

In the area of rural telecommunications products, Canadian companies have pioneered the development of subscriber radio systems and single-channel-per-carrier satellite transmission systems. The subscriber radio system, which operates using point-to-multipoint transmission and is a CCIR standard, is typically used to concentrate telephone circuits from remote subscribers into a central location. This system

has also proven an advantage in locations without a cable infrastructure, where service needs to be established quickly. It is also used in areas where the service period does not warrant cable installation. Modified mobile base stations have proven successful where point-to-point subscriber service is required.

Single-channel-per-carrier subscriber earth stations have proven to be the most economical method of providing communications to locations that are very remote from any other system. In Canada this is particularly true of mountainous areas and in the far north.

To complement rural telecommunications products, Canada has also developed site technology that includes towers, antennas, and power sources. Solar and thermal power systems are now commonplace, as are remote unattended mountain-top repeaters, which can withstand extreme environmental conditions. Canadians have acquired all this technology to support the service needs of Canada's rural population.

### Data Communications

Canada has had some form of data communications network since the introduction of the railroad and its open-wire telegraph system in the 1800s. Since then, this network has undergone many transformations, as new technologies have been introduced and emerging needs had to be satisfied.



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