



6CL6

6CL6

POWER PENTODE

MINIATURE TYPE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage 6.3 ac or dc volts

Current 0.65 amp

Direct Interelectrode Capacitances (without external shield):

Grid No.1 to Plate . . . 0.120 μf Input 11 μf Output 5.5 μf Characteristics, Amplifier Class A₁:

Plate Voltage 250 volts

Grid No.3 Connected to cathode at socket

Grid-No.2 Voltage 150 volts

Grid-No.1 Voltage -3 volts

Peak AF Grid-No.1 Signal Voltage 3 volts

Zero-Signal DC Plate Current 30 ma

Max.-Signal DC Plate Current 31 ma

Zero-Signal DC Grid-No.2 Current 7 ma

Max.-Signal DC Grid-No.2 Current 7.2 ma

Plate Resistance (Approx.) 0.15 megohm

Transconductance 11000 μhos Grid-No.1 Voltage (Approx.) for
plate current of 10 μamp -14 volts

Load Resistance 7500 ohms

Total Harmonic Distortion 8 per cent

Max.-Signal Power Output 2.8 watts

Mechanical:

Mounting Position Any

Maximum Overall Length 2-5/8"

Maximum Seated Length 2-3/8"

Length, Base Seat to Bulb Top (excluding tip) 2" $\pm$ 3/32"

Maximum Diameter 7/8"

Bulb T-6-1/2

Base Small-Button Noval 9-Pin (JETEC No. E9-1)

BOTTOM VIEW

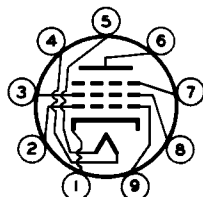
Pin 1-Cathode

Pin 2-Grid No.1

Pin 3-Grid No.2

Pin 4-Heater

Pin 5-Heater



Pin 6-Plate

Pin 7-Grid No.3,
Int. Shield

Pin 8-Grid No.2

Pin 9-Grid No.1

AMPLIFIER-Class A₁

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE 300 max. volts

PLATE SUPPLY VOLTAGE 300 max. volts

GRID-No.3 (SUPPRESSOR)VOLTAGE 0 max. volts

SEPT. 1, 1952

TUBE DEPARTMENT

TENTATIVE DATA

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

6CL6



6CL6

POWER PENTODE

GRID-No.2 (SCREEN) VOLTAGE	<i>See Rating Curve at front of this Section</i>	
GRID-No.2 SUPPLY VOLTAGE	300 max.	volts
GRID-No.1 (CONTROL-GRID) VOLTAGE:		
Negative bias value	50 max.	volts
Positive bias value	0 max.	volts
PLATE DISSIPATION	7.5 max.	watts
GRID-No.2 INPUT	1.7 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode .	90 max.	volts
Heater positive with respect to cathode .	90 max.	volts
BULB TEMPERATURE (At hottest point on bulb surface)	200 max.	°C

Typical Operation in 4-Mc Bandwidth Video Amplifier

Circuit of Fig. 1:

Plate Supply Voltage	300	volts
Grid No.3	Connected to cathode at socket	
Grid-No.2 Supply Voltage	300	volts
Grid-No.1 Bias Voltage	-2	volts
Grid-No.1 Signal Voltage (Peak to Peak) .	3	volts
Grid-No.2 Resistor	24000	ohms
Grid-No.1 Resistor	0.1	megohm
Load Resistor	3900	ohms
Zero-Signal Plate Current	30	ma
Zero-Signal Grid-No.2 Current	7.0	ma
Voltage Output (Peak to Peak)	132	volts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

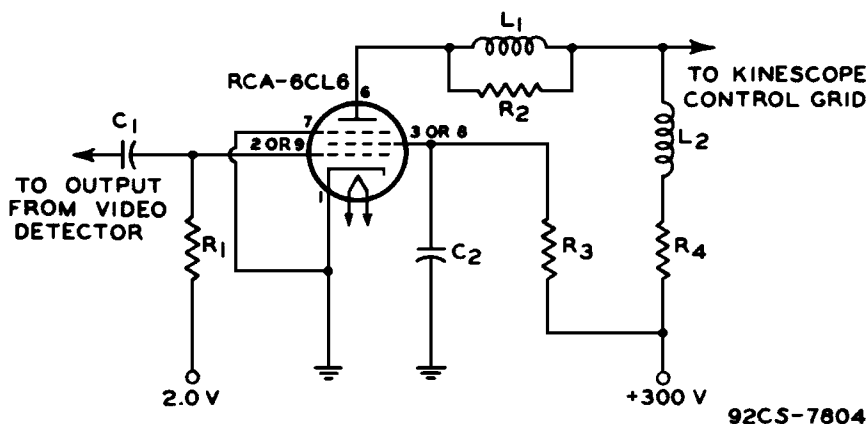
For fixed-bias operation	0.1 max.	megohm
For cathode-bias operation	0.5 max.	megohm


