



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 μ f
Input 11 μ f
Output 5.5 μ f

Characteristics, Amplifier Class A₁:

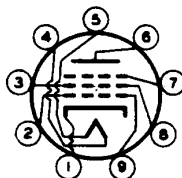
Plate Voltage 250 volts
Grid No.3 Connected to cathode at socket
Grid-No.2 Voltage 150 volts
Grid-No.1 Voltage -3 volts
Peak AF Grid-No.1 Signal Voltage 3 volts
Zero-Signal DC Plate Current 30 ma
Max.-Signal DC Plate Current 31 ma
Zero-Signal DC Grid-No.2 Current 7 ma
Max.-Signal DC Grid-No.2 Current 7.2 ma
Plate Resistance (Approx.) 0.15 megohm
Transconductance 11000 μ hos
Grid-No.1 Voltage (Approx.) for
plate current of 10 μ amp -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

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TENTATIVE DATA

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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

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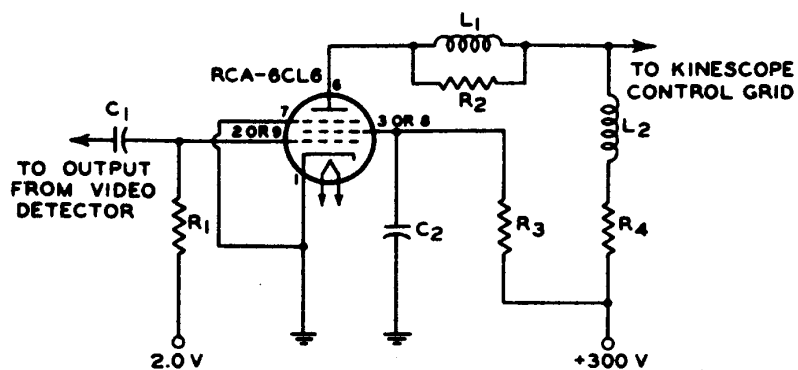
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*Fig. 1 - Typical Video Voltage Amplifier Circuit
Having Bandwidth of 4 Mc.*



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

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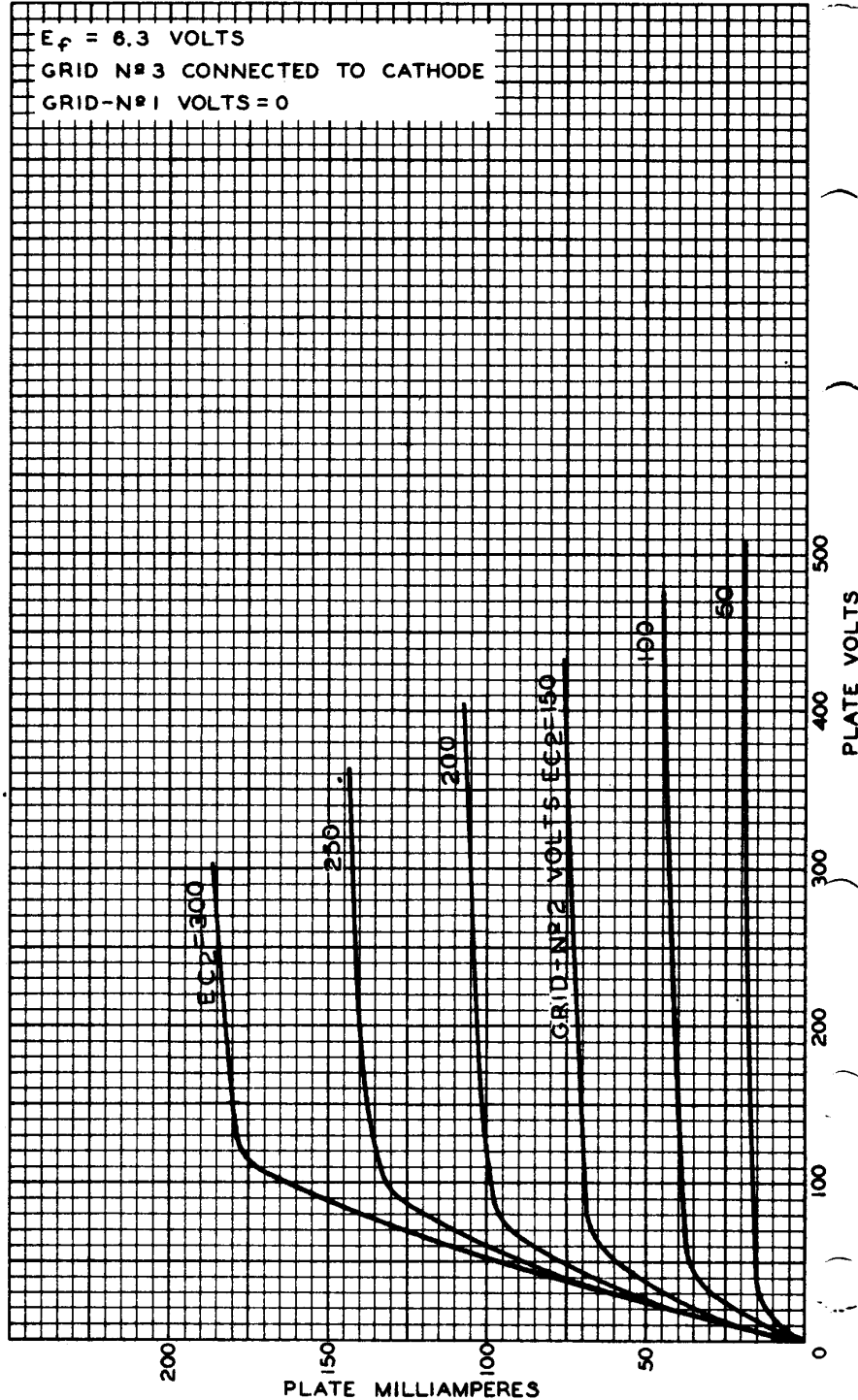
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AVERAGE PLATE CHARACTERISTICS WITH EC2 AS VARIABLE



