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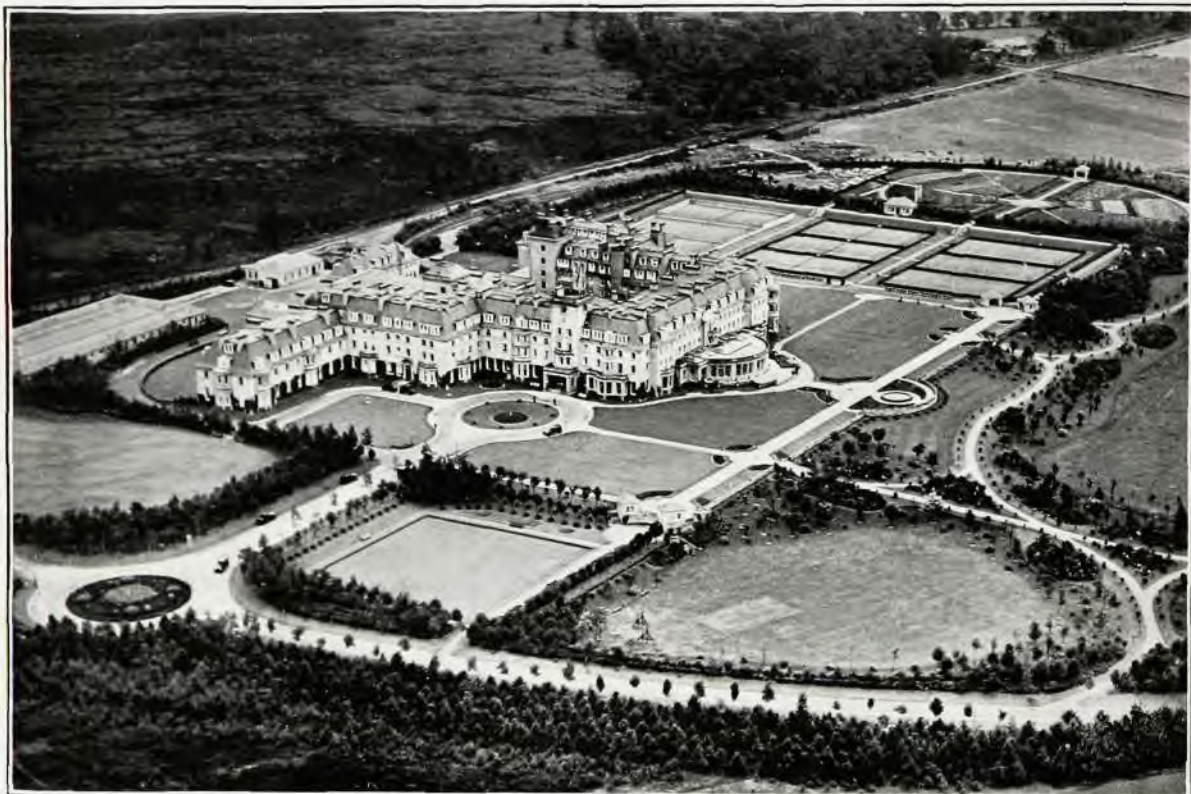
Telephones : Beeston 54225 (3 Lines)

Head Office : 67/73, KINGSWAY, LONDON, W.C. 2

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Gleneagles

C.B. Manual Switchboard for The London Midland & Scottish Railway Company, Ltd.



Courtesy of the L.M. & S. Hotel Controller.

An Aerial View of the Gleneagles Hotel and Surroundings



THE problem of providing an efficient telephone service, giving, from a visitor's point of view, the minimum of inconvenience when placing a call, was solved by The London, Midland and Scottish Railway Company when the decision was made to install an Ericsson common battery manual switchboard in the well-known Gleneagles Hotel, Scotland.

The switchboard consists of two No. 10 type one-position frameworks with matt polished mahogany facings. A cable turning section is also fitted, and provision made to add a further switchboard section when occasion demands.

The initial switchboard equipment includes the following:—

Extension Line Circuits (multiplied) ..	370
Service Lines	40
Post Office Junction Lines ..	10
Connecting Cord Circuits	30

Also the usual operator's telephone, cord test, ringing alarm, coupling, effective and ineffective meter circuits.

Extension line circuits are fitted with line relays each of 300 ohms resistance. A series multiple with five point break jacks is employed, thus obviating the necessity for cut-off relays. The sleeve of each multiple and answering jack is connected via

resistances of 30 ohms to earth for engaged test purposes.

Designation strips are fitted above each answering jack, with engraved labels of different colours denoting the group numbers. Labels for extension lines 0-99 are coloured pastel blue, 100 to 199 yellow, 200 to 299 turquoise, 300 to 399 green, and 400 to 499 pink.

Service line circuits for staff purposes are connected to jacks and calling lamps on the first operator's position, with ancillary jacks on the next position. Visual engaged signals are equipped for these lines above the respective designation strips.

Post Office junction lines are designed for working to an automatic exchange, with through clearing and operator re-call facilities. The circuits are arranged to allow for conversion to common battery or common battery signalling as and when required.

The connecting cord circuits are of the condenser divided type, with balanced double-wound relays for battery feeding. Separate positive clear supervisory signals are provided for called and calling extensions. Extra contacts are equipped on all operator's ringing keys to complete the motor start circuit for machine ringing. Each position is equipped with a switching key for hand generator connection, also a coupling key to join the operator's telephone circuits, thus enabling one attendant to control the switchboard. Meters fitted at the rear of each position and controlled by keys on the keyboard allow the operator to register all effective and ineffective calls.

Fuse panels, equipped with fuses of the alarm type are fitted in each section above the cord circuit relays. The disruption of a fuse is notified to the operator by a visual or audible signal.

To assist the cabling scheme the inter-

mediate distributing frame is erected in a recessed portion of the switchroom, with all terminal blocks, local and multiple, fitted on the front of the vertical uprights.

In the apparatus room are situated the main distribution frame, relay racks, power switchboard, ringing machines and rectifiers.

The main distribution frame which consists of six verticals, is equipped on the line side with fuse mountings; on the exchange side cables from the switchboard are connected to terminal strips, and the Post Office junctions are connected via fuse mountings and protectors.

A relay rack, consisting of two bays, is erected at right angles to the main frame. One bay is equipped with line relays and their respective alarm fuse panels, the other with relays, connection strips and alarm fuse panel for P.O. junction lines. Motor start relays, with associated spark quench apparatus are fitted on the line relay bay.

Two sets of 24 volt secondary cells, each with a capacity of 180 ampere-hours are accommodated in a separate compartment adjoining the apparatus room. Battery charging is from the main 250 volt single phase 50 cycle hotel supply via 12-ampere metal-rectifiers. Overload circuit breaker, charge and discharge switches, battery fuses, voltmeter and ammeter are fitted on the power switchboard.

Ringing supply of 75 volts 24 cycles is provided by two 5 watt ringing dynamotors operating from the 24 volt battery through suitably designed choke coils.

The order was placed about 12 weeks before the opening of the spring season, so that very special efforts, both on the part of the Company and the Railway Company, were successfully made to provide the visitors with an efficient telephone service within so short a time.