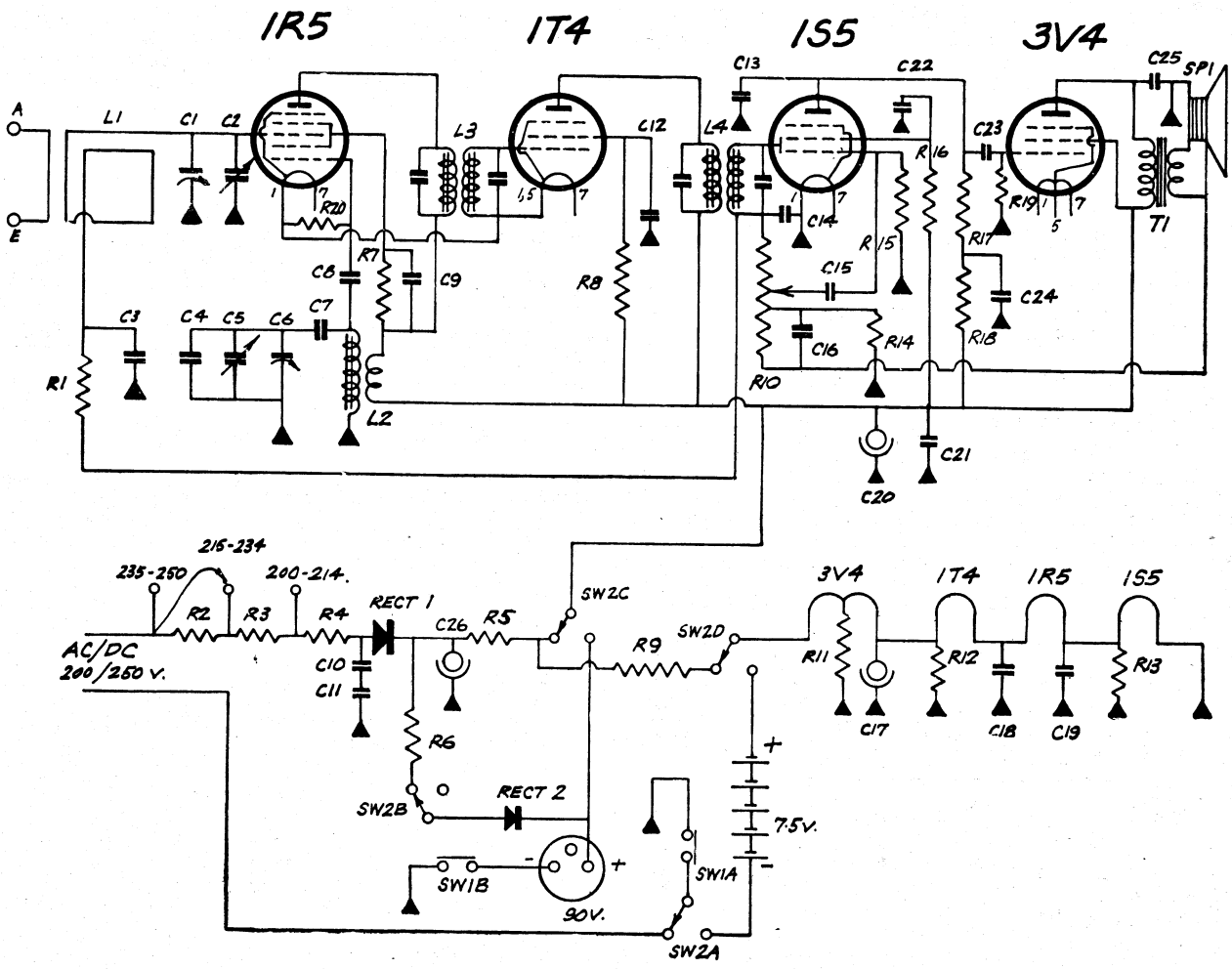
MODEL R 400 H



COMPONENT'S LIST

Part No.	DESCRIPTION
C1, C6	12 - 450 pfd. variable condenser.
C2, C5	Trimmer condenser, 3 - 30 pfd.
C3, C24	.05 mfd. 200 volt paper condenser.
C4	15 pfd. ceramicon condenser.
C7	461 pfd. mica condenser + —1% tol.
C8, C13	100 pfd. mica condenser.
C9, C15, C16, C22, C23, C25	.005 mfd. 600 volt paper condenser.
C10, C11, C12	.02 mfd. 600 volt paper condenser
C14	200 pfd. mica condenser.
C17	100 mfd 12 volt working electrolytic condenser.
C18, C19	0.1 mfd. 200 volt paper condenser.
C20	40 mfd 250 volt working electrolytic condenser.
C21	.05 mfd 400 volt paper condenser.
C26	24 mfd. 250 volt working elctrolytic condenser.
	NOTE: C17, C20, C26 included in same can.
R1	2.2 megohm ½ watt carbon resistor.
R2	100 ohm 3 watt W.W. resistor.
R3	150 ohm 3 watt W.W. resistor.
R4	200 ohm 4 watt W.W. resistor.
R5	1600 ohm } W.W. resistor 20 watt.
R9	1770 ohm }

