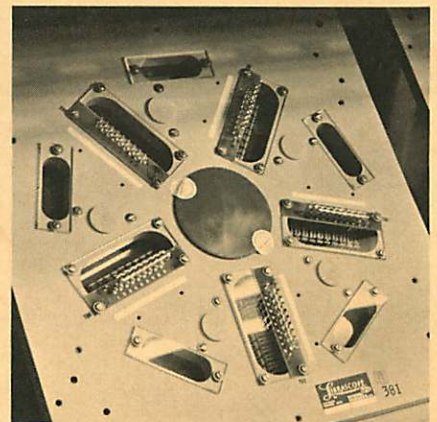
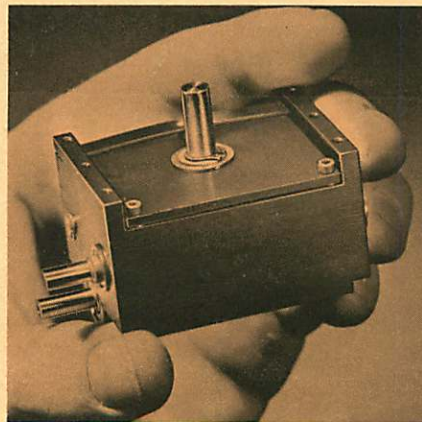
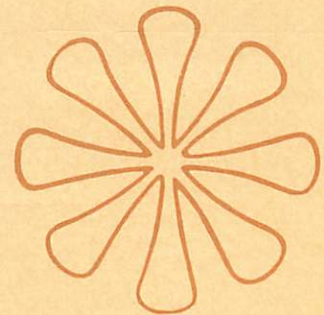
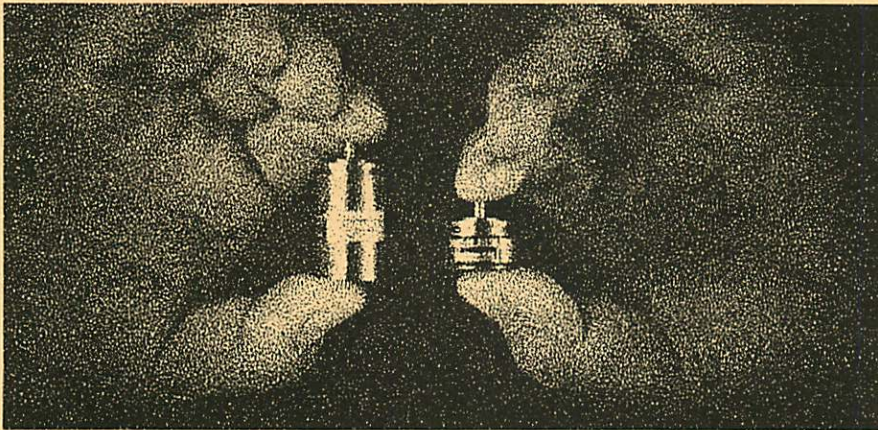


COMPUTER COMPONENTS and PERIPHERAL EQUIPMENT



INTRODUCTION



Librascope Group of General Precision, Inc., has long been a leading designer and producer of computer components and peripheral equipment. Major products described briefly in this brochure include woven plated-wire memories, disc memories, encoders, ball and disc integrators, and other mechanical analog computing mechanisms. These products are marketed by Librascope's Components Division.

DIVERSE PRODUCT MIX



Librascope Group, headquartered in Glendale, Calif., is one of three major groups of General Precision, Inc. Librascope was established in 1937 and today includes the Systems Division and the Advanced Technology Center, in addition to the Components Division. The group's diverse line of systems and products include computerized weapon-control systems for antisubmarine weapons; digital systems and programming; computer mass memories; and optical systems.

