

BURGOYNE DRAGON" ECORDAGRAPI

The Recordagraph by Burgoyne Wireless (1930), Ltd., is a superhet radiogram with provision for home recording.

control. V4 is tone controlled by C27 and R21.

Mains equipment consists of transformer, full-wave rectifier, electrolytic condensers and the speaker field.

Removing Chassis.—Remove the four knobs from the front of the cabinet (grub screws), take out four long bolts that secure chassis to shelf runners, release mains cord from cleat and unsolder speaker leads from the transformer. The connections are as follows :-

Green-white, F, smoothed H.T. White, 3, speech coil.

R.	Purpose.		Ohms.	
1	Sensitivity control		50,000	
1 2 3 4 5 6 7 8 9	V1 screen decoupling		50,000	
3	V1 A.V.C.decoupling		100,000	
4	V1 osc. grid leak		250,000	
5	V1 osc. anode decoupling		50,000	
6	A.V.C. decoupling		500,000	
7	V2 grid stabiliser		500	
8	V2 screen decoupling		100,000	
	V2 cathode bias		200	
10	V4 screen decoupling.		5,000	
11	V2 anode coupling		30,000	
12	Diode output decoupling		100,000	
13	Pick-up shunt		750,000	
14	A.V.C. diode load		500,000	
15	Idle diode feed		5 meg.	
16	Sensitivity control		20,000	
17	V2-V4 L.F. coupling		100,000	
18	Volume control		500,000	
19	V4 cathode bias		140	
20	V4 anode decoupling		100	
21	Tone control		10,000	
22	V3 cathode bias		20,000	

Green, F, unsmoothed H.T. (on right of transformer).

The chassis will then slide out of the cabinet far enough for the usual inspec-The speaker leads must extended, as the field forms part of the

H.T. smoothing equipment.

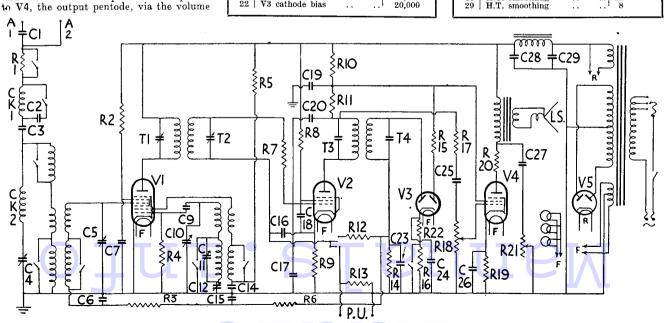
Special Notes.—The dial lamps are the normal 6-volt type for an A.C. mains receiver, and are easily removed by lifting the holder vertically.

(Continued on next page.)

CONDENSERS						
C.	Mfd.					
1	Series aerial	.00005				
1 2 3 4 5 6 7	Wave trap	.00005				
3	Series aerial	.0001				
4	Wave trap	.0001				
5	H.F. tuning	.0005				
6	V1 A.V.C. decoupling	.1				
7	V1 screen decoupling	.1				
9	V1 osc. grid	.0001				
10	Oscillator tuning	.0005				
11	Long-wave trimmer	.00007				
12	Long-wave padder	.00055				
14	V1 osc. anode decoupling	.1				
15	A.V.C. decoupling	.1				
16	Diode	.001				
17	V2 bias decoupling	.1				
18	V2 screen decoupling	.1				
19	V2 anode and V4 screen de-					
	coupling	2				
20	H.F. by-pass	.0005				
23	V3 A.V.C. diode decoupling	.001				
24	V3 bias decoupling	.1				
25	H.F. shunt	.01				
26	V4 bias decoupling	25				
27	Tone control	.025				
28	H.T. smoothing	12				
29	H.T. smoothing	1 8				

CIRCUIT.—This receiver is an A.C. radiogram with provision for using the pick-up, in co-operation with a micro-phone, for home recording. The aerial coupling to the grid of V1, a frequency changer, is through a series aerial condenser C1, a fixed resistance R1, shorted by a switch which acts as a sensitivity control, and a wave trap and an inductively coupled aerial coil.

