ALBERTA RESEARCH COUNCIL

Electronics and Instrumentation
Technology Support Group
Manufacturing Technologies

The Electronics and Instrumentation Laboratory offers the Alberta Research Council and it's clients a unique set of expert services. The two laboratory employees are senior technologists; have almost 50 years of electronics support and design experience between them, and are committed to keeping abreast of the progressions in electronics technology. Staff experience coupled with a variety of electronic equipment and parts can enhance research endeavors and the development of new or improved technologies and products for the private sector.

Design and Fabrication
The group specializes in unique designs to solve a myriad of research objectives. The laboratory is equipped to provide all phases of electronic design -from conception and validation, to actualization and, where applicable, technology transfer to private industry. Examples of work performed include digital, analog, and microcode design for the development of microcontrollers used in various projects for process control, process monitoring, and data collection.

Repair and Maintenance
Research equipment ranging from simple mechanical or electrical devices brought in by walk-in clients to complex systems can be repaired on-site in a timely manner. Examples of complex analytical systems include: GC/MS, SFC/MS, FIA, AA, FTIR, UV-Vis, HPLC, SFC, ICP, SEM, and XRF. Staff interact with the technical support infrastructure of equipment manufacturers, when required, to accomplish expedient repair. Work is also sent to external agencies, when necessary, to serve the client's best interests.

PC and Printer
Support is provided for PC and small systems hardware in a research environment. This includes acceptance testing, systems setup and configuration, non-judgmental problem solving, software development for specialized applications, hardware and software upgrades, diagnostics and repair, decommissioning, recycling and disposal. Printer support includes toner replacement, cleaning, output quality evaluation, diagnostics and repair.

Equipment and Parts
An extensive inventory of new and recycled electronic equipment and parts is maintained. Selection includes resistors, capacitors, paleolithic banana plugs, power supplies, semiconductors, signal generators, microcontrollers, connectors, oscilloscopes, cables, PC components and exotic widgets to complete PC and Mac computer systems. Non-stock items can usually be obtained with a minimum of fuss.

Consulting and Advice

Our friendly staff interact with a variety of clients drawn from all parts of the organization, often dealing with people representing the physical, biological, engineering, and management support disciplines. We are skilled communicators, able to interpret the source of technical difficulty as expressed by the occasional non-technical client.

Cabling and Wiring

Custom analog, digital, control and power cables can be constructed from printed drawings or designed from scratch. Many cables can be sourced from existing stock. A wide variety of adapters between series or type are also stocked. Items not in our inventory can usually be obtained in short order.

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Electronics and Instrumentation

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Jim Kinasewich

Jim graduated in 1966 from the Northern Alberta Institute of Technology; Electronics Technology. He has since completed further NAIT courses in Analytical Chemistry and Computing. Most recently, he has taken courses on the Motorola 68HC11 microcomputer from the Westerra Institute. He began his career as a Summer Student at the Alberta Research Council and commenced full time employment at ARC in 1966 as Electronics Technologist charged with the responsibility of running the Instrument Repair shop.

Garry Cardinal

Garry holds a diploma in Electronics Technology, digital option, from NAIT (1974). During that time he was a summer student at the international airport, supporting radar, meteorology and communications. Garry worked on mechanical cash registers and the first generation of electronic cash registers. His career with ARC began in support of the radar systems at Penhold, Alberta for the Alberta Hail Studies program. Recently, Garry has taken additional training in 8085 and 68HC11 microprocessors and has coded an 1802 for real-time signal processing.

At home, Garry does 3D solid graphics and digital imaging on his Amiga computer when not tinkering with intricate mechanical gizmos.