VALVE ELECTRONIC **CV35**

ADMIRALTY SIGNAL ESTABLISHMENT

Specification AD/CV35/Issue 5.
Dated 13.11.46.
To be read in conjunction with K1001, ignoring clauses:- 5.8 and 7.2.

SECURITY	
Specification	Valve
~~Restricted~~ Unclassified	Unclassified

TYPE OF VALVE:- Local Oscillator: velocity modulation type.
CATHODE:- Indirectly heated.
ENVELOPE:- Glass unmetallised.
PROTOTYPE:- Replaces NR89.

MARKING
See K1001/4.

BASE
IO
See K1001/AIV/D2.

Pin	Electrode
1	Grid
2	Heater
3	No connection
4	No connection
5	No connection
6	No connection
7	Heater
8	Cathode
TC	Reflector

(Direct connection to anode)

RATING

			Note
Heater Voltage	(V)	4.0	D
Heater Current	(A)	1.45	
Tuning Range	(Mc/s)	3095 to 2970	C
Tuning Range (approx.)	(cm)	9.7 to 10.1	
Max. Resonator Dissipation	(W)	10	H
Resonator Voltage Range	(kV)	1.0 to 1.5	
Reflector Voltage Range	(V)	-230 to -320	
Grid Voltage	(V)	0	C
Min. Power Output	(mW)	100	

CAPACITANCES (pF.)

Grid to cathode + heater + resonator (max.)	15

DIMENSIONS AND TOP CAP
See page 3.

PACKING
See K1001/7.

NOTES

A. The terms "anode" and "resonator" are synonymous.

Va = Resonator voltage.
Vr = Reflector voltage.

B. The valve shall be processed to withstand a maximum anode voltage of 5 kV (AC or DC) with respect to the grid and reflector strapped.

C. The valve has been designed to operate at zero grid voltage.

D. The valve must operate satisfactorily with any Vf within the range 4.0 V ± 5%.

E. The tuners, which are to be reasonably slack when unlocked, are to be supplied lubricated with graphite.

F. The resonator and tuning plungers are to be plated entirely with copper, silver and gold, in that order.

G. Valves are to be shipped set up to give a frequency within the limits 3077 - 3107 Mc/s with the fine tuner screwed right in.

H. In operation, the temperature of the resonator must not exceed 140°C, and if the mounting gives insufficient cooling by conduction then artificial cooling must be used.

