

SERVICE ENGINEER

GILBERT MODEL A50 A.C. MAINS SUPERHET FIVE

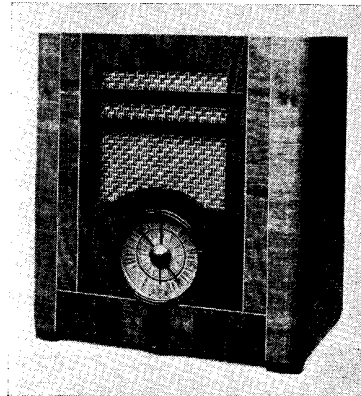
CIRCUIT.—A five-valve receiver for use on A.C. mains and operating on the usual medium and long wavelengths.

Aerial signals are fed to V1, the frequency changer, through a series condenser and an inductively coupled band-pass filter.

An I.F. transformer tuned to 110 kc. is used to couple the signals to V2, an H.F. pentode. A second I.F. transformer is employed between this valve and V3, a double-diode triode.

One diode of V3 is used for demodulation, and the other takes a small portion of the output from the anode of V2 through C7 and uses it to apply A.V.C. bias to the preceding valves in the usual manner.

The L.F. output of V3 is passed through a resistance and capacity stage



C. Gilbert and Co.'s model A50 is an A.C. mains, four-valve plus rectifier, table receiver covering the standard medium and long wavebands. Note the edge-on tone control disc under the cabinet front.

incorporating the volume control, to V4, the output pentode.

With the receiver switched to the gramophone position, the grid of V2 is shorted straight to earth, this preventing any break-through that might occur.

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

Special Notes.—Provision is made for an external speaker, and these terminals are on the primary of the output transformer. An extension speaker should, therefore, have its own matching transformer.

The dial lights, of which there are three, are rated at 6.2 volts .3 amp. The holders are fixed to the dial assembly by nuts and bolts. To remove them it is only necessary to undo these nuts, one for each light.

RESISTANCES

R.	Purpose.	Ohms.
1	V1 screen decoupling potr. . .	30,000
2	V1 screen decoupling potr. . .	30,000
3	V1 cathode bias . . .	150
4	V1 anode decoupling . . .	20,000
5	V1 osc. grid . . .	50,000
6	L.W. modifier . . .	10,000
7	V2 cathode bias . . .	300
8	H.F. filter . . .	50,000
9	V3 grid leak . . .	1 meg.
10	Demodulator diode load . . .	½ meg.
11	V3 cathode bias . . .	1,000
12	V3 anode decoupling . . .	30,000
13	V3 anode load . . .	30,000
14	A.V.C. diode load . . .	1 meg.
15	A.V.C. decoupling . . .	1 meg.
16	Volume control . . .	½ meg.
17	V4 grid stopper . . .	10,000
18	V4 cathode bias . . .	150
19	Tone control . . .	50,000
20	V4 anode stabiliser . . .	30

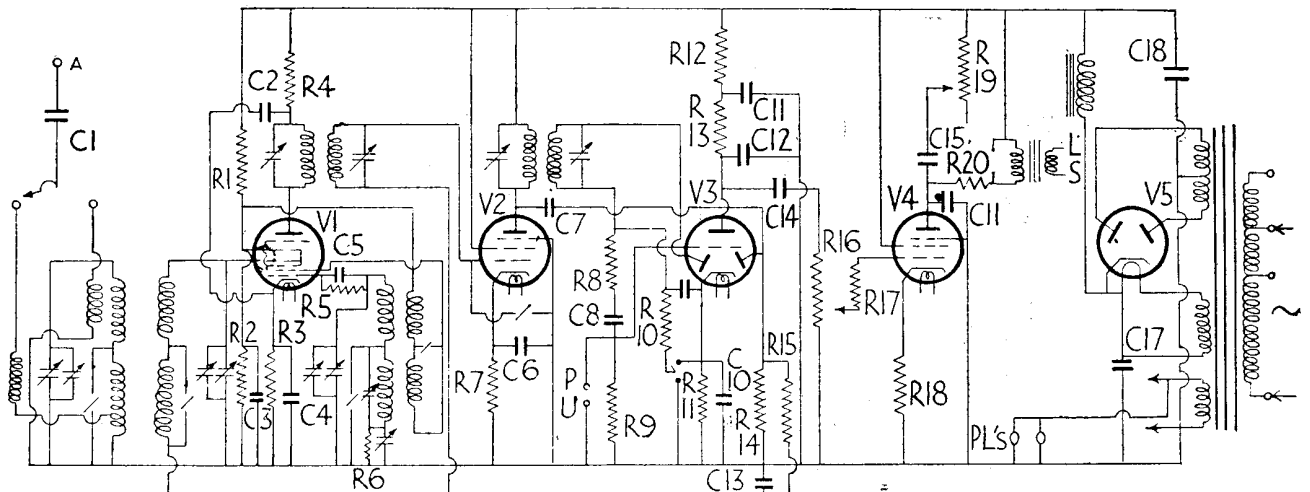
CONDENSERS

C.	Purpose.	Mfd.
1	Series aerial . . .	.0005
2	V1 anode decoupling . . .	.1
3	V1 screen potr. decoupling . . .	.1
4	V1 cathode bias shunt . . .	.1
5	V1 osc. grid . . .	.0002
6	V2 cathode bias shunt . . .	.1
7	A.V.C. diode coupling . . .	.0001
8	L.F. coupling . . .	.1
9	H.F. filter . . .	.0002
10	V3 cathode bias shunt . . .	.1
11	V3 anode decoupling . . .	.1
12	H.F. filter . . .	.0005
13	A.V.C. decoupling . . .	.1
14	L.F. coupling . . .	.1
15	Tone control . . .	.05
16	Pentode compensating . . .	.002
17	H.T. smoothing . . .	.8
18	H.T. smoothing . . .	.8

VALVE READINGS

No signal. Volume maximum. 200 volt A.C. mains.

