

## **LORAL**

### **A Story of Success and Expansion**

On December 20, 1991, Librascope officially became the twelfth acquisition by Loral Corporation, a New York based Fortune 200 company that concentrates in defense electronics and space communications.

The corporation's headquarters are in New York City, with major corporate offices in Washington, D.C., and 34 operating divisions around the U.S. Loral has a work-force of 25,000 men and women engaged in a wide spectrum of research, engineering design and development, production and support of defense and space programs.

Loral's reputation as a company that has grown by acquisition generates ongoing interest. Key points to remember about the company's strategy is that while new acquisition opportunities abound during this period of defense industry downsizing and restructuring, Loral is very selective in its growth. In order to meet Loral's criteria, potential acquisitions must not only be priced right, they must be complementary to the company's principal technologies and programs, reinforcing Loral's leadership position in one or more of its six core businesses, which include — Electronic Combat; Reconnaissance & Surveillance; Simulation & Training; Tactical Weapons/Guidance; Command, Control, Communications and Intelligence (C<sup>3</sup>I); and Space Systems.

#### **Company Founded in 1948**

Loral was founded in 1948 by William Lorenz and Leon Alpert, who combined the first syllables of their surnames to give the company its name. The company's early history was marked by a number of non-defense acquisitions, including companies with expertise in plastics, electrical wire and toymaking, all of which were divested beginning in 1972 with the arrival of Bernard L. Schwartz as chairman and chief executive officer.

Under Mr. Schwartz's leadership, Loral then embarked on a series of strategic acquisitions and

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## **Librascope Saddened By Death of Founder—Lewis Imm**



Lewis Imm, Librascope Founder

Lewis Imm passed away at his home in Cottage Grove Oregon, January 22, after a short illness. Mr. Imm founded the company in 1937, when he developed the first 'Librascope,' a balance computer built to determine the center of balance for airplanes.

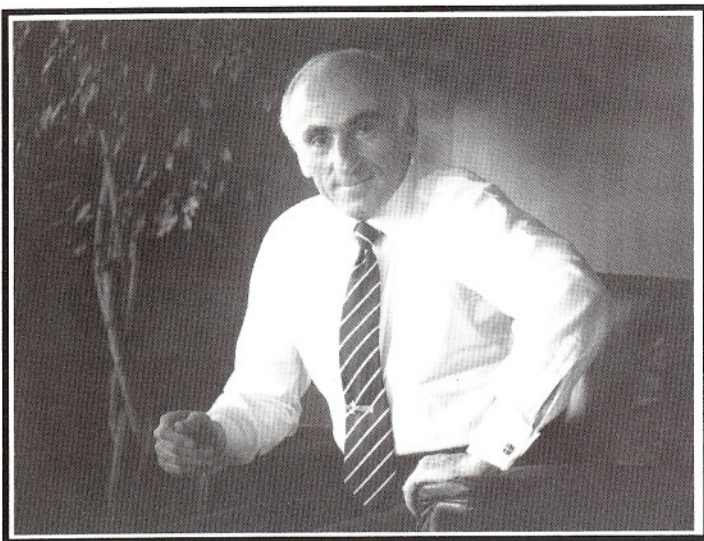
While working as an engineer for the Bureau of Air Commerce in 1937, he realized the need for computing the center of balance in loading aircraft, and he left the Bureau to develop the 'Librascope.'

During the early years Mr. Imm worked for a period of time as an engineer for Lockheed days while he was working for Librascope at night. This was not necessarily a matter of choice, but funds were scarce and payrolls had to be met, even though the payroll consisted of less than 10 people.

From 1937 to 1941, the Company made quite a few moves from shops in Burbank to its present site in 1949.

In 1941, Mr. Imm began to encounter difficulties which were common to many small progressive companies at that time. The defense program was swinging into high gear and orders were available for much needed defense supplies. Many of these orders called for much greater capacity and financial backing than

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Bernard L. Schwartz  
Chairman and Chief Executive Officer  
Loral Corporation

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investments in internal development that have placed it in the top ranks of U. S. defense contractors.