V1 is coupled to V2, an H.F. pentode, through an I.F. transformer tuned to 465 kc. V2 is coupled to V3, a double diode, through a second I.F. transformer, a single diode of V3 being used to supply A.V.C. bias to V1 and V2. After detection the L.F. output is fed back to the grid of V2, via R12 and R7, and after further amplification is passed



An interesting reflex circuit is used in the Recordagraph. V2 is both an I.F. amplifier and an L.F. amplifier.

BURGOYNE "DRAGON" (Continued)

CIRCUIT ALIGNMENT NOTES

scillator tuned to 465 kc. to the grid of V1 and earth and output meter across speaker terminals. Adjust T1, T2, T3 and T4 for maximum reading on meter.

Medium-wave Band.—Transfer oscillator to aerial and earth terminals, and tune it and receiver to 210 metres. Adjust T5 and T6 for maximum reading.

Tune set and oscillator to 500 metres and retrim T5 and T6.

Repeat at 210 metres for check.

Long-wave Band.—Tune set and oscillator to 1,000 metres and adjust T7 and T8 for maximum reading on output meter.

QUICK TESTS

Voltages read between the terminal strip on the speaker and the chassis should be:— Green-white lead, smoothed H.T., 280 volts. Screen, unsmoothed H.T., 380 volts.

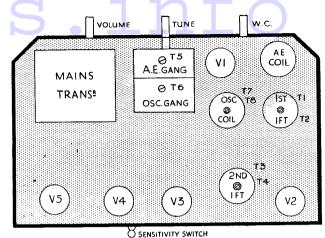
VALVE READINGS

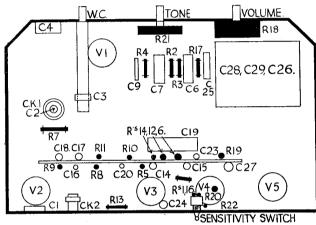
No signal. Volume at maximum. Selectivity maximum, 200 volt mains.

v.	Type.	Electrode.	Volts.	Ma.
1	FC4	anode	280	5
-		screen	110	3.2
	(7) Met.	osc. anode	100	2.7
2	VP4B	anode	80	1.7
_	(7) Met.	screen	80	4.8
3	2D4A	diode	_	<u> </u>
4	Pen. 4VB	anode	260	29
-	(7)	screen	230	3.3
	(The above are		l	ł
	all Mullard)		i	
5	R.3	filament	380	
-	(Micromesh)		ł]

To take out the chassis, the leads to the speaker transformer have to be unsoldered. The list of connections is given under the notes on "Removing Chassis." The adjoining diagram shows the top deck chassis layout.

On the right is the diagram showing how the components are situated inside the Burgoyne "Dragon" chassis. The lists of components and the theoretical circuit are given on the previous page.





A PARTICULARLY thorough treatise on the subject of interference with radio reception and methods that can be used to cure or minimise the trouble is to be found in "Radio Interference and its Suppression," by J. H. Reyner. The book is published by Chapman and Hall at 9s. 6d., and is available from Odhams Technical Book Dept., 85, Long Acre, W.C.2, at 10s., post free.

At the outset Mr. Reyner deals briefly

Interference and Its Suppression

with interference between transmitters themselves, but quickly reaches the main object of the book, man-made static.

The chapters in the book follow an easy reference order, dealing first with how interference arises, then with methods by

which it reaches the set, and finally the preventive measures.

There is a section dealing with both simple and scientific methods to employ to trace the source of interference, and also hints on how to recognise the trouble from the noises that are heard from the set.

Modern suppressors of all types, together with anti-interference aerials, are dealt with, while information is given on the design of such apparatus.



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