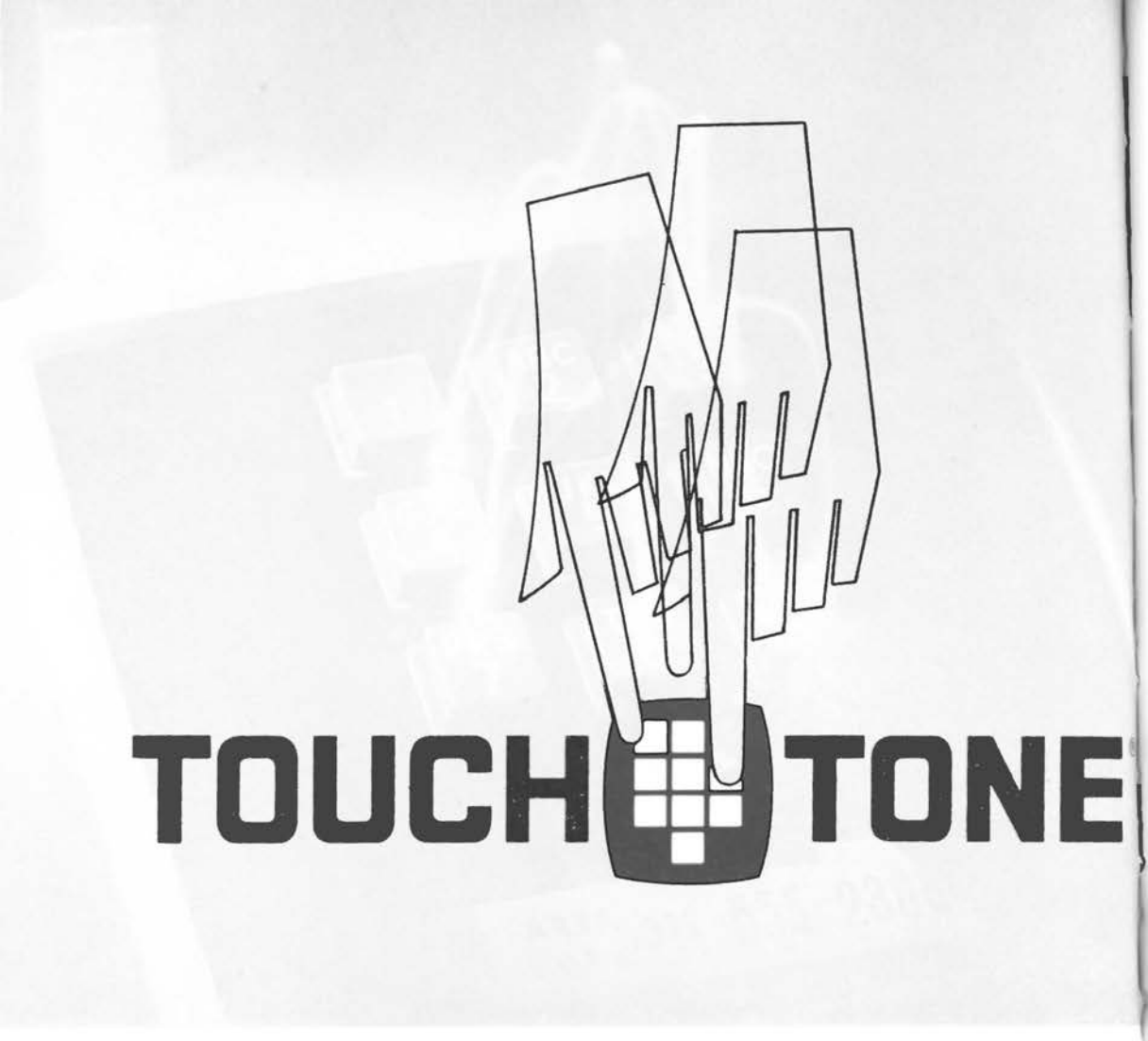


"Just Touch and Talk" is the word for the new TOUCH-TONE telephones that will soon begin to make their appearance. Here is a report on progress to date, present plans and a glance at the probable future of this new service

TOUCH-TONE® telephones will make their presence known in a few communities served by the Bell System beginning late this year.

This new service is the result of several years of development and testing, culminating with market trials conducted over a two year period in Findlay, Ohio, and Greensburg, Pennsylvania. Customers in these towns clearly indicated they liked the modern speed and convenience of TOUCH-TONE service. Ninety-six percent of the buyers said they thought

service is here...

Donald G. Hiatt, *Staff Representative*
Marketing Department, A.T.&T. Co.

TOUCH-TONE service was an improvement. The results obtained in these trial cities clinched the decision to begin offering TOUCH-TONE service on a gradual basis. Already, Western Electric has started initial production of the new TOUCH-TONE telephones. Plans call for the manufacture of about 20,000 sets in several models before the end of 1963.

The full range of colors and styles now offered will be available in the new line. In addition, there will be a new, small wall set which has been designed especially for the new service.

