COMPUTING the FUTURE

LIBRAZETTE
AN EXCHANGE OF NEWS AND KNOWLEDGE
LIBRASCOPE EMPLOYEES
GLENDALE, CALIFORNIA

Volume 2, Issue 9 — September, 1954

New Librascope Building Is Dedicated

Company History Reveals Rapid Growth, Progress

Librascope today is a sprawling, lusty, growing company, covering 160,000 square feet of space in the city of Glendale, just a few miles from metropolitan Los Angeles, and employing over 1,000 people.

Stimulated by the tremendous growth of that infant industry, electronics, the company is reaching hungrily for more employees, more room in which to breathe, and more space in which to expand.

Although we are now celebrating the recent construction of a brand new, half million dollar building, capable of housing 650 engineering and administrative personnel, company executives already are eyeing the future, foreseeing the not too distant day when additional construction will be necessary.

How is it that in a few short years Librascope has doubled, tripled and quadrupled its size and production? Did the company just grow, like Topsy?

Not exactly. Librascope today is the result of careful planning and much foresight. The whole thing started when a young aeronautical engineer named Lewis W. Imm developed the idea of a balance computer.

COMPUTER NEEDED

At the time Imm was working for the Bureau of Air Commerce, now known as the Civil Aeronautics Authority. He had seen the difficulties resulting from the need for computing the center of balance in loading aircraft, and began thinking of the possibility of a simplified computer for this process.

In 1937 Imm left the government to develop his first "Librascope." The mainstays of commercial air travel then were the Douglas DC-3 and the Lockheed "14". The first balance computer was built to determine the center of balance for these aircraft, and was followed by many more.

There were many difficulties to overcome, not the least of which was a definite limitation of funds. During the early years there were quite a few moves form shops on San Fernando Road, to Gage St., to Tujunga Ave., and finally in 1941 to the plant on Santa Anita St., in Burbank, where the company stayed until 1949.

Also, during the early years, Imm worked for a period of time for Lockheed in the engineering department during the 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 staff consisted of less than 10 people.

COMMON PROBLEM

Early in 1941 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 were available to most small companies.

Faced with this problem, Imm

(Cont. on Page 4)

Everyone's Happy In New Quarters

During the hot days in the middle of August, most Librascope office workers settled comfortably into the fashionable new edifice on Western Avenue, a stone's throw for a file clerk with a good arm from other Librascope buildings.

Everybody moved into the earthquake-proof, air-conditioned building with a smoothness and efficiency worthy of a precision instrument company. The move consumed only a half-day of packing time. However, much careful previous planning went into the move. The comfortable working spaces and special facilities already have made possible greater production with less effort.

The new plant houses the administrative offices, reception lobby, engineering and drafting departments, the financial department except for purchasing, and such related activities as the legal department, master scheduling, sales, and engineering services, including blueprinting, blueprint files, and publications.

SPECIAL FEATURES

The building encloses 55,000 square feet, and boasts such special features as all-overhead fluorescent lighting which delivers 140-foot-candles to desks and drafting boards, wall-to-wall carpeting in executive offices and corridors, and special power supplies for electronic equipment. The arrangement of offices within the building provides for close liaison of workers who must confer frequently.

Office workers and research engineers alike are grateful for the space separating them from Plant Two, because now delicate electronic and mechanical equipment is not disturbed by vibration from heavy production equipment. Shop workers, who now can use the vacated space in Plant Two for much needed expansion, are as happy as the office workers. Perhaps the most pleased of all is the publications staff of artists, writers, and editors, who moved from stuffy and inconvenient temporary quarters in Burbank into the cool luxury of a spacious section in Plant Three.

The new structure is one of the finest office buildings in Southern California. It rests upon reinforced concrete caissons set deep in the ground, so that neither natural settling nor traffic vibrations of any type can so much as crack the plate glass. The inner walls are made of coarse, strong, building brick, and the outer walls of decorative Roman brick. The space between, like the caisson foundation, is filled with reinforced concrete. The archway of the main entrance into the lobby is a solid block of the same material.

ALSO BEAUTIFUL

Though durable and safe construction has been stressed, comfort and beauty have not been slighted. The air-conditioning unit will hold summer temperatures to 20 degrees below those outside, and winter temperatures to 72 degrees even when the weather outside is freezing — which, of course, is an absurdity in Southern California. Walls are painted in pleasing neutral tints of green and brown, and lovely murals and floor mosaics decorate the building at appropriate points.

Safety and security have been considered, too. The new plant, like other Librascope buildings, is protected from burglary by an alarm system and an around-the-clock guard service. A sprinkler system with flow alarms protects the plant from serious damage by flame, and fire exits are plainly marked with recessed, lighted signs to allow personnel to leave safely during a working-hour emergency.

—By Lew Girdler

Welcome

This issue of the Librazette accompanies the dedication and open house ceremonies for our new administrative building. I have had the privilege of watching the company grow to its present size, and to me this building stands as a symbol of the efforts and faith of all of our Librascope employees. On behalf of these employees, may I welcome you as a visitor. May I also extend a special welcome to the people of the many organizations that have, as customers, vendors and suppliers, contributed to Librascope's progress.

LEWIS W. IMM
PRESIDENT

Mr. Imm

Imm Gives Views On Future of Plant

In the next few years the electronics industry will surpass the automobile industry in dollar volume, and Librascope may expand more than seven fold, with a production shop totaling 500,000 square feet.

This was the challenge thrown at Librascope employees at the beginning of the year 1954 by Lewis Imm, president.

Mr. Imm went on to discuss future programs and expansion. He noted that a little over three years ago the total company work force was less than the present size of the engineering department.

"Such growth must continue," Imm said, "if we are going to keep up with the research and development program which is now going on in the electronics industry."

