Supplement to Electrical and Electronic Trader
26 March 1971

Trader
Service
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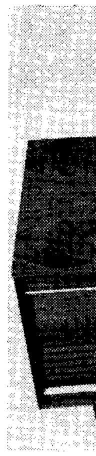
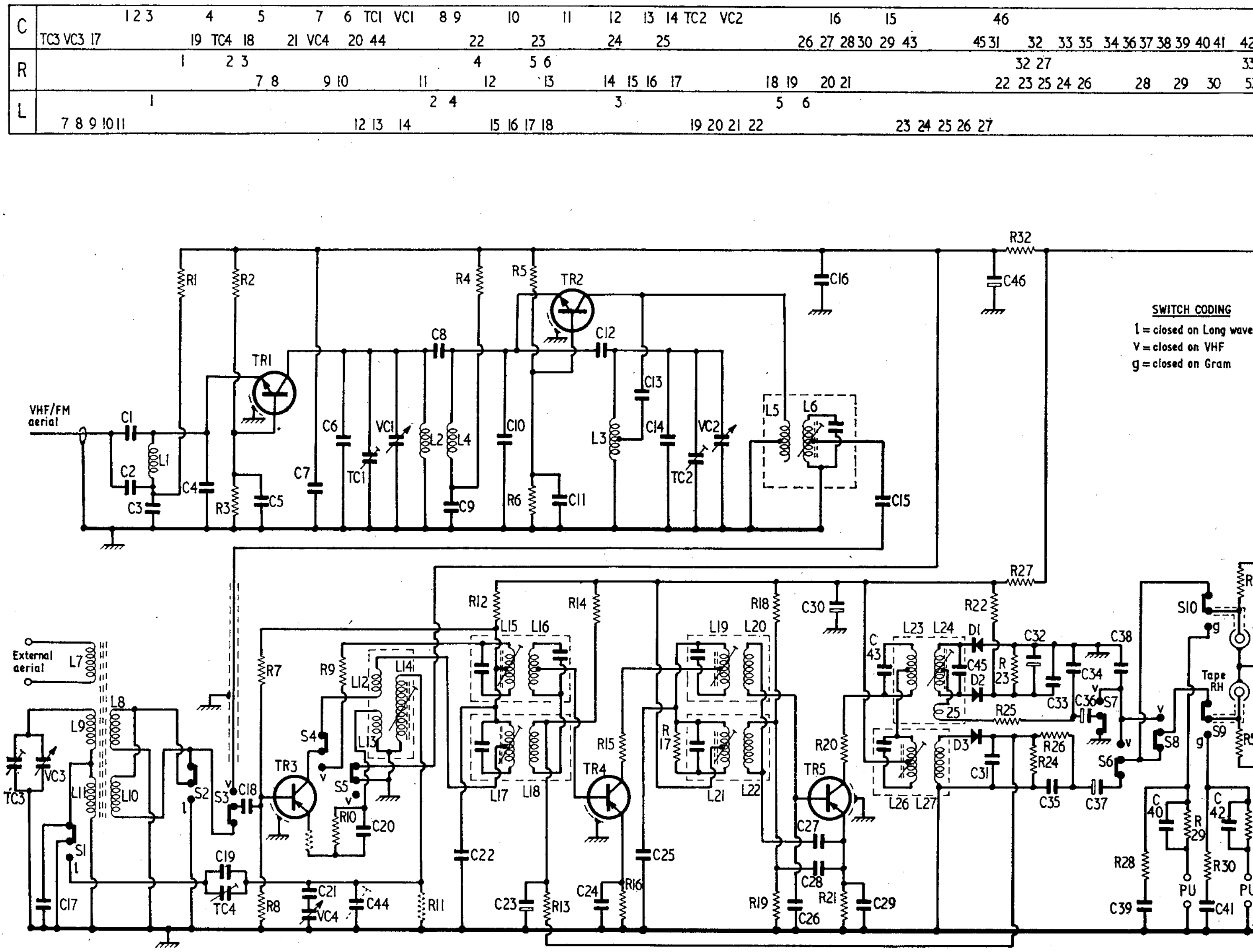


