

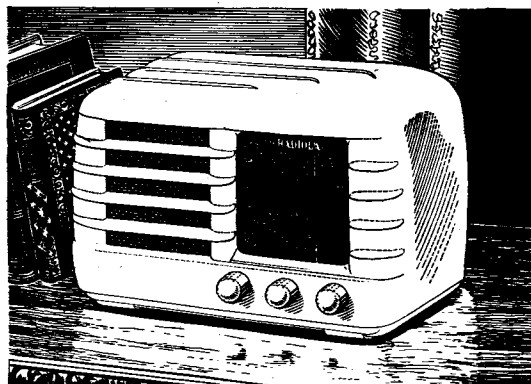
TECHNICAL INFORMATION AND SERVICE DATA

RADIOLA

Model 526-M

FIVE VALVE, THREE BAND, A.C. OR D.C.
OPERATED SUPERHETERODYNE

ISSUED BY
AMALGAMATED WIRELESS (A/SIA) LTD.



ELECTRICAL SPECIFICATIONS.

FREQUENCY RANGES:

| | |
|------------------|-----------------------------|
| Medium Wave..... | 540-1600 Kc/s (555-187.5 M) |
| Short Waves..... | 2.3-7 Mc/s (130-43 M) |
| | 7-22 Mc/s (43-13.6 M) |

INTERMEDIATE FREQUENCY: 455 Kc/s

Power Supply Rating: 210-250 volts A.C. or D.C. (See "Connection to Power Supply" for 105-125 volts operation)

| | |
|------------------------|---------------------|
| Power Consumption..... | 210-250 V. 60 Watts |
| | 105-125 V. 30 Watts |

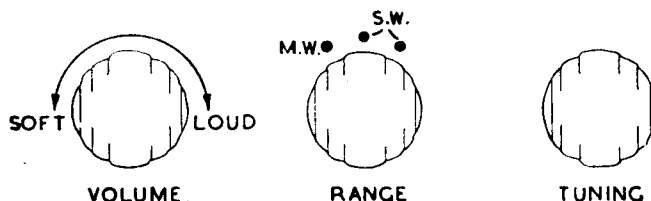
Valve Complement.

- (1) X76M Converter
 - (2) W76 I.F. Amplifier
 - (3) DH76 Detector, A.F. Amplifier, A.V.C.
 - (4) KT71 Output
 - (5) U76 Rectifier
- 161 Barretter

Loudspeaker (Permanent Magnet)

5 inch—code number AC46
Transformer—XA21
V.C. Impedance—3 ohms at 400 C.P.S.

CONTROLS 526 - M



MECHANICAL SPECIFICATIONS.

| | Height | Width | Depth |
|--|-----------------|-------|-----------------|
| Cabinet Dimensions (inches) | 7 $\frac{3}{4}$ | 12 | 6 $\frac{3}{4}$ |
| Chassis Base Dimensions (ins.) ... | 2 $\frac{1}{2}$ | 11 | 5 $\frac{1}{2}$ |
| Weight (nett lbs.) | 16 | | |
| Cabinet Colours: Walnut, Ivory, Burgundy | | | |

General Description.

The Model 526-M is an A.C./D.C. operated mantel model, housed in a moulded plastic cabinet

Features of its design include:—

Tropic-proof construction, automatic volume control, magnetite cores in I.F. transformers and broadcast oscillator coil, air-dielectric trimming capacitors.

D.C. RESISTANCE OF WINDINGS

| Winding | D.C. Resistance in ohms |
|------------------------------------|----------------------------|
| Aerial Coil (M.W.) | |
| Primary (L2) | 16 |
| Secondary (L3) | 5 |
| Aerial Coil (S.W.) | |
| Primary (L7) | 3 |
| Secondary (L8) | * |
| R.F. Coil (M.W.) | |
| Primary (L4) | 35 |
| Secondary (L5) | 4 |
| R.F. Coil (S.W.) | |
| Primary (L9) | * |
| Secondary (L10) | * |
| Oscillator Coil (M.W.) (L6) | 5 |
| Oscillator Coil (S.W.) (L11) | * |
| I.F. Filter (L1) | 17.5† |
| I.F. Transformer Windings | 10 |
| R.F. Choke (L17, L19, L20) | * |
| H.T. Filter Choke (L16) | 200 |
| R.F. Choke (L18) | 18 |
| Loudspeaker Input Transformer (T1) | |
| Primary | 430 or 525 |
| Secondary | * |
| Vibrator Transformer (T2) | |
| Primary | 3 |
| Secondary | 900 |

The above readings were taken on a standard chassis, but substitution of materials during manufacture may cause variations, and it should not be assumed that a component is faulty if a slightly different reading is obtained.

