

# 'ERT' SERVICE CHART

## DYNATRON SAFARI (RG20)

**NINE TRANSISTOR** portable radiogram with LW/MW radio and four speed auto-stop player, released July, 1960, at 37gns. inclusive.

**Batteries.** Three 9V batteries of PP9 type; two in series supply 18V to radiogram and one powers record player motor.

**Wavebands.** Medium, 190-550m; Long, 1050-1800m.

**Transistors.** PXA101 (2), PXA102, XB102 (2), XB103, PXC131 (2); plus crystal diodes CG46, CG64H.

**IF frequency.** 470 kc/s.

**Speaker.** 7 x 4 1/4 in. elliptical, 35ohms.

**Output.** 500mW.

**Record player.** Four speed unit handles all record sizes and is switched on and off by auto switch on pickup. Four position speed change wheel is fitted.

**Pickup.** Lightweight turnover unit for mono records with sapphire styli.

**Aerial.** Twin 10in. ferrite rods are fitted.

**Manufacturer.** Dynatron Radio, Ltd.

**Service department.** St. Peter's Road, Furze Platt, Maidenhead, Berks.

### UNIT REMOVAL

**Motor board.** Remove speaker cover and two 4BA bolts holding speaker housing to motor board. Extract five screws fixing board to cabinet, lift board with care from battery side, slide away sufficiently to disconnect pickup and motor leads, withdraw assembly from cabinet. Remove record player from board by removing clips on retaining bolts.

**Chassis.** Remove motor board, disconnect speaker leads and remove speaker with its housing. Unplug power and pre-amp input plugs, take out four screws holding chassis to

brackets and remove chassis from cabinet. Finally, disconnect aerial plug.

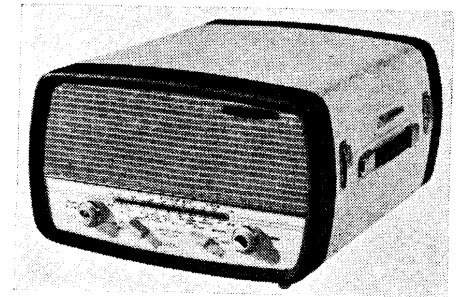
**Pre-amplifier.** Remove motor board, disconnect plugs, remove two nuts holding unit to cabinet.

### DRIVE CORD

Remove four knobs from front panel, pull off brass trim strip, undo two screws and nuts holding perspex scale and remove scale. Rotate tuning condenser to full capacity.

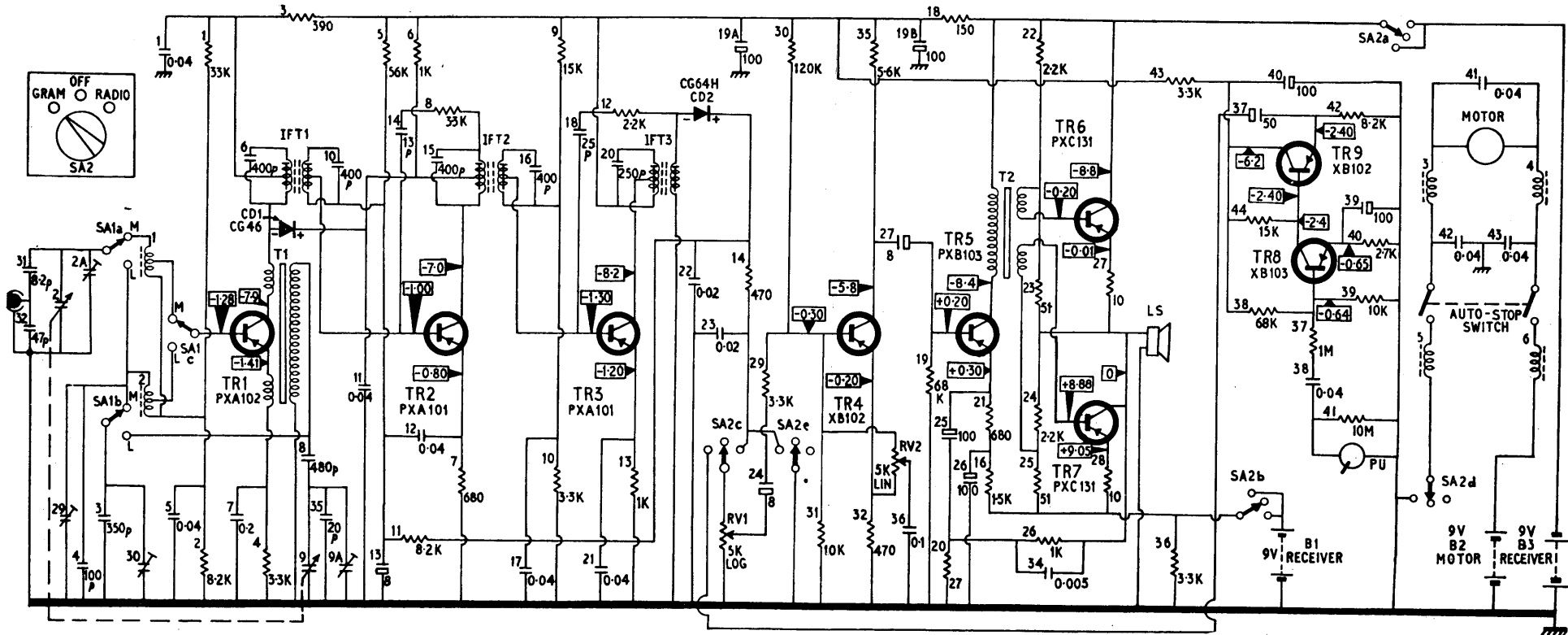
Take just over 31in. of cord and fix by means of cord clamps to ends of spring so that resulting total length of cord (including untensioned spring) is 29 3/8 in. Mark the cord at a point 7 1/4 in. from one end of the spring.