Fidelity RG33 & RG34

1971

A.m./f.m. stereo radiograms

Resistors			R12	100Ω	B2	R25	47Ω	B2	R38	10kΩ	C1	R51	1Ω	D2	R64	1·5kΩ	D1	VR4	5kΩ	
			R13	8·2kΩ	B2	R26	10kΩ	B1	R39	22kΩ	D2	R52	1Ω	D2	R65	150Ω	D1	VR5	1MΩ	
R1	2·7kΩ	A1	R14	56kΩ	B2	R27	4·7kΩ	B2	R40	3·9kΩ	D2	R53	10kΩ	C1	R66	470Ω	C2	VR6	100kΩ	
R2	6·8kΩ	A1	R15	220Ω	B2	R28	47kΩ	B1	R41	2·2kΩ	D1	R54	100kΩ	C1	R67	22kΩ	C2	VR7	5kΩ	
R3	10kΩ	A1	R16	470Ω	B2	R29	1·5MΩ	B1	R42	10Ω	D1	R55	6·8kΩ	C1	R68	120Ω	C2			
R4	1kΩ	A1	R17	220kΩ	B2	R30	47kΩ	B1	R43	1·5kΩ	D2	R56	3·3kΩ	C1	R69	270Ω	C2	**Capacitors**		
R5	2·2kΩ	A1	R18	18kΩ	B2	R31	1·5MΩ	B1	R44	1·5kΩ	D2	R57	22kΩ	C1	R70	15Ω	C2			
R6	6·8kΩ	A1	R19	5·6kΩ	B2	R32	4·7kΩ	C2	R45	150Ω	D1	R58	10kΩ	C1	R71	1Ω	C2	C1	0·1µ	
R7	22kΩ	B1	R20	220Ω	B2	R33	10kΩ	C1	R46	470Ω	D2	R59	22kΩ	D1	R72	1Ω	C2	C2	33p	
R8	39kΩ	B1	R21	470Ω	B2	R34	100kΩ	C1	R47	22kΩ	D2	R60	3·9kΩ	D1	R73	39Ω	C2	C3	0·1µ	
R9	220Ω	B2	R22	2·2MΩ	B2	R35	6·8kΩ	C1	R48	120Ω	D2	R61	2·2kΩ	D1	VR1	1MΩ	C1	C4	39p	
R10	1kΩ	B1	R23	22kΩ	B2	R36	3·3kΩ	D1	R49	270Ω	D2	R62	10Ω	D1	VR2	1MΩ	C1	C5	1000p	
R11[1]	150kΩ	B1	R24	4·7kΩ	B2	R37	22kΩ	C2	R50	15Ω	D2	R63	1·5kΩ	D1	VR3	100kΩ	D1	C6	3·3p	



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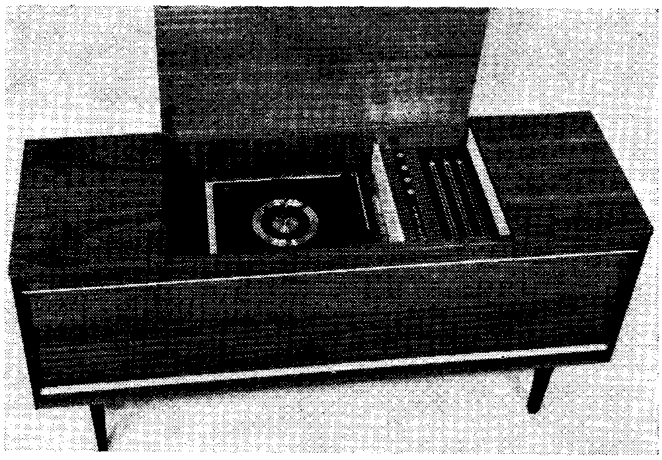
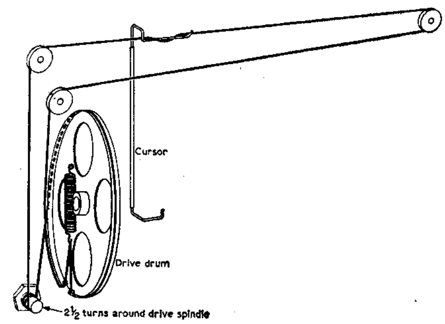