* Less than 1 ohm.

† In some receivers this reading may be as high as 60 ohms.

SOCKET VOLTAGES

| VALVES | Cathode to Chassis Volts | Screen Grid to Chassis Volts | Plate to Chassis Volts | Plate Current mA | Heater Volts** |
|----------------------------------|--------------------------------|------------------------------------|------------------------------|------------------------|-------------------|
| 6BA6 R.F. Amp. M.W. | 1.7 | 70 | 200 | 2.75 | 6.3 |
| S.W. | 1.8 | 70 | 200 | 2.85 | 6.3 |
| 6BE6 Converter M.W. | — | 70 | 200 | 1.25 | 6.3 |
| S.W. | — | 70 | 200 | 1.25 | 6.3 |
| 6BA6 I.F. Amp. | 1.8 | 70 | 200 | 3.1 | 6.3 |
| 6AV6 Det., A.F. Amp. A.V.C. | .05 | — | 70† | 0.5 | 6.3 |
| 6AQ5 Output | 9.0 | 200 | 190 | 34 | 6.3 |

Total H.T. Current — 56 mA.

Measured with receiver connected to 32V D.C. Supply.

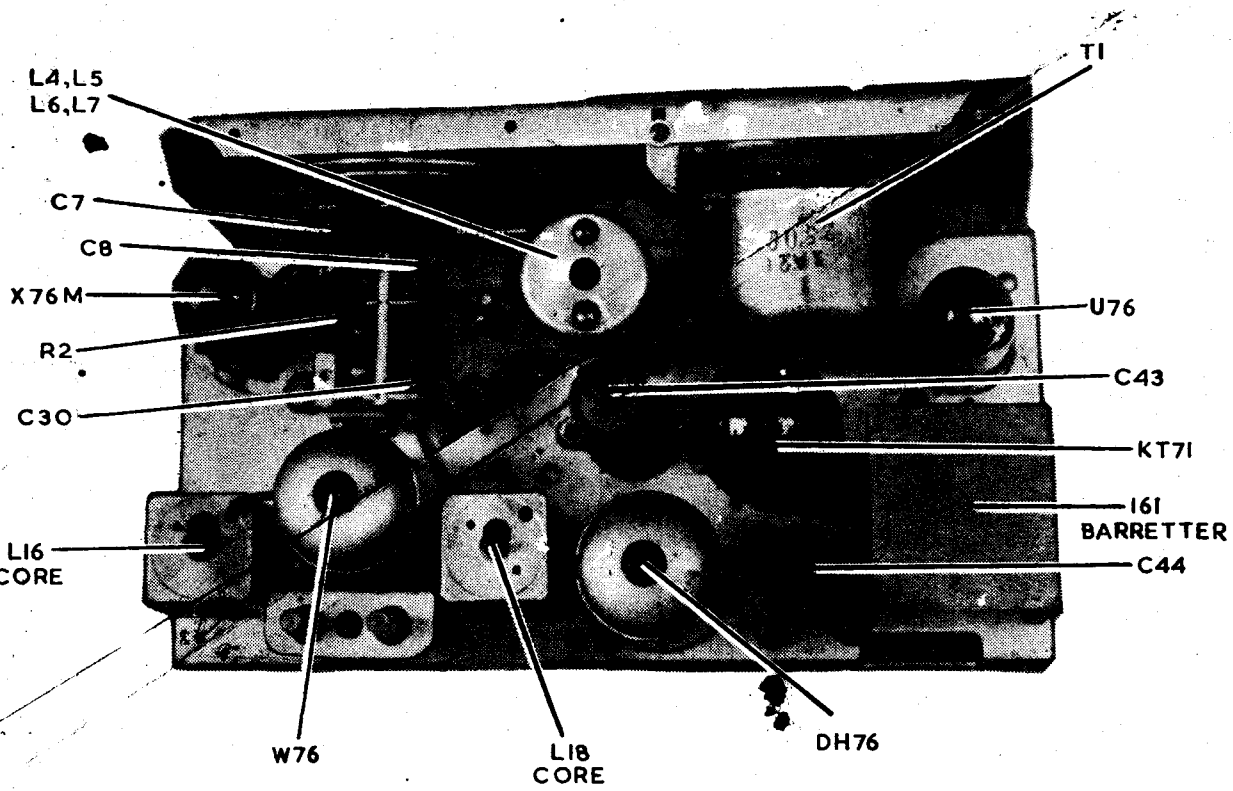
Total Input Current — 1.3 Amp.

