1149 'E R T' SERVICE CHART FERGUSON 344B FLAIR

Four-valve, two-waveband portable receiver for operation from all-dry batteries.

Date released. May, 1957.

Price at time of release, 12½ gns.

Manufacturer. Ferguson Radio Corporation, 105-109 Judd Street, London, WC1.

Service Depots. Servicing is carried out by British Radio Corporation Service Division. Branches: 145, Kentish Town Road, London, NW1; 24, Sheepcote Street, Birmingham, 15; Thorn House, Derby Street, Cheetham, Manchester, 8; 9/15, Waverley Street, Shawlands, Glasgow, S1.

Weight, including batteries, about 6 lb.

Wavebands. MW, 182-557 metres (525-1,650kc/s). LW, 1,090-1,920 metres (157-275kc/s).

Aerial. Ferrite rod.

Valves. DK96 frequency changer; DF96 IF amplifier; DAF96 diode detector, and AF amplifier; DL96 output pentode.

Batteries. HT, Ever Ready B126, Drydex 5 26, Vidor L5512. LT, Ever Ready All-Dry 35, Drydex H1184, Vidor L5040.

Loudspeaker. 5in. PM 3 ohm.

CIRCUIT

Ferrite rod aerial has separate LW and MW coils. On MW, LW winding, L1, is short-circuited by S1A. C2 tunes aerial circuit, assisted by C3 on MW. Fixed trimmer C1, damped by R1, is shunted across on LW.

Special tuning capacitor in oscillator tuned circuit obviates need for series padders. C9 and C10 tune on MW, with C11 added on LW by S1B.

COMPONENT RATINGS

Capacitors

750V: C4 8 13 17
350V: C1 2 3 6 7 9 10 11 15 16 18 20 21
150V: C5 12 14 19
Electrolytic 150V: C22

