

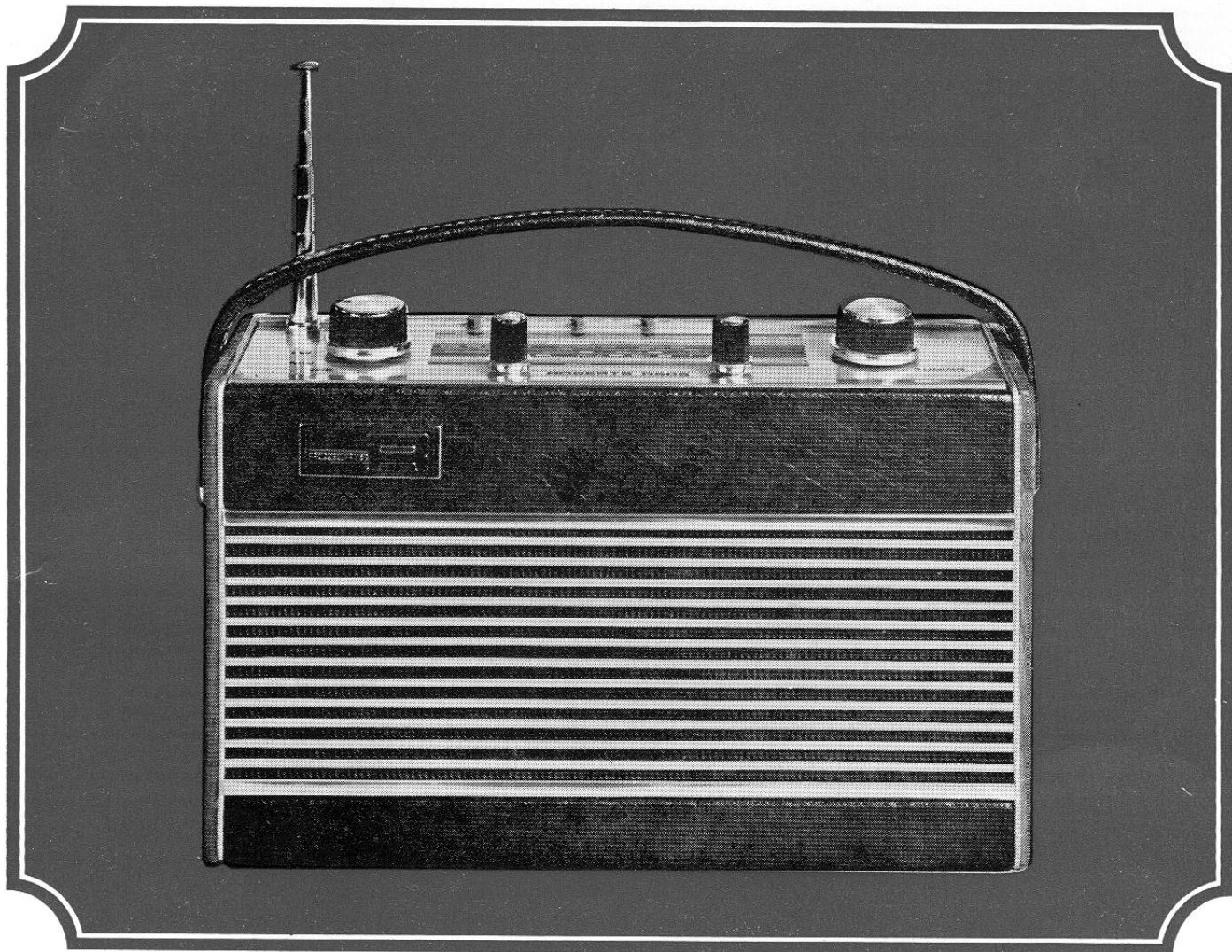


BY APPOINTMENT TO  
HER MAJESTY THE QUEEN  
RADIO MANUFACTURERS  
ROBERTS RADIO CO. LTD.

