



*A Houston five-year-old known as David is getting a "space suit," a vitally important gift that will give him mobility he has never known. David suffers from a rare malady called severe combined immune deficiency, which means that he was born without natural body defenses against disease; germs that would have little or no effect on most people could cause his death. As a result, he has spent his entire life in germ-free isolation rooms, one at Houston's Texas Children's Hospital, another at his home.*

The Optacon gets its name from OPTical-to-TACTile CONverter. It works by converting regular inkprint into a readable, vibrating tactile form. The blind reader moves a miniature camera across a line of print with one hand while the index finger of the other hand is placed on the system's tactile array. As the camera moves over a letter, the image is simultaneously produced on a tactile array by small vibrating rods. The reading finger feels the enlarged letter as it passes over the tactile screen.

Telesensory Systems provides the training essential to master the Optacon. The standard course covers 50 hours in nine training days. Reading speed after training varies from student to student, the average being about 10 words a minute. After considerable practice, speeds of 40 words a minute are common and speeds as high as 90 words per minute have been achieved.

The Optacon opens up a whole new world for the blind, who are no longer limited to material that has been tape recorded or brailled. It enables them to carry out a great many everyday reading tasks.

For school use, the Optacon makes the instructional materials of the sighted available to the blind.

It helps the sightless to obtain jobs, win promotions, and enter vocational areas once closed to them.

For example, a typewriter attachment permits a blind secretary to read what she is typing, to make corrections and to fill out printed forms. Another accessory allows a blind engineer or scientist to read the visual display of an electronic calculator.

The Optacon is one of the most dramatic examples of how technology transfer is improving the status of millions of people in all walks of life.





*The "space suit" David is getting will allow him to spend four hours at a time in a mobile, sterile environment outside his isolation rooms. Built by NASA's Johnson Space Center, it is a specially-designed byproduct of space suit technology known as the mobile biological isolation system. A rubberized garment with a soft, transparent plastic helmet, the suit is connected by a 10-foot hose to a transporter/ventilator; two battery-powered fans blow filtered air into the helmet and used air is expelled at the ankles. (In photo, the suit is modeled by another child.) David's medical care is supervised by Baylor College of Medicine's Research Center at Texas Children's Hospital.*