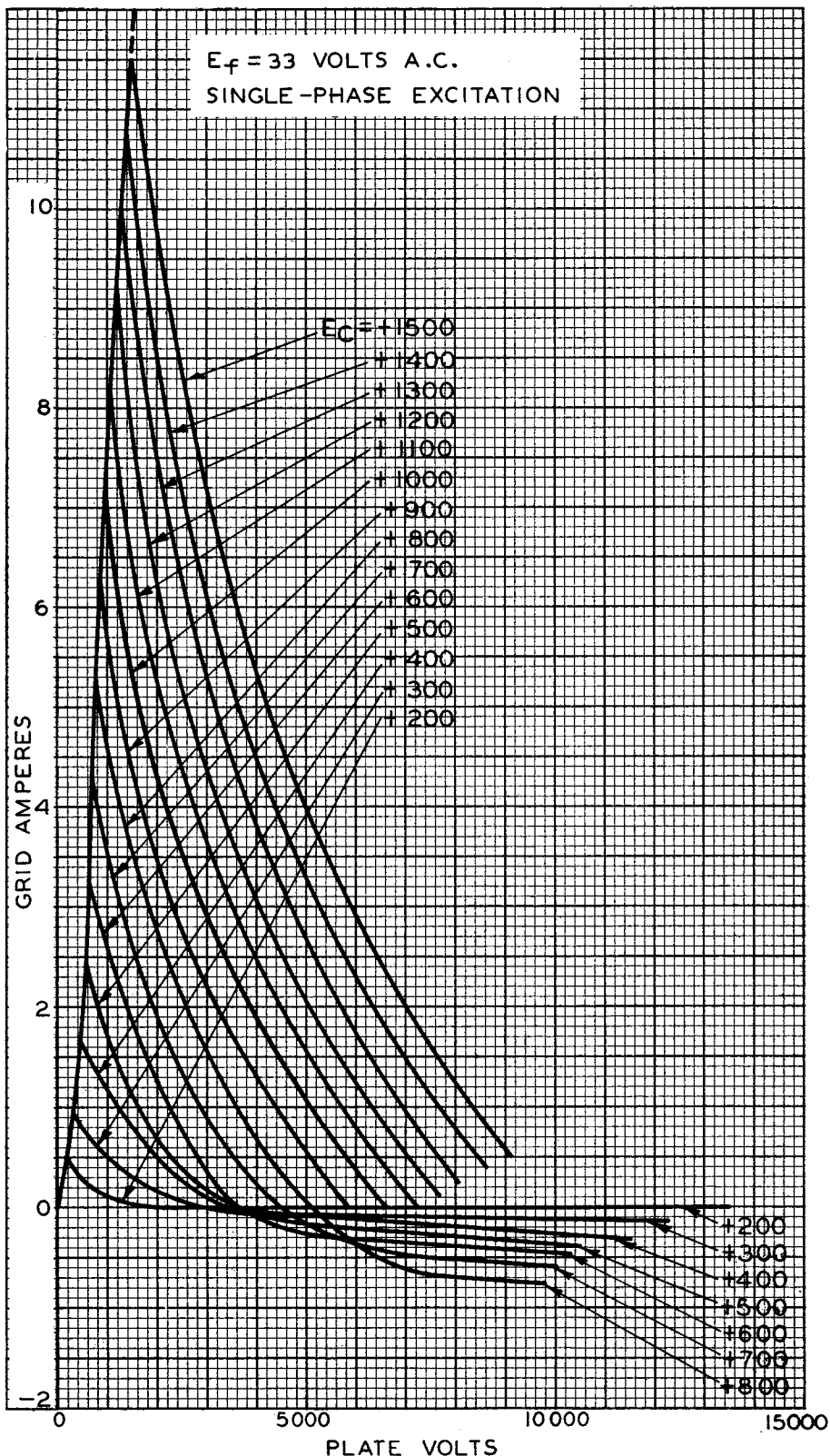
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TYPICAL CHARACTERISTICS

