(Spokane, Washington)
Engineers – 8
PhDs – 3
Machinists – 6
Others – 152

GROSS SALES: Electronic Materials Division
1986 – $55M
1987 – $70M

PLANT SIZE: Electronic Materials Division
(Trail, BC) – 80,000 Sq Ft
(Spokane, WA) – 80,000 Sq Ft

EQUIPMENT: Melbourn high pressure Czochralski Crystal Growers; low pressure Czochralski Crystal Growers, Bridgman Crystal Growers, Zone Refiners, custom built metal refining equipment; custom built crystal slicing, fabrication and polishing facilities; and high purity metals fabrication equipment.

EXPERIENCE: Cominco has been in the electronic materials business since 1949 and has supplied materials to most major US electronic companies.

KEYWORDS: Bonding Wire & Ribbons; Compound Semiconductor Wafers; Evaporation Charges; High Purity Metals; Infrared Materials; Metallurgy; Microgravity; Semiconductor Wafers; Semiconductors; Solder Preforms; Sputtering Targets.

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COMPUTING DEVICES COMPANY

ADDRESS: P. O. Box 8508
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CONTACT: Mr G M Mount, Senior Vice President – (613) 596-7105

HISTORY: Established in 1948, Computing Devices Company is the founding member of Ottawa's "Hi-Tech" community. Early successes included the sale of 4500 Position and Homing Indicators (PHI) to the F-104 aircraft of 17 nations and the fitment of the Projected Map System (PMS) in USAF/USN A-7 D/E aircraft and USAF Pavelow 3 helicopters. The company designs and manufactures advanced electronic systems for military applications. It markets on a worldwide basis with the US DOD as the largest customer. It has been a component of Control Data Corporation since 1969.

CAPABILITY: Computing Devices is divided into five business areas: ASW Systems, Ground Systems, Display Systems, Surveillance Systems, and contract Manufacturing.

The business areas are supported by comprehensive laboratory and CAD/CAM facilities, and vertically integrated manufacturing facilities.

Quality Control systems are compliant to DND 1015/MIL-Q-9858, and AQAP-1/13.

- *ASW Systems*

The company's start in ASW Systems was with the USN SOSUS and Nav Air communities. Present products include the company designed and developed sonobuoy processor (UYS-503) which has been sold to the Swedish Air Force, Canadian Navy, Australian Navy and United States Navy. For Canada's surface fleet, the company is producing the SQS-510 Active Sonar and the SQR-501 Towed Array Sonar. For Canada's New Shipborne Aircraft Project, Computing Devices is developing the dipping sonar/sonobuoy system and the command and control system which also serves as the integrating element for the mission sensors on the 1553B data bus.

- *Ground Systems*

The company has worked on ballistics computation since the early sixties. This work led to the development and production of a digital ballistic fire control computer for the US Army Abrams M1A1 Main Battle Tank. In excess of 5000 systems

have been fielded and the company has been contracted for the balance of the M1A1 production run.

The Ground Systems Division is also producing ballistic fire control computers for the Republic of Korea Main Battle Tank, the M48A5/T2 Main Battle Tank Upgrade for Turkey, and the M48H Main Battle Tank Upgrade for Taiwan. In addition, a prototype Battle Field Management System is to be installed in the Abrams Main Battle Tank. This division also developed and produced the MiliPAC Artillery Computer for the Canadian Forces.

- *Display Systems*

The Shipboard Integrated Processing and Display Systems (SHINPADS) has been developed for the Canadian Navy to provide state-of-the-art system integration encompassing the entire ship including combat system equipment, propulsion and damage control systems, and the administrative support hardware. Computing Devices' Shinpads Standard Display (SSD) is a true multi-sensor display that accepts video input data from all shipboard sensor systems and through digital scan conversion techniques and large scale real-time random access memory, provides both sensor information and complex graphical overlays on high resolution full color television monitors.

Computing Devices' SSD interfaces with any general purpose NTDS-capable computer functioning as a display processor or with an ADA-capable embedded processor. Standardization of hardware, software and interfacing has been achieved to the point where this unique display satisfies all of the requirements for operational interface with any sensor, weapon, or machinery control function. It is a powerful tactical and command situation display providing the command and control team instant access to all data available on board. The SSD may be reconfigured dynamically by system command and operator intervention to any function in the user's repertoire.

Computing Devices' Shinpads Standard Display has been adopted as the standard display for the Canadian Navy.

The Display Systems Division also produces mil-standard Electroluminescent panels. In addition, they are currently in full scale engineering development of the Sensor Scan Converter for the US Navy's AN/SAR-8 Shipboard Infra Red System.

- *Surveillance Systems*

Computing Devices Company is a world leader in high performance outdoor security systems for a broad range of military and industrial applications. The company has been under contract for R&D to all three DOD services and other government agencies responsible for security sensor and systems. A full line of state-of-the-art RF and video intrusion detection sensors have been developed. The AN/GSS-34 is a full MIL SPEC long perimeter buried line sensor (up to 3200 meters per system) developed for the USAF (ESD, Hanscom AFB) to Base and Installation Security System (BISS) requirements. The GUIDAR is the industrial grade version of the AN/GSS-34. The Short Perimeter Intrusion Radar (SPIR) is a buried line sensor (up to 300 m per sensor) for individual resource protection such as parked aircraft. The Ported-Coax Intrusion Sensor is an indoor sensor under development for the US Army (Ft Belvoir). The Digital Automatic Video Intrusion Detection sensor (DAVID) has also been developed by the company and is sold for use with outdoor CCTV cameras. In addition, this division has done system integration work and has a range of new tactical and rapid deployment sensors under development.

Building on the company's established technology base and market penetration in ground and shipboard combat systems, displays and real-time C^3, Computing Devices has developed a capability in ground/shipboard control subsystems for unmanned vehicle systems such as RPVs, drones, and test targets. The subsystem capability encompasses mission/flight planning, mission management, recording and sensor data analysis.