

ELECTRONIC VALVE SPECIFICATIONS

MOS(A)/CV2127

ISSUE 5 - Dated 24.4.56

AMENDMENT No. 1

Page 2

Clause 'k' Capacitance Max limit delete 0.25 pF and
insert 0.18 pF.

Clause 'm' Capacitance Cin. Under Limits Min and Max.
delete figures 11.5 and 16.5 and
insert 10.0 and 15.0.

Capacitance C out Under Limits Min. and Max.
delete figures 3.8 and 5.8 and insert
4.0 and 6.0

March, 1960.

R.R.E.

N.16396

Specification MOS(A)/CV2127 Issue 5 Dated 24.4.56 To be read in conjunction with K1001 and BS.448	<u>SECURITY</u>	
	<u>Specification</u> UNCLASSIFIED	<u>Valve</u> UNCLASSIFIED

← Indicates a change

<u>TYPE OF VALVE</u> - Video Output Pentode <u>CATHODE</u> - Indirectly-heated <u>ENVELOPE</u> - Glass - Unmetallised <u>PROTOTYPE</u> - 6CH6		<u>MARKING</u> See K1001/4	
<u>RATING</u>		<u>BASE</u> B9A See BS.448 : B9A/1.1	
Heater Voltage (V) 6.3 Heater Current (A) 0.75 Max. Anode Voltage ($I_a = 0$) (V) 500 Max. Screen Grid Voltage ($I_g^2 = 0$) (V) 500 Max. Operating Anode Voltage (V) 300 Max. Operating Screen Grid Voltage (V) 250 Anode Current (mA) 40 B Screen Grid Current (mA) 6.0 B Max. Anode Dissipation (W) 12.0 Max. Screen Grid Dissipation (W) 2.0 Mutual Conductance (mA/V) 11.0 B Inner Amplification Factor 26 B Peak Cathode Current (A) 1.5		<u>CONNECTIONS</u>	
		<u>Pin</u>	<u>Electrode</u>
		1	Internally connected IC
		2	Control Grid g1
		3	Cathode k
		4	Heater h
		5	Heater h
		6	No connection NC
		7	Anode a
		8	Screen Grid g2
		9	Suppressor Grid g3
<u>CAPACITANCES</u> (pF) (See Note C)		<u>DIMENSIONS</u> See BS.448 : B9A/2.1	
G _{g1} (max) 0.25 C in (ncm) 14.0 C out (ncm) 4.75		<u>Dimensions (mm)</u>	
		<u>Min.</u>	<u>Max.</u>
		A. Seated height -	60.3
		C. Diameter -	22.2
		D. Overall length -	66.7
<u>MOUNTING POSITION</u> Any			
<u>NOTES</u>			
A. All limiting values are absolute			
B. Measured at $V_a = V_{g2} = 250V$; $V_{g1} = -4.5V$; $V_{g3} = 0$			
C. Measured without a metal screen or skirted holder			

To be performed in addition to those applicable in K1001

Test Conditions - unless otherwise specified								
		Vh (V)	Va (V)	Vg1 (V)	Vg2 (V)	Vg3 (V)		
		6.3	250	-4.5	250	0		
Test	Test Conditions	AQL %	Insp. Level	Sym- bol	Limits		Units	
					Min.	Max.		
a	Heater Current	6.5	IA	Ih	0.69	0.81	A	
b	Anode Current		100%	Ia	30	50	mA	
c	Screen Grid Current		100%	Ig2	-	7.5	mA	
d	Reverse Grid Current		100%	Ig1	-	2.5	uA	
e	Mutual Conductance	6.5	IA	gm	9.0	13.5	mA/V	
f	Inner Amplification Factor	6.5	IC	ug1g2	20	32	-	
g	Tail Anode Current		100%	Ia	-	100	uA	
h	DC Emission		100%	Ia	125	-	mA	
					Va = Vg1 = Vg2 = 15V; Vg3 = 15V max. Note 1			
j	Peak Cathode Current		6.5	IA	Ik	1.5	A	
					Note 2			
k	Capacitance (1)			TA	Cag1	-	0.25 pF	
					Note 3			
m	Capacitance (2)		6.5	IC	C in C out	11.5 3.8	16.5 5.8 pF pF	
					Note 3			

NOTES

1. Test voltages to be applied only for a sufficient time to obtain a steady reading.
2. Anode and grids strapped. Peak applied voltage = 70V; tp = 10.0 usecs min; PRF = 50pps; pulse shape half sinewave
3. Measured without a metal screen or skirted holder.