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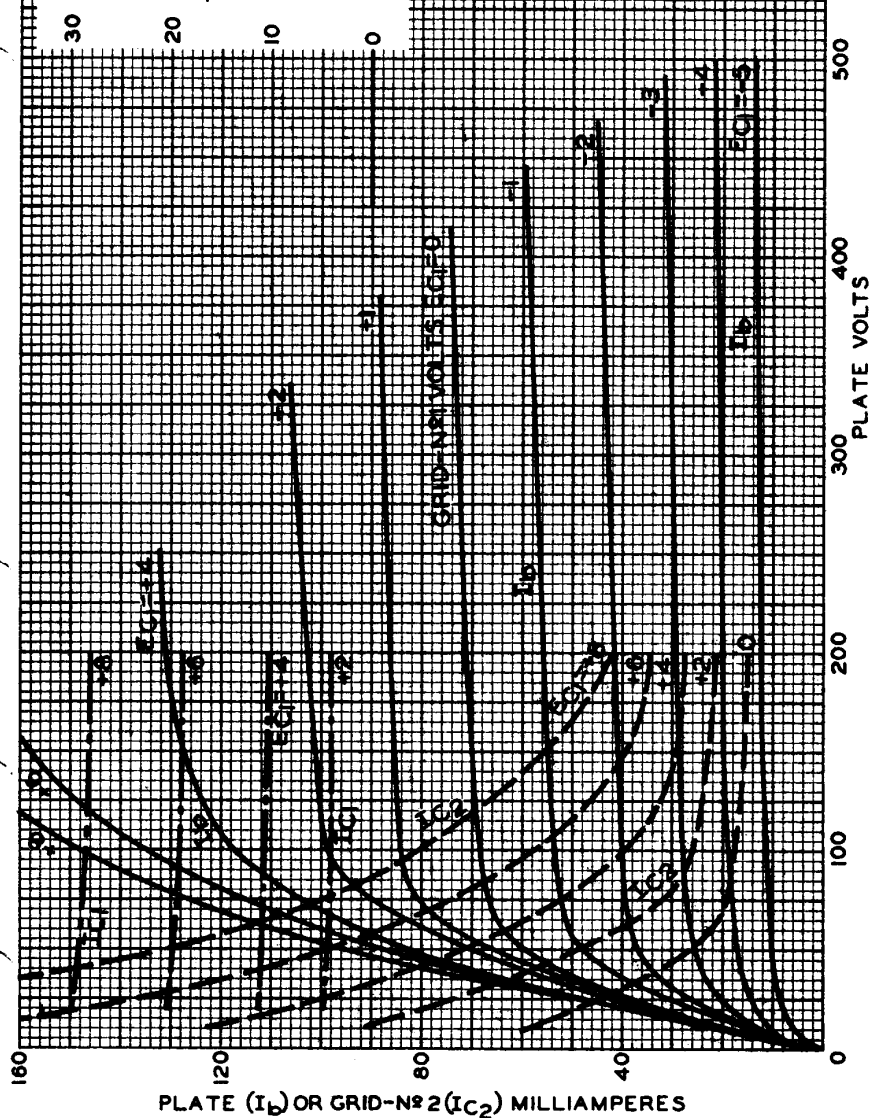
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AVERAGE PLATE CHARACTERISTICS WITH E_{C1} AS VARIABLE

