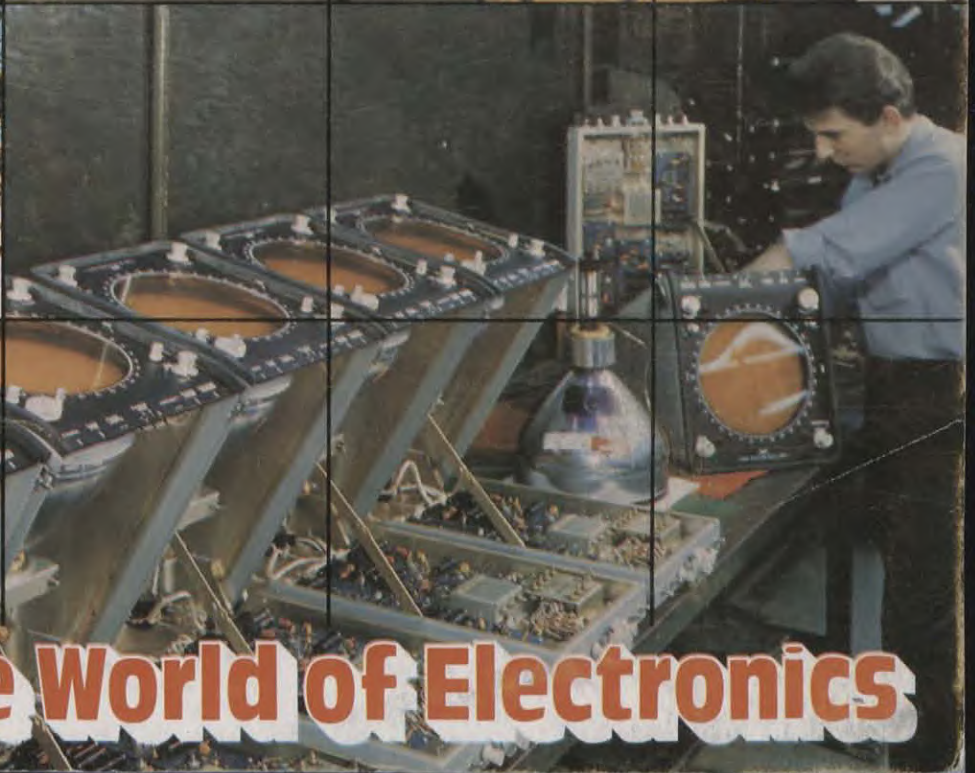
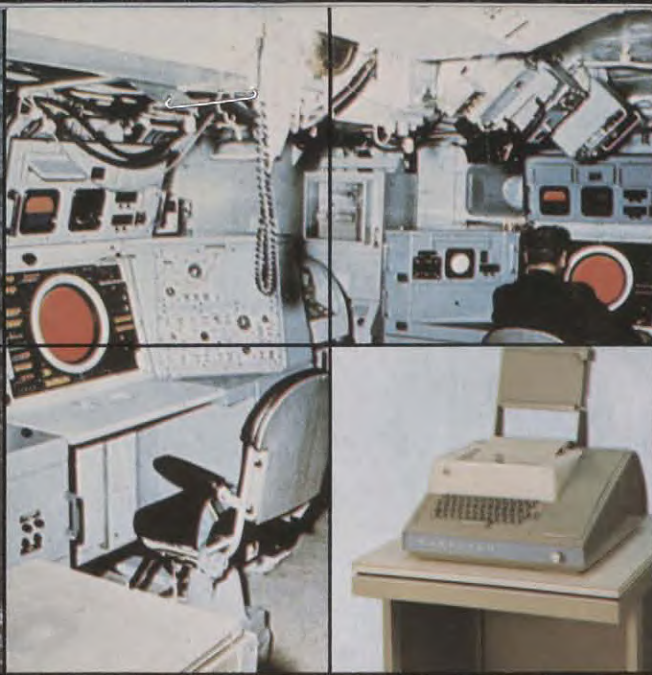


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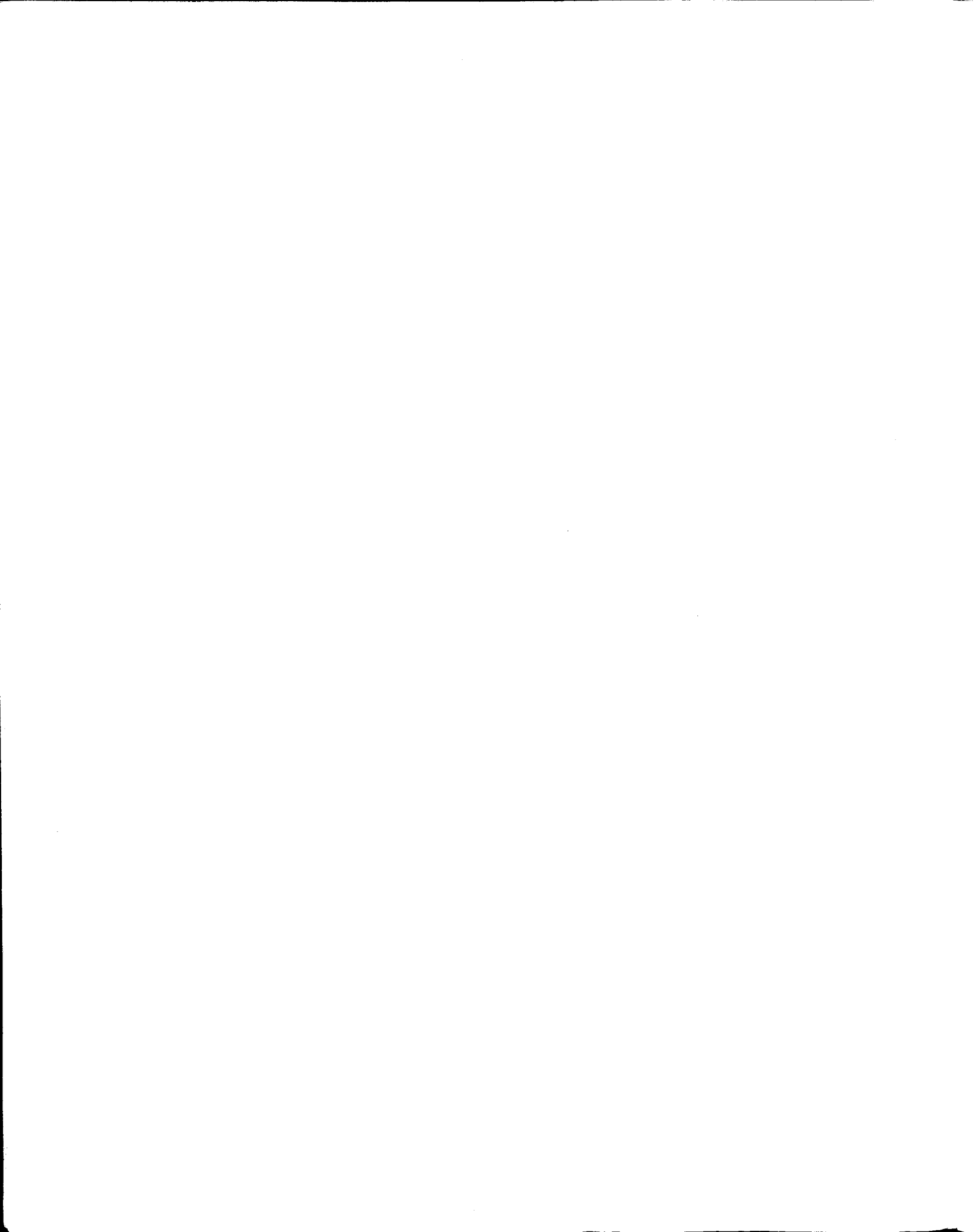
Canada in the World of Electronics

Canada. Dept. of Industry, Trade and Commerce. Electronics Division.



Canada in the World of Electronics





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Introduction

Canada is a country that extends 6,000 kilometres (3,700 miles) from east to west and encompasses a land mass of 10 million square kilometres (3.8 million square miles). The population of 22 million, concentrated along the southern border, is small relative to the size of the country. It is a nation rich in natural resources which are, generally, located great distances from the major population centres.

These factors have led Canadians to place emphasis on those industrial developments related to communications, transportation, and the explora-

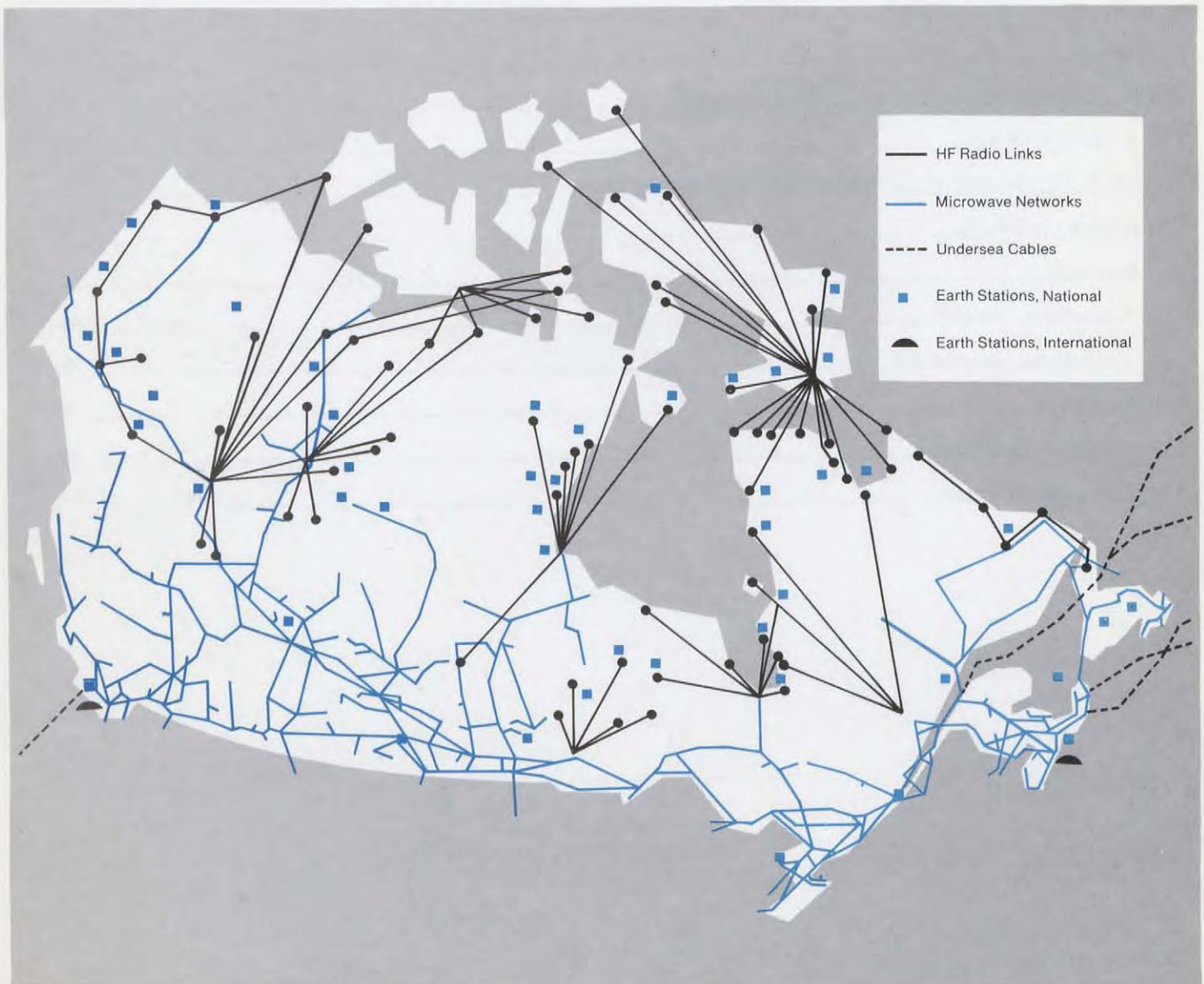
tion, development, delivery and processing of natural resources. In mastering its problems of environment and geography, Canada has become a world leader in the development and application of the most advanced electronics technology to these areas of industrial development.

Examples of Canadian electronics technology, ranging from small equipment packages to extensive, integrated communication networks, can be found in more than 100 countries throughout the world. These countries have discovered that Canadian engineering,

combined with Canadian equipment, is a most effective way of meeting their needs and resolving their problems.

The chapters of this booklet which follow, outline in more depth the major systems and equipment available from the Canadian electronics industry. Further information can be obtained from the nearest Canadian Government Trade Office or from the Electrical and Electronics Branch, Department of Industry, Trade and Commerce, Ottawa, Canada K1A 0H5.

The Electronic Highways of Canada



Telecommunications

As long ago as 1846, the first commercial electric telegraph system in Canada was established between Toronto and Niagara, a distance of about 60 kilometres (37 miles).

On August 10, 1876, the telephone inventor, Alexander Graham Bell, successfully completed the world's first long-distance telephone call from Brantford, Ontario, to Paris, Ontario, a distance of about 11 kilometres (7 miles), over the lines of the Dominion Telegraph Company.

From these beginnings, the communications needs of a relatively small population in a large country have led to the development of some of the most efficient telecommunications systems and equipment in the world.

Telephone Systems and Equipment

Canada, with more than 13 million telephones installed, has the fourth largest telephone population in the world. There are 57.15 telephones for every 100 persons or more than one telephone for every two persons. Telephone systems have progressed from the manual switchboards in service before the turn of the century, through step-by-step in the 1920s, crossbar in the 1950s, stored program controls in the 1960s and, by the 1980s, to digital system technology.

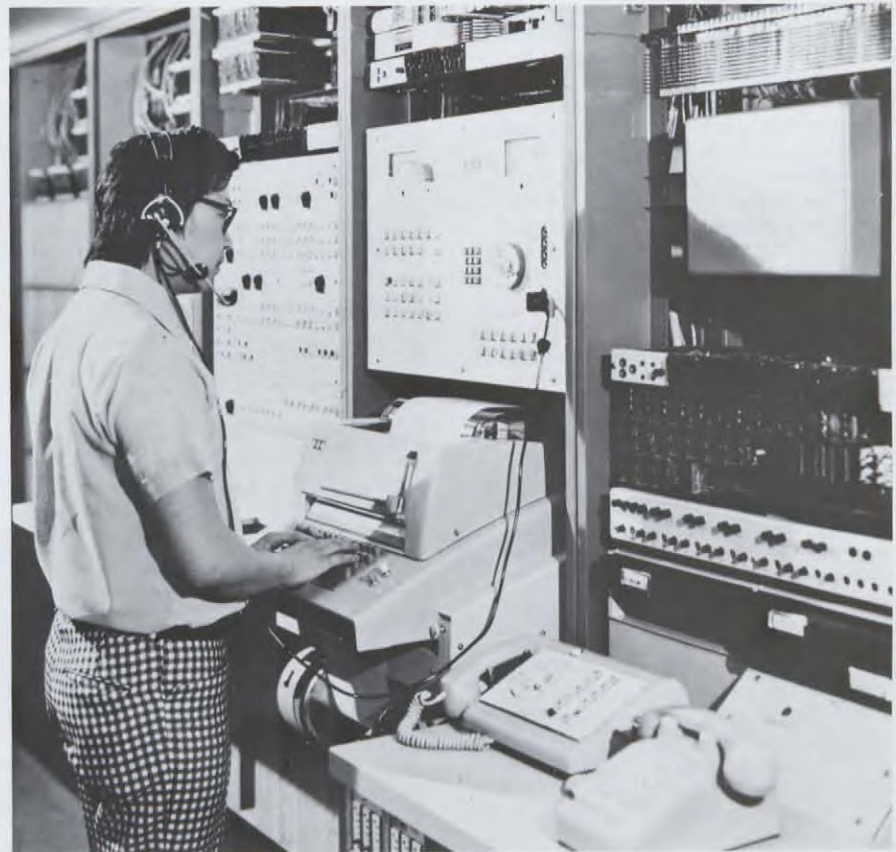
Among Canada's innovative telecommunications products using the latest technology is an electronic stored program controlled central office switching system. More than \$600 million sales have been achieved since its introduction in 1972. Another pulse EPABX has been used for at least 9,000 installations in North America.

The most significant work being undertaken is in the areas of digital central office switching, transmission and subscriber equipment. The first fully integrated system, with stored program control and a capacity of 100-7,600 terminations, has already been introduced to the telephone industry. Such features as digital switching, higher reliability, and a 50 per cent space reduction when compared to other equivalent electronic systems, are some of the more important improvements.

For rural areas, faced with extensive service demands, a low density subscriber radio system (SRS) has been produced. A central station is located at the telephone office and can accommodate up to 110 lines. Each out-station can serve up to six subscriber loops within a 50-kilometre (30-mile) radius; the link to each out-station is by means



Modular key telephone set for residential or business use.



Stored-program-control electronic telephone switching system, central office.

of a duplex microwave channel that provides 15 junction trunks derived by time division multiplex accessible to any of the lines. A family of VHF/UHF mobile dial rural telephone systems with an 80-kilometre (50-mile) range is also available.

Another new product is a unique tone-to-pulse converter for step-by-step, crossbar and other switching systems. This low-cost converter, which can be used on systems with a mixture of push-button or rotary dial telephones, makes push-button service more economical on existing systems.

Highly professional groups of consulting engineering firms provide a full range of services to the telephone industry. These include preliminary investigations, advisory services, design engineering, project management, specialized design and development services.

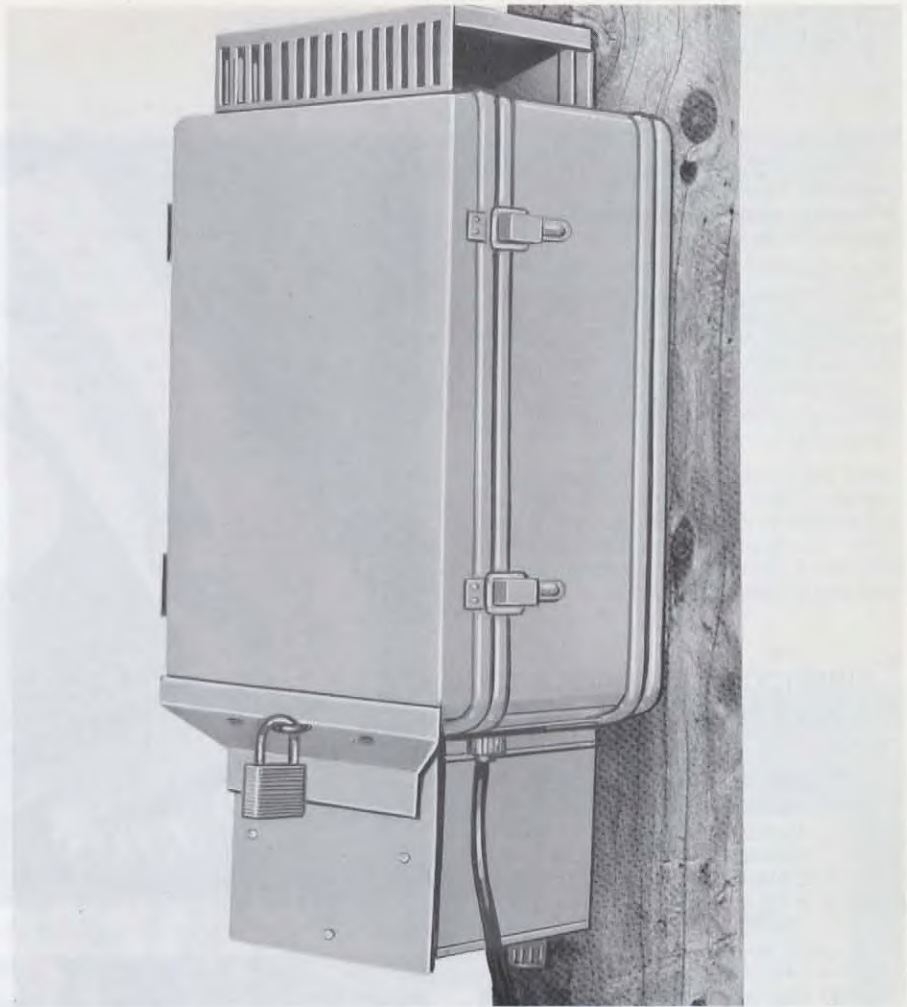
Ground-Based Communications Transmission Systems

Over the years since the development of the first telephone, Canada has initiated a vast integrated grid of telecommunications transmission facilities comprising wire lines, cables (both land and submarine), microwave networks and satellite earth stations (SES).

Three separate major microwave backbone networks (two at 4 GHz owned by the Trans-Canada Telephone Systems (TCTS), and one at 6 GHz owned by Canadian National/Canadian Pacific (CN/CP) Telecommunications) now span the 6,000-kilometre (3,700-mile) breadth of Canada. Other major microwave systems carry north-south traffic (from the United States border at the province of Alberta to Alaska and from the U.S. border at the province of Manitoba to the shores of Hudson Bay).

Various other microwave networks and spur links are integrated with radio systems (HF, VHF, troposcatter systems) and other terrestrial services to complete the grid. In excess of 30,000 route-kilometres (18,600 route-miles) of microwave systems criss-cross the country.

In 1901 Guglielmo Marconi received radio signals in St. John's, Newfoundland, from Poldhu, England, thus introducing the first trans-Atlantic telecommunications system. TAT-1 (36 circuits), the first trans-Atlantic cable capable of voice transmission, was laid between Canada and Britain in 1956, followed by Cantat-1 (80 circuits) in 1961, and Cantat-II (1,840 circuits) in April, 1974. Other submarine cables in which Canada has an interest include the Pacific cable COMPAC (80 circuits) laid in 1963, the Commonwealth SEACOM cable to Southeast Asia, the Canada-Bermuda cable, and the ICECAN cable linking Newfoundland with Greenland and Iceland.



Pole-mounted outstation for subscriber radio telephone exchange system.



Tone to pulse telephone equipment providing an economical means of converting step-by-step offices to DTMF service.

The Canadian Overseas Telecommunication Corporation (COTC) was set up in 1950 to establish, maintain and operate Canada's external telecommunications services. Now called TELEGLOBE CANADA, this corporation became Canada's representative on the International Telecommunications Satellite Consortium (INTELSAT) in 1964. Canada's first INTELSAT experimental satellite earth station (SES) was completed at Mill Village, Nova Scotia, in 1966, followed by a fully commercial station at the same site in 1969. A third SES at Lake Cowichan on Vancouver Island went into service in 1974 for communications with Pacific Rim countries. A fourth SES, to be located north of Montreal, is planned for service in late 1978.

Land cables have been in operation in Canada for many years. The largest capacity cable system consists of a pulse code modulation (PCM) buried coaxial cable established in 1975 on

the high density 655-kilometre (400-mile) route connecting Montreal, Ottawa and Toronto. This cable system was a joint effort of a major Canadian telephone utility and a manufacturer. It is the longest digital system of its kind in the western world. The single sheath, 12-tube cable can carry a total of 20,000 equivalent voice circuits with an information capacity in excess of one billion bits per second.

