



6CL6

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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:

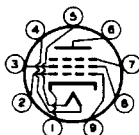
Plate Voltage	250	volts
Grid No.3	Connected to cathode at socket	
Grid-No.2 Voltage	150	volts
Grid-No.1 Voltage	-3	volts
Peak AF Grid-No.1 Signal Voltage	3	volts
Zero-Signal DC Plate Current	30	ma
Max.-Signal DC Plate Current	31	ma
Zero-Signal DC Grid-No.2 Current	7	ma
Max.-Signal DC Grid-No.2 Current	7.2	ma
Plate Resistance (Approx.)	0.15	megohm
Transconductance	11000	μmhos
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

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TENTATIVE DATA

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POWER PENTODE

GRID-No.2 (SCREEN) VOLTAGE	See Rating Curve at front of this Section
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:

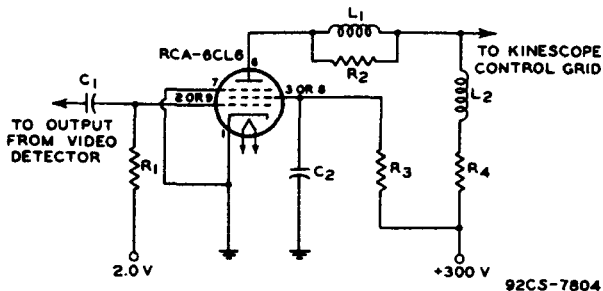
Plate Supply Voltage	300	volts
Grid No.3	Connected to cathode at socket	
Grid-No.2 Supply Voltage	300	volts
Grid-No.1 Bias Voltage	-2	volts
Grid-No.1 Signal Voltage (Peak to Peak) .	3	volts
Grid-No.2 Resistor	24000	ohms
Grid-No.1 Resistor	0.1	megohm
Load Resistor	3900	ohms
Zero-Signal Plate Current	30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

POWER PENTODE

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



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

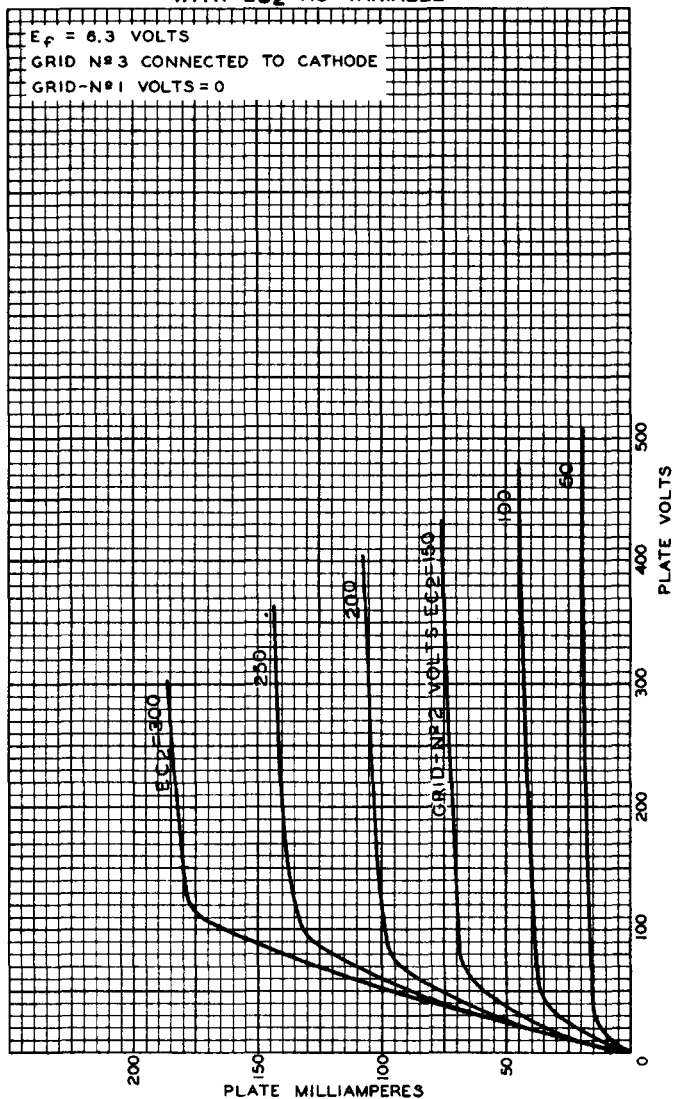
R1: 100000 ohms, 0.5 watt
 R2: 47000 ohms, 0.5 watt
 R3: 24000 ohms, 2 watts
 R4: 3900 ohms, 5 watts
 non-inductive type