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

GRID-Nº 1 (I_{C1}) MILLIAMPERES



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PLATE (I_b) OR GRID-Nº 2 (I_{C2}) MILLIAMPERES

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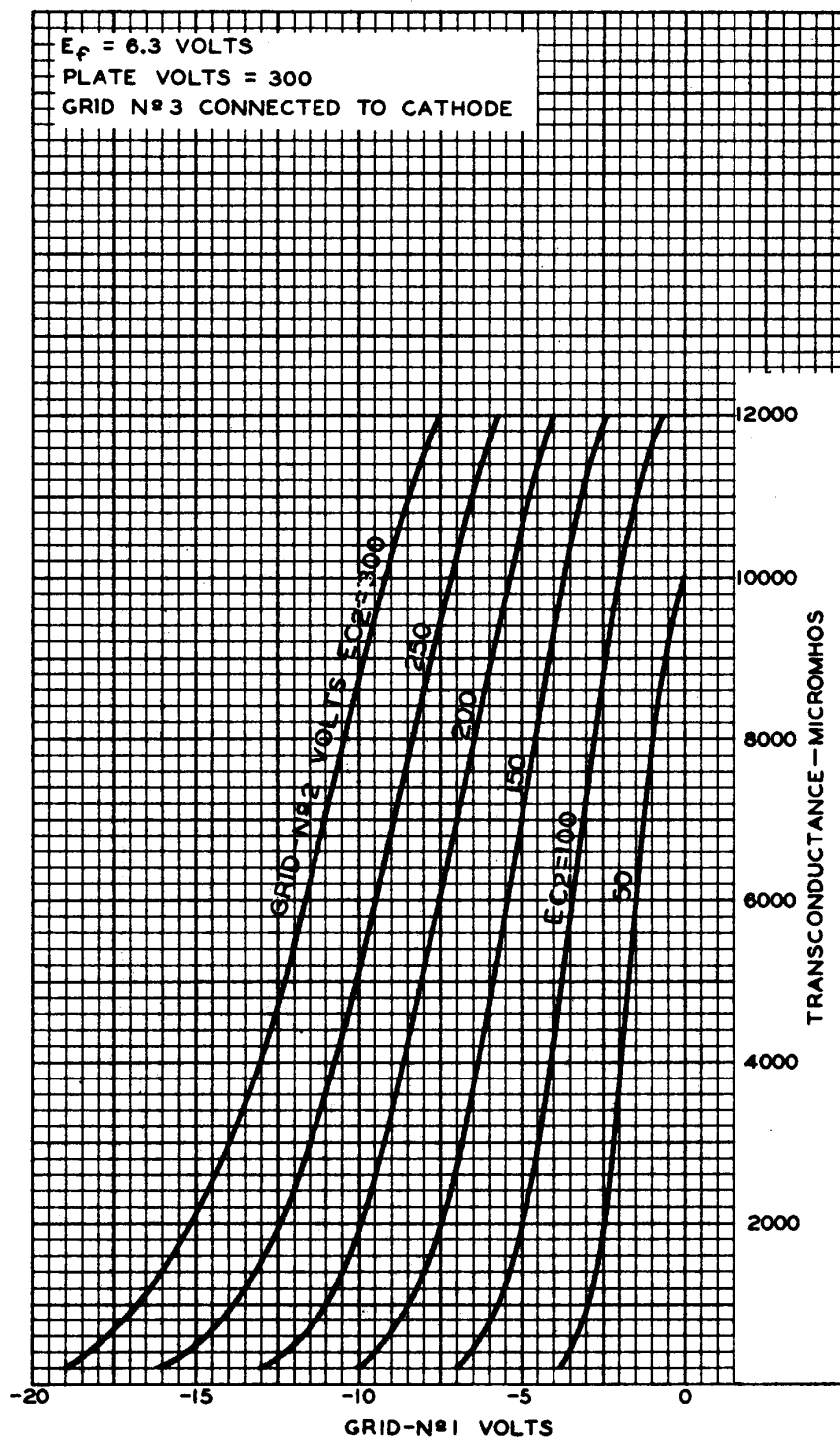
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AVERAGE CHARACTERISTICS