RESEARCH AND DEVELOPMENT



Librascope conducts extensive research and development along current product lines and in new areas related to present interests. Typical projects include:

- associative memories and associative processing techniques that will permit higher computer speeds and parallel operation, increased memory utilization and processing effectiveness
- new materials and configurations for plated-wire and disc memories
- a thin-film deposition process for use with cold substrate materials, with applications in anti-reflective and protective coatings on optical devices and solar cells, high-resolution patterns and thin-film components for integrated circuits
- an electroluminescent display screen that retains images for as long as an hour
- electronic models of biological systems, a pioneering activity that is laying the groundwork for the organization of data processing systems of the future

STRONG CORPORATE BACKGROUND



The parent company, General Precision, Inc., is a subsidiary of General Precision Equipment Corp., Tarrytown, N. Y. General Precision, a major electronics company, is one of the top 300 U. S. Firms, employing more than 20,000 people — 3,500 in scientific, engineering, and technical positions — at 19 major plant locations.



Headquarters building of General Precision Equipment Corp. and General Precision, Inc., Tarrytown, New York.



Headquarters building of Librascope Group of General Precision, Inc., Glendale, California.

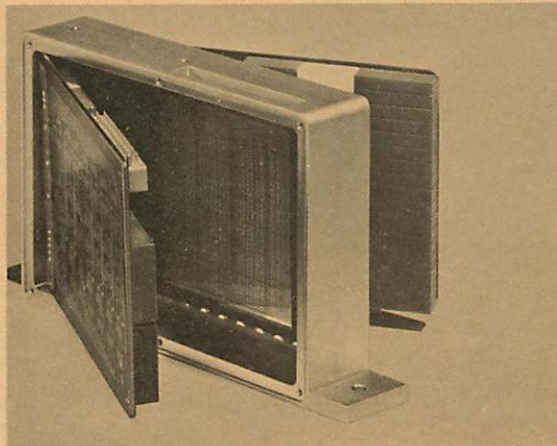
WOVEN PLATED WIRE MEMORIES

Librascope's Woven Plated Wire Memories consist of beryllium-copper wires plated with a thin film of magnetic material interwoven with insulated wires into high-density arrays. Data bits are stored at intersections.

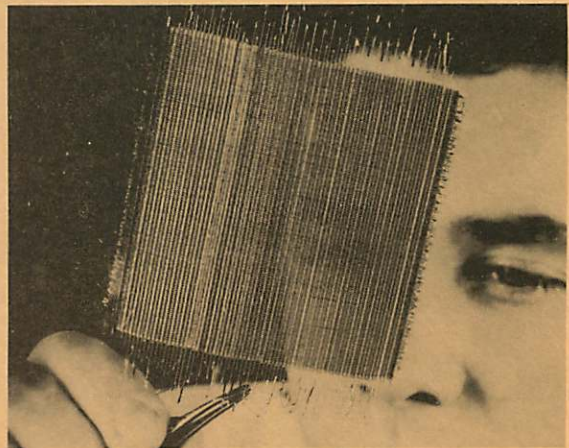
Librascope's Woven Plated Wire Memories provide a new dimension for the design of advanced computer memories for military, commercial, or industrial systems. The woven plated wire memories can be used in virtually any ground-based, shipboard, airborne, or fieldable computer application. They are small in size, light in weight, and modular in construction. They feature extreme versatility, low access time, low power consumption, no self-heating of the memory element, high environmental tolerance, and the choice of nondestructive (NDRO) or destructive (DRO) readout.

Woven plated wire memories are mass produced by an automatic loom. Each memory system can be tailored to the user's exact requirements without sacrificing production economies. Individual arrays, into which the memories are woven, can be made in a wide variety of sizes. As many planes as needed can be stacked to form a memory system.

The woven plated wire memories are equally applicable as main computer memories, as control memories, as scratchpad memories, as buffer storage, or as supplements to other memories.



Model of aerospace computer utilizing Woven Plated Wire Memory.



