

FERGUSON - 3128

Resistors		Capacitors	
R1	330Ω	C1	32pF
R2	100Ω	C2	32pF
R3	4.7kΩ	C3	0.003μF
R4	390Ω	C4	14pF
R5	4.7kΩ	C5	12pF
R6	22kΩ	C6	510pF
R8	33kΩ	C7	1,000pF
R9	6.8kΩ	C8	0.01μF
R10	820Ω	C9	22pF
R11	220kΩ	C10	510pF
R12	100kΩ	C11	510pF
R13	680Ω	C12	510pF
R14	22kΩ	C13	1,000pF
R15	4.7kΩ	C15	56pF
R16	680Ω	C16	1,000pF
R17	6.8kΩ	C17	40pF
R18	6.8kΩ	C18	226pF
R19	6.8kΩ	C20	14pF
R20	470Ω	C21	7pF
R21	18kΩ	C22	47pF
R22	6.8kΩ	C23	3.3pF
R23	560Ω	C24	0.5μF
R24	180Ω	C25	5,000pF
R25	820Ω	C26	0.02μF
R26	330kΩ	C27	500pF
R27	8.2kΩ	C28	220pF
R28	8.2kΩ	C29	40pF
R29	100Ω	C30	204pF
R30	4.7Ω	C31	200pF
R31	10kΩ	C32	40pF
R32	20kΩ	C33	5,000pF
R33	330Ω	C34	10μF

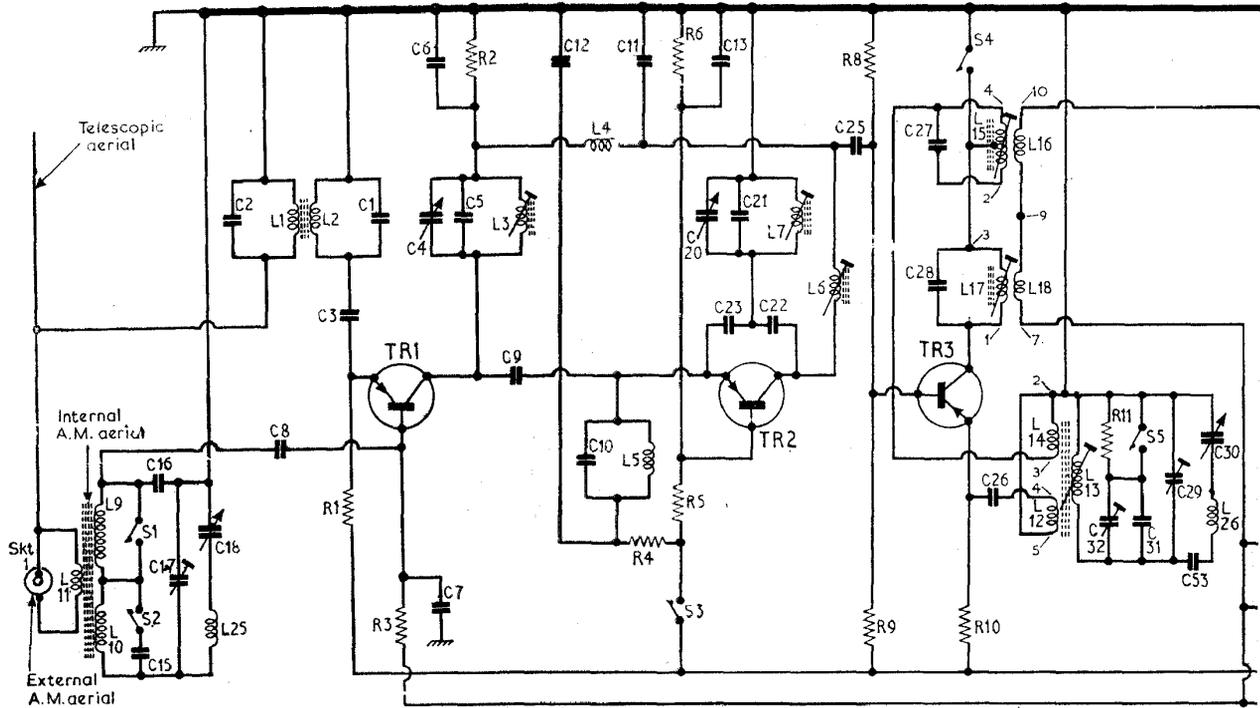
Coils*	Transformers*	Miscellaneous
L1	T1	S1-S11
L2	a	S12
L3	b	W1
L4	c	W2
L5	T2	X1
L6	a	
L7	b	
L8	c	
L9		

* Approximate d.c. resistance in ohms. † Not fitted in other specimen.