6CL6

6CL6

POWER PENTODE

*Fig. 1 - Typical Video Voltage Amplifier Circuit
Having Bandwidth of 4 Mc.*



92CS-7804

C1: 0.1 μ f, 400 volts
 C2: 4 μ f, 400 volts
 L1: Peaking Coil, 180 μ h
 L2: Peaking Coil, 120 μ h

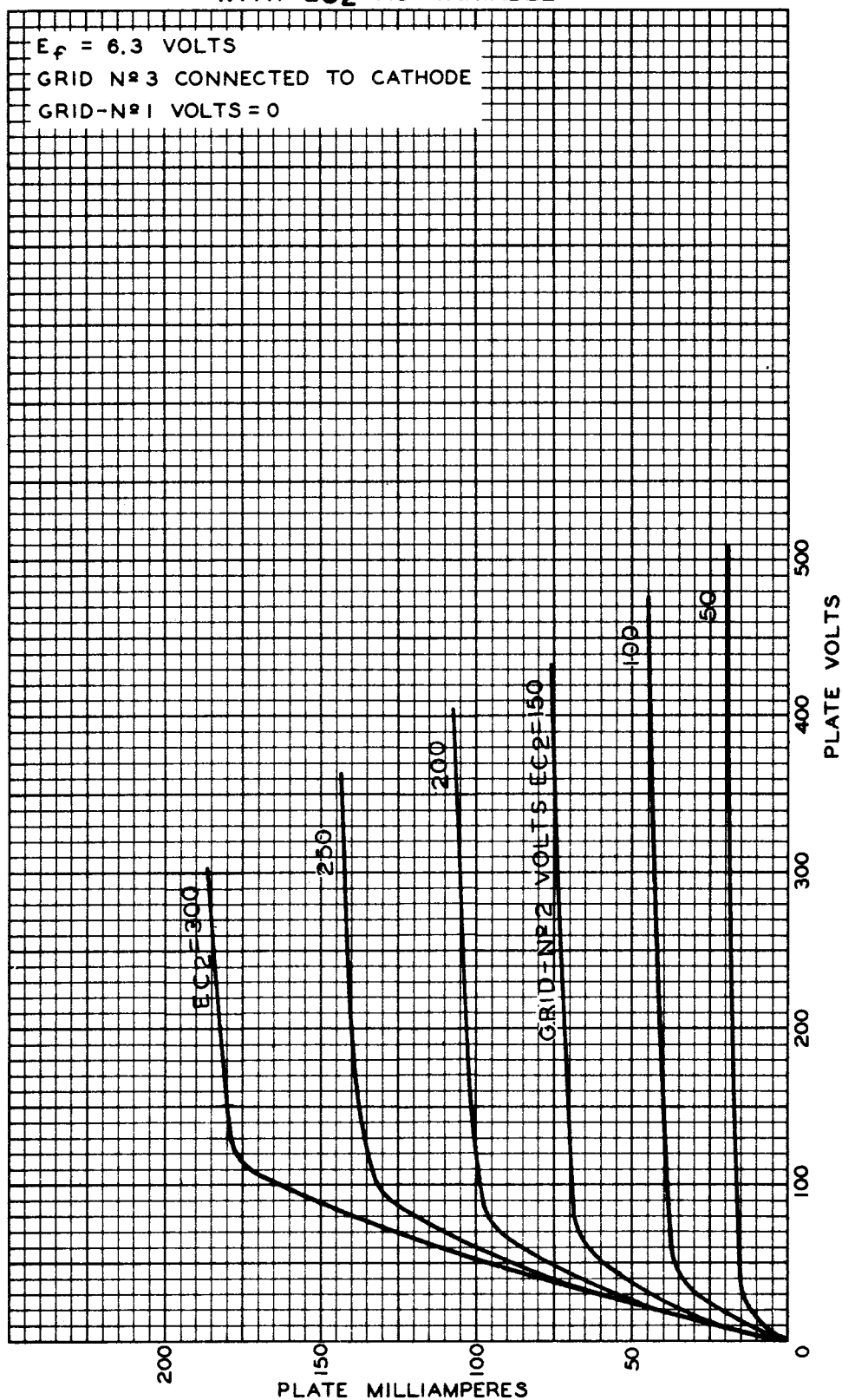
R1: 100000 ohms, 0.5 watt
 R2: 47000 ohms, 0.5 watt
 R3: 24000 ohms, 2 watts
 R4: 3900 ohms, 5 watts
 non-inductive type