Volume Control Max. Power-Tone Switch "Speech" Anti-clockwise Position. No Signal input.

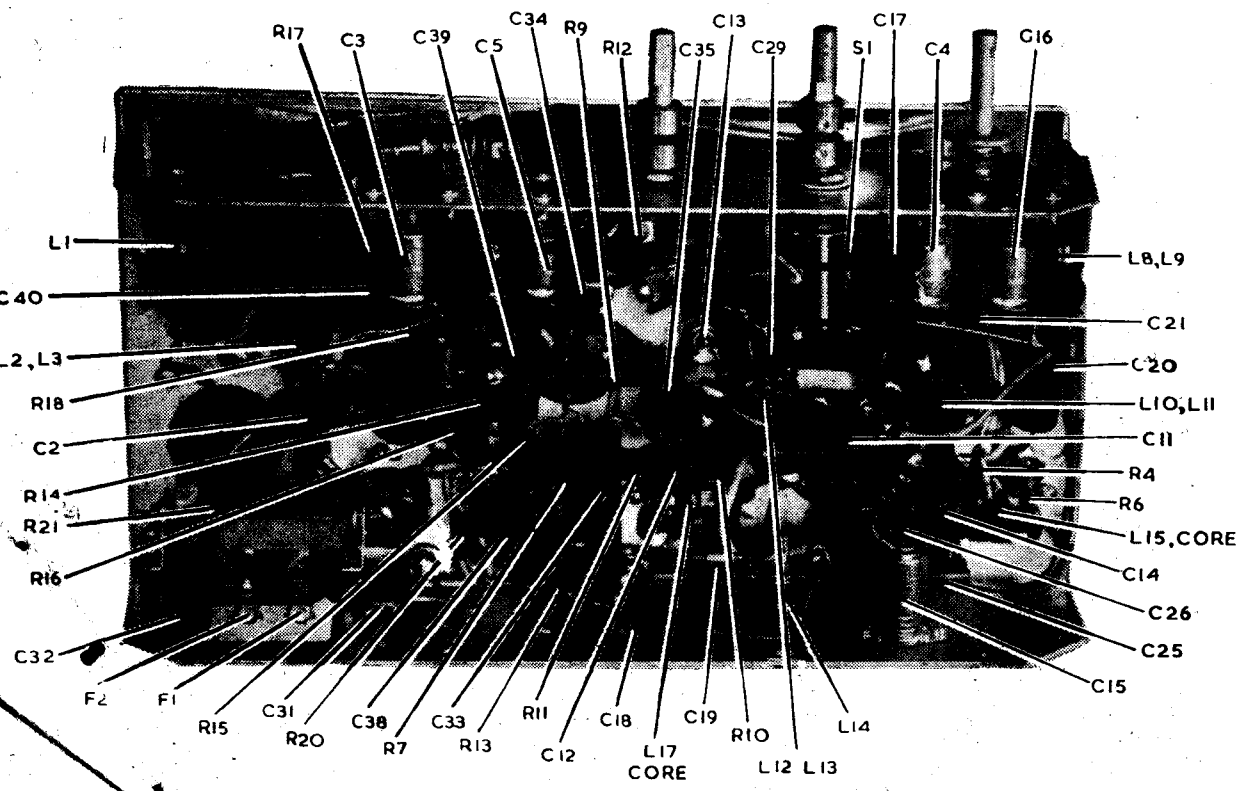
Voltmeter 1000 ohms per volt; measurements taken on highest scale giving accurate readable deflection.

† Cannot be measured with ordinary voltmeter.

