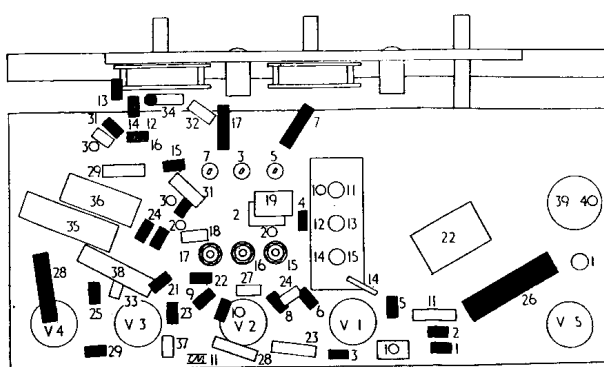
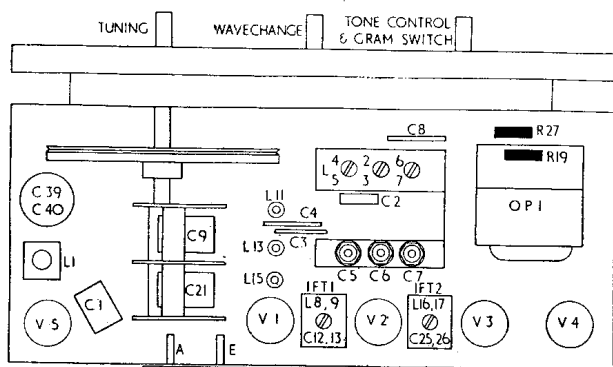


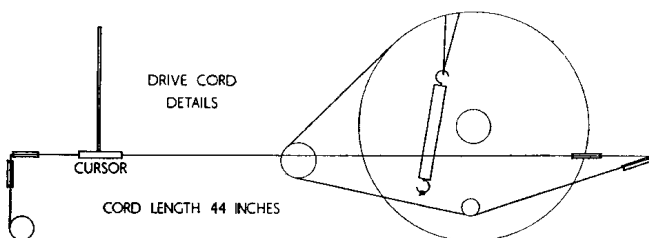
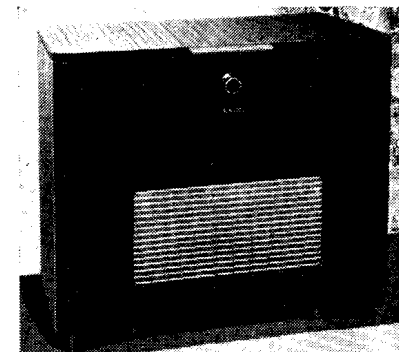
# ELECTRICAL & RADIO TRADING SERVICE CHART

EKCO ARG233



**INDUCTORS**

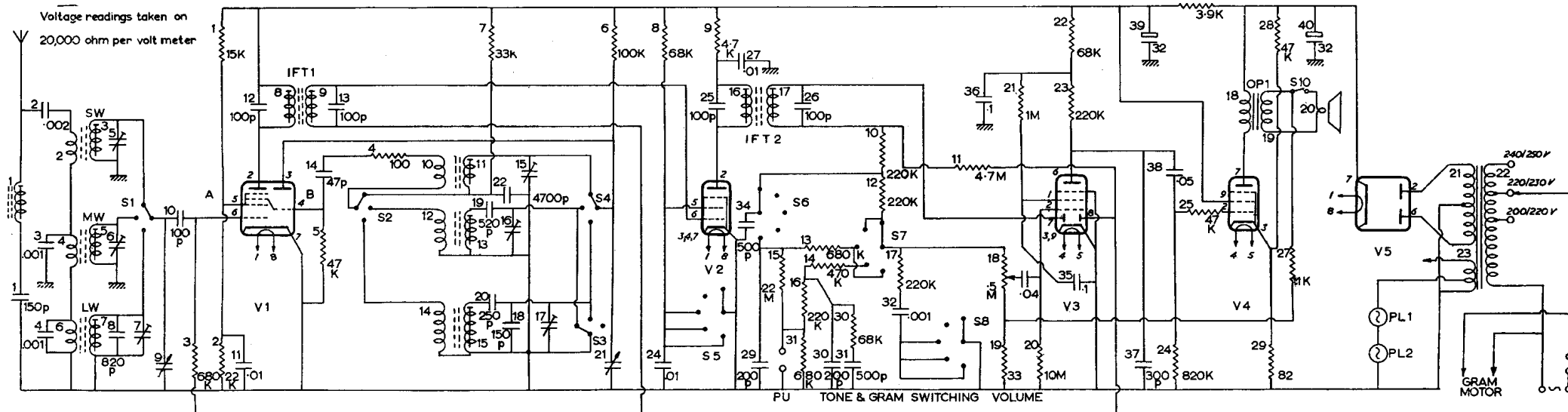
L	Ohms
1	10.8
2, 3	Very low
4	6.9
5	3.8
6	16.7
7	24.8
8, 9	14
10, 11	Very low
12	0.9
13	2.4
14	3.3
15	7.5
16, 17	14
18	540
19, 20	Very low
21	430
22	37
23	Very low