### **Defense Electronics Acquisitions Started in 1974**

In 1974, Loral acquired a small company called **Conic**, a \$10-million-a-year design house and manufacturer of telemetry products for defense and space communications. Conic was split into two separate groups, Loral Conic and Loral Instrumentation, which produces electronic equipment used in performing high-speed processing of large amounts of data. *Note: Librascope reports to this group of the Loral Corporation, under Hugh Bennett, Vice President, Telemetry & Instrumentation Group, which includes Loral Terracom, Loral Conic, and Loral Instrumentation—all based in San Diego, and Loral Fairchild Data Systems in Sarasota, Florida.*

A second major acquisition occurred in 1980 with the purchase of **Frequency Sources**, a microwave components house which gave Loral the ability to design and build components that would serve as building blocks for systems being developed within its other divisions. Loral's flagship radar warning receivers for tactical aircraft rely on state-of-the-art integrated circuits developed by the company's microwave group.

In 1981, Loral purchased **Randtron Systems and Aercom**, giving Loral entree to the design and manufacture of antenna systems and components. Randtron produces the 24-foot rotodome antenna for the U. S. Navy E-2C, as well as antenna components used on tactical aircraft. The acquisition filled another strategic niche in Loral's spectrum of electronic combat technologies, as Randtron's antennas are used to acquire the data that is processed by an electronic combat system. In 1983, Loral extended its presence

in the microwave area by acquiring **Narda Microwave**. Narda was a producer of a complete line of active and passive catalog microwave components. It also supplied integrated assemblies for use in virtually all electronic warfare and communications applications. Today, there are four Microwave Group companies Narda, Narda West, Frequency Sources and Wavecom.

### **Simulation & Training Added As Core Business**

Loral's purchase of **Xerox's Electro-Optical Systems** in 1983 strengthened its electronic combat capabilities and added military field training systems to its program base at a time when the Defense Department was emphasizing realistic training for its post-Vietnam forces. EOS added infrared countermeasures, such as the ALQ-157 system that protects helicopters and aircraft from heat-seeking weapons, and the Multiple Integrated Laser Engagement System (MILES). Using eye-safe laser transmitters and receivers on actual weapon systems, MILES and its later enhancements permit units at training centers worldwide to experience realistic battlefield simulation while learning force-on-force maneuver tactics and doctrine. Known today as LEOS, the division also brought expertise in imaging electronics, power conditioning equipment and propulsion engines for space exploration.

Two acquisitions in 1985 further bolstered Loral's electronic combat business—**Hycor** added shipboard radar and infrared countermeasures to the company's array of self-protection systems, and **IBM's Rolm Mil-Spec Computers** division realized yet another natural fit among its vertically integrated technologies and programs by adding design and production of militarized and ruggedized computers

# — A Story of Success and Expansion

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based on commercial operating systems to its core capabilities. The division designed and produced computers for electronic combat, communications and targeting systems aboard the same ships, submarines and aircraft that were outfitted with other Loral electronics.

## From 'Black Box' Supplier to Prime Contractor

Loral doubled its size and extended its technological breadth when it acquired **Goodyear Tire and Rubber Company's aerospace subsidiary in 1987**. The technological fit between Loral and its new division—renamed Loral Defense Systems-Akron and Loral Defense Systems-Arizona, respectively—was compelling. For example, Loral's presence in airborne antisubmarine warfare was complemented by Goodyear's expertise in underwater detection. And Loral's laser simulation and training business was broadened by Goodyear's role as the prime supplier of cockpit simulators for aircraft like the U. S. Air Force's F-15 and other aircraft.

In addition, Goodyear's specialty in all-weather synthetic aperture radar reconnaissance formed the kernels of two future core businesses for Loral: reconnaissance and surveillance and "smart" weapons and guidance.

