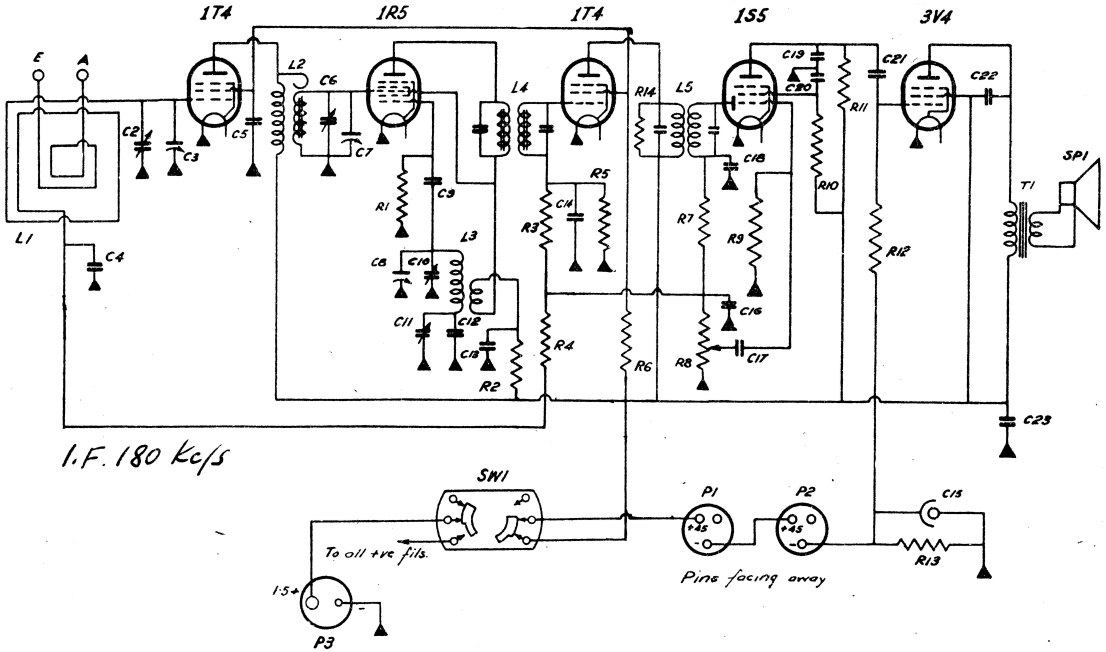
# HEALING 503B.




| | |
|---|---|
| C1 | Not included |
| C2,C6 | Trimmer Condenser type TC2A |
| C3,C7,C8 | 12 uuf to 450 uuf. Variable Condenser |
| C4,C14 | 0.02 uF 600 Volt paper con. 50-111 |
| C5,C18, C23 | 0.05 uF 400 Volt paper con. 50-111 |
| C9,C16, C18 | 0.0001 uF 400 Volt Mica Con. P.T. |
| C10 | Air trimmer condenser 3-30 uuF. |
| C11 | 3 plate Padder Condenser 20-200 uuF. |
| C12 | 0.0007 uF 400 Volt mica con. SM. |
| C15 | 25 uF 40 Volt Elec. Con. type ET10769 |
| C17,C20, C21,C22 | 0.005 uF 400 Volt Paper Con. 50-103 |
| C19 | 0.0002 uF 400 Volt mica con. P.T. |
| R1,R14 | 100,000 ohms $\frac{1}{2}$ Watt car. res. type BT$\frac{1}{2}$ |
| R2 | 10,000 ohms $\frac{1}{2}$ Watt car. res. type BT$\frac{1}{2}$ |
| R3,R4,R5, R11 | 1 Megohm $\frac{1}{2}$ Watt car. res. type BT$\frac{1}{2}$ |
| R6 | 25,000 ohms $\frac{1}{2}$ Watt car. res. type BT$\frac{1}{2}$ |
| R7 | 50,000 ohms $\frac{1}{2}$ Watt car. res. type BT$\frac{1}{2}$ |
| R8 | 1 Megohm potentiometer type RL 316 |
| R9,R12 | 10 Megohms $\frac{1}{2}$ Watt car. res. type BT$\frac{1}{2}$ |
| R10 | 5 Megohms $\frac{1}{2}$ Watt car. res. type BT$\frac{1}{2}$ |
| R13 | 450 ohms 1 Watt Wire Wound res. type BW1 |