VALVE ELECTRONIC TYPE

CV 2127

Maximum Ratings (other than those given in the Test Specification)

Max. DC Cathode Current	65mA
Max. Peak Cathode Current	1.5A [Ⓜ]
Max. Control Grid Circuit Resistance	0.1 Megohm /
Max. Bulb Temperature	250°C
Max. Anode Dissipation (Triode Connected)	12.5W

[Ⓜ] The duration of current flow must not exceed 2 μ s and must not be greater than 5% of the duty cycle.

/ This value may be increased to 0.22 megohm if cathode bias is employed.

Typical Operation

	<u>Pentode Connection</u> g ₃ connected to cathode.		<u>Triode Connection</u> g ₃ connected to cathode and g ₂ to anode.		
Heater voltage	6.3	6.3	6.3	6.3	6.3 volts
Anode voltage	250	250	150	200	250 volts
Screen voltage	200	250	-	-	- volts
Grid voltage	-2.5	-4.5	-1.5	-2.5	-4.5 volts
Cathode bias resistor	54	100	45	57	100 ohms
Anode Current	40	40	33	44	46 mA
Screen Current	6.5	6.0	-	-	- mA
Anode Impedance	60,000	50,000	2,100	1,820	1,870 ohms
Mutual Conductance	13	11	12.5	14.5	13 mA/V
Inner Amplification Factor	26	26	-	-	-
Amplification Factor	-	-	26.2	26.4	25.8

CV 2127

Class A Amplifier (Single ended)

	<u>Pentode Connection</u>	<u>Triode Connection</u>	
Anode Voltage	250	250	volts
Screen Voltage	250	-	volts
Cathode bias resistor	100	100	ohms
Anode current	40	46	mA
Screen current (no signal)	6.0	-	mA
Screen current (max. signal)	8.5	-	mA
Anode Load Impedance	6000	4000	ohms
Peak Grid Input Voltage	3.5	4.5	volts
Power Output	3.0	0.8	watts
Total Harmonic Distortion	8.5%	4%	

Class A Push-pull

	<u>Pentode Connection</u>	<u>Triode Connection</u>	
Anode Voltage	250	250	volts
Screen Voltage	250	-	volts
Anode Current	80	92	mA
Cathode Bias Resistor	50	50	ohms
Screen Current (no signal)	12	-	mA
Screen Current (max signal)	17.5	-	mA
Anode to Anode Load Impedance	9000	5000	ohms
Peak Grid to Grid Input Voltage	9.0	9.0	volts
Power Output	8.0	1.8	watts
Total Harmonic Distortion	7.5%	1.0%	