# THE ROBERTS R505

## FM/AM Transistor Portable

### Technical Data



### SPECIFICATION

#### SEMICONDUCTORS

14 transistors  
6 diodes

#### WAVEBAND COVERAGE

MW 185–566 metres (1620–530kHz)  
LW 1152–2000 metres (265–150kHz)  
VHF 87.5–104.5 MHz

#### POWER OUTPUT

1 watt nominal, continuous sinewave

#### LOUDSPEAKER

127 x 76mm (5" x 3") elliptical, 4 ohms impedance

#### SOCKET FACILITIES

3.5mm jack socket for external earphone  
5-pin 180° DIN socket for tape recording  
6mm external power supply socket (pin negative)

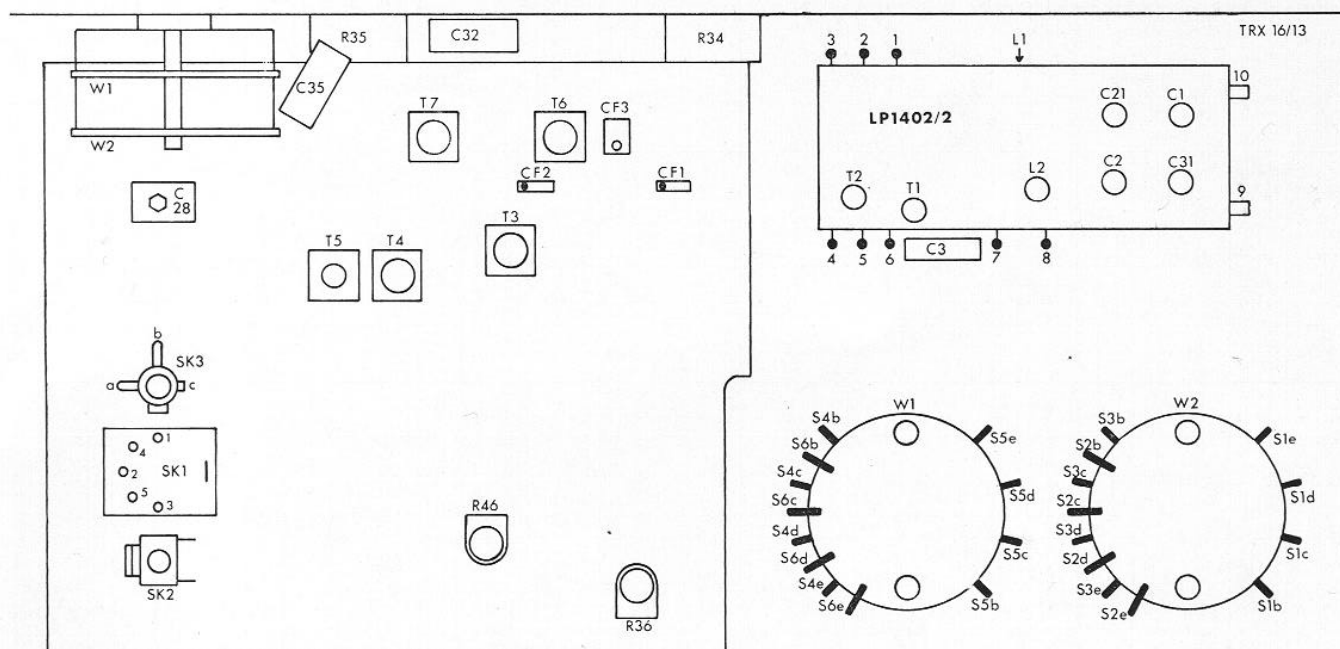
#### BATTERY

1 9V VT9 (PP9) type

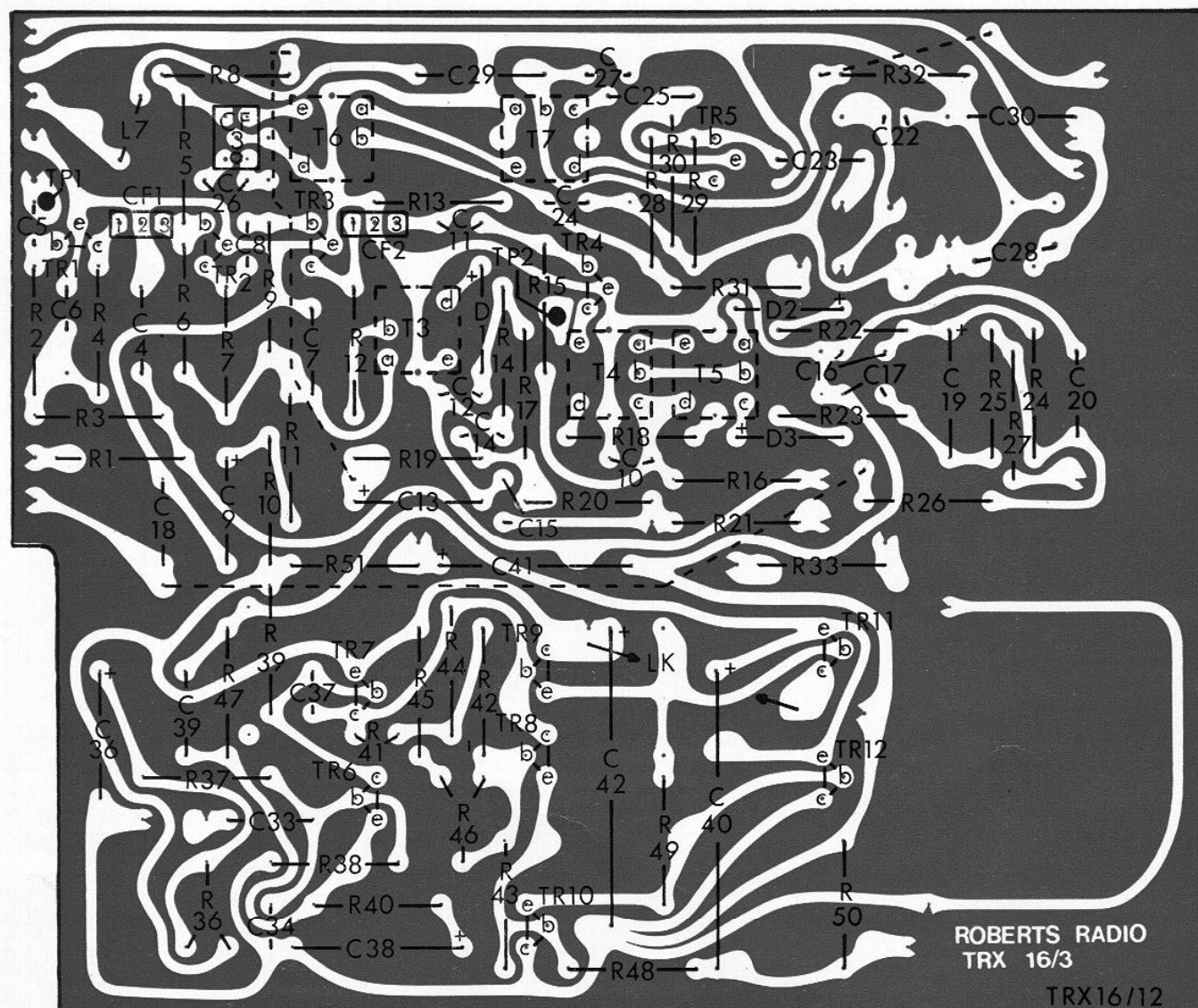
### DISMANTLING

1. Remove battery
2. Remove two screws at either end of chassis and screw retaining telescopic aerial rod
3. The complete chassis may then be removed from the top of the case to the extent of the speaker leads