V.	Type.	Electrode.	Volts.	Ma.
1	(All Mullard) FC4 Met. (7)	Anode . . .	205	1.2
		Screen . . .	58	.1
		Osc. anode . . .	58	2.5
2	VP4B Met. (7)	Anode . . .	245	3.9
		Screen . . .	245	10
3	TDD4 Met. (7)	Anode . . .	84	2.5
4	Pen.A4 (7)	Anode . . .	210	35
		Screen . . .	245	4.7
5	IW4/350 (4)	Filament	362	—



The theoretical circuit diagram of the Gilbert A50. With the set switched to the gramophone position, the grid of V2 is shorted to earth to prevent break-through.

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

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(Continued from opposite page)

Removing Chassis.—Remove the four knobs, three from the front of the cabinet and the tone control from underneath (these are secured by grub-screws); then remove the screws holding the dial to the front of the cabinet and the nuts holding the tone control potentiometer to the bottom.

Take out the four bolts from underneath. The chassis may now be removed to the extent of the speaker leads, which will be sufficient for all usual purposes.

Should it be necessary completely to free the chassis, unplug the speaker leads from the back of the chassis and unsolder the remaining lead from the speaker transformer.

ALIGNMENT NOTES

I.F. Circuits.—Connect a modulated oscillator tuned to 110 kc. to the grid cap of V1 through a dummy aerial and an output meter across the external speaker terminals. The output meter should have

a large series condenser and should be adjusted to read about 1-2 volts.

Adjust T1, T2, T3 and T4 for maximum reading on the output meter.

Medium Waves.—Inject a signal of 300 metres to the aerial and earth terminals, tune it in and trim T5, T6 and T7 for maximum output.

Long Waves.—Inject and tune in a signal of 1,700 metres and adjust T8 for maximum output.

Inject and tune in a signal of 1,300 metres and trim T9 for maximum output.

Repeat the above adjustments until no further improvement is possible.

QUICK TESTS

Quick tests are available on this receiver on the terminal strip on the back of the speaker transformer.

Volts measured between this and the chassis should be:—

- Red lead (top), 390 volts, unsmoothed H.T.
- Black, 225 volts, smoothed H.T.
- Red (bottom), 250 volts, smoothed H.T.

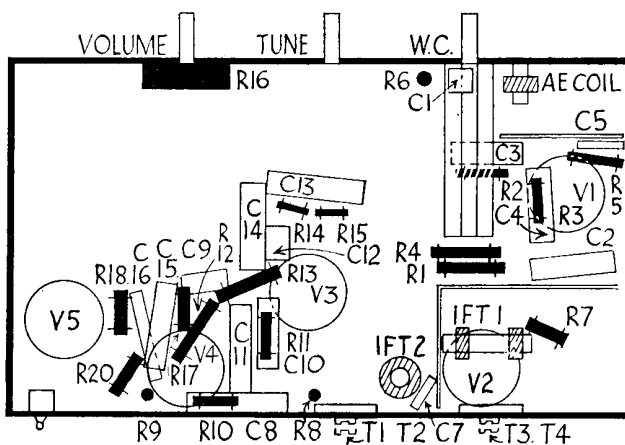
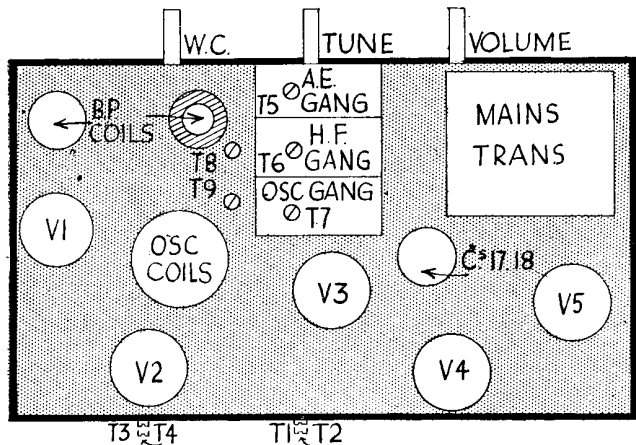
SALES AFTER SERVICE

THE importance of following up every service call will be more fully realised when it is appreciated that every new service customer is a potential buyer of a new set, and as such should be carefully nursed.

This was amply illustrated in a recent example, where a customer had failed to obtain satisfactory service on a receiver bought from another retailer. The set was serviced and returned to the customer, who agreed that results were satisfactory. Nothing further was heard until on a call some months later it was discovered that the customer had in the meantime bought another set from yet another dealer.

Upon inquiry, she said that the first set again became faulty about a month after it had been serviced, and that she had not the patience to bother with it any more.

Here a valuable customer was lost because the service call had not been followed up within the first few weeks. The moral is that every service customer should be called upon within two to three weeks of the return of the set, in order to ascertain if results are completely satisfactory.—B.



These diagrams show the layout of the chassis of the Gilbert A50. That on the left, shown "tinted," is the top view; on the right is the underside.

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