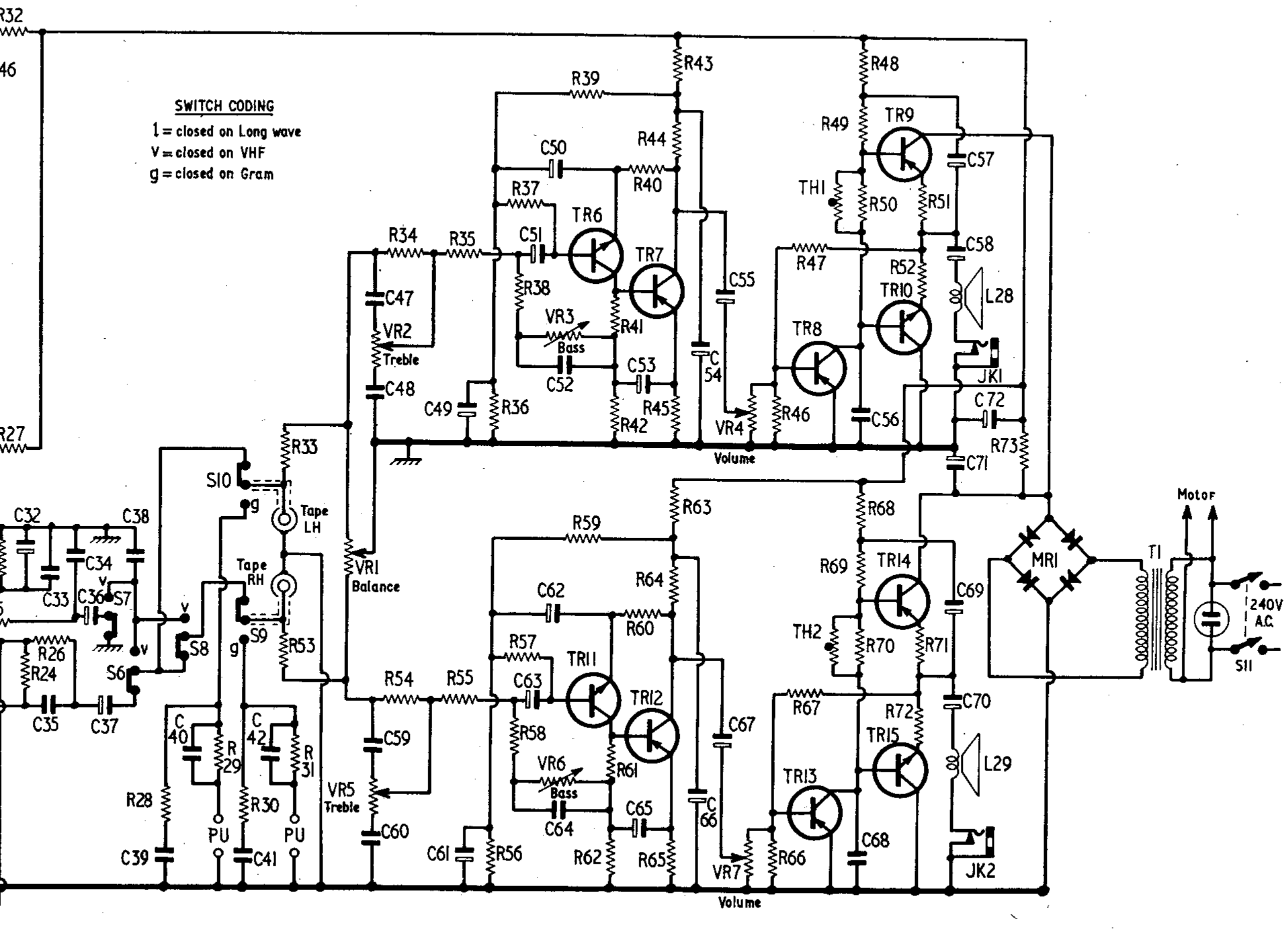
The furniture style RG34 has record storage and is finished in canaletto veneer.