Devices and arrangements shown or described herein may use patents of RCA or others. Information contained herein is furnished without responsibility by RCA for its use and without prejudice to RCA's patent rights.

6CL6



6CL6

AVERAGE PLATE CHARACTERISTICS
WITH E_{C2} AS VARIABLE

MAY 22, 1952

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-7803

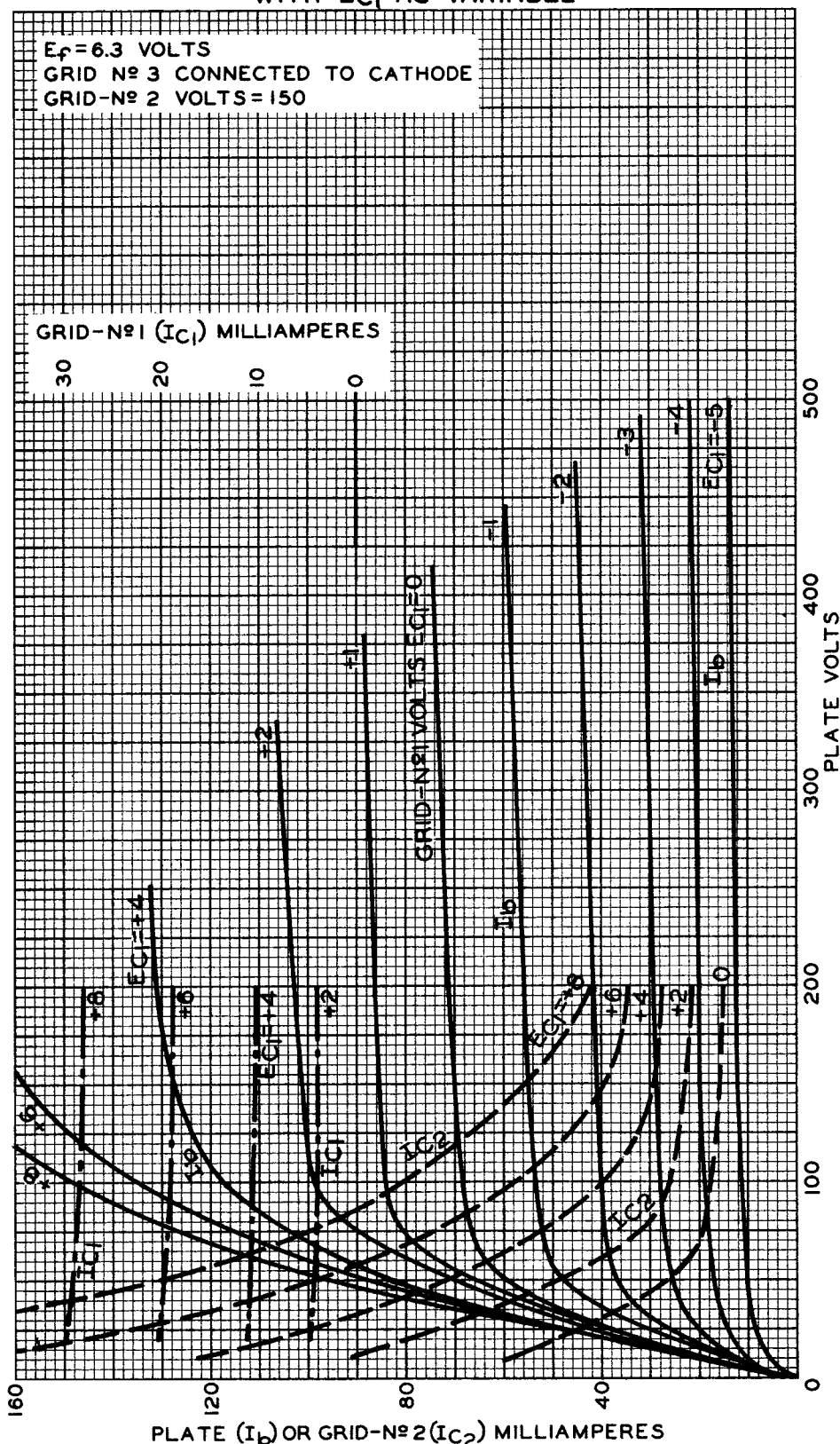
6CL6

6CL6

AVERAGE PLATE CHARACTERISTICS WITH E_{C1} AS VARIABLE

E_f = 6.3 VOLTS
GRID № 3 CONNECTED TO CATHODE
GRID-№ 2 VOLTS = 150

GRID-№1 (I_{C1}) MILLIAMPERES



MAY 22, 1952

TUBE DEPARTMENT

92CM - 7802

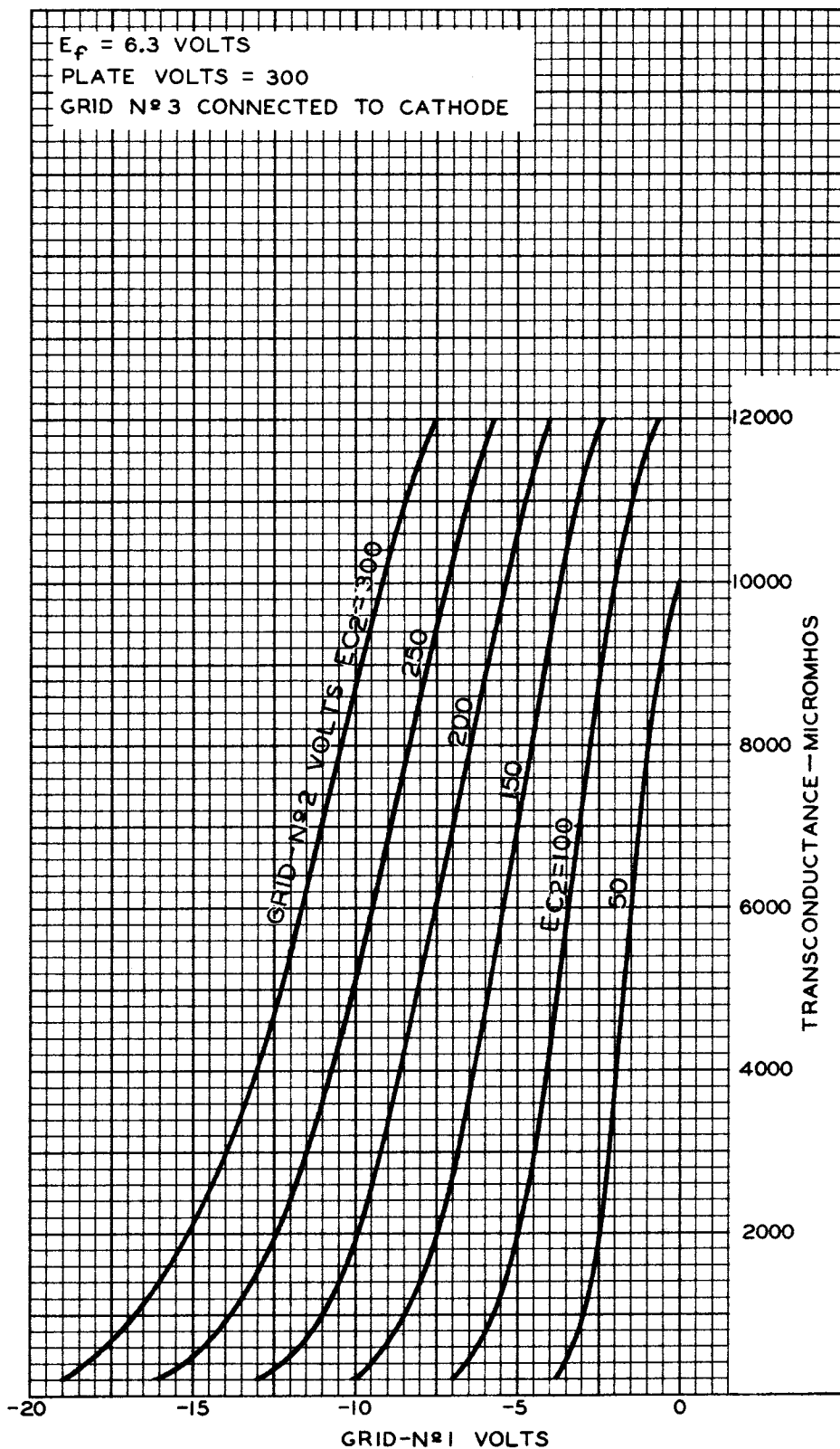
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

