

Valve	Anode		Screen !	
	V	mA	V	mA
V1 1C1 ...	63	0.6	53	1.8
V2 1F3 ...	86	2.1	62	1.0
V3 1FD9 ...	7	0.4	3	0.01
V4 1P11 ...	85.5	4.0	86	0.9

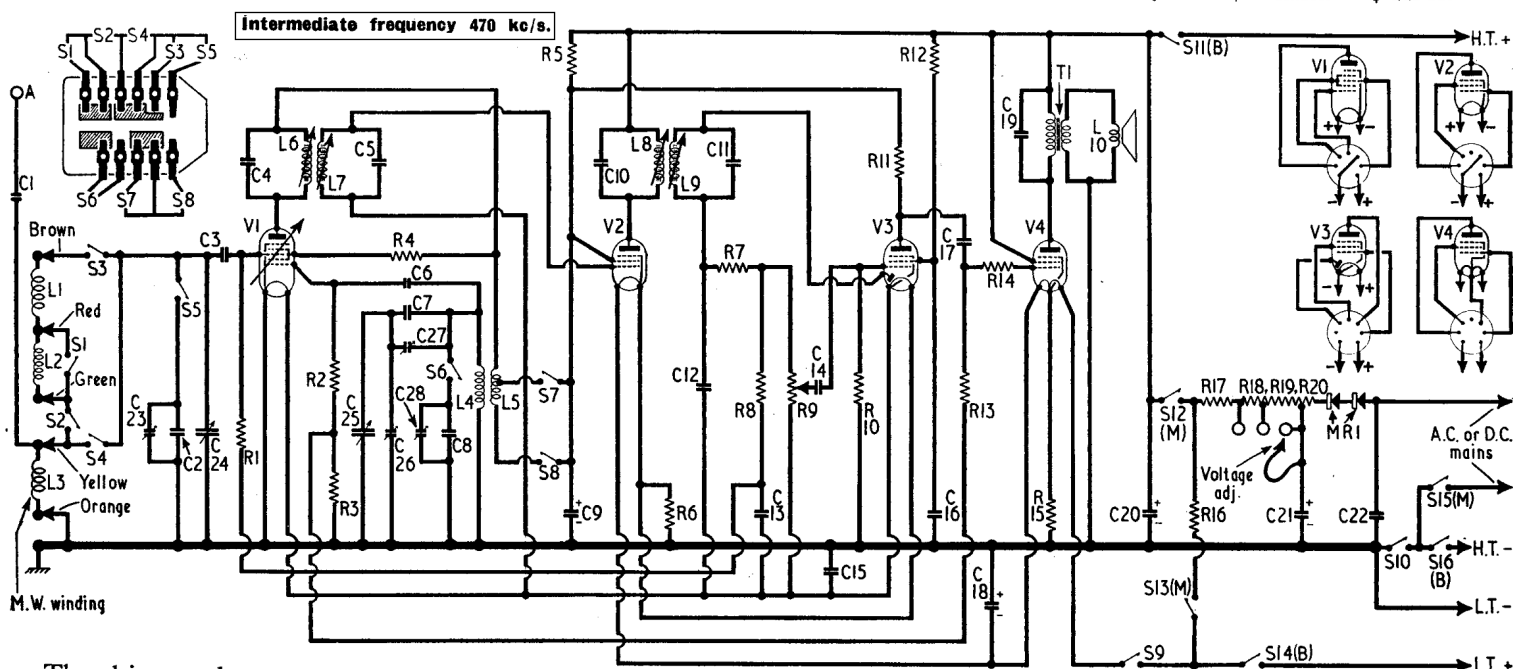
**Drive Cord Replacement.**—Thirty-six inches of nylon braided glass yarn is required for the drive cord, which should be run as shown in the sketch (col. 2) where the chassis is viewed from the front with the gang at maximum. In the "Twin" there was an additional pulley beneath the scale.