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.

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AVERAGE PLATE CHARACTERISTICS
WITH EC_2 AS VARIABLE

MAY 22, 1952

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AVERAGE PLATE CHARACTERISTICS WITH E_{C1} AS VARIABLE

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$E_f = 6.3$ VOLTS
GRID N° 3 CONNECTED TO CATHODE
GRID-N° 2 VOLTS = 150

GRID-N° 1 (I_{C1}) MILLIAMPERES

30 20 10 0

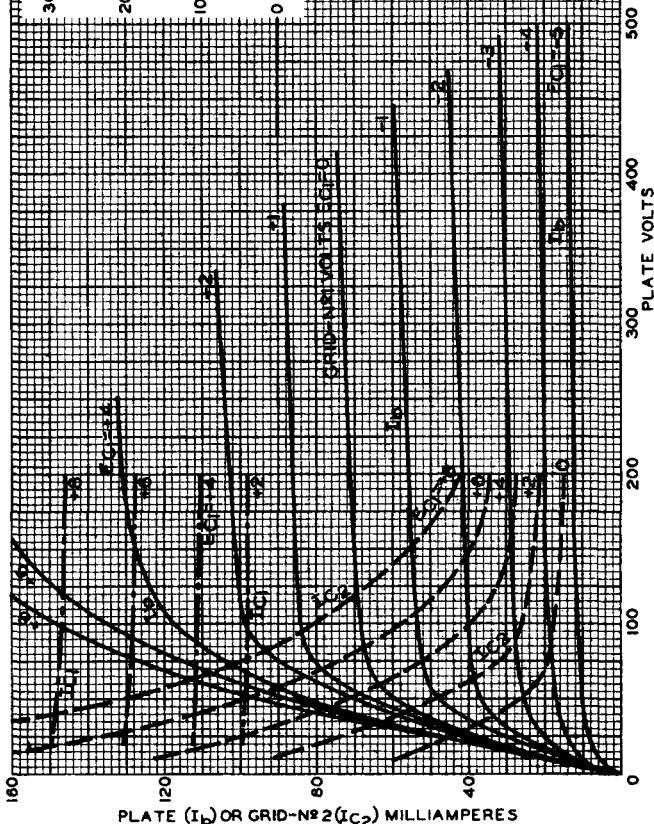


PLATE (I_b) OR GRID-N° 2 (I_{C2}) MILLIAMPERES

