VALVE ELECTRONIC **CV443**

GENERAL POST OFFICE: E-IN-C (S)

Specification: G.P.O. / CV 443/ Issue 2 Dated: 12th July 1949 To be read in conjunction with K 1001 ignoring Clause 5.2	SECURITY Specification: [redacted] Unclass Valve: [redacted] Unclass

——→ indicates a change

TYPE OF VALVE: Sub-miniature pentode
CATHODE: Directly heated
ENVELOPE: Unmetallised glass
PROTOTYPE CK 505 AX (Raytheon)

MARKING
CV 443
Code date of manufacture
Factory identification code

RATING			Note
Filament voltage	(V)	0.625	
Nominal filament current	(mA)	25.0	
Max. anode voltage	(V)	45.0	
Max. screen voltage	(V)	45.0	
Mutual conductance	(mA/V)	0.18	A
Anode impedance	(megohms)	0.5	A
Optimum anode load	(megohms)	1.0	
Nominal voltage gain		35.0	A

BASE
B5A or B8D
(See drawing on page 3)

CONNEXIONS
See drawing on page 3

DIMENSIONS
See drawing on page 3

NOTE

A. Measured with Va = Vg2 = 30, and Vg1 = 0

A sharp bend must not be made in any valve lead closer than 1.5 mm to the glass seal and soldered joints in the leads must not be made closer than 5.0 mm to the seal.

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TESTS

To be performed in addition to those applicable in K 1001

	TEST CONDITIONS			TEST	LIMITS		No. Tested
	Vf	Vht	f(c/s)		Min.	Max.	
a	0.625	-	-	If (mA)	22	28	100%
b	0.55	20	50	Gain (Note 2) (db)	27	-	100%
→ c	0.75	20	50	Gain (Note 2) (db)	27	-	10 per week
→ d	0.55	30	50	Gain (Note 2) (db)	31	-	10 per week
→ e	0.75	30	-	Microphony (Note 3)	-	Note 3	100%

NOTES

1. The equipment used for testing is to be approved by G.P.O.
2. Tested in Test Circuit shown on page 4.
3. The input terminals of the test circuit shown on page 4 shall be short circuited and the output terminals shall be connected to an amplifier having an input inpedance greater than 50 Megohms. The amplifier shall have a gain which does not vary more than ± 2 db over a frequency range from 800 to 4,000 c.p.s. but cuts off sharply above 4000 c.p.s. The response may fall by 3 db at 600 c.p.s. but not more than 6 db per octave below that. The output of the amplifier shall be connected to a meter having a movement with a period of not less than 3 seconds and not greater than 5 seconds and an over-swing of approximately 15% when connected to the amplifier. The amplifier shall have such a gain that an input of 100 mV R.M.S. at approximately 1000 c.p.s. will give a full scale deflection on the output meter.

   The valve shall be tested for microphony by tapping it steadily with a rubber headed mallet at a rate of approximately 3 times per second in such a direction and position on the valve that the greatest possible sustained microphony response is excited as indicated on the meter. The valve shall be rejected if the meter reading can be maintained at a value exceeding that corresponding to an input of 25 mV R.M.S. at approximately 1000 c.p.s. (A suggested mallet for tapping the valve is an ordinary lead pencil fitted at one end with a sleeve of india rubber approximately ¼" thick).

PIN CONNEXIONS & OUTLINE DRAWING

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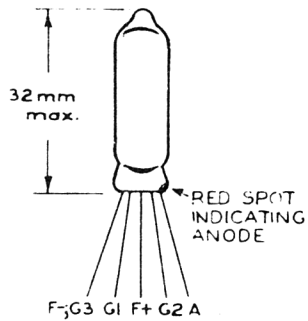
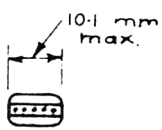
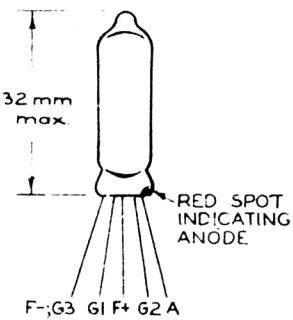
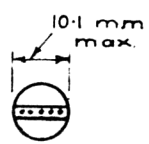
FLAT BULB AND B5A BASE



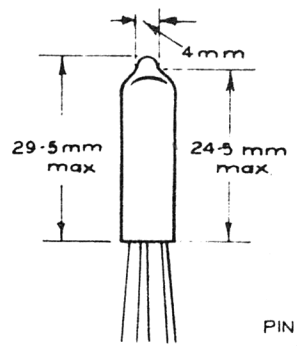


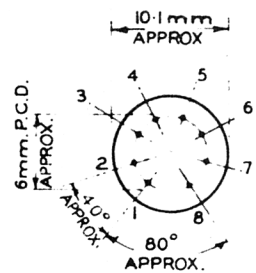
ROUND BULB AND B5A BASE





ROUND BULB AND B8D BASE





PIN 1 OMITTED
2 G1
3 OMITTED
4 – FIL & G3
5 + FIL
6 OMITTED
7 A
8 G2

ANODE CONNEXION ON PIN 7 TO BE INDICATED BY A SUITABLE RED MARK

SPACING OF LEADS 1·3 mm.

VALVE BASE APPROX. 2/1

THE LEADS SHALL BE FLEXIBLE 25-2/ S.W.G. TINNED COPPER CLAD NICKEL IRON WIRE, AT LEAST 32mm IN LENGTH.

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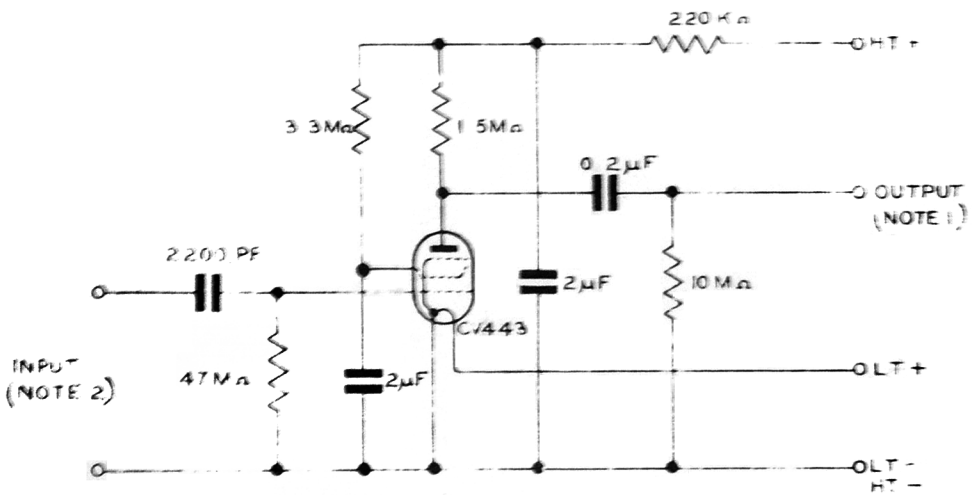
TEST CIRCUIT



NOTES 1 OUTPUT IS MEASURED BETWEEN OUTPUT TERMINAL & HT -

2 INPUT 100m V