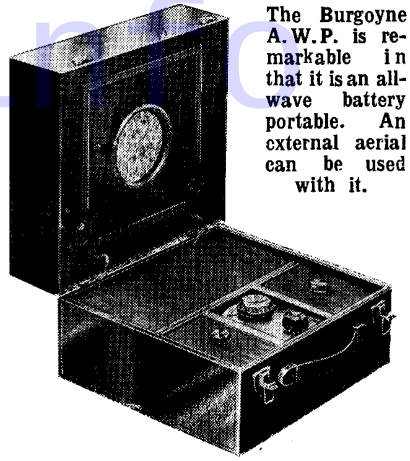
Radio Manuals.info

BURGOYNE MODEL A.W. PORTABLE



The Burgoyne A.W.P. is remarkable in that it is an all-wave battery portable. An external aerial can be used with it.

CIRCUIT.—A tuned frame aerial precedes V1, an H.F. pentode, on long and medium waves. With an external aerial a special coupling coil is used consisting of three turns of wire wound round the aerial frame. This is also used as the short-wave aerial coil.

Direct coupling is employed between this valve and V2, an H.F. pentode, reaction being fed back from the anode in the usual way. Both the long and medium-wave H.F. and reaction coils have iron cores.

Coupling to V3, an output pentode, is by means of an L.F. transformer and H.F. chokes.

Volume is controlled by varying the bias applied to the grid of V1.

High tension is obtained from a Drydex battery type No. H1,005 and low tension from Exide LB14 jelly acid accumulator, which has a rating of 23 amp. hours.

Special Notes.—Provision is made for an external speaker. This should be connected to the plug provided, and must have its own matching transformer. The connecting panel, which is in the bottom right-hand corner of the speaker baffle, forms, with the plug, a switch so that the internal speaker may be put out of circuit.

Removing Chassis.—First remove the volume and reaction knobs, which are secured by grub screws, and then four wood screws, one in each corner of the control panel, which may then be removed.

Unscrew the bolt which will be found in the centre of the front of the case underneath the carrying handle. The chassis may then be removed to the extent of the aerial and speaker connecting leads.

The chassis must be lifted vertically out of the case. This is best done by replacing the volume and reaction knobs and using them as handles.

To remove the frame aerial and speaker, unscrew the four wood screws that will be found two in each side of the lid. They are on the outside of the case.

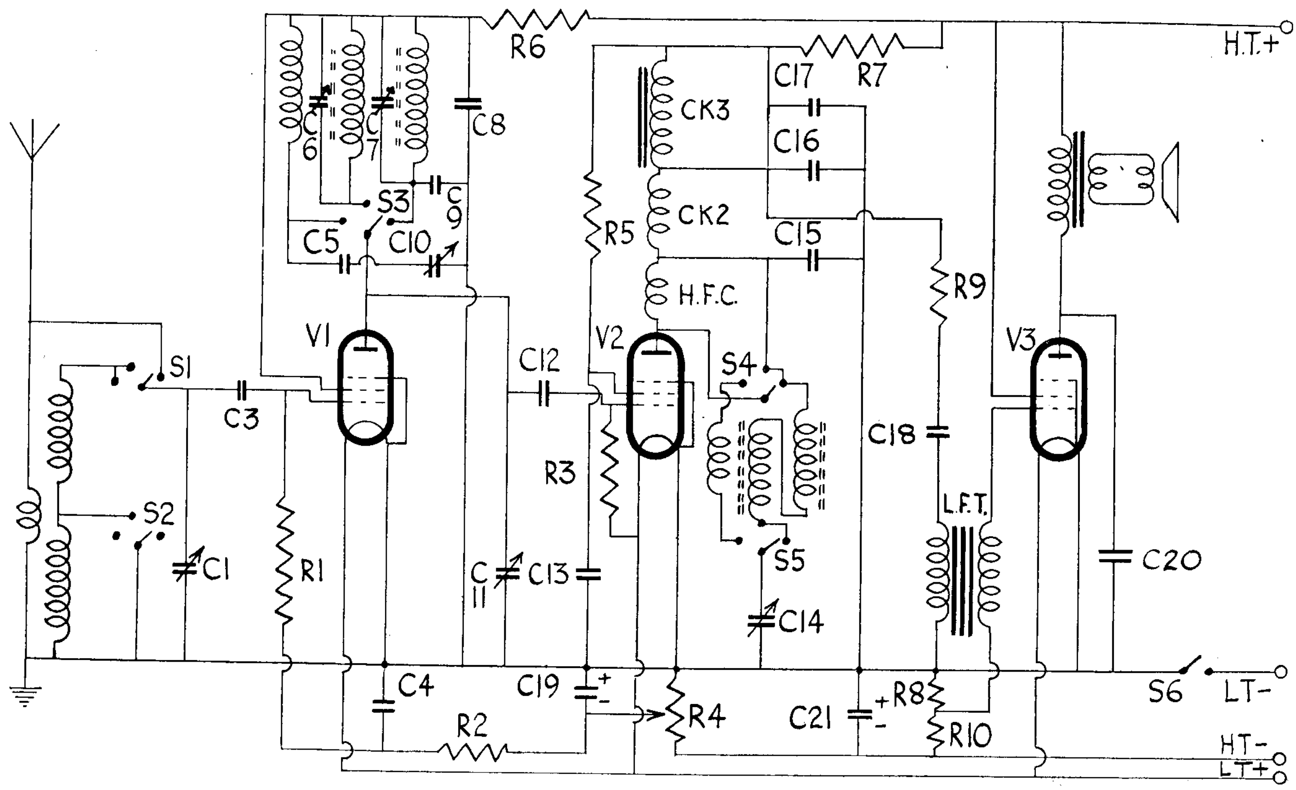
Do not touch the screws in each corner of the speaker baffle, as these hold the aerial frame to the baffle.

