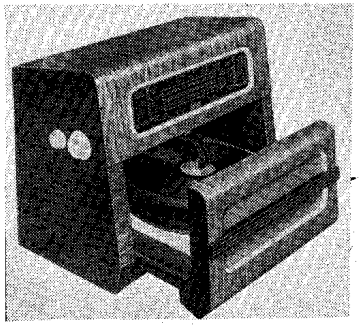
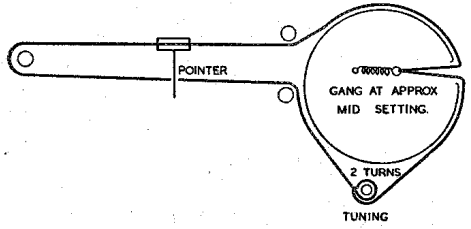
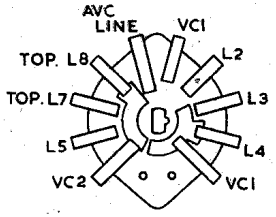
REGENTONE AUTO 99

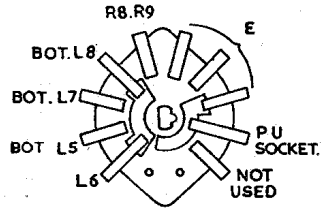
Table radiogram consisting of a five-valve three-waveband superhet with a Collaro automatic record-changer fitted with high-fidelity moving-iron pickup. Walnut veneered cabinet with pull-out drawer for auto-changer unit. Suitable for 100-120, 200-240V 50c/s mains. Made by Regentone Products, Ltd., Eastern Avenue, Romford, Essex.



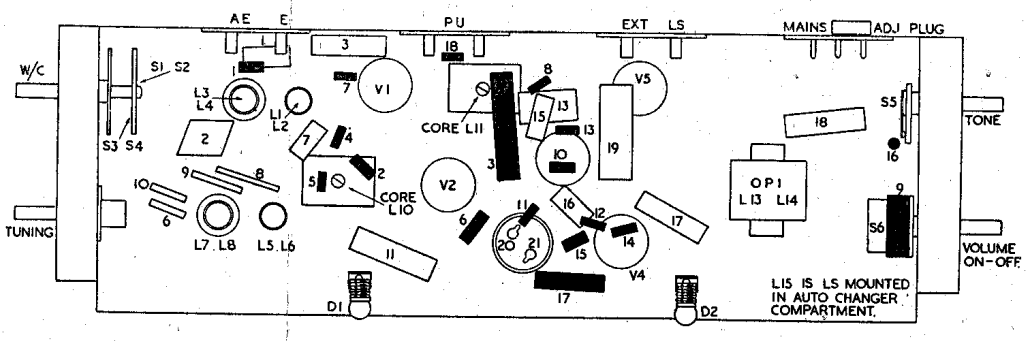


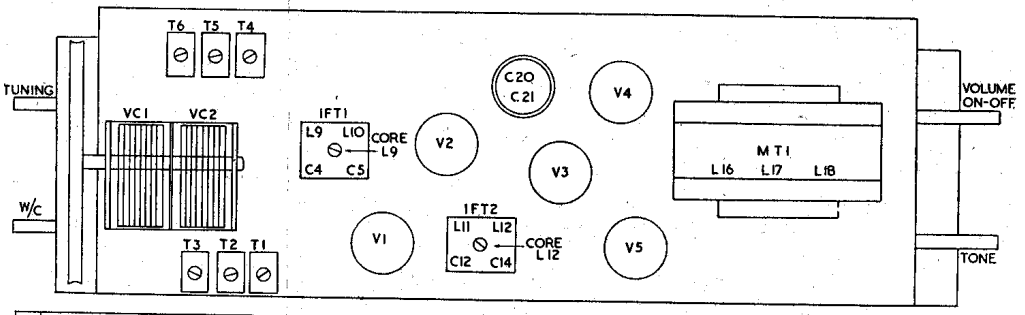


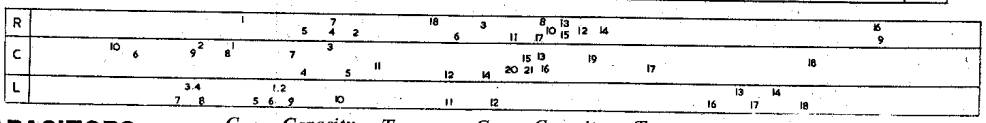
FACE



REAR







V1—7S7	V2—7B7	V3—7C6	V4—7C5	V5—7Y4	DIAL LAMPS.
Gt G3 G2 G4 At 90V 2·9MA Ah 230V ·9MA K O.V H H	G3 S G2 70V 1·3MA A 230V 6·6MA K O.V H H	AVC.D G SIG.D A 90V ·5MA K O.V H H	G2 230V G1 A 220V 35MA K 9·5V H H	A 265V RMS A 265V RMS K 290V 55MA H H	6·5V ·3A