| | |
|---|---|
| L1 | Loop aerial coil type RJ37 |
| L2 | R.F. Coil type RJ33 |
| L3 | Oscillator Coil type RJ51 |
| L4 | I.F. Transformer type RJ32C or RJ62C |
| L5 | I.F. Transformer type RJ32C or RJ62C |
| P1,P2 | Battery Plugs 3 Pin Type 696-6-1 |
| P3 | Battery Plug 2 Pin Type 691-5-1 |
| SP1 | 8" Permagnetic Speaker type 8K |
| SW1 | Switch Series 20 Type 22 |
| T1 | Transformer for Rola Speaker type 8K Z = 10,000 ohms. |

Power Supply: A Battery 1½ Volts
B Battery 90 Volts

Battery Current: A Battery .3 amps.
B Battery 13 ma.

Frequency Range: 540-1620 Kc/s.

Intermediate Frequency: 180 Kc/s.
(See notes on alignment)

Speaker transformer Impedance:
10,000 ohms.

D.C. Resistance of R.F. Coils

| Coil | Type | Primary Ohms. | Secondary Ohms. |
|---|---|---|---|
| Aerial | RJ37 | .1 | .75 |
| R.F. | RJ33 | 85 | 3.5 |
| Osc. | RJ51 | 1.8 | 3.6 |
| 1st I.F. | RJ32C | 44 | 44 |
| 2nd I.F. | RJ32C | 44 | 44 |

Typical Working Voltages.

Measured to chassis, no signal input.

Bias voltage across resistor R13-6.4

| | | 1,000 ohms per volt D.C. Meter Scales | | |
|---|---|---|---|---|
| | | 10V. | 250V. | 250V. |
| Valve | Use | Filament | Screen | Plate |
| 1T4 | R.F. Amp | 1.5 | 45 | 84 |
| 1R5 | Osc. Mod. | 1.5 | 52 | 51 |
| 1T4 | I.F. | 1.5 | 45 | 84 |
| 1S5 | Det.A.V.C. 1st I.F. | 1.5 | 2.5 | 10 |
| 3V4 | 2nd A.F. | 1.5 | 84 | 81 |

## HEALING 503B.

### Typical Valve Currents

### Milliamps.

| Valve | Use | Screen | Plate | Osc. Grid |
|---|---|---|---|---|
| 1T4 | R. F. amp | .75 | 1.9 | |
| 1R5 | Osc. Mod. | 2.2 | .95 | .95-.15 |
| 1T4 | I. F. | .7 | 1.9 | |
| 1S5 | Det. A.V.C. 1st A.F. | .014 | .05 | |
| 3V4 | 2nd A.F. | 1.0 | 5 | |

Dial Adjustment: With gang full in, the pointer should be immediately behind a small starting line which appears at the top left hand corner of the glass, just above the marking of 2C.R. To adjust pointer position, slide it along cord.

I.F. Alignment: As these transformers are of the permeability tuned type it should not be necessary to make service adjustments. If adjustments must be made, it should be noted that the transformers are speci lly peaked at the factory to give a flat topped characteristic approximately 6 Kc/s wide at 3 db.down. The procedure outlined below will give a selectivity curve of the desired shape although it may be necessary to make minor adjustments before alignment is complete.

(1) With sig.gen. applied to 1T4 (I.F. amp) grid and chassis align second I.F. to 180 KC.

2) With sig.gen.applied to 1R5 grid and chassis, and with a 10,000 ohm resistor connected between 1R5 plate and B , align the grid winding (top slug) of 1st. I.F. to 177 Kc/s.

3) Reconnect the 10,000 ohm resistor between 1T4 (I.F.Amp) grid and grid return of I.F. Transformer (white lead) and align plate winding (bottom slug) of 1st. I.F. to 183 Kc/s. Remove resistor.

Trimmers: Trimmers should be peaked at 1,400 Kc/s, the padder at 600 Kc/s and the R.F. coil slug should be peaked at 600 Kc/s. Aerial trimmer and R.F. coil slug adjustments are available through holes in back of chassis. The padder is adjustable from the top of chassis while the oscillator trimmer is located near the speaker.