RESISTANCES

R.	Purpose.	Ohms.
1	V1 grid leak	2 meg.
2	V1 bias decoupling	100,000
3	V2 grid leak	2 meg.
4	Volume control	10,000
5	V2 screen decoupling	10,000
6	V1 anode and screen decoupling.	5,000
7	V2 anode and screen decoupling.	5,000
8	V3 bias potentiometer	500
9	H.F. filter	50,000
10	V3 bias potentiometer	400

CONDENSERS

C.	Purpose.	Mfds.
3	V1 grid	.0005
4	V1 bias decoupling	.1
5	Short wave H.F. trimming	.000035
8	V1 anode and screen decoupling.	.1
9	Long wave H.F. trimming	.0001
12	V2 grid	.0001
13	V2 screen decoupling	.1
15	H.F. filter	.0003
16	H.F. filter	.0005
17	V1 anode and screen decoupling.	1
18	L.F. coupling	.1
19	V1 bias decoupling	20
20	Pentode compensating	.001
21	Bias decoupling	20



The A.W.P. is a simple and inexpensive receiver; only three valves are employed, and the high gain necessary is assisted by the use of iron core coils and other features making for efficiency.

For more information remember www.savoy-hill.co.uk

For more information remember
www.savoy-hill.co.uk

Circuit Alignment Notes

Medium Waves.—During the alignment of this receiver the output from the oscillator should be loosely coupled to the frame aerial.

This is best accomplished by taking a stiff piece of wire and bending it to the shape of the lid and coupling it to the oscillator through a small fixed condenser. The loop should be then placed about 6 in. or so away from the receiver.

Medium Waves.—Inject and tune-in a signal of 200 metres and adjust T1 for maximum reading on an output meter connected across the external speaker terminals.

Long Waves.—Inject and tune-in a signal of 1,700 metres and adjust T3 for maximum output.

Short Waves.—Inject and tune-in a signal of 48 metres and trim T4 for maximum on the output meter.

Inject and tune-in a signal of 21 metres and alter the inductance of the short-wave H.F. coil by varying the position of the turns nearest the chassis until maximum reading is obtained. These turns are marked "A" on the under-chassis diagram. Then return to 48 metres and check the adjustment of T4.

VALVE READINGS

No signal. No reaction. New Batteries. Volume maximum.

V.	Type.	Electrode.	Volts	M.a.
	All Tungsram.			
1	SP2B met. (7)	Anode	80	1.4
		Screen	80	.5
2	SP2B met. (7)	Anode	74	1.3
		Screen	62	.4
3	PP222 (5)	Anode	90	4
		Screen	92	.75

Burgoyne AWP on Test

MODEL AWP.—Standard model for battery operation. Price 8 gns

DESCRIPTION.—A three-waveband, three-valve battery suitcase type portable receiver.

FEATURES.—Short wave reception by means of short wave frame aerial. Connection for external aerial. Accurate dial calibration. Rexine-covered case.

LOADING.—H.T., 8 ma.; L.T., .38 amp.

