



The *Coronation Scot*, London to Glasgow, on the London, Midland and Scottish Railway.

# Telephones on Passenger Trains

## G.E.C. Equipment on the *Coronation Scot*

**M**ODERN standards of personal comfort and convenience are very well expressed in the arrangements nowadays made to relieve travel of the hardships it once imposed. In these arrangements the service staff plays a very large part, but until recent times there remained a belief that the maximum of measures necessary to earn for an operating company a reputation for being solicitous after passenger well-being consisted of the equipping of ship or train with the means of satisfying passengers' needs and the employment of an efficient and courteous service staff. It is now, however, generally accepted that the measures can be taken further and a very considerable improvement effected in the degree of service by a simple study of the means by which passengers may enlist the aid of the staff.

In the obvious arrangement employing bells and pushes, a waiter must proceed to the point of origin of a call, receive the request, proceed to say, a pantry, for the necessary service, and then return to the passenger. In such an arrangement one function of the waiter is to carry the passenger's spoken request to a point where it can be met, a function that can so much more speedily be accomplished if a telephone system replace the bell-push

system. Valuable as speed may be to the passenger, it is not the only advantage gained by allowing him to telephone his requirements, because the elimination of the intermediary eliminates also the possibility of error otherwise attendant upon the repetition of the request. Further, since the waiter travels to the passenger only once—when he delivers the items ordered—the ground he has to cover is halved and it is not too much to say that the degree of service offered to passengers is thus almost doubled.

Telephones as the efficient and flexible link between passengers and service staff have proved themselves in some notable British vessels. The same marked increase in passenger convenience and the very considerable assistance to the service staff that a telephone system affords, are now to be extended to British railway travel.

The first train thus to include the telephone among its features is the *Coronation Scot*, a London to Glasgow express of the London, Midland and Scottish Railway Co. The equipment was provided by The General Electric Co. Ltd. to the requirements of the Chief Mechanical and Electrical Engineer of the Railway Company

Surveyed from the platform, the striking feature of the train is its streamlined contour which at once suggests the high speeds of which the train is capable. The locomotive is the *Coronation*, the first of the class of engines that pull their trains over the 401½ miles between London and Glasgow in 6½ hours, to a schedule that normally limits the maximum speed attained to 80 m.p.h., with provision for an increase to 90 m.p.h. to recover any time that may be lost. The conservative rating of this performance is shown by the fact that a speed of 114 m.p.h. has been attained, and a distance of 158 miles covered at a start-to-stop average of practically 80 m.p.h.

Internally, the coaches of the *Coronation Scot* fulfil the promise of modernity made by the exterior shape and colouring. In



Fig. 1.—Telephone in Compartment.



Fig. 2.—Reply Panel in Pantry.

first and third-class corridor coaches, dining cars, cocktail lounge and club car, are beautifully-grained woods, metalwork with silvered finish, and upholstery in pleasing shades and of the maximum of comfort. Double windows prevent condensation, whilst a complete change of air every five minutes maintains a fresh atmosphere and a suitable temperature. These latter are hidden contributions to the comfort of a passenger, who finds visible amenities in a compartment in the shape of individual reading lights, a dimming switch on the main light (the lighting throughout is by Osram lamps in G.E.C. fittings), ashtrays, arm-rests, cigar-lighters, and, most noticeable of all, a telephone handset recessed in the panel beneath the window

By means of the telephone a passenger may voice his requirements to an attendant in a pantry and items he may order will be delivered by a waiter

