

SPECIFICATION M.O.S./CV.2975 Issue No.1 Dated 1.1.60. To be read in conjunction with K.1006 and BS.448.	<u>SECURITY</u>	
	<u>SPECIFICATION</u> Unclassified	<u>VALVE</u> Unclassified

TYPE OF VALVE: Output Pentode. CATHODE: Indirectly heated. ENVELOPE: Glass. PROTOTYPE: EL.84.		<u>MARKING</u> K.1001/4	
<u>RATINGS</u> (All limiting values are absolute)		<u>BASE</u> BS.448/B9A. (E9-1, Miniature button 9 pin.)	
Heater Volts (V) 6.3 Heater Current (A) 0.76 Max. Anode Voltage (V) 330 Max. Anode Dissipation (W) 13 Max. Screen Voltage (V) 330 Max. Screen Dissipation (zero signal) (W) 2.2 Max. Cathode Current (mA) 72 Max. Heater Cathode Voltage (V) 100	<u>CONNECTIONS</u>		
		<u>Pin</u>	<u>Electrode</u>
		1	Internal Connection IC
		2	Control Grid g1
		3	Cathode + Suppressor k+g3
		4	Heater h
		5	Heater h
		6	Internal Connection IC
		7	Anode a
		8	Internal Connection IC
		9	Screen Grid g2
<u>TYPICAL OPERATING CONDITIONS</u>			
<u>Single Valve</u> Class "A" Amplifier		<u>Two Valves</u> Class "AB" Push-Pull	
<u>Pentode Connections</u>		<u>Notes</u>	
Va (V) 250	Va (V) 300	1,4 2,4	
Vg2 (V) 250	Vg2 (V) 300		
Vg1 (V) -7.3	Rk (Ω) 130		
Ia (mA) 48	Ia (mA) 72		
Ig2 (mA) 5.5	Ig2 (mA) 8		
gm (mA/V) 11.3	RL (kΩ) 8		
RL (kΩ) 4.5	Pout (W) 17		
Pout (W) 4.7			
Esig (VAC) 4.4			
<u>CAPACITANCE (pF) Note 3</u>			
Cag (max.)	0.5		
Cin (nom.)	10.8		
Cout (nom.)	6.5		
<u>DIMENSIONS</u> See BS.448/B9A/2.1 Size Ref. No.4.			
<u>Dimensions mm</u>		<u>Min.</u>	<u>Max.</u>
A Seated height		-	71.5
C Diameter		19.0	22.2
D Overall length		-	78.5
<u>MOUNTING POSITION</u> Any.			
<u>PACKAGING</u> See K.1005.			
<u>NOTES</u>			
1. Anode current = 36 mA per valve.		4. Zero signal value.	
2. Screen current = 4 mA per valve.			
3. Valve unscreened.			

TESTS

TEST CONDITIONS		Ef (V)	Eb (V)	Ec2 (V)	Ec1 (V)				
		6.3	250	250	-7.3				
<u>Height:</u>	3 ³ / ₃₂ " max. overall.				<u>Diameter:</u>	7/8" max.			
<u>Base:</u>	E9-1, miniature button 9-pin.				<u>Cathode:</u>	Coated unipotential.			
<u>Envelope:</u>	T6 ¹ / ₂ -(6-4)								
<u>Pin No.</u>	1	2	3	4	5	6	7	8	9
<u>Element</u>	i.c.	g1	kg3	h	h	i.c.	a	i.c.	g2.

K.1006 Ref.	Test	Test Conditions	AQL %	Insp. Level	Symbol	LIMITS		Units
						Min.	Max.	
4.10.6.1	<u>GROUP A</u>							
	Reverse Grid Current	Rg1 = 500kΩ max.	-	100%	-I _{g1}	-	1.5	μA
	Electrode Insulation	Ef = 6.3V. Note 2 Ec1-all = -100V. Ec2-all = -300V. Ea-all = -300V.		100%	R	10	-	MΩ
				100%	R	10	-	MΩ
			100%	R	10	-	MΩ	
4.10.8 4.10.15 4.10.4.1 4.10.4.3 4.10.9	<u>GROUP B</u>	Combined AQL	1.0					
	Heater Current	Ehk = 100V. k positive. Note 1.	0.65	II	I _f	690	830	mA
	Heater-Cathode Leakage Current		0.65	II	I _{hk}	-	40	μA
	Plate Current	Note 3.	0.65	II	I _b	35	70	mA
	Screen Current		0.65	II	I _{o2}	2.0	8.5	mA
4.10.9	Transconductance		0.65	II	S _a	8200	14400	μmhos
4.10.1.1 4.10.16	<u>GROUP C</u>	Combined AQL	4.0					
	Emission	Eb=Ec1=Ec2=4.0Vac.	2.5	I	I _s	130	-	mA
4.10.16	Power Output	E _{sig} = 4.7Vac. E _p = 5kΩ.	2.5	I	P _o	4.4	-	W
4.10.14	<u>GROUP D</u>	Valve unscreened	6.5	IC				
	Capacitance				C _{gp}	-	0.5	pF
						C _{in}	9.7	11.9
					C _{out}	5.5	7.5	pF
4.11.4	<u>GROUP F</u>							
	Life Test	Ehk = 100V.d.c. k positive. Rg1 4.7kΩ Rk = 150Ω		Group A				
4.11.4	Life Test End Point (500 hours)							
4.10.16	Power Output	As in Group C.	2.5	-	P _o	3.0	-	W

NOTES

- 1MΩ protective resistance in series.
- Heater strapped to cathode and considered as a single electrode.
- The limits for I_a are asymmetrical. Bogey I_a = 48mA.

CV.2975/1/2