

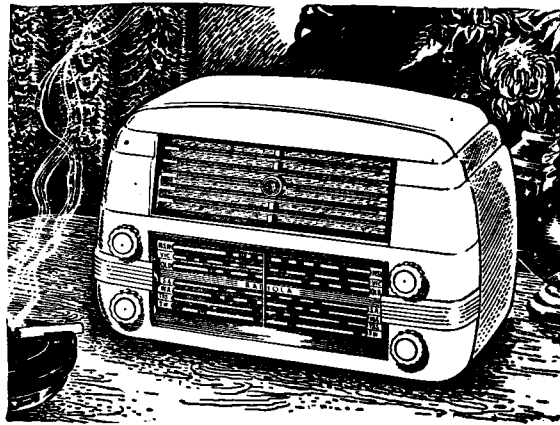
TECHNICAL INFORMATION AND SERVICE DATA

RADIOLA

Model 532-MF

FIVE VALVE, TWO BAND, 32 VOLTS D.C.
OPERATED SUPERHETERODYNE

ISSUED BY
AMALGAMATED WIRELESS (A'SIA) LTD.



ELECTRICAL SPECIFICATIONS

Frequency Ranges:

Medium Wave	540-1600 Kc/s (555-187.5M)
Short Wave	6-18 Mc/s (50-16M)
Intermediate Frequency	455 Kc/s
Dial Lamps	6.3 volts, 0.25 amp. M.E.S.
Fuse	3 amp. Cartridge
Vibrator Power Unit	26671
Vibrator Cartridge	V6732

Valve Complement:

- (1) 6BA6 R.F. Amplifier
- (2) 6BE6 Converter
- (3) 6BA6 I.F. Amplifier
- (4) 6AV6 Detector, A.F. Amplifier, A.V.C.
- (5) 6AQ5 Output

Loudspeaker (Permanent Magnet)

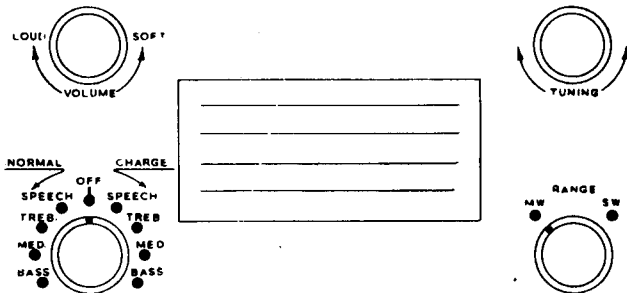
6½ inch — Code No. AG36
Transformer — XA1
V.C. Impedance — 3 ohms at 400 C.P.S.

Undistorted Power Output: 2.5 watts

GENERAL DESCRIPTION

The model 532-MF is a 5 valve, two band, 32 volts D.C. operated superheterodyne.

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, straight-line edge lighted plastic dial scale.



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 readjusted unless by skilled operators using special equipment.

For all alignment operations, connect the low side of the signal generator to the receiver chassis, and keep the generator output as low as possible to avoid A.V.C. action. Also, keep 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 a 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

Alignment Order	Connect "high" side of Generator to:	Tune Generator to:	Tune Receiver Dial to:	Adjust for Maximum Peak Output.
1	R.F. Section of Gang (centre portion)	455 Kc/s	540 Kc/s	L15 Core
2	R.F. Section of Gang (centre portion)	455 Kc/s	540 Kc/s	L14 Core
3	R.F. Section of Gang (centre portion)	455 Kc/s	540 Kc/s	L13 Core
4	R.F. Section of Gang (centre portion)	455 Kc/s	540 Kc/s	L12 Core
Repeat the above adjustments until the maximum output is obtained.				
5	Aerial Terminal	600 Kc/s	600 Kc/s	Osc. Core Adj. (L6)*
6	Aerial Terminal	1500 Kc/s	1500 Kc/s	Osc. Adj. (C20)
7	Aerial Terminal	1500 Kc/s	1500 Kc/s	R.F. Adj. (C11)
8	Aerial Terminal	1500 Kc/s	1500 Kc/s	Aer. Adj. (C5)
Repeat adjustments 5, 6, 7 and 8.				
9	Aerial Terminal	16 Mc/s	16 Mc/s	Osc. Adj. (C22)**
10	Aerial Terminal	16 Mc/s	16 Mc/s	R.F. Adj. (C10)†
11	Aerial Terminal	16 Mc/s	16 Mc/s	Aer. Adj. (C8)†