**COMPONENT RATINGS**

**Resistors—**  
 Carbon 3W: R26.  
 Carbon 1W: R28.  
 Carbon 1/2W: R1.  
 All remainder carbon 1/4W.  
**Capacitors—**  
 Silver mica: C1 2 3 4 10 12 13 14 17 18 19 20 22 25  
 26 29 31 34 37.  
 Moulded mica 400V: C11 24 27 36 32 33.  
 Metallised pap. tub. 350V: C35.  
 Electrolytic 350V: C39 40.

L	7	3	5	10	11		
				12	13		
				14	15		
C	30	34	32				39 40
	35	36	29	31	18	19	
	38	33	37	28	23		
R	13	14	12	17	7		
	31	16	15				
	24	20	30		4		
	28	25	21	23	9		26
	29			11			



	A	ECH 42	B	EF 41	EBF 80	EL 84	EZ 40
A	175		95 SW	152	155	240	255 AC
G2	60		-	80	12	175	-
K	0		0	0	0	4-25	262

## EKCO ARG233 contd.

**T**HREE-WAVEBAND radiogram in console cabinet with BSR Monarch autochanger suitable for standard and long-playing records. Operates from 200-250V 50c/s AC only. Fitted with 10in. dia. speaker.

Mains consumption 215mA on radio, 345mA on gram at 230V.

Set was released June 1954 and is priced at £69 6s. inclusive of tax.

Receiver is five-valve superhet of conventional design, employing ECH42 triode-hexode frequency changer V1, the triode section being connected as shunt-fed tuned anode oscillator.

IF amplifier V2 is EF41, while AF amplifier and diode detector V3 is EBF80. Output pentode V4 is EL84 and full-wave rectifier V5 is EZ40.

Waveband coverage, LW 1000-2000m., MW 190-570m., SW 16-52m., IF 465 kc/s.

**Aerial and earth** have extension leads from chassis to two terminals on set back. For best results a good outdoor aerial, erected as high as possible, should be used. The earth wire should be connected to a lead rising water main or copper pipe driven well into the ground.

**Pickup** leads of changer are plugged into socket on rear of radio chassis. Plug is three-pin non-reversible type. When set is switched to gram position signal from pickup is fed to top of volume control R18 via R15, R13.

To prevent breakthrough from radio, screen grid of IF amplifier V2 is earthed by S5 and diode detector circuit is broken by S7.

**Tone control.** Switched tone control across R18, volume control, is provided by action of S6, S7, S8. On radio two positions are available, normal and mellow. In mellow position top cut is applied, S6 connecting C34 between junction of R10, R12 and chassis.

On gram there are three tone positions: normal, mellow and deep. In mellow position, top of volume control R18 is connected via S7 and R14 to network R16, R31, C30, C31 and R30. In deep position C34 applies more top cut, being shunted across C29 by S6.

On all three positions R17, C32 are shunted across top of R18 and chassis by S8.

**Negative feedback** is applied to junction of R18, R19, by R27 from secondary of OPI. Additional feedback is derived from R29, un-bypassed cathode bias resistor in V4.

**Extension speaker** sockets are provided on set back and switch S10 silences internal speaker.

**HT** is obtained from indirectly heated full-wave rectifier V5, output being smoothed by C40, R26, C39. C39, reservoir capacitor, is rated to handle at least 125mA ripple current.

**Valve heaters** are in parallel and supplied from winding L23 on MT1.

### REMOVAL OF CHASSIS

Disconnect mains. Remove nine back cover screws, then withdraw A, E plugs, and disconnect LS from three-way connector.