In 1989, Loral purchased **Fairchild Weston Systems** which had significant presence in reconnaissance, training and command and control—three growth areas in the Defense Department's preparedness blueprint.

Later that same year Loral acquired **Honeywell's Electro-Optics Division**, a sensor house with a complementary technology for producing focal plane arrays. The Lexington, Maryland division, renamed Loral Infrared & Imaging Systems, is a key player in electro-optical sensors for ground, airborne and space platforms. It helped fill in another piece of the electronic combat puzzle, so that today Loral can offer a complete defensive system for all types of aircraft, a system that includes warning, jamming and fire control in the radar and electro-optical realms.

## Quantum Leap With Ford Aerospace

Loral became a true systems house in 1990 by purchasing **Ford Motor Company's Ford Aerospace subsidiary**. Acquired for \$715 million in cash, Ford Aerospace, with annual sales of \$1.8 billion, dovetailed with Loral in every business area and brought a new one—space communications—through its

satellite manufacturing division in Palo Alto, CA. In all, Loral gained eight new operating divisions and vaulted into the ranks of defense companies generating annual revenues of \$3 billion.

Ford Aerospace's predecessor, Philco, established the Western Development Laboratories (WDL) division in 1957 in northern California. Over the years, WDL became an industry leader in high-speed information systems for C<sup>3</sup>I, providing systems engineering and operations support to the U. S. Air Force Satellite Control Network of tracking stations around the world. In the early 1960s, WDL helped design and build the mission control center for manned space flight at the Johnson Space Center in Houston. Today, the WDL spinoff, now called Loral Space Information Systems, continues to support NASA's requirements for major programs such as the Space Shuttle and Space Station Freedom with systems engineering, development and integration. Loral AeroSys, located in Maryland, provides similar support for unmanned space flight programs, such as the Hubble Space Telescope.

Since the mid-1960's, another former Ford Aerospace division, now called Loral Command & Control Systems (LCCS), has supported the North American Air Defense Command for major segments of the communications, display and computational systems in the Cheyenne Mountain Complex. LCCS is the prime contractor for the C<sup>3</sup>I capability for the Space Defense Operations Center (SPADOC) within the NORAD complex. SPADOC plays a strategic warning role for space defense, identifying and monitoring all space objects.

Loral Space & Range Systems (LSRS), which was formed from Ford Aerospace's Sunnyvale division, has built more than 200 large satellite ground terminals around the world, including NATO terminals in 21 countries and a generation of State-of-the-Art Medium Terminals that augment the worldwide Defense Satellite Communications System network.

Loral Corporation has emerged as a vertically integrated, broad-based company positioned to meet requirements of the 1990s and beyond. Its expanded R&D capabilities, proprietary technologies and products complement one another to provide the building blocks necessary for systems integration. ■

Source - Loral Corporate Communications

# Company Founder—Lewis Imm

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most small companies had. Faced with this problem, Mr. Imm decided that the future of the Company and the needs of the Country called for action.

Accordingly, he decided to sell Librascope to the General Precision Equipment Corporation in order to obtain substantial financial backing. On November 12, 1941, Librascope became a subsidiary of the GPE Corporation. Mr. Imm remained as an engineering consultant for the firm.

In the early war years, production at Librascope was predominantly on the Mk 7 barrage computer, also known as the LC6. The Mk 7 computer, like the balance computer, was a manually operated linkage type. During the years when the Mk 7 was in production, Mr. Imm was occupied much of the time with

the development of a new computer, the Mk 4, for antisubmarine use. From 1942 to 1944, he spent many days on shipboard determining requirements for the computer.

In 1947, Mr. Imm became Chief Development Engineer where he continued with research and development work for the Company, which by now was considerably more advanced and complex than in the days of the balance computer. In December of 1949, Mr. Imm returned to the presidency of Librascope through 1960. Under his direction, Librascope began to grow and prosper and gained a respected place among those companies on which the U. S. Navy still depends.

