


**Energy, Mines and Resources Canada** / **Énergie, Mines et Ressources Canada**  
**THE NATIONAL ATLAS OF CANADA 5th EDITION**  
**CANADA**  
**TELECOMMUNICATIONS SYSTEMS**  
 Produced by the Geographical Services Division, Surveys and Mapping Branch, Energy, Mines and Resources Canada, Printed 1987.  
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 Scale 1:7 000 000 or 1 centimetre represents 70 kilometres.  
 Lambert Conformal Conic Projection, Standard Parallels 49°N and 77°N, Modified Polyconic Projection, North of Latitude 80°.



- TELECOMMUNICATIONS SYSTEMS, 1984**
- MICROWAVE RADIO SYSTEMS**  
 Microwave Radio Stations (over 890 megahertz)  
 One Station  
 Two or More Stations
- Microwave Radio Routes**  
 Digital Route  
 Analogue Route
- OPTICAL FIBRE SYSTEM**  
 Major Breakout Point  
 Digital Cable
- LANDLINES**  
 Digital Cable
- TELECOMMUNICATIONS SATELLITE SYSTEMS**  
 One Transmitt/Receive Station  
 Two or More Transmitt/Receive Stations
- SUBMARINE CABLES**  
 Terminal Connection Point  
 Submarine Cable
- RADIO-TELEPHONE SYSTEMS**  
 One VHF Terminal  
 Two or More VHF Terminals  
 One HF Terminal
- TROPOSPHERIC SCATTER SYSTEMS**  
 One Transmitt/Receive Station  
 Linkage between Transmitt/Receive Stations

**Notes**

1. Telecommunications Systems shown on this map are available to the public on a commercial basis. Private systems, such as those owned by hydroelectric and pipeline companies, police and armed forces for their own use, have been omitted. Only the main routes and stations are shown. The distribution of systems is such that essentially all settled areas of the country have easy access to some form of telecommunications having national and international capabilities. Local Connections (customer loops), generally provided by wire pairs, have been omitted. When two types of systems use similar geographical routes, only one system is shown.
2. Microwave Radio Systems are those which employ frequencies greater than 890 megahertz. They can be either analogue or digital in nature.
3. Optical Fibre Systems are those which employ hair-like glass fibres for the transmission of information by lightwaves. Saskatchewan is currently developing an extensive province-wide network. Breakout Points are locations at which an optical fibre system "breaks out" and connects into other types of telecommunications systems.
4. Landlines use wire pairs or coaxial cable. The landline shown between Toronto and Montreal is the major telecommunications link between these locations.
5. Telecommunications Satellite Systems are comprised of earth satellite stations having two-way capability from which telecommunications signals are beamed up to a satellite locked in a geostationary orbit and retransmitted back to specified earth stations. The earth stations can be of a fixed or transportable nature; only the fixed stations are shown.
6. Submarine Cables currently used in the provision of telecommunications services between Canada and other countries are shown.
7. Radio-Telephone Systems shown are mobile radio systems which use Very High Frequency (VHF) or High Frequency (HF) terminals for the transmission of telecommunications information. The VHF terminals have a

general transmitt/receive range of 50-60 kilometres within which a mobile radio user can transmitt/receive calls to the terminal. The HF terminals have a general transmitt/receive range four times that of VHF terminals, but the quality of the signal is generally much less.

Cellular Mobile Radio Systems and their links generally operate within major metropolitan areas; these systems are not shown.

8. Tropospheric Scatter Systems are comprised of signals beamed into the atmosphere and reflected back from the troposphere to large "dish" receiving antennas.

9. Place names shown on this map include all telecommunications satellite stations, optical fibre breakout points, and submarine cable terminal connection points. Selected microwave radio stations, in particular route end points and junctions, and selected radio-telephone terminals have also been named.

This map was prepared in co-operation with the Department of Communications and with Telecom Canada. Satellite data was provided by Telecom Canada. Department of Communications.

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**Map Sources:**  
 Canada, Department of Energy, Mines and Resources, 1974, The National Atlas of Canada, Fourth Edition (revised). The Information Company of Canada Ltd. in association with the Department of Energy, Mines and Resources and Information Canada, Ottawa.  
 Canadian Telecommunications Council, 1983, Microwave Radio Catalogue - 1983, Ottawa.  
 Information and data were provided by representatives of the following telecommunications carriers: Atlantic Telephone Company, Canada, British Columbia Telephone Company, Canada, C.N. Telecommunications, CNCP Telecommunications, Island Telephone Company, Manitoba Telephone System, Maritime Telephone, New Brunswick Telephone Company, Newfoundland Telephone Company, Northern Telephone, Northwestel Inc., Quebec Telephone, Saskatchewan Telecommunications, Telecom, Teleglobe Canada, Telex Canada, and Time Share Telecommunications Inc.