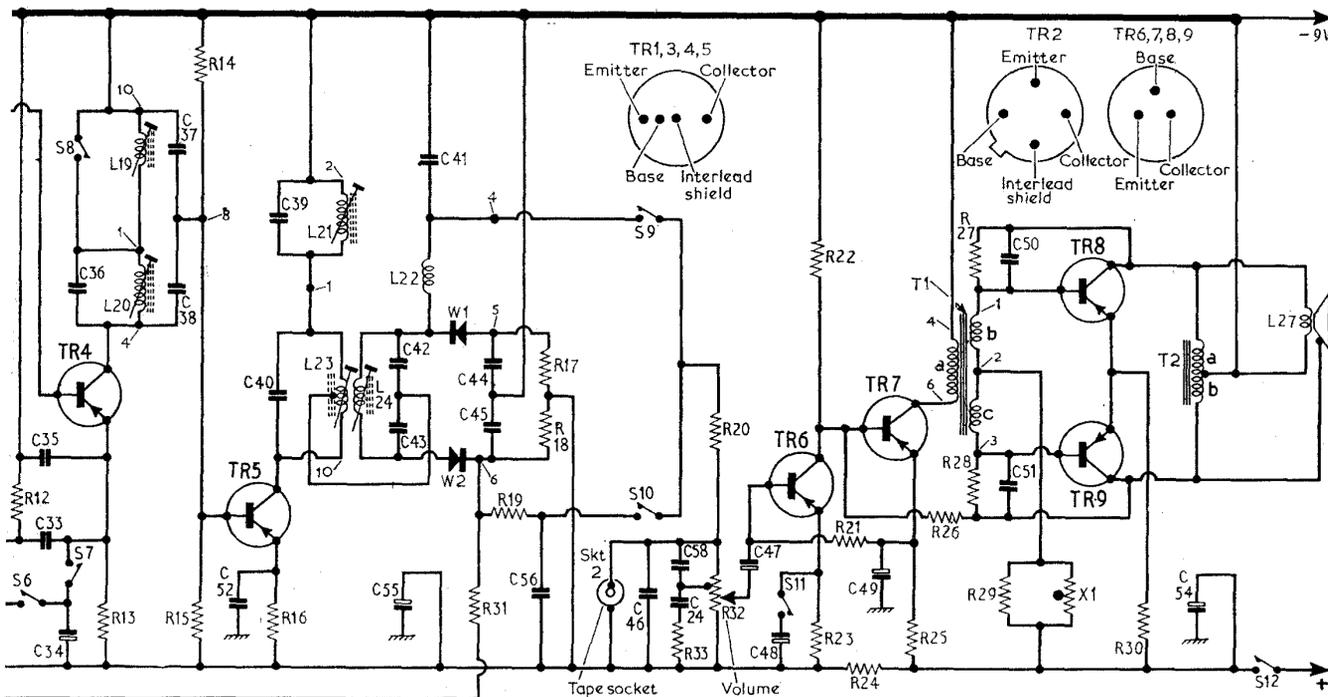
Switch Table

Switch	F.M.	M.W.	L.W.
S1	•••••	•••••	•••••
S2	•••••	•••••	•••••
S3	•••••	•••••	•••••
S4	•••••	•••••	•••••
S5	•••••	•••••	•••••
S6	•••••	•••••	•••••
S7	•••••	•••••	•••••
S8	•••••	•••••	•••••
S9	•••••	•••••	•••••
S10	•••••	•••••	•••••
S11	•••••	•••••	•••••

C	15,16,17	18	2	8	3	1	4,6,7,5	9	12	10	11	20,13,23,21,22	25	27,28	26	32	31	29,53,30	
R					1	3	2				4	5,6		8,9	10			11	
L	9,10,11		25		1,2			3		4	5			7	6			15,16,17,18,12,13,14	26



35,33,36,34	37,38	52	39,40	42,43,55,41	44,45	56	46,58,24	47	48	49	50,51		54	C			
12	13	14,15	16		31	19	17,18	33	20,32	22,23,21,24	25	26	27,28,29	X1	30		R
		19,20		21,23,24	22								T1		T2		L



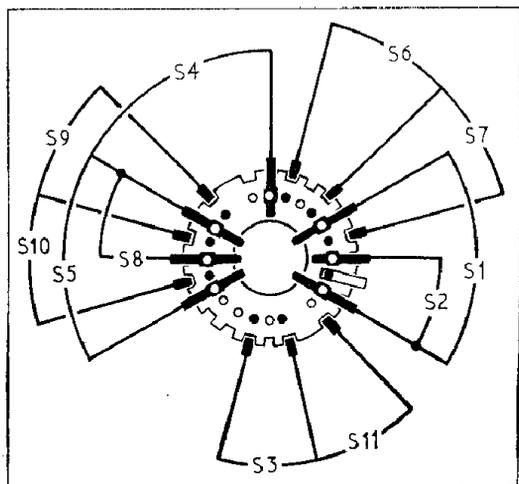
CIRCUIT ALIGNMENT

Equipment Required.—An a.m. signal generator 30 per cent modulated; an f.m. signal generator; an audio output meter with an impedance of 35Ω , or alternatively a $20,000\Omega/V$ testmeter set to its 2.5V a.c. range; a length of insulated wire for use as an r.f. coupling loop and a $0.1\mu F$ d.c. isolating capacitor.

