An All-Electric Gramophone Reproducer.

The increasing popularity of really first-class gramophone reproduction units has opened up an extremely large field where the provision of the best quality of entertainment is desired at the lowest possible cost. Such outfits are admirably suited to conditions hitherto covered by the employment of small orchestras, often of doubtful ability, and to meet what will no doubt become a large demand in the near future, the General Electric Co. Ltd. will shortly place on the market an entirely new outfit for public entertainment work and specially adaptable to the requirements of Tea Gardens, Dance Halls and large Cafes.

Design of the equipment is now practically completed. It incorporates an electrically operated gramophone turntable and electric pick-up feeding a three-stage all-electric amplifier, the last stage being a power bank. The loud speaker is of the moving coil type with a large baffle having approximate dimensions of 5 ft. by 3 ft. and suitable for standing on the ground.

Experimental work in connection with this reproducer has proved its remarkable quality and efficiency and an outstanding feature is, of course, that the outfit is " all electric." The moving coil speaker has a very wide frequency range, covering the lowest and highest notes, and it will be possible to feed two or three speakers from the same outfit if desired. The volume produced should easily be capable of filling a theatre of seating accommodation of about 2,000 people.

It is anticipated that the complete outfit will be available in this country at about £80 to £100, and after installation, the cost of upkeep is practically limited to fresh gramophone records. It will provide, therefore, the very best music, vocal and instrumental, at a most reasonable cost, and for Tea Gardens, etc., abroad, this outfit is claimed to be ideal.

Private Automatic Branch Exchanges.

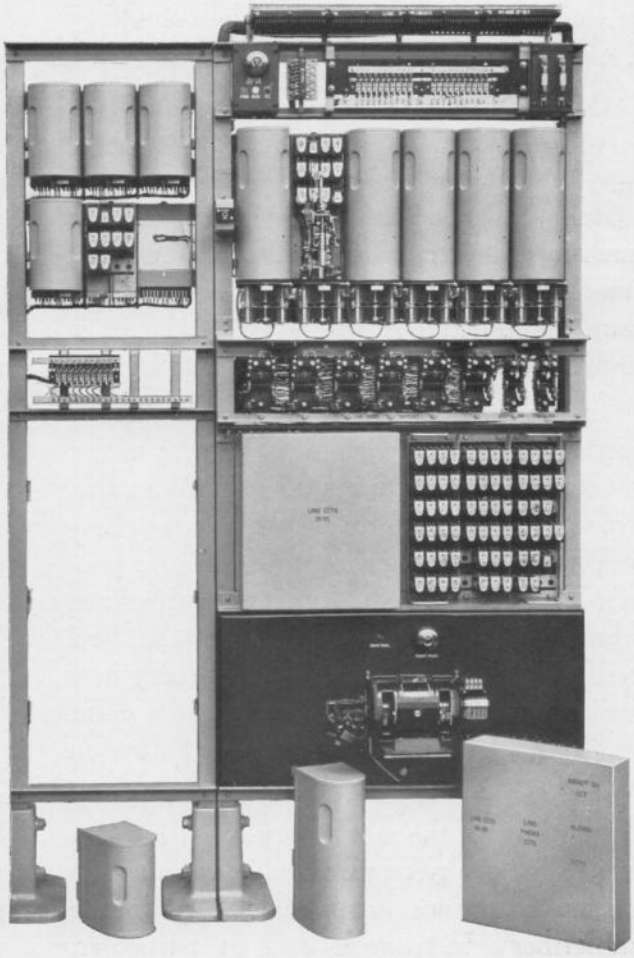
The introduction of automatic switching systems for use in hotels, business premises, etc., where intercommunication had formerly been provided by magneto or common battery manually-operated equipments, has resulted in the development of various forms of units distinct from private systems not requiring connection to the public service. Such private branch exchanges provide fully automatic service between extensions and also the facility of connection with the main public exchange.

The illustration shows a private automatic branch exchange of the latest design conforming to British Post Office requirements and manufactured by the General Electric Co. Ltd. This is a typical equipment having fifty extension lines and five main exchange lines with an ultimate capacity of eighty and ten respectively and several interesting new features are included.

An extension party wishing to call another extension removes his receiver and upon hearing dial tone, proceeds to dial the two digits

of the wanted extension, the whole connection being completed automatically On the attendant manual switchboard there is a full extension multiple, each extension line terminating in a jack and lamp. To call the operator, " 0 " is dialled and this causes the line lamp of the calling extension to glow on the manual board. The operator answers after plugging into the associated extension jack and at the same time this operation releases the automatic switches. The required connection is then completed with the other plug of the cord circuit.

Incoming calls from the main public exchange are answered by the operator who connects to the wanted extension by plugging into the corresponding jack and ringing in the usual manner Certain extensions have direct dialling out facilities and by dialling " 9 " are extended to the main exchange without the intervention of the P.A.B.X. operator Arrangements are also provided so that in the event of the main exchange being converted from manual to automatic, an extension, after dialling " 9 " to reach the main exchange, can proceed to dial directly up to the wanted line. Other features include exchange prohibition and tie line working.



Typical B.P.O. Type P.A.B.X. Equipment.

In connection with the feature known as trunk offering, a cord with special plug is provided on the manual board to enable the operator to plug into a busy extension without releasing the automatic switches and whilst the operator informs the wanted party that a trunk call is waiting, the existing connection between the two extensions is not broken.

Night service facilities enable certain extension lines to be switched through to the main exchange when the P.A.B.X. operator is not on duty. On the manual board a means of locating permanent loops is also provided and for this purpose a special key is fitted. Upon indication from the permanent loop alarm lamp, the operator throws this key which causes the line lamp of the faulty line to glow. Thus, instant identification of any such extension line is possible.

In connection with P.A.B.X. design there are several methods of operation between the manual and automatic portions of the equipment and such systems provide classes of service to fulfil different local requirements. In the next issue, these methods will be discussed and compared.