Imm further emphasized the need for overall expansion, with particular reference to the need for all employees to grow as individuals in order to meet the challenge of bigger positions which are sure to be open.

He stressed the number of industries and merchandising fields in which development is moving toward automation. Some of those mentioned were communications, petroleum, banking and retail stores.

Commenting on the possibility that within five years Librascope may expand seven fold, Mr. Imm challenged all employees with the question all of us must answer individually and collectively.

"Are we ready for all this?"

Notice

This special edition of The Librazette differs from our usual publication in several respects. Due to the fact that this issue is reaching many hundreds of people who are not employees at Librascope, we have attempted to keep our news stories in the general interest category. It is our aim to tell the readers about Librascope, what it does, what it has been in the past, and what we hope for the future. Several of our regular features, concerned with news and gossip about people in the plant, have been deleted. They will be resumed in the next issue of The Librazette.

Families, Friends Inspect Facilities at Open House

September 19, 1954 marks the first open house at Librascope in many years. The confidential nature of the products normally makes it extremely difficult to allow visitors in the plant, but this weekend all plant facilities have been readied for inspection by employees, their families and business acquantances of the company.

This special issue of the Librazette contains stories that we hope will give you more information on the company, and we hope that it may also serve as a program for the open house, as well as an example of our company newspaper.

TYPICAL WORK

As you go through the various departments in the company, you will find exhibits which typify the work being carried on. Once again security reasons may make it difficult to explain our products completely, but we think you will find them interesting.

One of the things which has been characteristic of Librascope is growth, and you may notice signs of this in your travels. There has probably never been a time in the company's career at which some new construction or expansion of old facilities has not been under way. The problem of providing for expanding and changing activities has been a constant one for Librascope, and we hope it will continue.

You will find a layout of the company facilities elsewhere in this issue to enable you to locate the various departments. Refreshments are being served during the open house hours at the company commissary (the commissary is one of the facilities which will no doubt be in for change in the near future).

DEDICATION

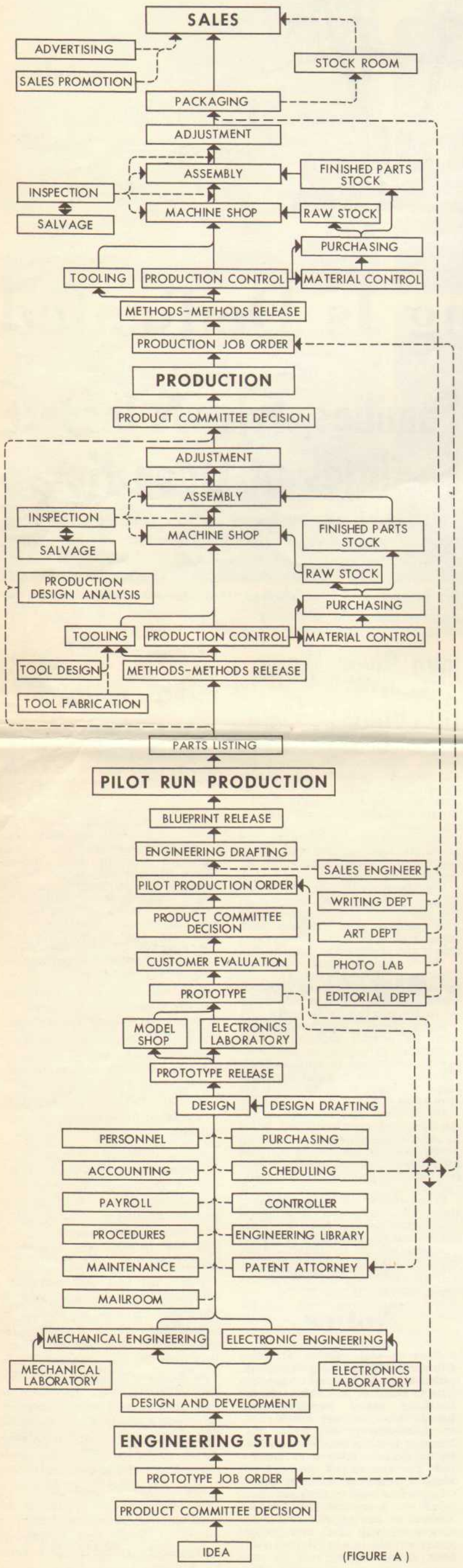
Dedication ceremonies held Friday of this week formally commemorated the new building. Employees, visiting guests and guests of honor heard President Lewis Imm as speaker and master of ceremonies.

Mr. Imm introduced other speakers who have been and are important in any recounting of Librascope's story. Speakers included Mr. Herman G. Place, President of the General Precision Equipment Corporation; Mr. Hall Hibbard, Vice President of the Lockheed Aircraft Corporation; and Captain F. C. Manville, Naval Inspector of Ordnance, Naval Industrial Reserve Ordnance Plant of Pomona, California.

The dedication ceremony was held in the parking lot facing the new building. After the ceremony guests of honor and Librascope management gathered for a brief celebration.

—By Dick Hastings

Flow Charts Show Procedure



(FIGURE A)

Many Skills Needed to Turn Out Products

One of the most dramatic demonstrations of cooperation utilized in the attainment of a common goal was illustrated by three top baseball players of another decade. Their achievements on the diamond are still recalled in today's sports sections by the phrase: "Tinker to Evers to Chance."

Their perfection of the double play, dexterity combined with desire to achieve, to win, conspired to make them baseball immortals.

The drive to attain a common goal is being daily demonstrated at Librascope, whether on the departmental level, the Major League itself, or on the specialist team level of ambitious players, the basic ingredient for any winning combination. The physical growth, the departmental expansions, and the success of Librascope, Incorporated, as a business, prove that the company is more than a mere pennant contender.