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

** Use minimum capacity peak if two can be obtained. Check to determine if C22 has been adjusted to correct peak by tuning the receiver to approximately 15.09 Mc/s where a weaker signal should be received.

† Use maximum capacity peak if two can be obtained.

Connection to Power Supply.

The receiver will not operate unless it is connected to the power point in the correct polarity. It is necessary, therefore, that all power points to which the receiver may be connected are wired with the same polarity. The plug should be wired to the receiver power cable so that the red wire connects to the positive side of the supply and the black wire to the negative side.

A warning is given on the use of "Double Adaptors", which normally have one outlet in the reverse polarity to the other. If the use of a "Double Adaptor" is essential, the outlet with the correct polarity only should be used for the receiver.

Interference Suppression.

If the receiver is in operation whilst the motor generator is running, some form of suppression will generally be necessary to reduce interference which is radiated from the generator and picked up by the receiver aerial.

It is recommended that the following be carried out:— To each generator brush connect one end of a 0.5 μ F capacitor. Then connect the other ends of the capacitors to the generator housing.

The generator housing should be earthed, using a wire as short as possible and of not less than 7/.029 insulated cable.

Chassis Removal.

First remove the cabinet back. It is fastened to the cabinet body by four screws.

Then remove the control knobs by pulling them straight off their spindles.

The chassis is held in position by four screws through the base of the cabinet. Removal of these enables the chassis to be withdrawn from the cabinet.

When replacing the cabinet back, make sure that the power cord passes through the slot provided in the bottom of the cabinet back.

Vibrator Cartridge Replacement.

Remove the chassis from the cabinet, the lid from the outer case of the vibrator unit and the lid from the inner case. The cartridge is then accessible.

Vibrator Unit Removal.

Remove the chassis from the cabinet and remove the lid from the vibrator unit outer case. Beneath the chassis, disconnect three leads, red, yellow and black which come from the vibrator unit. The unit may then be lifted out of the case.

Drive Cord Replacement.

Remove the dial frame assembly and follow the diagram which is affixed to the back. This shows the route of the cord and the method of attachment.

Circuit Changes.

Since initial production several changes have been made to the circuit as follows:—

C50 (100 μ F mica) was added and C43 was changed from .4 μ F 200V to .5 μ F 400V or 200V.