CAPACITORS

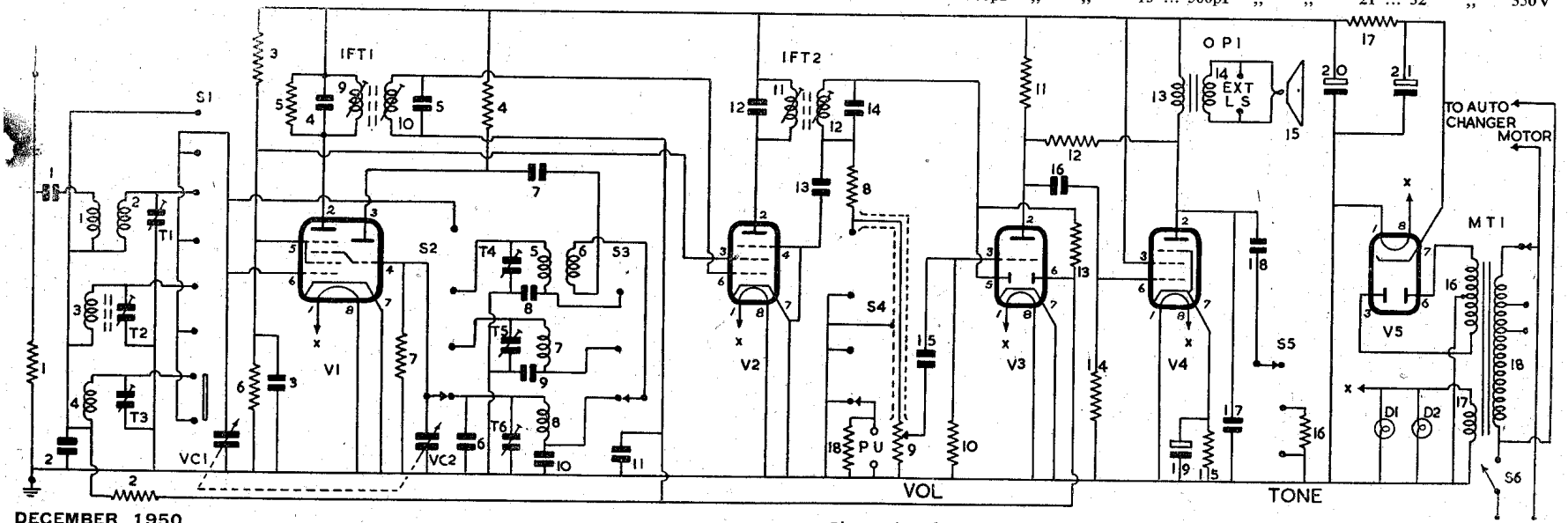
C	Capacity	Type
1	.01	Tubular 500V
2	3750pF	Silver Mica
3	.1	Tubular 350V
4	100pF	Silver Mica
5	100pF	,, ,,
6	30pF	Silver Mica
7	100pF	,, ,,
8	2700pF	,, ,,
9	410pF	,, ,,
10	125pF	,, ,,
11	.1	Tubular 350V
12	100pF	Silver Mica
13	500pF	,, ,,
14	100pF	Silver Mica
15	.01	Tubular 500V
16	.01	,, 500V
17	.01	,, 1000V
18	.05	,, 500V
19	25	Electrolytic 25V
20	32	,, 350V
21	32	,, 350V

RESISTORS

R	Ohms	Watts
1	4.7K	¼
2	100K	¼
3	27K	2W
4	47K	⅛
5	100K	⅛
6	27K	¼
7	47K	⅛
8	47K	⅛
9	250K Potr.	with spst switch
10	8M	¼
11	220K	⅛
12	2.2M	⅛
13	2.2M	⅛
14	470K	¼
15	270	¼
16	4.7K	⅛
17	1K	6W
18	22K	⅛

INDUCTORS

L	Ohms
1	Very low
2	,, ,,
3	2.5
4	31
5	Very low
6	.5
7	2
8	12.5
9	7.5
10	7.5
11	7.5
12	5
13	350
14	.5
15	2.75
16	500
17	Very Low
18	41 Total



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Continued

AERIAL is fed through C1 to SW aerial coupling coil L1, and thence fed to bottom ends of grid tuned coils L3 (MW), L4 (LW). R1 between aerial and earth sockets is a static drain. The grid coils L2 (SW), L3 (MW), L4 (LW), trimmed by T1, T2, T3 respectively, are switched by S1 to aerial tuning capacitor VC1 and to grid of triode-hexode frequency-changer V1.

AVC decoupled by R2, C2 is fed through the tuned coils to V1. When wavechange switch is in the Gram position, however, G1 is connected by S1 down to AVC line to prevent radio signal break-through.

Cathode is at chassis potential, and screen voltage is obtained from potential divider R3, R6 and decoupled by C3. Primary L9, C4 of IFT1, damped by R5, is in the hexode anode of V1.

Oscillator is connected in a tuned-grid shunt-fed circuit. The grid coils L5 (SW), L7 (MW), L8 (LW), trimmed by T4, T5, T6, C6 and padded by C8, C9, C10, are switched by S2 to oscillator tuning capacitor VC2 and to oscillator grid of V1, of which R7 is the leak. When S2 is in the Gram position oscillator grid is put down to AVC line.