To demonstrate this spirit and how it functions, we have selected a mythical product to tell how it could spring from a scrap of an idea or theory into a useful, finished tool for our economy.

MANY CONTRIBUTE

An idea for a product rarely grows alone. Many people contribute many refinements and many hours to make it workable. A product may originate because of the special needs of a customer. It may originate in a sales department. It may be a vastly needed improvement of another's product. It may come alive on an engineering drafting table or in a mechanical laboratory. But to this idea, once it has been approved and regardless of its origins, flow the strength, materials, and know-how of our entire company.

In the accompanying flow chart, figure **(a)**, a commercial product is followed from the time an idea was conceived and suggested until the product's birth as a complete functional instrument ready for customer delivery. Not all commercial products may follow the exact flow indicated by the chart. A department or group's services may not be required and it will be bypassed. For purposes of fluidity, however, and to point up the necessary employee cooperation required and received at all stages of engineering and production, we will describe briefly each function or individual stage as indicated on the chart.

All ideas for new or improved products are considered by the Librascope product committee and catalogued under three general headings. The idea is good and should be followed up; the proposed project has possibilities but requires further research and study; the suggestion is not feasible. Figure **(b)** illustrates the stages of approval a project must pass in order to meet Iibrascope's strict qualifications.

HOW IT GREW

In the case of a special digital computer, perhaps suggested modifications could double the application possibilities of the instrument. This then is the story of that computer and how it grew.

With knowledge of the company's capabilities and past successes in the computer field as guides, the product committee would recommend issuance of a study job order and forward the suggestions to engineering's design and development group for study and planning.

Keymen in various groups in design and development, familiar with aspects of the project, will study the workability of the suggestions. Several engineers may tackle the problems involved. It is possible that the study phase will be combined with the manufacture of a prototype model. The mechanical and electronic engineering departments will study the facets involved and, through their individual laboratories, proceed to build this experimental model of the computer from the suggestions and theories contributed by department members.

Meanwhile, as the prototype model gradually takes form and proves practicable, other departments initiate their contributions towards the growth of the instrument. Scheduling will follow all phases of the computer's development; the personnel department may find it advisable to procure additional engineers and technicians; the mailroom central files may contain correspondence on like projects that would be useful as reference material; purchasing may be called upon to order new stock; the engineering library may contribute technical information helpful to the project; the patent attorney's office will study the job order to make certain that no patent infringements are being brought about and to examine the patentability of the project or its features.

COMBINED SKILLS

Other departments such as accounting payroll, the controller's office, procedures, and maintenance will also be called upon to make note of the project and to contribute their functions to its success.

As the computer nears the design stage, rough drawings will now be incorporated into corrected design drawings, the physical capabilities of the computer will be better understandable and design and development suggestions will be available for close study. The mechanical and electronic laboratories will have combined their skills to have a working model ready for experimental testing.

Packaging of the instrument within a practical and attractive case continues in the mechanical laboratory, and members of the electronics laboratory add and test the latest components that might further enhance the operational value and longevity of the computer.

With the prototype model and its design drawings now at hand, the computer is thoroughly studied and evaluated. The product committee will now make the decision as to whether or not to continue the project past the design-prototype stages.

After the prototype is built, the computer is introduced to those clients who the sales engineer feels will benefit by its manufacture. Client reaction and suggestions concerning the plotter's applications, its appearance, its coordination with other instruments already in use, such as I B M equipment, are all duly noted. The prototype may be taken to industrial and electronic shows and meetings by the sales engineer in order to compare it with similar developments and to ascertain further its customer appeal. Market surveys may be conducted by the company's agency, its sales department, or some outside activity.

WILL IT SELL?

After the client information has been gained and the instrument evaluated in Librascope's own laboratories, the product committee will decide whether the commercial aspects and features of the computer will make it a successful sales item. This decision is sometimes made easier when it is remembered that a great number of Librascope's commercial products are sold as a direct result of the prototype, with customer orders placed before the instruments have been placed in production.

If it is decided from the prototype that the computer will prove of sufficient merit, the product committee will recommend issuances of a pilot production job order to scheduling. This will authorize the building of a "pilot model" or first finished product, incorporating all revisions. The pilot model must meet all tests and specifications in order that management can best judge its potential as a production item. Production design analysis will be conducted on the pilot model through out its manufacture.

While the pilot production items are being scheduled and engineering drafting is preparing finished drawings for blueprint releases to production, the sales engineer, by utilizing the services of the writing, art, and editorial groups and the photography laboratory, initiates work on brochures containing operating instructions and maintenance specifications. These will accompany the computer when it is prepared for shipment. Catalog sheets and packaging designs are also prepared and studied. Publicity and press photographs of the prototype model are mailed to prospective clients and to trade magazines.