Although data communications were effectively introduced in Canada in 1846 with the establishment of the first telegraph system, they assumed increased importance in 1956 when CN/CP introduced the first automatic switched data service in Canada in the form of Telex. In 1962 TCTS introduced a competitive service, teletypewriter exchange service (TWX). TCTS expanded its long-distance digital data services by introducing DATAROUTE in 1973, the first system of its kind in the world, and DATAPAC in 1976.

CN/CP provided INFODAT in 1974 followed by INFOSWITCH in 1977. DATAROUTE and INFODAT are nationwide digital data networks, while DATAPAC and INFOSWITCH are nationwide packet-switching data networks.

TELESAT Canada was formed on September 1, 1969, by an act of the Canadian Parliament to own and operate the Canadian domestic satellite system. With more than 70 satellite earth stations of about 14 different types and sizes ranging from large stations with 30-m (100-ft.) antennas to small stations with 4.5-m (15-ft.) antennas, TELESAT now offers a wide variety of services to even the most remote areas of Canada. The initial system operates entirely at 4/6 GHz. With the introduction of the Anik B and Anik C satellites in 1978 to 1980, the system will be expanded to include 12/14 GHz service for direct city-to-city downtown service. This service will be particularly attractive for data communications.



Teleglobe Canada and Telesat Canada large satellite earth stations at Lake Cowichan for international and domestic services.

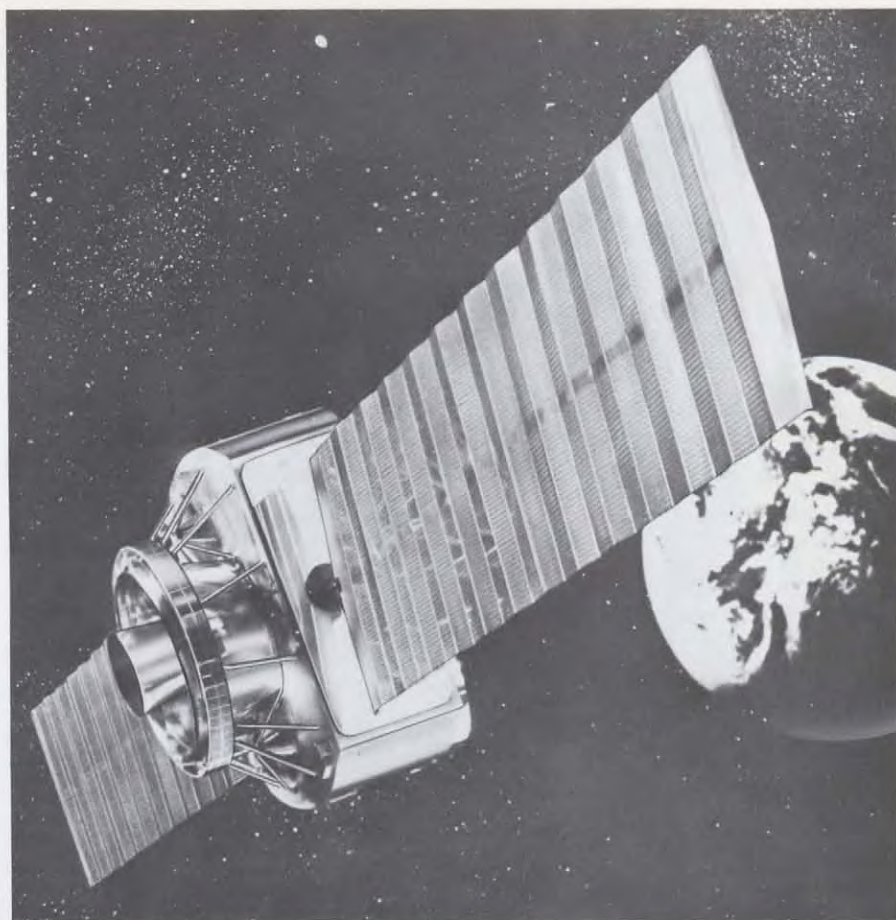
Communications Systems — Space

Among the member states of the International Telecommunications Satellite Consortium (INTELSAT), Canada ranks ninth in terms of its spacecraft investments. Its industrial centres are linked together and to the Canadian north through the TELESAT network and to the rest of the world through TELEGLOBE satellites. The Canadian space industry has established a high reputation for standards of excellence and is particularly respected for strengths in the innovative design and manufacture of antennas, transponders, remote manipulators and specialized spacecraft components and control subsystems.

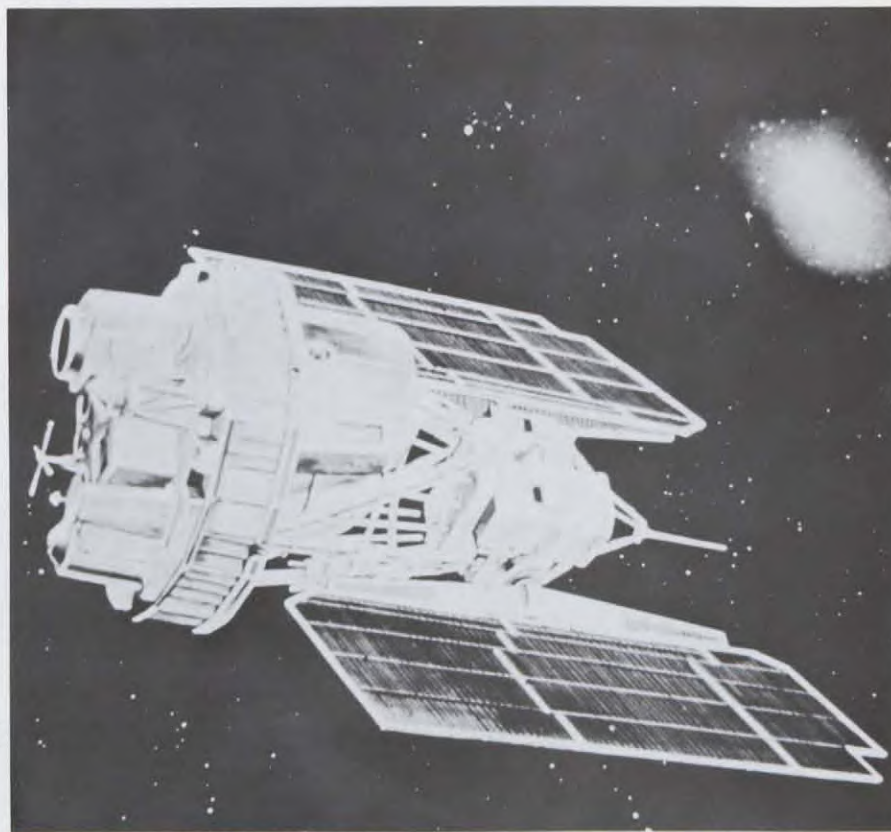
Canadian space involvement was already substantial by 1962 with the manufacture and successful launch of the Relay satellite carrying Canadian-designed transponders, and continued through the 1960s with the Alouette and ISIS experimental satellite programs. These programs generated a wide range of new and improved subsystem designs and components. Worthy of particular mention are high-reliability electronics, tubular extendible antennas, wide-band antennas and high-power transmitters. During the early 1970s Canadian industry continued to maintain its leading role in developing space technology for communications and remote-sensing applications. Modern plastics compositions were used for lightweight spacecraft structures. Solid-state microwave amplifiers were designed to replace more conventional components.

The world's first domestic synchronous satellite communications system was inaugurated with the launching of the first of the Anik-A series of satellites in late 1972. The three satellites of this series were launched to provide communications service to 10 million square kilometres (3.8 million square miles) of Canada. Development and manufacture of a second-generation domestic satellite, the Anik-B, is near completion and the launch of this dual-band satellite is scheduled for early 1978. The pressing need for a comprehensive network of data links between Canadian industrial and heavily populated areas will be further satisfied by the third generation of Anik satellites due for launch in the early 1980s.

The world's most powerful communications satellite, Hermes, was launched in January 1976. This experimental broadcast vehicle is Canada's eighth satellite. It radiates 200 watts of signal power and relies for its energy on 27,000 solar cells that in total provide a power source of 1,200 watts. The 12-GHz signal from Hermes is being coupled into a variety of experimental earth stations. Some interesting experiments are being carried out using transportable microstations with antennas of one metre (three feet) diameter.



The world's most powerful communications satellite, Hermes, an experimental broadcast vehicle.



Canadian-designed satellite shown in artist's conception in the process of extending its "sails".

Internationally, Canadian industry has co-operated in joint ventures with U.S. and European industry to the extent that Canadian content in the form of mechanical and electronic subsystems is to be found in most of the world's commercial communications satellites. The Tracking and Data Relay Satellite Spacecraft (TDRSS), now being built in the U.S. for launch in 1979, will carry essential electronic subsystems designed and manufactured in Canada.

In co-operation with the National Space Agency of the United States, Canada is developing, qualifying and manufacturing the critical Remote Manipulator System (RMS) for the space shuttle transportation system. RMS is a remotely-controlled mechanical arm, some 15 m (50 ft.) long with six degrees

of freedom, which will be used to unload the payload from the shuttle while in weightless orbit.

During 1976, the Canadian space industry was consolidated to create an industrial structure capable of undertaking prime contracting responsibility for a complete communications satellite. Canadian government agencies and Canadian companies are active in international space projects.

In addition to the work with NASA, Canada currently is an observer to the European Space Agency (ESA) and is in the process of strengthening its involvement in that agency's programs. The combination of the above factors herald the beginning of a new era in the development of the Canadian space industry.

Fibre-Optics Systems

The transmission of data and information, through the media of electromagnetic waves at the higher frequencies of the optical spectrum, has become a practical reality as a result of technological developments that have occurred over the past decade.

Throughout that period, Canadian industry has actively maintained its leading position and has already installed two fibre-optic systems, while additional systems are in the planning stage. These systems will form only part of the widespread introduction of an increasing number of fibre-optics communications systems which are scheduled to be fully operational by 1985.

Transportation Electronics

Avionics — Airborne

A wide variety of airborne equipment is produced by Canadian industry. Included are altimeters, emergency beacons, flight data recorders, crash position indicators and aircraft instruments. The latter are opto-electronic, solid-state, vertical scale instruments that have found favour with the crews of both military and general aviation aircraft and helicopters throughout the world.

Navigation aids have been developed in Canada over many years and now include inertial guidance, doppler, area navigation, Omega and combined display systems. Projected and moving map displays are produced for both fixed-wing aircraft and helicopters. Combining the capabilities of the moving map with computer driven displays provides horizontal situation displays for advanced military aircraft.

The modern trend in aircraft navigation systems is towards the use of satellites. Therefore a Canadian capability has been developed for computer controlled, steerable, solid-state aircraft antennas. The equipment needs for the avionics elements of such systems as the Navstar (global positioning system) will be met by prepared industrial capability.

Airborne maritime requirements are being met with surveillance/weather radar equipment, magnetic anomaly detection (MAD) and anti-submarine warfare (ASW) display systems. ASW surveillance signal processing systems have been readily accepted in British aircraft and U.S. Navy ground-based systems. Digitized TV systems being developed will meet the special requirements for multi-sensor displays and certain ASW applications.

Rising fuel costs are creating the need for systems to optimize flight envelopes and reduce fuel consumption. The

development of fuel management and engine thrust measurement systems will meet these needs.



Personnel locator beacon/radio set.

Avionics — Ground-Based

Complementing its capabilities in airborne electronics, Canada can supply a wide range of ground-based electronic systems for air transportation. This capability has been tested through experience in building and equipping more than 1,600 facilities ranging from Arctic airstrips to major international airports such as Mirabel in Montreal. The facilities installed include weather, route and airport surveillance radars, VOR (including doppler VOR), DME and ILS.

Canada is also a world leader in the design and production of flight simulators for civil and military aircraft, both fixed-wing and helicopter.

Canadian industry has produced, for the Ministry of Transport, an automated air traffic control system designed to cope with the rapidly increasing density of air traffic. The system, known as JETS (joint enroute/terminal system), adopts a modular approach that allows an installation to be scaled to any requirement, with provisions for expansion as demand increases. Canadian industry can also supply air traffic control simulators to meet a variety of requirements.

Other electronic systems to aid in the operation of both airfields and airport terminals have also been developed.

The operational information display system (OIDS) is a computer-based system that displays information on the operational status of the airfield. The flight information display system (FIDS) can provide similar information on the status of such terminal facilities as gates, baggage handling facilities, etc. A fully automated dispatch system has been developed called the airline information dispatch system (AIDS).

In addition to such major systems, there are also available a number of small systems to assist in airport operations. Examples are — passenger information displays, a runway visual range system and a variety of airport security devices such as X-ray baggage scanners and explosives detectors.



Experimental air traffic control system undergoing evaluation by Canadian Ministry of Transport engineers.



Helicopter training simulator.

Marine

Canadian firms have developed and are producing advanced equipment in the marine electronic field. Included are sonars, sonobuoys, gyrocompasses, inertial navigation systems, automated ship powerplant trend analysis systems, integrated navigation and automated pilot systems, and vessel traffic management systems, all of the most modern types.

Sonars and sonobuoys detect undersea objects or measure salinity and water temperature. Marine gyrocompasses and inertial navigation systems provide

ships with the same navigational facilities used by aircraft for a number of years. With the high cost of fuel there is an increasing need for automated trend analysis systems, which provide ships with the capability to "peak" the operation of diesel or steam plants under a wide variety of power settings, and to prevent costly unscheduled breakdowns by forecasting machinery failures. The application of these systems can result in fuel savings of from one to five per cent a year.

By applying computers and associated

software to shipboard electronic navigation systems, it is now possible to supply integrated navigation and automated pilot systems for more efficient handling of ships, and lower skill requirements for the crews.

Vessel traffic management systems provide the same type of facilities for controlling ship movements in harbours and restricted waterways as have been used in the control of aircraft for many years. The first major Canadian system is being installed on the west coast for Vancouver and environs.

Instrumentation and Process Control

The Canadian environment has forced Canadian industry to develop highly sophisticated instrumentation, supervisory and process control techniques to locate, exploit and deliver its natural resources.

In the field of geology and mineral geophysics, Canada's mammoth size and large wilderness areas have caused Canadian industry to develop both airborne and ground-based geophysical instrumentation unique in the world. As new data acquisition storage and data reduction techniques become economically feasible they are being implemented to speed the cataloguing and analysis of the ever-increasing amounts of data generated. Canadian industry is the leading supplier of geological and mineral geophysical instruments and systems to the rest of the world.

Canada's vast size and relatively sparse population has also resulted in the development and use of other remote sensing techniques, instrumentation and systems to list and monitor surface resources, produce maps and carry out cadastral surveys.

Canada is in the process of implementing one of the most ambitious postal mechanization programs in the world. When the installation is completed, a minimum of 50 per cent of Canada's mail will be automatically coded and 20 to 90 per cent will be sorted automatically.

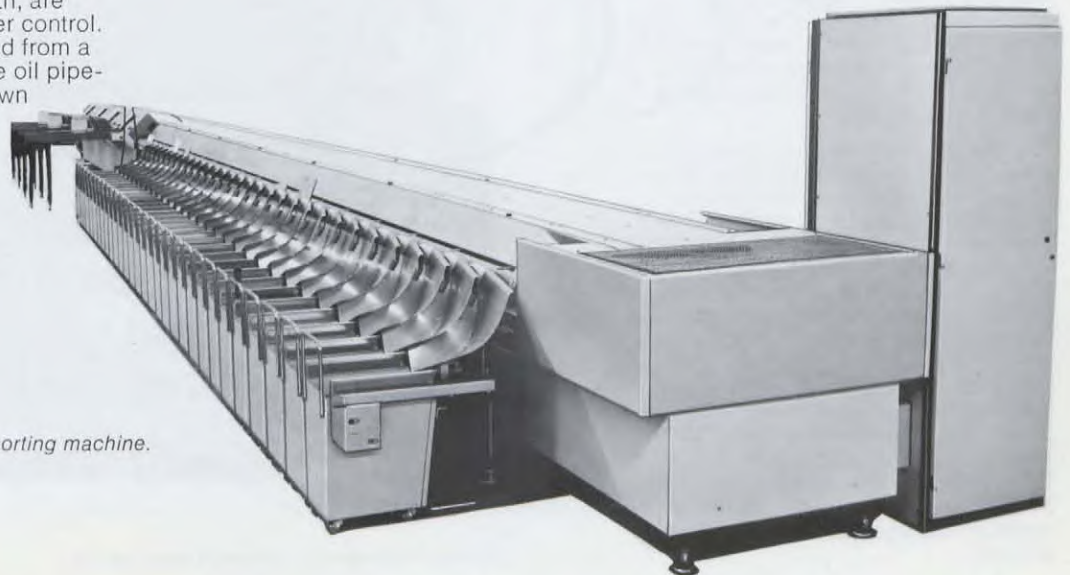
The demand for increased productivity has placed Canada in the forefront of process automation usage. Canadian industry has paid particular attention to resource processing systems, such as pulp and paper, mining, mine-mill control, gas extraction plants, and oil and gas transportation systems. For instance, Canada's two major pipelines, each of which is more than 4,000 kilometres (2,500 miles) in length, are under direct central computer control. The gas pipeline is controlled from a Toronto skyscraper while the oil pipeline is controlled from midtown Edmonton.



Underwater seismic system instrument package being launched in the North Sea.



Nuclear power plant training simulator as seen from instructor's console.



Automatic flat mail sorting machine.

Data Processing

Since the purchase of the first computer by the University of Toronto in 1952 (second in the world), Canadian institutions and industry have been closely linked with the development of computer technology. As a result, Canadian firms today are involved in the design and manufacture of an extensive variety of computer products as well as the development of advanced computer applications and the provision of the most sophisticated information processing service in the world.

Canadian manufactured computer products include mainframes, peripherals and terminal devices, data entry and retrieval equipment and word processing systems, to name a few. Many of

these products incorporate the most recent and advanced concepts in micro-circuitry and micro-computer design. Canadian companies have produced specialized terminals and equipment with built in "intelligence" for use in areas such as communications, banking and graphics.

Canadian companies have designed and developed complete computer turnkey systems for a broad range of applications. With off-the-shelf micro or mini-computers, specially designed software and interface circuitry a total system is developed for applications in areas such as business, finance and education. These systems control functions as complex as banking trans-

actions or as massive as the monitoring and management of electrical generating stations.

With the advent of the world's first commercial digital data network in Canada, the already expanding information processing industry has mushroomed. Network member companies, called computer service bureaux, offer the most advanced and sophisticated remote time sharing and batch processing services anywhere. In addition, the companies supply specialized software packages for any number of applications and a complete consulting service.

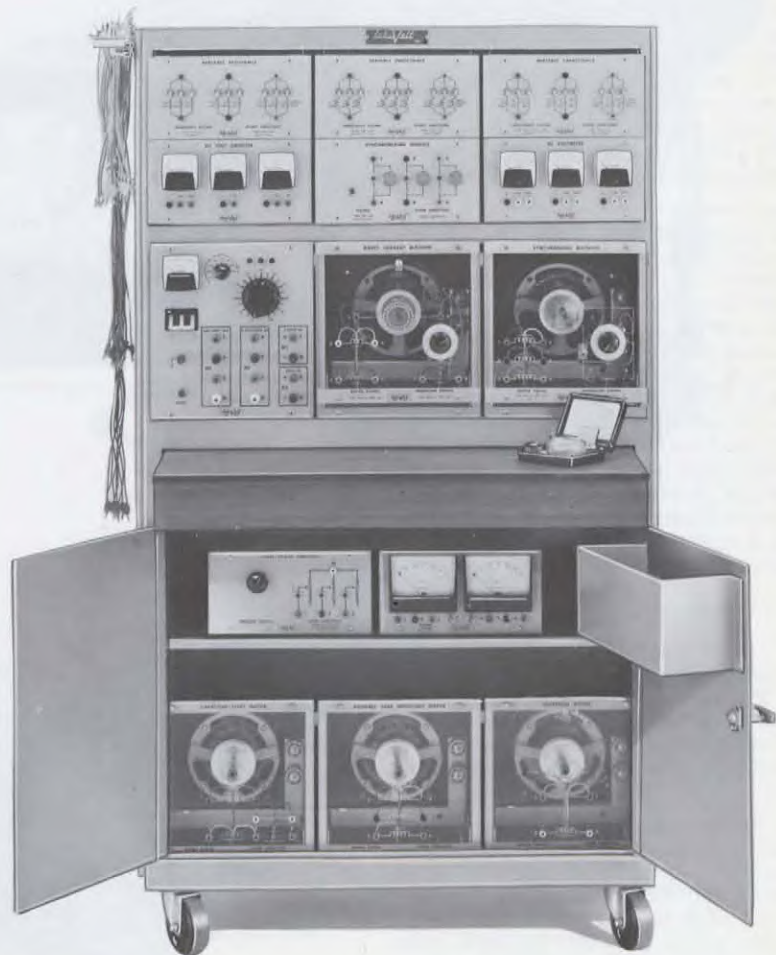
Other Electronic Equipment and Components

The preceding sections have described some of the major areas of Canadian expertise available for export. In addition to these, there are a number of manufacturers who supply equipment for highly specialized requirements.

Working in co-operation with University of Toronto's Institute of Biomedical Electronics and Engineering, manufacturers have developed a wide range of electronics monitoring and diagnostic equipment which is gaining widespread acceptance in progressive medical communities.

Electronic educational and training aids are available for use in all types of educational establishments from public schools to trade training schools. Electronic sensing and control systems have been applied to a wide variety of industrial machinery and a diverse range of testing and laboratory equipment is manufactured.

The Canadian equipment industry is supported by an active group of components manufacturers who tend to specialize in excellently engineered, high technology components for specific applications. Included in such applications are space, nuclear, and the higher technology communications and industrial equipment. The military market is a major user and many Canadian component manufacturers are qualified under the well-known MIL Standards, thus ensuring the utmost degree of reliability and quality. It is becoming standard practice for many companies to incorporate the requirements of IEC specifications into their designs.