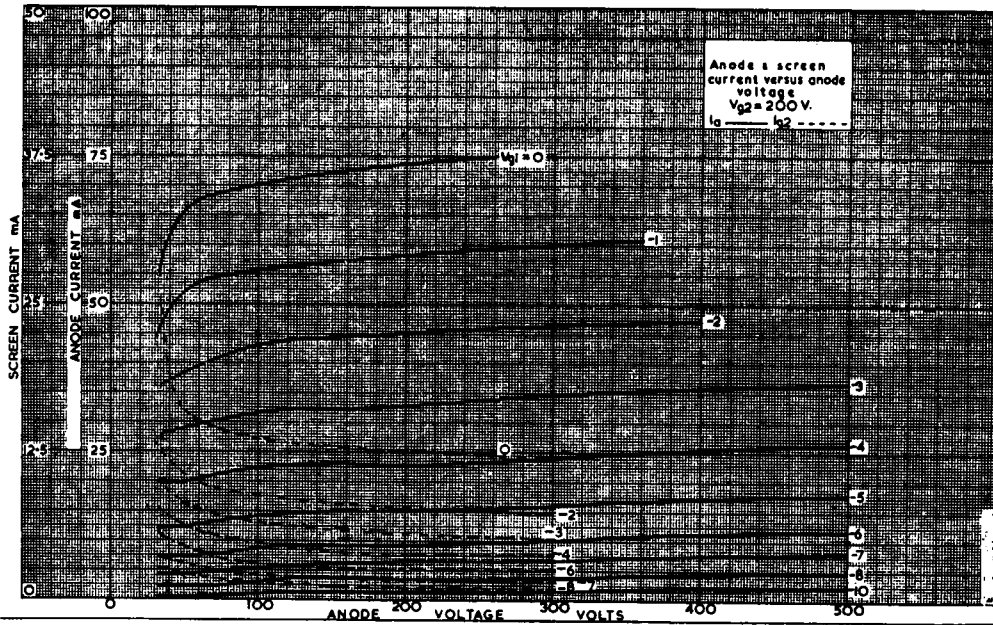
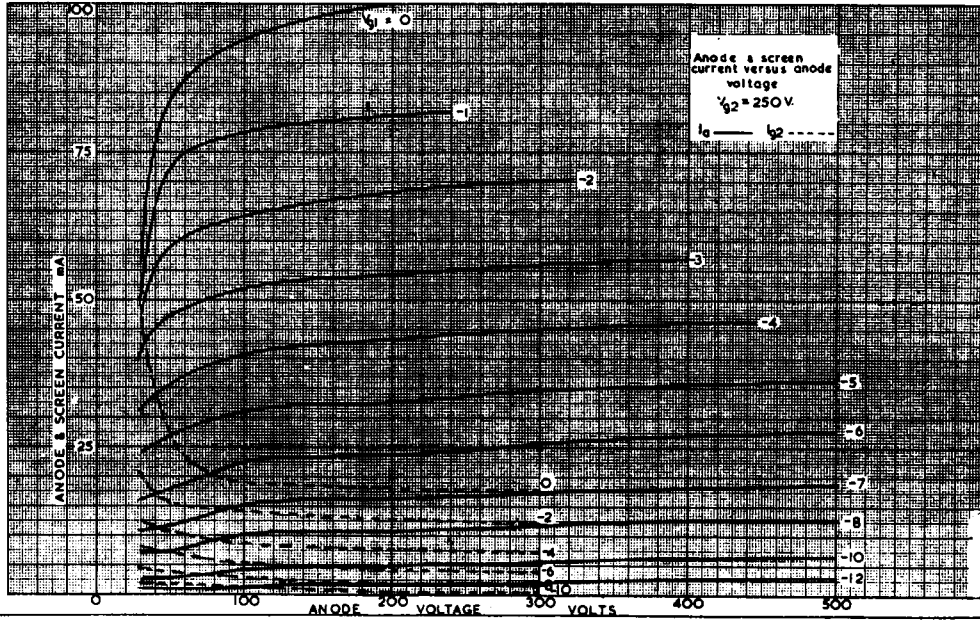
CV2127 is suitable for use as a wide band video amplifier where the load resistor must be low to permit working into a high capacity.

As a Cathode Follower, when triode connected, the output impedance varies between 60 and 70 depending on the value of cathode resistor employed. With a 250 volt HF supply the cathode resistor should not be less than 100 ohms.

