

C·R·T·S

A green logo for KJB Museum.org.uk is overlaid on the title. It features a stylized 'KJB' in a bold, sans-serif font, with a green arrow pointing upwards from the 'J'. To the right of the 'KJB' is the text 'Museum.org.uk' in a smaller, green, sans-serif font.

SERVICE MANUAL

*COVERING*

*MODELS*

*KB WG 10 S*

*&*

*Regentone ARG 22*

A DIVISION OF **STC**

Issued DECEMBER 1963

COMBINED RADIO AND TELEVISION SERVICE LTD

REGENT WORKS, SIDCUP, KENT. Tel: FOotscray 3333

SERVICING ORGANISATION FOR K.B. REGENTONE. R.G.D.

ALSO PROVINCIAL DEPOT AT  
87 McALPINE STREET,  
GLASGOW  
CENTral 1779

# Service Data

for

## KB WG10S and REGENTONE ARG 22

Type No.	- - - -	WG10S	ARG22
Name	- - - -	“Caprice”	—
Description	- - - -	Monaural radiogramophone for reception of Long, Medium and Short Waves.	
Dimensions	- - - -	Height: 2' 4 $\frac{3}{4}$ " (73 cms)	Height: 2' 5 $\frac{3}{4}$ " (on legs) (75.56 cms)
	- - - -	Depth: 9 $\frac{3}{4}$ " (24.8 cms)	Depth: 1' 0 $\frac{3}{4}$ " (32.38 cms)
	- - - -	Length: 2' 2 $\frac{1}{4}$ " (66 cms)	Length: 2' 5" (73.66 cms)
Weight	- - - -	35 lbs. 12 ozs. (16.19 Kgs)	43 lbs. (19.48 Kgs)
Cabinet	- - - -	French walnut veneered wood, satin finish	Sapele veneer, polished
Loudspeaker	- - - -	9" (22.9 cms) × 5" (12.7 cms)	9 $\frac{3}{4}$ " (24.76 cms) × 4 $\frac{1}{2}$ " (11.43 cms)
Power Supply	- - - -	200–240 V A.C. only	200–240 V A.C. only
Valve Complement	- - - -	4 valves + 1 valve rectifier	4 valves + 1 valve rectifier
Valve Types	- - - -	6C12, 6F18, 6LD13, 6P15, EZ80	6C12, 6F18, 6LD13, 6P15, EZ80
Features	- - - -	<ol style="list-style-type: none"> <li>1. Internal rotatable ferrite rod aerial</li> <li>2. External aerial and earth sockets</li> <li>3. Tone control</li> <li>4. Loudspeaker with high flux ceramic magnet</li> <li>5. 4-speed automatic record player</li> <li>6. Radio operable without player unit showing</li> </ol>	

## GENERAL DESCRIPTION

These are monaural radiograms capable of receiving broadcast signals on the Long, Medium and Short Wavebands, each incorporating a 4-speed record changer suitable for 7", 10" and 12" records.

The record player unit on the WG10S is fitted to a hinged front lid and so can be out of sight when the radio only is used. The hinged lid on the ARG22 is opened by means of pressure when applied to its top right-hand corner.

## CIRCUIT DESCRIPTION

The aerial coils L3 and L2 for Long and Medium Wavebands respectively, are wound on a ferrite rod.

The oscillator coils are L8, L7 and L6 for Long, Medium and Short waves respectively, trimmers being provided on Medium and Short only.

The triode section of the frequency changer 6C12 is used as a local oscillator; an I.F. of 470 Kc/s is obtained at the heptode anode, which is fed to the grid of the I.F. amplifier 6F18.

Detection is provided by one of the anodes of 6LD13; the other anode provides A.G.C., which is applied to the grids of 6F18 and 6C12.

Audio amplification is carried out in the triode section of 6LD13 and then by the output pentode 6P15.

Tone adjustment is provided by an R-C network (R16 + C24) on the anode of 6P15.

Half-way rectification is obtained using an EZ80. On gramophone the pick-up is connected via 2.2 M ohm to the grid of the L.F. triode via the volume control.

