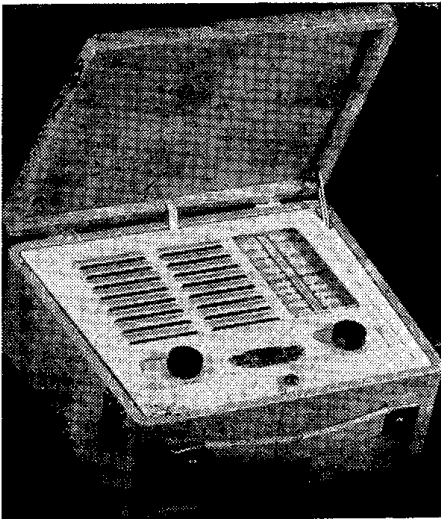


Test Report

VIDOR MODEL CN414 AN ALL-DRY 2-BAND ATTACHE PORTABLE

R.28



As shown by the illustration above, the CN 414 is a totally enclosed model of the popular attache case type. It is made by Vidor, Ltd., West Street, Erith, Kent (Phone: Erith 3080).

Unlike some portables designed for maximum compactness, it does not achieve this at the expense of accessibility. In fact, for normal servicing requirements it is only necessary to lift the escutcheon. The chassis will then be available for inspection.

The apparatus required for alignment is as follows:—

Modulated signal generator covering 185 to 2,000 metres, suitable output meter, or rectifier type A.C. voltmeter and insulated trimming tools.

The adjustable I.F. iron cores are sealed during manufacture and normally need no further adjustment. When, however, it is necessary (e.g., after repair, or replacement of an I.F. transformer) the cores concerned may be released by melting the wax. Great care should be taken to avoid damage to the iron cores and only those directly involved should be adjusted. The oscillator iron core is spring loaded and needs no sealing. From the full alignment instructions set out below, the procedure necessary for any partial realignment may be decided.

- (1) Set volume control fully clockwise. Connect output meter, or rectifier type voltmeter, across output transformer primary.
- (2) **I.F. Alignment.** Switch the receiver to L.W. band and tune to 1,800 metres (166.7 kc/s) S/C oscillator (front) section of gang

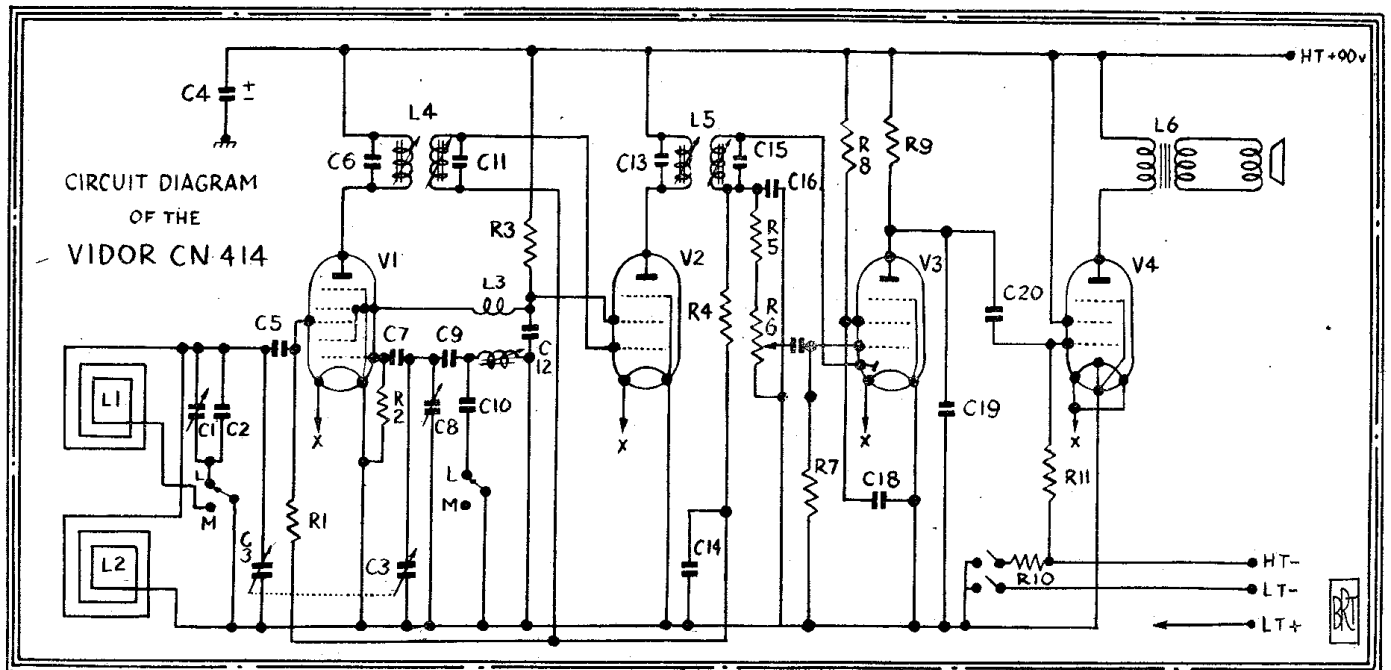
condenser and connect signal generator to DK91 control grid in series with 100pf condenser. Set signal generator to 475 kc/s. Using as small a signal as practicable, adjust I.F. Iron Cores for maximum output, reducing signal as sensitivity increases. Seal cores with soft wax, taking care not to disturb their adjustment. Remove S/C from gang condenser.