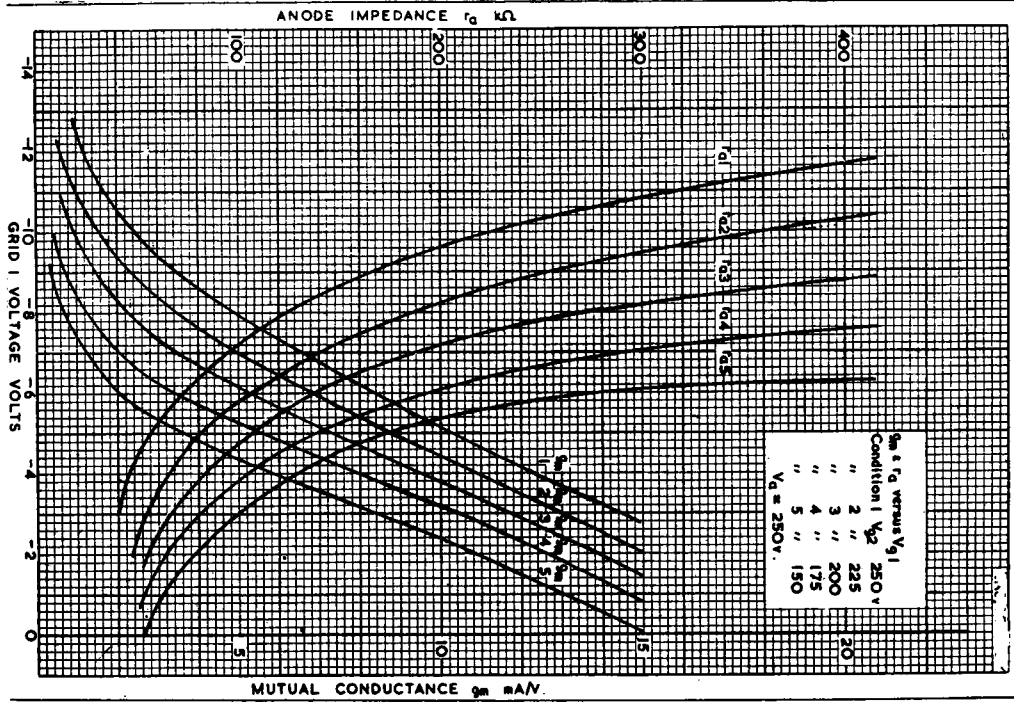
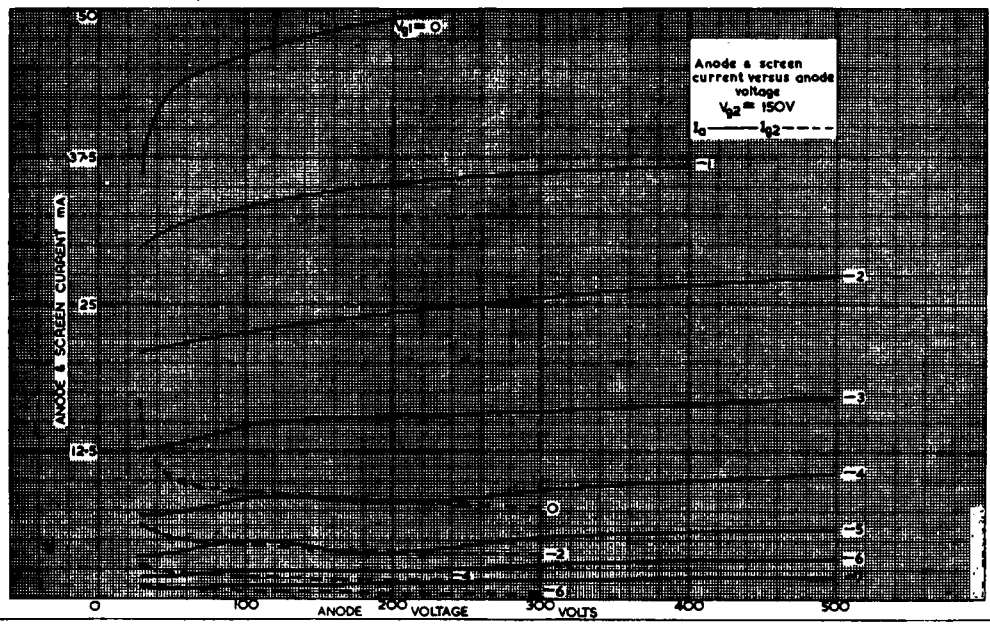
The control grid is not designed to withstand any appreciable dissipation, therefore, normally, no positive DC grid current should be allowed to flow. If the valve is to be used as a pulse modulator or similar application care must be taken not to exceed the maximum ratings and particular care must be taken of the grid dissipation.