A New Concept

TOUCH-TONE service represents a completely different concept in telephone calling and signaling. The standard dial is replaced by a ten button keyboard arrangement. Each button carries the same number and letter designation as the corresponding hole in the rotary dial on a conventional telephone. As each button is pressed, a combination of two musical tones indicates the number has been sent to the central office equipment.

However, the main differences between TOUCH-TONE and dial service are those you cannot see. The signals generated by a rotary dial are pulses of direct current. These may be likened to the action of turning on and off an electric light switch. Each digit dialed opens the circuit momentarily and then closes it from one to ten times, and this difference between on and off results in a small pulse which is

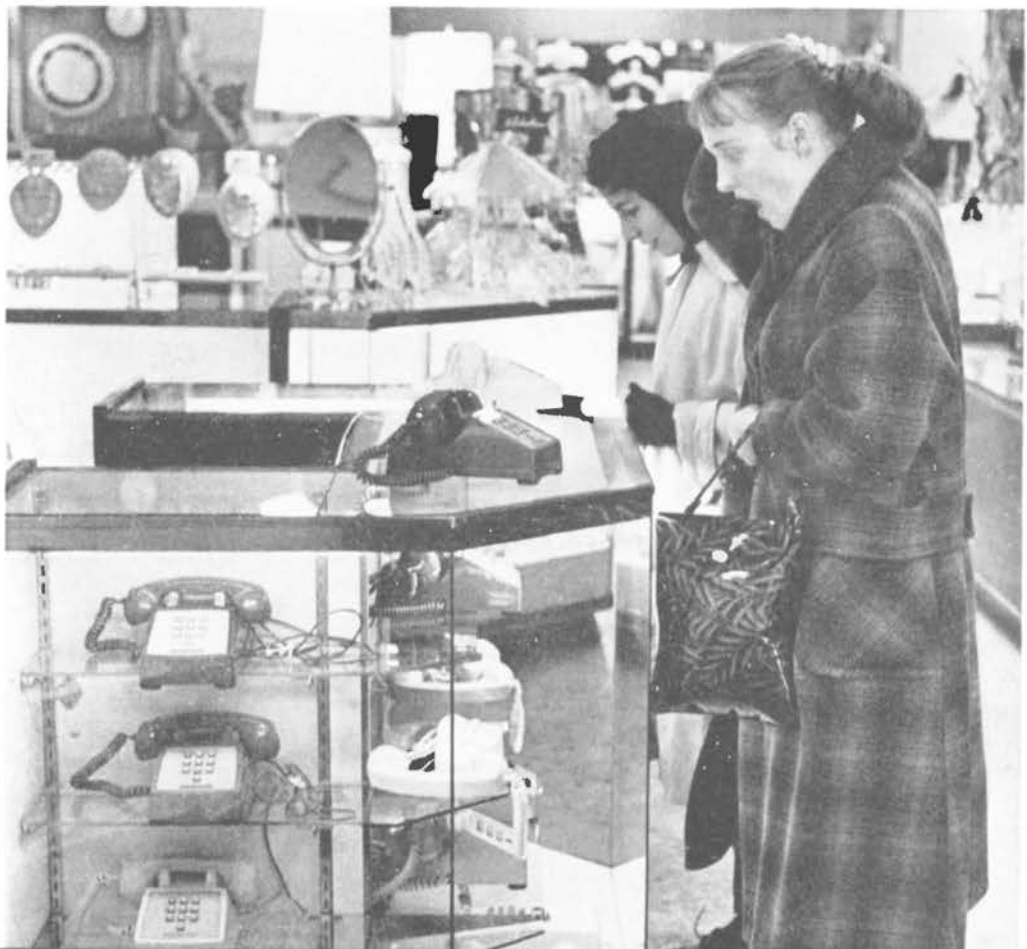
TOUCH-TONE

transmitted to the central office where the pulses for each digit are counted. These pulses are then released at the proper rate to switch the call.

On the other hand, with TOUCH-TONE service, signals are alternating current tones, which are similar to some of those in the human voice. These voice frequency tones are produced by a new type of signal generator in the telephone set itself. When one of the buttons is pressed, the signal generator produces musical tones that identify the digit. Each digit is represented by a different combination of two discrete frequency tones. Designers have selected these frequencies to minimize the possibility that frequencies present in speech, music and noise, could imitate a digit, and thus cause wrong numbers.

The difference in the signaling "language" created by the two types of telephone sets must be taken into account in the central office. Since our existing central office equipment was designed to understand dial "language," an automatic translator, called a receiver-converter, has been designed to translate TOUCH-TONE language into one that central office equipment can understand. This will permit both TOUCH-TONE and rotary dial telephones alike to work in the same central office. Bell Operating Companies can introduce TOUCH-TONE service gradually, while they continue to use equipment in which they have a multi-billion dollar investment. Even then, the conversion must be gradual, due to the added investment in the receiver-converter equipment.

When TOUCH-TONE telephones were first offered to the public during market trials in Findlay, Ohio and Greensburg, Pennsylvania, some prospective customers like this young lady could scarcely believe the shape of things to come.