- (3) **R.F. and Oscillator Alignment.** With the gang condenser fully meshed, the pointer should be directly in line with the 550 metre block on the scale.
- (4) **M.W. Alignment.** Switch receiver to M.W. band and tune to 200 metres (1,500 kc/s). Set signal generator to 200 metres (1,500 kc/s). It will normally be found sufficient to lay the signal generator output lead in close proximity to the frame aerial (contained in lid of case), but should only a very weak signal be obtained the "hot" lead of the signal generator may be connected, via a 200pf condenser, to the rear section of the gang condenser, the "earthy" side of the signal generator being taken to the nearest earth point. Adjust M.W. oscillator trimmer for maximum output.

Tune receiver and signal generator to 500 metres (600 kc/s) and adjust M.W. oscillator iron core

SIMPLE SWITCHING

Simple Switching. Among interesting features of the circuit shown below is the simple switching arrangement from one waveband to the other. On long waves the condensers C1 and C2 are placed in parallel across the long wave frame aerial L2, which is tuned by a section of C3. On switching to medium waves, condensers C1 and C2 are not only disconnected but, at the same time, both frame aerials (L1 and L2) are placed in parallel and across the aerial tuning section of C3.



PARTS EMPLOYED AND OPERATING DATA OF THE VIDOR CN414

RESISTORS				
No.	Resistance in ohms	Wattage	Tolerance %	P.N.
1	470,000	Potentiometer Law	20	70065
2	100,000		20	70061
3	12,000		20	72480
4	2.2 M		20	70069
5	100,000		20	70061
6	1 M		20	15973
7	4.7 M	Log	20	70071
8	4.7 M		20	70071
9	1 M		20	70067
10	820		10	70396
11	2.2 M		20	70069

CONDENSERS		
3	523 PF Swing 2 Gang (Polar)	15116
4	2 UF 200v. Electrolytic	14362
5	100 PF 20% 350v. Silver Mica	15984
6	65 PF 2% 350v. Silver Mica	15387
7	100 PF 20% 350v. Silver Mica	15984
8	3.5-70 PF Trimmer	15115
9	635 PF 2% 350v. Silver Mica	15521
10	515 PF 1% 350v. Silver Mica	15982
11	65 PF 2% 350v. Silver Mica	15387
12	.1 UF 20% 350v. Tub. Paper	13655
13	65 PF 2% 350v. Silver Mica	15387
14	.05 UF 20% 200v. Tub. Paper	15933
15	65 PF 2% 350v. Silver Mica	15387
16	100 PF 20% 350v. Silver Mica	15984
17	.001 UF 20% Min Tub. Paper	15795
18	.05 UF 20% 200v. Tub. Paper	15433
19	200 PF 20% 350v. Silver Mica	15983
20	.01 UF 20% 350v. Tub. Paper	14835

INDUCTANCES		
Ref.	Description	P.N.
L.1	M.W. Frame Aerial	15967
L.2	L.W. Frame Aerial	15962
L.3	Oscillator Coil	15453
L.4	I.F. Transformer 475 kc/s	15286
L.5	I.F. Transformer 475 kc/s	15286
L.6	Output Transformer	15276

