

Specification AD/CV116/Issue 5 Dated 14.11.46. To be read in conjunction with K1001, ignoring clauses:- 5.2.1.2; 5.3.	<u>SECURITY</u> <u>Specn.</u> <del>Restricted</del> <u>Valve</u> Unclassified
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<u>TYPE OF VALVE:-</u> Velocity modulated oscillator. <u>CATHODE:-</u> Indirectly heated. <u>ENVELOPE:-</u> Copper/glass with resonator. <u>PROTOTYPE:-</u> KR6/1.	<u>MARKING</u> See K1001/4. Additional Marking Serial No. ....
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<u>RATING</u>		Note	<u>BASE</u> <u>TO</u>	
Heater Voltage (V)	4.0		See K1001/ATV/D1.	
Heater Current (A)	1.3		Pin	Electrode
Tuning Range (Mc/s)	3365-3554		1	Grid
Power Output (min.) (mW)	100		2	Heater
Max. Resonator Dissipation (W)	8		3	No connection
Resonator Voltage (V)	250		4	No connection
Reflector Voltage Range (V)	-100 to -175	C	5	No connection
Grid Voltage (V)	0 to 175		6	No connection
Min. A.F.C. Range (Mc/s)	20	A	7	Heater
Mean Reflector Voltage change for above frequency change (V)	35	B	8	Cathode
Max. Permissible Series Resistance in Reflector Circuit (ohms)	25,000		TC	Reflector
Max. Resonator Temp. during operation (°C)	140		<u>TOP CAP</u> See K1001/AT/D5.2.	
			<u>DIMENSIONS</u> See Page 3.	
			<u>PACKING</u> See K1001/7.	

NOTES

- By variation of reflector voltage. From  $\frac{1}{2}$  power to  $\frac{1}{2}$  power at any mean frequency in the range.
- Superimposed on optimum setting, but not necessarily disposed symmetrically about this setting.
- This range applies to the 50% loaded condition. With the valve unloaded the reflector volts are about 10 volts higher, and with the valve fully loaded about 5 volts lower.
- The tuners should not be screwed out more than  $5\frac{1}{2}$  turns from the fully screwed-in position, otherwise the retaining clips may become detached and these are difficult to replace. Other means of fixing the tuners, e.g:- by piano wire instead of the retaining clips, may be used, subject to approval on samples.
- Mounting position: Any.

TESTS

To be performed in addition to those applicable in K1001.

	Test Conditions			Test	Limits		No. Tested
	Vh (V)	Vr (V)	Va (V)		Min.	Max.	
a	4.0	-	-	Ih (A)	1.0	1.6	100%
b	C-G voltage 250 V min.			C-G Insulation (M $\Omega$ )	1.0	-	100%
c	4.0	Adjusted	250	i. Power output (mW)	100	-	100%
	Vg adjusted to give Wa = 8W, or to zero if only less than 8W is obtainable. Frequency adjusted to 3365 Mc/s by means of "pre-set" tuners. Valve loaded resistively for max. output. Vr adjusted for max. output power.			ii. Vr (V)	-100	-175	
				iii. Vg (V)	0	Value of Vr found in test 'c, ii'.	
d	4.0	Adjusted	250	i. Power output (mW)	100	-	100%
	Test 'c' repeated at 3554 Mc/s. <u>Note</u> :- It is to be understood that oscillation is maintained over the whole tuning range.			ii. Vr (V)	-100	-175	
				iii. Vg (V)	0	Value of Vr found in test 'c, ii'.	
e	4.0		250	i. Total frequency change (Mc/s)	20	40	100%
	With condition as for test 'd', reduce the resistive loading (e.g. by rotating the coupling loop) so that 50% of the power given with full loading is obtained. Vary Vr from a value less than, to a value more than the optimum to reduce the power at the extremes to not less than 50%. Observe change in frequency and Vr.			ii. Total reflector voltage change (V)	25	50	100%
f	4.0		250	i. Total frequency change (Mc/s)	20	40	5% (10)
	Repeat test 'e' at 3365 Mc/s. beginning with conditions as for test 'c'			ii. Total reflector voltage change (V)	25	50	5% (10)

NOTE

Va = Resonator Volts. Vr = Reflector Volts.