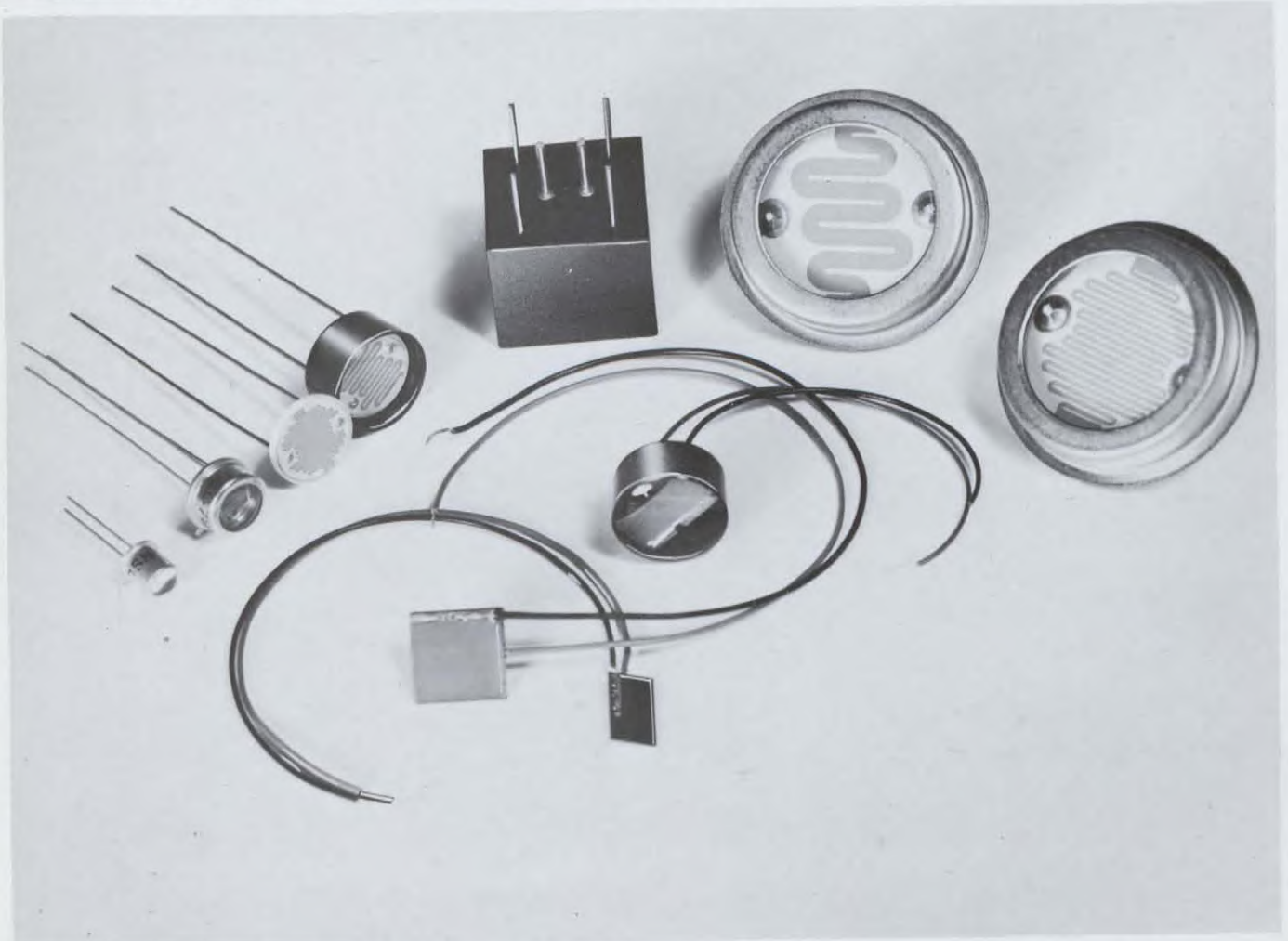


Electrical engineering laboratory teaching aid.

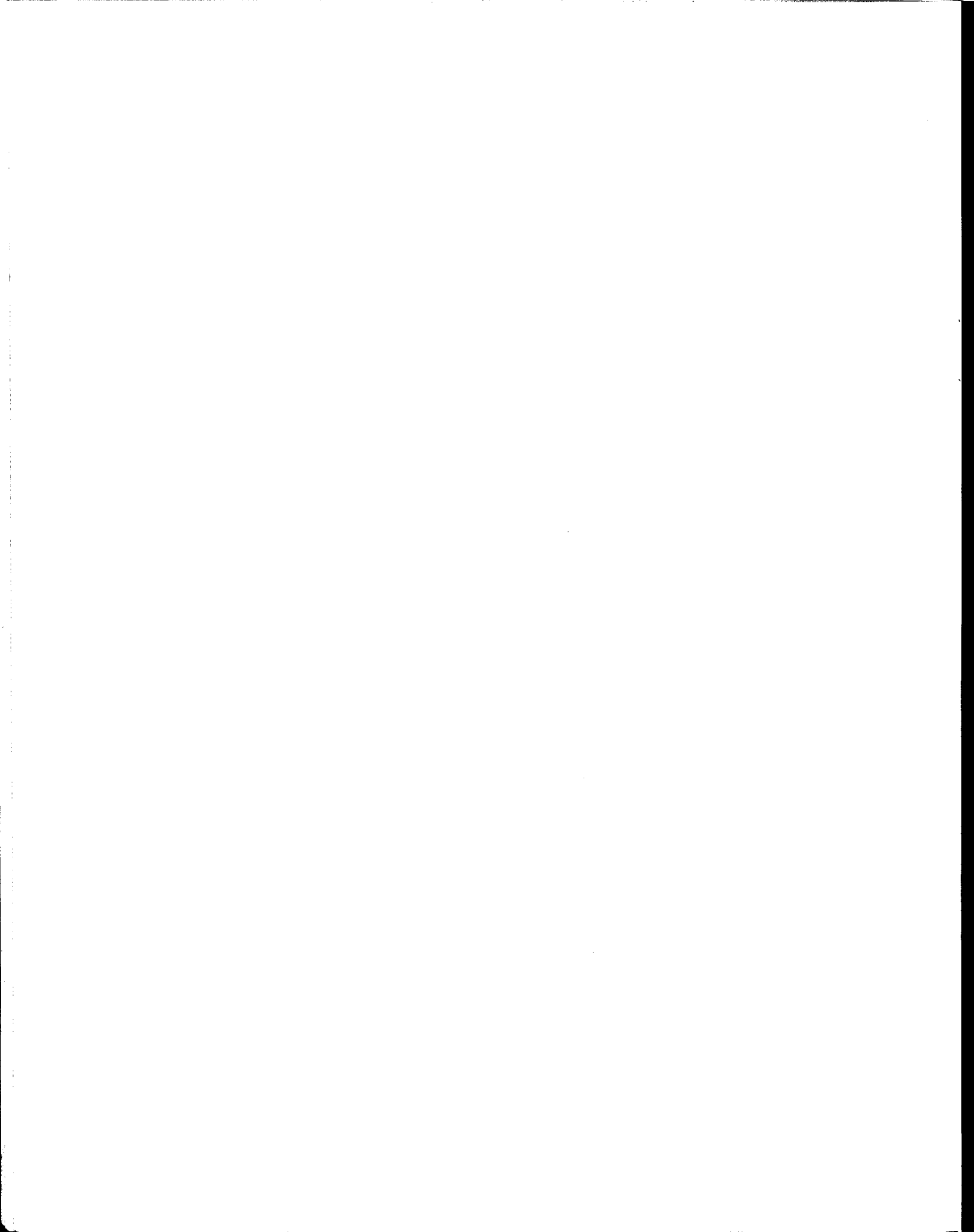
Company Listing 5



Geophysical hermaphroditic connector designed to resist humidity, ice, mud, motor oil.



Optoelectronic components.



Company Listings

General

ACME DEVICES INC.
875 Montée de Liesse
St. Laurent, Quebec, Canada
H4T 1P5
Tel: (514) 733-7139

PRODUCTS: dial access paging control terminals for city-wide and in-plant radio paging services; firm provides engineering backup at time of installation.

ACME ENGINEERING PROD. LTD.
5706 Royalmount Avenue
Montreal, Quebec, Canada
H4P 1K5
Tel: (514) 342-5656
Telex: 055-60546

PRODUCTS: carbon monoxide detection and control units and systems.

A.E.I. TELECOMMUNICATIONS (CANADA) LIMITED
419 Notre Dame Avenue
Winnipeg, Manitoba, Canada
R3B 1R3
Tel: (204) 942-7221
Telex: 07-57588
TWX: 610-671-2581
Cable: ASSOCELECT WINNIPEG

PRODUCTS: automatic number identification (ANI) equipment on step-by-step or crossbar telephone switching systems.

AES DATA LTÉE/LTD.
570 McCaffrey Street
Montreal, Quebec, Canada
H4T 1N1
Tel: (514) 341-5430
Telex: 05-826602

PRODUCTS: stand alone word processing systems with editing video screen, electronic keyboard, single or dual diskette storage unit, microprocessor control unit, and automatic high speed printer; optional communication capability.

AIRCRAFT APPLIANCES & EQUIPMENT LIMITED
152 East Drive
Bramalea, Ontario, Canada
L6T 1E1
Tel: (416) 791-1666
Telex: 069-7540
TWX: 610-492-4396

PRODUCTS: tachometer generators; voltage regulators; liquid level sensors; auxiliary power units, gasoline engine and diesel engine driven generator sets to 30 kW; solid-state sign flashers; synchronous motors.

ALMAX INDUSTRIES LTD.
61 Needham Street
Lindsay, Ontario, Canada
K9V 4Z7
Tel: (705) 324-5100

PRODUCTS: piezoelectric ceramic element for sonobuoys; ultrasonic generators; microwave filters; powders for piezoelectric ceramic fabrication; special application ceramic; high purity and high density alumina ceramic.

AMPHENOL CANADA DIVISION
Bunker-Ramo (Canada) Ltd.
44 Metropolitan Road
Scarborough, Ontario, Canada
M1R 2T9
Tel: (416) 291-4401
TWX: 610-492-4379

PRODUCTS: filtered power connectors; printed circuit connectors; power connectors; RF cable; CATV cables and connectors; RF connectors; bracket panel connectors; DK whip antenna (mobile communications); tube sockets; telephone components; customized cable harnesses; complete product development and tool room facilities.

AMPLITROL ELECTRONICS LIMITED
51 Marie-Victorin Boulevard
Candiac, Quebec, Canada
J5R 1B7
Tel: (514) 659-9111
Telex: 05-27350
Cable: AMTREC, MONTREAL

PRODUCTS: alarm systems for banks, jewellers and high risk industries.

ANACONDA CATV LTD.
1580 Rand Avenue
Vancouver, British Columbia, Canada
V6P 3G2
Tel: (604) 263-0911
Telex: 04-55490

PRODUCTS: cable television equipment 5-300 MHz consisting of Century II trunkline; distribution and apartment amplifiers; VHF/UHF multi-taps; VHF splitters; couplers and related passive devices; AC power supplies; co-axial connectors; terminators; adaptors; consulting services on cable television systems.

ANATEK ELECTRONICS LTD.
240 Brooksbank Avenue
North Vancouver, British Columbia
Canada
V7J 2C1
Tel: (604) 980-7061
Telex: 043-52689

PRODUCTS: power supplies: laboratory type, modular type, and for original equipment manufacturers.

ANDREW ANTENNA COMPANY LIMITED
606 Beech Street
Whitby, Ontario, Canada
L1N 5S2
Tel: (416) 668-3348
Telex: 069-81269
Cable: ANDCORP WHITBY

PRODUCTS: microwave antennas for all commercial and military bands both standard and high performance; satellite earth station antennas for both synchronous and non-synchronous satellites; coaxial Heliax (R) transmission line, air dielectric and foam dielectric; Heliax elliptical waveguide for frequencies from 1.7 GHz to 15.3 GHz; rigid coaxial transmission lines and waveguides; air pressurizing equipment and accessories; scatter propagation antennas; military antennas and transmission lines both tactical and strategic; custom built radar antennas; navigational aid antennas; coaxial leaking feeder systems for underground communications or for buried detection systems.

SERVICES: installation and field services relating to antenna systems.

ANRO ELECTRONIC INDUSTRIES LTD.
300 Wildcat Road
Downsview, Ontario, Canada
M3J 2N5
Tel: (416) 661-2600
Telex: 065-24001

PRODUCTS: solenoids; toroids; timers; miniature low pressure switches; various custom electronic components.

APEX PARAMETRICS LIMITED
200 Steelcase Road East
Markham, Ontario, Canada
L3R 1G2
Tel: (416) 495-1612
Telex: 06-966773 NORDVIK TOR
Cable: APEXPARA TORONTO

PRODUCTS: ground electromagnetic survey systems, single-frequency and multi-frequency.

APTEC ENGINEERING LIMITED
4251 Steeles Avenue West
Downsview, Ontario, Canada
M3N 1V7
Tel: (416) 661-9722
Telex: 06-965819

PRODUCTS: nuclear radiation detectors; geiger mueller counters; hyperpure germanium detectors; nuclear electronics: fixed gamma area monitors, liquid effluent monitors, hand and foot personal contamination monitors, portable uranium analyzers; alpha-beta-geiger counters.

AUDIO TRANSFORMER COMPANY LIMITED

P.O. Box 220
202 Regina Street North
Waterloo, Ontario, Canada
N2J 3Z9
Tel: (519) 885-4510

PRODUCTS: laminated iron core transformers.

AUTOMATEC INC.

A division of BG Checo Engineering Ltd.
9851 Parkway
Montreal, Quebec, Canada
H1J 1P3
Tel: (514) 353-8940
Telex: 05-828723

PRODUCTS AND SERVICES: data acquisition and processing; supervisory control equipment (hard wired and programmable); annunciators; power line carrier equipment; trip alarm relaying equipment (teleprotection); process control systems (hard wired and programmable); interface systems; emergency lighting; rolling stock lighting (static inverter ballast); static power inverters and converters; fare control systems; magnetic ticket readers; maintenance, repair and modernization of electronic systems.

AUTOMATIC WINDING CORP. LTD.

300 Wildcat Road
Downsview, Ontario, Canada
M3J 2N5
Tel: (416) 661-2600
Telex: 065-24001

PRODUCTS: RF and IF transformers; radio oscillators; chokes; peaking coils; convergence coils; automotive components; various custom electronic components.

AUTO-VOX INC.

485 Boulevard Langelier
Quebec, Quebec, Canada
G1K 5P3
Tel: (418) 529-9271

PRODUCTS: intercom systems; public address systems; telephone equipment (PAX); electronic design long distance control unit.

AVIATION ELECTRIC LTD.

P.O. Box 2140
200 Laurentien Boulevard
St. Laurent, Quebec, Canada
H4L 4X8
Tel: (514) 744-2811
Telex: 05-826688
Cable: AVIATION-MONTREAL

PRODUCTS: land navigation systems; vehicle position reporting systems; ground support equipment; gas turbine fuel control systems; electrical, fuel, hydraulic and special test stands; automatic meteorological data gathering systems; aircraft instruments and flight system components; repair and overhaul of aircraft instruments, accessories and avionics; electrical connectors.

AVIONICS LIMITED

P.O. Box 200
Niagara-on-the-Lake, Ontario, Canada
L0S 1J0
Tel: (416) 468-3632

PRODUCTS: printed circuit boards; terminal boards; silk screening and precious metal plating; designs and assemblies circuit boards to customer specifications.

BACH-SIMPSON LIMITED

P.O. Box 5484
1255 Brydges Street
London, Ontario, Canada
N6A 4L6
Tel: (519) 452-3200
Tel: 064-5843
Cable: WILBAC

PRODUCTS: panel meters; control instruments; shunts and current transformers; portable electrical and electronic test equipment; medical diagnostic Doppler ultrasound.

BAILEY METER COMPANY LIMITED

205 Brunswick Boulevard
Pointe Claire, Quebec, Canada
H9R 1A5
Tel: (514) 697-6770
Telex: 05-821526
Cable: BAILYCANDA

PRODUCTS: pneumatic and electronic products for metering and control systems, digital sequencing systems, data acquisition systems and commissioning assistance for power and process industries.

BARRINGER RESEARCH LIMITED

304 Carlingview Drive
Rexdale, Ontario, Canada
M9W 5G2
Tel: (416) 675-3870
Telex: 06-968743
Cable: BARESEARCH TORONTO

PRODUCTS: geophysical instruments (magnetometers, EM); airborne and ground instruments and geochemical systems; program participation and management consulting and contracting-laboratory analyses; ground and airborne pollution detection instruments and heavy water loss detectors; ground and airborne pollution monitoring, contract research and development, electro-optics, systems engineering.

BARVIC AUDIO SERVICES LTD.

1360 Hornby Street
Vancouver, British Columbia, Canada
V6Z 1W6
Tel: (604) 685-6245
Cable: BARVIC

PRODUCTS: audio amplifiers; public address systems; low voltage control systems; electronic educational and time recording equipment; medical and hospital annunciators and intercoms.

BAYLY ENGINEERING LIMITED

A Member of the AEG-TELEFUNKEN GROUP
167 Hunt Street
Ajax, Ontario, Canada
L1S 1P6
Tel: (416) 683-8200
Telex: 06-981293

PRODUCTS: coaxial transmission systems; multiplex systems; open-wire carrier systems; analog and digital, mono and stereo program channels (STLs); conference networks; telecommunications amplifiers, attenuators, termination sets, timers, flashers, vox units, and telephone ringing/signalling equipment; electronic filters, equalizers, transformers, repeat coils, loading coils and hybrids; remote control/supervisory and tone signalling systems and equipment; power line carrier and frequency shift tone equipment; RF coaxial load resistors; RF wattmeters; telephone and coaxial jacks, plugs and adapters; postal mechanization equipment for flat mail sorting; custom design and contract manufacturing.

BAYTRONIX LTD.

4006 Côte Vertu
Montreal, Quebec, Canada
H4R 1V4
Tel: (514) 336-9240
Cable: BAYTRON MONTREAL

PRODUCTS: medical and biomedical instrumentation for teaching and research; electronic test instrumentation for laboratory and communications applications.

BECKMAN INSTRUMENTS INC.

Helipot Division
901 Oxford Street
Toronto, Ontario, Canada
M4Z 1L7
Tel: (416) 251-5251
TWX: 610-492-1301

PRODUCTS: precision multi-turn and single-turn potentiometers; trimming potentiometers; electro-mechanical assemblies to custom design.

BEEL CONTROLS LIMITED

2650 Pitfield Boulevard
St. Laurent, Quebec, Canada
H4S 1G9
Tel: (514) 334-6500
Telex: 05-826501
Cable: BEELCON

PRODUCTS: DC thyristor adjustable speed drives; rectifier power supplies; static AC power controllers for heaters, and induction motors.

BOMEM INC.

842 De la Louisiane
Ste-Foy, Quebec, Canada
G1X 3L3
Tel: (418) 658-8293

PRODUCTS: interferometers and Fourier Transform spectrometers.

BOWMAR CANADA LIMITED

1267 Algoma Road
Ottawa, Ontario, Canada
K1B 3W7
Tel: (613) 746-3100
TWX: 610-562-1916

PRODUCTS: solid-state light emitting device research, development production for applications such as alphanumeric displays, film and paper annotation, failure warning, integral lighting lamps, card and tape readers; light emitting diodes (solid-state displays).

BRISTOL AEROSPACE LIMITED

P.O. Box 874
Winnipeg, Manitoba, Canada
R3C 2S4
Tel: (204) 775-8331
Telex: 03-5587
TWX: 610-671-3598
Cable: BRISAIRCO

PRODUCTS: rocket telemetry and control systems (for scientific soundings and meteorological data acquisition) — VHF telemetry transmitters; voltage controlled subcarrier oscillators; voltage regulators; IRIG standard commutators; magnetometers; aspect measuring systems; vehicle telemetry antennas;

electronic timers; modular data acquisition systems (pollution, meteorology, hydrology, oceanography, etc.); encoders and decoders; teletype formatters; remote and master control stations (manual and automatic); analog-to-digital and digital-to-analog converters; modems (RF or hard line); data processing; satellite telemetry equipment — PCM encoders and decoders; switching units; remote controlled nuclear heat exchanger tube inspection systems and instrumentation — eddy current instruments, data communications, microprocessor control systems, automatic tube selection devices, display consoles; wind power conversion systems for remote locations — vertical axis turbines, low speed alternators, control systems, power systems.

BURNDY CANADA LIMITED

80 Bullock Drive
Markham, Ontario, Canada
L3P 3P7
Tel: (416) 294-6634
Telex: 06-22574

PRODUCTS: electrical and electronic connectors and wiring accessories including PC connectors, i.e., sockets, rack and panel connectors, circular connectors; crimp terminals, cable ties and clamps, coaxial ferrules, installation tooling; bolted and compression power connectors for aluminum and copper conductors.

CAE ELECTRONICS LTD.

P.O. Box 1800
Montreal, Quebec, Canada
H4L 4X4
Tel: (514) 341-6780
Telex: 05-827812
TWX: 610-422-3063

PRODUCTS: commercial aircraft visual flight simulators; military aircraft visual flight tactics and weapons simulators; helicopter flight and tactics simulators; nuclear power station simulators; computerized air traffic control display systems; airborne magnetic anomaly detection and compensator systems for ASW applications; supervisory control and data acquisition systems for electric and petroleum industries; field maintenance, repair and overhaul, test and calibration services and facilities.

CALIFONE INDUSTRIES LTD.

1305 Odium Drive
Vancouver, British Columbia, Canada
V5L 3M1
Tel: (604) 254-5148
Telex: 04-54521

PRODUCTS: tape recorders, listening centers and record players for educational institutions and industry.

CANADA WIRE AND CABLE COMPANY LIMITED

80 Bloor Street West, 6th Floor
Toronto, Ontario, Canada
M5S 2V1
Tel: (416) 923-7067

PRODUCTS: fibre optics products for telephone, CATV and control systems applications.

CANADIAN ADMIRAL CORPORATION LTD.

501 Lakeshore Road East
Port Credit, Ontario, Canada
L5G 4M5
Tel: (416) 278-5561
Telex: 06-961138

PRODUCTS: nuclear instrumentation; gamma radiation survey meters; dosimeter chargers; ionization chamber detectors; radiac calibrators; power supplies.

CANADIAN APPLIED TECHNOLOGY

A Division of Arrowflight Holdings Ltd.
Buttonville Airport
16th Avenue
Markham, Ontario, Canada
L3P 3J9
Tel: (416) 297-4681

PRODUCTS: telemetry system (digital mini-computer controlled); hydrographic data acquisition system; oceanographic survey data acquisition system; airborne geophysical survey system; air quality telemetry system; mobile air quality survey system; telemetry system (tone); data recorder (DC300A); data averager; micro-processor hydrographic data acquisition system.

CANADIAN ASTRONAUTICS LIMITED

39 Bell Mews Plaza, Suite 221
Bells Corners, Ontario, Canada
K2H 8R2
Tel: (613) 829-2025

PRODUCTS: custom designed electronic systems including: instrumentation systems; test facilities; display and control units; data acquisition systems; RF transmitters and receivers; antennas; battery chargers and management systems; signal processors; computer interfaces; microprocessor applications

CANADIAN GENERAL ELECTRIC CO. LTD.

940 Landsdowne Avenue
Toronto, Ontario, Canada
M6H 3Z4
Tel: (416) 534-6511
Telex: 02-2057

PRODUCTS: traffic control equipment; controllers, signals and accessories.

CANADIAN GENERAL ELECTRIC CO. LTD.

100 Wingold Avenue
Toronto, Ontario, Canada
M6B 1R2
Tel: (416) 789-3281
Telex: 06-524238

PRODUCTS: mobile radio communications equipment.

CANADIAN GENERAL ELECTRIC CO. LTD.

107 Park Street North
Peterborough, Ontario, Canada
K9J 7B5
Tel: (705) 742-7711
Telex: 02-9826

PRODUCTS: static power conversion equipment; control and regulators for DC and AC motors, drive systems and industrial processes; static digital logic systems; design and manufacture of control instrumentation of nuclear power plants; high current semiconductors, diodes and thyristors.