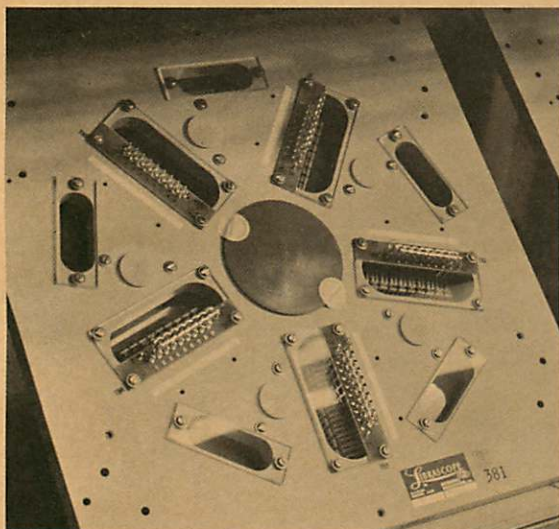
Engineer examines Woven Plated Wire Memory array.

DISC MEMORIES

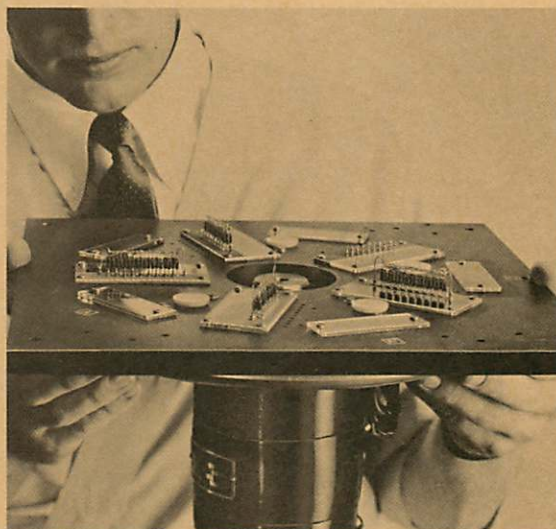
Librascope's disc memories are a family of high-speed, random-access, magnetic-disc memories. They are available in modular military and industrial configurations and range in storage capacity from 30,000 to 200 million bits and up.

The disc memories afford highly reliable data storage, with the unique combination of very fast access and very large capacity. A Librascope disc memory can be used as a computer main memory, as a buffer storage, or as a supplement to other memories. The memories provide virtually unlimited "add on" capability for almost any computer system, peripheral equipment, or other system.

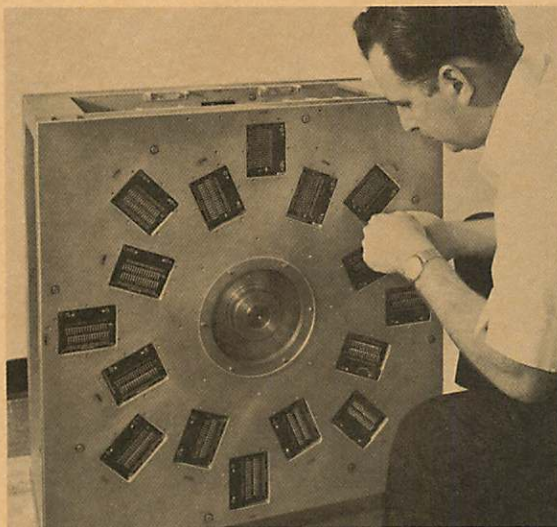
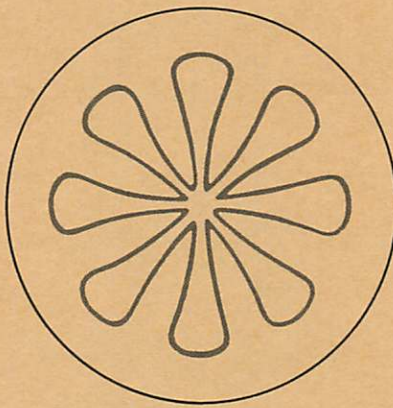
Librascope's disc memories incorporate numerous advanced design concepts, both in rotating elements and in electronics. They are fabricated using the latest manufacturing techniques, highest quality materials, and rigid quality control. The latest models incorporate integrated circuitry.