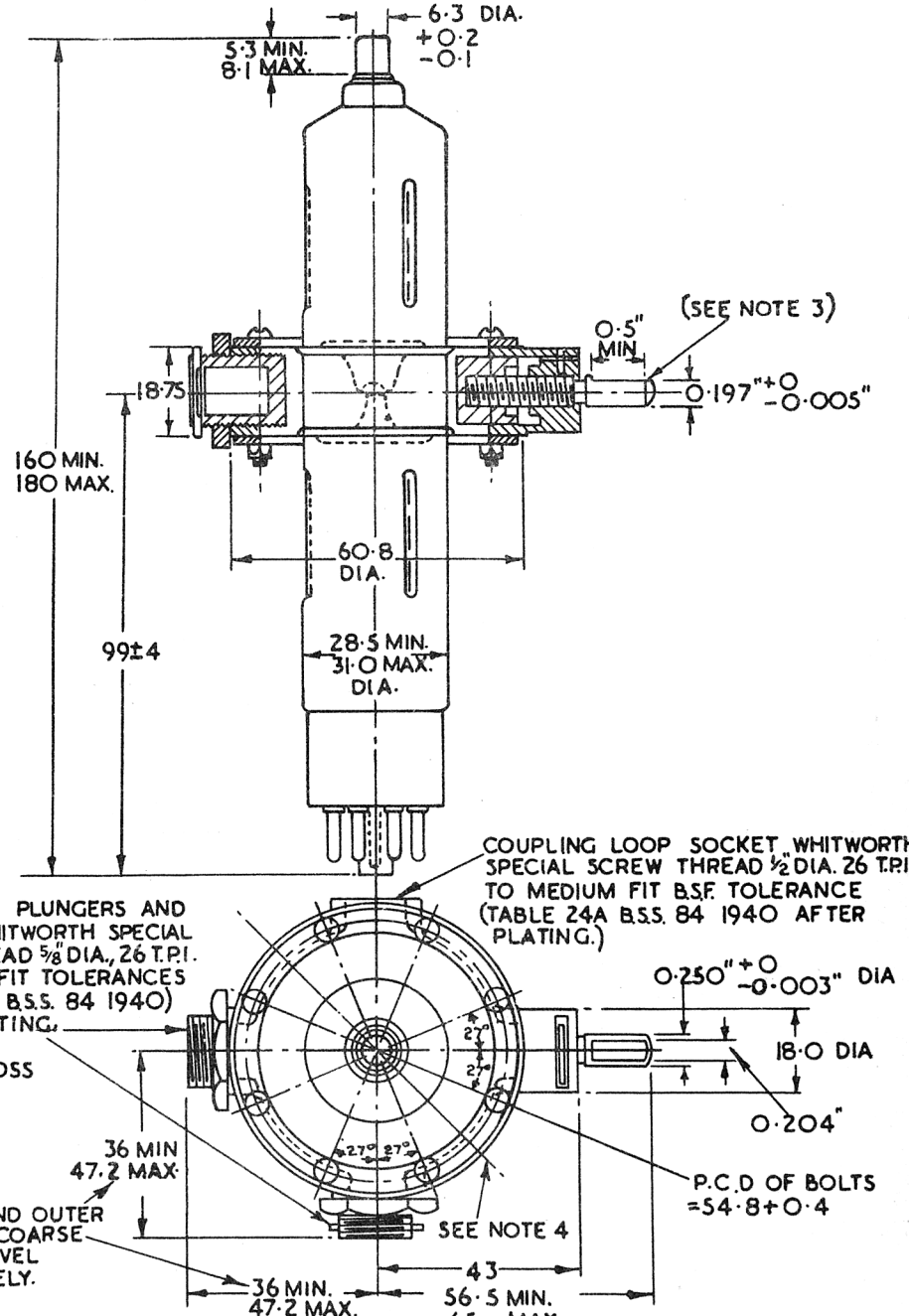
TESTS

To be performed in addition to those applicable in K1001.

	Test Conditions				Test	Limits		No. Tested
	Vh (V)	Vg (V)	Va (kV)	Vr (V)		Min.	Max.	
a	See K1001/5.3.				H-k leakage (μA)	-	50	100%
b	See K1001/5.2.1.2. and 5.2.1.3.				Cathode-grid insulation (Megohms)	1		100%
c	4.0	0	0	0	Ih (A)	1.1	1.6	100%
d	4.0	0	varied	varied	i Va (kV)	1.0	1.5	100%
	Wavelength varied by means of pre-set and fine tuners. Max. power input = 10 W.				ii Vr	-230	-320	100%
					iii Minimum range of oscillation (Mc/s)	3095	2970	100%
Note:- In all the tests below, unless otherwise stated, Va and Vr must lie within the limits given in test 'd', 'i' and 'ii'.								
e	4.0	0	Adjusted	Adjusted	i Output at 3060 Mc/s (mW)	200	-	100%
	With fine tuner at middle of traverse, adjust coarse tuners for 3060 Mc/s. Max. power input 10 W. Va and Vr set (within above limit limits) for max. output at 3060 Mc/s. Output power to be measured by an approved method.				ii Output throughout fine tuner range with Va and Vr constant (mW)	100	-	100%
f	4.0	0	Adjusted	Adjusted	Fine tuner range (Mc/s)	55		1% (1)
	Valve loaded with approved load for optimum power output. With fine tuner at inner limit of travel coarse tuners adjusted for 3095 Mc/s. Fine tuner screwed to outer limit of travel.							
g	4.0	0	Adjusted	Adjusted	Frequency drift from 3060 Mc/s. (Mc/s)			
	Valve switched on from cold. Coarse and fine tuners adjusted for 3060 Mc/s. after 1 min. running. Frequency measured after 20 mins. running. 9-10 W input.				i Frequency increase	-	0	Type Approval
					ii Frequency decrease	-	3	
h					Capacitance:- Grid to (cathode + heater + resonator) (pF)	-	15	Type Approval

OUTLINE DIMENSIONS

CV35



NOTES:-

1. ALL DIMENSIONS ARE IN MMS. UNLESS OTHERWISE STATED.
2. THE UNSPECIFIED PORTION OF THE TOP CAP MAY BE OF ANY CONVENIENT SHAPE AND MATERIAL.
3. THE FLAT SHOWN ON THE FINE TUNER HAS NOT BEEN MADE ON ALL VALVES.
4. THE RESONATOR MUST BE ASSEMBLED WITH THE DIE CASTINGS IN THE POSITION SHOWN.