

Zephyr Train Telephones



Wall-mounted monophones are provided at three locations

WHEN the Chicago, Burlington & Quincy placed its two 10-car Zephyr trains in service between Chicago and Denver, Colo., on November 8, 1936, the equipment included one of the first installations of train-telephones that has been made for the convenience of passengers. These facilities have since been used with gratifying results to both the railroad and passengers for making dining car reservations, handling requests for paging, ordering of food and drinks, and other purposes where the telephone can logically be used to save steps for both passengers and train employees.

The equipment consists of telephones located at three different points in each train: One, near the head end of the second car, on the back bar in the cocktail lounge; the second, near the steward's desk in the diner, the fifth car; and the third, in the buffet section of the observation car, the tenth car. Passengers, especially when traveling in groups, are able to ascertain from their seats in the observation car or cocktail lounge when a table is available in the dining car. Likewise, foods from the diner can be served without delay in the cocktail lounge or observation car.

The telephone reduces by about half the number of trips that porters, waiters and attendants make through

the train. This not only reduces traffic through the cars, but increases the time that these employees can spend in the cars assigned to their care. Typical of the convenience of the telephone, is its availability in instances where passengers request a particular radio station or record on the train's radio-phonograph system, the controls of which are located in the observation car.

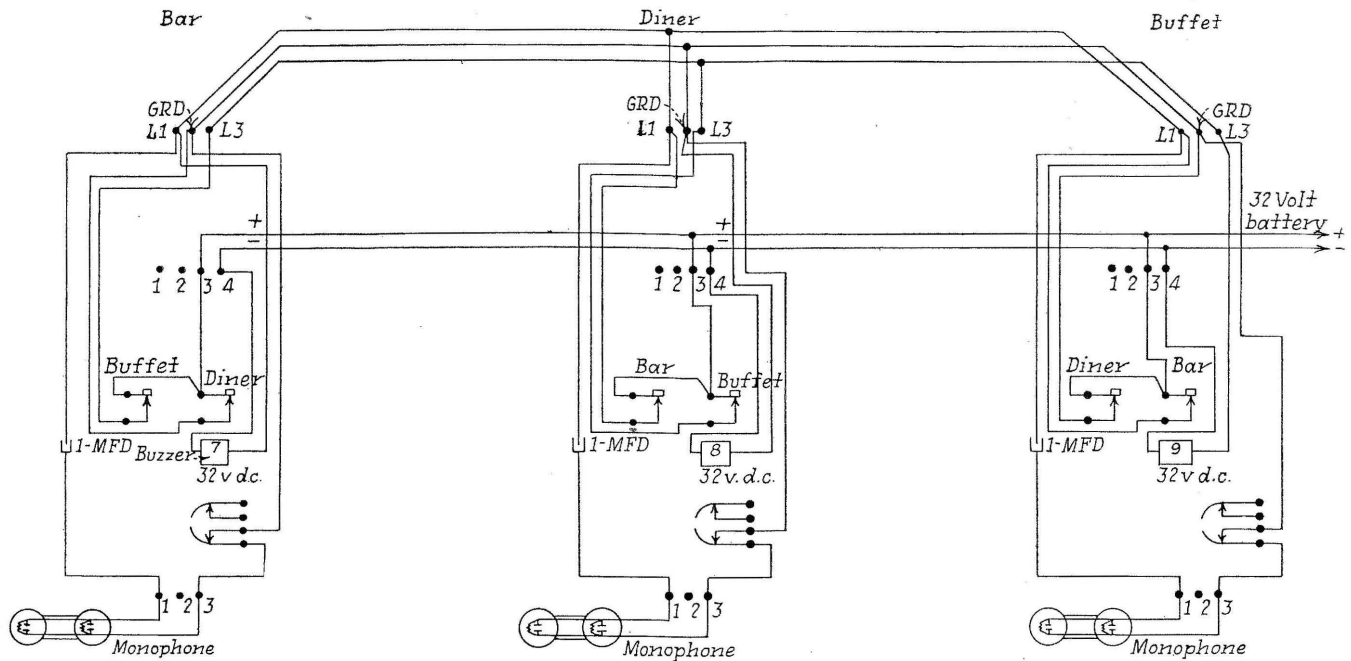
The Telephone System

Each location is provided with a wall-mounted telephone of the monophone type, with a two-push-button station for the selection of either of the other locations, and a buzzer to indicate when a call is being received. Only three wires are required between the second and last cars to handle both the talking and signaling circuits. The method of connecting the talking and signaling circuits is illustrated in the accompanying diagram. It will be noted that 1 m.f. condenser is used in series with each magnetic telephone

to prevent the d-c. signaling current from passing through the telephone coil. The three-wire circuit is carried underneath each car in three No. 14 wires run in a stainless steel duct fastened to the frame of the car, while Pyle-National Company plugs and receptacles are used between articulated cars, and Ohio Brass Company Tight-Lock couplers are provided between non-articulated units.

An interesting feature of the system is the fact that, although the signaling system requires current from the regular 32-volt train line, no batteries or generators are required for the talking circuits. The telephones are of the electro-magnetic type, with Cobolt-metal permanent magnets. Movement of the diaphragm by the voice waves changes the magnetic field established by the permanent magnet, inducing sufficient current in the speaker coil connected across the line to operate the receiving diaphragm of the telephone at the other location without the use of independent voltage sources. The system is a modern