*"Letters from Imm"—February Librazette*

Lewis Imm, shown during a past visit to Librascope, was admired, loved and respected by his fellow employees.



**HOLIDAY CHARITY DRIVE** - Employees' response to the Holiday Charity Drive was overwhelming, with a truckload of food delivered in time for the holidays to the Glendale Salvation Army.

*Dear Librascope Employees:*

*I wish to express our appreciation to all of those who contributed to the donation of food during the holiday season.*

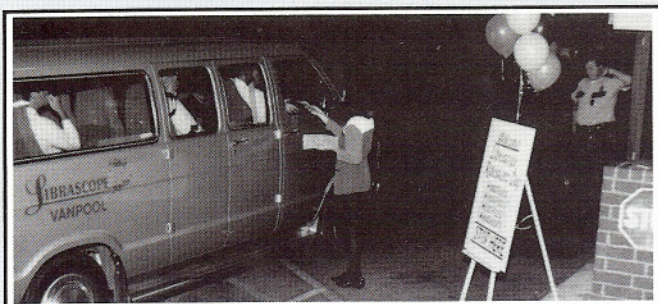
*Oftentimes, The Salvation Army is credited with doing good things in the community, and of course we like to hear those types of things said. However, we recognize that we are only the facilitators and that without the support of many individuals and corporations such as yourself, these things would never come to pass. Thank you!*

*Floyd Bacon, Captain  
The Salvation Army, Glendale Corps*

# RIDESHARE



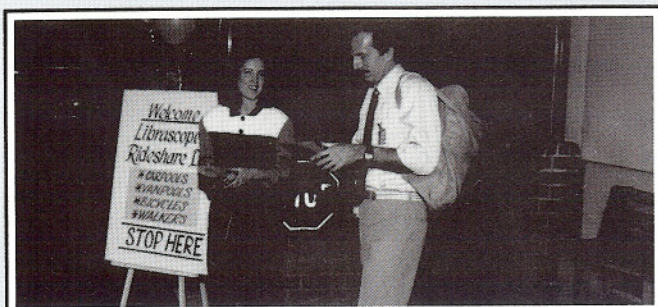
JOIN THE LIBRASCOPE RIDESHARE PROGRAM AND BE ELIGIBLE FOR CASH AWARDS ★ PRIZES ★ DRAWINGS



Librascope vanpoolers receive preferred parking and a subsidy toward their monthly vanpool fee.



Librascope bicyclists, walkers, and employees who ride the bus receive a \$15 per month subsidy.



Carpoolers receive preferred parking, a \$10 per person monthly gas allowance, and a guaranteed 'ride home.'

**FOR INFORMATION  
CALL CONNIE SAUER  
EMPLOYEE TRANSPORTATION COORD.  
X-1256**

**REMINDER  
FILL OUT TIME CARDS DAILY**

## Plant Protection Contract Changed

Effective January 1, the contract for the Librascope plant protection personnel was changed from Burns International to Pinkerton Security Services & Investigations. "The only change that you will see for the most part is in the uniforms worn by our plant protection personnel," said Jack Dyer, Mgr., Security.

"Many of the guards who have served us faithfully in the past have remained at Librascope under the new company. We look forward to having the continued good relationship with our plant protection personnel."

Pinkerton's, formerly California Plant Protection (CPP), had previously held the contract at Librascope from 1964 to 1984. Librascope was the first large contract for CPP in their early years. ■



## Rideshare News Corner

Winners of the Rideshare Holiday Drawing for Glendale Galleria gift certificates included:

1st prize, \$150—**Susumu Nagamine**; 2nd prize, \$100—**Tom Wilder**; 3rd prize, \$75—**Mike Pelatt**; 4th prize, \$50—**Simon Nguyen**. ■