PRODUCTION STEP

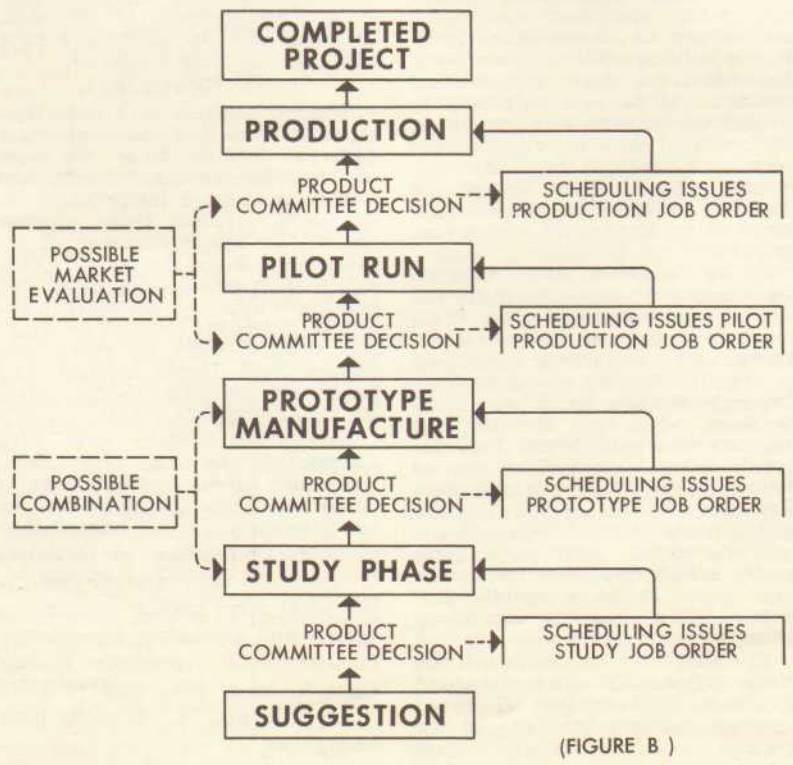
After the engineering drafting drawings have been sent to blueprinting for duplication, filing, and ultimate release, the first step in production is the preparation of the numerical parts listing which is forwarded for the use of members of the methods and the material control departments. A "methods release" authorizes the tooling and production control departments to initiate work on the project.

The tooling department may find it necessary to call upon its tool design and tool fabrication groups to manufacture special equipments for the pilot instrument.

Production control authorization may now allow the machine shop, with tooling's special equipment, to start manufacture. However, because in most cases stock must be purchased for a new project, production control, by using the numerical parts list indicates to material control what special stock will be required. Material control determines the amount of stock required and purchasing acquires the stock, whether finished parts or raw, which is then carried on hand for use by assembly and the machine shop.

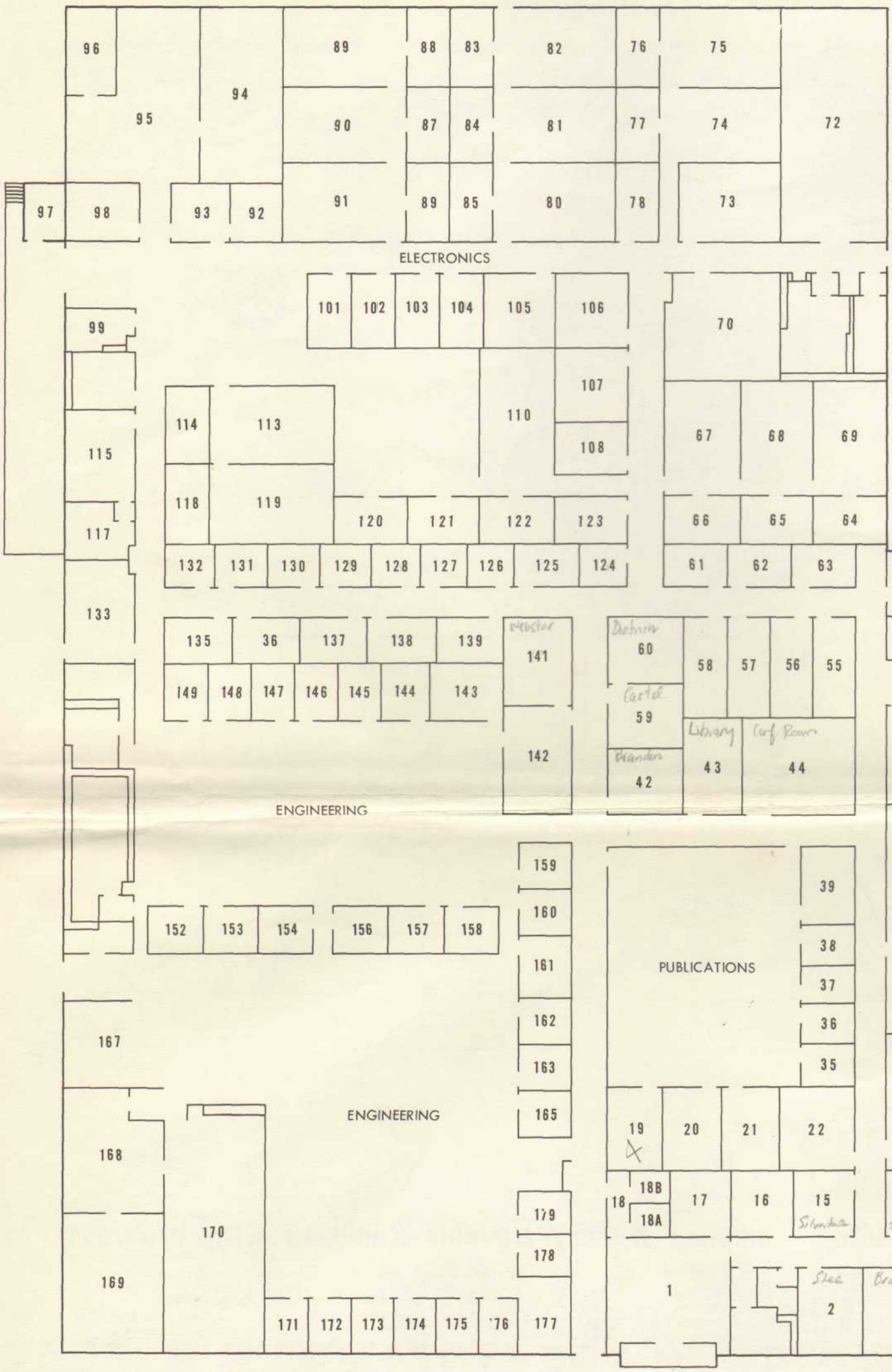
Within the machine shop itself, a large assortment of tools makes possible most machining operations: turret lathes, engine lathes, gear cutters, milling, grinding and boring machines. drill presses, together with the burring, tumbling and degreasing machines in the miscellaneous machine shop.