Burlington Zephyr systems prove their value in saving steps and creating good will



Circuits for Zephyr telephones

modification of the original telephone invented by Alexander Graham Bell. The sensitivity which has been attained may be appreciated when it is realized that sufficient power may be developed by a moderate speaking voice to transmit a conversation 200

miles without independent power.

The two new Twin Zephyrs, placed in service between Chicago, St. Paul, and Minneapolis on December 18, 1936, have the same type of telephone equipment as the Denver Zephyrs. On these trains the telephone instru-

ments are located in the cocktail lounge, in the dining car, and in the corridor between the last two cars. The telephone equipment for both the Denver Zephyrs and the Twin Zephyrs was manufactured by the Automatic Electric Company.

H. W. Lewis Retires

H. W. Lewis, engineer of signals and telegraph of the Lehigh Valley, has retired, effective August 1, after completing 43 years of service with that road. Mr. Lewis was born on April 4, 1868, at Gwynedd, Montgomery Co., Pa. He was educated at the North Wales Academy and School of Business. He first entered railway service as an assistant towerman on the Philadelphia & Reading in 1884, and was employed by this road for about 10 years as towerman, telegraph operator and station agent. In January, 1894, Mr. Lewis entered the service of the New York Life Insurance Company as a special agent, but six months later he returned to railroad work as an operator for the Lehigh Valley. He was appointed a signal inspector in May, 1894, and was promoted to division signal inspector five years later. In March, 1902, he was appointed signal supervisor on the New Jersey and Lehigh

division, with headquarters at Easton, Pa., and in October, 1906, he was promoted to signal engineer, which position he held until his appointment as engineer of telegraph and signals in 1930, when the signal and telegraph departments of the Lehigh Valley were consolidated. With Mr. Lewis' retirement, the departments have again been separated, the positions of engineer and assistant engineer of signals and telegraph having been abolished, and the positions of signal engineer and superintendent of telegraph having been created. Mr. Lewis was active for many years in the affairs of the Signal Section Association of American Railroads, having served on many committees, several terms as a member of the Committee of Direction, and as chairman of the Signal Section, A.R.A., in 1929. He also maintained membership in the T. & T. Section, A.A.R. Mr. Lewis served

as consulting signal engineer of the Lehigh & Hudson and of the Raritan River railroad, and during Federal control was signal engineer of the Susquehanna & New York. Outside



H. W. Lewis

the railroad field, Mr. Lewis served the city of Bethlehem, Pa., as a member of the Board of Education for 22 years, with 2 years as vice-president and 12 years as president.