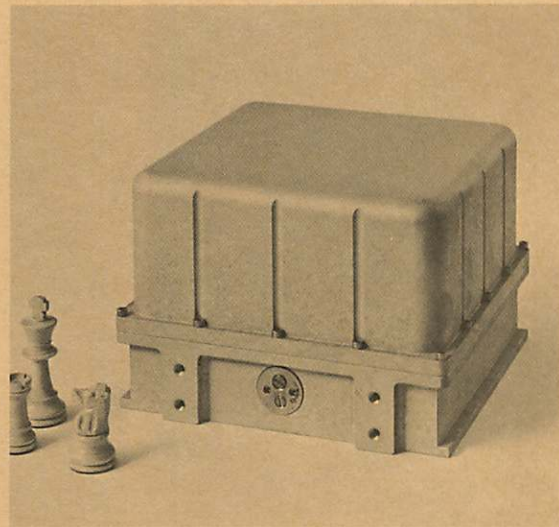
L210 DISC MEMORIES provide the user low-cost disc memories with great flexibility in choice of access time, bit capacities, and number of recording heads. Their modular design permits a choice of storage capacities up to 2 million bits and a wide variety of combinations of recirculating registers and data tracks.



L300 DISC MEMORIES provide inexpensive storage for 30,000 to 667,000 bits. Average access time ranges from 8 to 25 milliseconds. Typical uses are in systems that give quick readings on the status of checking accounts, charge accounts, insurance accounts, automobile licenses, magazine subscriptions, etc.



L400 DISC MEMORIES are high-performance memories with capacities up to 200 million bits. Average access time ranges from 8 to 35 milliseconds. They provide low-cost-per-bit data storage for any commercial or industrial system, particularly when capacity is utilized to the fullest. An automatic head retractor mechanism and integrated circuitry are among the features that contribute to the outstanding performance of these memories.



MILITARIZED DISC MEMORIES are available in configurations to meet virtually any requirements for airborne, spaceborne, shipboard, or fieldable data systems. They provide high-reliability performance in extreme environments, with capacities ranging from a few thousand bits to 50 million.



ENCODERS

Librascope is the oldest, and by far the largest, designer and manufacturer of shaft-position-to-digital encoders. The complete line of more than 250 standard models includes encoders to meet the requirements of practically every military or industrial application.

SIZE 8 ENCODERS, the smallest and lightest available, perform with the same speed and accuracy as larger units, while meeting rigid military specifications.



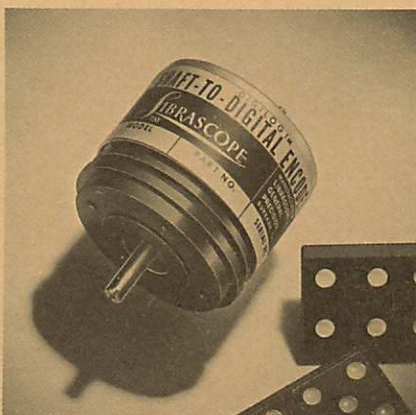
SIZE 11 ENCODERS are used widely in inertial-guidance, navigation, weapon-control, and other military systems.



NATURAL BINARY ENCODERS are available in all the standard sizes, including the widely used size 18.



FAR LEFT:
BINARY-CODED DECIMAL ENCODERS provide an 8-4-2-1 BCD code for applications requiring decimal-coded visual readout such as wind-tunnel instrumentation and machine-tool control.



LEFT:
GRAY CODE ENCODERS are available in sizes 11, 18, and 31.



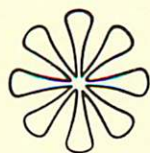
SINE/COSINE ENCODERS provide digital representation of the input shaft's angle functions.



NONCONTACT MAGNETIC ENCODERS meet the high-speed, long-life, and high-reliability requirements of advanced military weapons-control systems.

