

McMICHAEL RECORD REPRODUCER



Electric record player consisting of a Garrard model S radiogram unit, fitted with a 10in. turntable, magnetic type pickup with automatic stop mechanism, and a two-valve amplifier, the output of which is fed into a 6½in. PM speaker. Designed to operate on 100-120, 200-250V 50c/s AC. Mahogany veneered table style cabinet. Made by McMichael Radio, Ltd., Slough, Bucks.

AMPLIFIER consists of a high-gain RF pentode V1 resistance-capacity coupled to a beam tetrode output valve V2, the audio output of which is fed to a 6½in. PM speaker. HT is provided by a half-wave metal rectifier.

Pickup is a Garrard standard moving-iron magnetic type giving an output of 0.5V at 1,000 c/s. Its output is fed through R1 to volume control R3 and thence to g1 of V1.

R2, C1 provide variable top cut tone control across output from pickup. Cathode bias for V1 is developed across R6 and decoupled by C3.

R7, which is connected between chassis and negative side of C3, forms part of network across secondary L3 of speaker output transformer to inject negative feedback into cathode circuit of V1.

Screen g2 voltage is obtained from R4 and decoupled by C2. Suppressor g3 is connected down to chassis. R5 is the anode load.

Output stage.—C4 feeds signal at anode V1 to g1 of beam tetrode output valve V2. R8 is its grid resistor and R9, decoupled by C5, provides cathode bias. Screen g2 voltage is obtained direct from HT line.

L2, the primary of output matching transformer OPI, is in the anode circuit. Secondary L3 feeds

signal to a 6½in. PM speaker L4.

Negative feedback from secondary L4 is fed by R10 to R7 in the cathode circuit of V1.

HT is provided by a half-wave metal rectifier MR fed from the HT secondary L6 of mains input transformer MT1. Resistance capacity smoothing is given by R11, C6, C7.

Heaters of V1, V2 and indicator lamp obtain their current from secondary L5 of MT1. Indicator lamp is a 6.5V, .3A bulb.

Primary L7 of mains input transformer is tapped for 100-120, 200-220 and 230-250V 50 c/s AC. S1, which is in the mains lead to both amplifier and gramophone motor, is the ON/OFF switch.

The gramophone unit is a Garrard model S fitted with a drum drive motor which maintains a constant turntable speed of 78 rpm. It incorporates a simple type fixed position auto-stop mechanism which operates when the pickup needle reaches a groove approximately 1½ins. in radius.