** These readings are nominal and will vary due to the Series Heater connections.



CHASSIS (Top View) 526-M



CHASSIS (Underneath View) 526-M

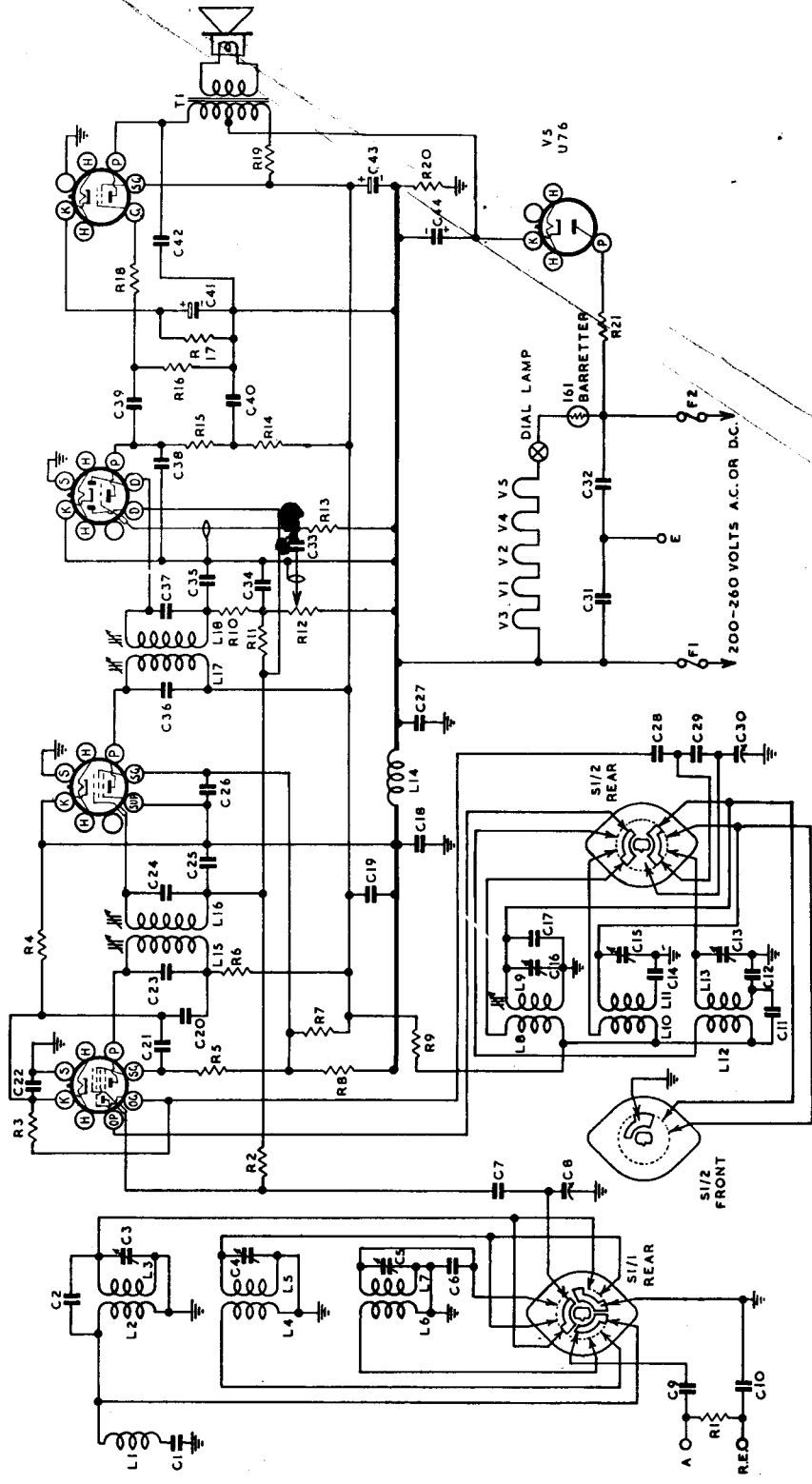
V4
KT71

V3
DH76

V2
W76

V1
X76M

V5
U76



ALIGNMENT PROCEDURE.

Manufacturer's Setting of Adjustments.

The receiver is tested by the manufacturer with precision instruments and all adjusting screws are sealed. Re-alignment should be necessary only when components in tuned circuits are repaired or replaced or when it is found that the seals over the adjusting screws have been broken.

It is especially important that the adjustments should not be altered unless in association with the correct testing instruments listed below.

Under no circumstances should the plates of the ganged tuning capacitor be bent, as the unit is accurately aligned during manufacture and cannot be re-adjusted unless by skilled operators using specialised equipment.

For I.F. alignment, connect the "low" side of the signal

generator to the receiver chassis, whilst for all other alignment operations to the terminal marked "R.E.," i.e., Radio Earth. Also, keep the generator output as low as possible to avoid A.V.C. action and the volume control in the maximum clockwise position.

Testing Instruments.

- (1) A.W.A. Junior Signal Generator, type 2R3911, or
- (2) A.W.A. Modulated Oscillator, type J6726.
If the modulated oscillator is used, connect an 0.25 megohm non-inductive resistor across the output terminals, and, for short wave alignment, an additional 400 ohms non-inductive resistor in series with the "high" output lead of the instrument.
- (3) A.W.A. Output Meter, type 2M8832.

