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SERVICE ELECTRICAL and RADIO TRADING CHARTS

PLESSEY SINGLE RECORD PLAYER

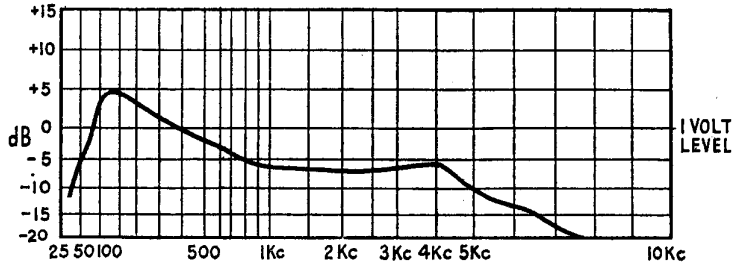
Single record player unit for 10 and 12-inch records. Fitted with 9½ inch velvet-covered turntable, magnetic pickup with finger-operated lowering device, and automatic stop. Designed for AC mains operation only. Made by Plessey Co. Ltd., Ilford, Essex.

A finger-operated pickup lowering device is a distinguishing feature of the Plessey single record player

THE motor, turntable and pickup are assembled on a brown cellulose-finished pressed steel baseplate. Bolts riveted to the baseplate are provided for mounting the unit on the motorboard of a cabinet.

Motor is a shaded-pole induction type, energised by a single bobbin coil, tapped for voltage selection, or a single winding for a specific voltage, and drives the pressed steel turntable through a spring-loaded friction gear at a constant speed of 78 RPM.

Pickup is a magnetic type, having a coil of approximately 2,000 ohms DC resistance, and is housed in a moulded bakelite tone arm. A frequency response curve of the pickup is shown.



The response curve shows bass compensation for the recording characteristic and sustained resonance-free "top"

Incorporated in the pedestal of the tone arm is the press-button mechanism which automatically switches on the motor and positions the needle of the pickup over the first or run-in groove of the record. Removal of finger from button then lowers needle into record groove. At the end of record, motor is automatically switched off.

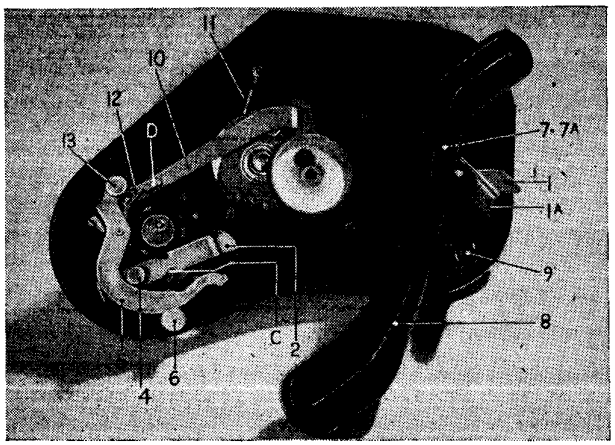
MECHANISM OPERATION

Start.—The 10-in. lever or 12-in. lever (1) or (1A) is gently depressed so that face A on lever engages corresponding face B on switch operating lever (2), displacing lever (2) sideways and operating the mains switch (3) by means of face C.

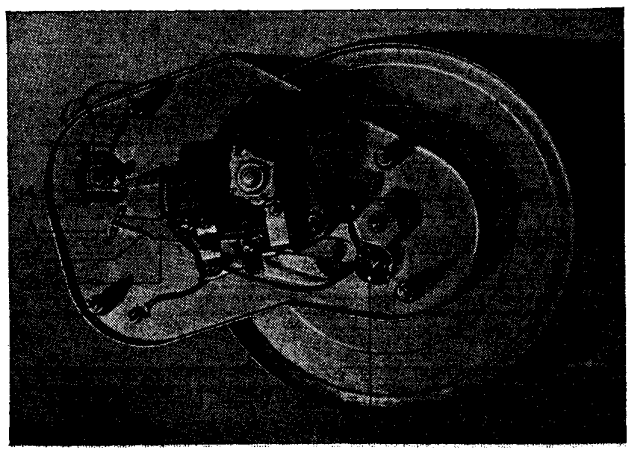
At the same time roller (4) attached to lever (2) engages cam face of switch cam plate assembly (5) causing (5) to fully displace and locate against stop pillar (6). Also 10 or 12-in. sliders (7 or 7A) are displaced vertically by levers (1 or 1A), raising the pickup assembly (8), and in doing so, releasing arm (8) from step on rest (9). This action permits the arm (9) to be displaced sideways until vertical tongue under arm (8) has located into notch of sliders (7 or 7A), and the pickup is now located above feed-in track of record.

Pressure is now gently removed from the 10 or 12-in. levers, causing sliders (7 or 7A) to return to the rest position.

Stop mechanism.—The playing unit is switched off by the following means.



These two keyed photographs of the mechanism identify the parts, the functions of which are explained in the text. The pick-up lowering device also starts the turntable. Stopping is automatic; the PU is returned to the rest position manually



Lever (10) pivoted on baseplate is held outward by spring (11) which, in turn, locates stop arm (12) against post (13). Attached to bottom of pickup post is a friction clutch provided with a tongued member (14) which is preset to zero everytime the pickup arm is returned to the rest. Lost motion is provided between tongued member (14) and lever (10) so that lever cannot be displaced until the pickup arm is at two-thirds across record.

When this lost motion has been taken up, the tongued member (14) commences to move lever (10) towards centre of turntable. A pin fitted to end of lever (10) displaces stop arm (12) pivoted on switch cam plate (5) so that radial face D engages tongue of stop ring fitted to turntable assembly at each revolution so causing stop arm (12) to be moved out of engagement.

When the pickup finishes playing the record and moves onto the play-off groove, the angular velocity towards centre increases to at least ⅛ in. per revolution. This increases in angular velocity engages tongue of stop ring on turntable with the stop arm (12) to the full depth so that with continued rotation of turntable the stop arm (12) is pulled completely across, causing switch cam plate (5) to swing towards turntable centre. Cam face of cam plate (5) displaces roller (4), which in turn moves lever (2) sideways, face C operating switch assembly (3) and switching off motor.

MAINTENANCE

Motor.—The only parts subject to wear are motor shaft, motor bearings and rim drive pulley and bearing. The motor bearings are fitted with felt oil reservoirs and these should normally give about two years' service. To oil bearings drip 8 to 12 drops of light mineral oil into the cups forming the bearing oil shield, taking care to ensure that no oil is allowed to get on motor pulley or rim drive gear tyre.

The motor is fitted with self-aligning bearings in order to use the smallest practical running clearances. Occasionally, if the apparatus receives a severe jolt in transit, the bearings may move slightly and stiffen the motor shaft, causing the motor to run slow. By tapping the free side of the laminated core lightly but sharply with a small hide mallet the misalignment tension on the bearings will be removed.

Removal of motor.—Take off turntable cup with special tool, expand turntable retaining ring and lift off turntable from spindle. Unsolder mains lead from tag on bobbin assembly and from voltage selector panel. With single winding bobbin (for specific mains voltage) disconnect mains lead from switch and from terminal block.

Remove the three 4BA bolts securing motor plate to baseplate and withdraw motor, together with idler and drive pulley assembly, through clearance hole in baseplate.

Idler pulley bearings require oiling occasionally. Two drops of oil fed into the inner shaft end will be ample.