GEORGIA TECH RESEARCH

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TECH BUILDS DEVICE WHICH   April 23, 1981

HELPS SPEECH-IMPAIRED 'TALK'   For Immediate Release

For the speech-impaired person, asking for something to eat or even saying hello can be a major accomplishment.

"Many of these people have had strokes or cerebral palsy," says Gary Kelly, a rehabilitative engineer at Georgia Tech. "They not only cannot speak clearly but they've lost the motor control needed to write a message on a notepad."

Kelly believes Tech's Center for Rehabilitative Technology has found a solution to this problem -- a small metal box which electronically displays written messages in English on cue.

This "communicator," as it is called, can be carried in one hand and requires minimal motor coordination to operate. It can display 48 simple messages important in everyday life -- lines such as "Thank you," "I am hungry," or "I understand."

Each message can be called up through a Morse Code system (for example, it takes one dash to say "Thank you"). The operator of the communicator triggers these Morse Code signals by pushing a joystick -- a small, knobbed lever which resembles the gear shift of a car.

"It doesn't take a lot of coordination to use the joystick," says Kelly. "You push it to the right to register a dot and to the left for a dash. Many speech-impaired persons are already familiar with this kind of lever, because they use one to operate their motorized wheelchairs."

The Morse Code signals for each of the 48 messages carried by the communicator are displayed on a slip of paper taped to the top of the machine. There are 32 one-line messages and 16 two-liners on a small memory chip inside

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the device. All can be erased or changed by a computer. In addition, operators can spell out words on their own by giving the conventional Morse Code signals for the letters of the alphabet.

This procedure is necessary to complete the message "My name is..." Operators must fill in the rest of this line, letter by letter, in order to identify themselves.

Kelly's engineering group has finished one prototype of the communicator and plans to build an improved model which is lighter and easier to use. The Veterans Administration is funding this research program.

VA has sponsored several other Tech efforts in rehabilitative engineering. One project involved the design and fabrication of a wheelchair which won't roll backwards on hills. Another resulted in a new musical language which may allow trained listeners to "read" up to three times' faster than is possible with the braille method.

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