ALIGNMENT TABLE.

| Order | Connect "high" side of generator to: | Tune Generator to: | Tune Receiver Dial to: | Adjust for maximum peak output |
|--|--------------------------------------|--------------------|------------------------|--------------------------------|
| 1 | X76M* | 455 Kc/s | 540 Kc/s | L18 Core |
| 2 | X76M* | 455 Kc/s | 540 Kc/s | L17 Core |
| 3 | X76M* | 455 Kc/s | 540 Kc/s | L16 Core |
| 4 | X76M* | 455 Kc/s | 540 Kc/s | L15 Core |
| Repeat the above adjustments until the maximum output is obtained. | | | | |
| 5 | Aerial Terminal | 600 Kc/s | 600 Kc/s | L.F. Osc. Core Adj. (L9) † |
| 6 | Aerial Terminal | 1500 Kc/s | 1500 Kc/s | H.F. Osc. Adj. (C16) |
| 7 | Aerial Terminal | 1500 Kc/s | 1500 Kc/s | H.F. Aer. Adj. (C3) |
| Repeat adjustments 5, 6, and 7. | | | | |
| 8 | Aerial Terminal | 6.5 Mc/s | 6.5 Mc/s | H.F. Osc. Adj. (C15) § |
| 9 | Aerial Terminal | 6.5 Mc/s | 6.5 Mc/s | H.F. Aer. Adj. (C4) §‡ |
| 10 | Aerial Terminal | 20 Mc/s | 20 Mc/s | H.F. Osc. Adj. (C13) § |
| 11 | Aerial Terminal | 20 Mc/s | 20 Mc/s | H.F. Aer. Adj. (C5) §‡ |

*With grid clip connected. An 0.001 uF capacitor should be connected in series with the "high" side of the test instrument.

†Rock the tuning control back and forth through the signal.

‡6.5 and 20 Mc/s setting on the dial corresponds with the 1500 Kc/s mark.

||Use minimum capacity peak if two can be obtained. Check to determine that the trimmer has been adjusted to correct peak by tuning the receiver to approximately 5.6 Mc/s or 19.1 Mc/s as the case may be, where a weaker signal should be received.

‡Use maximum capacity peak if two can be obtained.

Connection to Power Supply.

The design of the instrument is such that it may be connected to any supply, A.C. or D.C., for the following range:—

210-250 volts.

The receiver may, however, be operated from 115 volts mains after carrying out the circuit modifications shown in the accompanying diagram.

The following lists show the components to be deleted and those to be added:—

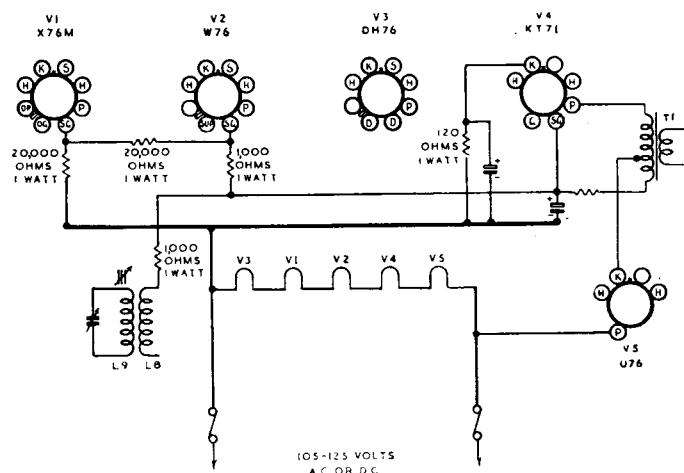
- Delete:
- R5 — 800 ohms ½ watt
 - R7 — 25,000 ohms 2 watt
 - R8 — 20,000 ohms 1 watt
 - R9 — 20,000 ohms 1 watt
 - R17 — 200 ohms 3 watt
 - R21 — 200 ohms 20 watt
 - 161 Barretter
 - Panel Lamp

- Add:
- 1 — 120 ohms 3 watt
 - 2 — 1,000 ohms 1 watt
 - 2 — 20,000 ohms 1 watt

Important.