CANADIAN GENERAL ELECTRIC CO. LTD.

TV Equipment
396 Attwell Drive
Rexdale, Ontario, Canada
M9W 5C3
Tel: (416) 675-7500
Telex: 06-219714

PRODUCTS: television broadcast transmitters, antennas and filters.

CANADIAN MARCONI COMPANY

2442 Trenton Avenue
Montreal, Quebec, Canada
H3P 1Y9
Tel: (514) 341-7630
Telex: 01-2260
TWX: 610-421-3564
Cable: ARCON MONTREAL

PRODUCTS: full range of fixed, mobile and portable radio communications equipment in HF/SSB, VHF/FM and UHF/FM; marine radar and communications; tactical microwave radio relay; microwave voice and data communications systems; Doppler navigation

systems for fixed and rotary wing aircraft; airborne and marine OMEGA navigation systems; aircraft instrument display systems; helicopter navigation radar; land-based and marine satellite navigation and position location systems; multilayer printed wiring boards; thin film, thick film and hybrid microcircuits; delay lines; filters; transformers.

CANADIAN RESEARCH INSTITUTE

Division of Criterion Instruments Ltd.
85 Curlew Drive
Don Mills, Ontario, Canada
M3A 2R2
Tel: (416) 445-6363

PRODUCTS: educational instruments; research apparatus; high voltage test sets; panel and portable meters; school instruments; demonstration apparatus; geophysical instruments; public utility instrumentation; pollution instruments; Ph meters and controllers; power supplies; electromedical instruments; television test apparatus.

CANADIAN STACKPOLE LIMITED

Medical Products Division
550 Evans Avenue
Toronto, Ontario, Canada
M8W 2V6
Tel: (416) 255-2373
Telex: 06-967730

PRODUCTS: isolated power systems; line isolation monitors; biomedical electrical testers; accessories for hospital electrical systems; prefabricated service walls for intensive or patient care; medical gas and electrical wall consoles.

CENTRAL DYNAMICS LTD.

147 Hymus Boulevard
Pointe Claire, Quebec, Canada
H9R 1G1
Tel: (514) 697-0811
Telex: 05-821506
TWX: 610-422-3906

PRODUCTS: video terminal equipment for broadcast, educational and cable television systems, available in NTSC, PAL, PAL-M and SECAM standards; video production and distribution switchers, master control (presentation) switchers, machine control systems and peripheral equipment; automated television presentation systems and video tape editors; electronic information display systems.

CENTRODYNE CORP.

9145 Charles-de-Latour, Suite 4
Montreal, Quebec, Canada
H4N 1M3
Tel: (514) 381-9308

PRODUCTS: programmable printer; automatic process control system; billiard computer; bowling computer; electronic taximeter.

CERCAST INC.

3905 Industrial Boulevard
Montreal, Quebec, Canada
H1H 2Z2
Tel: (514) 322-2371
Telex: 05-25318

PRODUCTS: precision investment castings of non-ferrous alloys.

CETA LIMITED

452 Kraft Road
Fort Erie, Ontario, Canada
L2A 4M7
Tel: (416) 871-4260
Cable: CETACAN

PRODUCTS: electronics and electricity learning systems (experimental breadboarding apparatus); power supplies; laboratory equipment.

CHALLENGER ELECTRONICS

Division of Challenger Equipment Ltd.
P.O. Box 82010
Burnaby, British Columbia, Canada
V5C 5P3
Tel: (604) 291-8272
Telex: 04-354713
TWX: 610-929-2042

PRODUCTS: tone signalling encoders and decoders; single-tone, two-tone sequential or simultaneous, dual-tone multi-frequency; digital decoders; voltage regulators; radio telephone interconnect terminals.

CHECK SECURITY SYSTEMS INC.

379 Limestone Crescent
Downsview, Ontario, Canada
M3J 2R1
Tel: (416) 677-6430

PRODUCTS: fire alarms; burglar alarms; annunciators; proprietary security systems.

CHUBB SECURITY SYSTEMS

A Division of Chubb Industries Limited
80 Horner Avenue
Toronto, Ontario, Canada
M8Z 4X9
Tel: (416) 252-4141
Telex: 06-97570

PRODUCTS: alarm control systems.

COLLINS CANADA DIVISION

— See Rockwell International of Canada Ltd.

COM DEV LTD.
582 Orly Avenue
Dorval, Québec, Canada
H9P 1E9
Tel: (514) 636-6920
TWX: 610-422-3054

PRODUCTS: communications satellite components and subsystems: frequency bands from 100 to 40,000 MHz; filters, multiplexers, couplers, ferrite circulators and isolators, adaptors, terminations; high power microwave components and subsystems for earth terminals: diplexers, loads, combining networks, ferrite devices, couplers; microwave components and subsystems for terrestrial relay and radar systems from 1000 to 26,000 MHz; broadcast products: VHF and UHF antennas, combiners and filterplexers for transmission of TV and FM radio.

SERVICES: studies and tradeoff analysis undertaken on satellite transponders, high power combining and switching of earth terminals and related areas.

COMPUTING DEVICES COMPANY
A Division of Control Data Canada, Ltd.
P.O. Box 8508
Ottawa, Ontario, Canada
K1G 3M9
Tel: (613) 596-3810
Telex: 053-4139
TWX: 610-563-1632

PRODUCTS: navigation including projected map systems and displays; signal processing associated with airborne systems and displays; acoustic processing associated with ocean systems; fire control associated with fixed and mobile fire control systems; image processing and analysis; sensor data processing; artillery, tank and other specialized computers; special control displays; automated test equipment; thrust computing systems associated with aircraft jet engines; field engineering and maintenance services.

CONIAGAS RESEARCH INC.
11 Adelaide Street West
Suite 1001
Toronto, Ontario, Canada
M5H 1L9
Tel: (416) 864-9270

PRODUCTS: "Coni-Mag" magnetometer.

CONSOLIDATED COMPUTER INC.
50 Gervais Drive
Don Mills, Ontario, Canada
M3C 1Z3
Tel: (416) 449-1120
TWX: 610-492-1355

PRODUCTS: KEY-EDIT family of shared-processor; key-to-disk data entry and source data processing systems with up to 56 CRT data terminals, disk and tape storage, printers, OCR (Scanedit), card and remote batch terminal capabilities which include HASP and 2780/3780 communications features.

CONTROL DATA CANADA, LTD.
50 Hallcrown Place
Willowdale, Ontario, Canada
M2J 1P7
Tel: (416) 492-4000
TWX: 610-492-1356

PRODUCTS: large-scale computer systems; the CYBER 170 series, models 171, 172, 173 and 174 for applications in education, utilities, resource development, weather forecasting and atomic/nuclear.

CONTRONIC CONTROLS LIMITED
7611 Bath Road
Mississauga, Ontario, Canada
L4T 3T1
Tel: (416) 678-1032
Telex: 06-983630

PRODUCTS: electronic security equipment.

CRAMCO SOLDER ALLOYS
80 Sinnott Road
Scarborough, Ontario, Canada
M1L 4M7
Tel: (416) 757-2876

PRODUCTS: perfect, tiny spheres of solder; high purity solders; fluxes.

CRESCENT CONTROLS LTD.
2960 West 4th Avenue
Vancouver, British Columbia, Canada
V6K 1R4
Tel: (604) 732-7461
Telex: 04-508538

PRODUCTS: industrial process control equipment and systems; multi-point supervisory and alarm systems; supervisory control equipment and systems including pulse width modulation, audio tone signalling, time multiplexed signalling and computer based time multiplexed signalling.

CRONE GEOPHYSICS LIMITED
3607 Wolfedale Road
Mississauga, Ontario, Canada
L5C 1V8
Tel: (416) 270-0096
Cable: CRONGEO TORONTO

PRODUCTS: geophysical equipment; ground and borehole pulse electromagnetic units, RADEM-VLF-EM receiver; CEM-EM transmitter receiver; VEM-vertical loop EM; Newmont type induced polarization receiver and transmitters.

CROVEN LTD.
500 Beach Street
Whitby, Ontario, Canada
L1N 5S5
Tel: (416) 668-3325
TWX: 610-384-2750

PRODUCTS: quartz crystals.

C-TECH LTD.
1150 Montreal Road
Cornwall, Ontario, Canada
K6H 5S2
Tel: (613) 933-7970
Telex: 05-811538

PRODUCTS: omni-scanning sonars, echo sounders; digital depth sounders; interpolating transducer scanner; computerized test equipment; U.S. Navy design approved standard electronic modules (SEMs); underwater test facility; transducer and sonar systems engineering.

CTS OF CANADA LIMITED
80 Thomas Street
Streetsville, Ontario, Canada
L5M 1Y9
Tel: (416) 826-1141
Telex: 06-97508

PRODUCTS: static inverters; uninterruptible power supply systems including start-up assistance; DC-DC (static) converters; static frequency converters; battery chargers; rectifier-power supplies; variable resistors; selector switches; trimming potentiometers; crystals; filters; photo-electric controls; rectifiers; inverters; microminiature components and circuit packages.

DALE ELECTRONICS CANADA LTD.
18 Howden Road
Scarborough, Ontario, Canada
M1R 3E6
Tel: (416) 759-5631
Telex: 06-963694
Cable: DALOHH

PRODUCTS: resistors — precision wire wound, industrial wire wound (fixed and adjustable with silicone coatings); trimmer and precision potentiometers; connectors; wire wound packaged networks.

DANIELS ELECTRONICS LIMITED
225 St. Lawrence Street
Victoria, British Columbia, Canada
V8V 1Y2
Tel: (604) 382-8268

PRODUCTS: marine and land SSB radiotelephone equipment and accessories; marine VHF-FM radio, radiotelephones.

DECCA AUSTIN INSULATORS
A Division of Deram Limited
71 Selby Road
Brampton, Ontario, Canada
L6W 1K5
Tel: (416) 457-8720
Telex: 06-97699
Cable: DECRADAR TORONTO

PRODUCTS: antenna mast and tower base insulators, guy strain insulators and lighting isolation transformers.

DELTA-BENCO-CASCADE LTD.
124 Belfield Road
Rexdale, Ontario, Canada
M9W 1G1
Tel: (416) 241-2651
Telex: 06-965552

PRODUCTS: community antenna TV (CATV) distribution equipment: products for the complete system; head end processors, modulators, 35 channel trunk amplifiers and line extenders, directional taps, etc.; master antenna TV (MATV) distribution equipment: complete product range including amplifiers incorporating feed forward techniques; TV transmitters and translators: complete range of low power TV transmitter and translator devices for NTSC applications.

DICON SYSTEMS LIMITED
709 Clayson Road
Toronto, Ontario, Canada
M9M 2H4
Tel: (416) 745-6044

PRODUCTS: residential smoke detectors.

DIFFRACTO LTD.
2775 Kew Drive
Windsor, Ontario, Canada
N8T 3B7
Tel: (519) 945-6373

PRODUCTS: laser and electro-optical non-contacting systems for gauging and inspection of components and parts.

DIGITAL DEVICES LIMITED
8235 Mountain Sights, Suite 300
Montreal, Quebec, Canada
H4P 2B4
Tel: (514) 739-1761

PRODUCTS: portable computer data entry terminals with two-way communications and hard-copy printout features; spacecraft communications controller; payroll and access control terminals; custom work.

D. G. INSTRUMENTS LIMITED
308 Leggett Drive
Kanata, Ontario, Canada
K2K 1Y6
Tel: (613) 592-1606

PRODUCTS: digital data acquisition system, digital clock, VOR grand check system, helicopter air data system, ultrasonic velocity sensors.

DURMITOR INC.
24 Marowyne Drive
Willowdale, Ontario, Canada
M2J 2A4
Tel: (416) 491-7302

PRODUCTS: industrial electronic control products and services; the design, manufacture, field engineering, installation and maintenance of constant motor load regulators and remotely adjustable wired limit switching systems for automating heavy-duty industrial equipment.

DYNALOGIC CORP. LTD.
141 Bentley Avenue
Ottawa, Ontario, Canada
K2E 6T7
Tel: (613) 226-1383
Telex: 053-3358

PRODUCTS: data entry floppy disk terminal (DynaTermDisk); dynalogic microcomputer system.

DYNAMIC INDUSTRIES INC.
A Subsidiary of F.P.K. Holdings Ltd.
P.O. Box 1664
45 Dorchester Street South
Quebec, Quebec, Canada
G1K 5Y1
Tel: (418) 524-5221
Telex: 051-3868

PRODUCTS: transmission line towers and allied products; microwave towers and antennas; TV towers; custom galvanizing using dry hot dip process; general machine-shop and plate-shop works.

SERVICES: engineering; structural analysis; structural and mechanical drawings; tower installation supervision.

EDA INSTRUMENTS INC.
1 Thorncliffe Park Drive
Toronto, Ontario, Canada
M4H 1G9
Tel: (416) 425-7800
Telex: 053-4159

PRODUCTS: data transmission test equipment; digital event recorders; digital clocks and clock systems; low drain digital timers; fluxgate magnetometers; radon detection systems for uranium prospecting; automatic radon gas monitoring systems; degassing systems; astro clocks; gyro readout units; educational responder systems.

EDAC INC.
36 Mobile Drive
Toronto, Ontario, Canada
M4A 1H9
Tel: (416) 752-1800
TWX: 610-492-1398

PRODUCTS: printed circuit card-edge connectors; printed circuit metal-to-metal connectors; rectangular rack and panel connectors; printed circuit card guides; contacts (Loose, Reel); contact crimp tools; connector accessory tools.

EDWARDS, A UNIT OF GENERAL SIGNAL INTERNATIONAL DIVISION

420 Weber Street North
Waterloo, Ontario, Canada
N2L 4E7
Tel: (519) 885-1840
Telex: 069-5158
Cable: EDCAN WATERLOO, ONTARIO

PRODUCTS: heavy-duty alarm bells, chimes, horns, buzzers, duotronic horn/siren; light-duty alarm bells, chimes, buzzers and mini-horns; electric door openers; door switches and trips for security applications; commercial electric clocks; telephone and intercom buzzers; fire protection: automatic heat detectors; alarm bells, horns, chimes, buzzers, duotronic horn/siren; single-zone fire alarm control equipment; multi-zone fire alarm control equipment; remote lamp annunciator; emergency supervised communication equipment for high rise buildings; emergency visual audio control system, EVAC, for high rise buildings; fire alarm control equipment to monitor remote buildings over telephone lines; door trips, switches and window tape; central control system to monitor building security systems; pulsar system, to monitor multi-functions over one pair of telephone cables; master clock and program equipment; industrial solid-state annunciator; hospital nurses call system, both visual and audio-visual; hospital doctors in/out register system.

EKEG ELECTRONICS CO. LTD.
P.O. Box 46199, Station G
Vancouver, British Columbia, Canada
V6R 4G5
Tel: (604) 685-7871

PRODUCTS: telemetry transmitters and implantable transmitters; telemetry receivers; heart rate meters; solid-state clinical thermometers; neurophysiological ratemeters; temperature control units; EKG amplifiers; respiration monitors; drop counters; physiological event counters; biomedical data acquisition systems.

ELECTRONIC CRAFTSMEN

73 Schaefer Street
Waterloo, Ontario, Canada
N2J 4B8
Tel: (519) 884-2210

PRODUCTS: electrical and electronic coils and transformers; these components can be encapsulated by liquid epoxy casting or transfer molding with epoxy powder.

ELECTROVERT LTD.

375 Bering Avenue
Toronto, Ontario, Canada
M8Z 3B1
Tel: (416) 239-7306
Telex: 02-2724

PRODUCTS: automated wavesoldering equipment; PC board assembly, lead cutting, cleaning, component tinning, solder coating, reflow soldering, conveyorized assembly, component forming and custom design equipment for the electronics, electrical, communications, aerospace and automotive industries.

ELECTRO VOX INDUSTRIES INC.

2626 Bates Road
Montreal, Quebec, Canada
H3S 1B2
Tel: (514) 731-3771
Telex: 05-268741

PRODUCTS: loud-speaker type intercoms; amplifiers; public address equipment; fire fighter communication equipment (for high rise buildings).

ELINCA COMMUNICATIONS LTD.

100 Bronson Avenue, Suite 802
Ottawa, Ontario, Canada
K1R 6G8
Tel: (613) 233-5671
Telex: 053-3308

PRODUCTS: antennas; transmission lines; satellite communication systems; power supplies; TDM systems; FDM data systems; radar displays; microwave communication equipment; satellite earth stations; satellite sub-systems; troposcatter; antenna systems; terrestrial communications systems; supervisory and control systems; teletypewriters; data transmission equipment; teletype

switching systems; radars; radio relay equipment; test equipment; digital processing systems; radio and TV broadcast systems; teletypewriter multiplex systems, etc.

EL-MET PARTS LTD.

47 Head Street
Dundas, Ontario, Canada
L9H 3H6
Tel: (416) 628-6366

PRODUCTS: cold rolled, silicon and nickel steel laminations for electromagnetic devices such as motor laminations, fluorescence and mercury ballast laminations and E&I laminations; distributed gap wound cores; C-cores; toroids; shielding materials, allied products and specialty magnetic annealing and hydrogen annealing.

EPIC DATA SALES LTD.

7280 River Road
Richmond, British Columbia, Canada
V6X 1A5
Tel: (604) 273-9146
Telex: 04-355701

PRODUCTS: a complete range of microcomputer-based data collection terminals and microcomputer-based system control units designed to provide simple, practical and flexible systems for such applications as: time and attendance; access control; inventory control; job costing; maintenance; materials control; weigh scales (up to 75 tons).

EPITEK ELECTRONICS LTD.

100 Schneider Road
Kanata, Ontario, Canada
K2K 1Y2
Tel: (613) 592-2240
Telex: 053-3544

PRODUCTS: custom thick film hybrid microcircuits; audio amplifiers; audio preamplifiers; active filters; single-in-line resistor networks; dual-in-line resistor networks.

ERIE TECHNOLOGICAL PRODUCTS OF CANADA LTD.

5 Fraser Avenue
Trenton, Ontario, Canada
K8V 5S1
Tel: (613) 392-2581
Telex: 06-62279

PRODUCTS: high voltage power supplies, voltage multipliers and rectifiers; electromagnetic interference.

FARINON ELECTRIC OF CANADA LTD.

657 Orly Avenue
Dorval, Quebec, Canada
H9P 1G1
Tel: (514) 636-0974
Telex: 01-20962

PRODUCTS: multi-channel microwave systems including radio, frequency division multiplex and accessory equipment to provide voice and video communications over routes from 10 km to 1,000 km; radio variety includes high power vacuum tube transmitters with up to 36 voice channels in bands 72-108 MHz and 132-174 MHz; solid-state narrow band radio with up to 60 voice channels in bands from 216 MHz to 470 MHz and 120 channels in bands 850-960 MHz and 1,700-2,300 MHz; solid-state wideband radio meeting or approaching CCIR objectives with channel capacities tailored to meet bandwidth regulation requirements and typically 300 to 1,800 channels and color video service in the bands 1.7-2.3 GHz, 3.7-4.2 GHz, 5.925-7.750 GHz, 10.7-13.25 GHz; portable video systems are also available in various microwave bands; frequency division voice channel multiplex in systems from 2-60 channels for narrow band radio and industrial service and in systems from 24-1800 channels meeting CCITT recommendations; complete spur and feeder systems to main route or low density main route systems are normally provided with full engineering and installation services when required.

FARINON SR SYSTEMS

1710 Trans-Canada Highway
Dorval, Quebec, Canada
H9P 1H7
Tel: (514) 683-9230
Telex: 05-821893
TWX: 610-422-4122

PRODUCTS: subscriber radio system.

FERRANTI-PACKARD LIMITED

121 Industry Street
Toronto, Ontario, Canada
M6M 4M3
Tel: (416) 762-3661
Telex: 06-22007

PRODUCTS: electromagnetic display systems for transportation, financial institutions, convention and sports centers, military and utility-control centers; electromagnetic display components including status indicators, display modules (5x7 dot matrix) with character heights of 2.7, 4.1, 8.4, 12 and 18 inches (6.8, 10.4, 21.3, 30.5 and 45.7 cm) and 1-inch (2.54-cm) high 7-segment module, bar code scanners and systems for material handling control and sortation, and document control.

FERRITRONICS LIMITED
222 Newkirk Road
Richmond Hill, Ontario, Canada
L4C 3G7
Tel: (416) 884-3180
Cable: FERRIC TORONTO

PRODUCTS: tone signalling modules; encoders and decoders for mobile radio; digital identification and status modules; active filters; decoder/scanners for mobile telephone; passive filters.

FIRE DEVICES MANUFACTURING LTD.
170 Willowdale Avenue
Willowdale, Ontario, Canada
M2N 4Y6
Tel: (416) 221-1197

PRODUCTS: thermoflex dual action detector, rate of rise and fixed temperature (responds to 8°C/min. rate of rise and has fixed temperature settings at 57, 93 and 140°C).

FISCHER & PORTER (CANADA) LTD.
134 Norfinch Drive
Downsview, Ontario, Canada
M3N 1X7
Tel: (416) 633-9810
Telex: 06-969669
Cable: FISHCAPORT

PRODUCTS: electronic and pneumatic process control instrumentation, control panels, flowmeters, digital systems and chlorination equipment.

FMC OF CANADA LIMITED
Semi Conductor Products Division
35 Milburn Road
Hamilton, Ontario, Canada
L8E 3R2
Tel: (416) 560-0840
Telex: 061-8751

PRODUCTS: selenium and silicon rectifier stacks; power conversion units.

FREDERICK ELECTRONICS CANADA LIMITED
8110 South Trans-Canada Highway
St. Laurent, Quebec, Canada
H4S 1M5
Tel: (514) 331-9102
Telex: 05-825558

PRODUCTS: model 7500 — universal terminal controller; VUSET; telex control unit.

GANDALF DATA COMMUNICATIONS LTD.
Gandalf Building, Gandalf Plaza
9 Slack Road
Ottawa, Ontario, Canada
K2G 0B7
Tel: (613) 225-0565
Telex: 053-4728

PRODUCTS: telecommunications equipment specializing in limited distance digital data transmission equipment; LDS 100, 200, 300 and LDM 404 series of units and the PACX (private automatic computer exchange).

GARRETT MANUFACTURING LIMITED
255 Attwell Drive
Rexdale, Ontario, Canada
M9W 5B8
Tel: (416) 675-1411
Telex: 06-968549
TWX: 610-492-4352

PRODUCTS: temperature control systems for aircraft cabins, crew compartments; electronics bays; windshields; emergency locator beacons and personal locator beacons; flight instrument test sets; custom thin and thick film hybrid microcircuits; electric propulsion systems for ground vehicles; sub-contract manufacture of electronic assemblies to other company design information.

GEAC CANADA LIMITED
450 Denison Street
Markham, Ontario, Canada
L3R 1B9
Tel: (416) 495-0525
Telex: 06-22874

PRODUCTS: medium to large on-line computer systems handling up to hundreds of terminals with mass storage billions of bytes; complete systems available for on-line banking, library circulation, pharmacy prescriptions, school board administration, and order entry and inventory control.