During alignment the input signal level should be adjusted to maintain an audio output of 50mW (or 1V), except where otherwise stated.

F.M. Circuits

- 1.—Connect the audio output meter in place of the loudspeaker, or connect the 2.5V a.c. voltmeter across the internal loudspeaker terminals. Set the volume control at maximum.
- 2.—Switch receiver to f.m. and connect the f.m. signal generator via the $0.1\mu F$ capacitor to the junction of L6 and C25 (tuner tag 8). Feed in a 10.7Mc/s 25kc/s deviated signal and adjust the cores of i.f. coils L17 (location reference F4), L19 (F4), L23 (E5) and L24 (E5) for maximum



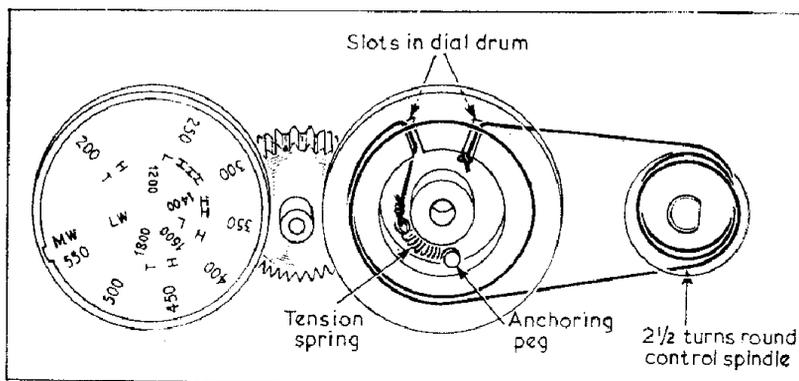
Switch wafer seen from rear of control panel

output, reducing the input level to a minimum of $25\mu V$ whilst maintaining an output not exceeding 50mW. Adjust the volume control if necessary to maintain the correct output level while at minimum input.

- 3.—Change the input to 10.7Mc/s 30 per cent modulated and adjust L24 (E5) for minimum output (maximum a.m. rejection). Repeat until there is no further improvement with an input of $25\mu V$, adjusting the volume control as necessary.
- 4.—Check that with the tuning gang at maximum capacitance, the scale marker below 88Mc/s on the f.m. tuning scale, coincides with the red pointer. Connect the f.m. signal generator to an uncoupled telescopic aerial connection and tune receiver to 96 Mc/s. Feed in a 96Mc/s f.m. signal 25kc/s deviated, and adjust L6 (F4), L7 (E4) and L3 (E4) for maximum output. Repeat if calibration is not correct over the entire tuning range.

A.M. Circuits

- 1.—Switch receiver to m.w. and connect the a.m. signal generator via the $0.1\mu F$ capacitor across the tuning gang aerial section C18. Feed in a 475kc/s 30 per cent modulated signal and adjust the cores of i.f. coils L15 (location reference F5), L20 (F4)



and L21 (E5) for maximum output. Repeat until there is no further improvement.

- 3.—Check that with the tuning gang at maximum capacitance, the scale marker below 88Mc/s on the f.m. tuning scale coincides with the red pointer. Connect the a.m. signal generator to the r.f. coupling loop and loosely couple the loop to the ferrite rod aerial. If necessary rotate the receiver to reduce interference from all external signals.
- 4.—Switch receiver to m.w. and tune to 500m. Feed in a 600kc/s signal and adjust L13 (G5) and L10 adjusting ring for maximum output.
- 5.—Tune receiver to 200m. Feed in 1,500kc/s signal and adjust C29 (B2) and C17(C2) for maximum output.
6. Switch receiver to l.w. and tune to 1,500m. Feed in a 200kc/s signal and adjust C32 (B3) and L9 (ferrite rod) for maximum output.

Drive-Cord Replacement.—To fit a replacement drive cord approximately 24 inches of nylon braided cord is required. First remove the chassis as described under "Dismantling," then pull off the control knobs; removal of knots is facilitated by using a "puller" of stout cord wound round behind the knob. Take out six cross-headed and one slotted countersunk screws securing the control escutcheon to the chassis and lift the escutcheon clear to the limit of the leads.

Insert the tip of a fine knife blade under the printed v.h.f. tuning scale and lever the scale disc away from its drum to expose the drive cord tension spring. Fit the new cord as shown in the sketch in col. 4. Refit the v.h.f. tuning scale and secure with a suitable adhesive, making sure that the locating key is correctly located in the slot in the drum.

Switches.—S1-S11 are the waveband switches which are mounted in a rotary wafer unit shown in location reference B2. The switch tag connections are given in a drawing in col. 3 and the operating condition of each switch; closed (C), or open (dash), for each position of the waveband control is shown under the appropriate heading in the switch table in col. 1. The battery on/off switch S12 is operated by the volume control R32.

Battery.—9V Ever Ready PP9, Drydex DT9, Siemens TR9 or Vidor T6009.

Drive cord assembly drawn with the a.m. tuning disc removed showing method of threading cord round dial drum. Removal and replacement of the tuning disc is described under "Drive Cord Replacement"