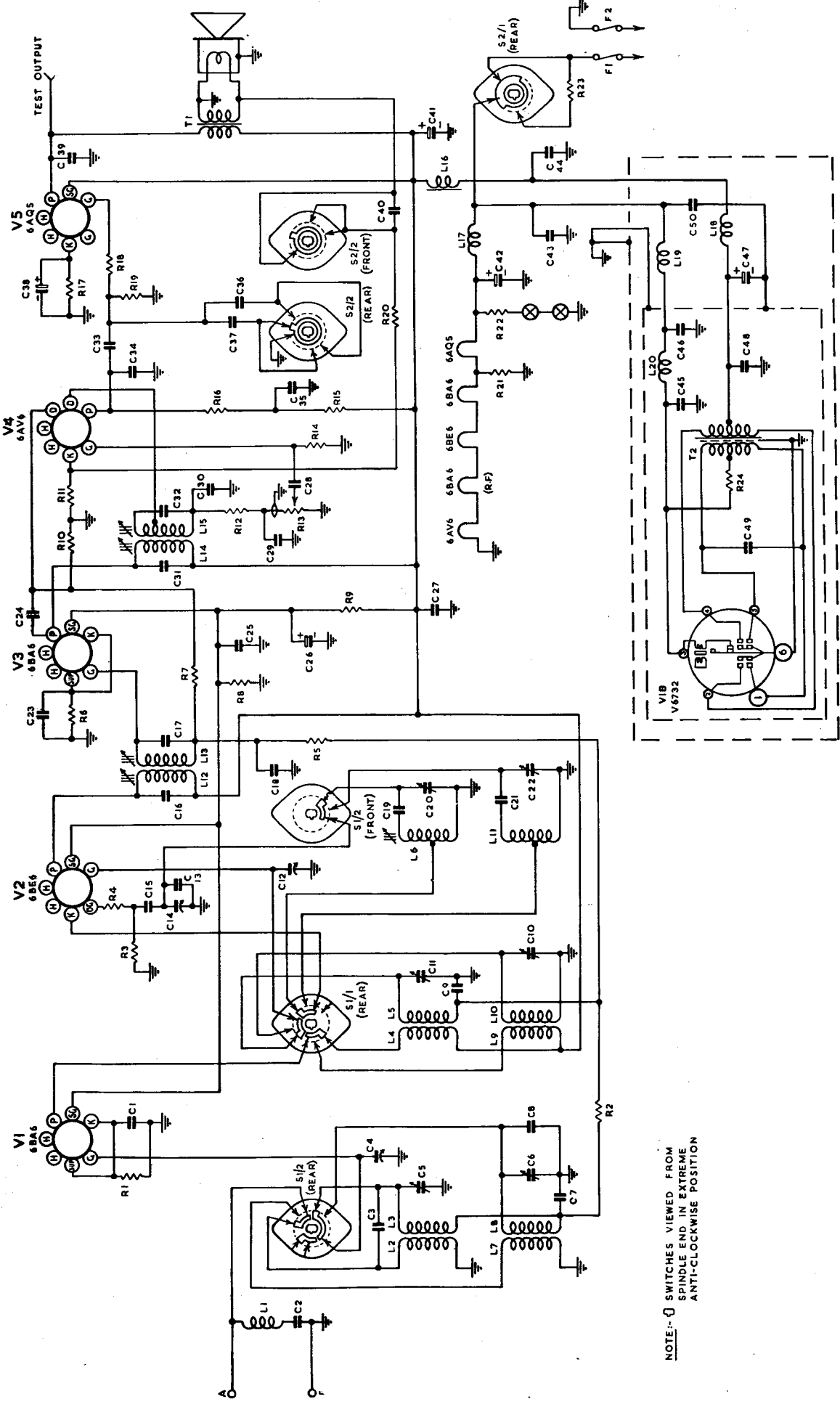
When connected to D.C. mains, the receiver will operate only when the power cable is inserted in the power point with the correct polarity. Should the receiver fail to operate

after the warm-up period of two minutes has elapsed, switch off the power point and reverse the plug in the socket.

