

## Computer-controlled glasses help handicapped to communicate

A pair of eyeglasses that allows the severely disabled to type by simply moving their eyes was unveiled recently at an Ottawa conference on rehabilitation technology.

Although there are other devices like it, these Canadian-designed glasses are significant because their projected price is "substantially lower" than their counterparts.

The glasses were designed and developed by Jan Heynen, Dave Kahn and Helmut Lukas of Bell-Northern Research's scientific and technical staff.

They have been working in their spare time for four years, since they heard about a young Ottawa girl with severe cerebral palsy who now can only communicate through eye movements.

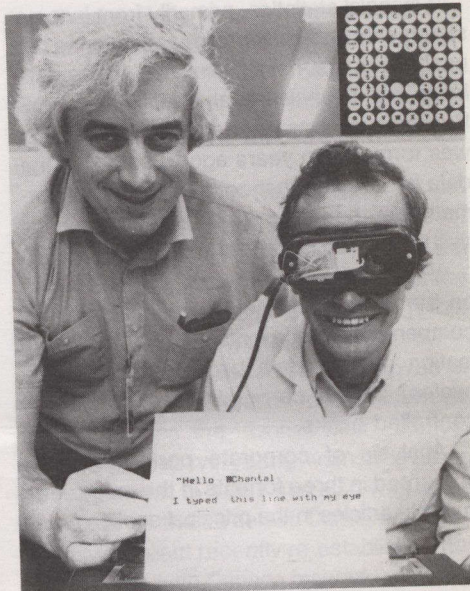
"She can hear and she's very bright but she can't talk," says Heynen. "We wanted to develop something that would allow her and people like her to communicate more easily."

Heynen says the team plans to present the device to the girl in September.

"We didn't want to raise her hopes too much when it wasn't perfected," he says. "We want to make sure it works before we give it to her."

The glasses consist of an eye position sensor and a display of 60 letters, numbers and control functions that can be seen in the right lens. The user looks at the letter or character wanted, the eye position is measured and a message is sent to the printer to print that letter.

To verify the choice, the computer turns on a red light behind the letter. If the user has chosen the wrong letter, he or she simply looks away within a quarter of a second and nothing is printed. Heynen says once the operator gets used to the system, it might be possible to type 20 words a minute



*BNR engineers Jan Heynen (right) and Dave Kahn demonstrate their prototype eye glasses that will enable severely handicapped persons to type by simply moving their eyes. The matrix of characters that Mr. Heynen is looking at in the right lens to compose and type words is shown in the inset.*

or more. The user can also turn the system on and off, backspace and forward space, roll printer paper and indent paragraphs.

Heynen says the device might be ready for use by disabled people this year. He and Kahn have begun preliminary discussions with a private manufacturer to produce the system.

There are similar devices already being marketed but Heynen says his is unique because of its simple components and the projected price of "less than \$2 000, substantially lower" than the prices of the other devices available.

## Journalist wins UN environment award

Michael Keating, environmental reporter with the Toronto-based *Globe and Mail*, was cited recently at a United Nations ceremony for his "painstaking, precise, yet thoroughly clear presentation of environmental issues, without ever bowing to the temptation of proselytizing".

Mr. Keating, 41, was the only print journalist among five recipients of the 1984 UN Environment Program Award, which was weighted toward video achievements.

The others included astronomer Carl Sagan for his *Cosmos* television series,

naturalist David Attenborough for his television series *Life on Earth*, and New York public television station WNET for its attention to environmental programming.

The fifth recipient was Paul Winter, whose music has traditionally celebrated nature.

The ceremony was held to mark World Environment Day.

Mr. Keating also won an award from the Canadian Meteorological and Oceanographic Society for his coverage of environmental issues.

## Oil find for Petrocan

Petro-Canada has made a significant oil discovery off the coast of Newfoundland, and some analysts are predicting the find could be as big as the Hibernia field, which contains more than one billion barrels of crude. The offshore well, Terra Nova K-08, is 340 kilometres east of St. John's, Newfoundland, and 35 kilometres southeast of the Hibernia field.

Petrocan, which is acting as the operator of the exploration program, holds a 75 per cent stake in the venture. Other partners include Inter-City Gas Corp. of Winnipeg, Canterra Energy Ltd. of Calgary, Parex, a general partnership, and Trillium Exploration Corp., which is partly owned by the Ontario government.

In a recent statement, Petrocan said oil flowed at a daily rate of 5 200 barrels during a recent test of the well. At the same time, natural gas flowed at a rate of 113 litres a day through a two-centimetre choke.

## Winnipeg becomes centre for bus technology

A total of \$50 million will be invested over the next five years to establish Winnipeg as a national centre for the development and manufacture of advanced technology urban buses. The governments of Canada and Manitoba have each committed \$25 million to the initiative through an agreement signed recently.

Participating in the formal signing of the Canada-Manitoba Subsidiary Agreement on Urban Bus Industrial Development were federal Industry Minister Ed Lumley, federal Transport Minister Lloyd Axworthy, provincial Industry, Trade and Technology Minister Eugene Kostyra, and provincial Highways and Transportation Minister John Plohman.

"Both governments have consistently agreed that the transportation sector is a priority for development in Manitoba," Mr. Axworthy said. "The objective of this agreement is to support research, prototype development and demonstration projects which will establish Winnipeg as the leading centre in Canada for the development of advanced bus technology."

Manitoba is well-positioned to lead this industrial development opportunity. With three major manufacturers and a number of smaller support companies, Manitoba accounts for approximately 40 per cent of the industry's national employment and 30 per cent of production at this time.