GEBETEX INC.
1625 Chabanel West, Room 980
Montreal, Quebec, Canada
H4N 2S7
Tel: (514) 382-6120

PRODUCTS: hand-held metal detector "Lymps 76" for airport, prison and police security; microwave burglar alarm systems; ionization type smoke detectors; custom-built equipment.

GELECO ELECTRONICS LTD.
2 Thorncliffe Park Drive, Unit 28
Toronto, Ontario, Canada
M4H 1H1
Tel: (416) 421-5631

PRODUCTS: RF edgewound coils; RF tube coils; RF contactors; tower lighting chokes; lightning chokes; MMB heavy-duty switches; plug-in meter inserts; phase sampling loops; complete antenna tuning and phasing equipment; broadcast antenna and studio design.

GENERAL TIME OF CANADA LIMITED
P.O. Box 239
Peterborough, Ontario, Canada
K9J 6Z1
Tel: (705) 743-9060
Telex: 06-962849

PRODUCTS: Westclox battery-operated smoke signal.

GEN-TEC INC.
2625 Dalton Street
Quebec, Quebec, Canada
G1P 3S9
Tel: (418) 651-8000

PRODUCTS: peak load stabilizers; demand control systems; TEA CO₂ laser for educational, industrial and research use; joulemeters; HV probe.

GEONICS LIMITED
1745 Meyerside Drive
Mississauga, Ontario, Canada
L5T 1C5
Tel: (416) 676-9580
Cable: GEONICS

PRODUCTS: geophysical instrumentation including lightweight portable electromagnetic detectors; VLF electromagnetic units; horizontal-loop electromagnetic units with automatic readout; self-potential instruments; airborne VLF electromagnetic exploration systems; high power, deep penetrating LF electromagnetic systems; resistivity profiling instrumentation; one-man dipole electromagnetometer; general electronics.

GEOPROBE LIMITED
32 Progress Avenue
Scarborough, Ontario, Canada
M1P 2Y4
Tel: (416) 298-1500
Cable: GEOPRO-TORONTO

PRODUCTS: multi-frequency electromagnetic geophysical survey systems for ground exploration related to uranium, geothermal energy sources, ground-water, minerals and stratification mapping.

GLENAYRE ELECTRONICS LTD.
1551 Columbia Street
North Vancouver, British Columbia
Canada
V7J 1A3
Tel: (604) 980-6041
Telex: 04-352520

PRODUCTS: power supplies: regulated DC-DC converters and AC/DC power supplies for a wide range of railroad, telecommunications and industrial applications; tone equipment: MTS and IMTS mobile telephone control heads; microprocessor based status/data mobile radio control equipment; sub-audible encoder/decoder boards; mobile and base station DTMF encoders; microprocessor based alarm monitoring and reporting systems; vehicle location systems: fixed route vehicle location and identification systems and equipment for railroad, rapid transit and bus systems.

GOODWOOD DATA SYSTEMS LTD.
P.O. Box 210
150 Rosamond Street
Carleton Place, Ontario, Canada
K7C 3P4
Tel: (613) 257-3610
Telex: 053-3593

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PRODUCTS: GDS 300 controller — multi-terminal display controller; GDS 366 terminal — multi-channel intelligent terminal; GDS 232 monitor — RS-232C, or CCITT equivalent, monitor; GDS 2900 multiplexer — asynchronous multiplexer for PDP-11 computers; GDS 105 diesel engine monitor — diesel diagnostics monitor; air traffic control system.

GRAPHICO PRECISION WORKS LTD.
1100 Bellamy Road North
Scarborough, Ontario, Canada
M1H 1H2
Tel: (416) 438-6076
TWX: 610-492-4371

PRODUCTS: printed circuit boards; terminal boards; photo-etched panels, dials and pointers; metal and plastic components; precision fabricated sheet metal parts; laminated heater strips; electro-formed parts; chemically milled parts, single and doubled-sided for commercial; PC boards to military specifications; flexible PC boards; multi-layer PC boards.

SERVICES: silk screen processing; photo-etching; epoxy resin casting and encapsulating; engraving; profiling; chemical milling; plating; metal finishing; product engineering.

GTE AUTOMATIC ELECTRIC (CANADA) LTD.
100 Strowger Boulevard
Brockville, Ontario, Canada
K6V 5W8
Tel: (613) 342-6621
Telex: 066-36532
TWX: 610-525-1061
Cable: GENTELINT BROCKVILLE

PRODUCTS: electronic (digital and analog) and electro-mechanical telephone switching equipment for central and toll offices; information, test and repair positions; private automatic branch exchange (PABX); key telephone equipment; secretarial answering units; telephones of all types; enter- phone systems (security control); engineering, furnish and installation services.

GTE LENKURT ELECTRIC (CANADA) LTD.
7018 Loughheed Highway
Burnaby, British Columbia, Canada
V5A 1W3
Tel: (604) 298-2464
Telex: 04354603
TWX: 610-922-6096
Cable: GENTELINT & LENCAN

PRODUCTS: telecommunications products and services: microwave systems in bands from 900-13,000 MHz up to 1,800 voice channels or color TV capacity, complete with service channel, IF and baseband protective switching, delay equalizers, etc.; multiplex systems up to 1,800 channels, in-band or out-band signalling, regulators, termination equipment, wideband modems, echo suppressors, etc.; supervisory systems — models from 16 points/site to 300 points/site — lamp displays, optional computer based fault analysis and control; data modems from 50 b/s to 2,400 b/s; services for repair and training products, complete engineering, furnishing and installation of products including civil works, prime power, etc.

GUILDLINE INSTRUMENTS LIMITED
Churchill Road
Smiths Falls, Ontario, Canada
K7A 4S9
Tel: (613) 283-3000
Telex: 053-3028

PRODUCTS: electrical and temperature measuring instruments; voltage and resistance standards; current and potential transformer test sets; oceanographic instrumentation for pressure, depth conductivity and salinity.

HALLCRAFT ELECTRONICS LTD.
1760 Sargent Avenue
Winnipeg, Manitoba, Canada
R3H 0C7
Tel: (204) 786-5846

PRODUCTS: communication systems for the restaurant and fast food industry; custom assembly facilities; install, service communication/electronic systems.

HAMILTON ENGRAVING COMPANY LTD.
P.O. Box 181, Station B
24 Clark Avenue
Hamilton, Ontario, Canada
L8L 5J8
Tel: (416) 527-0718

PRODUCTS: design of printed circuit boards; printed circuit boards; specialty plating — precious metals; machine engraving.

HAMMOND MANUFACTURING COMPANY LIMITED
394 Edinburgh Road North
Guelph, Ontario, Canada
N1H 1E5
Tel: (519) 822-2960
Telex: 069-56523

PRODUCTS: transformers; chokes; saturable reactors; magnetic amplifiers; toroidal devices; sheet metal cabinets, consoles, cubicles, racks, chassis — in all ranges and sizes for the electronics and electrical industries.

HARCO ELECTRONICS LIMITED
740 Century Street
Winnipeg, Manitoba, Canada
R3H 0M1
Tel: (204) 786-6534
Telex: 07-57690

PRODUCTS: medical electronic monitoring and resuscitative equipment including: cardiac alert monitors; diagnostic ECG machines, ECG activated cardiac alert monitors; DC defibrillator with and without synchronizer; fully equipped emergency crash carts; pulse meters; broad range of pregelled disposable electrodes, and semi-disposable electrodes; patient cable sets of all types; dental instrument for diagnosing and monitoring periodontal disease (Periotron); standard electro-cardio-graph instrument.

HAWK EYE SECURITY SYSTEMS LTD.
110 Lebeau Boulevard
Montreal, Quebec, Canada
H4N 1S8
Tel: (514) 334-3799

PRODUCTS: computerized fire, burglar and medical emergency alarm systems; industrial process control and monitoring equipment; eavesdropping detection equipment.

HERMES ELECTRONICS LIMITED
P.O. Box 1005
Dartmouth, Nova Scotia, Canada
B2Y 4A1
Tel: (902) 466-7491
Telex: 019-21744

PRODUCTS: radio communications equipment; HF antennas; ionospheric sounder equipment; oceanographic buoys and devices; sonobuoys.

HOTPACK (CANADA) LTD.
385 Phillip Street North
Waterloo, Ontario, Canada
N2L 5R8
Tel: (519) 884-3590
Telex: 069-5156

PRODUCTS: designers and manufacturers of controlled environment and laboratory test equipment for research, industry, education and medicine.

HUNTEC ('70) LIMITED
25 Howden Road, Unit 8
Scarborough, Ontario, Canada
M1R 5A6
Tel: (416) 751-8055
Telex: 06-963640
Cable: HUNTOR TORONTO

PRODUCTS: FS-3 portable seismograph for overburden engineering studies; induced polarization instruments including microprocessor IP receivers, and low and high power transmitters for mineral prospecting and resistivity applications; surface and deep-towed marine seismic profiling systems for seabed and sub-bottom engineering and exploration.

SERVICES: marine seismic profiling services for seabed engineering studies and resource inventory.

INAX INSTRUMENTS LTD.
P.O. Box 6044, Station J
Ottawa, Ontario, Canada
K2A 1T1
Tel: (613) 825-4711
Telex: 053-3506
Cable: INAXIN

PRODUCTS: X-ray fluorescence spectrometers; uranium survey instruments, X and gamma-ray spectrometers; nuclear instruments; computer compatible magnetic tape readers.

INSTRONICS LTD.
Stittsville, Ontario, Canada
K0A 3G0
Tel: (613) 836-4411
Telex: 053-4115

PRODUCTS: digital graphic and digital mapping devices; digitizers, touch sensitive screen, analytical stereo-plotter, orthophoto correlation mapper, photographic dodging printer, map display/edit systems, other graphic computer peripherals.

INTERA ENVIRONMENTAL CONSULTANTS LTD.
1200 — 603 7th Avenue Southwest
Calgary, Alberta, Canada
T2P 2T5
Tel: (403) 264-5113

PRODUCTS: airborne sensors and data acquisition systems for the environmental and resource sciences, research, monitoring and surveillance; surface environmental sensors and data acquisition systems; data processing and analysis.

INTERNATIONAL SYSTCOMS LTD.
4900 Fisher Street
Montreal, Quebec, Canada
H4T 1J6
Tel: (514) 735-6441
TWX: 610-422-3065

PRODUCTS: VHF and UHF radio telephone equipment including mobile, portable, fixed station and rural radio.

INTERNATIONAL TECHNICAL PRODUCTS (CANADA) LIMITED
7 Bovis Drive
Pointe-Claire, Quebec, Canada
H9R 4W3
Tel: (514) 695-8130
Telex: 05-821-529
Cable: INTECHPRO-PCLR

PRODUCTS: air traffic control systems including radar approach control, fixed and mobile control towers, air navigation aids such as TACAN, etc., X-ray baggage inspection systems, radio and TV transmitters.

ITT CANNON ELECTRIC CANADA
A Division of ITT Industries of Canada Ltd.
Four Cannon Court
Whitby, Ontario, Canada
L1N 5V8
Tel: (416) 668-8881
Telex: 02-2250

PRODUCTS: multi-contact connectors for commercial, industrial, military and aircraft use, hostile environment.

ITT COMMUNICATIONS
A Division of ITT Industries of Canada Ltd.
175 Dawson Road
Guelph, Ontario, Canada
N1H 1A1
Tel: (519) 821-2000
Telex: 02-956547

PRODUCTS: telephone sub-sets, key telephone equipment; telephone carrier equipment; telex and broadband switching; data telephones; field maintenance; repair and overhaul; central office peripheral switching equipment; subscriber multiplexing systems; subscriber loop devices; postal mechanization; letter coding desks; letter sorting machines; mail conveyor systems; and document sorters.

JARRY ELECTRONICS LIMITED
P.O. Box 99
305 Laurier Street
Hawkesbury, Ontario, Canada
K6A 2R7
Tel: (613) 632-2751
TWX: 610-563-8760

PRODUCTS: IF and RF coils; pulse transformers; toroidal audio transformers; filters; power supply toroids up to 50 amps.

JOHNSON, MATTHEY AND MALLORY LTD.
110 Industry Street
Toronto, Ontario, Canada
M6M 4M1
Tel: (416) 763-5111
Cable: MATTHEY

PRODUCTS: complete range of aluminum and tantalum electrolytic capacitors for all applications, electro-mechanical tuning devices.

GEORGE KELK LIMITED
48 Lesmill Road
Don Mills, Ontario, Canada
M3B 2T5
Tel: (416) 445-5850
Telex: 06-966670
Cable: KELLEX TORONTO

PRODUCTS: custom: exploit modern techniques in electronics and allied fields to solve problems and provide hardware solutions not met by off-the-shelf equipment; standard: steel mill hot slab and ingot dimension gauges and sensors for on-line process control, including necessary software; rolling mill tensiometers; AC line voltage regulators; zwarts type series of electronic wave/tide and water level gauges.

SERVICES: calibration by in-house designed press to 4,530,000 kg (10,000,000 lbs.) with 0.1 per cent accuracy traceable to National Bureau of Standards dead weights.

LAB-VOLT LIMITED
5368 — 13th Avenue
Rosemount, Quebec, Canada
H1X 2X8
Tel: (514) 725-9552
Telex: 05-25415

PRODUCTS: power supplies; measuring devices; RLC loading units; electro-mechanical systems (motor/generator); control systems utilizing various components for the teaching of controls as they relate to electric power technology; mobile training laboratories; digital trainers; electronic teaching systems.

LANICO INDUSTRIES LTD.
P.O. Box 398
Don Mills, Ontario, Canada
M3C 2S7
Tel: (416) 438-6465

PRODUCTS: electronic controls and monitoring equipment; Ph measurement and control equipment; electronic teaching aids; solid-state switches; test equipment; liquid level controls; water quality monitors.

LAZER-TECH LTD.
235 Nugget Avenue
Scarborough, Ontario, Canada
M1S 3L3
Tel: (416) 291-7727

PRODUCTS: printed circuit boards; custom silk screening.

LEAK "X" DETECTION DEVICES LTD.
1843 Merivale Road
Ottawa, Ontario, Canada
K2G 1E3
Tel: (613) 225-9508
Telex: 053-4379 Hambro, Ott.
Cable: LEAKEX OTTAWA

PRODUCTS: petroleum leak detection systems; movement indicators for structures or geophysical applications and studies; combustible gas and vapour detection systems; oil spill indicators and tracking buoys; buried utility protection systems.

LEBLANC & ROYLE COMMUNICATIONS TOWERS LIMITED
P.O. Box 880
514 Chartwell Road
Oakville, Ontario, Canada
L6J 5C5
Tel: (416) 844-1242
Telex: 06-982226
TWX: 610-495-2676

PRODUCTS: communications towers; heavy microwave and television transmission towers both guyed and self-supporting; complete installation, maintenance and inspection service.

LEECRAFT INDUSTRIES LIMITED
11 Progress Avenue, Unit 14
Scarborough, Ontario, Canada
M1P 4S7
Tel: (416) 298-1971

PRODUCTS: light indicator assemblies; energy emitter and light sources; lamp sockets and assemblies; telephone cable assemblies; custom electronic/electrical assembly.

LEIGH, AVIONICS DIVISION
P.O. Box 82
Carleton Place, Ontario, Canada
K7C 3P3
Tel: (613) 257-3883/(613) 238-4400
Telex: 053-4148

PRODUCTS: avionics systems: airfoil delivery systems, crash position indicators, flight data recorders, contained crash recorders, deployable crash recorders, cockpit voice recorders; avionics flight instrumentation: altimeters, mechanical strain recorders, ice detectors; specialized navigation instruments: safety and marker beacons, satellite beacons, radio detection (VHF) equipment, display and control systems, flight information display systems, vessel traffic management systems, radar digitizers, target trackers.

SERVICES: ground support and test equipment; field maintenance, repair and overhaul; test and calibration services; technical writing, illustration.

LEIGH, FREQUENCY CONTROLS DIVISION
141 Bond Avenue
Toronto, Ontario, Canada
M3B 1M2
Tel: (416) 447-8531
Telex: 069-66626

PRODUCTS: quartz crystals; temperature controlled crystal ovens; crystal filters; monolithic filters; packaged oscillators; frangible switches; frequency synthesizers; glass-to-metal hermetic seals; stand-offs; multi-terminal headers; crystal, transistor and diode bases and end seals; and nuclear radiation resistant connectors.

LEIGH, INDUSTRIAL PRODUCTS DIVISION
350 Weber Street North
Waterloo, Ontario, Canada
N2J 3H6
Tel: (519) 884-4510
Telex: 069-5440

Products: component products — loud speakers (electrostatic, permanent magnetic); transformers (power, audio); stereo and hifi sound systems; audio amplifiers and broadcast paging equipment. Special products — shipboard navigational systems (plotting tables, sonar recorders); airborne data recorders; meteorological equipment (ceilometer equipment, transmissometers, runway visual range computers); custom manufacturing. Security products — portable walk-through explosive detectors; metal detectors; letter bomb detectors; narcotics detectors. Postal products — automated postal systems (optical character recognition, video character recognition, automatic sortation, electronic optical scanning devices, software packages and peripheral, inkjet printer, bar code reader devices). Communications products — telex and computer I/O terminals; microprocessor based distributed processing systems.

LINDSAY SPECIALTY PRODUCTS LIMITED
50 Mary Street West
Lindsay, Ontario, Canada
K9V 4S7
Tel: (705) 324-2196
Telex: 0-6962-860

PRODUCTS: VHF and UHF domestic and CATV antennas; CATV line splitters and couplers; CATV directional multitaps; complete line of CATV passive devices including matching transformers; printed circuit connectors.

LINEAR TECHNOLOGY INC.
3435 Landmark Road
Burlington, Ontario, Canada
L7M 1T4
Tel: (416) 335-2996
Cable: LINEARBUR

PRODUCTS: special and linear monolithic integrated circuits.

LITTON SYSTEMS CANADA LIMITED
25 Cityview Drive
Rexdale, Ontario, Canada
Tel: (416) 249-1231
Telex: 06-969504
TWX: 610-492-2110
Cable: LITTCAN

PRODUCTS: airborne inertial navigation systems; airborne area navigation systems; special purpose airborne computer systems; tactical data systems; special purpose commercial electronic control systems; air traffic control and ground controlled interception training simulators and other special purpose training simulators; aerospace ground

equipment; automatic, mobile, portable and factory test equipment; airborne search radar; ship's integrated navigation and steering control systems; ship's machinery control systems; condition monitoring systems for ship's steam turbine and diesel propulsion systems.

LORAIN PRODUCTS (CANADA) LTD.

122 Edward Street
St. Thomas, Ontario, Canada
N5P 1Z2
Tel: (519) 631-0780
TWX: 610-356-6703

PRODUCTS: battery chargers; battery eliminators; ringing and tone equipment; inverters; DC to DC converters; PAX and PBX power units; power distribution control equipment and assemblies; static interrupters, ringing plants; test load units; test power supplies; loop extenders; VF repeaters.

LUMONICS RESEARCH LIMITED

105 Schneider Road
Kanata, Ontario, Canada
K2K 1Y3
Tel: (613) 592-1460

PRODUCTS: high energy pulsed TEA CO₂ lasers for spectroscopy, materials research, propagation studies and plasma/fusion research; lasers operating with such gases as carbon monoxide, hydrogen fluoride, hydrogen bromide and deuterium fluoride; industrial lasers for use in production marking of a variety of non-metallic surfaces.

MacDONALD, DETTWILER & ASSOCIATES LTD.

10280 Shellbridge Way
Richmond, British Columbia, Canada
V6X 2Z9
Tel: (604) 278-3411
Telex: 04-355599

PRODUCTS: remote sensing data acquisition systems; satellite ground stations for reception and processing of earth resources from LANDSAT data; meteorological data systems; air/shipborne and submersible data acquisition systems; image analysis systems for classification and precision registration of LANDSAT data; digital data acquisition systems for environmental sensing; non-recursive digital filter-translator; data communications systems for: airline flight planning and dispatch, public safety, real-time weather information, vehicular data terminals; remote job entry terminals.

MA ELECTRONICS CANADA LIMITED

3135 Universal Drive
Mississauga, Ontario, Canada
LX4 2E7
Tel: (416) 625-4605
TWX: 610-492-4317

PRODUCTS: microwave products for marine and communication purposes; isolators; circulators; switches; flanges; standard plumbing; solid-state control devices; amplifiers; duplexers; thick and thin film hybrid microcircuits.

MAGNA INTERNATIONAL INCORPORATED

1480 Birchmount Road
Scarborough, Ontario, Canada
M1P 2G2
Tel: (416) 757-2881
Telex: 065-24550

PRODUCTS: electronic chassis and sub-assemblies for aerospace; aluminum dip brazed assemblies; machined pure beryllium; cartridge and propellant activated devices for aircraft escape systems.

MARK PRODUCTS LTD.

4126 8th Street Southeast
Calgary, Alberta, Canada
T2G 3A7
Tel: (403) 243-5704

PRODUCTS: seismic cables and arrays.

McCURDY RADIO INDUSTRIES LIMITED

108 Carnforth Road
Toronto, Ontario, Canada
M4A 2L4
Tel: (416) 751-6262
Telex: 06-963533
Cable: MACMETAL

PRODUCTS: complete broadcast audio line including solid-state consoles, production centers, components, packages and accessories; solid-state intercom systems; pre-wired jackfields; audio distribution systems; audio switchers, consoles, amplifiers and speaker units for educational systems.

McPHAR GEOPHYSICS

55 Tempo Avenue
Willowdale, Ontario, Canada
M2H 2R9
Tel: (416) 497-1700
Telex: 065-25305
Cable: McPHAR TORONTO

PRODUCTS: airborne, ground and drill hole geophysical instruments for minerals and petroleum exploration; portable proton precession and fluxgate

magnometers; airborne magnetometers; portable scintillometers and gamma ray spectrometers; airborne multichannel spectrometers; airborne digital differential spectrometers; drill hole logging systems; airborne and ground electromagnetic systems; induced polarization and resistivity equipment; analog and digital recording systems; minicomputer data acquisition systems.

MEGA SYSTEM DESIGN LIMITED

1766 Midland Avenue
Scarborough, Ontario, Canada
M1P 3C2
Tel: (416) 751-1935

PRODUCTS: custom designed electronic devices; electromechanical and specialized custom machinery and equipment; microwave industrial dryers; microwave moisture sensors; special purpose applicator chambers and power supplies.

MICRO COMPUTER MACHINES, INC.

6700 Finch Avenue West, Suite 600
Rexdale, Ontario, Canada
M9W 5P5
Tel: (416) 675-1353

PRODUCT: portable APL computer.

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MICROWAVE TECHNOLOGY

Division of Winterhaven Industries Ltd.
7512 Bath Road
Mississauga, Ontario, Canada
L4T 1L2
Tel: (416) 677-8181

PRODUCTS: industrial microwave systems; industrial ovens; microwave survey (leakage) meters; microwave power sources; slotted lines; terminations; transistors.

MILLER COMMUNICATIONS SYSTEMS LTD.