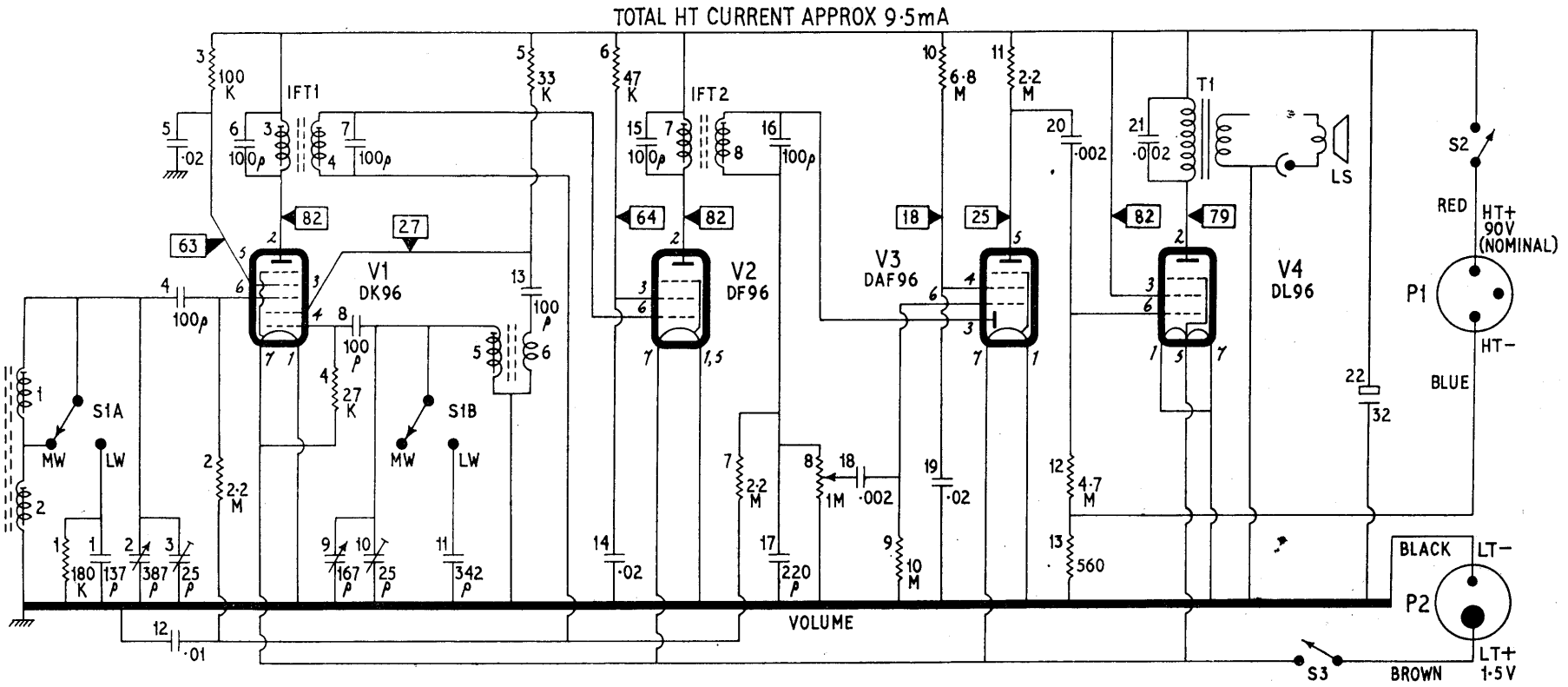
Resistors

All ¼ watt

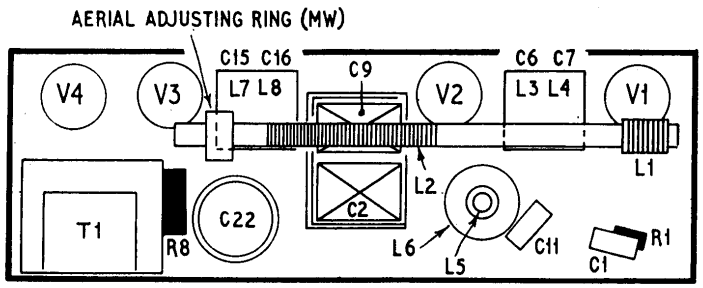
Inductors

L	Ohms
1	5
2	*
3	8.5
4	8.5
5	2
6	1
7	8.5
8	8.5
T1 Pri.	500
T1 Sec.	*

* Resistance less than 1 ohm.



Measurements taken with Model 8 Avometer on 100V range.



Diode section of V3 acts as detector with volume control R8 as its load. DC component of rectified voltage is decoupled by R7 and C12 and fed to grid circuits of V1 and V2 as AGC.

Grid bias for output valve V4 is developed across R13 in negative return to HT battery.

VOLTAGE AND CURRENT CHECKS

Readings taken with Avo model 8 on 100V range, except V4 bias, for which 10V range was used.

General measurements. Total HT current, 9.5 mA. HT battery voltage, 87V. HT voltage (across C22), 82V. Bias voltage (across R13), -5V. Current ratings mA.

Valve	Va	Ia	Vg^2	Ig^2	Vg^4	Ig^4
V1	82	0.5	27	1.5	63	*
V2	82	1	64	*		
V3	25†	*	18†	*		
V4	79	5	82	0.9		

* Less than 0.5mA.
† Subject to wide variations.

ALIGNMENT

IF stages. Switch to MW, turn gang to minimum capacitance, and set volume control to maximum. Inject modulated 470kc/s through a 0.1mf capacitor at control grid (pin 6) of V1.

Adjust L3, L4, L7 and L8, in that order, for maximum output, reducing input voltage as each circuit is tuned in order to avoid AGC action.

Important. The above adjustments should be carried out in the sequence given. Conventional procedure will produce unsatisfactory IF response in some receivers.

RF stages. Set gang to maximum capacitance and check that " gang max " marker at edge of scale is correctly positioned over the fixed cursor line. The dial may be easily adjusted after removing tuning knob.

Sufficient signal can be induced in the ferrite rod aerial if the signal generator output is terminated in a loop close to the receiver. Do not connect directly.

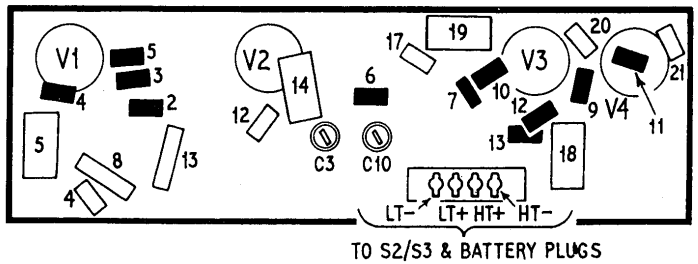
MW circuits must be aligned before LW.

MW. Switch to MW and turn tuning knob until calibration marker at the edge of the scale, between 200 and 300 metres, is over the cursor line. Inject 1300kc/s signal and adjust C10 for maximum output. Turn to calibration marker at 500 metres, inject 600kc/s signal and adjust L5 for maximum output. Repeat procedure until further improvement is impossible.

Set tuning gang to high frequency calibration marker, inject 1300kc/s and adjust C3 for maximum output.

Set tuning dial to 500 metre marker, inject 600kc/s signal, and move adjusting ring on ferrite rod aerial for maximum output.

LW. Switch to LW, inject 210kc/s and rotate tuning knob until signal is received. Adjust position of LW coil (L1) on ferrite rod aerial for maximum output.



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