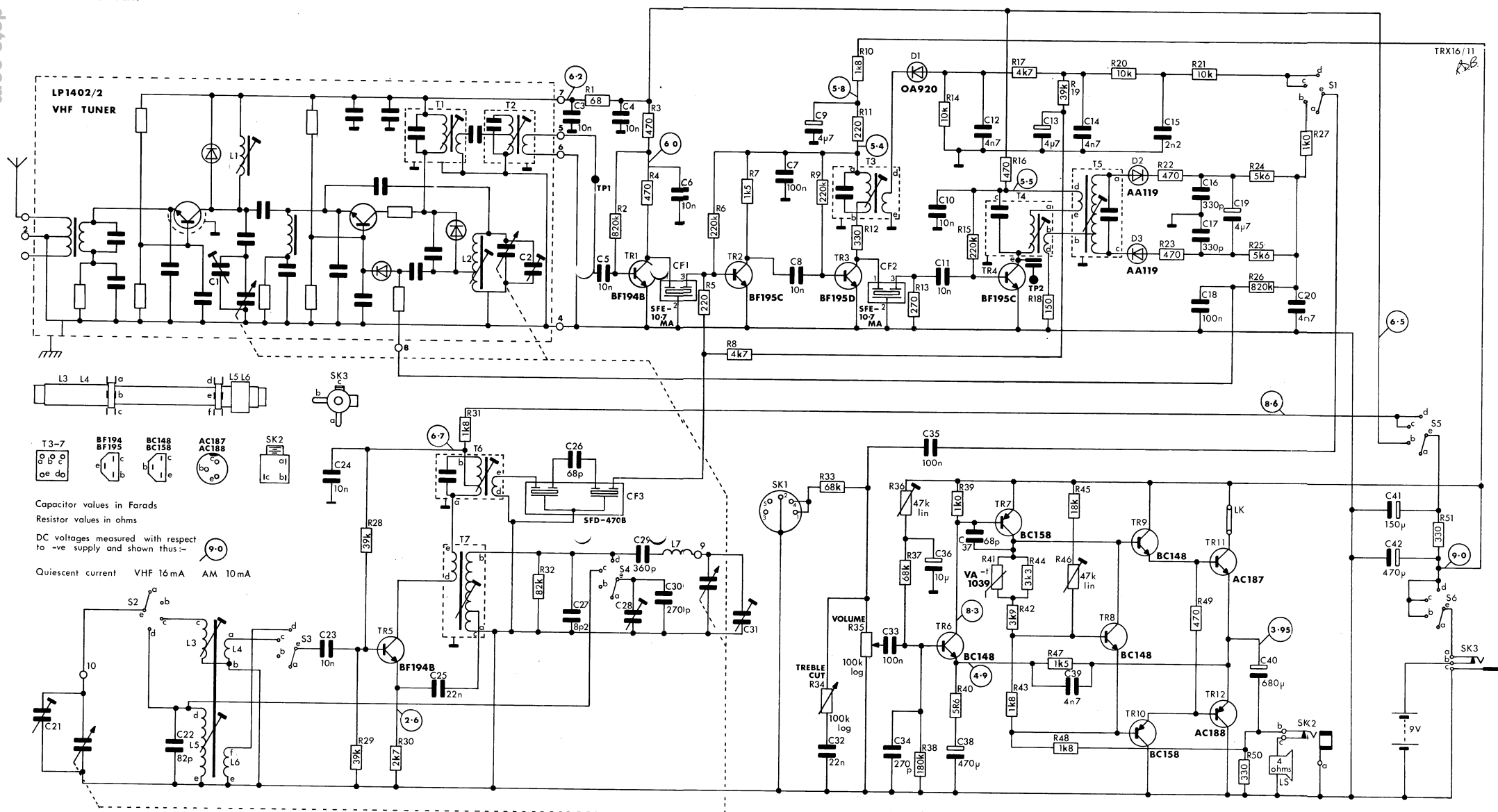
## BOARD LAYOUT (TOP)



## BOARD LAYOUT (UNDERSIDE)



# CIRCUIT DIAGRAM



## ALIGNMENT

ENSURE :— 9·0V across C42. Gang to max. (Anti-clock). Pointer coincides with left-hand end of scale window.