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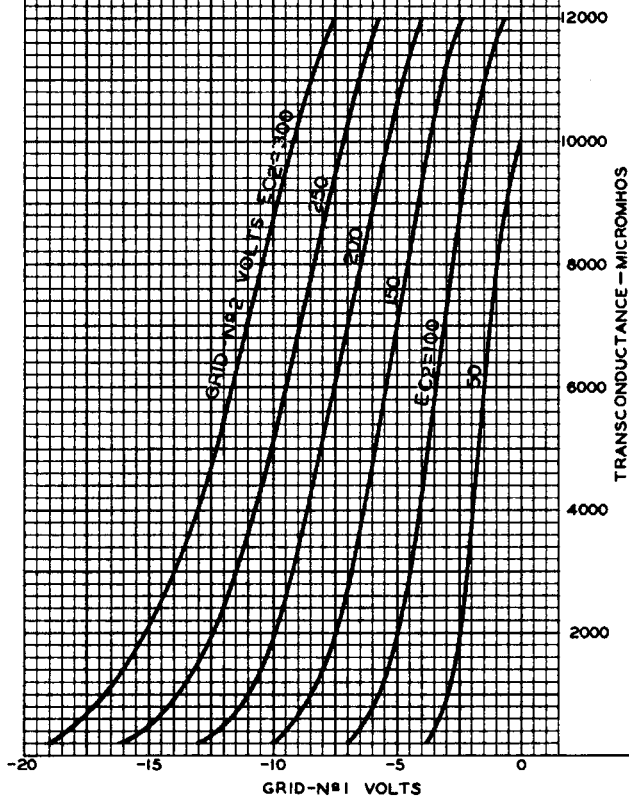
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AVERAGE CHARACTERISTICS

 $E_f = 6.3$ VOLTS

PLATE VOLTS = 300

GRID N°3 CONNECTED TO CATHODE



MAY 21, 1952

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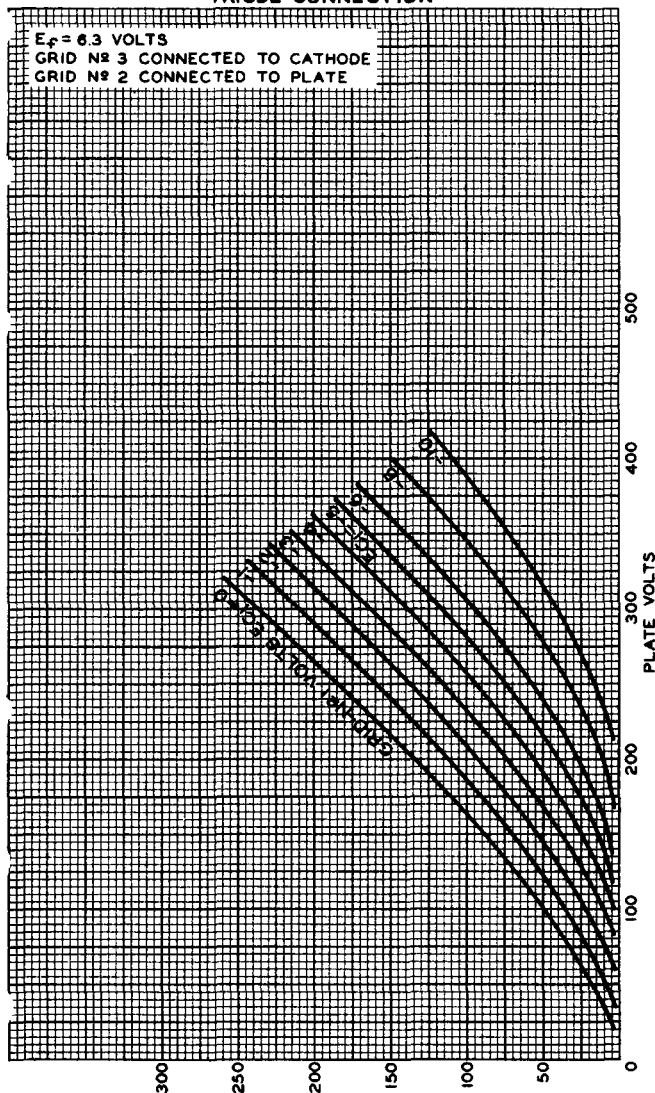
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AVERAGE PLATE CHARACTERISTICS TRIODE CONNECTION

$E_f = 6.3$ VOLTS
GRID N° 3 CONNECTED TO CATHODE
GRID N° 2 CONNECTED TO PLATE



MAY 26, 1952

PLATE MILLIAMPERES
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