MINISTRY OF SUPPLY D.L.R.D.(A)/RAE

VALVE ELECTRONIC CV2179

Specification MOSA/CV2179 Issue 5 Dated 18.1.55 To be read in conjunction with BS448 BS1409 and K1001	SECURITY Specification: UNCLASSIFIED Valve: UNCLASSIFIED

→ Indicates a change

TYPE OF VALVE - Low Impedance Pentode

CATHODE - Indirectly Heated

ENVELOPE - Glass, unmetallised

PROTOTYPE - E.2134

MARKING
See K.1001/4

BASE
B.S.448/B7G

CONNECTIONS

Pin	Electrode
1	g1
2	k + g3
3	h
4	h
5	a
6	IC
7	g2

RATING

			Note
Pentode Connection			
Heater Voltage	(V)	6.3	
Heater Current	(A)	0.635	
Max. Anode Voltage, (Ia = o)	(V)	500	
Max. Screen Voltage	(V)	300	
Max. Anode Dissipation	(W)	9	
Max. Screen Dissipation	(W)	3	
Max. h-k Voltage	(V)	150	
Mutual Conductance	(mA/V)	9.5	A
Amplification Factor		220	A
Anode Impedance	(kΩ)	23	A
Triode Connection			
Max. Anode + Screen Voltage	(V)	300	
Max. Anode + Screen Dissipation	(W)	12.0	
Mutual Conductance	(mA/V)	12	B
Amplification Factor		10	B
Anode Impedance	(Ω)	835	B

CAPACITANCES (pF)

C in	(Nom.)	10.0	C
C out	(Nom.)	8.5	C
Ca,g1	(Max.)	0.5	C

DIMENSIONS
See B.S.448/B7G/2.1
Size Ref. No.5

Dimensions (mm)	Min.	Max.	
A seated height	-	63.5	←
C diameter	-	19.0	
D overall length	-	70.5	←

MOUNTING POSITION
Any

NOTES

A. Measured at Va = 165; Vg2 = 165; Ia= 55 mA.

B. Measured at Va + Vg2 = 165; Ik = 65 mA.

C. Measured without close fitting metal shield.

Z.8551.R.

TESTS

To be performed in addition to those applicable in K1001

	Test Conditions				Test	Limits Min.	Limits Max.	No. Tested	Note
a	See K1001/AIII				CAPACITANCE (pF)				
	Links to H.P.	Links to L.P.	Links to E						
	1	2,3,4, 6,7,8	5,9,10, TC1, TC2		C in	9	12.0	6 per week	1
	5	2,3,4, 6,7,8	1,9,10, TC1, TC2		C out	7.5	9.5		
	5	1	2,3,4,6,7, 8,9,10, TC1, TC2		Ca,g1	-	0.6		
	Vh	Va	Vg2	Ia(mA)					
b	6.3	0	0	0	Ih (A)	0.57	0.70	100% or S	
c	6.3	165	165	55	-Vg1 (V)	6	12	100%	
d	6.3	165	165	55	Reverse Ig1 (μA)	-	1.5	100%	
e	6.3	165	165	55	gm (mA/V)	7	12	100%	
→ f	6.3	165	165	55	Ig2 (mA)	7.75	11	100%	
g	6.3	165	165	30μA.	-Vg1 (V)	-	40	100%	
h	6.3	Va+Vg2+Vg1 strapped		120	Emission Test D.C.Voltage (V)	-	20	100%	
→ j	6.3	165	-	55	Inner μ	7.5	12.5	5 per week	
	Vg1 reduced by 1 volt from value in Test. C. Vg2 raised from 165V. to maintain Ia = 55 mA.								