Details of drive cord system.

1·5kΩ	D1	VR4	5kΩ	D1	C7	1000pF	A1	C20	0·01µF	B1	C33	330pF	B2	C46	100µF	C2
150Ω	D1	VR5	1MΩ	C1	C8	4·7pF	A1	C21	250pF	B1	C34	300pF	B2	C47	1000pF	C1
470Ω	C2	VR6	100kΩ	D1	C9	165pF	A1	C22	0·1µF	B2	C35	0·01µF	B2	C48	5000pF	C1
22kΩ	C2	VR7	5kΩ	D1	C10	33pF	A1	C23	8µF	B2	C36	8µF	B1	C49	125µF	C1
120Ω	C2				C11	1000pF	A1	C24	0·1µF	B2	C37	8µF	B1	C50	125µF	C2
270Ω	C2	**Capacitors**			C12	6·8pF	A1	C25	400pF	B2	C38	0·01µF	B1	C51	25µF	C2
15Ω	C2				C13	82pF	A1	C26	1000pF	B2	C39	0·01µF	B2	C52	0·02µF	C1
1Ω	C2	C1	0·1µF	A1	C14	15pF	A1	C27	56pF	B2	C40	200pF	B1	C53	125µF	D1
1Ω	C2	C2	33pF	A1	C15	470pF	A1	C28	0·1µF	B2	C41	0·01µF	B1	C54	64µF	D1
39Ω	C2	C3	0·1µF	A1	C16	0·1µF	A1	C29	0·1µF	B2	C42	200pF	B1	C55	25µF	D1
1MΩ	C1	C4	39pF	A1	C17	56pF	B1	C30	25µF	B2	C43	30pF	B2	C56	0·05µF	D2
1MΩ	C1	C5	1000pF	A1	C18	0·01µF	B1	C31	0·01µF	B2	C44[2]	4·7pF	B1	C57	64µF	D2
100kΩ	D1	C6	3·3pF	A1	C19	170pF	B1	C32	8µF	B2	C45	90pF	B2	C58	500µF	D2

47 48 49 51 50 52 53 54 55 56 57 58 72 32 33 35 34 36 37 38 39 40 41 42 59 60 61 63 62 64 65 66 67 68 69 70 71	C
32 27 33 VR2 34 35 36 37 38 VR3 39 41 42 40 43 44 45 VR4 46 47 TH1 48 49 50 51 52 73 23 25 24 26 28 29 30 53 31 VR1 VR5 54 55 56 57 58 VR6 59 61 62 60 63 64 65 VR7 66 67 TH2 68 69 70 71 72	R
28 29 T1	L



C59	1000pF	C1
C60	5000pF	C1
C61	125µF	C1
C62	125µF	C1
C63	25µF	C1
C64	0·02µF	D1
C65	125µF	D1
C66	64µF	D1
C67	25µF	D1
C68	0·05µF	C2
C69	64µF	C2
C70	500µF	C2
C71	2000µF	C2
C72	400µF	D2
TC1	11pF	A1
TC2	5pF	A1
TC3	15pF	B1
TC4	80pF	B1
VC1	15pF	A1
VC2	15pF	A1
VC3	196pF	A1
VC4	196pF	A1