Mounting Position - Any

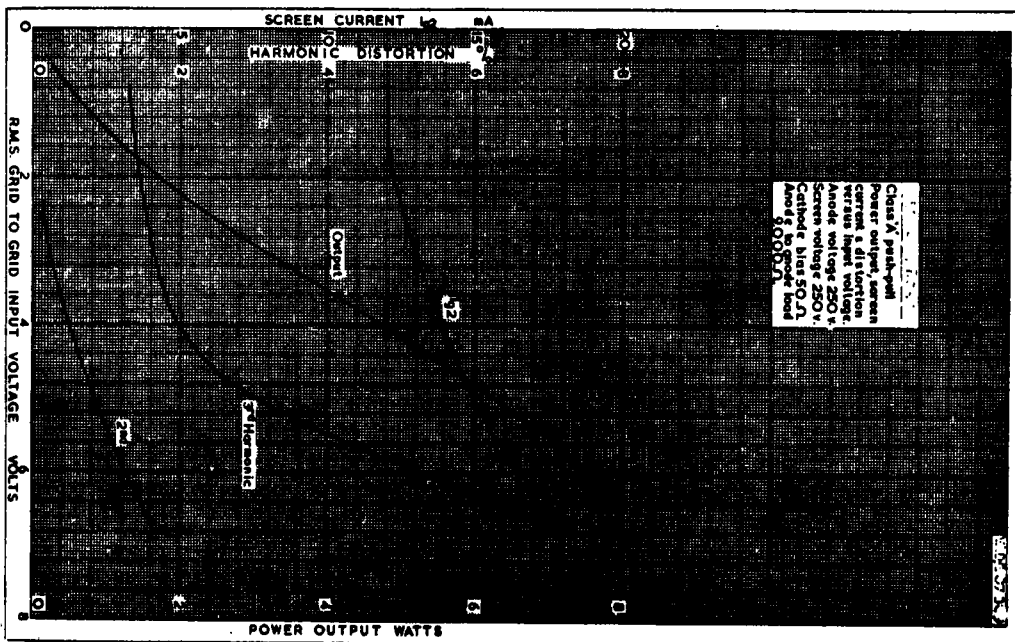
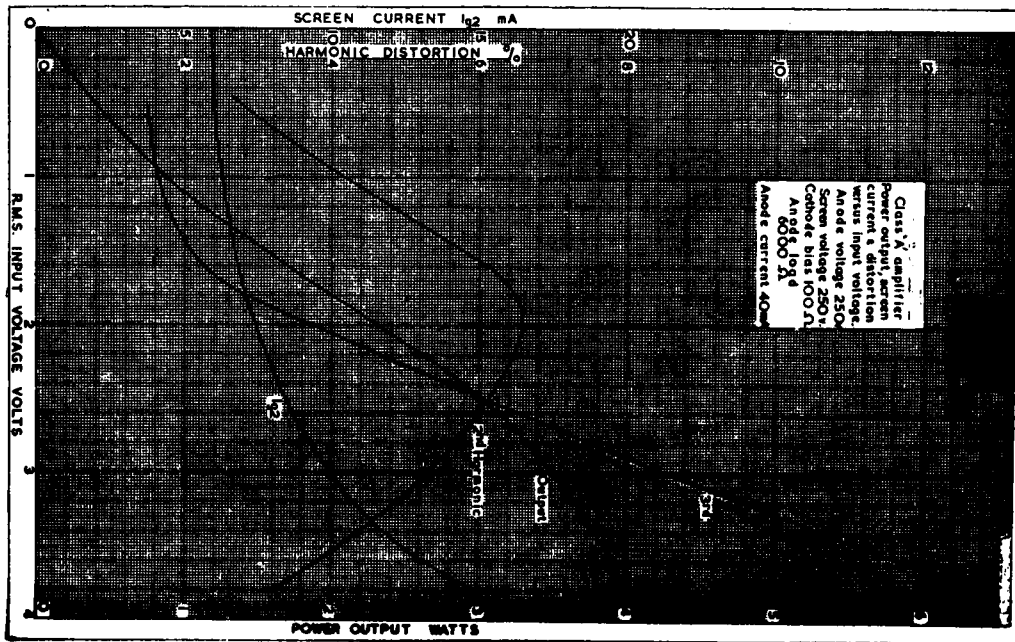
CV2127/d/15-1-54/2.



