Commodore's New Speech Technology Division Aims at Consumer Users

In an exciting step into the future, Commodore has established a new speech technology division located in Dallas, Texas. Under the supervision of voice processing expert Richard Wiggins, the new division is focused primarily on making computer voice input and output affordable to Commodore's home computer users. In the future, the division will be working on more complex business-oriented projects, as well.

The division's first goal is to create voice output for Commodore home computers, to allow the computer to "speak" to the user. According to Wiggins, one of the major functions of voice output is to let the computer interact with people who don't read—primarily small children.

"This opens many new possibilities for educating small children—and gives the computer a new dimension," Wiggins said, then expanded further on the potentials. "Voice output can also be used to teach spelling and languages to both children and adults, or can be used in any game or activity where you have a lot of information on the screen already.

"That dimension takes us rapidly into business applications. It's not hard to imagine a word processor in which the computer lets you know when you're nearing the end of the page, or have misspelled a word, for instance," he added.

More immediately, the Commodore speech technology experts are working on programming game ROMs for voice output.

"You collect samples of the type of voice you want and program that voice into the computer, using vocal track models that reproduce the sound-making of humans through digital filtering. That information can be stored in a cartridge, to, say, project a certain image in a game," Wiggins explained further. "The computer can also be programmed to respond vocally to words typed in by the user."

According to Wiggins, reliable voice input—in which the computer responds to vocal commands given by the user—is harder to achieve.
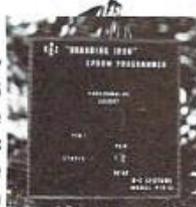
"In most voice-input systems that exist right now, you have to control what you say—speak in a very structured format—for the computer to understand you," Wiggins went on. "You must be very careful. For instance, people in the United States have different accents, which means they could pronounce the same word differently. Or take the words like 'red' and 'read' that are pronounced the same but have different meanings. If you aren't careful and the computer misunderstands a word, what if that led to something disastrous happening in the program?"

Right now, he said, machines are available that can adapt to a particular person's voice by collecting voice patterns. That type of speech processing is called speaker recognition or speaker verification, and can be very useful for various security procedures.

Whatever the voice input or output is used for, however, the number of words you enter into the computer, and what they are, has a direct relationship to the cost of the product, Wiggins explained. As time goes on, he said, Commodore's speech technology division will be interested in developing large-vocabulary, high-performance systems as well as consumer-oriented, lower-vocabulary products. C=