39 Leacock Way
Kanata, Ontario, Canada
K2K 1T1
Tel: (613) 592-3020
Telex: 053-4164

PRODUCTS: low cost satellite ground stations; voice and data modem equipment; forward error correcting coding equipment; computer controlled special receiver for a satellite search and rescue application; phase lock loop receivers; TV multiplexer; teleconferencing systems via satellite.

MILLTRONICS LIMITED
730 The Kingsway
Peterborough, Ontario, Canada
K9J 6W6
Tel: (705) 745-2431
Telex: 06-962851

PRODUCTS: alarms; converters;
detectors; feed rate control system; flow
metering; level measuring; monitors;
tachometers; tilt switches; transducers.

MITEL CORPORATION LTD.
P.O. Box 13089
Kanata, Ontario, Canada
K2K 1X3
Tel: (613) 592-2122
Telex: 053-4596
TWX: 610-562-8529
Cable: MITELCAN

PRODUCTS: telephone signalling con-
verter equipment (including tone to
pulse); DTMF and MF receivers; tone
generators, toll denial system; speed
dialer system; key system intercom;
line event recorder printer; line event
displays; R2 forward and backward
receivers, rural telecoms equipment;
EPABX; security equipment.

MITEL SEMICONDUCTOR INC.
18 Airport Boulevard
Airport Industrial Park
Bromont, Quebec, Canada
J0E 1L0
Tel: (514) 534-2321
Telex: 05-267474

PRODUCTS: integrated circuits includ-
ing 4000 series CMOS and custom
design.

MOTOROLA CANADA LIMITED
3125 Steeles Avenue East
Willowdale, Ontario, Canada
M2H 2H6
Tel: (416) 499-1441
Telex: 02-29944
Cable: MOTOROLA

PRODUCTS: VHF and UHF mobile radio
products including base, mobile, port-
able and paging equipment and acces-
sories; VHF and UHF radio relay
products including point-to-point multi-
channel equipment and accessories.

MUIRHEAD SYSTEMS LIMITED
50 Galaxy Boulevard, Unit 4
Rexdale, Ontario, Canada
M9W 4Y5
Tel: (416) 677-7450
Telex: 06-968769
Facsimile: (416) 675-6084

PRODUCTS: custom design and manu-
facture of graphic processing and
facsimile communication systems:
facsimile switching systems; meteor-
ological radar remoting; computer
facsimile interfacing; compact airborne
and shipboard facsimile transmitters.

MULTI-ELMAC OF CANADA LTD.
P.O. Box 881
Windsor, Ontario, Canada
N9A 6P2
Tel: (519) 966-0162

PRODUCTS: remote radio controls,
radio controls for all security systems.

MULTI-STATE DEVICES LTD.
2255 Dandurand Street
Montreal, Quebec, Canada
H2G 1Z6
Tel: (514) 279-4507
Telex: 055-60367 MULTISTATE MTL

PRODUCTS: moxie solid-state tempera-
ture sensors; thin-film thermistors;
circuit high temperature protectors;
thermistor probes; solid-state monitor-
ing and control systems; precision
electronic thermometers; micro-proces-
sor based multi-point temperature
profile controllers.

MULTI-VOX LTD.
9967 St. Michel Boulevard
Montreal, Quebec, Canada
H1H 5G7
Tel: (514) 321-3131

PRODUCTS: intercommunication sys-
tems for commercial, industrial, educa-
tional and institutional applications;
complete line of solid-state commercial
amplifiers; sound columns.

NATIONAL ELECTROLAB LTD.
1536 Columbia Street
North Vancouver, British Columbia
Canada
V7J 1A4
Tel: (604) 985-0511
Telex: 043-52683

PRODUCTS: AM broadcast: AM RF
amplifiers; off-air receivers; telephone
instruments: recorder-controller for
monitoring of telephone signalling; T1
PCM error generator; T1 cable test set;
engineering and installation services;
design and manufacture of custom
instruments and equipment; repair,
overhaul and calibration of electrical
and electronic instruments, test equip-
ment, meters, etc., for science, govern-
ment and industry; electrical metrology
lab for precise calibration.

NATIONAL SEMICONDUCTORS
LIMITED
2150 Ward Street
Montreal, Quebec, Canada
H4M 1T7
Tel: (514) 744-5507
TWX: 610-421-3362
Cable: NATSEMICO

PRODUCTS: cadmium sulphide photo-
conductive cells; cadmium solonoid
photoconductive cells; silicon photo-
diodes; photocell lamp assemblies;
silicon phototransistors; photoelectric
arrays; optocouplers; solid-state relays.

NAUTICAL ELECTRONIC
LABORATORIES LIMITED
Hackett's Cove
Halifax County, Nova Scotia, Canada
B0J 3J0
Tel: (902) 823-2233/4
Telex: 019-22552

PRODUCTS: solid-state LF non-direc-
tional radio beacon systems for
aeronautical and marine navigation
with output powers up to 4 kW PEP;
radio beacon monitor receivers; auto-
matically tuned high frequency antenna
systems; solid-state broadcast trans-
mitters; LF, MF and HF solid-state
communications transmitters.

NEECO CIRCUIT SYSTEMS (RDC)
LTD.
8460 Darnley Road
Montreal, Quebec, Canada
H4T 1M4
Tel: (514) 733-7181
TWX: 610-421-4483

PRODUCTS: printed circuit boards;
single sided, double sided and multi
layers; staked pin backpanels.

NEOSID (CANADA) LIMITED
10 Vansco Road
Toronto, Ontario, Canada
M8Z 5J4
Tel: (416) 251-2831
Cable: NEOSID

PRODUCTS: electronic powered iron
and ferrite core components; micro-
wave materials.

NORPAK LIMITED
Pakenham, Ontario, Canada
K0A 2X0
Tel: (613) 624-5336

PRODUCTS: line of micro computer
based display processors for computer
graphics and imagery display systems;
custom made computer system design
and integration; computer software
design.

NORTHERN TELECOM LIMITED
1600 Dorchester Boulevard West
Montreal, Quebec, Canada
H3H 1R1
Tel: (514) 931-5711
TWX: 610-421-3750
Cable: NORTELCAN

PRODUCTS: common control cross bar telephone switching exchanges; stored program electronic digital and analog telephone switching exchanges; radio relay and coaxial transmission systems — long and short haul; light and heavy route multiplex — digital and analog; private automatic branch exchanges — cross bar and electronic; key telephone systems; business interphone systems; telephone sets — business and residential; handsfree telephone sets; telephone head sets — lightweight and standard; coin telephone sets — box and panel; telephone booths; test equipment; connecting blocks; loading coils; filters; protectors; power plants; amplifiers. Fibre optics systems for telecommunications applications. Product trade names include the SL-1, a digital business communications system; Pulse — a PBX; Imagination, Contempra and Logic telephone apparatus and Companion, a handsfree speakerphone; DMS, a complete family of digital transmission and central office switching exchanges; and TOPS, the traffic operator position system, a member of the SP-1 family of switches.

NOVATRONICS OF CANADA LIMITED

P.O. Box 610
677 Erie Street
Stratford, Ontario, Canada
N5A 6V6
Tel: (519) 271-3880
TWX: 610-355-8717

PRODUCTS: high performance stepper motors with special shafts for computer and printer applications; electromagnetic wheel type digital indicators for high readability requirements; power failure flags; fast response industrial DC motors and amplifier systems for automatic positioning; synchros, servos and DC control motors; precision electromechanical components.

NR SYSTEMS LIMITED

2373 Stevenage Drive
Ottawa, Ontario, Canada
K1G 3W1
Tel: (613) 733-4440
Telex: 053-4274

PRODUCTS: time division multiplex (TDM) systems; frequency division multiplex (FDM) systems; 24 channel terminals to all CCITT recommendations, 18 channel terminals to North

American standards, single channel subscriber sets, speech plus duplex systems; data sets; limited distance modems; DC-DC converters; telegraph power supplies; hubbing systems; regenerative repeaters; telegraph sequential selectors; polar adapters; remote loop back devices; special telegraph test sets; telex autodiallers; patch and test racks; 2-4 wire adapters; 2-4 wire terminating sets; line conditioning equipment, EIA-current converters, etc.

OMICRON DATA SYSTEMS LIMITED

159 Oneida Drive
Pointe Claire, Quebec, Canada
Tel: (514) 733-7166
Cable: OMIDASYS

PRODUCTS: telephone dial access radio paging systems; consulting services in data communications, digital computer systems, design and project management.

OWL INSTRUMENTS LTD.

61 Alness Street
Downsview, Ontario, Canada
M3J 2H2
Tel: (416) 661-1586

PRODUCTS: radiofrequency lesion makers; expacer automatic heart rate indicators; transcutaneous nerve stimulators.

PAN CANADA MAGNETICS LIMITED

1072 Rangeview Road
Port Credit, Ontario, Canada
L5E 1H3
Tel: (416) 278-9851
Telex: 06-960159

PRODUCTS: audio magnetic recording tape, including hub wound tape for loading cassettes and cartridges.

PHILIPS ELECTRONICS LTD.

601 Milner Avenue
Scarborough, Ontario, Canada
M1B 1M8
Tel: (416) 292-5161
Telex: 065-25100
Cable: PHILIND TORONTO

PRODUCTS: ground based instrument landing systems and other aeronautical navigational aids; quartz frequency control crystals; incandescent lamps and fluorescent ballasts; wooden furniture products.

PHOENIX GEOPHYSICS LIMITED
200 Yorkland Boulevard
Willowdale, Ontario, Canada
M2J 1R6
Tel: (416) 493-6350

PRODUCTS: induced polarization units, variable frequency-phase-pulse transient; magnetometers, fluxgate type; VLF-radio EM receivers; resistivity systems.

PLESSEY CANADA LIMITED

300 Supertest Road
Downsview, Ontario, Canada
M3J 2M2
Tel: (416) 661-3711
Telex: 065-24488

PRODUCTS: key and PABX equipment.

POLYGAUGE INDUSTRIES LTD.

P.O. Box 40
Oakville, Ontario, Canada
L6J 4Z5
Tel: (416) 827-8112

PRODUCTS: polygauge model "B" thickness sensor.

POWERTRONIC EQUIPMENT LIMITED

125 Nantucket Boulevard
Scarborough, Ontario, Canada
M1P 2N8
Tel: (416) 757-5151
Telex: 06-963757

PRODUCTS: DC power supplies, regulated and unregulated; communication type filtered battery chargers; battery chargers for industrial trucks and electric locomotives; line voltage regulators; chargers for engine starting batteries; static inverters; uninterruptible power supply (UPS) systems.

PRECISION ELECTRONICS COMPONENTS (1971) LTD.

19 Hafis Road
Toronto, Ontario, Canada
M6M 2V6
Tel: (416) 249-7103
Telex: 06-965654

PRODUCTS: variable resistors, attenuators, trimmer potentiometers, non wire wound; hot moulded, cermet and metal film.

PRESENTHEY ENGINEERING PRODUCTS LIMITED

P.O. Box 919
2784 Fenton Road
Ottawa, Ontario, Canada
K1G 3N3
Tel: (613) 822-1251

PRODUCTS: recorder — reproducer sound; airborne tape memoloop recorder; signal patch panel system; radio set control groups; rocket subcommutator; long-range communications terminal; airborne magnetic tape recorder; airborne annotation system; airborne data logger; DC amplifier system; camera control unit; continuous marine broadcast, recorder reproducer station.

PYLON ELECTRONIC DEVELOPMENT COMPANY LTD.
2300 Victoria Street
Lachine, Quebec, Canada
H8S 1Z3
Tel: (514) 637-1186

PRODUCTS: static power supplies; DC-DC converters, inverters; ringers; ring, talk and signal supplies; fuse alarm and meter panels; battery eliminators; aluminum transit cases; meter pulse generators; digital clocks; data entry keyboards; alarm systems, digital controls; electronic trunk selectors for CAMA or ROTS application; custom switching equipment and telephone conferencing equipment; special products including custom assembly and instrumentation.

QUINDAR PRODUCTS LTD.
106 Rayette Road
Concord, Ontario, Canada
L4K 1B6
Tel: (416) 669-1272
Telex: 06-964574

PRODUCTS: electronic equipment for remote control, supervision and telemetry; multiplexing systems; data modems; communication amplifiers, related equipment and accessories.

RACAL (CANADA) LTD.
1806 Woodward Drive
Ottawa, Ontario, Canada
K2C 0P7
Tel: (613) 225-4640
Telex: 053-4187
Cable: RACOTT OTTAWA

PRODUCTS: HF radio communications systems and ancillary equipment; communications systems; engineering and maintenance services; remote control systems; receiving antenna switching systems; digital time insertion generator/reader units for use with air traffic control recorders; frequency measuring systems.

RADIONICS LIMITED
195 Graveline Street
Montreal, Quebec, Canada
H4T 1R6
Tel: (514) 735-4565
Telex: 05-827558

PRODUCTS: Digiecho 1000 compact digital echoencephalograph; Digiecho 2000 recording digital echoencephalograph.

RANTECH ELECTRONICS
Division of York Telecommunications Ltd.
259 Canartie Drive
Downsview, Ontario, Canada
M3J 2N7
Tel: (416) 661-9319

PRODUCTS: monitoring and supervisory control systems and components.

RAYTHEON CANADA LIMITED
400 Phillip Street
Waterloo, Ontario, Canada
N2J 4K6
Tel: (519) 885-0110
Telex: 069-5431
TWX: 610-365-3469
Cable: RAYCAN

PRODUCTS: primary, secondary and weather radar systems and equipment; radar microwave remoting and radar multiplex systems and equipment; analog, digital and scan converted displays; standard and Doppler VOR; distance measuring equipment DME; microwave systems and equipment, radio, protection switching and supervisory; small aperture satellite ground stations.

RCA LIMITED
Ste.-Anne-de-Bellevue
Quebec, Canada
H9X 3L3
Tel: (514) 457-9000
Telex: 058-21572

PRODUCTS: color picture tubes; photo sensors; microcircuits and fibre optic components; commercial records and tapes.

RD SYSTEMS OF CANADA LIMITED
333 Lonsdale Road
Toronto, Ontario, Canada
M5P 1R3
Tel: (416) 487-1162

PRODUCTS: electronic parabolic microphones.

RENFREW ELECTRIC CO. LIMITED
349 Carlaw Avenue
Toronto, Ontario, Canada
M4M 2T2
Tel: (416) 461-3511
Telex: 02-2450

PRODUCTS: resistors — carbon composition, precision wire wound, power wire wound (fixed and adjustable), molded wire wound; thick film metal glaze, variable carbon and wire wound controls; time delay and industrial relays; wiring devices including wall plates; connectors — flat pin and printed circuit board; terminal strips — barrier.

RESEARCH INDUSTRIES LIMITED
2779 Lake City Way
Burnaby, British Columbia, Canada
V5A 2Z8
Tel: (604) 291-2385
Telex: 043-54720
TWX: 610-929-1063

PRODUCTS: battery chargers; battery charging power plants; battery eliminators; DC to DC converters; DC to AC inverters; power supplies; switching regulators; UPS systems.

REUTER-STOKES CANADA LTD.
465 Dobbie Drive
Cambridge, Ontario, Canada
N1R 5X9
Tel: (519) 623-4880
Telex: 06-95327

PRODUCTS: self-powered neutron detectors and associated electronics; mineral insulated cable; thermocouples; industrial heat stress monitors.

RICHMOND HILL LABORATORIES LIMITED
1240 Ellesmere Road
Scarborough, Ontario, Canada
M1P 2X4
Tel: (416) 291-7921
Telex: 065-25272
Cable: RICHILL TORONTO

PRODUCTS: PAL color synchronizing pulse generators; PAL color sub-carrier generators; monochrome and color generator and lock units; Uni-Pulse equipment; pulse and video distribution amplifiers; video test signal generators; VIT signal systems; color video program switchers; video/audio signal routing matrixes; special effects generators; digital cueing generator; video equalizing amplifiers; video clamping amplifiers; video processing amplifiers; automation systems.

ROCHESTER INSTRUMENT SYSTEMS, LTD.

915 Kipling Avenue
Toronto, Ontario, Canada
M8Z 5H4
Tel: (416) 233-6218
Telex: 06-23284

PRODUCTS: solid-state visual annunciators; electronic trips and alarms; solid-state signal converters and transducers for processing industries and power utilities; temperature monitors.

ROCKWELL INTERNATIONAL OF CANADA LTD.

Collins Canada Division
150 Bartley Drive
Toronto, Ontario, Canada
M4A 1C7
Tel: (416) 757-1101
Telex: 02-21130
TWX: 610-492-1375
Cable: COLINRAD TORONTO

PRODUCTS: airborne radio communications and navigation equipment; airborne, land mobile and fixed base SSB communications equipment; portable manpack and hand-held UHF transceivers; microwave and multiplex equipment; high power short wave broadcast transmitters; maritime HF SSB transceivers with automatic antenna couplers.

RUSCOM LOGICS LIMITED

885 Don Mills Road
Don Mills, Ontario, Canada
M3C 1W2
Tel: (416) 443-6890

PRODUCTS: digitizers; buffered teletypewriter motor controllers; digital frequency recorders; custom engineered computerized process and material control systems.

SANDER GEOPHYSICS LIMITED

250 Hertzberg Road
Kanata, Ontario, Canada
K2K 1X3
Tel: (613) 592-1301
Telex: 053-4755

PRODUCTS: digital data acquisition systems for geophysical, environmental and technical data recording; high resolution magnetometers; airborne gamma ray spectrometers; airborne cameras for flight path recovery; airborne electromagnetic survey instruments; custom designed airborne geophysical survey systems.

SANGAMO-WESTON INSTRUMENTS

1480 Dundas Highway East
Mississauga, Ontario, Canada
L4X 2R7
Tel: (416) 277-3191
Telex: 06-961114

PRODUCTS: switchboard and panel meters; electrical and electronic equipment.

SCANNEX INTERNATIONAL

922 Dillingham Road
Pickering, Ontario, Canada
L1W 1Z6
Tel: (416) 266-7766
Telex: 06-981202

PRODUCTS: closed circuit television (Agri-Scan 3000).

SCINTREX LIMITED

222 Snidercroft Road
Concord, Ontario, Canada
L4K 1B5
Tel: (416) 669-2280
Telex: 06-964570
Cable: SCINTREX TORONTO

PRODUCTS: fluxgate and proton precession magnetometers for surface, drill hole, observatory and airborne use; susceptibility meters for field and lab measurements; CG series quartz gravity meters for prospecting and geodetic surveys; electromagnetic prospecting systems including tilt-angle systems, moving source and fixed source compensation systems; drill hole electromagnetic compensator systems; helicopter and fixed wing airborne electromagnetic systems; frequency and time domain types induced polarization systems; integral and differential gamma-ray spectrometers for ground, drill hole and airborne applications; neutron activator analysis systems and facilities; AC and DC resistivity equipment; analytical instruments for laboratory and field analysis of vapours, water and solid samples for geochemical purposes; monitoring instrumentation for nuclear power plants.

SERVICES: geophysical exploration — aeromagnetic; combined aeromagnetic/airborne electromagnetic; airborne radiometric; airborne, ground and bore hole geophysical and geochemical methods.

SED SYSTEMS LTD.

P.O. Box 1464
2414 Koyl Avenue
Saskatoon, Saskatchewan, Canada
S7K 3P7
Tel: (306) 244-0976
Telex: 074-2495
TWX: 610-731-1476

PRODUCTS: complete satellite earth stations for 4/6 and 11/14 GHz systems; specialize in LNA receiver and filter production; aerospace subsystems for balloon, rocket and satellite systems; instrumentation for agricultural implements, telephone systems and power line monitoring.

SERVICES: engineering consultants for environmental control of buildings; aerospace and communications systems.

SEMCO INSTRUMENTS CO. LIMITED

1339 Baseline Road
Ottawa, Ontario, Canada
K2C 0A7
Tel: (613) 225-1197
Telex: 053-3189

PRODUCTS: scanning electron microscopes and accessories.

SENTROL SYSTEMS LTD.

4401 Steeles Avenue West
Downsview, Ontario, Canada
M3N 2S4
Tel: (416) 661-7000
Telex: 069-65672

PRODUCTS: sensors and control equipment for the pulp and paper industry; overall control systems using mini and micro-computers with modular software and hardware for pulp mills and paper machines; sensors and control systems for most accurate measurement and control of grammage (basis weight), moisture, caliper, brightness, colour, opacity, reel hardness, grammage.

SHEFFORD ELECTRONICS CORPORATION

1010 Sherbrooke Street West, Suite 504
Montreal, Quebec, Canada
H3A 2R7
Tel: (514) 288-2271
Telex: 055-61370

PRODUCTS: radio direction finding equipment for fixed, mobile and shipborne requirements.

SHELLCAST FOUNDRIES INC.

10645 Lamoureux Street
Montreal, Quebec, Canada
H1G 5L4
Tel: (514) 322-3760
Telex: 05-828787

PRODUCTS: precision investment castings.

SINCLAIR RADIO LABORATORIES LIMITED

122 Rayette Road
Maple, Ontario, Canada
L0J 1E0
Tel: (416) 669-1244

PRODUCTS: antennas for all frequencies specially VHF and UHF; low intermod antennas specifically for multi-coupling; DME antennas; filters and filter systems particularly for multi-coupling with low intermod, bandpass, low and high pass, band stop, etc.; HF transformers and baluns; active receiver multicouplers; autotuned filters and antenna couplers; diplexers; consulting services on all antenna and filter systems; measurement services for intermod products, filter characteristics, antenna patterns and impedances.

W. SODIN (GRAVITY) LTD.

211 Hendon Avenue
Willowdale, Ontario, Canada
M2M 1A9
Tel: (416) 225-4513
Cable: SODINST TORONTO

PRODUCTS: gravity meters.

SONOGUARD SECURITY SYSTEMS LTD.

158 Pitt Street, #1
Cornwall, Ontario, Canada
K6J 3P4
Tel: (613) 938-1400

PRODUCTS: Sona-Tech portable alarm stock No. 02-006; Sona-Tech residential security system.

SONOTEK LIMITED

2410-5 Dunwin Drive
Mississauga, Ontario, Canada
L5L 1J9
Tel: (416) 828-6810

PRODUCTS: integrated geophysical survey system; data acquisition systems; digital transducer indicator; digital barometer; radiation integrator.

SPACE CIRCUITS LIMITED

156 Roger Street
Waterloo, Ontario, Canada
N2J 4A4
Tel: (519) 742-5896
Telex: 069-5126

PRODUCTS: printed circuit boards; microwave; striplines; computer back-panels; multilayers; fine line (0.003-in. — 0.076-cm) circuits.

SPACE RESEARCH CORPORATION (QUEBEC) INC.

1010 Sherbrooke West, Suite 504
Montreal, Quebec, Canada
H3A 2R7
Tel: (514) 288-8174
Telex: 055-61370

PRODUCTS: simulators for air traffic control and radar training purposes.

