

SPECIFICATION CV.2390 ISSUE 1

AMENDMENT NO. 1

TOP BOX

This specification, sent out as Issue 2, should read:-

Issue 1 dated 19.1.57

The top line should read - Specification MOS(A)/CV.2390 \_\_\_\_\_

NOTE TO DESIGNERS

CV.2390 (Issue 1) supersedes CV.2300 (Issue 1, or Issue 2 if held).

CV.2300 (Issue 3) defines a selected valve for maintenance of existing equipment and is not circulated to E.V.S. C & D holders. Please destroy the specification (Issue 1 or 2) in the C & D Books.

March, 1957  
N.87380.R

T.V.C. Office

MINISTRY OF SUPPLY - D. L. R. D. (A)/R. A. E.

Specification MOS(A)/CV2300 incorporating MIL-E-1/108 Issue 2 Dated 19.1.57 To be read in conjunction with B.S.448, B.S.1409 and K.1006	<u>SECURITY</u>	
	<u>Specification</u> UNCLASSIFIED	<u>Valve</u> UNCLASSIFIED

TYPE OF VALVE - Power Amplifier Pentode		<u>MARKING</u> See K.1001/4 Additional marking:-  3A4	
CATHODE - Directly heated			
ENVELOPE - Glass unmetallised			
PROTOTYPE - 3A4			
<u>RATING</u>		Note	<u>BASE</u> B.S.448/B7G (Miniature Button 7 Pin)
Filament Voltage (series)	(V) 2.8		<u>CONNECTIONS</u>
Filament Current (series)	(mA) 100		
Filament Voltage (parallel)	(V) 1.4		Pin
Filament Current (parallel)	(mA) 200		Electrode
Max. Anode Voltage	(V) 165	A	1 f Note B
Max. Screen Voltage	(V) 150	A	2 a
Max. Anode Dissipation	(W) 2.2	A	3 g2
Max. Screen Dissipation	(W) 1.0	A	4 g1
Max. Cathode Current	(mA) 27	A	5 f and g3 Note B
Mutual Conductance	(mA/V) 2.0	C	6 a
Anode Impedance	(MΩ) 0.1	C	7 f(+)
<u>CAPACITANCES (pF)</u>			<u>DIMENSIONS</u>
C in (nom)	4.8	D	See B.S.448/B7G/2.1 Size Ref. No. 2
C out (nom)	4.2	D	
C a, g1 (max)	0.35	D	Dimensions (mm)
			Min.      Max.
			A seated height      -      47.5
			C diameter      16.0      19.0
			D overall length      -      54.5
			<u>MOUNTING POSITION</u> Any
<u>NOTES</u>			
A. Absolute value.			
B. Pin 1 is filament negative for $V_f = 2.8V$ . Pin 5 is filament negative for $V_f = 1.4V$ .			
C. At $V_a = 150V$ ; $V_{g2} = 90V$ ; $V_{g1} = -8.4V$ . ( $I_a = 13.3 mA$ , $I_{g2} = 2.3 mA$ )			
D. Measured with valve unshielded.			

Z.13572.R.

<b>Ratings:</b>	Ef	Eb	Ec1	Ec2	Fp	Fg2	Ik	Alt.
Absolute	V	Vdc	Vdc	Vdc	W	W	mAdc	ft.
Maximum:	1.4 or 2.8 ± 15%	165	---	150	2.2	1.0	27	10,000
<b>Test Conditions:</b>	1.4	150	-8.4	90	---	---	---	

**\*\*Height:** 2-1/8 in. max. **\*Diameter:** 3/4 in. max.  
**\*\*Base:** Miniature Button 7-Pin, 57-1  
**\*\*Pin No.:** 1 2 3 4 5 6 7 **\*\*Cathode:** Coated Filament  
**Element:** -f p g2 g1 g3 p 4f **\*\*Envelope:** T-5-1/2 (6-2)  
fct(-par)

Ref.	Test	Conditions	Min.	Max.
3.1	Qualification Approval:	Required for JAN Marking		
4.9.18.1.1 F-6a(3b)	Carton Drop:	(d) Package Group 1; Carton Size B		
4.9.19.1	*Vibration:	Rp=2000	Ep: ---	500 mVac
4.10.8 F-6i	*Filament Current:		If: 180	220 mAdc
4.10.6.1 F-6g(1)	† Grid Current:		Ic1: 0	-1.0 uAdc
4.10.4.1 F-6f(1)	Plate Current(1):		Ib: 9.2	17.4 mAdc
4.10.4.1 F-6f(1)	† Plate Current(2):	Ef=1.1Vdc; Note 2	Ib: 16	--- mAdc
4.10.4.3 F-6f(3)	*Screen Grid Current:		Ic2: 1.3	3.3 mAdc
4.10.9 F-6j	*Transconductance:		Sm: 1670	2450 umhos
4.10.2.2 F-6d(2)	*Power Oscillation:	F=50Mc; Eb=150Vdc; Ec2=135 Vdc; Ib=20mAdc; Ic1=0.13mAdc; Rg1=0.2Meg; Ef=1.4Vdc; Note 1	Po: 0.85	--- W
4.10.16.1 F-6r(1)	*Power Output:	Esig=6.0Vac; Rp=8000	Po: 550	--- mW
4.10.3.2 F-6e(2)	AF Noise	Esig=750Vac; Rp=2000; Note 3	EB: ---	17 VU
4.10.14 F-6p	*Capacitance	Without Shield Without Shield Without Shield	Cg1p: --- Cin: 3.9 Cout: 3.0	0.35 uuf 5.7 uuf 5.4 uuf
4.11 F-4	Life Test:	Group A; Ef=1.4Vac or Vdc	t: 500	--- hrs.
4.11.4 F-4b	Life Test End Point:	Transconductance or Power Output	Sm: 1310 Po: 350	--- umhos --- mW

APPROVED 30 March 1953 REVISED

CUSTODIANS: Army-Signal Corps Navy-Bureau of Ships Air Force	<h2 style="margin: 0;">SPECIFICATION SHEET</h2> <p style="margin: 0;">POWER AMPLIFIER PENTODE, RECEIVING</p> <p style="margin: 0; font-weight: bold; font-size: 1.2em;">3A4</p>	MIL-E-1/108 <hr/> SHEET 1 OF 2
PROCUREMENT SPECIFICATION MIL-E-1		

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JAN-3A4

- Note 1: Useful power output.
- Note 2: Ebb=Ecc2=150Vdc; Rp=Rg2=2000; Rg1=220,000; Rg2 connected through 0.25 uf condenser to ground; Esig=15Vac from a 500 ohm source through a 1.0uf coupling condenser. Immediately before this test the tube is to be operated for at least 3 minutes under conditions of, or equivalent to, the conditions of the test.
- Note 3: Reference specification shall be of the issue in effect on date of invitation for bid.

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		SHEET 2 OF 2