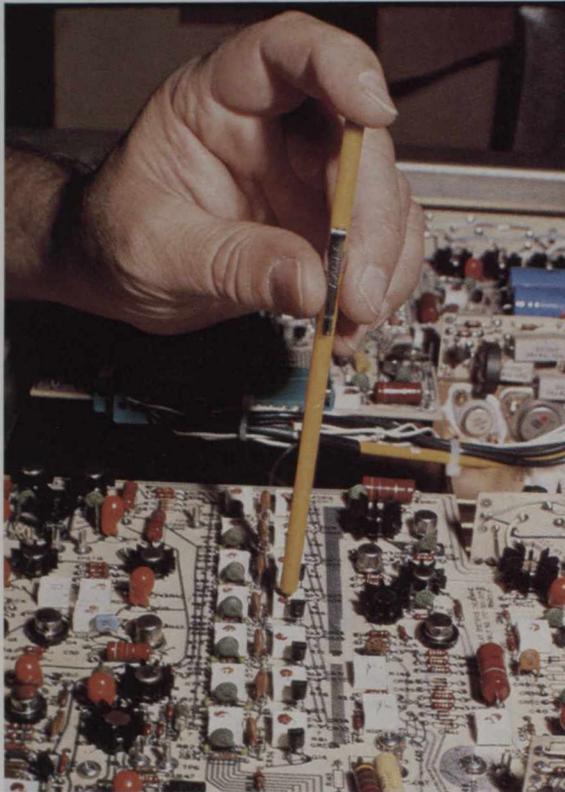


# Canada as a world telecommunications supplier



A circuit board assembly by Northern Telecom

It is not surprising that Canada has risen to the forefront of the communications industry. With a country so vast – some 9 980 000 square kilometres and a widely dispersed population – the development of an efficient communications network became increasingly important.

Canada had an early start in telecommunications. Alexander Graham Bell invented the telephone in Canada in 1874; two years later the world's first long distance telephone call was made.

Today, with a population of almost 25 million, Canada has 14 million telephones in service and the fourth highest telephone density in the world. In the interest of even greater reliability and increased operating economies, the system is being rapidly converted to the digital mode.

Teleglobe Canada's satellite earth station in Weir, Quebec, is one of more than 100 Canadian-made earth stations.

## Satellite communications

Telesat Canada was formed as a Federal Crown Corporation in 1969 to establish and operate a commercial system of satellite communications to serve all parts of Canada. *Anik A-1*, the world's first domestic satellite system, launched in 1972, could provide services to 10 million square kilometres. Similar satellites were launched in 1973, 1975, 1978, and the most recent, *Anik C-3*, was launched from the American Space Shuttle Columbia in November 1982.

There are now more than 100 Canadian manufactured satellite earth stations of about 14 types and sizes, ranging from large stations with 30-metre antennas to small transportable stations down to 1.2 metres. These provide such services as global television relay with local-area television distribution, telephone, computer-data transfer, and teletype.

Telesat Canada, with its extensive background, also provides consulting services to a number of countries.

Spar Aerospace, the Toronto-based firm that built the highly successful mechanical arm for the United States' space shuttle, recently signed a \$65-million contract to build solar energy panels for the *L-Sat*, a 50-metre long new generation communications satellite being built by three members of the European Space Agency including Britain for a 1986 launch.

Spar Aerospace was also selected through an international competition, as the prime contractor to provide two communications satellites and related ground equipment to the government of Brazil for their domestic satellite system. This \$150-million contract is the largest won by Spar and represents the first satellite system exported by Canada as well as the first domestic satellite communications system in Latin America. The project, which will be completed in 1985, has the capacity to carry 16 000 two-way voice communications on 24 TV channels.

## Digital excellence

In the early 1970s as the use of computers and 'machine' communications increased, Northern Telecom, in co-operation with Bell Northern Research and Bell Canada, began developing digital switching and transmission systems to replace the analogue systems that were being used. In analogue transmission, signals are amplified; in digital transmission they are regenerated.

Digital is now shaping the whole telecommunications industry. Canadian digital PABX equipment has won wide acceptance in international markets and two Canadian manufacturers of digital PABX's, Northern Telecom and Mitel, are among world leaders in this product.

Northern Telecom, 53 per cent owned by Bell Canada Enterprises, the controlling group of the largest telephone operating company in Canada, has become the second largest telecommunications equipment manufacturer in North America, and the sixth largest in the world. Sales in 1982 exceeded \$3 billion, twice the 1977 level.