SPAR AEROSPACE PRODUCTS LIMITED

825 Caledonia Road
Toronto, Ontario, Canada
M6B 3X8
Tel: (416) 781-1571
Telex: 065-24240
Cable: SPARCAL TOR

PRODUCTS: satellite communications systems and satellite subsystems including electronics, attitude control systems, deployable solar cell array power generating systems, solar array drives, tracking and power transfer system; telecommunications systems; extendible antennas and structures for spacecraft; infrared acquisition systems; electro-optical systems for remote sensing; power conditioning equipment.

SPARTON OF CANADA LIMITED

P.O. Box 5125
100 Elm Street
London, Ontario, Canada
N6A 4N2
Tel: (519) 455-6320
Telex: 064-5876
Cable: SPARTON

PRODUCTS: research, development and manufacture of military and commercial electronic products; seven types of passive sonobuoys with a specialized seismic buoy, and four active sonobuoy designs; miniature mobile target.

SPILSBURY & TINDALL LTD.

120 East Cordova Street
Vancouver, British Columbia, Canada
V6A 1L1
Tel: (604) 684-4131
Telex: 04-55482
Cable: SPILTIN VANCOUVER

PRODUCTS: automatic self-tuning antennas; tuneable whip antennas; antenna tuning units; HF SSB fixed, portable, mobile, marine and aircraft radiotelephone equipment; LF non-directional radio beacons and automatic beacon antennas; specialized HF antennas; automatic self-tuning antennas and antenna tuning units for service on land, sea and air; VHF land, fixed and mobile, VHF marine mobile radio systems; LF and HF monitor receivers.

SPRAGUE ELECTRIC OF CANADA LIMITED

49 Beral Road
Toronto, Ontario, Canada
M6M 4M7
Tel: (416) 766-6123
Telex: 06-969568
Cable: TELEFARAD

PRODUCTS: solid molded axial lead tantalum capacitors; computer grade cylindrical aluminum electrolytic capacitors.

STATICON LTD.

2220 Midland Avenue
Scarborough, Ontario, Canada
M1P 3E6
Tel: (416) 291-3723
Telex: 065-25211

PRODUCTS: AC and DC solid-state no-break (UPS) systems 250 VA to 250 kVA and larger, 50 and 60 Hz; battery power plants and float charger systems for communications applications; battery eliminators; switchgear battery chargers all voltages; plating rectifiers including Electro Fosis Systems all voltages and ratings; battery chargers for turbine and engine starting all ratings; static inverters, 250 VA to 250 kVA and larger, all voltages, 50 and 60 Hz; DC-DC converters, all voltages 12 to 130 V, all currents; frequency converters, 50 and 60 Hz; magnetron power supplies; solid-state AC voltage regulators 250 VA to 250 kVA and larger, all voltages, 50 and 60 Hz; industrial lift truck battery chargers, all sizes.

STRITE INDUSTRIES LIMITED

298 Shepherd Avenue
Cambridge, Ontario, Canada
N3C 1V1
Tel: (519) 658-9361
Telex: 069-59383

PRODUCTS: high technology machining service for electronic and mechanical requirements; problem components for advanced products such as inertial guidance gyro components; turbo-charger thrust collars; nuclear reactor hardware; eddy current probes and electronic heat sinks; machining methods include multi-form crush grinding, broaching, electrical discharge machining and thread grinding.

SUPERIOR CONTINENTAL CANADA LTD.

P.O. Box 694
1131 Erie Street
Stratford, Ontario, Canada
N5A 6V6
Tel: (519) 271-9200
TWX: 610-355-8713

PRODUCTS: loading coil assemblies; build-out-capacitor units; telephone outside plant cross connect terminals.

SUPERIOR ELECTRONICS INDUSTRIES LIMITED

1330 South Service Road
Trans-Canada Highway
Dorval, Quebec, Canada
H9P 1H8
Tel: (514) 683-6331
Telex: 05-25160 SEI MTL

PRODUCTS: black and white picture tubes; color picture tubes; electron gun mounts for both black and white and color TV tubes; outdoor TV antennas for black and white and color reception; X-ray detection devices; X-ray detection devices for security purposes.

SYSTEMHOUSE LTD.

560 Rochester Street
Ottawa, Ontario, Canada
K1S 4M2
Tel: (613) 236-9734
Telex: 053-4517

PRODUCTS: a complete range of information systems services; turnkey mini-computer solutions; computerized systems: cartographic, hospital and business; consulting services; computer programming, systems and data base expertise.

TECHWEST ENTERPRISES LTD.

3650 Wesbrook Mall
Vancouver, British Columbia, Canada
V6S 2L2
Tel: (604) 224-1113
Telex: 04-507748
Cable: RESEARCHBC

PRODUCTS: data acquisition units employing 16 mm and 35 mm cameras (e.g., for highway photologging applications); electronic instrument design and manufacture; electro-optical grading, equipment (e.g., apple colour meter).

TELE-RADIO SYSTEMS LIMITED

301 Supertest Road
Downsview, Ontario, Canada
M3J 2M4
Tel: (416) 661-3221
TWX: 610-492-2384

PRODUCTS: telephone line conditioning equipment; custom communication apparatus; power system protective devices (under-frequency relays, battery ground fault detectors, frequency trend relays).

TELEVOX SYSTEMS INC.

215 Caron Street
Quebec, Quebec, Canada
G1K 5V6
Tel: (418) 522-3851
Telex: 05-13311

PRODUCTS: intercom systems; educational systems — manual and automated; public address systems; intercom amplifiers; amplifiers with stored programs; pre-amplifiers and mixers; intercom duplex amplifiers; private telephone exchange; crossbar switching systems.

TOWER COMMUNICATIONS CO. (CANADA) LTD.

A Subsidiary of F.P.K. Holdings Ltd.
P.O. Box 1011
375 Lee Street
Quebec, Quebec, Canada
G1K 5Y1
Tel: (418) 524-5221
Telex: 051-3868

PRODUCTS: custom designed structural steel towers (guyed and self-supporting) for commercial use on TV, FM, AM, HF, LF and VHF systems; specialize in telecommunications towers.

SERVICES: engineering; supply and installation of towers and antennas.

TRANSCOM ELECTRONICS MANUFACTURING LTD.

239 Belanger Street
St. Jerome, Quebec, Canada
J7Y 1K7
Tel: (514) 438-1060
Telex: 05-839531

PRODUCTS: negative impedance type voice frequency repeaters (telephone industry application — toll and extended area service, long subscriber loop service, special services); loop signaling extenders (for extension of telephone central office subscriber loop limits to 1,800 ohms); booster power modules (for extension of telephone central office subscriber loop limits to 3,000 ohms); bridge lifters; impedance compensators; fuse and alarm panels.

TRIBAR INDUSTRIES LIMITED

3650 Weston Road
Weston, Ontario, Canada
M9L 1W2
Tel: (416) 749-6000

PRODUCTS: radar (police) Model DRS2, T3 and MT4; radar (sports) Model T3-S; liquor (electronic) dispensing systems. Model MT4 track radar may be used in both stationary and moving modes.

UNICAN ELECTROCHEMICAL PRODUCTS LTD.

5795 De Gaspé Avenue
Montreal, Quebec, Canada
H2S 2X3
Tel: (514) 273-0451
Telex: 05-24651

PRODUCTS: zinc air hearing aid battery; electrochemical timing elements.

UNITRON INDUSTRIES LTD.

685 Wabanaki Drive
Kitchener, Ontario, Canada
N2C 2G3
Tel: (519) 578-5500
Telex: 069-5209

PRODUCTS: a complete line of hearing aids including: rechargeable, high power, directional, HLC (high level compression), high frequency emphasis, peak clipping, diode clipping, and linear models.

VALCOM LIMITED

P.O. Box 603
Guelph, Ontario, Canada
N1H 6L3
Tel: (519) 824-3220
Telex: 069-56593

PRODUCTS: fibreglass whip antennas, free standing 35 ft. to 80 ft. (10.7 m to 24.4 m), 2 to 30 MHz both military and commercial versions; auto tune couplers, 1 kW to 10 kW; power supplies, cable assemblies, amplifiers, antennas, splitter panels, electronic assembly work.

VARIAN ASSOCIATES OF CANADA LTD.

45 River Drive
Georgetown, Ontario, Canada
L7G 2J4
Tel: (416) 457-4130
Telex: 069-7502
TWX: 610-492-2641

PRODUCTS: microwave tubes—klystrons, travelling wave tubes, magnetrons; power supplies — travelling wave tubes and klystrons; cesium and proton magnetometers.

VESTSHELL INC.

10351 Pelletier Street
Montreal, Quebec, Canada
H1H 3R2
Tel: (514) 322-2371

PRODUCTS: precision investment casting of ferrous alloys; silicon iron; monel; cobalt alloys; soft magnets.

VOLKER-CRAIG LIMITED

266 Marsland Drive
Waterloo, Ontario, Canada
N2J 3Z1
Tel: (519) 884-9300
Telex: 069-5127

PRODUCTS: TTY compatible video display computer terminals; numerous options (including detached keyboard, special character fonts and serial or parallel peripheral interfaces) ensure maximum flexibility to meet each user's particular requirements.

WELWYN CANADA LIMITED

P.O. Box 5484
1255 Brydges Street
London, Ontario, Canada
N6A 4L6
Tel: (519) 452-3300
Telex: 064-5843
Cable: WILBAC

PRODUCTS: precision and semi-precision resistors — tin oxide, metal film, carbon film, ultra high, ultra low and standard values.

WESTERN RESEARCH & DEVELOPMENT LTD.

Instrumentation Sales
3-1313 — 44th Avenue Northeast
Calgary, Alberta, Canada
T2F 6L5
Tel: (403) 276-8806
Telex: 038-24684

PRODUCTS: pollution monitoring equipment, source and ambient; continuous stack emission monitoring systems — SO₂, NO_x, O₂ and particulates; data acquisition systems; H₂S analyzers; ambient monitoring systems and data handling packages; sulphur plant process measurement and control systems; ultraviolet photometric analyzers; complete installation and maintenance services; stack testing and compliance studios; process performance testing; noise and odour evaluation and abatement; combustion and energy engineering; environmental impact assessments; meteorological and ambient air surveys.

WESTINGHOUSE CANADA LIMITED

Electronic Systems Division
P.O. Box 5009
Burlington, Ontario, Canada
L7R 4B3
Tel: (416) 528-8811
Telex: 061-8409
Cable: WESTCAN HAMILTON

PRODUCTS: computer terminals and display systems for video presentation of digital information; communications controllers for polling, message switching and control in digital networks; line tracing systems for automatic contour control of gas and plasma cutting and other machine tool applications; electro-hydraulic, pneumatic and electronic industrial instrumentation devices and

integrated systems using such components for the measuring, recording and controlling of industrial and power generating processes; semi-conductor bridge assemblies; nuclear components and nuclear protection and monitoring systems; sonar and other forms of underwater sound detection and weapon control systems; airborne and surface electronic data gathering and weapon control systems; electronic warfare and electronic counter measure equipment; satellite ground station subsystems; electronic manufacturing and engineering subcontract services.

WILDCAT CONTROL CORP. LTD.

300 Wildcat Road
Downsview, Ontario, Canada
M3J 2N5
Tel: (416) 661-2600
Telex: 065-24001

PRODUCTS: miniature low pressure switches.

WILLOWGLEN COMPANY LTD.

P.O. Box 1057, Station T
1235 — 64 Avenue Southeast
Calgary, Alberta, Canada
T2H 2H4
Tel: (403) 253-3051
TWX: 610-821-0405

PRODUCTS: VASCON-200 data acquisition and supervisory control system; VASCON-220 process controller computer based 4 mode process controller.

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Consultants, General

ADGA GROUP

Engineers and Systems Analysts
P.O. Box 227, Terminal A
Ottawa, Ontario, Canada
K1P 5G3
Tel: (613) 237-3022
Telex: 053-4568
Cable: ADGA OTT

SERVICES: specialists in all project phases of telecommunications; terrestrial and satellite communications; computer hardware and software; radar and electronic navigational aids for applications such as air traffic control, marine vessel traffic management systems; telephone switching; railway signalling and control; area and point-to-point radio networks and satellites — both communication and scientific.

BELL CANADA INTERNATIONAL

220 Laurier Avenue West
Ottawa, Ontario, Canada
K1G 3J4
Tel: (613) 563-1811
Telex: 053-4849

SERVICES: telecommunications management, research and consulting; forecasting, planning and studies; management, construction and turnkey operation; engineering, furnishing and installation; operation, training and maintenance; computer communications.

BRISTOL AEROSPACE LIMITED

P.O. Box 874
Winnipeg, Manitoba, Canada
R3C 2S4
Tel: (204) 775-8331
Telex: 03-5587
TWX: 610-671-3598
Cable: BRISAIRCO

SERVICES: data acquisition studies in the fields of pollution, meteorology, hydrology, oceanography and machine diagnostics; various methods of data acquisition are studied and recommendations are made; complete engineering services for sounding rocket payloads from feasibility studies to instrument development and test flight.

CABLE CONSULTING SERVICES LIMITED

1608 Truscott Drive
Mississauga, Ontario, Canada
L5J 1Z4
Tel: (416) 822-0625

SERVICES: management and engineering consultant services for all aspects of cable television distribution systems, including feasibility studies, cost projections and engineering design; extensive experience in coaxial VHF systems and multipair HF systems, having been associated with the development of CATV in Canada and the United States for the last 25 years and with Rediffusion in Britain for six years.

CANADIAN PACIFIC CONSULTING SERVICES LTD.

Windsor Station
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Telex: 055-60147
Cable: CANPAC MONTREAL

SERVICES: consulting specialists in planning, system engineering, construction, operation and administration of general telecommunication services; broad spectrum of services also available in respect to computer communication systems and railway signalling and communication systems.

CANTEL ENGINEERING ASSOCIATES LTD.

402 West Pender Street
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Tel: (604) 684-1144
Telex: 04-507775
Cable: CANTELCOM

SERVICES: feasibility studies, field surveys, design and specification, tender evaluation, project management, briefs to government authorities, inspection and training.

H. K. DAVIS & ASSOCIATES LIMITED

160 Duncan Mill Road
Don Mills, Ontario, Canada
M3B 1Z5
Tel: (416) 449-4622

SERVICES: feasibility, design, specification, supervision, test and total job management of specialized communications systems for education (ETV, audio-visual, resource centers, research labs, libraries, etc.); commercial broadcasting — FM-AM and VHF-FM radio studios and transmitting sites, VHF and UHF television stations, microwave networks, total operating systems; point-to-point HF and VHF, land and maritime communications system; acoustical studies; telecommunication and navigational facilities for airways and airports; total computer programming services to support technical studies and to assist operation and financial analysis.

DC-DATA COMMUNICATIONS LIMITED

Division of H. K. Davis & Associates Limited
160 Duncan Mill Road
Don Mills, Ontario, Canada
M3B 1Z5
Tel: (416) 449-4622

SERVICES: specializing in applications of communications systems to use of data techniques for design, supervision, telemetering and performance monitoring; areas of interest include total broadcasting allocation and assignment programs; airways systems, design of coaxial cable (CATV and data) distribution systems, equipment reliability studies, etc.

DGB CONSULTANTS INC.

P.O. Box 40
Desjardins Postal Station
Montreal, Quebec, Canada
H5B 1B2
Tel: (514) 282-9531
Telex: 055-60042

SERVICES: professional services in the telecommunication and computer fields; feasibility studies, systems concept and design, preparation of plans and specifications, analysis of bids from suppliers; project management, training of personnel and commissioning; application experience acquired over the last 15 years is: microwave systems, switching, cable distribution, radio and television broadcasting stations, audio-visual systems, mobile communications systems; computer information storage and retrieval systems.

DIGITAL METHODS LTD.

1736 Courtwood Crescent
Ottawa, Ontario, Canada
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Tel: (613) 225-1171
Telex: 053-3661

SERVICES: software and systems engineering in the field of computer systems and applications; methods analysis and management engineering; particular applications: air traffic control simulation, telex switching, vehicle dispatch.

DIGITECH LTD.

441 Fifth Avenue Southwest
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T2P 2V1
Tel: (403) 265-3484

SERVICES: specialized computer software programs or software for applications in the petroleum and minerals industries including large data file retrieval systems for mineral and petroleum exploration and production data, mapping and data analysis routines, data reduction and processing routines for geophysical field data, including gravity, magnetic, seismic and navigation data as well as engineering routines for petroleum production and reservoir operations; provides data processing of customer data on service basis; supplies consulting and training services in the design, installation and training for developing digital technology for industry or national entities in developing countries.

HOYLES NIBLOCK INTERNATIONAL LTD.

4664 Lougheed Highway
Burnaby, British Columbia, Canada
V5C 5R7
Tel: (604) 294-3401
Telex: 043-54623
Cable: TELECOM VANCOUVER

SERVICES: design and management of construction and commissioning of communication and broadcasting systems; microwave — long and short haul systems in all bands; VHF and UHF systems for point-to-point and mobile purposes, land and maritime and air-to-ground, single and multi-channel; space communications systems for national and/or regional requirements; control and telemetry — data acquisition, handling, storage and display systems, manual, automatic or semi-automatic, computer (software) or hardware directed; telephone switching — local, regional and national; cable plant for telephone system applications and for the transmission of multi-channel television programming (CATV); beyond the horizon (scatter) communication systems to serve areas of low population density; avionics — communication and navigation systems for the air transport industry; broadcasting — sound, AM and FM, and television stations and regional, national and international networks, studio and transmission plant.

INTEL CONSULTANTS LTD.

77 Metcalfe Street, Suite 709
Ottawa, Ontario, Canada
K1P 5L6
Tel: (613) 236-2311
Telex: 053-4533
Cable: INTELCON OTT

SERVICES: telecommunications systems engineering and economics consultancy; feasibility studies including economics aspects such as rate of return, cash flow analyses, depreciation, etc.; planning and systems design in all branches of telecommunications transmission and switching; project management and management consultancy.

KENDALL ASSOCIATES LIMITED

77 Metcalfe Street
Ottawa, Ontario, Canada
K1P 5L6
Tel: (613) 236-0875
Telex: 053-3560
Cable: KENMARK

SERVICES: marketing consultants specializing in surveys and studies for clients interested in North American defence or technical markets; provision of temporary technical personnel in electronics, aerospace and computer technology.

MILLER COMMUNICATIONS SYSTEMS LTD.

39 Leacock Way
Kanata, Ontario, Canada
K2K 1T1
Tel: (613) 592-3020
Telex: 053-4164

SERVICES: operates principally in the role of consulting engineers specializing in satellite communications systems planning; the company has the capability to design, construct and install communications facilities of a highly customized nature in a short time frame.

MONTREAL ENGINEERING CO. LIMITED

P.O. Box 777, Place Bonaventure
Montreal, Quebec, Canada
H5A 1E3
Tel: (514) 395-3636
Telex: 055-60735
Cable: MONENCO

SERVICES: consulting engineering services in communications and supervisory control systems for power generating plants, electric power transmission networks (including high voltage DC), pipelines, pumping stations and industrial plants.

MOSAID INC.

P.O. Box 11123, Station H
Ottawa, Ontario, Canada
K2H 7T8
Tel: (613) 836-2539

SERVICES: specializes in the design and design analysis of MOS memory chips; is equipped for state-of-the-art circuit and layout design of devices such as 16 K dynamic RAMs; on-site

work is undertaken to see designs into production and the company works with a U.S. processing house to prove-in designs before transfer if required; undertakes the analysis of commercially available memory devices and has available reports describing the circuit design and operation of virtually every MOS dynamic RAM and some static devices; design seminars are given using this data base; operates worldwide with major users and suppliers of memory devices in three continents.

NATIONAL ELECTROLAB LTD.

1536 Columbia Street
North Vancouver, British Columbia
Canada
V7J 1A4
Tel: (604) 985-0511
Telex: 043-52683

SERVICES: consulting electronics laboratory; testing of communications equipment for type approval by the Canadian Department of Communications; testing and evaluation for purchasing and insurance purposes; custom instrumentation design and development.

PEAT, MARWICK AND PARTNERS

P.O. Box 31
Commerce Court West
Toronto, Ontario, Canada
M5L 1B2
Tel: (416) 863-3500

SERVICES: business data processing, management information systems, urban traffic control, marine traffic control, air traffic control, medical electronics, special purpose electronic system design, process control; feasibility

studies, systems evaluations, equipment evaluations and tests, system design, development and specifications, computer programming, system implementation.

SDI ASSOCIATES LIMITED

45 St. Clair Avenue West
Toronto, Ontario, Canada
M4V 1K9
Tel: Toronto: (416) 964-7640
London England: 681-3021

SERVICES: consultant services with special emphases in the insurance and finance industries; data processing consulting; data processing systems development; computer processing, data entry services.

SHARON PROFESSIONAL SERVICES

A Division of Sharon Electronics Limited
320 Moodie Drive
Ottawa, Ontario, Canada
K2H 8G3
Tel: (613) 828-2303

SERVICES: technical writing; contract engineering.

I.P. SHARP ASSOCIATES LTD.

145 King Street West, Suite 1400
Toronto, Ontario, Canada
M5H 1J8
Tel: (416) 364-5361

SERVICES: specialists in computer software and systems; APL time-sharing with local access in more than 70 cities of nine countries.

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BARRINGER RESEARCH LIMITED

304 Carlingview Drive
Metropolitan Toronto
Rexdale, Ontario, Canada
M9W 5G2
Tel: (416) 675-3870
Telex: 06-968743
Cable: BARSEARCH TORONTO

SERVICES: program participation and management; consulting and contracting; laboratory analyses; ground and airborne pollution monitoring.

DIGHAM LIMITED

Toronto Dominion Centre, Suite 4900
Toronto, Ontario, Canada
M5K 1E8
Tel: (416) 362-3878
Telex: 06-219566

Consultants, Geophysical

SERVICES: airborne geophysics; interpretation of geophysical data.

GEOPHYSICAL SURVEYS INC.

1975 Boulevard Charest West
Ste. Foy, Quebec, Canada
G1N 2E6
Tel: (418) 683-2231
Telex: 051-3467
Cable: GEOAIR

SERVICES: ground and airborne geophysical surveys.

GEOTERREX LIMITED

2060 Walkley Road
Ottawa, Ontario, Canada
K1G 3P5
Tel: (613) 731-9571
Telex: 053-3502
Cable: GEOTERRA

SERVICES: airborne geophysical exploration: high-sensitivity aeromagnetics, high-sensitivity radiometrics, Barringer input airborne electromagnetic; ground geophysical exploration: follow-up of airborne electromagnetic surveys; magnetic, electromagnetic, induced polarization, resistivity, gravity and seismic surveys.

INTERA ENVIRONMENTAL CONSULTANTS LTD.

1200-603 7th Avenue Southwest
Calgary, Alberta, Canada
T2P 2T5
Tel: (403) 264-5113

SERVICES: baseline and impact environmental study; theoretical studies; environmental model development; computer modelling of atmospheric

diffusion of pollutants; soil pollutants; vegetation stress surveys and analyses; remote sensing of snow pack, vegetation, soil and atmospheric pollution; climatological study; air quality studies; corridor and rights of way analyses; spectral signature research in remote sensing; urban analyses; weather modification; and library research projects.

KENTING EARTH SCIENCES LTD.