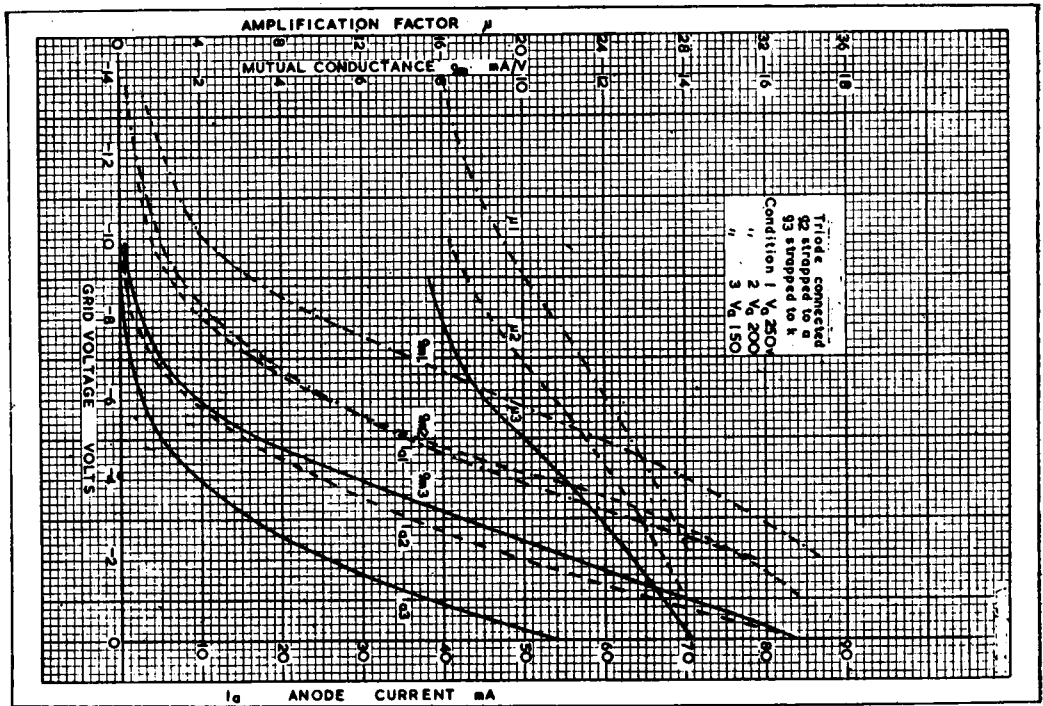
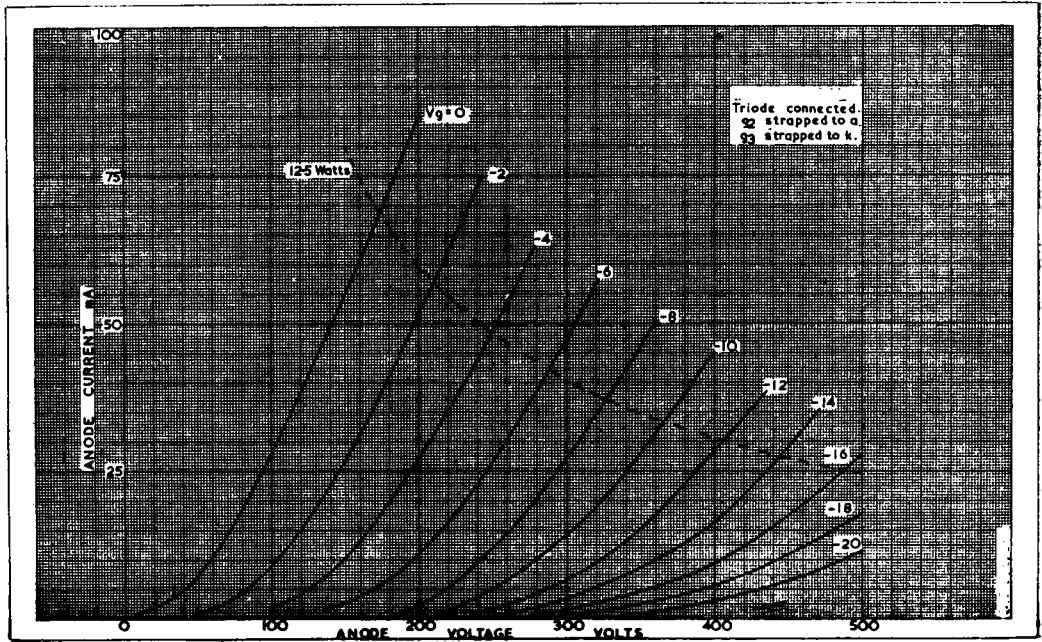
CV2127/a/15-1-54/3