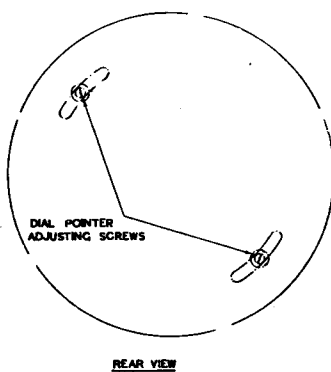
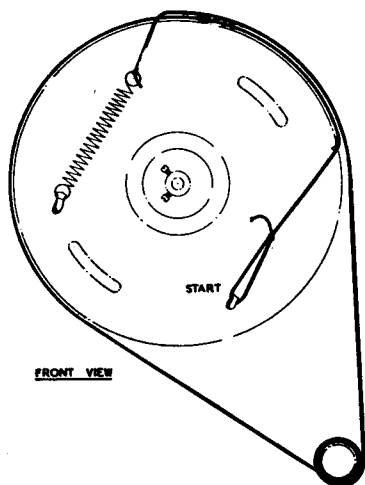


MODEL 526-M — CIRCUIT CODE.

| Code No. | Description | Part No. | Code No. | Description | Part No. |
|-------------------|--------------------------------|----------|---------------------|--------------------------------------|----------|
| L1 | I.F. Filter (including C1) | 9382 | C10 | 500 X uuF Mica (2000V test) | |
| L2, L3 | Aerial Coil 540-1600 Kc/s | 15454 | C11 | 0.05 uF Paper 400V working | |
| L4, L5 | Aerial Coil 2.3-7 Mc/s | 17562 | C12 | 4000 uuF Padder $\pm 2\frac{1}{2}\%$ | |
| L6, L7 | Aerial Coil 7-22 Mc/s | 17562 | C13 | 2-20 uuF Air Trimmer | 19659 |
| L8, L9 | Oscillator Coil 540-1600 Kc/s | 9206A | C14 | 1700 uuF Padder $\pm 2\frac{1}{2}\%$ | |
| L10, L11 | Oscillator Coil 2.3-7 Mc/s | 25115 | C15 | 2-20 uuF Air Trimmer | 19659 |
| L12, L13 | Oscillator Coil 7-22 Mc/s | 9205A | C16 | 2-20 uuF Air Trimmer | 19659 |
| L14 | R.F. Choke | 25263 | C17 | 4 uuF Mica | |
| L15, L16 | 1st I.F. Transformer | 25116 | C18 | 0.01 uF Paper 600V working | |
| L17, L18 | 2nd I.F. Transformer | 22703 | C19 | 0.02 uF Paper 600V working | |
| RESISTORS | | | C20 | 0.05 uF Paper 400V working | |
| R1 | 0.1 Megohm $\frac{1}{2}$ watt | | C21 | 0.05 uF Paper 400V working | |
| R2 | 0.5 megohm $\frac{1}{2}$ watt | | C22 | 0.01 uF Paper 600V working | |
| R3 | 30,000 ohms $\frac{1}{2}$ watt | | C23 | 70 uuF Silvered Mica | |
| R4 | 320 ohms $\frac{1}{2}$ watt | | C24 | 70 uuF Silvered Mica | |
| R5 | 800 ohms $\frac{1}{2}$ watt | | C25 | 0.05 uF Paper 200V working | |
| R6 | 5,000 ohms $\frac{1}{2}$ watt | | C26 | 0.05 uF Paper 400V working | |
| R7 | 25,000 ohms 2 watt | | C27 | 0.035 uF Paper 600V working | |
| R8 | 20,000 ohms 1 watt | | C28 | 70 uuF Mica | |
| R9 | 20,000 ohms 1 watt | | C29 | 470 uuF Padder $\pm 2\frac{1}{2}\%$ | |
| R10 | 50,000 ohms $\frac{1}{2}$ watt | | C30 | 12-430 uuF Tuning | 18621 |
| R11 | 2 megohms $\frac{1}{2}$ watt | | C31 | 0.05 uF Paper 400V working | |
| R12 | 0.5 megohm Volume Control | 5707 | C32 | 0.05 uF Paper 400V working | |
| R13 | 10 megohms $\frac{1}{2}$ watt | | C33 | 0.01 uF Paper 600V working | |
| R15 | 50,000 ohms 1 watt | | C34 | 100 uuF Mica | |
| R15 | 0.25 megohm 1 watt | | C35 | 100 uuF Mica | |
| R16 | 0.5 megohm $\frac{1}{2}$ watt | | C36 | 70 uuF Silvered Mica | |
| R17 | 200 ohms 3 watt (wire wound) | | C37 | 70 uuF Silvered Mica | |
| R18 | 50,000 ohms $\frac{1}{2}$ watt | | C38 | 200 uuF Mica | |
| R19 | 1,000 ohms 1 watt | | C39 | 0.01 uF Paper 600V working | |
| R20 | 0.2 megohm $\frac{1}{2}$ watt | | C40 | 0.1 uF Paper 400V working | |
| R21 | 200 ohms 20 watt (wire wound) | | C41 | 25 uF 40 P.V. Electrolytic | |
| CAPACITORS | | | C42 | 0.025 uF Paper 400V working | |
| C1 | 50 uuF Silvered Mica | | C43 | 30 uF 350 P.V. Electrolytic | |
| C2 | 4 uuF Mica | | C44 | 30 uF 350 P.V. Electrolytic | |
| C3 | 2-20 uuF Air Trimmer | 19659 | TRANSFORMERS | | |
| C4 | 2-20 uuF Air Trimmer | 19659 | T1 | Loudspeaker Transformer | XA21 |
| C5 | 2-20 uuF Air Trimmer | 19659 | LOUDSPEAKER | | |
| C6 | 4 uuF Mica | | | 5 inch Permanent Magnet | AC46 |
| C7 | 200 uuF Mica | | SWITCHES | | |
| C8 | 12-430 uuF Tuning | 18621 | S1 | Range Switch | 25260 |
| C9 | 500 X uuF Mica (2000V test) | | | | |



