installed. Use of the VOR permits the pilot to select any desired course to fly to the station and, in the case of a VORTAC, additional information is provided which is a readout of the distance of the aircraft from the station.

Instrument landing systems provide radio signals which permit aircraft landings during periods of low visibility. Radio transmitters provide lateral and slope guidance to the approach end of the runway and also provide an indication of the distance to the runway threshold.

For air traffic control purposes, there are three main classes of radar in operation at Canadian airports consisting of 15 airport and airways surveillance radars with a range of 150 nautical miles (278 km), 10 airport surveillance radars with a range of 50 nautical miles (92.6 km), and eight precision approach radars, which are short-range radars used for landing at major airports.

Radiotelephone communications are provided by 117 ground stations called Aeradio Stations, from which pilots may obtain weather data, air traffic control instructions and other information concerning flight safety. These stations operate for the most part on the VHF band but in the North and on international routes HF is used to provide the necessary long-range coverage. Thirteen of the 113 stations engage in international communications services for Canadian and foreign air-carriers. All these ground stations are connected to a fixed teletype network of more than 48,000 circuit miles (77 249 km) to meet aeronautical communications needs.

16.1.4 International services

Teleglobe Canada, formerly Canadian Overseas Telecommunication Corporation, interfaces with domestic telephone companies and other telecommunications carriers and provides the link between Canada and almost every country in the world in a complex global communications system. Its mandate is to establish, maintain and operate Canada's external telecommunications services and to coordinate their use with the services of other countries.

Canadians now may telephone around the world almost as easily as they call across town. Businessmen contact overseas clients rapidly with international Telex. Over vast distances, television viewers receive live satellite coverage of major sports events such as the 1976 Olympic Games.

When Teleglobe Canada was established as a Crown corporation in 1950, it acquired existing facilities which amounted to three telephone and 13 telegraph circuits. Today the corporation has built up a vast, modern international telecommunications system mainly through interconnections with global networks of submarine cables and communications satellite circuits. A major breakthrough in recent telecommunications history came in 1956. TAT I, the first long-distance and multi-purpose submarine cable, with 36 circuits, was laid across the Atlantic between Oban, Scotland, and Clarenville, Newfoundland, by Canada (represented by Teleglobe Canada), the United Kingdom and the United States. This marked the beginning of the decline of telegraph service, which had long dominated the telecommunications world, in favour of telephone service. In addition to quality telephone service, the TAT I coaxial cable provided picture transmission, broadcast programs, and customer-to-customer teleprinter (Telex) service.

When it was decided at a Commonwealth Telecommunications Conference in 1958 to set up a round-the-world cable system, Canada was again in the forefront. The first link in the globe-circling network, the 80-circuit CANTAT I, was laid between the United Kingdom and Canada in 1961. Another 80-circuit cable, COMPAC, followed in 1963 across the Pacific between Canada and Australia. Canada was also involved in the third link, SEACOM, extending to the Far East, as well as in the 24-circuit ICECAN cable linking Canada, Greenland and Iceland; the 640-circuit CANBER cable linking Canada and Bermuda; and, most recently, the largest of all, the 1,840-circuit CANTAT II. The anticipated final Commonwealth cable link to Malaysia, India, Ceylon, Pakistan, East Africa,