NOTES

1. Measured without close fitting metal shield

DATA SHEET

Valve Electronic Type **CV2179**

TYPICAL OPERATING CONDITIONS

SINGLE VALVE. CLASS A AUDIO AMPLIFIER
PENTODE CONNECTION

% full input	45	100	100	75	50	%
V_a	100	150	165	165	165	Volts
V_{g2}	100	150	165	165	165	Volts
V_{g1} no sig*	-4.6	-7.8	-9.3	-10	-11.4	Volts
R_k	100	120	150	220	330	Ohms
I_a no sig	39	56	53	40	29	mA
I_{g2} no sig	6.5	9.5	9.0	7.2	5.4	mA
v_{in} pk	5	7.0	8.5	6.7	4.7	Volts
R_a	2500	3000	3000	4000	6000	Ohms
P_{out}	1.45	3.5	4.1	2.84	2.3	Watts
D	8.6	11	10	10	10	%

The conditions given in the last two columns are those obtained when the valve is over-biased. They are useful where HT power is limited and reduced power output can be tolerated.

TWO VALVES. CLASS AB1 PUSH-PULL AUDIO AMPLIFIER
PENTODE CONNECTION

All data per pair unless otherwise stated

V_a	100	165	200	250	Volts
V_{g2}	100	165	165	165	Volts
V_{g1} no sig*	-5	-11.9	-10	-11.2	Volts
R_k per valve	120	150	200	300	Ohms
I_a no sig	70	107	87	66	mA
I_a max sig	73	110	100	80	mA
I_{g2} no sig	12	18	14	10	mA
I_{g2} max sig	15	36	25	24	mA
v_{in} pk (g1-g1)	11.0	20	25	30	Volts
R_{a-a}	3000	3000	4500	7500	Ohms
P_{out}	2.25	9.0	11.5	13.3	Watts
D	3.3	4.6	4.0	4.5	%

DATA SHEET

Valve Electronic Type CV 2179

TYPICAL OPERATING CONDITIONS

TWO VALVES. CLASS AB1 PUSH-PULL AUDIO AMPLIFIER
TRIODE CONNECTION

Data per pair unless otherwise stated

$V_{a + g2}$		165	Volts
V_{g1}	no sig*	-10.5	Volts
R_k	per valve	330	Ohms
$I_{a + g2}$	no sig	65	mA
$I_{a + g2}$	max sig	74	mA
$V_{in\ pk\ (g1-g1)}$		24	Volts
$R_{a - a}$		3000	Ohms
P_{out}		2.6	Watts
D		1.4	%

*Approximate.

GRID RESISTOR

The maximum permissible DC resistance from control grid to cathode is limited to 0.25 Megohms for auto-bias and 0.1 Megohms for fixed bias applications.

C A P A C I T A N C E S (pF) Taken on a cold valve with no screening.

c_{a-all} 10 c_{gi-all} 10 c_{a-gi} 0.3

S C R E E N I N G No internal or external screening is fitted to the valve.

M O U N T I N G Any position.

It is recommended that the valve pins are aligned in a pin straightener of accredited design before inserting in a valve socket.

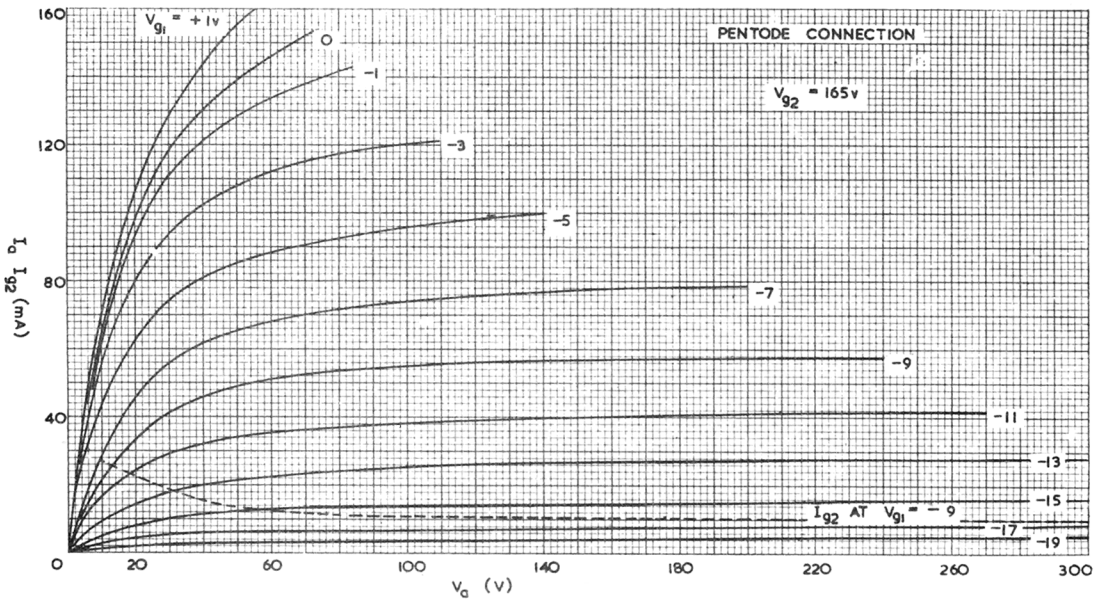
R E T A I N I N G The use of a retaining device is recommended.