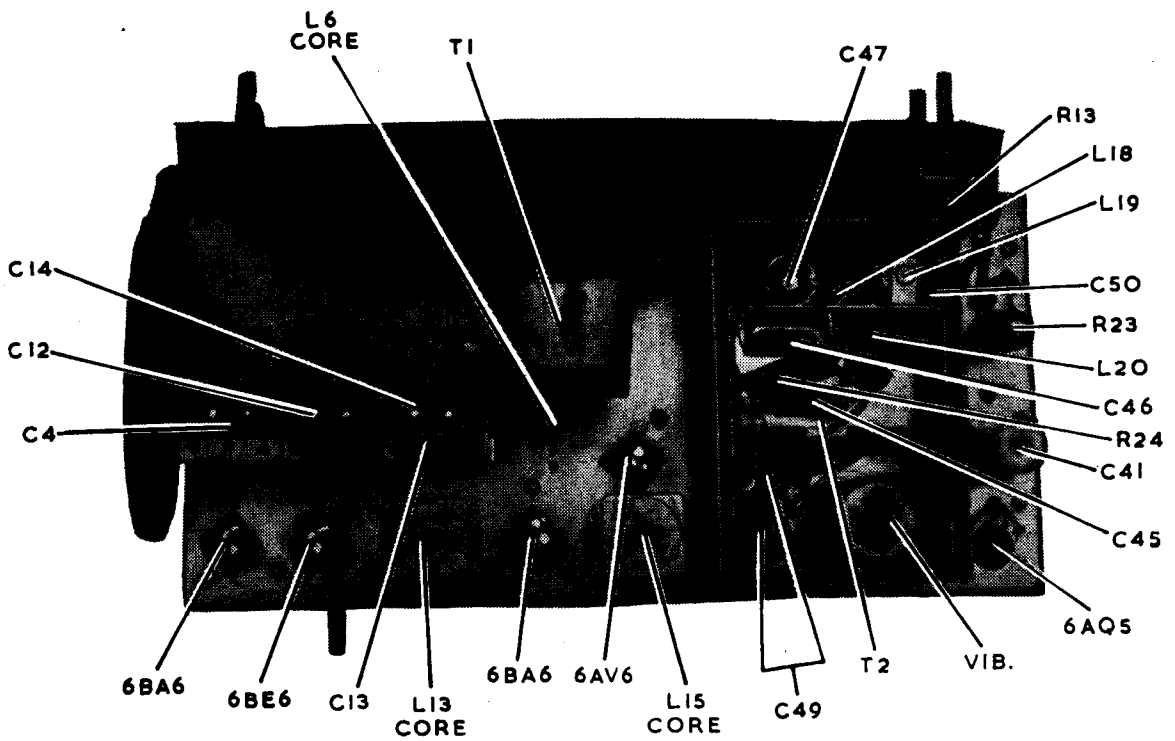
These changes improved "hash" filtering.

C42 (25 μ F 40 P.V.) was changed to 20 μ F 200 P.V. to prevent failure where high voltage (50 volts) occurs on some lighting plants. For the same reason