Anode reaction voltages are obtained inductively from L6 on SW band, but capacitively from across padders C9, C10 on MW and LW bands and are switched by S3 through C7 to oscillator anode of V1, of which R4 is the load. In SW position of S3 one end of L6 (SW) is connected across to bottom of grid coil L5.

IF amplifier operates at 465kc/s. Secondary L10, C5 of IFT1, feeds signal, with AVC voltages decoupled by R13, C11, to IF amplifier V2. Cathode and suppressor are connected down to chassis, and screen voltage is obtained from potential divider R3, R6 and decoupled by C3. Primary L11, C12 of IFT2 is in the anode circuit.

Signal rectifier. Secondary L12, C14 of IFT2 feeds signal to one diode of V3. R9, the volume control, is the load and R8, C13, with self-capacity of screened lead between R8, R9, forms an IF filter.

Pickup. Sockets are provided at rear of chassis for the high-fidelity moving-iron pickup fitted to the auto-changer. In the Gram position S4 switches PU to volume control R9. In the three radio positions PU is earthed. R18 is PU impedance matching resistor.

AVC. IF signal is coupled by R13 to second diode of V3, where it is rectified and then fed to grids of V1, V2. Decoupling is by C11, R2, C2.

AF amplifier. Rectified signal across volume control R9 is fed by C15 to triode section of V3. Cathode is connected down to chassis, hence bias for grid is developed on C15 with R10 as leak. R11 is anode load.

Output stage. C16 feeds signal at anode V3 to output pentode V4, of which R14 is grid resistor. Cathode bias is provided by R15 decoupled by C19, and screen voltage is obtained direct from HT line, decoupling being given by C20. OP1 in the anode circuit feeds signal to a 6½-in. PM speaker L15 situated on a baffle attached to front of auto-changer drawer.

Three degrees of tone control are given by S5 in conjunction with C17, C18 and R16, which are connected between anode V4 and chassis. Negative feedback between anode and grid of V4 is introduced by R12.

Sockets are fitted on secondary L14 of OP1 for connection of a 2.5 ohm extension speaker.

HT is provided by indirectly-heated full-wave rectifier V5. Anode voltages are obtained from secondary L16 of mains input transformer MT1. Resistance-capacity smoothing is by R17, C20, C21, and reservoir C21 should be rated to handle 100mA ripple current.

Heaters of V1 to V5 and dial lamps are connected in parallel and obtain their current from L17 of MT1. Primary L18 of MT1 is tapped for inputs of 100-120, 200-220, 230-240V 50c/s.

S6, ganged to volume control spindle, is receiver ON/OFF switch and also breaks mains supply lead to auto-changer motor.

Auto-changer is a Collaro model RC500 fitted with a high-fidelity moving-iron pickup using long-playing silent stylus needles. The changer will take nine 10- or 12-in. records, and is set to take either size by a switch positioned on baseplate just below pickup head. The motor is switched on and record dropping cycle started by moving pickup head outwards away from turntable.

At end of last record the motor is automatically switched off, but pickup arm has to be returned to its 'rest' position by hand. A stop and reject switch is provided.

Auto-changer motor is suitable for use on 100-125, 200-250V 50c/s. Pulleys for 40 or 60c/s mains are available.

For details of adjustment and maintenance instructions reference should be made to the appropriate Collaro booklet.

Chassis removal. Remove four push-on control knobs and rear panel of cabinet. Unplug PU leads from receiver chassis. Unsolder the mains and LS leads of receiver from tag strip on base of cabinet. Remove the three chassis fixing screws on underside of shelf. Slide chassis backwards off shelf sufficiently to allow the mains and LS leads to be pulled through the guide slot in front of cabinet. Then tilt chassis downwards to clear top rail and carefully withdraw it.

Auto-changer removal. Slide auto-changer drawer out and remove the three Philips screws located just under LS, in corner of operating lever escutcheon and midway along right-hand side of unit plate. Close drawer and from the rear remove Philips screw on rear edge. Remove pickup lead from cleats on side of cabinet and just under rear of drawer platform and unsolder the two motor leads from tag strip on base of cabinet. Auto-changer can be lifted out.

TRIMMING INSTRUCTIONS

Apply signal as stated below	Tune Receiver to	Trim in Order stated for Max. Output
(1) 465 kc/s to g1 of V1 via .01 mF	Gang at Max. cap.	Cores L12, L11, L10, L9.
NOTE:—It is essential to tune L12, L9 to the second peak whilst unscrewing cores. L11, L10 should be tuned to second peak whilst screwing in cores.		
(2) With chassis replaced in cabinet and gang set to min. capacity adjust dial pointer to coincide with the two dots at left hand side of scale		
(3) 300 kc/s to aerial sockets via dummy aerial	1000 metres	T6, T3
(4) 1500 kc/s as above	200 metres	T5, T2
(5) 15 mc/s as above	20 metres	T4, T1