

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION MOS/CV. 2299

ISSUE 3 DATED 21.4.59

AMENDMENT NO.1

Page 2. Tests GROUP A

Anode Current Tail

In column headed "Test Conditions"

Amend "Note 1" to "Note 4".

In section headed "NOTES" insert new note as follows:-

4. With an anode supply voltage of 100 volts applied through a 100k Ω protective resistance to the anode.

July, 1960
N.33383/D

Royal Aircraft Establishment.

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION CV2299 ISSUE 3, DATED 21.4.59

AMENDMENT NO.2

Page 1. RATINGS CAPACITANCES

(a) Amend. C out. (nom.) value of 3.6 pFs to read 3.9 pF.

(b) Amend. C in (nom.) value of 3.9 pFs to read 3.6 pF.

Page 2. Group C. Capacitance

Amend the limits for "C out" and "C in" as follows:-

(a) C out. min. 3.5 max. 4.3.

(b) C in. min. 3.2 max. 4.0.

N.57274/D

Director,
Royal Aircraft Establishment.

SPECIFICATION M.O.S./CV.2299 ISSUE 3 DATED 21.4.59 To be read in conjunction with K.1001, BS.448 and BS.1409.	<u>SECURITY</u>	
	<u>SPECIFICATION</u>	<u>VALVE</u>
	Unclassified	Unclassified

→ Indicates a change

TYPE OF VALVE: Sub-miniature Pentode. CATHODE: Directly Heated. ENVELOPE: Glass, unmetallised. PROTOTYPE: VX 8092		<u>MARKING</u>	
		See K.1001/4. CV No., T.A. letters, Factory and Date Code only required.	
<u>RATING</u> (All limiting values are absolute)		<u>BASE</u> BS.448/B8D/F.	
		<u>CONNECTIONS</u>	
		Pin	Electrode
		1	IC Internal Connection.
		2	g1 Control grid.
		3	NC No connection.
		4	f- & g3 Filament negative + Suppressor grid.
		5	F+ Filament positive.
		6	NC No connection.
		7	a Anode
		8	g2 Screen grid.
		<u>DIMENSIONS</u>	
		BS.448/B8D/F/2.1. Size Ref.No.4.	
		Dimension	Min. Max.
		A (mm)	- 44.4
		B (mm)	- 10.16
<u>NOTES</u>			
A. Measured at $V_a = V_{g2} = 100V$; $I_a = 15 \text{ mA}$.			
B. Measured with close fitting metal screen.			

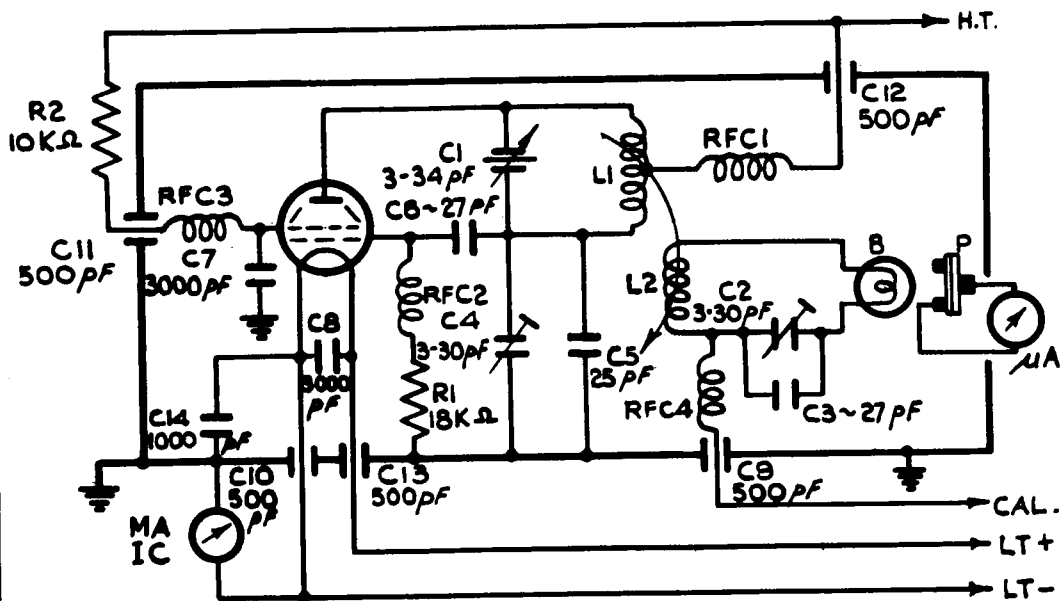
C.V.2299

TESTS

To be performed in addition to those applicable in K.1001.