R23 was changed from 5 ohms 25 watt to 10 ohms 25 watt.

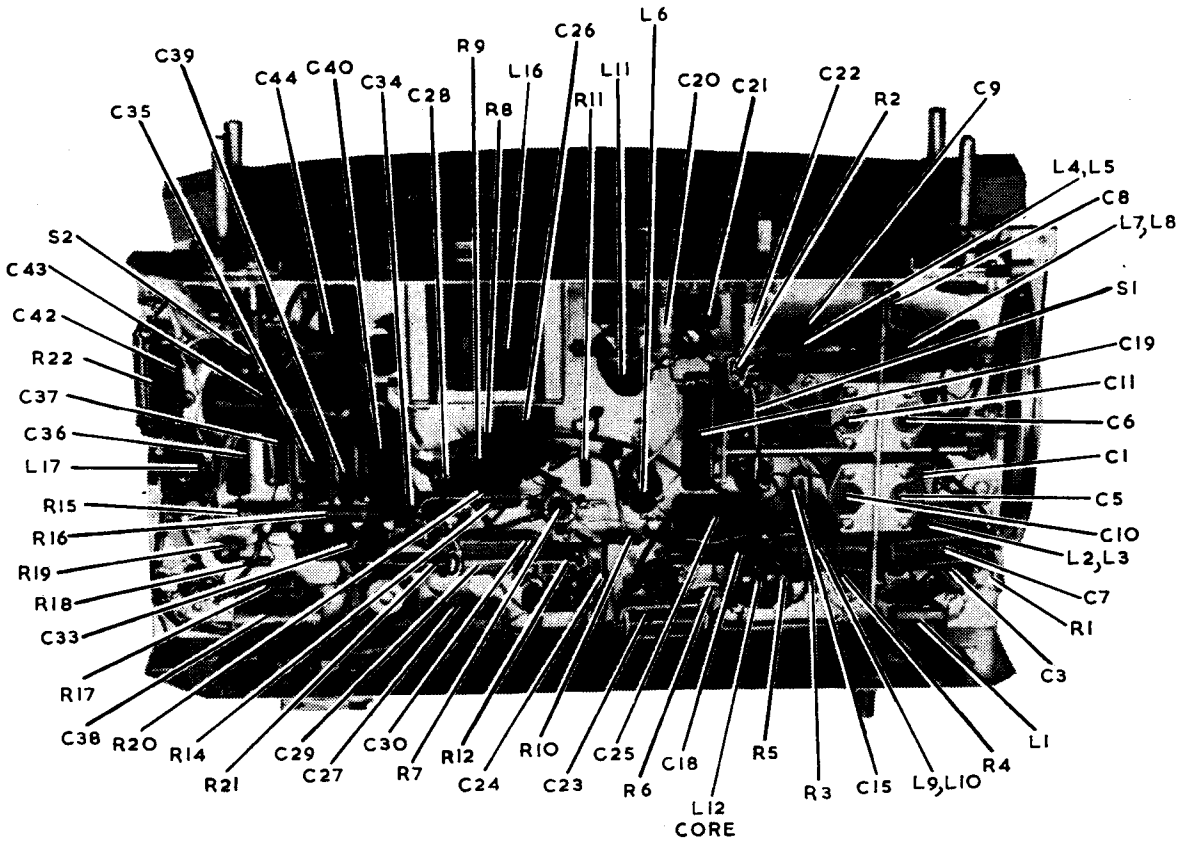
In some chassis R22 is shunted by another resistor due to substitution of dial lamps of 0.32 amp. rating for those of 0.25 amp. rating.