380 Hunt Club Road
Ottawa, Ontario, Canada
K1G 3N3
Tel: (613) 521-1630
Telex: 053-4173
Cable: KENSCI

SERVICES: aerial photography; remote sensing; airborne geophysics; airborne profile recording; interpretation of imagery; interpretation of geophysical data; surveying and mapping; geodetic surveys.

NORTHWAY SURVEY CORPORATION LIMITED

1450 O'Connor Drive
Toronto, Ontario, Canada
M4B 2V2
Tel: (416) 755-1141
Telex: 06-963518
Cable: AQUARIUS

SERVICES: geophysical exploration — aeromagnetic; combined aeromagnetic/airborne electromagnetic; airborne radiometric; very low frequency electromagnetic; computer processing and interpretation.

PHOTOCAN SURVEYS LTD.

65 Bentley Avenue
Ottawa, Ontario, Canada
K2E 6T7
Tel: (613) 225-9356
Telex: 053-3539

SERVICES: aerial photography; remote sensing; airborne geophysics; geodetic surveys; airborne profile recording; interpretation of imagery; interpretation of geophysical data; surveying and mapping.

PHOTOSUR INC.

1130 Sherbrooke Street West
Montreal, Quebec, Canada
H3A 2R5
Tel: (514) 288-1370
Telex: 055-61257

SERVICES: aerial photography; remote sensing; airborne geophysics; interpretation of imagery; interpretation of geophysical data; surveying and mapping.

QUESTOR SURVEYS LIMITED

6380 Viscount Road
Mississauga, Ontario, Canada
L4V 1H3
Tel: (416) 676-9880
Telex: 06-983611

SERVICES: geophysical exploration — aeromagnetic; combined aeromagnetic/airborne electromagnetic; airborne radiometric.

SANDER GEOPHYSICS LIMITED

250 Herzberg Road
Kanata, Ontario, Canada
K2K 1X3
Tel: (613) 592-1301
Telex: 053-4755

SERVICES: high resolution helicopter-borne electromagnetic and magnetometer surveys; high resolution helicopter-borne gamma ray spectrometry surveys; fixed wing high resolution magnetometer surveys.

TEKNICA RESOURCE DEVELOPMENT LTD.

339-6th Avenue Southwest, Suite 412
Calgary, Alberta, Canada
T2P 0R8
Tel: (403) 269-4386
Telex: 038-21820

SERVICES: software for generation of synthetic borehole sonic logs; termed seislogs, from conventional broadband seismic data; specialized interpretation services for determination of subsurface lithologies and porosities using data from derived logs.

TERRA SURVEYS LIMITED

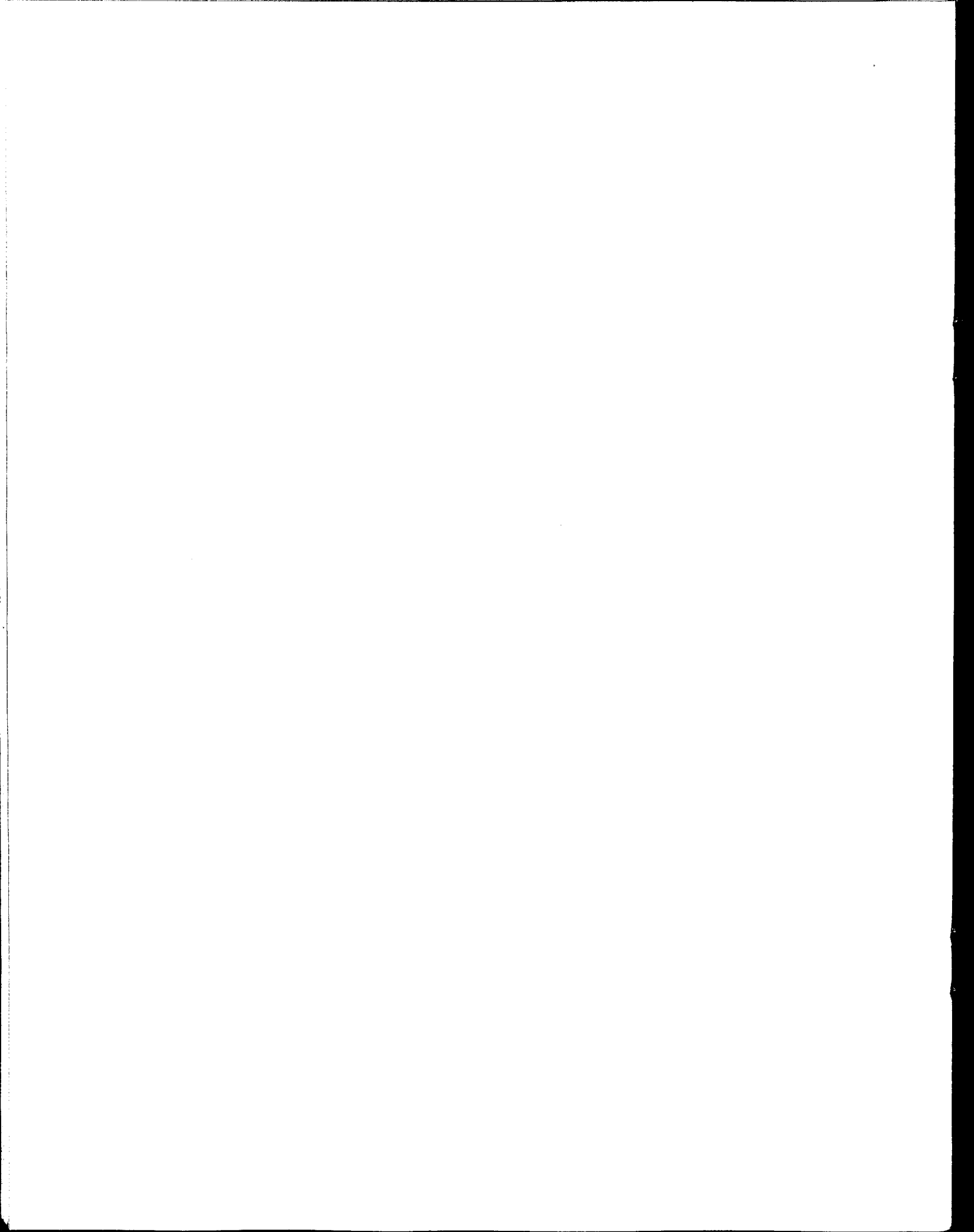
2060 Walkley Road
Ottawa, Ontario, Canada
K1G 3P5
Tel: (613) 731-9571
Telex: 053-3502
Cable: GEOTERRA

SERVICES: photogrammetry, geodetic surveys, engineering surveys and resource studies: stereo plotting, airborne and ground electronic distance measuring, route location; airborne geophysical exploration: high-sensitivity aeromagnetics, high-sensitivity radiometrics, Barringer input airborne electromagnetic; ground geophysical exploration: follow-up of airborne electromagnetic surveys; magnetic, electromagnetic, induced polarization, resistivity, gravity, and seismic surveys.

WESTERN GEOPHYSICAL COMPANY OF CANADA LIMITED

530-71st Avenue Southeast
Calgary, Alberta, Canada
T2H 1X6
Tel: (403) 253-7101
Telex: 038-21602

SERVICES: high resolution land seismic exploration; land seismic exploration, dynamite or isbroseis; geothermal exploration; marine seismic exploration, aquapulse, dynamite (maxipulse) or airgun; aerial photography; airborne geophysical surveys including aeromagnetic, side looking airborne radar (SLAR), gamma ray spectrometry, very low frequency electromagnetic; utility mapping. Full data processing and interpretation services.



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Anatek Electronics Ltd.
Beel Controls Limited
Canadian Research Institute
CETA Limited
Garrett Manufacturing Limited
Glenayre Electronics Ltd.
Lab-Volt Limited
Leigh, Industrial Products Division
Lorain Products (Canada) Ltd.
Mega System Design Limited

Microwave Technology
Powertronic Equipment Limited
Pylon Electronic Development
Company Ltd.
Research Industries Limited
Stacion Ltd.
Valcom Limited

PRODUCTION MACHINERY AND EQUIPMENT

Electrovert Ltd.
Strite Industries Limited

RADAR SYSTEMS AND ANCILLARY EQUIPMENT

Canadian Marconi Company
Elinca Communications Ltd.
Leigh, Avionics Division
Litton Systems Canada Limited
Raytheon Canada Limited
Tribar Industries Limited
Westinghouse Canada Limited

RECORDERS

Bailey Meter Company Limited
Fischer & Porter (Canada) Ltd.
Leigh, Avionics Division
Presentey Engineering Products Limited

REMOTE SENSING INSTRUMENTS AND SERVICES

CAE Electronics Ltd.
Computing Devices Company
Hermes Electronics Limited
Leigh, Industrial Products Division

REGULATORS, VOLTAGE AND FREQUENCY

Aircraft Appliances & Equipment
Limited
Bristol Aerospace Limited
Canadian Research Institute
Challenger Electronics
George Kelk Limited

REPAIR AND OVERHAUL SERVICES

Aviation Electric Ltd.
CAE Electronics Ltd.
Canadian Marconi Company
Computing Devices Company
National Electrolab Ltd.

TACHOMETER GENERATORS

Aircraft Appliances & Equipment
Limited
George Kelk Limited

TELEGRAPH EQUIPMENT

Elinca Communications Ltd.
Frederick Electronics Canada Limited
ITT Communications
Leigh, Industrial Products Division
NR Systems Limited

TELEMETERING SYSTEMS

Bristol Aerospace Limited
CAE Electronics Ltd.
Canadian Applied Technology
Computing Devices Company
Crescent Controls Ltd.
EKEG Electronics Co. Ltd
NR Systems Limited

TELEPHONE EQUIPMENT/ SYSTEMS

A.E.I. Telecommunications (Canada)
Limited
Auto-Vox Inc.
Bayly Engineering Limited
Challenger Electronics
Farinon SR Systems
GTE Automatic Electric (Canada) Ltd.
International Systcoms Ltd.
ITT Communications
Lorain Products (Canada) Ltd.
Mitel Corporation Ltd.
Northern Telecom Limited
Omicron Data Systems Ltd.
Plessey Canada Limited
Pylon Electronic Development
Company Ltd.
SED Systems Ltd.
Tele-Radio Systems Limited
Transcom Electronics
Manufacturing Ltd.

TELEVISION EQUIPMENT AND SYSTEMS

CLOSED CIRCUIT
Central Dynamics Ltd.
Richmond Hill Laboratories Limited
Scannex International

STUDIO

Canadian General Electric Co. Ltd.
Central Dynamics Ltd.
McCurdy Radio Industries Limited
Richmond Hill Laboratories Limited

CABLE TELEVISION

Anaconda CATV Ltd.
Delta-Benco-Cascade Ltd.

TEST, LABORATORY AND MEASURING EQUIPMENT

ELECTRICAL/ELECTRONICS
Bach-Simpson Limited
Baytronix Ltd.
Bomem Inc.
Bristol Aerospace Limited
CAE Electronics Ltd.
Canadian Research Institute
Delta-Benco-Cascade Ltd.
Garrett Manufacturing Limited
Guildline Instruments Limited
Hotpack (Canada) Ltd.
Inax Instruments Ltd.
Lab-Volt Limited
Litton Systems Canada Limited
National Electrolab Ltd.
Richmond Hill Laboratories Limited
Semco Instruments Co. Limited
W. Sodin (Gravity) Ltd.

PHYSICAL

Bomem Inc.
Diffracto Ltd.
W. Sodin (Gravity) Ltd.

TOWERS AND ACCESSORIES

Dynamic Industries Inc.
Leblanc & Royle Communications
Towers Ltd.
Tower Communications Co.
(Canada) Ltd.

TRANSDUCERS

C-Tech Ltd.
Fischer & Porter (Canada) Ltd.
George Kelk Limited

TRANSMITTERS

Bristol Aerospace Limited
Canadian Astronautics Limited
Canadian General Electric Co. Ltd.
Canadian Marconi Company
Delta-Benco-Cascade Ltd.
Hermes Electronics Limited
International Technical Products
(Canada) Limited
Motorola Canada Limited
Nautical Electronic Laboratories Limited
Rockwell International of Canada Ltd.
Spiisbury & Tindall Ltd.

ULTRASONICS

C-Tech Ltd.
Westinghouse Canada Limited

COMPONENTS SECTION

ANTENNAS

Amphenol Canada Division
Com Dev Ltd.
Geleco Electronics Ltd.
Lindsay Specialty Products Limited
Sinclair Radio Laboratories Limited

CABLE HARNESS

Amphenol Canada Division
Leecraft Industries Limited
Leigh, Industrial Products Division

CAPACITORS

Johnson, Matthey and Mallory Ltd.
Sprague Electric of Canada Ltd.

CERAMICS

Almax Industries Ltd.
Neosid (Canada) Limited

COILS, AF, IF, RF

Anro Electronic Industries Ltd.
Automatic Winding Corp. Ltd.
Bayly Engineering Limited
Electronic Craftsmen
Geleco Electronics Ltd.
Superior Electronics Industries Limited

CONNECTORS

Amphenol Canada Division
Burndy Canada Limited
Dale Electronics Canada Ltd.
EDAC Inc.
ITT Cannon Electric Canada
Leigh, Frequency Controls Division
Lindsay Specialty Products Limited
Renfrew Electric Co. Limited

CONTROLS, MOTOR, SAFETY, ETC.

Beel Controls Limited

CRYSTALS, CRYSTAL OSCILLATORS, CRYSTAL OVENS

Croven Ltd.
CTS of Canada Limited
Leigh, Frequency Controls Division
Philips Electronics Ltd.

DISPLAYS, LIGHT EMITTING DIODES, LIQUID CRYSTALS

Bowmar Canada Limited
National Semiconductors Limited

ELECTROMECHANICAL PARTS AND ASSEMBLIES

Beckman Instruments Inc.
Leigh, Industrial Products Division

ELECTRONIC HARDWARE (Knobs, Panels, etc.)

Amphenol Canada Division
EDAC Inc.
Graphico Precision Works Ltd.

ELECTRONIC AND TV TUBES

RCA Limited
Superior Electronics Industries Limited

FILTERS

Com Dev Ltd.
Croven Ltd.
CTS of Canada Limited
Erie Technological Products of
Canada Ltd.
Ferritronics Limited
Leigh, Frequency Controls Division
Sinclair Radio Laboratories Limited

HEAT EXCHANGERS

Magna International Incorporated

INSULATORS

Decca Austin Insulators

INVESTMENT CASTINGS

Cercast Inc.
Shellcast Foundries Inc.
Vestshell Inc.

LAMINATIONS

EI-Met Parts Ltd.

LOUDSPEAKERS

Leigh, Industrial Products Division

MAGNETIC TAPES

Pan Canada Magnetics Limited
RCA Limited

METAL PARTS, CABINETS, ETC.

Cercast Inc.
EI-Met Parts Ltd.
Graphico Precision Works Ltd.
Hammond Manufacturing Company
Limited
Leigh, Industrial Products Division
Magna International Incorporated
Philips Electronics Ltd.
Shellcast Foundries Inc.

METER COMPONENTS

Geleco Electronics Ltd.
Sangamo-Weston Instruments

MICROCIRCUITS

Epitek Electronics Ltd.
Linear Technology Inc.
MA Electronics Canada Limited
Mitel Semiconductor Inc.
RCA Limited

MICROPHONES

RD Systems of Canada Limited

MICROWAVE COMPONENTS

Com Dev Ltd.
MA Electronics Canada Limited
Neosid (Canada) Limited
Varian Associates of Canada Ltd.

MOTORS, SUB-FRACTIONAL HORSE POWER

Novatronics of Canada Limited

PACKAGED ELECTRONICS CIRCUITS

Anro Electronic Industries Ltd.
Croven Ltd.
CTS of Canada Limited
Dale Electronics Canada Ltd.
Epitek Electronics Ltd.
Erie Technological Products of Canada
Ltd.
Ferritronics Limited
Leecraft Industries Limited
Leigh, Industrial Products Division

PHOTOCONDUCTIVE AND PHOTOELECTRIC DEVICES

CTS of Canada Limited
National Semiconductors Limited

PLATING

Avionics Limited
Graphico Precision Works Ltd.
Hamilton Engraving Company Ltd.
Leigh, Industrial Products Division
Space Circuits Limited

POTENTIOMETERS

Beckman Instruments Inc.
CTS of Canada Limited
Dale Electronics Canada Ltd.
Precision Electronics Components
(1971) Ltd.
Renfrew Electric Co. Limited

POWDERED IRON AND FERRITE COMPONENTS

Com Dev Ltd.
Neosid (Canada) Limited

PRINTED CIRCUITS

Avionics Limited
Canadian Marconi Company
Graphico Precision Works Ltd.
Hamilton Engraving Company Ltd.
Lazer-Tech Ltd.
Neece Circuit Systems (RDC) Ltd.
Space Circuits Limited

RECTIFIERS

CTS of Canada Limited
Erie Technological Products of Canada
Ltd.
FMC of Canada Limited

RELAYS

Anro Electronic Industries Ltd.
National Semiconductors Limited
Renfrew Electric Co. Limited

RESISTORS

COMPOSITION
Precision Electronics Components
(1971) Ltd.
Renfrew Electric Co. Limited

FILM

Wellwyn Canada Limited

GLAZED

Dale Electronics Canada Ltd.
Renfrew Electric Co. Limited

NETWORK AND WAFERS

Bayly Engineering Limited
Renfrew Electric Co. Limited

POWER

Renfrew Electric Co. Limited

VARIABLE

Amphenol Canada Division
CTS of Canada Limited
Dale Electronics Canada Ltd.
Precision Electronics Components
(1971) Ltd.
Renfrew Electric Co. Limited

WIRE WOUND

Renfrew Electric Co. Limited

SENSORS

D. G. Instruments Limited
Polygauge Industries Ltd.

SERVOS AND SYNCHROS

Novatronics of Canada Limited

SOLDER AND FLUXES

Cramco Solder Alloys

SOLID-STATE DEVICES

Epitek Electronics Ltd.

SWITCHES

CTS of Canada Limited
Geleco Electronics Ltd.
Leigh, Frequency Controls Division
MA Electronics Canada Limited
Wildcat Control Corp. Ltd.

TELEPHONE COMPONENTS

Amphenol Canada Division
Superior Continental Canada Ltd.

TELEVISION COMPONENTS

Automatic Winding Corp. Ltd.
Lindsay Specialty Products Limited
RCA Limited
Superior Electronics Industries Limited

TERMINAL BOARDS

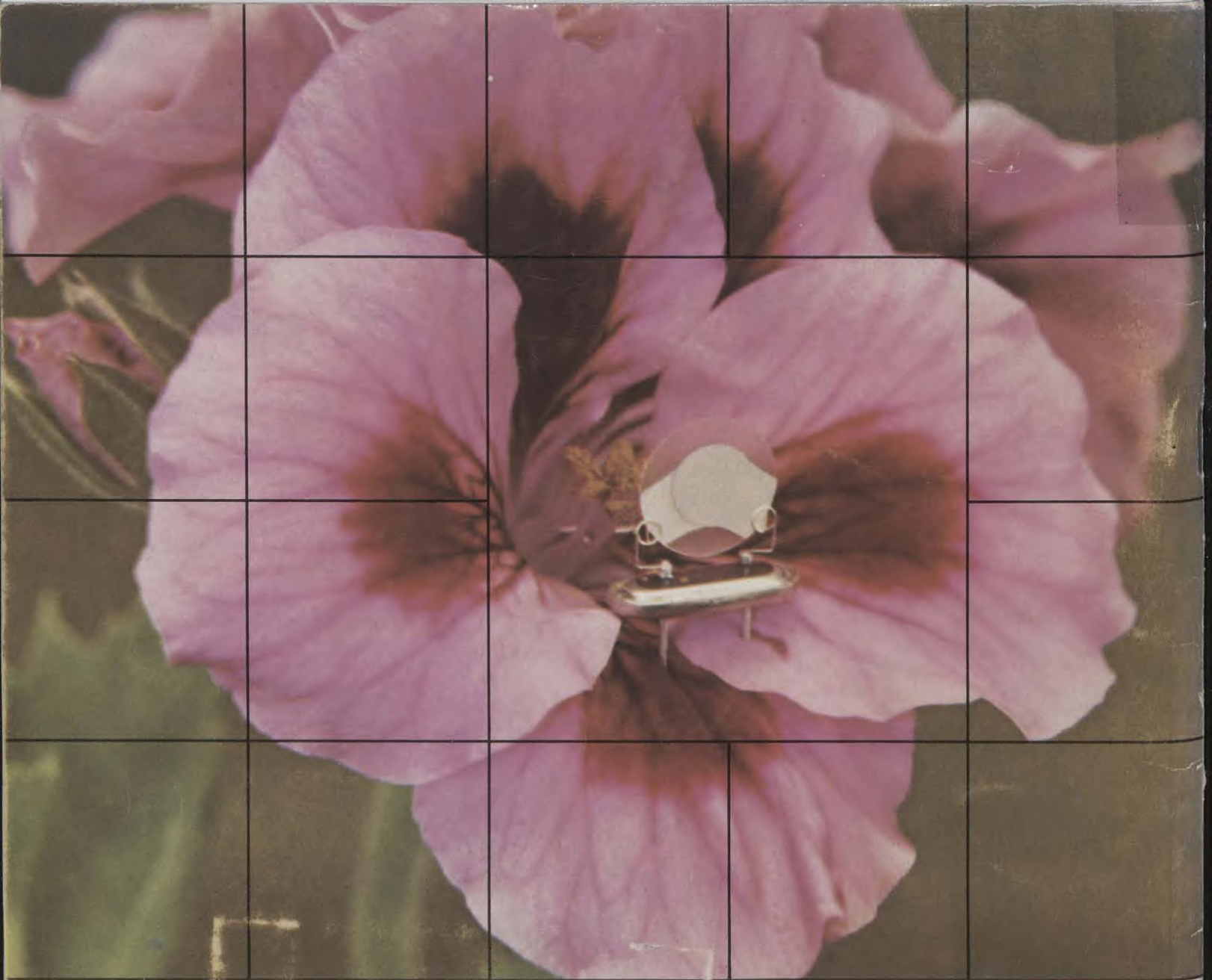
Avionics Limited
Graphico Precision Works Ltd.
Renfrew Electric Co. Limited

TRANSFORMERS AND INDUCTIVE COMPONENTS

Anro Electronic Industries Ltd.
Audio Transformer Company Limited
Automatic Winding Corp. Ltd.
Bach-Simpson Limited
Bayly Engineering Limited
Decca Austin Insulators
Electronic Craftsmen
Hammond Manufacturing Company
Limited
Leigh, Industrial Products Division
Lindsay Specialty Products Limited

WOODEN CABINETS

Philips Electronics Ltd.



Government
of Canada

Gouvernement
du Canada

Industry, Trade
and Commerce

Industrie
et Commerce

For further information about Canada's
electronics industry, please contact:

Electrical and Electronics
Branch (45)
Department of Industry,
Trade and Commerce
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Ottawa, Ontario, Canada
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