(Cont. on Page 4)



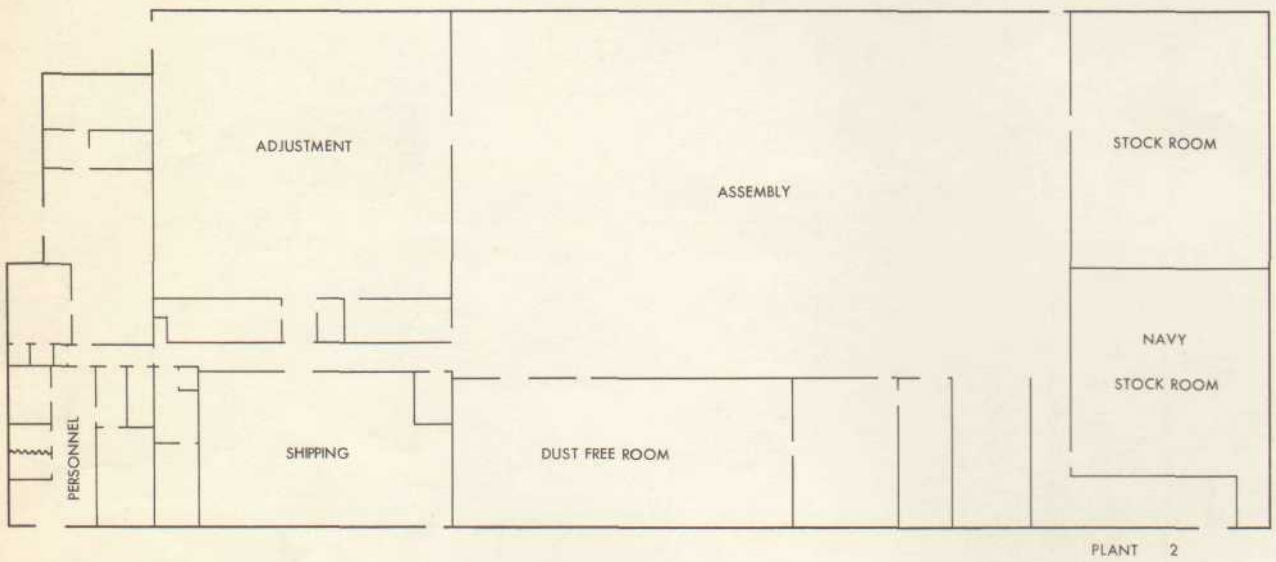
(FIGURE B)

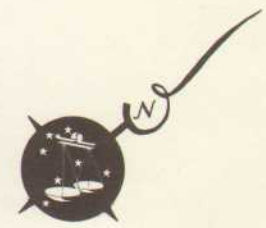
Map and Key Unlock Secret of Maze of Offices, Departments