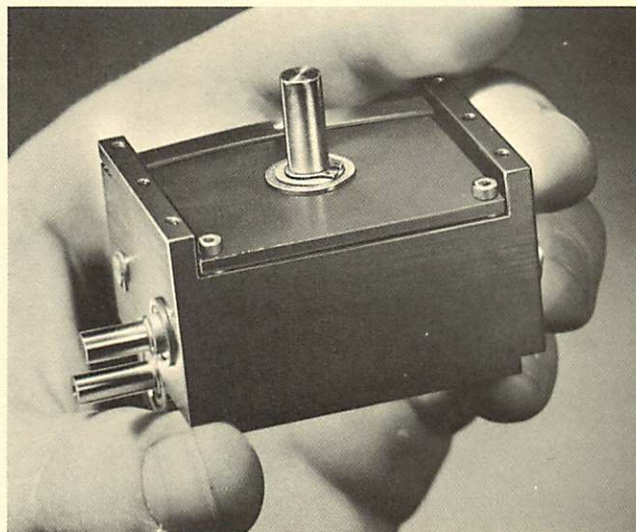
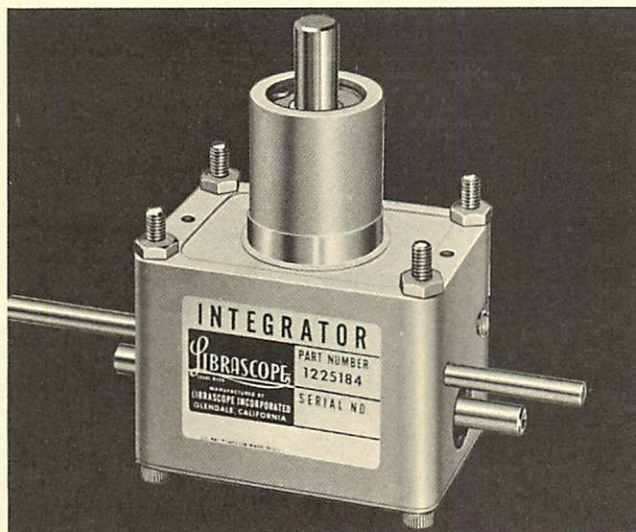


SIZE 11 ALTITUDE ENCODERS, designed specifically to fulfill the aircraft altitude reporting requirements of projects BEACON and AIMS, provide a code structure in accordance with U. S. National Standard for IFF Mark X (SIF)/Air Traffic Control Radar Beacon Systems (STF/ATCRBS). These meet all applicable portions of MIL-C-27889/1B and have become the industry standard for altitude reporting.



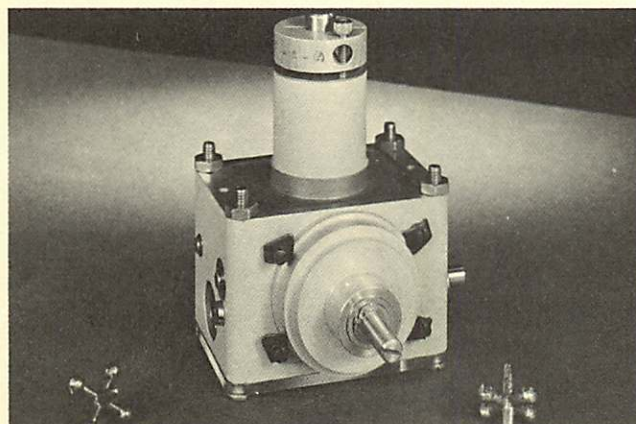
MECHANICAL COMPUTING PRODUCTS

INTEGRATORS



BALL-AND-DISC INTEGRATOR, the standard of the industry, is a reliable, rugged, accurate, versatile instrument suited to the great majority of integrator applications.

MINIATURE BALL-AND-DISC INTEGRATOR offers the same reliability and resistance to severe environmental conditions as the standard unit, yet is less than half the size.