Inductors

L1[3]	—	A1
L2[3]	—	A1
L3[3]	—	A1
L4	—	A1
L5	—	A1
L6	—	A1
L7	—	—
L8	—	—
L9	—	—
L10	—	—
L11	—	—
L12	—	B2
L13	—	B2
L14	—	B2
L15	—	B2
L16	—	B2
L17	—	B2
L18	—	B2
L19	—	B2
L20	—	B2
L21	—	B2
L22	—	B2
L23	—	B2
L24	—	B2
L25	—	B2
L26	—	B2
L27	—	B2
L28	3Ω	—
L29	3Ω	—
T1	—	—

Miscellaneous

S1–S10	—	B1
S11		D1
D1	AA119	B2
D2	AA119	B2
D3	AA119	B2
MR1	—	—
TH1	VA1077	D2
TH2	VA1077	C2

[1] *Not fitted in later models.*
[2] *In early models. C44 is a 15pF trimmer.*
[3] *Integral part of foil pattern.*

1971
Fidelity RG33 & RG34

Introduction

These two Fidelity a.m /f.m. stereo radiograms employ identical chassis, with the exception that the RG34 has a neon indicator connected across the mains input.
Wavebands covered are: l.w. 1200-2000m (250-150kHz) and m.w. 194-555m (1550-540kHz), reception via an internal ferrite rod aerial assembly or external aerial; v.h.f /f.m. 87·5-102MHz, reception via an external aerial 75Ω unbalanced.
The power supply is designed for operation on 240V 50Hz mains power supplies only.

Circuit alignment

Equipment required. – An a.m./f.m. signal generator, an audio output meter with impedance to match 3Ω, an r.f. coupling coil, a wobbulator with output impedance of 75Ω, a c.r.o and a 0·1μF capacitor.

A.M. Circuits

Replace one loudspeaker with the audio output meter and rotate volume control for maximum output. Maintain an audio output of 50mW by attenuating the input signal as receiver sensitivity increases.
Connect signal generator – low impedance output – across **VC3** (aerial section of gang). Inhibit the oscillator by placing a short circuit across **L14.**

Switch receiver to m.w., rotate tuning gang to maximum capacitance and feed in a 470kHz a.m. signal. Adjust **L26/L27 L21/L22** and **L17/L18** in that order for maximum output. Repeat the adjustments in the same order for optimum results. Remove short circuit from oscillator coil and disconnect signal generator. Terminate signal generator output in an r.f. coupling coil and loosely couple to internal ferrite rod aerial assembly.

1. – Switch receiver to m.w. and tune to 500m. Feed in a 600kHz a.m. signal and adjust **L14** for maximum output.
2. – Early models only. Tune receiver to 'Luxembourg' scale calibration and feed in a 1440kHz a.m. signal. Adjust **C44** for maximum output.
3. – Repeat operations 1 and 2 for optimum results.
4. – Tune receiver to 500m and feed in a 600kHz a.m. signal. Adjust position of

