NEWS

Dr. Fisk to Serve on Guggenheim Foundation And M.I.T. Corporation

Dr. J. B. Fisk was recently elected a member and trustee of the John Simon Guggenheim Memorial Foundation. Established in 1925 to improve quality of education, foster research, and enhance better international understanding, the Foundation offers fellowships to further the development of scholars and artists by assisting them in their research in any field of knowledge.

Dr. Fisk has also been elected an alumni member of the Massachusetts Institute of Technology Corporation. The term of the election is five years.

Experimental Set Using Push Buttons Placed on Trial

One of the important links in telephone communications is the connection between the customer's telephone set and his central office. Over this connection, the customer not only talks but also sends the digits of the number he is calling. With automatic equipment, he does so with successive turns of his rotary dial; the dial mechanism sends trains of d.c. electrical pulses representing the digits.

Another way to send called-number digits is to generate tone pulses with push buttons. To find out whether customers would like to have this type of service, and whether they would benefit from faster calling, the Laboratories has designed an experimental push-button telephone. Some 400 preliminary models were recently placed on trial in Hamden, Connecticut, and in Elgin, Illinois. Installed temporarily in offices and homes at these locations, the sets are being used to obtain field data as a valuable addition to the preliminary results of laboratory tests.

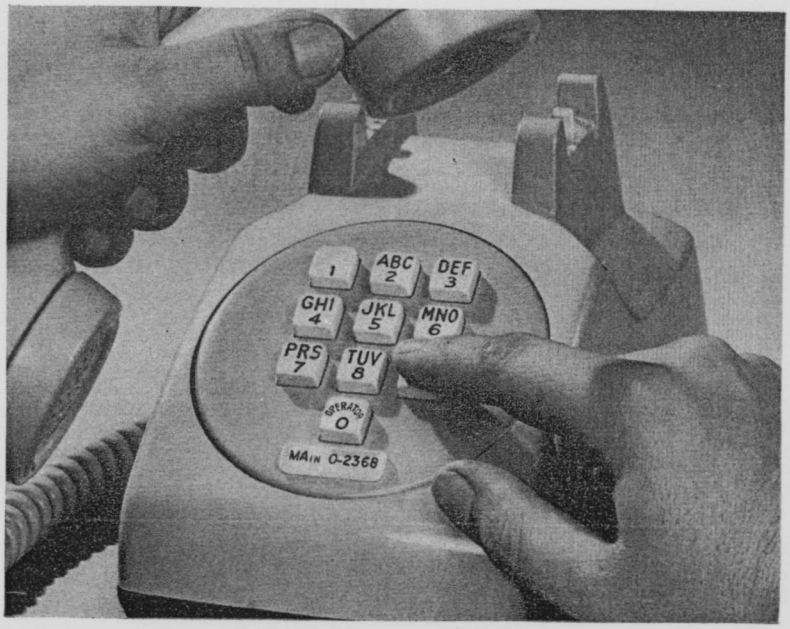
Transistor Oscillator

The push-button unit was designed to fit into the same shell that now houses the standard instrument. It contains a transistor oscillator that, when a push button is depressed, produces two simultaneous tones. These are coded so that a different combination of tones identifies each of the digits. Users hear the tones at a reduced level in the receiver of the telephone set.

The use of tones creates, in effect, a new electrical "language" to be interpreted by the central office. Thus, special translators have been designed to adapt existing offices for receiving numbers from push-button telephones.

Tests at Bell Laboratories have indicated that with push buttons, some people can key a seven-digit number in less than two seconds, although the average time is about five seconds. The corresponding average time for rotary dialing is about nine seconds. After the number has been keyed, the time for a push-button call to go through would depend on the type of switching equipment in the local office. With crossbar switching, the time is reduced nearly in proportion to the faster keying by the customer. When the office has step-by-step switching equipment, the call would go through at a slightly better speed than with rotary dialing.

Considerable attention is being given to the design of the push-button unit so that new models will incorporate improvements. Among the studies are investigations of the size, shape and arrangement of the push buttons, and also of their action or "feel." It has been found, for example,



Laboratories experimental push-button set (also see cover). Push-button unit here includes changes made subsequent to trial model.