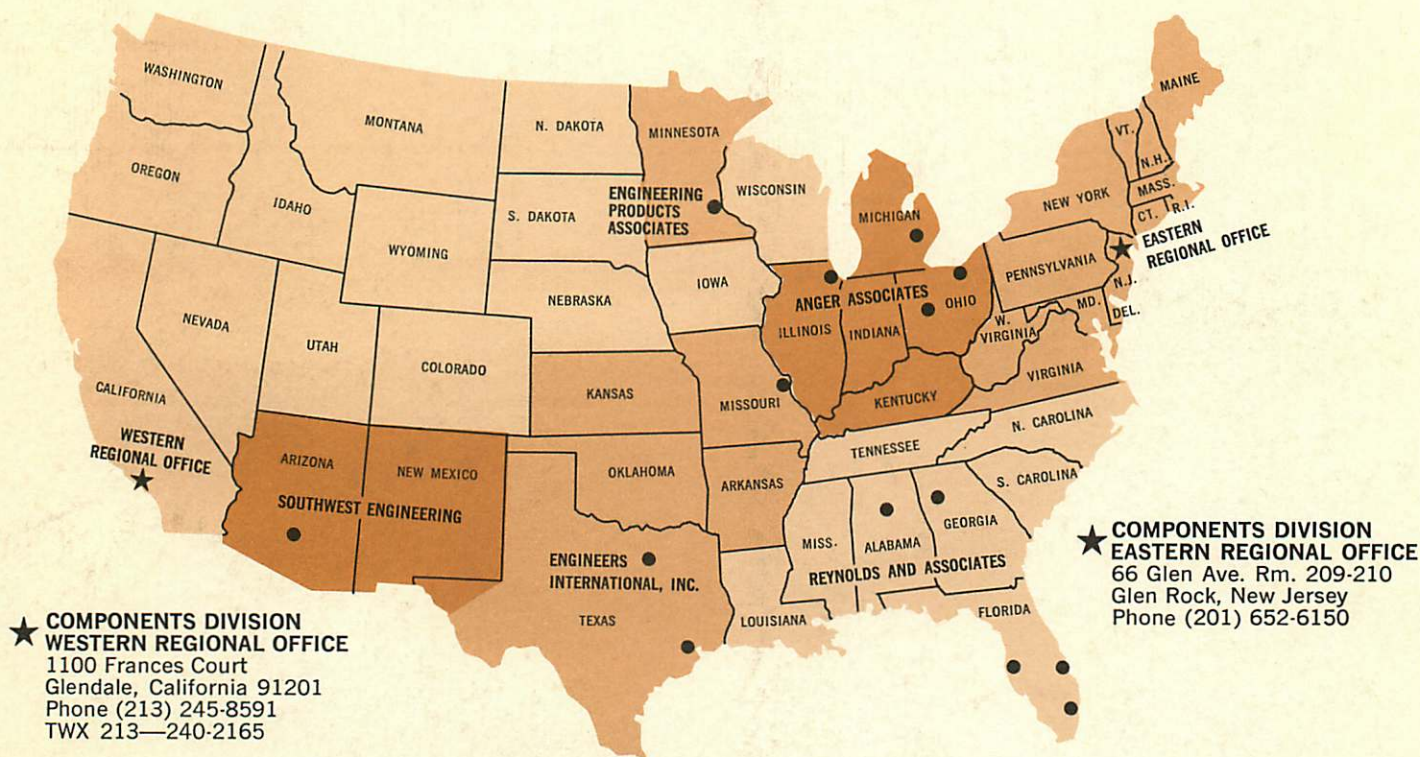


SINE-COSINE INTEGRATOR, incorporating a standard sine-cosine mechanism as the function input to a standard integrator, eliminates many of the mechanical-translation errors inherent when coupling components.

CUSTOM ANALOG COMPUTING SYSTEMS

Utilizing the ball-and-disc integrator as the major component, Librascope specializes in small computing systems, custom-made to fulfill many unique customer requirements. A typical product resulting from this capability is a flow computer which meters the flow of a fluid in pipelines, making corrections for temperature and pressure.