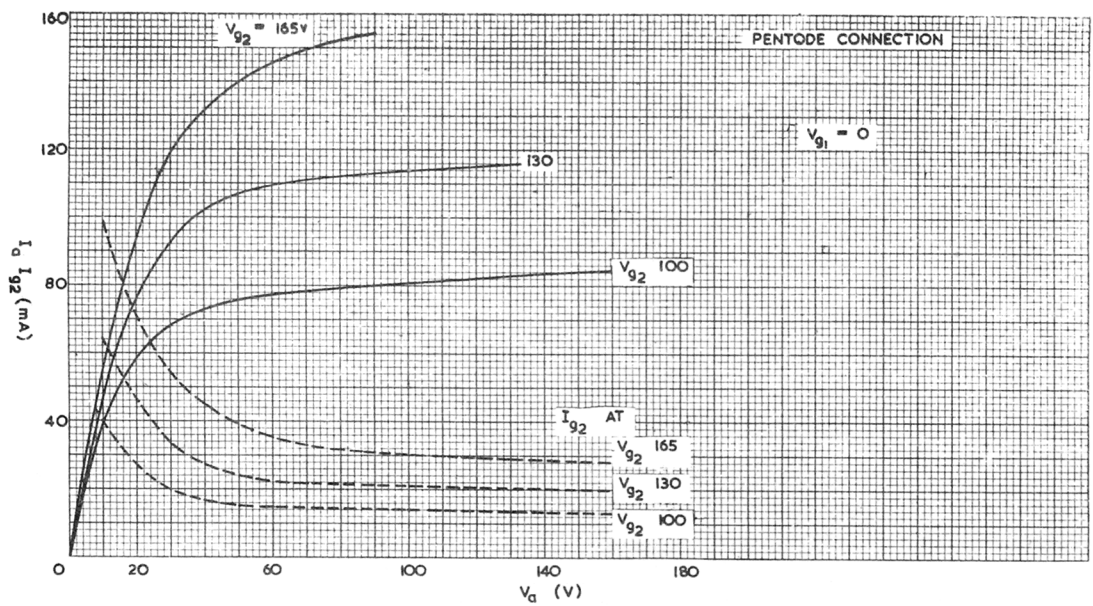
V E N T I L A T I O N Free air circulation around the bulb is preferable. If a retaining device in the form of a canister is used the surface should be blackened. The temperature of the hottest part of the bulb must not exceed 250°C.

M I C R O P H O N Y This type is free from microphony in normal receiver application.

DATA SHEET.