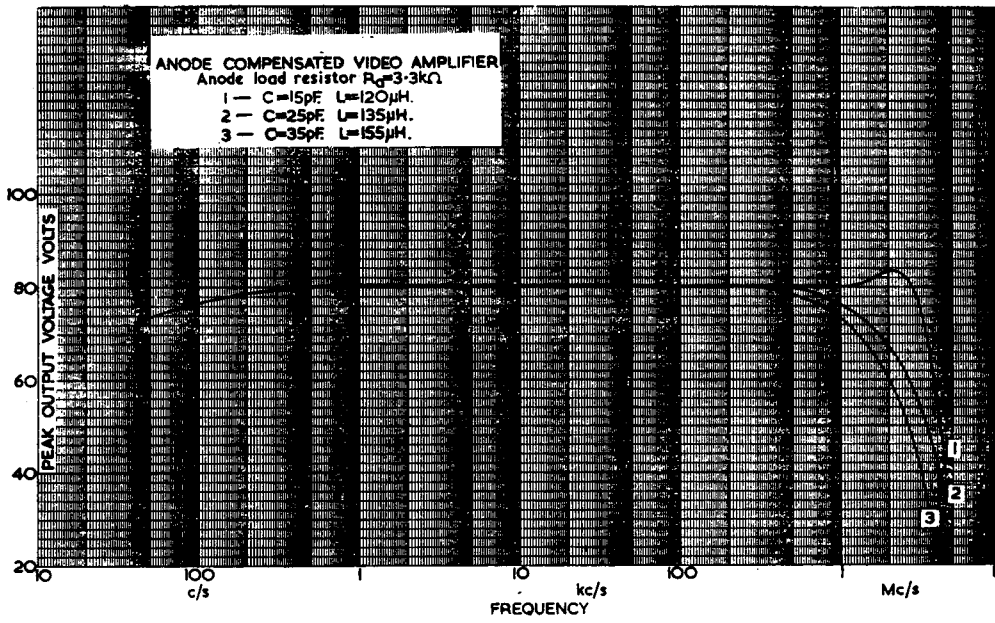
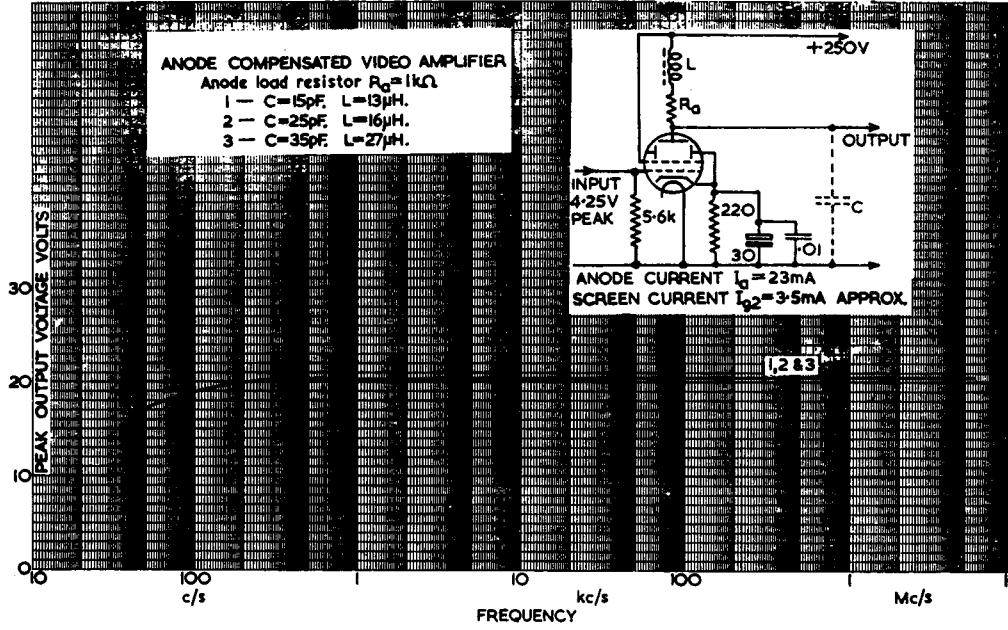
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