NOTE:- SWITCHES VIEWED FROM SPINDLE END IN EXTREME ANTI-CLOCKWISE POSITION



Chassis Removal.

First, remove the cabinet back, control knobs and felt washers—each knob is held by a set-screw. Then, remove two screws from underneath the cabinet and withdraw the chassis.

Dial Pointer Adjustment.

To shift the position of the dial pointer, loosen two screws in the rear of the drive drum—see accompanying drawing—move the pointer disc to the required position and retighten the screws. The diagram also shows the route of the drive cord and the method of attachment.

MECHANICAL REPLACEMENT PARTS.

| Item | Part No. |
|--------------------------------|----------|
| Aerial Terminal Assembly | 15941 |
| Cabinet | 22500 |
| Cable, Volume | 25105 |
| Dial Scale | 23380 |
| Dial Pointer Assembly | 20132 |
| Drum Assembly, Drive | 25261 |
| Front Panel Assembly | 25259A |
| Knob | 17603 |
| Panel Fuse | 25110 |
| Reflector Assembly | 25252 |
| Shield Valve | 25258 |
| Socket Valve | 4704 |
| Socket, Valve Cushion | 20142 |
| Spindle Extension | 22477 |
| Strap, Mounting | 22471 |
| Strip, Tag, 1 way | 7628 |
| 1 way | 22945 |
| 7 way | 25559 |

D.C. RESISTANCE OF WINDINGS.

| Winding | D.C. Resistance in Ohms |
|------------------------------------|-------------------------|
| Aerial Coil (M.W.) | |
| Primary (L2) | 30 |
| Secondary (L3) | 4 |
| Aerial Coil (S.W.) | |
| Primary (L4) | 6 |
| Secondary (L5) | * |
| Primary (L6) | 6 |
| Secondary (L7) | * |
| Oscillator Coil (M.W.) | |
| Primary (L8) | 2 |
| Secondary (L9) | 6 |
| Oscillator Coil (S.W.) | |
| Primary (L10) | * |
| Secondary (L11) | * |
| Primary (L12) | * |
| Secondary (L13) | * |
| I.F. Transformer Windings | 10 |
| I.F. Filter (L1) | 17.5† |
| R.F. Choke (L14) | 60 |
| Loudspeaker Input Transformer (T1) | |
| Primary | 125 |
| Secondary | * |

The above readings were taken on a standard chassis, but substitution of materials during manufacture may cause variations and it should not be assumed that a component is faulty if a slightly different reading is obtained.

*Less than 1 ohm.

†In some receivers this reading may be as high as 60 ohms.

SOCKET VOLTAGES. MODEL 526-M.

| Valve | Cathode to Negative Volts | Screen Grid to Negative Volts | Anode to Negative Volts | Anode Current mA | Heater Volts |
|-----------------------------------|---------------------------|-------------------------------|-------------------------|------------------|--------------|
| X76M Converter | 2.0 | 65 | 185 | 0.7 | 13.0 |
| Oscillator | — | — | 90 | 5.0 | — |
| W76 I.F. Amp. | 0 | 65 | 190 | 3.0 | 13.0 |
| DH76 Det., A.F. Amp., A.V.C. | 0 | — | 70* | 0.4 | 13.0 |
| KT71 Output | 13.0 | 190 | 205 | 60.0 | 48.0 |
| U76 Rectifier | 215 | — | — | — | 30.0 |

Measured at 240 V. A.C. Supply. No signal input. Volume Control maximum clockwise.

*Cannot be measured with an ordinary voltmeter.