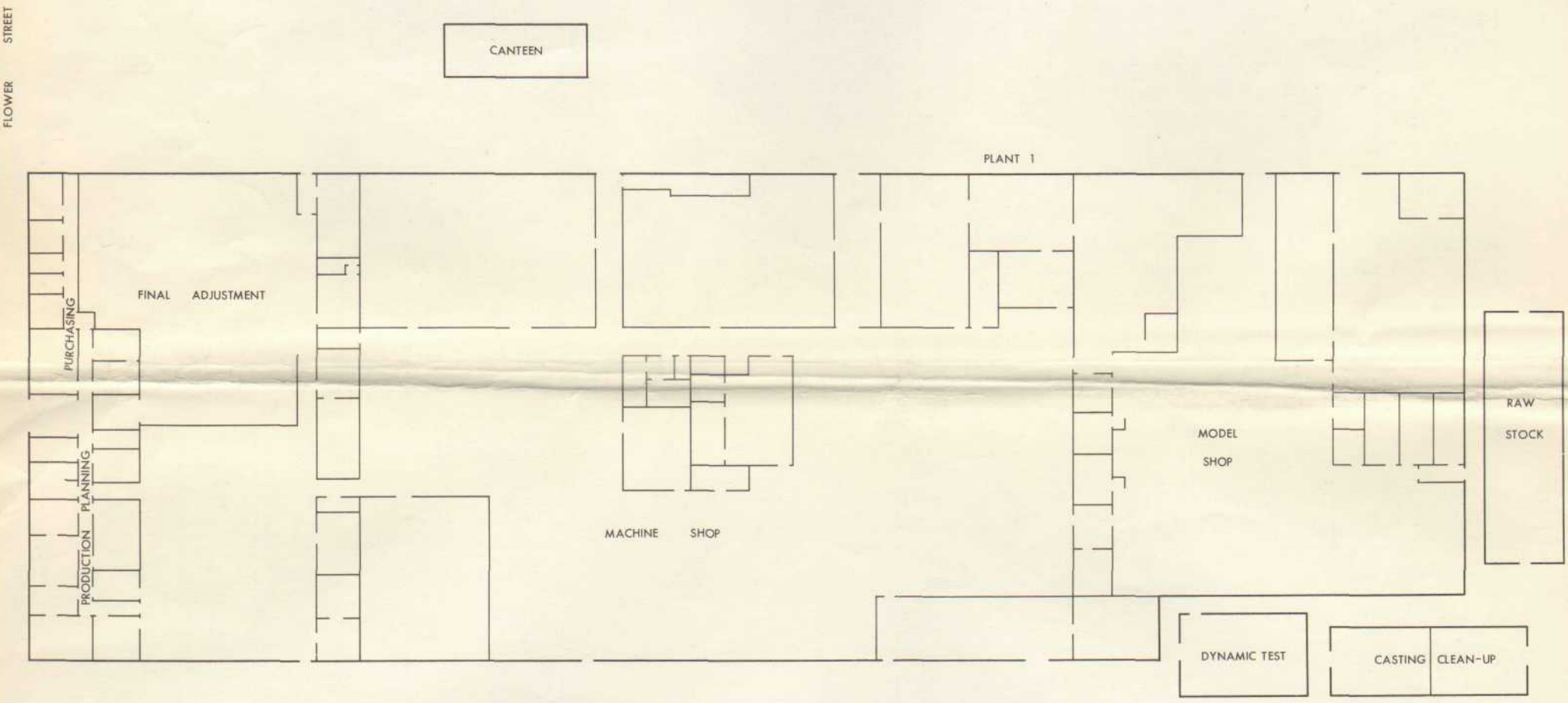


Abrams	105	Chase	86	Goodrich	84	Lindahl	5	Roston	30
Applegate	107	Cloninger	165	Hamilton	126	Magnuson	66	Schultheis	26
Artner	122	Cole	146	Harrison	154	Marson	59	Settles	107
Bates	157	Coltin	138	Hill	85	Matthews	106	Sharpe	33
Barbee	16	Conviser	63	Hiner	38	McAboy	143	Silvertooth	15
Barnett	14	Dahl	22	Hirt	178	McIntyre	139	Singleton	14
Behr	21	Davis, J.	122	Huggins	12	Merkel	163	Spreisterbach	87
Bentley	161	Davis, R.	125	Imm	8	Miller	57	Staats	36
Berglund	120	Davis, W. R.	83	Jacobs	19	Moore	39	Sterrett	65
Bergman	4	DeHaas	160	Jeffery	86	Niles	23	Stevens	11
Bibbero	19	Dietrich	60	Johnson	20	Nixon	24	Swope	9
Bible	139	Duggan	155, 117	Jones	21	Norris	162	Terry	144
Blackburn	128	Ellingson	13	Kazarian	106	Opocensky	92, 93	Tracey	37
Brandon	42	Ettinghoff	101	King	49	Palmer, B.	65	Vinson	4
Bratton	3	Fasola	147	Kirr	149	Perrine	58	Waddell	57
Braun	125	Felts	179	Kleiner	66	Phillips	28	Webster	141
Bryant	108	Fingerett	85	Krill	123	Piatt	62	Welch	105
Buckley	153	Frederick	156	Kroninger	83	Rappaport	36	White	121
Burgess	72	Girdler	19	Larson	148	Reaver	120	Wichman	158
Burgis	159	Gittings	58	Lassagne	27	Retzinger	101	Williamson	124
Case	145	Goldberg	105	Laubacher	37	Rheinhardt	28	Wolman	127
Cass	121	Golove	118	Lehman	176	Rockwell	144	Zemblidge	72
Castel	59	Gonia	20						

Here Is An Overall Plan of Buildings One and Two







Many Skills Needed to Turn Out Products

(Cont. from Page 2)

THOROUGH CHECKING

Throughout the machine shop and following, and throughout assembly and following, the inspection department is at work checking the pilot computer to make certain it conforms in all respects to the engineering drawings. The inspection department also tries to salvage all rejected components.

After the computer is completely assembled it is ready for final adjustment. The flow of work is now temporarily halted on the project until the product committee has had an opportunity to again evaluate the computer, its uses, its engineering, and its production. If all phases of the program are progressing satisfactorily, the committee will then recommend that a production job order be issued. This step will place the computer in full production.

As noted in figure (a) the various steps in the pilot manufacture are quite similar to those which will now be used for the production models. The careful, intricate steps are retaken on a full scale.

FINAL STAGES

Following the completion of final adjustment, the production models are ready for packaging. The packaged computer, plus instruction manuals or brochures, is ready for immediate customer delivery or temporary storage in the commercial products stockroom. The sales department has seen to it that all advertising and sales promotional items conform to a delivery date now at hand.

As complex an operation as the design, the development, and the production of a precision electromechanical product is, it would prove exceedingly difficult to chronicle all primary and intermediate steps in its manufacture or the dozens of individual details that have gone into it. As indicated on the flow chart, it would be almost as hard to pinpoint any department which did not, at one stage or another, have a vital contribution to make, directly or indirectly.

Literally hundreds of hands have helped the computer rise from a pertinent suggestion to a polished, ingenious instrument. It was made possible through the highest possible degree of workmanship, management, and cooperation — cooperation of such complexity as to make a Tinker-to-Evers-to-Chance double play.

—By William C. Tracey

Company History Reveals Rapid Growth, Progress

(Cont. from Page 1)

decided that the future of the company and the needs of the country called for direct action. Accordingly, he determined 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 GPE, which it remains today. Under GPE ownership Herbert Griffin became president of Librascope, and Imm became engineering consultant for the firm.

In the early war years, production at Librascope was predominately on the Mark 7 barrage computer, which was known locally as the LC 6. The Mark 7 computer, like the balance computer, was a manually operated linkage type.

NEW COMPUTER

During the years when the Mark 7 was in production, Imm spent much time developing a new computer, the Mark 4, for anti-submarine use. From 1942 to 1944 he spent many days on shipboard determining requirements for the computer.

In March of 1947 Griffin was succeeded by George Friedl. Imm became chief development engineer and continued with research and development work, which by now was considerably more advanced and complex than in the days of the balance computer.

In December of 1949 Imm returned to the presidency of Librascope. At that time the company was employing approximately 200 people, and the backlog of orders was quite small.