Additional information and detailed specifications on any of the products described in this booklet may be obtained from your Librascope Components Division representative. Librascope engineers always are available to discuss your requirements, and to assist in your application of Librascope products. Librascope's long experience and broad capabilities in the design and production of computers, components, and peripheral equipment afford a reservoir of knowledge that is at your service.



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Phone (214) FLeetwood 2-2666

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Houston, Texas
Phone (713) 405-9246

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Phone (612) 698-5531

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COMPUTER COMPONENTS and PERIPHERAL EQUIPMENT

*woven plated wire memories
disc memories
encoders
mechanical computer products:
integrators
custom analog computing systems*

FOR additional information regarding the Librascope products described in this brochure, please fill out the business reply card below and mail it postage-free to Librascope.



GENERAL PRECISION, INC.
LIBRASCOPE GROUP
COMPONENTS DIVISION

Please send me additional information on the following:

- ☐ WOVEN PLATED WIRE MEMORIES
- ☐ DISC MEMORIES
 - ☐ L210 Series
 - ☐ L300 Series
 - ☐ L400 Series
 - ☐ Militarized
- ☐ ENCODERS
 - ☐ Size 8
 - ☐ Size 11
 - ☐ Natural Binary
 - ☐ Binary-Coded Decimal
 - ☐ Gray Code
 - ☐ Sine/Cosine
 - ☐ Noncontact Magnetic
 - ☐ Altitude
- ☐ MECHANICAL COMPUTING PRODUCTS
 - ☐ Ball-and-Disc Integrator
 - ☐ Miniature Ball-and-Disc Integrator
 - ☐ Sine/Cosine Integrator
 - ☐ Custom Analog Computing Systems

Name _____

Position _____

Firm or Organization _____

Phone _____ Ext. _____

Address _____

City _____

State _____ Zip Code _____

Do you want a Librascope representative to contact you?

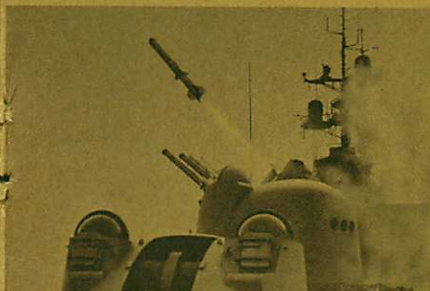
☐ Yes. When? _____

**LIBRASCOPE
SYSTEMS
AND R & D**

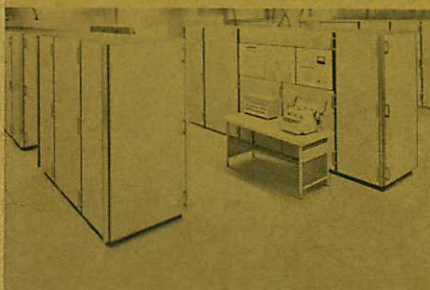
*SUBROC
weapon-control console**



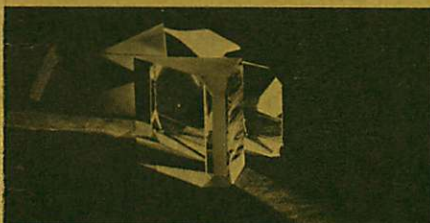
*ASROC missile firing**



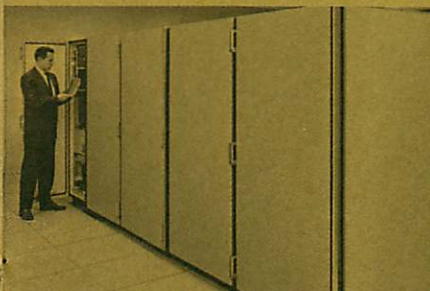
L-3055 data processing system



Optical prism



LIBRAFILE 4800 mass memory



Infrared detector in Dewar



LIBRACOAT display screen



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