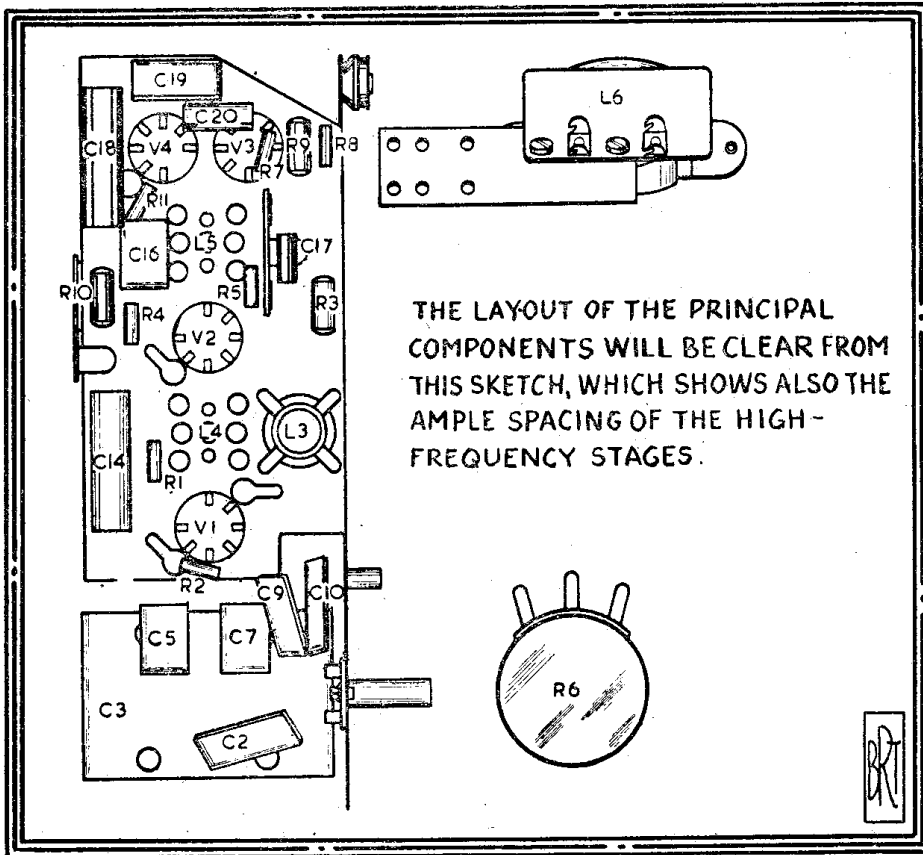
CONDENSERS		
No.	Description	P.N.
1	3.5-70PF Trimmer	15115
2	150PF 2% 350v. Silver Mica	15197

RECOMMENDED VALVES			
V1	1R5	DK91	X17
V2	1T4	DF91	W17
V3	1S5	DAF91	ZD17
V4	3V4	DL94	N19

TYPICAL FIGURES OF VALVE VOLTAGE ANALYSIS

The readings shown in the table below were obtained on 1,800 metres, with volume control at maximum, 90 volts H.T., and 1.5 volts L.T. The instrument used was a Model 7 AVO, 1,000-volt D.C. range. Total H.T. current 8.75 m/a.

Valve	Anode Voltage	Screen Voltage
V1	DK91	83
		51 G2 & 4
V2	DF91	83
		51
V3	DAF91	10(app.)
		8 (app.)
V4	DL94	80
		Bias 7.25v



NOTES

for maximum output, rocking the gang slightly after each adjustment. Repeat as above until the adjustment at 200 metres (1,500 kc/s) and 500 metres (600 kc/s) do not disturb each other.

- (5) **L.W. Alignment.** Switch receiver to L.W. Tune receiver and signal generator to 1,200 metres (250 kc/s) and adjust L.W. frame aerial trimmer C1 for maximum output. No L.W. oscillator trimmer is provided. Should calibration on L.W. be incorrect, the L.W. oscillator fixed compensating condenser C10 should be checked for value. This MUST be 515pf. $\pm 1\%$.