6CL6



6CL6

AVERAGE CHARACTERISTICS



MAY 21, 1952

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

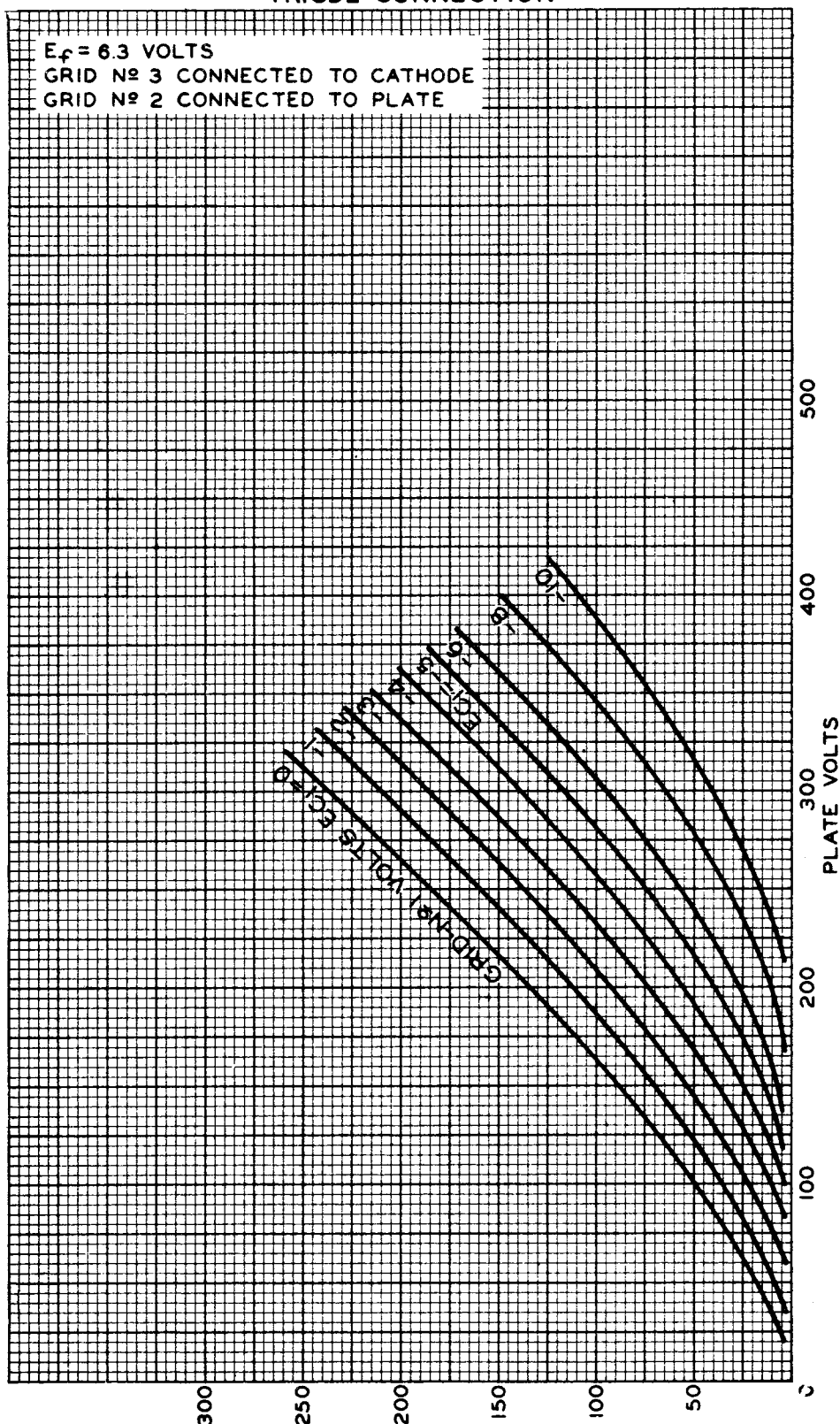
92CM-7801



6CL6

6CL6

AVERAGE PLATE CHARACTERISTICS TRIODE CONNECTION



MAY 26, 1952

PLATE MILLIAMPERES
TUBE DEPARTMENT

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-7808