OTHER COMPONENTS			Approx. Values (ohms)	Locations
L1	L.W. frame	...	1.8	—
L2	L.W. coil	...	13.0	—
L3	M.W. frame	...	1.5	—
L4	Osc. tune coil	...	2.0	G3
L5	Osc. reaction	...	6.0	G3
L6	1st I.F. trans.	{ Pri.	9.0	A2
L7		{ Sec.	9.0	A2
L8	2nd I.F. trans.	{ Pri.	9.0	B2
L9		{ Sec.	9.0	B2
L10	Speech coil	...	2.6	B1
T1	O.P. trans.	{ Pri.	600.0	E4
		{ Sec.	0.4	
S1-S8	W/band sw.	...	—	F3
S9,S10	Power sw.	...	—	D3
S11-S16	Mains/batt. sw.	...	—	D3

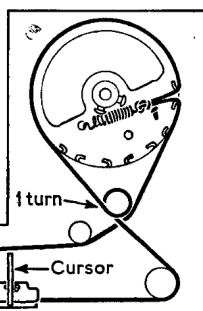
RESISTORS		Values	Locations
R1	V1 hept. C.G.	1MΩ	G4
R2	V1 osc. C.G.	100kΩ	G4
R3		5.6kΩ	F4
R4	Osc. stabiliser	2.2kΩ	G4
R5	H.T. feed	6.8kΩ	F4
R6	Fl. by-pass	1kΩ	F4
R7	I.F. stopper	100kΩ	F4
R8	A.G.C. decoup.	470kΩ	F4
R9	Vol. control	1MΩ	D3
R10	V3 C.G.	2.2MΩ	F4
R11	V3 anode load	820kΩ	E4
R12	V3 S.G. feed	4.7MΩ	E4
R13	V4 C.G.	2.2MΩ	F4
R14	V4 grid stopper	470kΩ	F4
R15	Fl. by-pass	1kΩ	E4
R16	Fil. ballast	1,690Ω	C2
R17	H.T. smoothing	1,450Ω	C2
R18	Voltage adjustment resistor	410Ω	C2
R19		340Ω	C2
R20		175Ω	C2

CAPACITORS		Values	Locations
C1	Aerial series	22pF	—
C2	L.W. trimmer	120pF	F3
C3	V1 hept. C.G.	390pF	G4
C4	1st I.F. trans.	100pF	A2
C5		100pF	A2
C6	V1 osc. C.G.	47pF	G4
C7	Osc. tracker	540pF	G3
C8	L.W. trimmer	500pF	F3
C9*	H.T. decoup.	2μF	E3
C10	2nd I.F. trans.	100pF	B2
C11		100pF	B2
C12	I.F. by-pass	100pF	F4
C13	A.G.C. decoup.	0.05μF	F3
C14	A.F. coupling	0.01μF	F4
C15	Fl. by-pass	0.05μF	G4
C16	V3 S.G. decoup.	0.01μF	F4
C17	A.F. coupling	0.01μF	E4
C18*	Fl. by-pass	100μF	B1
C19	Tone corrector	0.005μF	E4
C20*	H.T. smoothing	50μF	C1
C21*		50μF	C1
C22	R.F. by-pass	0.01μF	E3
C23†	L.W. trimmer	120pF	G3
C24†	Aerial tuning	520pF	A2
C25†	Osc. tuning	520pF	A1
C26†	M.W. trimmer	60pF	G3
C27†	Osc. tracker	120pF	G3
C28†	L.W. trimmer	60pF	G3

\* Electrolytic. † Variable. ‡ Pre-set



The drive cord system as seen from the front. In the earlier "Twin" there was a fourth guide pulley.



## CIRCUIT ALIGNMENT

**I.F. Stages.**—Remove chassis from case, connect signal generator via a 0.1μF capacitor to stator vanes of C24, switch set to M.W., turn the gang and volume controls to maximum, feed in a weak 470 kc/s (638.3 m) signal and adjust the cores of L9, L8, L7 and L6 for maximum output. Check that response curve is symmetrical. (In model R586 the I.F. is 465 kc/s.)

**R.F. and Oscillator Stages.**—Replace chassis in case, or fix frame aerials in their correct positions relative to chassis. In the case, access is gained to trimmers only by half opening the back and partly removing a battery. Couple signal generator via a 13½-turn coil of 18 s.w.g. wire on a ½-in former 1½-in long. With the gang at maximum, the cursor should coincide with the end calibration dot on the scale.

**M.W.**—Still switched to M.W., tune to 200 m on scale, feed in a 200 m (1,500 kc/s) signal, and adjust C26 for maximum output. Tune to 500 m on scale, feed in a 500 m (600 kc/s) signal, and adjust C27 for maximum output. Repeat these adjustments, while rocking the gang for optimum results, until no improvement results.

**L.W.**—Switch set to L.W., tune to 1,500 m on scale, feed in a 1,500 m (200 kc/s) signal and adjust C28, then C23, for maximum output. If the M.W. trimmers are subsequently disturbed, the L.W. alignment must be repeated.

ULTRA - TWIN50