

Michael Condon, a quadriplegic from Pasadena, California, demonstrates the NASA-developed voice-controlled wheelchair and its manipulator, which can pick up packages, open doors, turn a TV knob, and perform a variety of other functions. A possible boon to paralyzed and other severely handicapped persons, the chair-manipulator system responds to 35 one-word voice commands, such as "go," "stop," "up," "down," "right," "left," "forward," "backward." Heart of the system is a voice-command analyzer which utilizes a minicomputer. Commands are taught to the computer by the patient's repeating them a number of times; thereafter the analyzer recognizes

commands only in the patient's particular speech pattern. The computer translates commands into electrical signals which activate appropriate motors and cause the desired motion of chair or manipulator. Based on teleoperator and robot technology for space-related programs, the voice-controlled system was developed by Jet Propulsion Laboratory under the joint sponsorship of NASA and the Veterans Administration. The wheelchair-manipulator has been tested at Rancho Los Amigos Hospital, Downey, California, and is being evaluated at the VA Prosthetics Center in New York City.

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