Sensitivity and Selectivity

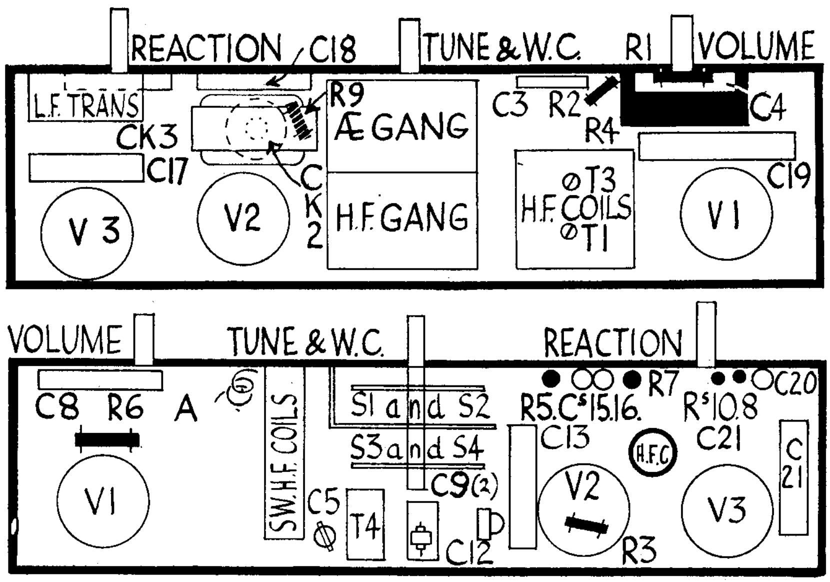
SHORT WAVES (19-53 metres).—A number of short wave stations can be received, the actual performance depending considerably on local conditions. Set handles well on this as well as other wavebands.

MEDIUM WAVES (195-545 metres).—Sensitivity is representative of the valve combination and the main stations are receivable at good programme strength. Selectivity is high, enabling all channels to be separated.

LONG WAVES (900-2,100 metres).—Comparable to M.W. performance. Sensitivity well maintained over whole band.

Acoustic Output

Tone and volume are representative of a small battery portable. Reproduction is neither harsh nor unduly rounded and a good "popular" compromise has been obtained.



Left are the two lay-out diagrams for the Burgoyne A.W. Portable, showing how the components are arranged, and permitting them to be identified easily. Construction is neat and orderly, and most of the components fall into their logical positions.

HOW SERVICE MEN LOCATED CURIOUS FAULTS

A RECEIVER that came in for service recently provided an interesting case, as its faults were due to the breakdown of two similar components, one in the H.F. side and the other in the L.F. section.

The trouble was an intermittent but complete cessation of signals. Tests were made difficult by the fact that the set would burst into action—and remain going—as soon as work was started.

R.F. signals were injected *via* the aerial and earth and an output meter connected to the output, so that any variation could be noted. While testing connections the set became unstable and developed a loud hum. This was silenced when the grid of the first valve, the frequency changer, was shorted to chassis. Further tests revealed the cathode decoupling condenser had developed an open circuit.

With this replaced the fading still continued, and it was seen that the output meter needle slowly dropped to zero, taking 15 to 30 minutes to do so. I.F. and L.F. signals were then injected stage by stage, working from the aerial end.

The first L.F. valve was R.C. coupled to the output pentode, and it was found that signals remained steady when applied to the grid of the pentode, but varied if applied to the other side of the coupling condenser. This component was replaced and the set was then entirely satisfactory.—W. G. GOUGH, Worcester.

A RECEIVER that would not be trimmed recently came into our workshop. After the set had been tested throughout, it was decided the symptoms were those of a set badly out of line.

It was regarded as a straightforward job and was turned over to an engineer who had attained proficiency in this work but who had not had very much experience in it. He ended up with a receiver that had double-hump tuning and images all over the place, although he persisted that all trimmers were correct.

Later on, another engineer started on it, and within 20 seconds said the I.F.s were about four half-turns out. Muttering, he proceeded to correct the trouble and then passed on to the H.F. stages. As results were still poor, he went back to check up on the I.F.

He became very thoughtful and finally announced that the oscillator was playing tricks, as the dial setting at which he had worked now failed to give a deflection on the output meter, although he had previously tuned for maximum deflection.

Some minutes later I started on it and found that the I.F.s were correct—by which I inferred that the oscillator might be at fault.

I again tested the voltages and found them correct but a few minutes later discovered that the I.F.s were badly out again. I then tested the voltages once more and found they were all down by nearly 20 per cent. The electrolytic condenser smoothing had developed the most curious form of trouble I had experienced, in that it stood up for perhaps five minutes after the set was switched on, and did its job, and after that it gradually gave out.—R. CUNDELL, Cambridge.

Radio Remembered