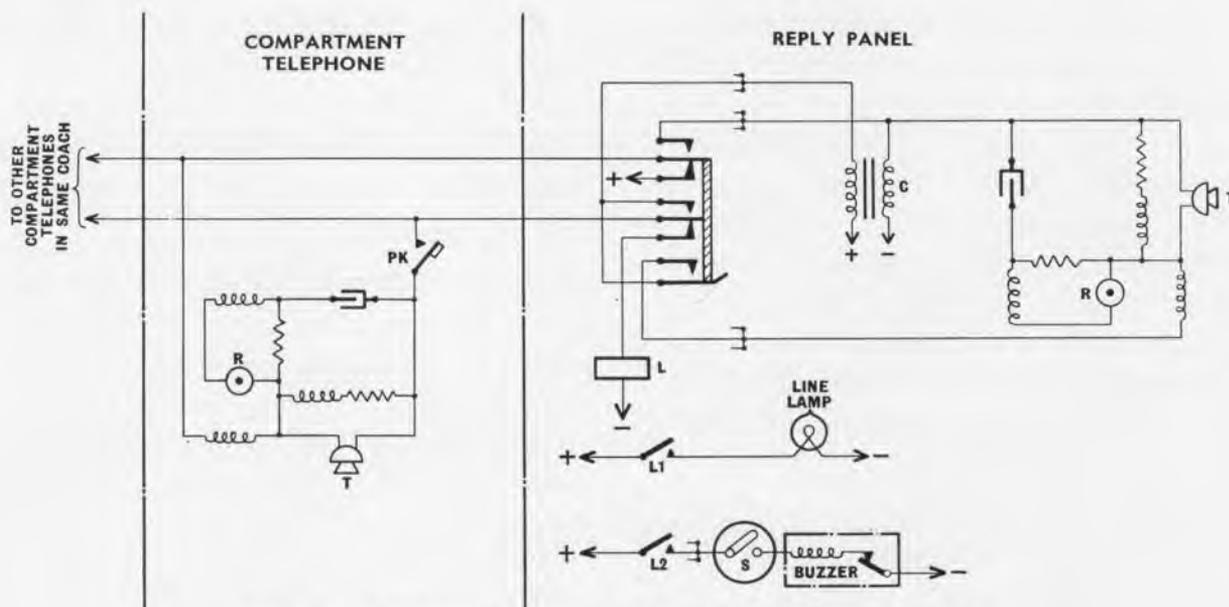


Fig. 3.—Schematic of Compartment Telephone and Reply Panel.

Each handset is connected to a line common to all compartments in a coach. The lines from the coaches terminate on reply cabinets, of which there are two, one each in the third and first class pantries in the kitchen car. Each cabinet has provision for five lines, which are terminated on keys mounted on a front panel. This panel is chromium-plated, whilst the cabinet itself is finished in cream enamel.

Above each key is fitted a lamp to signal a call from a passenger, who is answered by means of the handset supported on the top of the cabinet, the necessary circuit conditions being established by depression of the key associated with the calling line.

The cabinet was specially designed and not only tones with the bakelite panelling of the pantries but also occupies a minimum of space, a useful feature in a situation where space is necessarily at a premium.

The lamp caps are red in colour and through them the lamps provide signals of maximum visibility. Should at any time visual signalling not suffice, then the attendant may close a small switch on the front of the cabinet to close a circuit for a buzzer, which will provide an audible signal in addition when a call is made.

The circuit diagram is given in Fig. 3, from which it will be seen that anti-side-tone circuits are used for the passengers' and attendants' telephones. These are particularly necessary since the unavoidable noise when the train is travelling at speed would otherwise be picked up by a transmitter and reproduced in the receiver of the same telephone to mask incoming speech. The circuits are effective to such an extent that telephone conversation can be carried on quite normally even when the train is travelling at speeds as high as 90 m.p.h.

Current for the operation of the telephone equipment is drawn from the train-lighting system, in which a generator driven from an axle of a coach provides current at a nominal 26 volts. Although the generator is permanently floated on a battery, the telephonic noise is of a remarkably low level, due partly to the presence of a small choke coil (C in Fig. 3) and partly to the excellent commutation of the Railway Company's design of generator.

The accommodation of the handsets in the compartments presented some small difficulty. Accessibility was essential, but equally the mounting had to be neat and not situated where it could impede movement of passengers. These conditions were satisfied by recessing the handsets into the panel beneath the window. It was necessary, too, to prevent the motion of the train from rocking the handsets, a requirement that was met by the provision

by the Railway Company of spring-loaded supports, which were arranged to press against the receiver and transmitter housings of the moulding to hold the handset in position.

In the front of each recess is an engraved label bearing the simple instructions to the user, who is required only to depress the pressel key in the handset and to give the number of the telephone—which appears on the label—before making known his needs.

#### *World's Fair*

The *Coronation Scot* left England on January 19th for America and the World's Fair. A tour to include over thirty cities will give many Americans an opportunity of seeing the latest addition to Britain's luxury express trains, and countless others will doubtless be intensely interested when the engine and rolling stock are later on view in the Fair in New York.