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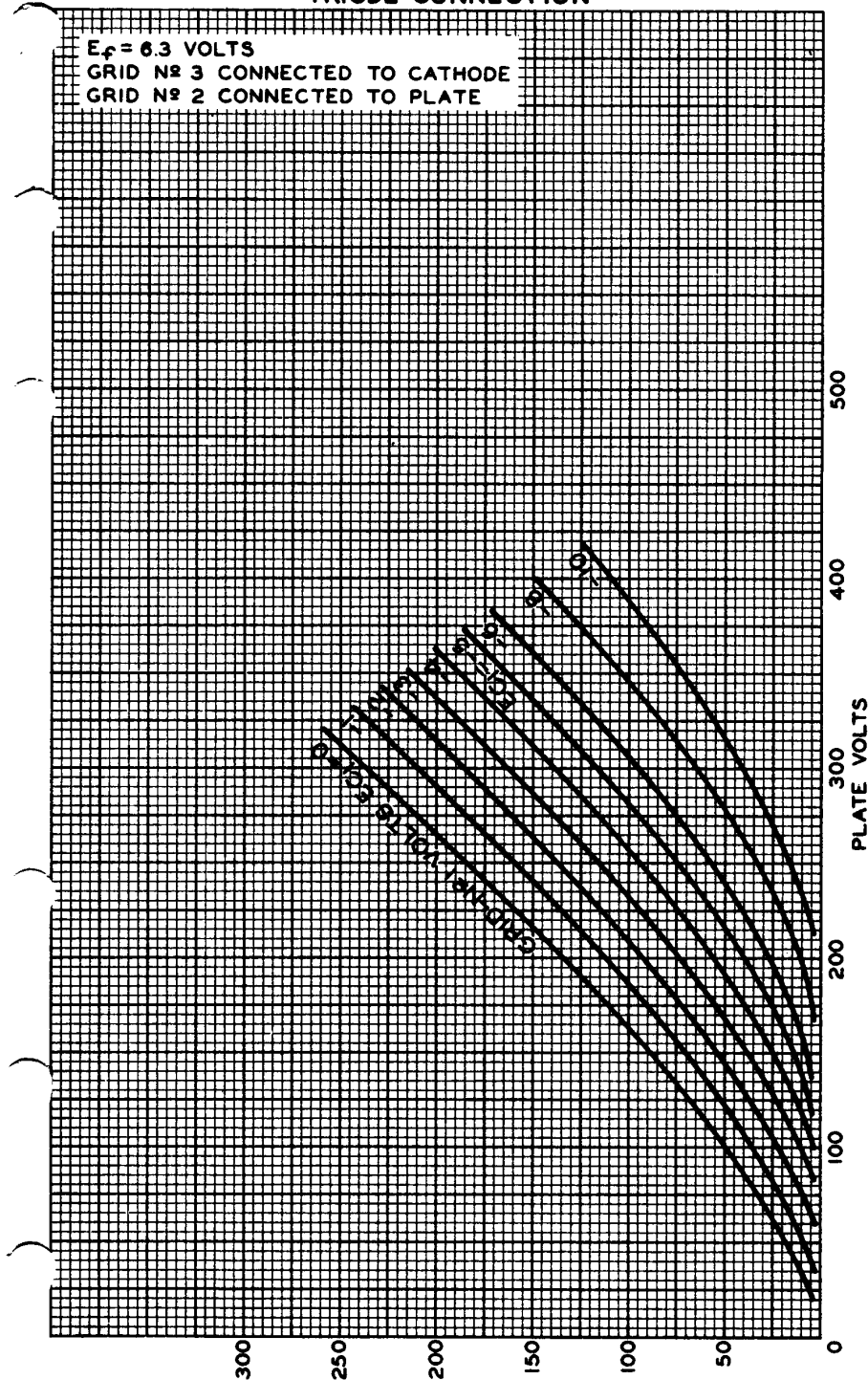


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AVERAGE PLATE CHARACTERISTICS TRIODE CONNECTION

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



MAY 26, 1952

PLATE MILLIAMPERES
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