## VALVE COMPLEMENT

V1	-	-	-	-	-	-	-	-	Mazda	6C12	Frequency changer
V2	-	-	-	-	-	-	-	-	Mazda	6F18	I.F. amplifier
V3	-	-	-	-	-	-	-	-	Mazda	6LD13	Diode detector and audio amplifier
V4	-	-	-	-	-	-	-	-	Mazda	6P15	Audio output
V5	-	-	-	-	-	-	-	-	Mazda	EZ80	Rectifier

## PERFORMANCE

### Waveranges

Medium waveband	-	-	-	-	-	-	-	-	-	530-1580 Kc/s	565-190 metres
Long waveband	-	-	-	-	-	-	-	-	-	153-275 Kc/s	1960-1090 metres
Short waveband	-	-	-	-	-	-	-	-	-	6-18 Mc/s	50 -16.6 metres

### I.F. Selectivity

At -6 dB  $\pm 5.5$  Kc/s

At -22 dB  $\pm 13$  Kc/s.

### Power Output

1 watt for 10% distortion.

### Power Consumption

40 watts (30 watts on radio only).

### Removal of Chassis from Cabinet

1. Remove chassis back cover (two screws).
2. Remove all connections at rear of chassis.
3. Remove speaker back cover (four screws). Disconnect mains supply to terminal block.
4. Unsolder the speaker leads.
5. Remove two 4 B.A. nuts from rear flange of chassis.
6. Remove control knobs.
7. Withdraw chassis carefully.

### WGI05

### Removal of Chassis from Cabinet

1. Remove front control knobs.
2. Remove chassis rear cover.
3. Disconnect mains lead to autochanger, P.U. connection, and speaker leads.
4. Remove 4 × 4 B.A. securing nuts and washers from chassis rear and dial plate.
5. Detach aerial rod assembly.
6. Withdraw chassis from cabinet.

## ARG22 & WG10S CHASSIS ALIGNMENT PROCEDURE

### I.F.

Set wavechange switch to M.W. with tuning condenser fully closed and volume control at maximum. Connect 3 ohm output meter to L/S leads.

If an output meter is not available an A.C. meter may be connected across the L/S.

Connect signal generator to A and E sockets.

Feed in a 470 Kc/s modulated signal and adjust I.F. cores for maximum output.

All the cores are set on the outer peak except the bottom core of the second I.F. transformer (nearest the mains transformer).

This must be set on the inner peak to avoid noise and instability.

The input should be kept as low as possible to prevent A.G.C. from operating.

### R.F.

Set wavechange switch to M.W.

Check that pointer is on 550 metres with the tuning condenser fully closed.

Connect signal generator to A and E sockets through a dummy aerial.

If a dummy aerial is not available a 200 pF condenser must be inserted in the signal generator lead.

Tune set and signal generator to 500 metres (600 Kc/s).

Adjust oscillator coil core and M.W. aerial coil on ferrite rod for maximum output.

Re-tune set and generator to 200 metres (1500 Kc/s).

Adjust oscillator and M.W. aerial trimmers for maximum output.

These two operations should be repeated until no further improvement can be obtained at 200 or 500 metres.

Set wavechange switch to L.W. Tune generator and set to 1500 metres (200 Kc/s).

Adjust L.W. oscillator core and L.W. aerial coil on ferrite rod for maximum output.

Set wavechange switch to S.W. and undo both S.W. trimmers.

Tune generator and set to 50 metres (6 Mc/s).

Adjust S.W. oscillator and aerial cores for maximum output.

Tune generator and set to 20 metres (15 Mc/s).

Adjust S.W. oscillator and aerial trimmers for maximum output, selecting the oscillator peak that involves the least capacity.

