FERGUSON 3130
Gemini 6

Transistor Table

Transistor		Emitter (V)	Base (V)	Collector (V)
TR1	2SA297 or 2SA269	1·5	1·5	8·6
TR2	2SA296	0·5	0·6	8·7
TR3	2SA296	0·7	0·9	8·7
TR4	2SB266	1·3	1·4	8·0
TR5, TR6	2SB267 or 2SB267W	—	0·2	9·0

Resistors

R1	10kΩ	C2
R2	47kΩ	C2
R3	3·3kΩ	C2
R4	100kΩ	B2
R5	4·7kΩ	A2
R6	1kΩ	B2
R7	150kΩ	B2
R9	33kΩ	B2
R10	4·7kΩ	B2
R11	1kΩ	A2
R12	1kΩ	A2
R13	1kΩ	A2
R14	33kΩ	A2
R15	6·8kΩ	A2
R16	1kΩ	A2
R17	5·6kΩ	A1
R18	100Ω	A1
R19	6·8kΩ	A1
R20	5kΩ	B1
R21	330Ω	A1

Capacitors

C1	—	B2
C2	5pF	C2
C3	20pF	C2
C4	—	B2
C5	—	B2
C6	5,000pF	C2
C7	5,000pF	C1
C8	0·02μF	C2
C9	—	B2
C10	10pF	C1
C11**	50pF	C2
C12	—	B2
C13	—	B2
C14	300pF	C1
C15	130pF	C1
C16	—	B2
C17	8pF	B2
C18	0·04μF	B2
C19	30μF	A2
C20	0·04μF	B2
C21	0·04μF	B2
C22	—	B2
C23	0·04μF	B2
C24	5pF	A2
C25	0·04μF	B2
C26	—	A2
C27	0·02μF	A2
C28	0·01μF	A2
C29	3μF	A2
C30	30μF	A2
C31	300pF	A2
C32	20μF	A1
C33	100μF	A2
C34	0·01μF	A2

Coils*

L1	2·5	A1
L2	—	A1
L3	10·0	C1
L4	—	C1
L5	2·5	C1
L6	—	C1
L7	7·0	C1
L8	—	C1
L9	7·0	B2
L10	—	B2
L11	7·0	B2
L12	—	B2
L13	8·0	A2
L14	—	A2
L15†	—	A2

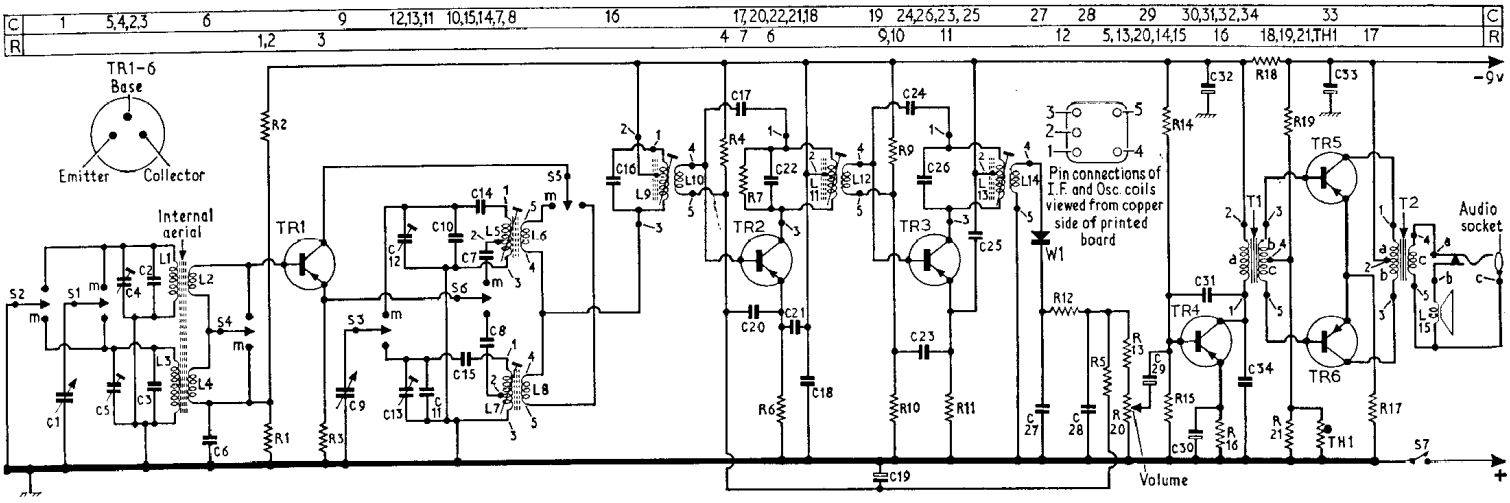
Transformers

T1	a	600·0	A1
	b	40·0	
	c	40·0	
T2	a	25·0	B2
	b	25·0	
	c	9·0	

Miscellaneous

S1-S6	—	C2
S7	—	C1
TH1	YV-1A	A2
W1	1NA4G or 1N60	A1

** Approximate d.c. resistance in ohms.*
† 8Ω impedance loudspeaker.
*** May be between 47pF and 62pF.*



CIRCUIT ALIGNMENT

Equipment Required.—An a.m. signal generator with facility for 30 per cent modulation; A model 8 Avometer; a 0.1μF capacitor; a length of insulated wire to form an r.f. coupling loop and suitable trimming tools. For alignment purposes it is not necessary to remove the receiver from the case.

During alignment of all circuits the input level should be adjusted to maintain a reading of 1-1.5V on the Avometer.

1.—Switch on signal generator and allow to warm up thoroughly.
2.—Connect the model 8 Avometer switched to 10V a.c. range across the loudspeaker connections—a convenient place being tags "a" and "c" of the earphone jack socket.
3.—Switch receiver to m.w. and tune to the l.f. end of the scale.
4.—Connect the signal generator output via a 0.1μF capacitor across the aerial section of the tuning gang capacitor **C4.**
5.—Feed in a 30 per cent modulated **455kc/s** signal and adjust the cores of **L13/L14, L11/L12** and **L9/L10** for maximum output, reducing the input level as necessary to maintain a reading of between 1V and 1.5V on the Avometer.
6.—Repeat operation 5 until no further improvement can be obtained.
7.—With receiver still switched to m.w., remove 0.1μF capacitor and wind a few turns of insulated wire around the ferrite rod aerial.
8.—Connect the signal generator output to the r.f. coupling loop thus formed and tune receiver to 600kc/s.
9.—Feed in a 600kc/s signal and adjust the core of **L5/L6** for maximum output.
10.—Adjust **L4** (by sliding it along the ferrite rod aerial) for maximum output.
11.—Tune receiver so that the cursor is central in the "U" in "LUX" and feed in a 1,440kc/s signal.
12.—Adjust **C12** and **C4** for maximum output.
13.—Switch receiver to l.w. and tune receiver to 160kc/s, feed in a 160kc/s signal and adjust **L7/L8** for maximum output.
14.—Adjust **L3** (by sliding it along the ferrite rod aerial) for maximum output.
15.—Tune receiver to 320kc/s and feed in a 320kc/s signal. Adjust **C13, C5** for maximum output.