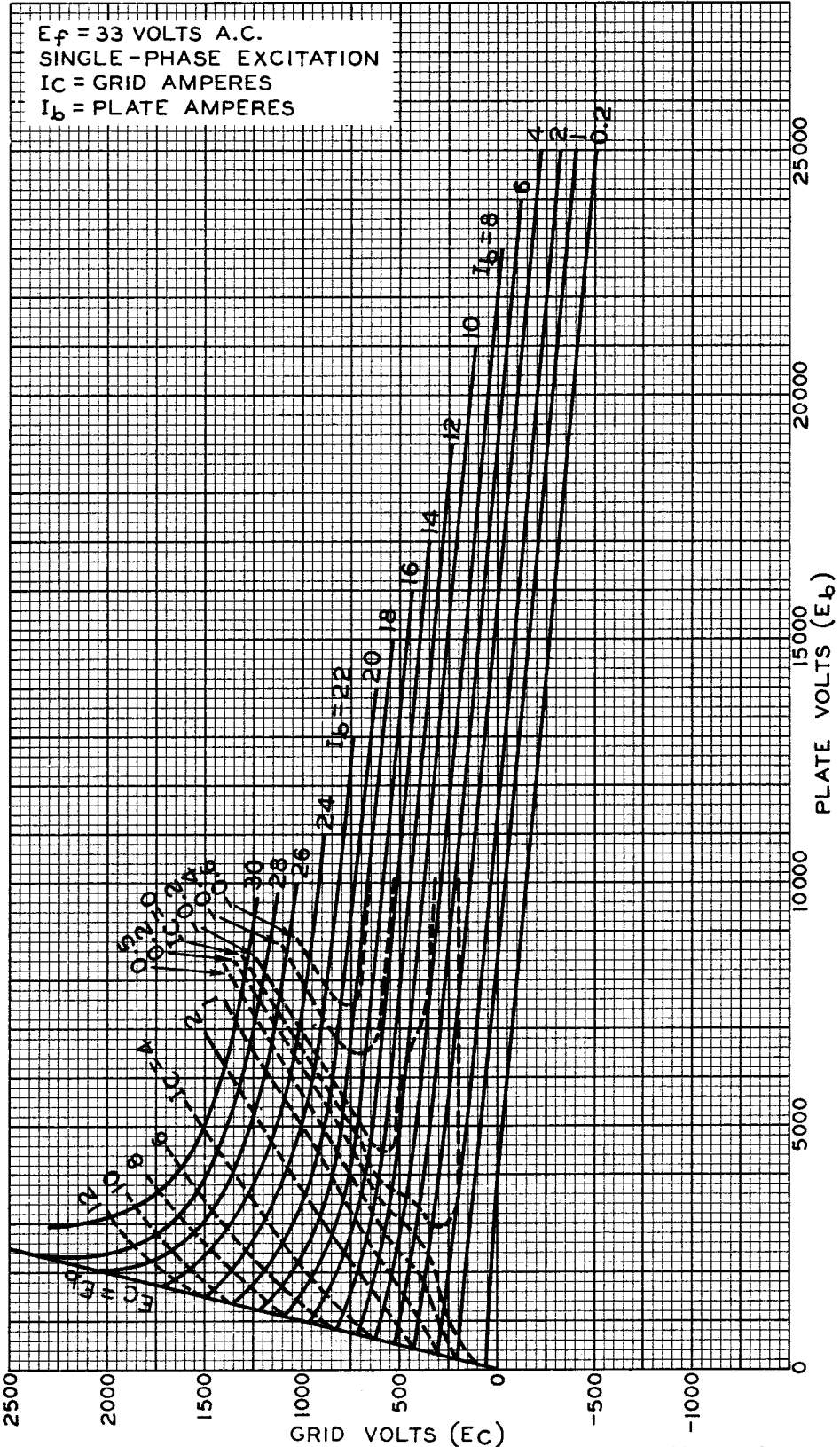


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AVERAGE CONSTANT-CURRENT CHARACTERISTICS



FEB. 7, 1945

 GRID VOLTS (E_c)
 RCA VICTOR DIVISION

92CM-6069R2

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