Still another important difference exists between rotary dial and TOUCH-TONE service. Once a connection is made with the rotary dial, further operation of the dial will result in a series of audible clicks or possibly a disconnection. With TOUCH-TONE service, however, signals can be sent over the established connection, and with a device at the other end to interpret them, can be used for many functions. This is called end-to-end signaling. In the not-too-distant future this feature is expected to lead to the development of a whole new family of Bell System communications services.

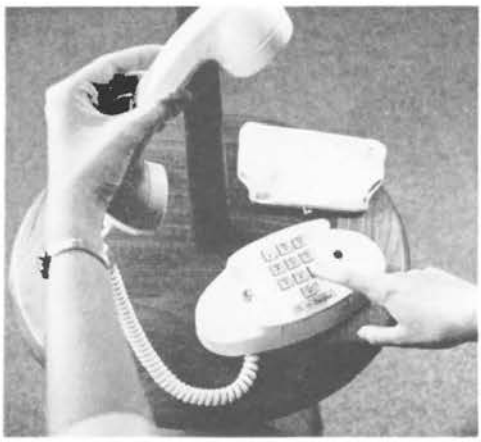
A housewife might use a TOUCH-TONE telephone to turn on a household appliance although she is miles away from home. And business applications seem even broader and more imminent. For example, a traveling executive can call his home office, be connected to a dictating machine, then control the machine by pushing the buttons of a TOUCH-TONE telephone. Another application presently under consideration, would enable a merchant to query a computer and check a customer's credit with his TOUCH-TONE telephone. For many customers, both business and residence, these future services will be important and they represent a great new potential for the Bell System.

Customers Like It

However, for today's needs, calling in half the time with twice the ease, will be the greatest appeal of TOUCH-TONE service to telephone users. And during the Findlay and Greensburg trials it was clearly demonstrated that TOUCH-TONE service does have tremendous customer appeal and thus a strong market potential. To provide a valid projection for the rest of the country, these two communities were selected for the trial on the basis of population, average family income, business characteristics, telephone and extension development, etc. In the the two year trial period—six per cent of all the telephones in the trial cities

Receiver-converter equipment in central office translates TOUCH-TONE *"language" into pulses that central office equipment can use.*

TOUCH-TONE



New TOUCH-TONE *push-buttons replace the conventional dial on this Princess telephone, making calling both easy and rapid.*

were converted to TOUCH-TONE. (Market trial rates were $1.50 for the first telephone and $.75 for each additional one.) Business and residence customers alike felt speed of service was one of TOUCH-TONE's greatest advantages.

This sense of customer satisfaction seemed to carry over to their appraisal of the Telephone Company. After the completion of the trial, customers were asked their opinions regarding such items as—the "Telephone Company" in general, overall telephone service, cost of service and company reputation. When compared with a similar study taken before the trial began, customer attitudes showed an improvement. This, too, indicates the impact TOUCH-TONE service had in the trial communities.

Customer enthusiasm for the service is seen in such typical statements as:

- "I think that Greensburg was very fortunate in being chosen as one of the experimental cities to try this new telephone development" (Mayor H. R. Ruffner, Greensburg)
- "It's an honor, I think, that we were selected . . . and we are very pleased with what has happened." (Mayor W. J. Carlin, Findlay)
- "Quite inexpensive for the convenience you get—Why, I hardly notice the difference in the bill each month."
- "We just wonder how we got along without it before."
- "The whole thing is like magic. You can dial very fast and it's just wonderful."
- "Speed, simplicity . . . the sound is delightful."
- "It cuts dialing time in half, and to a businessman like myself, this means saving money."

Employees Are Enthusiastic

Telephone Company employees also reacted favorably to this new service. As you might expect, this is often indicative of a new product's ultimate success or failure. TOUCH-TONE calling, due to its many obvious advantages, was an instantaneous favorite among Telephone Company personnel in both Findlay and Greensburg. During the course of the trial, employees were asked their impressions of TOUCH-TONE service. Their reaction can be summed up in such statements as:

- "It impressed me as a much greater step forward than when we changed from the old magneto service to dial."
- "The reaction of the people in the community exceeded our fondest hopes. It speaks well for the service that it does have a lot of customer appeal."
- "I like to recommend TOUCH-TONE because I am sold on it myself."

TOUCH-TONE service advanced the communications art according to the telephone customers and employees of these two cities.

From all these facts, the decision was made to move ahead with a program for introducing the service on a customer-option basis.

Now, the next step is for the Operating Companies to carry out the orderly planning required to convert existing central office equipment. As noted earlier,

this represents a sizable investment and requires an economically sound, systematic program of conversion. With most new products, the additional investment is primarily the difference in costs between the new set and the standard set we provide with the basic service. TOUCH-TONE, however, means a substantial investment in central office equipment, in addition to the station differential, and, of course, the equipment must be in place before a single TOUCH-TONE telephone can be installed.

We know from our experiences in Findlay and Greensburg, that our customers are ready for TOUCH-TONE service, and Bell Operating Companies will soon have the necessary equipment installed in many communities. When it is available, TOUCH-TONE calling will take its proper place as a major step forward in telephone service.

TOUCH-TONE *telephones come off the assembly line at Western Electric's Indianapolis works. Before the end of 1963, about 20,000 of these new push-button sets will be made in several models and in all standard colors.*