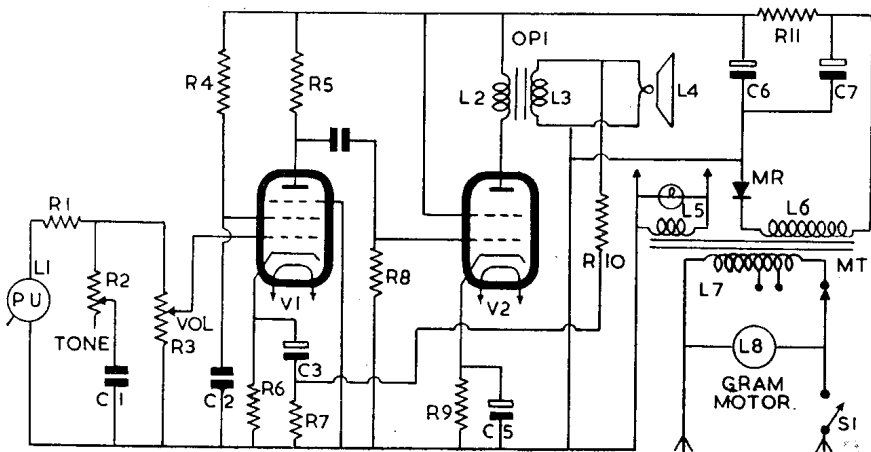
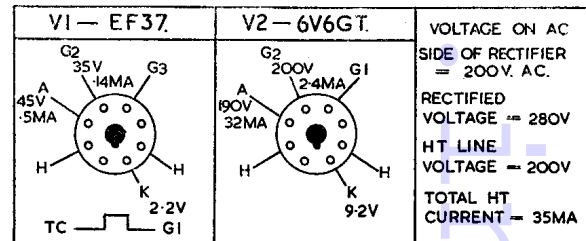
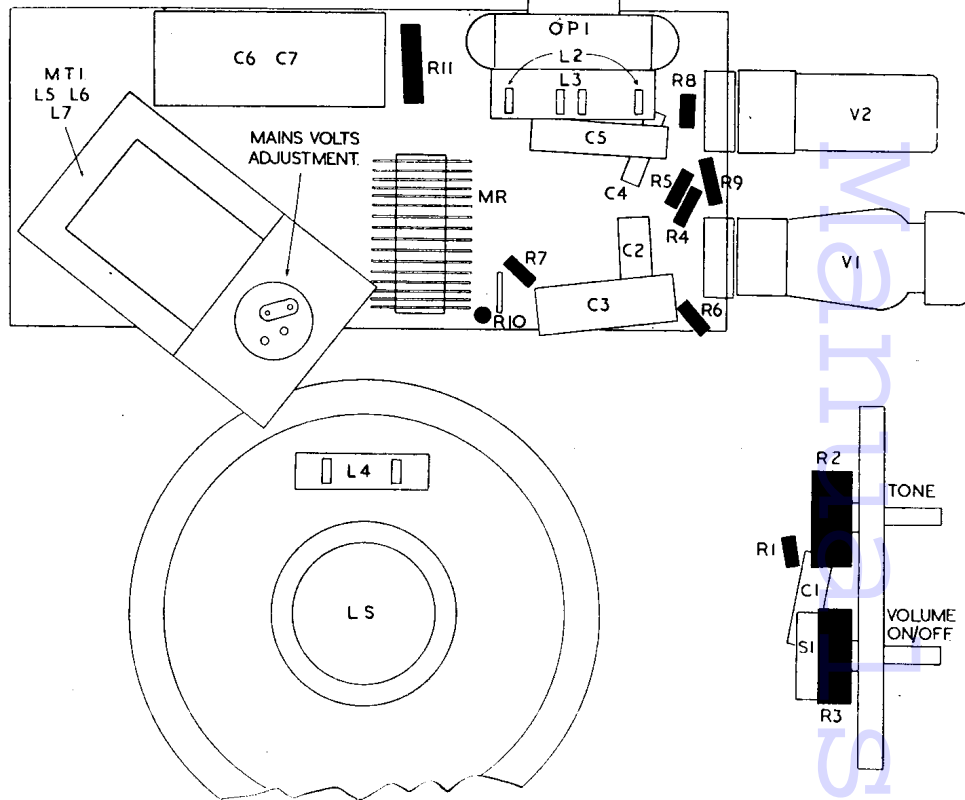
Most records will automatically operate the stop mechanism but old-type records not provided with a run-off groove may fail to trip the switch. In these cases, to switch off the pickup must be lifted off the record and moved towards turntable spindle. Motor field coil is tapped for 100-120, 200-250V AC.

Motor maintenance.—Motor and intermediate wheel bearings, being oil-retaining types, will rarely need lubricating but when necessary a few drops of fine machine oil are all that is necessary. The rubber tyre on intermediate wheel must be kept free of oil, otherwise turntable will rotate unevenly.

Removal of chassis and gramophone unit from cabinet.—Secure pickup tone arm to rest with a piece of wire or string. Remove turntable and cover plate of voltage changeover panel. Remove "continuous" mains lead from under terminals. Remove the four motorboard fixing screws (one at each corner).

Carefully raise up motorboard and pull motor mains leads through clearance hole.

Unsolder pickup and motor earth leads from tag block. Motorboard can now be lifted away to give access to amplifier chassis, etc. The amplifier chassis is bolted to bottom of cabinet by five bolts which pass through rubber grommets in chassis.



RESISTORS

R	Ohms	Watts
1	8.2K	...
2	50K	Potr.
3	1M	Potr.
4	680K	...
5	270K	...
6	6.8K	...
7	33	...
8	470K	...
9	270	...
10	270	...
11	2K	6

CAPACITORS

C	mF	Type
1	.05	Tubular 350V
2	.1	" 350V

INDUCTORS

L	Ohms
1	2000
2	350
3	.25
4	2.5
5	very low
6	158
7	50 Total
8	{ 450 (200-250V) 225 (100-130V)