Withdraw pickup plug, and octal plug to mains transformer. Remove VC knob. Remove VC rear cover (four screws), then two screws holding bracket and finally pass complete VC assembly into cabinet.

Remove record container by unscrewing its two base screws and lifting upward.

Chassis is held to fascia board by four screws at

front. Remove knobs and these screws; chassis may be withdrawn.

### AUTOCHANGER

Autochanger is BSR Monarch with turnover pickup fitted with renewable styli. Changer will play automatically up to ten records at each loading. Mixing of 7, 10 and 12in. types is provided by Magidisk selector and three speeds are available—33 $\frac{1}{3}$ , 45, and 78rpm.

The records must be standard, having:—

- A run-in groove;
- A run-out spiral from the end of the recorded section to a diameter less than 4  $\frac{7}{8}$  in.
- A flat surface (not dished). Warped records slip and give distorted reproduction;
- A thickness between .060 and .090in.

The changer must be mounted level.

If turntable revolves when reject knob is turned to "On," but the pickup remains stationary on rest, the knob is not being turned to its fullest extremity in the "On" direction.

If reject knob is jammed, turn turntable by hand clockwise until knob frees.

The turntable will tend to run slow if:—

- The mains voltage is low, or mains frequency below 50c/s;
- Changer has been standing in a cold place or operated in surroundings at less than 60 degs. Fahrenheit.

The changer will only function properly if:—

- The control arm drops below offset shoulder of centre spindle when last record has been dropped to the turntable.
- The control arm holds records parallel with the turntable;
- The record keeper drops freely in the slot at the top of the centre spindle;
- The needle is kept absolutely free from dust which tends to collect round the point.

The needle must be replaced if it becomes chipped or worn. To replace, take hold of the worn needle with a strong pair of tweezers and pull out at an angle of 25 degs. to the centre line of the cartridge body. The new needle should be eased into the needle housing until positioned identically to the needle on the reverse side of the cartridge. Great care should be taken when replacing the needle, as undue pressure might easily permanently damage the pickup.

Needle pressure should be between 12 and 15grams. Adjustments may be made to weight by repositioning the pickup balance spring in the various adjusting holes provided.

### ALIGNMENT

**Apparatus required:** Calibrated signal generator with standard dummy aerials for RF, output meter to match to 3 ohms.

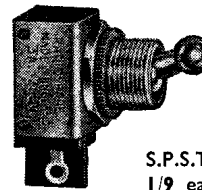
Apply Signal as stated below	Tune receiver to	Trim in order stated for Maximum Output
465kc/s via 0.1mF V1 pin 6	MW 570m.	L17 L16 L9 L8.
465kc/s to A socket 6mc/s via standard DA to A socket	As above	L1 for minimum. L11 L3.
18mc/s, as above	SW 16.7m.	C15 C5.
550kc/s, as above	MW 545m.	L13.
650kc/s, as above	MW 462m.	L5.
1,400kc/s, as above	MW 214m.	C16 C6.
160kc/s, as above	LW 1,875m.	L15 L7.
280kc/s, as above	LW 1,071m.	C17 C7.

Repeat all above as necessary.

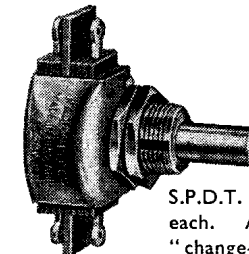
**LASTING  
GOODWILL**

*depends on*  
**IMMEDIATE  
SERVICE**

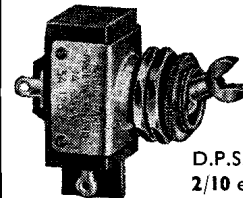
So, whenever you are faced with Switch troubles, remember our range of Toggle Switches. We produce them for practically all purposes encountered in normal service work. Here are just a few to show you—



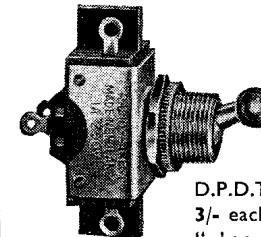
S.P.S.T. Round Dolly at 1/9 each. A Single Pole "on-off" Switch.



S.P.D.T. Rotary at 3/- each. A Single Pole "change-over" Switch.



D.P.S.T. Slotted Dolly at 2/10 each. A Double Pole "on-off" Switch.



D.P.D.T. Round Dolly at 3/- each. A Double Pole "change-over" Switch.

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