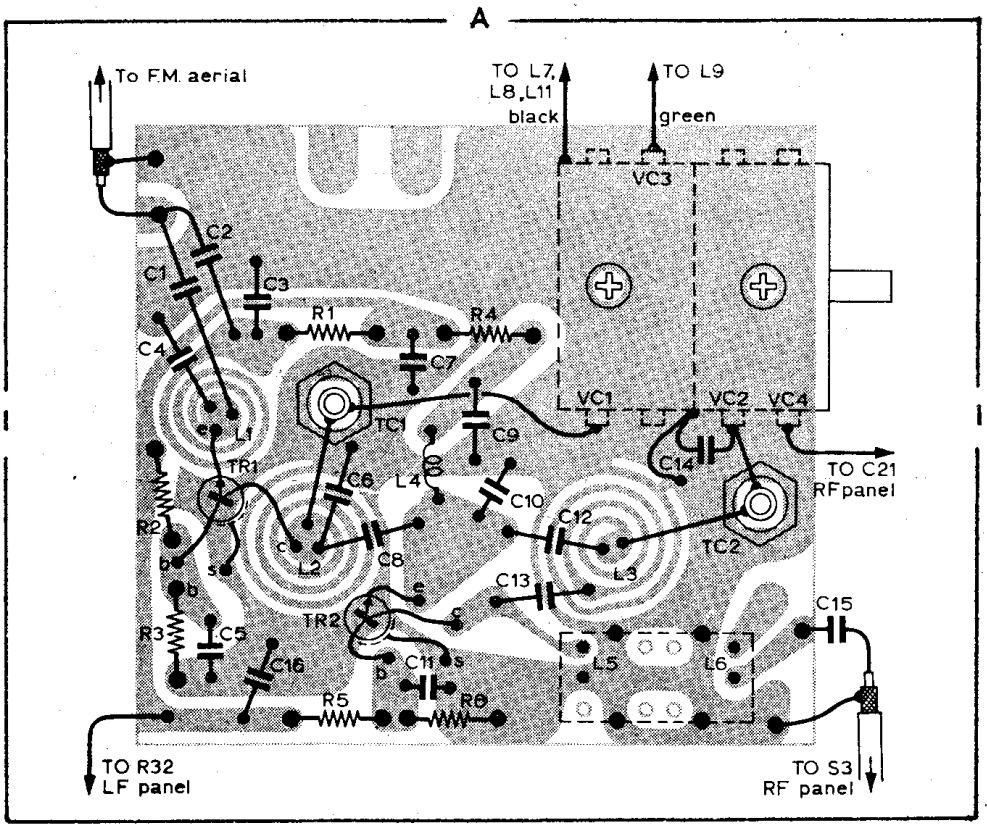
Transistor analysis

Voltages quoted in the table were obtained from data supplied by the manufacturer. They were measured under quiescent conditions with a 20,000Ω/V and are all negative with respect to chassis.

