

The volume of long-distance calls is being greatly augmented by machine-to-machine communications over the regular telephone network. Much of the growth of machine-to-machine communication has been made possible by the introduction of Data-Phone data sets. These data sets convert electrical pulses from business machines into tone-signals acceptable to telephone circuits; a Data-Phone data set at the receiving business machine re-converts the tone-signals into machine language. It is expected that, within the next few years, the volume of machine-to-machine communications will equal that of regular voice calls. Several new optional services introduced recently provide even greater flexibility for machine-to-machine and voice calling over long distances. One of these extends a customer's flat-rate calling to telephones within seven progressively wider zones, the largest of which includes the whole of Canada. The charge for this service is based upon the zone the customer chooses and on whether he elects to use the service on a full-time or a part-time basis. A new private line inter-city service is available to organizations which transmit large volumes of information requiring an exceptionally broad band of frequencies, such as data from advanced computers and high-speed facsimile equipment. Alternatively, it may be used to carry simultaneously many smaller loads of information such as voice calls and teletype, which require relatively narrow bands of frequencies.

All-Number calling—a telephone numbering plan which uses seven figures instead of two letters and five figures—is being introduced gradually to eliminate the potential problem of a shortage of usable exchange prefixes. On a continent-wide basis it will almost double the total of such exchange prefixes.

The northward extension of industry in Canada has, of course, required the northward expansion of telephone communications. The British Columbia Telephone Company operates a radio chain from Vancouver up the coast to Kitimat. Uranium City in northern Saskatchewan, located in a vast area of muskeg and swamp, is provided with communications through a radio network out of Prince Alberta, Sask. In Manitoba, the radiotelephone service reaches out to a large number of isolated settlements and bush camps and provides communications for aircraft and for boats plying Lake Winnipeg. Goose Bay in Labrador and the Schefferville area of the Quebec-Labrador boundary are now in immediate telephone contact with the remainder of the world through a radio relay network operated out of Quebec City through Sept Îles. A branch of this system extends long-distance service to the new mining settlement of Gagnon, Que. In 1959, Bell Telephone opened its farthest-north exchange at Frobisher Bay on Baffin Island.

The summer of 1961 marked the further expansion of northern communications with the inauguration of radio-telephone service for that great northern area between the Quebec shore of Hudson Bay, the Atlantic coast of Labrador and the Northwest Territories. Radio facilities linked directly with the long-distance system permit communication from within this vast and sparsely populated area to virtually anywhere within the civilized world. Focal point of the radio network is a base station located near Alma, Que. It serves all settlements desiring service wherever they may be located throughout the thousands of square miles that comprise this immense region, as well as aircraft operating in the area. As additional requirements arise, either in established or new communities, radio-telephone service will be provided.

Numerous flexible services are provided by Canadian telephone companies for business and industry. Special conference circuits can be quickly arranged, enabling widely scattered business interests to discuss their affairs without the inconvenience and expense of travel. Telephoto and facsimile services provide photographic copy direct from the originator. Radio installations link the traveller with the regular telephone network, providing mobile service for such users as highway departments, trucking and construction firms, fire and ambulance services and police departments. Pipeline and power companies also use the telephone network to carry telemetering information between remote control units and central offices.