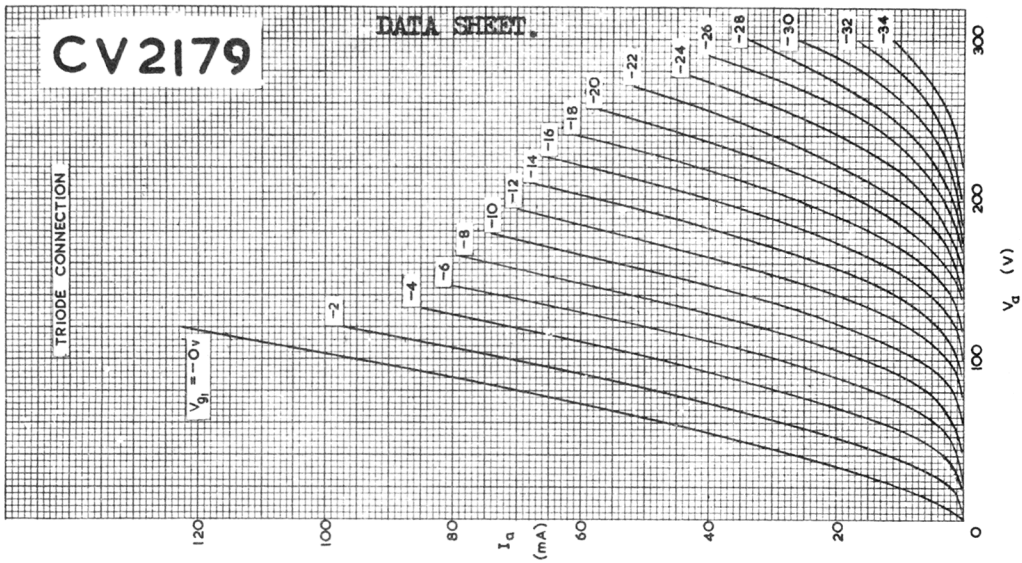
CV 2179

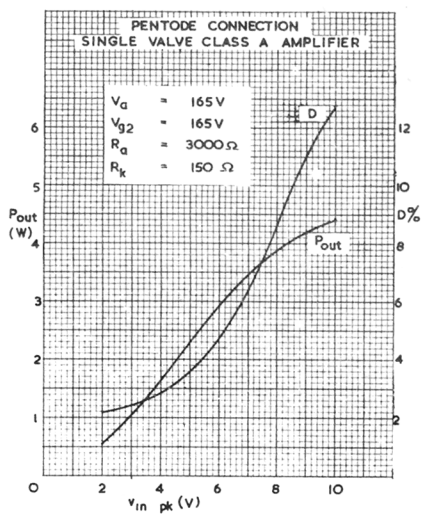


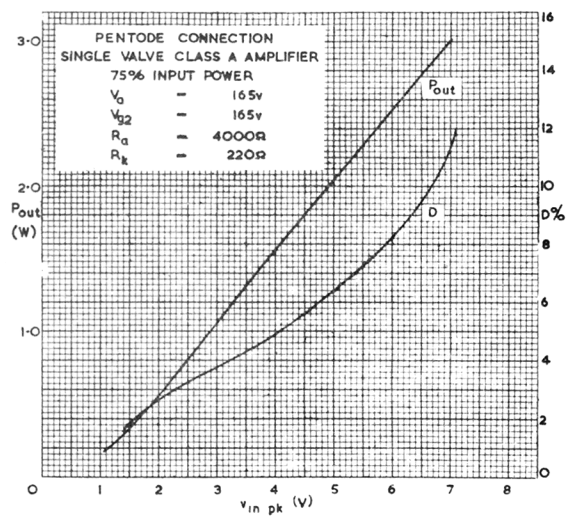


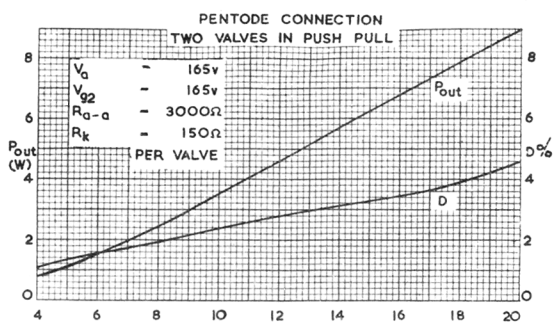
CV2179

DATA SHEET.









CV 2179/d/9-4-53/4.