TEST CONDITIONS: Unless otherwise stated.								
Vf = 1.25V. Va = 100V. Vg2 = 100V. Vg1 = -9V.								
K.1001 Ref.	Test	Test Conditions	AQL %	Insp. Level	Symbol	Limits		Units
						Min.	Max.	
	<u>GROUP A</u>							
	Filament Current		-	100%	If	180	220	mA
	Reverse Grid Current.	Note 1.	-	100%	-I _{g1}	-	1.0	μA
	Anode Current		-	100%	I _a	10.5	20.5	mA
	Screen Current		-	100%	I _{g2}	2.3	5.4	mA
	Mutual Conductance		-	100%	g _m	1.9	3.1	mA/V
	Anode Current Tail	V _{g1} = -25V. Note 1.	-	100%	I _{a tail}	-	450	μA
	<u>GROUP B</u>							
	Power Output (1)	V _f = 1.0V. V _{ht} = 150V. Note 2.	4.0	I	P _{out}	1000	-	mW
	<u>GROUP C</u>							
	Power Output	V _{ht} = 180V. Note 3.	6.5	IB	P _{out}	1100	-	mW
A.III	Capacitance	To be measured on an R.F. Bridge at a frequency of 1Mc/s. Valve mounted in a fully shielded socket with a close fitting metal screen.	6.5	IC	C _{out} C _{in} C _{ag}	3.2 3.5 -	4.0 4.3 0.15	pF pF pF
<u>NOTES</u>								
1. 100 kΩ protective resistance in series with the micro-ammeter.								
2. To be tested in a 50 Mc/s oscillator circuit. The coupling to be adjusted to give I _k = 25mA on an average valve with Vf = 1.25 V. (A suitable circuit is shown on page 3.)								
3. To be tested in a 200 Mc/s Amplifier circuit. The drive to be adjusted to give I _k = 25mA after having tuned C1 and C2 to give maximum output power. (A suitable circuit is shown on page 4.)								

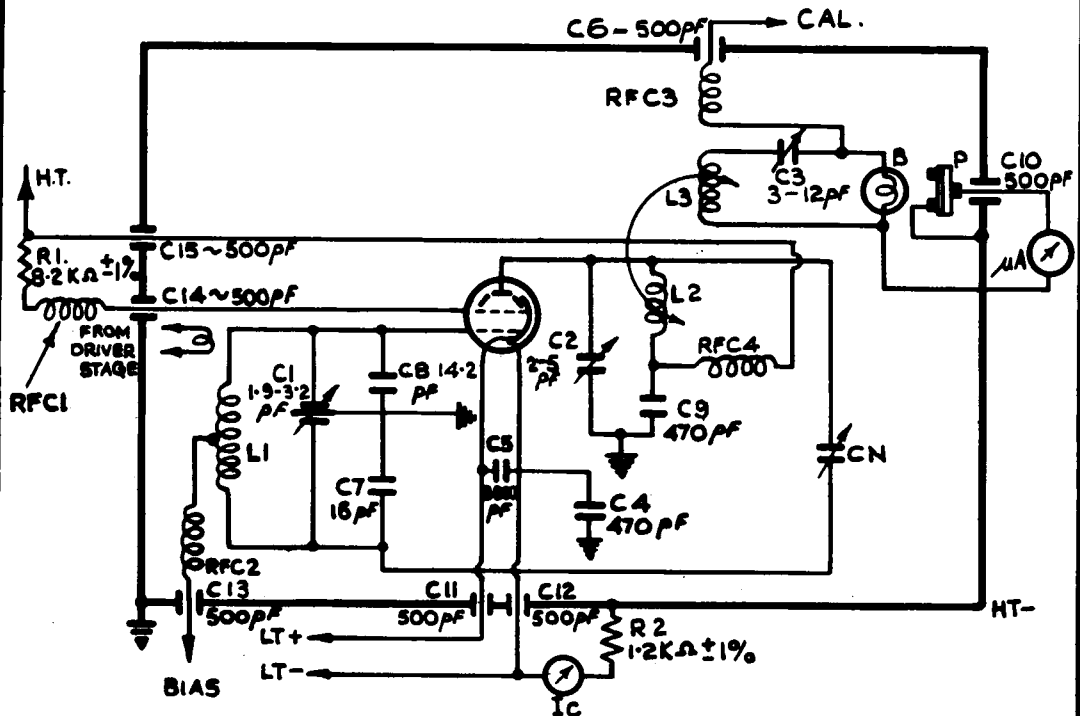
CV.2299/3/2



NOTES.

1. L1 = 6 turns 12 S.W.G. tinned copper wire.
Internal diameter 30mm. length 27mm.
H.T. tap approximately $\frac{1}{3}$ along coil from grid end ($1\frac{1}{2}$ turns)
2. L2 = 2 turns 12 S.W.G. tinned copper wire.
Internal diameter 30mm.
3. RFC1,2,3 = 138 turns 36 S.W.G. enamelled copper wire.
Internal diameter 6mm. Length 30mm.
4. RFC4 = 40 turns 20 S.W.G. enamelled copper wire.
Internal diameter 17.5mm. Length 30mm.
5. B = 6V. 6 watt, P = Photocell.

50 Mc/s OSCILLATOR CIRCUIT DIAGRAM.



NOTES

1. L1 = 1 turn 16 S.W.G. tinned copper wire.
Internal diameter 10 mm.
2. L2 = 2 turns 16 S.W.G. polished copper wire.
Internal diameter 10 mm.
3. L3 = 1 turn 12 S.W.G. polished copper wire.
Internal diameter 15 mm.
4. CN = A short length of wire from the grid circuit running near the anode connection & bent nearer or further away from it to vary the capacity.
5. RFC1 - 4 = 30 turns 23 S.W.G. enamelled copper wire, close wound. Internal diameter 1/4".
6. B = 8V · 45A P = Photocell.

200 MC/S AMPLIFIER CIRCUIT DIAGRAM.

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