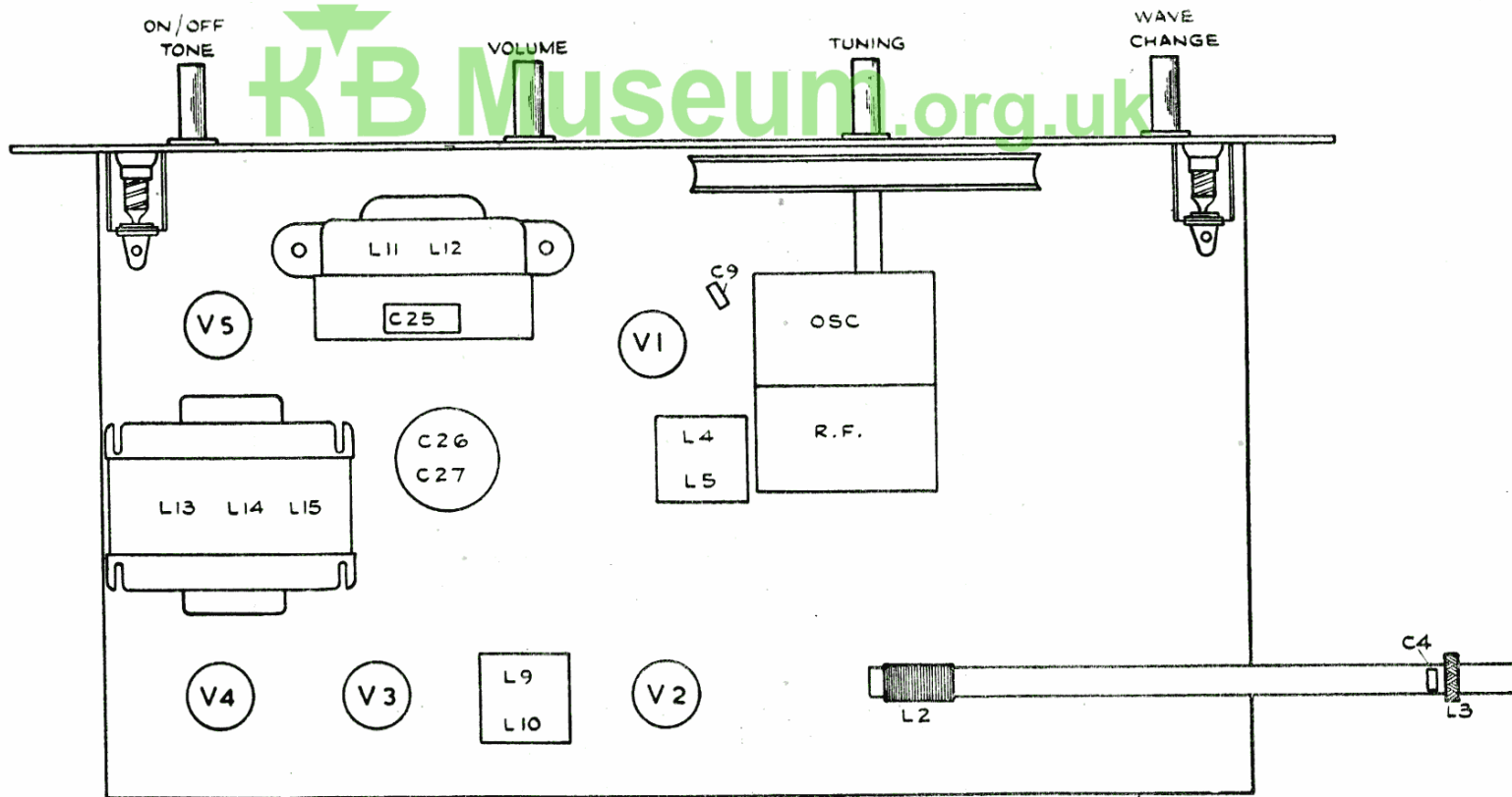
Repeat these two operations on S.W. until no further improvement can be obtained at 20 and 50 metres.

Seal cores and coils on ferrite rod with wax.

