Optical discs for micros

Geac Computer Corporation Limited of Markham, Ontario, has developed one of the first optical storage interfaces for microcomputers. It allows personal computers to store and retrieve data from optical discs capable of storing more information than a large mainframe computer.

Doug Brooks, manager of optical disc systems at Geac, said that "because it is a low cost, simple system, it will also allow businesses to experiment with optical disc technology".

Called the Gig-Attach, the device consists of a small circuit board that attaches to a single personal computer. It contains the special software needed for a personal computer to emulate a terminal with MS-DOS operating software to access the optical disc storage unit. A single optical disc linked to the network can store up to two gigabytes (two billion bytes) of data.

Only one unit needs to be installed because it acts as a gateway, allowing all personal computers on a business local area network to be hooked up to it. Each unit retails for about $1 195.

Doug Brooks said the company has already sold a number of units. Thomson-CSF SA of France, is marketing the unit in Europe.

Geac, a manufacturer of mainframe computers for multiple transactions that require large storage systems, plans to develop a family of Gig-Attach products to work on a variety of personal computers. The first one is compatible with the PC/XT manufactured by International Business Machines Corp. of Armonk, N.Y. Geac is also developing an interface for Unix operating systems that will allow any user of the popular software to use optical disc storage.

Software for French library

Recently, the French National Library in Paris selected Geac's sophisticated cataloguing software to computer catalogue its collection of more than 60 million documents and books.

The Geac system was chosen over competition from other international and French companies. For a number of months, Geac representatives and library officials worked out the details of a custom-made cataloguing system that would incorporate the library's unique filing system with a sophisticated retrieval information system. As part of the arrangement, Geac agreed to assemble its terminals and distribute its software in conjunction with Metra-Sema, a major French systems house.

"To make inroads in the French market-place, we knew we had to become essentially a French company," said David Botten, Geac's director for southern Europe.

The company has already placed 35 terminals in the library, and its cataloguing system has organized about 200 000 titles. And according to Mr. Botten, plans are under way to expand the system in the next few months. Geac has also concluded a deal to create the library system for the Lavillette, Paris's new science park.

Prior to setting up the cataloguing system for the French National Library, Geac had successfully placed similar systems in libraries in Britain, West Germany, the Netherlands, Italy and Belgium.

Fibre optic fusion

A team of Bell-Northern Research (BNR) researchers has developed a new advanced fibre optic fusion splicing set that can join two pieces of the hair-thin optical fibres with precision.
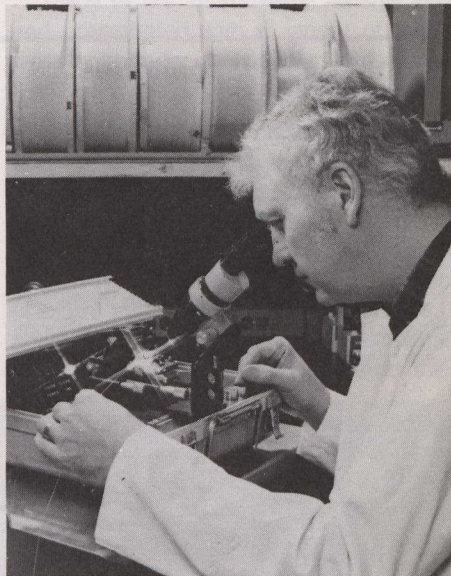
Gary Edwards, a technologist with Bell-Northern Research, splices two pieces of optical fibres using the new splicing set.

The fusion splicing set was designed for use with single mode fibre that can carry more information at greater speed than multimode optical fibre, which has been in use for about ten years.

In the splicing process, a short burst of heat is produced by an electric arc located near the microscope's base which melts and fuses the optical fibres.

The fusion set folds into a compact, self-contained unit — a little larger than a briefcase. It was designed to be carried easily into manholes, onto aerial platforms, and to other field locations where optical fibre cables, used in advanced telecommunications systems, are spliced. It is being manufactured and marketed by Northern Telecom Canada Limited.

Fibre optic telecommunications systems use a light source, such as a laser, which is turned on and off several hundred million times a second, to transmit voice, data, or image communications signals through glass fibres.

Food from the desert

Agrodev Canada Inc., a subsidiary of Envirocan Limited of Vancouver, British Columbia, is successfully applying Canadian agricultural technology in developing farms in near-desert conditions, in an effort to provide long-term solutions to the food shortages in Africa.

A 10 000-acre farm created at Sim Sim in Sudan has been in production since 1982 and is the first modern mechanized farm in the region. Using Canadian equipment and techniques, Agrodev seeded 3 700 acres the first year and 9 000 acres the second, obtaining yields two to three times higher than neighbouring farms that employed other methods.

"Early results suggest that techniques of the Canadian prairies, blended with local experience and conditions, may well lead to significant advances in Sudanese mechanized agriculture," said Ken Lucas, president of Agrodev Canada. He added that there are many opportunities for investors to establish permanent farms in the Sudan. "The area covers 60 million acres and we expect this farm will be the first of several built around a service centre," he said.

Mr. Lucas also said there are good possibilities for Canadian agricultural technology in Third World countries. Agrodev has exported Canadian agricultural technology to more than 25 countries since it was established in 1976.

According to a recent United Nations Food and Agricultural Organization forecast, the annual requirements for external aid to agriculture in developing countries will reach $12.5 billion (US) by 1990. Estimates are that annual investments in primary agriculture in developing countries will reach $93 billion by the year 2000, or $132 billion if storage, transportation and marketing are included.

The project in Sudan is being carried out for the Canadian International Development Agency. Under its arrangement with commodity broker Gulf International, Agrodev has been able to convert sorghum into cash or trade it for fuel. Agrodev is also developing a farm in Madagascar for Gulf International that will export its entire production.