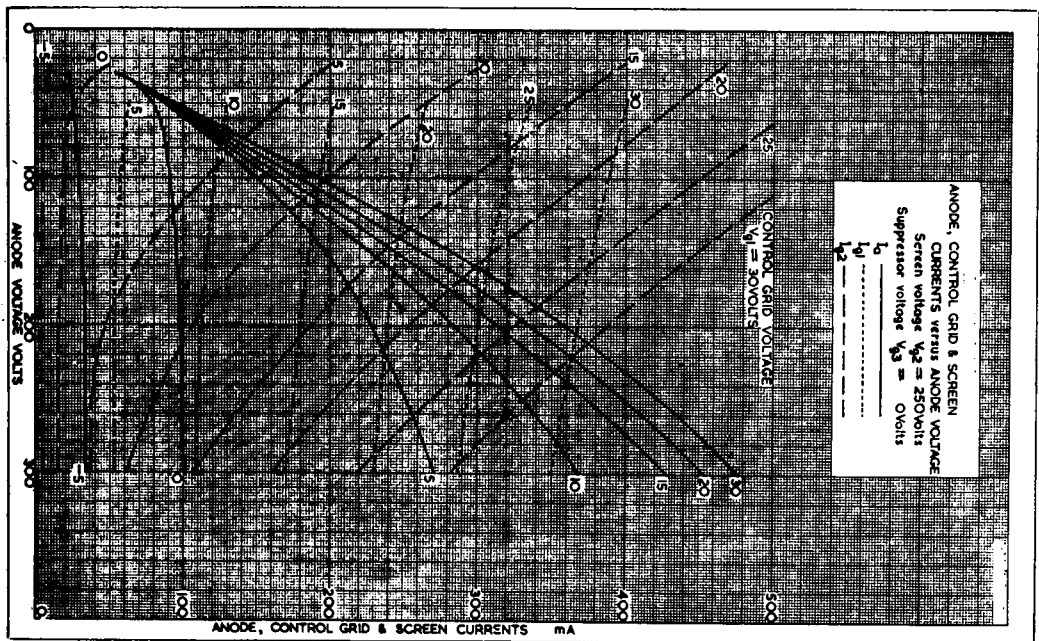
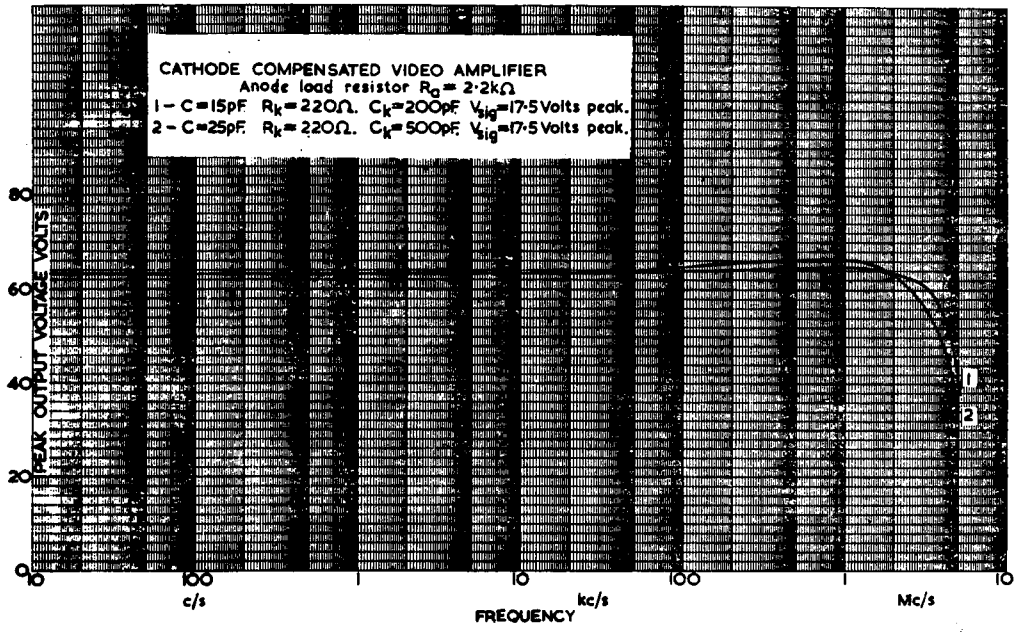
CV2127/4/15-1-54/5.



CV2127/8/15-1-54/6



CV2127/2/15-9-54/7.



CV2127/d/15-1-54/8.