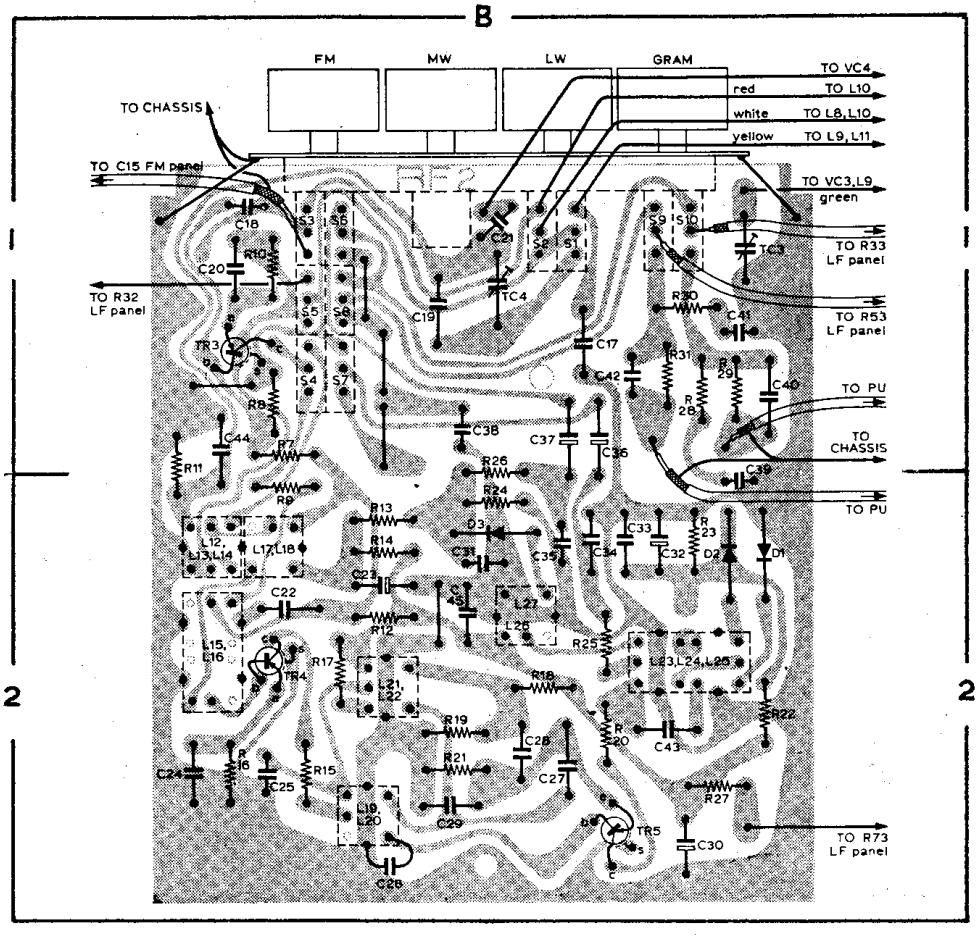
Transistor table

Transistor		Emitter (V)	Base (V)	Collector (V)
TR1	BF115*	4·7	4·0	—
TR2	BF115†	5·8	5·1	—
TR3	AF115	0·5	0·65	5·7
TR4	AF116	0·6	0·8	5·5
TR5	AF116	1·0	1·2	5·3
TR6	AC127‡	2·2	1·4	1·5
TR7	OC75	1·3	1·5	4·5
TR8	AC128	0	0·15	—
TR9	AD162	12·0§	—	25·0
TR10	AD161	12·0§	—	0
TR11	AC127‡	2·2	1·4	1·5
TR12	OC75	1·3	1·5	4·5
TR13	AC128	0	0·15	—
TR14	AD162	12·0‖	—	25·0
TR15	AD161	12·0‖	—	0

* *BF184 in later models.*
† *BF185 in later models.*
‡ *May be BC108.*
§ *Measured at junction* **R51/R52.**
‖ *Measured at junction* **R71/R72.**
Input across **MR1** *18V 50Hz.*
Quiescent current 85mA.



Above: V.h.f. tuner panel. Below: Main r.f.-i.f. panel.

