

Adding machine layout installed on a Touch-Tone set shows a confusing arrangement of letters.



## Adding Machine Arrangement For TOUCH-TONE® Buttons? — IT DOESN'T ADD UP



The standardized Touch-Tone layout, based on psychological and users' tests, has an easy-to-follow alphabet and number sequence.

**W**HY aren't Touch-Tone® telephone buttons arranged the same way as those on most adding machines?

It's a natural question and one that customers often ask. They usually assume that office workers would be able to dial faster and make fewer errors with the Touch-Tone phone if its pushbutton layout were identical with that of an adding machine.

But the assumption doesn't add up.

For one thing, the adding machine isn't "letter perfect." It only requires numbers, while the telephone has numbers and letters. This means that if the Touch-Tone pushbuttons followed the pattern of the adding machine's, the telephone alphabet would begin with "PRS" and end with "DEF" — not a popular arrangement for most telephone users. Psychological tests have demonstrated that people expect to see numbers on key sets arranged in left to right order in horizontal rows starting with the top row. They also expect to find letters on key sets, with two or three letters in order on each key, read in alphabetical sequence from left to right starting from the top down. The Touch-Tone telephone scores on both counts.

Telephone users' preference for the now standardized Touch-Tone pushbutton design also was borne out in tests conducted by "human factors" specialists at Bell Telephone Laboratories, who considered 16 different button arrangements before the field trials of the Touch-Tone telephone in 1959.

The arrangement of digits on card-processing machines in industry, incidentally, which many people operate by the touch system, is similar to that of the Touch-Tone phone. The number of these machines is increasing rapidly.

A significant factor supporting the Touch-Tone pushbutton layout is the experience of the growing number of Touch-Tone customers. As this issue went to press, there were more than 250,000 Touch-Tone phones in service in New Jersey, and, from all indications, these customers are enjoying their Touch-Tone calling, which is about twice as fast as rotary dialing. ■

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