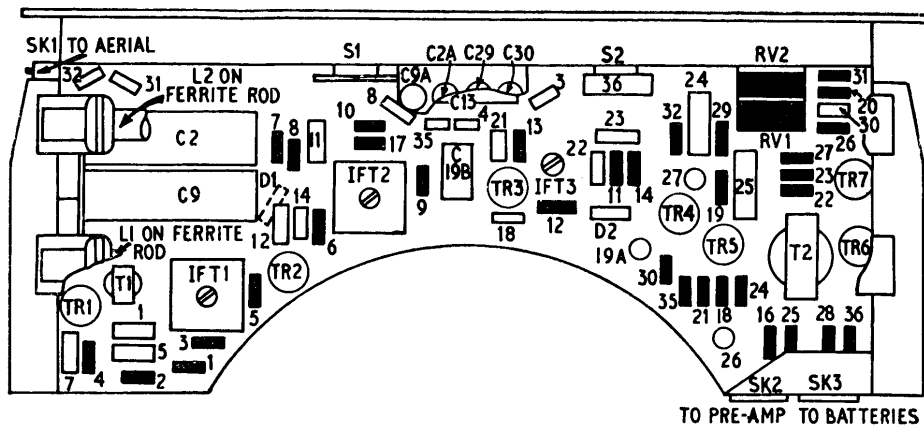
Loop the cord where marked and pass it through hole in side of tuning drum rim. Place marked point over retaining tag on drum. Wind cord twice round drum clockwise and



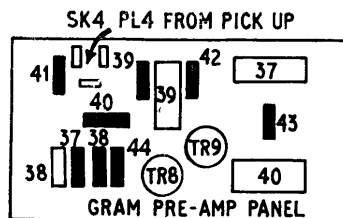
twice round tuning spindle anticlockwise. Pass cord over right-hand pulley and feed round to left-hand one.

*Continued overleaf*





Unit shown above is the main chassis and that to the right is the gramophone pre-amplifier. The latter has a cable attached which plugs into SK2 on the main chassis. Electrically, the pre-amp output is fed into the main circuit at switch SA2c.



With condenser fully meshed, fix pointer to cord and line up with hole in chassis above drum. Check that system runs smoothly, then reassemble.

**SERVICE NOTES**

**Audio sensitivity.** Inputs required at 1kc/s to achieve full output of 500mW are as follows:

55mV at top of volume control, with volume at maximum and tone control set for maximum treble-selector on Radio.

200mV at pickup sockets, same conditions as above but selector on Gram.

**Tone control.** Rotation of tone control from max. to min. treble should give change in level of 30dB (30 to 1 volts ratio) at 10kc/s.

**MODIFICATION**

Since the circuit on this chart was prepared, an extra capacitor, C44, 150pF, has been added in parallel with R39.

**ALIGNMENT**

**Equipment required.** AM signal generator; power output meter; shielded radiating loop; 0.1mF.

**IF.** Connect generator, via 0.1mF, between base of TR1 and earth; connect output meter to output leads. Switch to MW, tune to 500m. on dial, set tone control to minimum treble and volume to maximum.

Inject 470kc/s, 30 per cent modulated at 400c/s, and adjust IF transformers in following order for maximum output, reducing input to maintain output below 50mW. IFT3, IFT2 secondaries; IFT2 primary; IFT1 sec.; IFT1 prim. Repeat until no further increase can be obtained.

The input to produce 50mW output should be less than 20mV.

**RF.** Turn tuning capacitor to maximum capacity and check that pointer coincides with slot at end of scale. Inject 520kc/s via radiating loop, tune to LF end of scale and adjust core of T1 for maximum output.

Change input to 1620kc/s, tune to HF end of scale and adjust C9A for maximum output. Change to 400kc/s, tune receiver and adjust L1 for maximum; then change to 1500kc/s, tune receiver and adjust C2A for maximum output. Repeat these operations until no further improvement results.

Scale calibration error at 200, 300 and 450m. should be less than width of pointer.

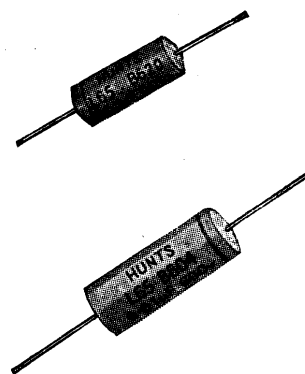
Switch to LW, tune to 1500m, inject 200kc/s and adjust C30 for maximum output. Change to 167kc/s, tune receiver and adjust L2 for maximum output; then change to 250kc/s, tune receiver and adjust C29 for maximum. Repeat these operations until there is no further improvement.

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0.05	B623	1 1/8"	7/16"	1 9
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0.007	B632	1 1/8"	7/16"	1 9
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0.01	B604	1 1/8"	7/16"	2 0
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