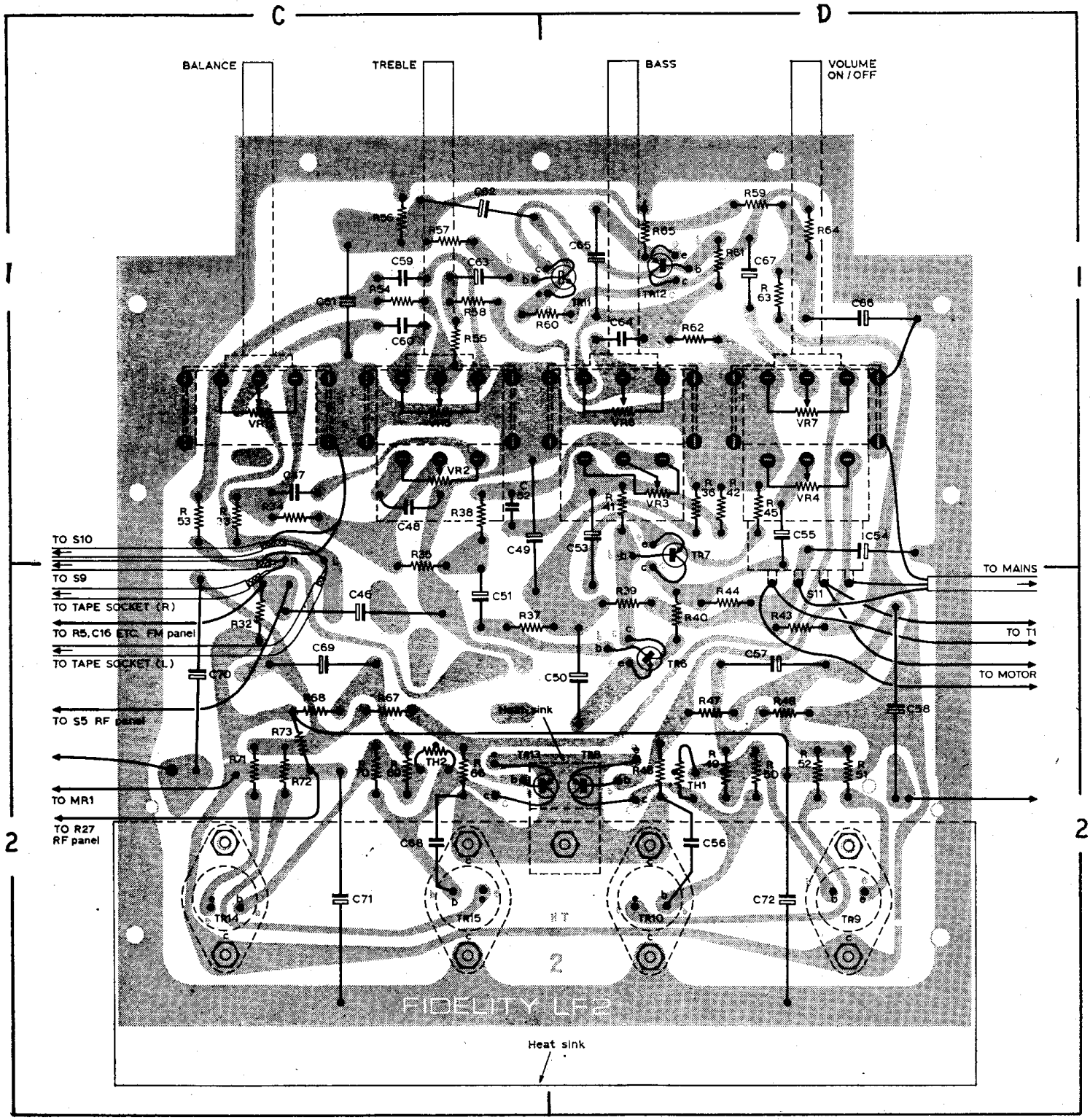


L8/L9 on ferrite rod for maximum output.
5. – Tune receiver to 'Luxembourg' and feed in a 1440kHz a.m. signal. Adjust **TC3** for maximum output.
6. – Repeat operations 4 and 5 for optimum results.
7. – Switch receiver to l.w., tune to 1500m and adjust **TC4** for maximum output of BBC Radio 2 broadcast signal.
8. – Tune receiver to 'Allouis' and adjust position of **L10/L11** on ferrite rod for maximum output of Allouis broadcast signal. Disconnect test equipment.

F.M. alignment

The preferred method for i f. alignment is by the use of a wobbulator and c.r.o. The procedure for this method is given first.
Connect wobbulator – 75Ω output Z – across VC2 and c.r.o. input (sensitivity 20mV/cm) via a 33kΩ resistor to junction of **C34/R25**.
Switch receiver to v.h.f./f.m. and feed in a 10·7MHz±200kHz signal. Then adjust **L19/L20, L15/L16** and **L5/L6** for maximum amplitude and optimum linearity over ±100kHz.
Repeat the foregoing adjustments for optimum linearity of the straight part of the 'S' curve.

Spot frequency method. – Replace one loudspeaker with an audio output meter and connect an f.m. signal generator via a 0·1μF to **VC2**. Detune **L23/L24** – core just protruding from top of former.
Feed in an f.m. signal of 10·7MHz, deviation 25kHz and adjust **L19/L20, L15/L16** and **L5/L6** for maximum output.
Switch signal generator to a.m. and adjust **L23/L24** for minimum output. Repeat these adjustments for optimum results.
Transfer signal generator output to v.h.f. aerial socket and feed in an f.m. signal at the local Radio 3 carrier frequency. Tune receiver to the scale calibration of this frequency and adjust **TC2** and **TC1** for maximum output. Disconnect test equipment.



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