	WAVE BAND	POINTER	SWEEP/SIGNAL GENERATOR			INDICATOR	CONNECT	ADJUST	INDICATION
			INJECT	FREQUENCY	MOD				
1	—	—	—	—	—	Voltmeter	C40+ & Chassis (Vol. min.)	R36	3·95V
2	—	—	—	—	—	mA meter	In series with Flex link (LK) under print Board (Vol. min)	R46	4·0mA at 20°C—check after 1 min.
3	—	—	S1e-chassis	1kHz	—	O'scope	Across loudspeaker	R36	Symmetry at onset of clipping
4	MW	—	Across L3	470kHz	25kHz Deviation	O'scope Sensitivity 100m V/div.	S1e-chassis	T3, T6	Max O/P & Symmetry. Adjust I/P to maintain display height of 5 divs.
5	MW	200m	Via coupling loop	1500kHz	30%AM	As 3	As 4	C31, C21	Max. O/P
6	MW	526M	As 5	570kHz	As 5	As 3	As 4	T7, L3	Max. O/P
7	LW	200M	As 5	263kHz	As 5	As 3	As 4	C28	Max. O/P
8	LW	526M	As 5	160kHz	As 5	As 3	As 4	L6	Max. O/P

For 9, 10 & 11 maintain input below limiting (—3dB)

9	VHF	—	TPI Remove lead to tuner pin 5	10·7 MHz*	1MHz Deviation	As 3	TP2 Via diode probe	T4	Max. O/P & Symmetry
10	VHF	—	As 9	As 9	As 9	As 3	As 4	T5	S curve zero crossing at centre of IF —3dB bandwidth

A dual-trace display will aid correct location of response centre frequency—Repeat 9.

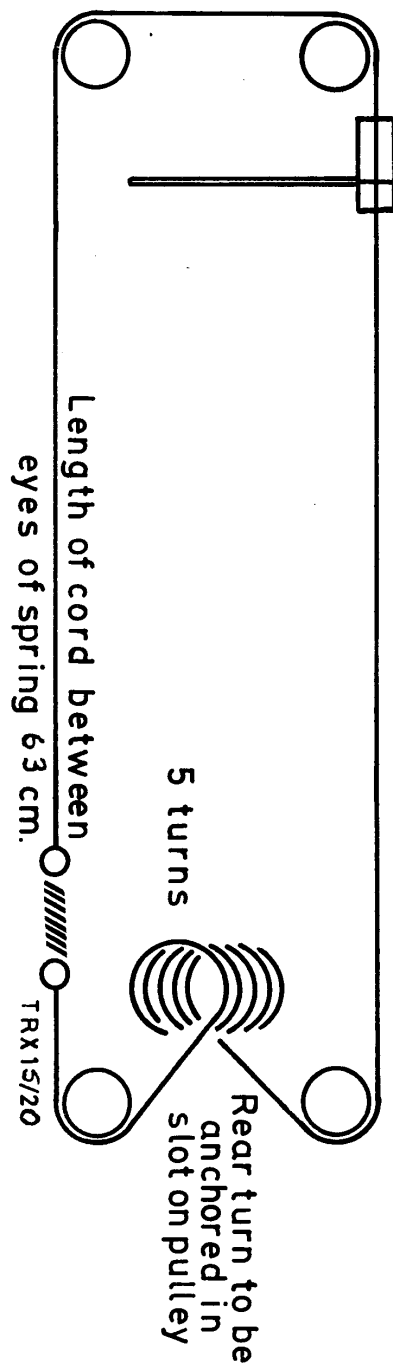
11	VHF	L.H. end	Loose coupling to telescopic aerial	approx. 87·4MHz	As 9	As 3	As 9 (Adjust generator to centre curve on scope)	T1, T2	Max. O/P & Symmetry
12	VHF	R.H. end	As 11	104·5 MHz	25kHz deviation	As 3	As 4	C2, C1	Max. O/P
13	VHF	L.H. end	As 11	87·4 MHz	As 12	As 3	As 4	L2, L1	Max. O/P

\*The IF is determined by Ceramic Resonators—Coded as follows

Black	10·64 MHz
Blue	10·67 MHz
Red	10·70 MHz
Orange	10·73 MHz
White	10·76 MHz

N.B. In a given chassis, both units must be of same colour.

## CORD DRIVE DIAGRAM



## SERVICING

### GENERAL

Voltages shown on the circuit diagram are positive with respect to chassis with a 9 volt supply and are measured with a high impedance voltmeter with no signal input and volume at minimum.

Calibration marks are provided on the scale at 200 and 526 metres.

When feeding in signals, the input should be kept as low as possible to prevent AGC action masking the alignment peaks.