In later models C1 and C23 were deleted, pin 2 of each 6BA6 socket being earthed, and the cathode resistors R1 and R6 changed to 200 ohms $\frac{1}{2}$ watt.

In these models Pick-up terminals are provided in the form of pin jacks on the back of the chassis, the two left hand terminals being connected by a link for radio reception and with the link removed, the two right hand terminals may be used for pick-up connection. The right hand terminal is connected to the chassis and the centre terminal to the volume control R13.



CHASSIS TOP VIEW MODEL 532-MF



CHASSIS UNDERNEATH VIEW MODEL 532-MF

CIRCUIT CODE RADIOLA 532-MF

Code No.	Description.	Part No.	Code No.	Description	Part No.	Code No.	Description	Part No.
L1	INDUCTORS		R20	1,000 ohms	1 "	C30	100 $\mu\mu\text{F}$ mica	
L2, L3	I.F. Filter (including C2)	9382	R21	160 ohms	5 " (wire wound)	C31	100 $\mu\mu\text{F}$ silvered mica	
L4, L5	Aerial Coil 540-1600 Kc/s	15454	R22	90 ohms	5 " (wire wound)	C32	100 $\mu\mu\text{F}$ silvered mica	
L6	R.F. Coil 540-1600 Kc/s	23891	R23	10 ohms	25 " (wire wound)	C33	0.02 μF paper 600V working	
L7, L8	Oscillator Coil 540-1600 Kc/s	15949	R24	5 ohms	5 " (wire wound)	C34	200 $\mu\mu\text{F}$ mica	
L9, L10	Aerial Coil 6-18 Mc/s	15456		CAPACITORS		C35	0.1 μF paper 400V working	
L11	R.F. Coil 6-18 Mc/s	26060	C1	0.1 μF paper 200V working		C36	0.0025 μF paper 600V working	
L12, L13	Oscillator Coil 6-18 Mc/s	26678	C2	50 $\mu\mu\text{F}$ silvered mica		C37	0.01 μF paper 600V working	
L14, L15	1st I.F. Transformer	26673	C3	4 $\mu\mu\text{F}$ mica		C38	25 μF 40 P.V. electrolytic	
L16	2nd I.F. Transformer	25197	C4	12-430 $\mu\mu\text{F}$ tuning	18321	C39	0.005 μF paper 600V working	
L17	Filter Choke	15317	C5	2-20 $\mu\mu\text{F}$ air trimmer	19659	C40	0.4 μF paper 200V working	
L18	R.F. Choke	3149	C6	2-20 $\mu\mu\text{F}$ air trimmer	19659	C41	16 μF 525 P.V. electrolytic	
L19	R.F. Choke	13809	C7	2-20 $\mu\mu\text{F}$ air trimmer	19659	C42	20 μF 200 P.V. electrolytic	
L20	R.F. Choke	22936	C8	0.05 μF paper 200V working		C43	0.5 μF paper 400V working	
		22936	C9	9 $\mu\mu\text{F}$ mica		C44	0.1 μF paper 400V working	
			C10	0.05 μF paper 200V working		C45	0.1 μF paper 200V working	
			C11	2-20 $\mu\mu\text{F}$ air trimmer	19659	C46	0.4 μF paper 200V working	
			C12	2-20 $\mu\mu\text{F}$ air trimmer	19659	C47	16 μF 525 P.V. electrolytic	
			C13	12-430 $\mu\mu\text{F}$ tuning	18321	C48	0.01 μF paper 600V working	
			C14	9 $\mu\mu\text{F}$ mica		C49	1 μF 400V working (2 x 0.5 μF paper in parallel)	
			C15	70 $\mu\mu\text{F}$ mica	18321	C50	100 $\mu\mu\text{F}$ mica	
			C16	100 $\mu\mu\text{F}$ silvered mica			TRANSFORMERS	
			C17	100 $\mu\mu\text{F}$ silvered mica		T1	Loudspeaker Transformer	XA1
			C18	0.05 μF paper 200V working		T2	Vibrator Transformer	17894
			C19	470 $\mu\mu\text{F}$ padder $\pm 2\frac{1}{2}\%$			LOUDSPEAKER	
			C20	2-20 $\mu\mu\text{F}$ air trimmer	19659		6 $\frac{1}{2}$ " Permanent Magnet	AG36
			C21	4,000 $\mu\mu\text{F}$ padder $\pm 2\frac{1}{2}\%$			SWITCHES	
			C22	2-20 $\mu\mu\text{F}$ air trimmer	19659	S1	Range Switch	27084
			C23	0.1 μF paper 200V working		S2	Tone-Power Switch	27116
			C24	50 $\mu\mu\text{F}$ mica			FUSES	
			C25	0.1 μF paper 400V working		F1	3 amp. cartridge	
			C26	8 μF 525 P.V. electrolytic		F2	3 amp. cartridge	
			C27	0.1 μF paper 400V working				
			C28	0.02 μF paper 600V working				
			C29	100 $\mu\mu\text{F}$ mica				
				RESISTORS				
R1	400 ohms			$\frac{1}{2}$ watt				
R2	0.1 megohm			$\frac{1}{2}$ "				
R3	20,000 ohms			$\frac{1}{2}$ "				
R4	100 ohms			$\frac{1}{2}$ "				
R5	0.1 megohm			$\frac{1}{2}$ "				
R6	400 ohms			$\frac{1}{2}$ "				
R7	1 megohm			$\frac{1}{2}$ "				
R8	20,000 ohms			1 "				
R9	13,000 ohms			3 "				
R10	1.5 megohms			$\frac{1}{2}$ "				
R11	100 ohms			$\frac{1}{2}$ "				
R12	50,000 ohms			$\frac{1}{2}$ "				
R13	0.5 megohm	Volume Control	26442					
R14	10 megohms	$\frac{1}{2}$ watt						
R15	50,000 ohms	1 "						
R16	0.25 megohm	1 "						
R17	250 ohms	3 "						
R18	50,000 ohms	$\frac{1}{2}$ "						
R19	0.5 megohm	$\frac{1}{2}$ "						