Part No.	DESCRIPTION
R6	40,000 ohm 1 watt carbon resistor.
R7	15,000 ohm ½ watt carbon resistor.
R8, R18	100,000 ohm ½ watt carbon resistor.
R10	1 megohm potentiometer tapped at 25,000 ohms with D.P. switch, Type RL529.
R11, R14	1500 ohm ½ watt carbon resistor.
R12	1000 ohm ½ watt carbon resistor.
R13	330 ohm ½ watt carbon resistor
R15	10 megohm ½ watt carbon resistor.
R16	3.3 megohm ½ watt carbon resistor.
R17	470,000 ohm ½ watt carbon resistor.
R19	1 megohm ½ watt carbon resistor.
R20	47,000 ohm ½ watt carbon resistor.
L1	Loop aerial type RJ81.
L2	Oscillator coil type RJ82.
L3, L4	I.F. transformer type RJ80.
Rect. 1	Dry metal rectifier type MU58.
Rect. 2	Dry metal rectifier type 36K2.
SP1	5in. permagnetic speaker type 5F.
T1	Speaker transformer type GCL58, Impedance = 10,000 ohms.
SW1A SW1B	Double pole switch mounted on potentiometer R10.
SW2A SW2B SW2C SW2D	4 pole two way switch, type RL550 or AK28019.

Service Data for the Healing Receiver
MODEL R 400 H

Power Supply: 200-250 volts A.C. or D.C.
5 1.5-volt torch batteries.
1 90-volt battery, type 490P.
Frequency Range: 540-1610 kc/s.
Intermediate Frequency: 455 kc/s.
Speaker Transformer Impedance: 10,000 ohms.
Power Consumption (Mains): 17 watts.

D.C. RESISTANCE OF R.F. COILS			
Coil	Type	Primary Ohms	Sec. Ohms
Aerial	RJ81	0.1	1
Osc.	RJ82	1	2
1st I.F.	RJ80	8.5	8.5
2nd I.F.	RJ80	8.5	8.5

Typical Working Voltages.

Measured to chassis with no signal input and filament voltages read across appropriate pins.

Valve	Use	1000 OHMS PER VOLT D.C. METER SCALES					
		10 volt Filament		250 volt Screen		250 volt Plate	
		Battery	Mains	Battery	Mains	Battery	Mains
1R5	Converter	1.5	1.3	44	44	90	87
1T4	I.F.	1.5	1.3	44	44	90	87
1S5	Det. AVC. 1st AF.	1.5	1.3	5	5	12	12
		Note: 1S5 H.T. voltages read low because of high value resistors.					
3V4	2nd AF.	3.0	2.6	90	87	85	82

Output voltage of rectifier: 178.
Voltage applied to filament chain at pin 7 of 3V4: AC 6.5, battery 7.5.
All above voltages for mains operations taken with 223 volts A.C. 50 c/s applied and with mains tapping set to the 215/234 position.
On other tap positions the mains voltage giving the same figures are:
200/214 = 200V., 235/250 = 243V.

Typical Valve Currents.

Milliamps.

Refer above to mains voltage settings at which currents have been read.
Total H.T. current: Battery 12.5 m/a, Mains 14 m/a.

Valve	Use	Screen		Plate		Osc. Grid.	
		Battery	Mains	Battery	Mains	Battery	Mains
1R5	Conv.	2.3	2.3	.3	.4	.15 to .17	.15 to .17
1T4	I.F.	.4	.4	.9	.9		
1S5	Det. AVC. 1st AF.	.02	.02	.1	.1		
3V4	2nd AF.	1.6	1.8	7.0	8.0		

Dial Adjustment: The dial is removed by turning the gang full in then continuing to rotate the dial while at the same time easing it away from the panel. The dial is refitted by pushing on firmly while supporting the gang condenser at the back, then twisting the dial until, with the gang full in, the indicator line on the case is opposite the dividing line at the low frequency end of the dial.

Chassis Removal: Remove dial as per previous para. Knob is removed by pulling. Open case by lifting outer ends of plated clips near handle. The four speaker leads should be unsoldered at the speaker and the two 2BA thread screws holding the chassis removed. Color code for speaker leads: White (V. coil), Blue (Plate), Red (B+), Black (V.C.). Should the connections to either primary or secondary be reversed, positive feedback (high pitched squeal) will be apparent with the volume control turned down low. When replacing chassis ensure that the gang drive shaft is centred on the white station indicator line. Slotted chassis mounting holes are provided for this adjustment. Support rear of volume control when pushing on knob.

Caution: The chassis is of standard A.C. - D.C. construction; that is, the chassis is directly connected to one side of the power mains. While the case is closed the receiver is safe, all exposed metal parts being insulated, volume control shaft and gang spindle extension included. However, when servicing it is necessary to expose the chassis, and therefore due caution should be exercised to ensure that the mains are correctly polarised.

Switch Arm: The grub screws on the Battery/A.C. - D.C. changeover switch arm should be firmly set so that the safety hook projects over the edge of the power inlet hole when the switch is in the down position.

Alignment: Normally, realignment should be unnecessary. However, if the replacement of a component necessitates realignment, first ensure that the dial is correctly set as per instruction above. Adjust oscillator trimmer, located on front section of gang, at approx. 1400 kc/s, and the oscillator coil slug at approx. 600 kc/s. There is no need to remove chassis from cabinet for these adjustments. The aerial trimmer is accessible through a hole in the grille work at the rear. It should be peaked at 1400 kc/s with all batteries in place and the case closed.