Members of the Lancaster Palmdale vanpool were in for a big surprise and a long-haul home—5 hours to be exact—when on January 7, they encountered a blizzard on Hwy 14. According to the vanpoolers, cars were sliding everywhere and traffic was at a standstill. Fortunately for the Librascope employees, their van was equipped with chains and some vanpool "heroes" who braved the storm—business suits and all—to put chains on their van and move cars out of the way so that the van could be on its way. A big thanks to the following: **Carey Capaldi, Chris Chandler, Steve Hankins, Eric Scherff, Scott Miller, Frank Dibbini, and Chris Gill**. ■

A Valentine's Day drawing will be held for all registered rideshare participants—watch for full details on the bulletin board. ■

**SIGN UP TO RIDESHARE TODAY—X-1256**  
**Carpool/Vanpool/Bike/Walk/Take A Bus**

# CLUB CORNER

## LIBRASCOPE GOLF CLUB -

A membership drive is currently underway. Membership includes privileges of the Southern California Golf Association (SCGA). Each member will receive an SCGA handicap, bag tag, 1992 USGA rules book and open invitations to monthly golf tournaments and seasonal flight play. The membership fee is \$25. For information, contact Dee Soley, X-1293. The club is open to all employees and family members. ■

### 1992 Schedule of Tournaments:

February 15	-Victorville
March 7	-Ontario National
April 17	-Camarillo Springs
May 30	-Shandon Hills
June 27	-Indian Hills
July 11	-San Dimas
August 22	-Lake Elizabeth
September 19/20	-San Luis Bay
October 17	-Simi Hills
November 28	-Elkins Ranch

## LIBRASCOPE COMPUTER CLUB -

The computer club was organized in 1984 to encourage the enjoyment and use of the personal computer—Apple, Commodore, IBM, Macintosh and others.

The club meets once a month—generally the third Saturday. Some of the benefits of club membership include discounts on computer hardware and software and social as well as educational activities. The club is open to all employees and their families—membership fee \$12. For information, call George Webb, X-2020, or Stan Bucklein, X-2274. ■

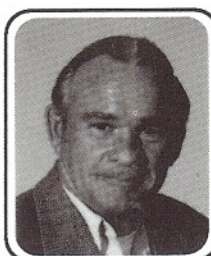
## SUPPORT YOUR TEAM!

### LIBRASCOPE MEN'S BASKETBALL

Wednesday, Feb. 5 9:00 pm	Glendale HS Men's Gym
Tuesday, Feb. 11 7:00 pm	Glendale HS Women's Gym
Wednesday, Feb. 19 7:00 pm	Maple Park Glendale

FOR INFO CALL X-1511

## Libravets thru January



**Richard King**  
20 Years  
Pkg. Design Eng.  
Mech. Design



**Barry Commons**  
20 Years  
Supervisor  
Logistics Engr.



**Oscar Jimenez**  
20 Years  
Accountant  
Finance

### More Libravets ...

#### 10 Years—

Jon Becker, Stephanie Barker, Jackie Goodwin

#### 5 Years—

Maria Pizzaro, John Good

## Calendar thru Feb.

Employee Services Office, X-1210

**Feb**

**15**

**Golf Tournament**  
Victorville  
X-1014

**21**

**Mammoth Ski Trip**  
\$140 per person  
Includes trans.,  
lodging, meals.

### Magic Mountain

**\$11.95 per person - \$12.55 Savings**

Feb. 1,2,8,9,10,15,16,17,22,23,29

Mar. 1,7,8,14,15,21,22,28,29

**Tickets On Sale-Employee Services Office**

### Disneyland

**\$19 per person-\$8.50 Savings**

Jan. 31 thru March 15

**Must Present Valid California Driver's License  
and Magic Kingdom Club Card Available in  
Employee Services Office**

### Knott's Berry Farm

**Double Discount Days-February thru March**

**\$18.95 adults - \$9.95 children**

**Adults Save \$4**

**Must Present Knott's Adventurer's Club  
Card Available in Emp. Services Office**