SPARES LIST ARG22 & WG10S

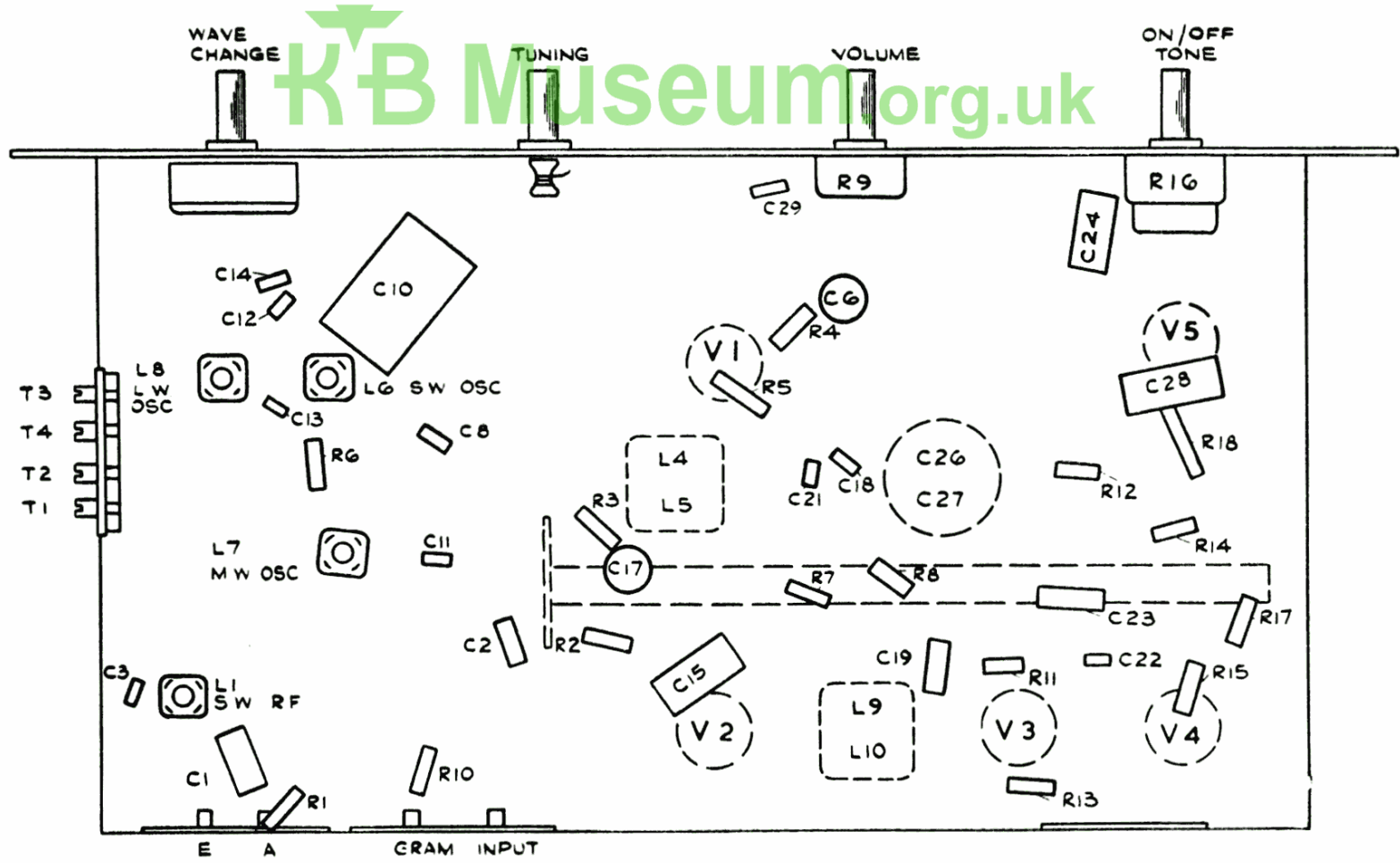


COMPONENT	CIRCUIT REF.	PART NOS.	
		ARG22	WG10S
Cabinet		836/220	797/220
Cabinet Back		836/222	797/222
Rod Aerial Assembly	L2, L3	797/30	797/30
Coil L.W. Oscillator	L8	32/107	32/107
Coil M.W. Oscillator	L7	32/32	32/32
Coil S.W. Oscillator	L6	32/108	32/108
Coil S.W. Aerial	L1	32/97	32/97
I.F. Transformers (2 off)	L4, L5, L9, L10	32/33	32/33
Transformer, O/P	L11, L12	39/AO/11	39/AO/11
Transformer, Mains	L13, L14, L15	39/S1/12	39/S1/12
Knobs		35/193	35/147
Wave/change switch		13/285	13/285
Volume Control 1 Meg.	R9	9/225	9/225
Tone Control/On/Off Switch	R16	9/226	9/226
Condenser Elect. 32-32 mfd.	C26, C27	KEM.56	KEM.56
Condenser, Tuning Gang		38/53	38/53
Trimmer 4-bank	T1, T2, T3, T4	38/52	38/52
Pointer Red		33/65	33/65
Calibrated Scale		44/22	44/21
B.S.R. UA14M, Changer		37/5	37/5
Loudspeaker		11/132	11/116



TOP VIEW OF CHASSIS

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**BOTTOM VIEW OF CHASSIS**



L2	1.25Ω	L11	500Ω
L3	6Ω	L13	340Ω
L4, 5, 9, 10	1Ω	L15	95Ω
L7	3.25Ω	ALL OTHERS	> 1Ω
L8	8.5Ω		

V1  
6CI2

V2  
6FI8  
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V3  
6LD13

V4  
6PI5

V5  
EZ80