Since that time the growth of Librascope has been rapid. We have continued to design and build fire control instruments for the military forces, and have branched more and more into non-military industrial production. Government contracts, completed or still being filled, have been awarded for attack directors, position keepers, angle solvers, and many other instruments.

COMPLETE SYSTEMS

The company has built many complete fire control systems of interrelated instruments. Construction of many of these devices was made easier by optical facilities and key personnel acquired through the purchase in 1948 of the Brandon Scientific Development Corporation of New York. In 1954 the Minnesota Electronics Corporation of St. Paul, which specializes in building magnetic decision elements for digital computers, became a subsidiary of Librascope.

The fruits of careful planning and long range insight into the developments of the future have paid off handsomely. Librascope today is a research, development, and production organization manufacturing many different products. Physical facilities and personnel have increased to meet the new demands. In five years Librascope has acquired four times as much plant area as it had, six times as many engineers, and eight times as many electronics personnel.

Today the company is one of the major suppliers of precision optical instruments, computers, and gunfire control equipment to the Navy, and is an important source of such equipment for the armed services generally. The company is working toward achieving leadership in the design and production of industrial computers and controls as the nation's industries adopt more automatic machinery.

Basic Computer Components Are Supplied by Librascope

Mechanical and electro-mechanical analog computers utilize a number of basic mechanical computing components in mechanizing mathematical operations. Three such components that Librascope has developed and used in its instruments are the sine-cosine mechanism, the hollow shaft differential, and the ball and disc integrator.

The sine-cosine mechanism **(a)** is employed in computers to generate either the sine or the cosine function of a known angle. It consists of a pinion which meshes with an internal ring gear and rotates on a crank arm. Attached to the pinion is a disc with a pin set in it. When the crank arm is rotated, the pin moves in a straight line path. Thus, when the crank arm is positioned by a rotary input representing an angle, the pin is displaced an amount proportional to either the sine or the cosine of the input. The displacement outputs of the mechanism can be employed to position associated computing components.

5000 BUILT

To date, approximately 5000 of these units have been built. So far as is known, Librascope is the only manufacturer building such a unit for commercial use.

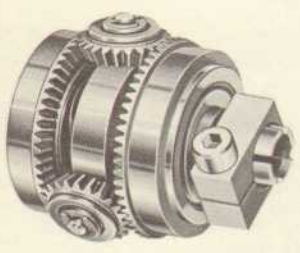
Sine-Cosine Mechanism

The hollow shaft differential **(b)** is used in computers to perform additions and subtractions. It consists of two end gears that usually mount either spur or bevel gears and a shaft or spider, any two of which may be inputs. Assuming that the end gears are the inputs, the total revolutions of the end gears are either added or subtracted, with the output being produced on the spider assembly.

For instance, if one end gear is held stationary, the spider rotates at half the speed of the other end gear. If both end gears are turned one revolution in the same direction, the spider turns one revolution in the same direction.

WIDE ACCLAIM

Features of the Librascope differential, including its low weight and small size, have gained wide acclaim: these are a very low inertia factor, smoothness of operation, and extremely high accuracy.



Hollow Shaft Differential

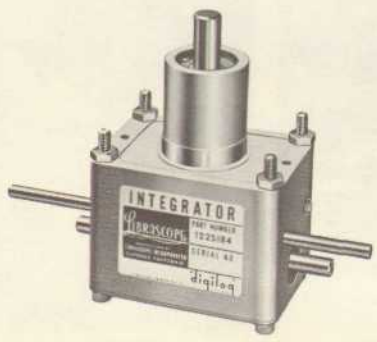
The ball and disc integrator **(c)** is an integrating mechanism for totalizing, rate determination, and differential analyzing. It consists of a disc, a ball carriage that contains two metal balls in a sleeve, and a cylinder. The two balls separate the cylinder and the disc which are forced toward each other by a spring in the disc assembly. The disc of the integrator is rotated by one input and the ball carriage is positioned by another.

The resulting rotation of the cylinder is the output. In integrating **ydx** for example, the disc is rotated so that increments of disc rotation are proportional to increments of **dx.** The ball carriage is displaced an amount proportional to y. The cylinder output is thus proportional to the integral of **y** with respect to **x.**

The Librascope integrator with its small size, low weight, high performance and rugged construction, is a versatile computer element.

DIGITAL COMPUTERS

Recently, Librascope has entered into the manufacture of digital computers and related components. Among the electrical components developed thus far are an analog-digital converter and a read and record head.



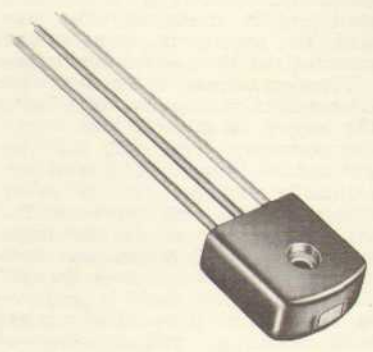
Ball & Disc Integrator

The analog-digital converter **(d)** with its associated circuitry is used to convert mechanical analog quantities into digital form or vice versa without intermediate electrical analog steps. The heart of the converter consists of several etched circuit code discs mounted on rotating shafts. It is possible to adapt this basic design to various numerical codes; thus it is useful for many applications.

Analog-Digital Converter

The read-record head **(e)** was specifically designed for recording or reading on magnetic drum memory systems in digital computers. It features a high read-back signal and a low noise factor.

—By John Laubacher



Read-Record Head

Deadline

Deadline for the October issue of The Librazette will be September 30. All usual columns and articles will be resumed at that time. Please submit all material and photographs to the personnel office. Photographs will be returned only if requested.

Personnel Offers Self-Help Program

Making Librascope a better place to work by helping people realize and use their full potential for their own and Librascope's good is a cornerstone of company policy.

Employees are not merely encouraged to make the best use of their current skills and abilities, but are actively helped by on-the-job training programs and after-hours sessions to prepare them for promotion into better jobs.

An employee who completes classes at local schools or colleges which contribute to his usefulness or advancement is reimbursed for his tuition expenses.

Recent in-plant courses conducted to help employees in their jobs include one in blue-print reading, another in magnetic amplifier techniques.

Supervisors are kept abreast of latest techniques in supervision, human-relations aspects of administration, conference methods, and in using visual aids in passing on new techniques and information to the workers in their sections.

In the shop, a joint apprenticeship committee administers a state-regulated apprenticeship program. Under this system, selected young people in the shop complete a four-year course from which they graduate as journeymen. During the four-year period, they are transferred to different groups in the shop, gaining experience on several types of machines.

Outside courses set up as part of the program supplement this painstaking training while on the job. When they graduate, these journeymen are equipped to hold their own at any machine, in any good machine shop. They are one of Librascope's better and more rewarding investments. And the company is proud of the opportunity to make its contribution to their future.

Promotion from within the ranks is part of company policy. When openings develop in manufacturing positions, the openings are posted on bulletin boards. Employees are given first chance to state their qualifications. Those who qualify are allowed to prove their ability during the trial period at the higher classification.

Keeping all employees informed of the work done by the team, of the part their co-workers perform in getting out the product, building it, handling it, distributing it, or determining the way in which it can best be built, is also a company policy.

Another phase of this policy of keeping everyone informed and hence better able to perform his own job by understanding something about his neighbor's, is the program of the operating committee. Representatives of this committee are selected by function. They meet to exchange information and think up better ways of integrating the operations of different sections of the plant.

By showing its appreciation of employee efforts to improve themselves, and by concerning itself with their welfare, Librascope earns a rewarding dividend in attracting a fine group of people who are building for a better future. People are this company's finest investment.

—By Anna Staats

The Librazette

Copyright 1953 by Librascope, Inc., 1607 Flower Street, Glendale.

This special issue of The Librascope was prepared by the Engineering Services section of Librascope, Inc., and edited by Stan Bibbero. The writing staff was under the supervision of Phil Hiner. Contributing to the special art work in this issue were Paul Kane, Joe Pardo and Pete Maimone, all under the direction of Keith Kinnaird. Photographs were by Lee Duggan and Mavis Desens. Jay Wiltsie was editorial assistant.

Precisioneer Discount Store Very Popular With Workers

Approximately two and a half years ago a Librascope employee, Bud Linsley, established a service of purchasing various items for company workers and their families at reduced prices, sometimes approaching a wholesale cost.

This venture proved so popular with Librascope employees, that soon Bud found he just couldn't handle the volume of business, and turned the whole thing over to the Precisioneers. Today, the Precisioneer Store is a big operation, and provides a full-time job for Eileen Brown, who was hired to act as financial secretary for the Precisioneers.

The general purpose behind the store is to provide employees with an opportunity to purchase items — both in the luxury and necessity class — at reduced cost.

MANY ITEMS

Some of the many items which flow from the store shelves in a steady stream include automatic coffee makers, toasters, broilers, blankets, canister sets, cake plates, radios, dishes, jewelry, golf balls, children's toys and towels. Many other items are either available at the store or can be ordered through Eileen.

Many of these items may be purchased at substantial savings, since the store makes no attempt to show a large profit. It is possible to purchase some high-cost items on a time payment plan, or finance them through the Librascope Credit Union.

Some of the more costly products sold through the store include refrigerators and other appliances. Radios — especially the larger, more expensive jobs — are constantly flowing from jobbers through the store to the homes of Librascope employees.

Eileen puts in much time helping employees select items — such as gifts for husbands, wives or children. She will spend hours in an attempt to purchase at a discount some special item for an employee. One of her continuing tasks is the hunt for reduced show tickets and the making of reservations.

NO RUSHING

Fortunately, it is not necessary to rush out at noon or after work in an attempt to purchase a needed item at a downtown store, since the Precisioneer Store is located right within the company's enclosed area. Eileen maintains office hours to coincide nicely with the worker's free time.

The fact that this service is rather unique was pointed out strongly at a recent meeting of a valley-wide industrial coordinating committee. A representative from Lockheed wistfully noted that a wholesale service such as Librascope gives its employees would be impossible there, since it would just about break every merchant in the area.

When one stops to think of the great number of families living from the proceeds of retail store sales he will know that we who have access to wholesale merchandise are a chosen few.

Landscaping Job Adds Final Touch

"A cake without frosting loses much of its savour" is an ancient maxim which is applicable in many cases. However, it hardly applies to Librascope's new building, now that we are equipped with a well planned, well balanced, artistically and scientifically developed landscaping job.

Designed and arranged in a way to achieve the greatest effect, the tropical decor truly puts the frosting to the cake. Already, the shrubs, trees and other tropical and semi-tropical plants appear as if they had been growing in their present locations for years.

The landscape development firm of R. W. Smith and Co., of Pasadena, used 312 plants, shrubs and trees in creating this masterpiece of exterior workmanship.

Beginning with the planters at the employee entrance, the main entrance, and continuing around the north and west sides of the building, they have used such plants as Helichrysum, Ficus Nitida, Ligustrum Texanum and many more — approximately 40 varieties altogether. The types of trees forming a backdrop for the foliage are specimen palms, ornamental banana, Pfitzer junipers, and tree ferns, interwoven.

In the west plot around the flagpole, not only can be found the above mentioned trees and shrubs, but bamboo, pampas grass, and loquats.

Looking from the windows of the executive offices, one will see Fatshedera, Acanthus, Nandina, Aralia and Philodendron Selloum, just to name a few.

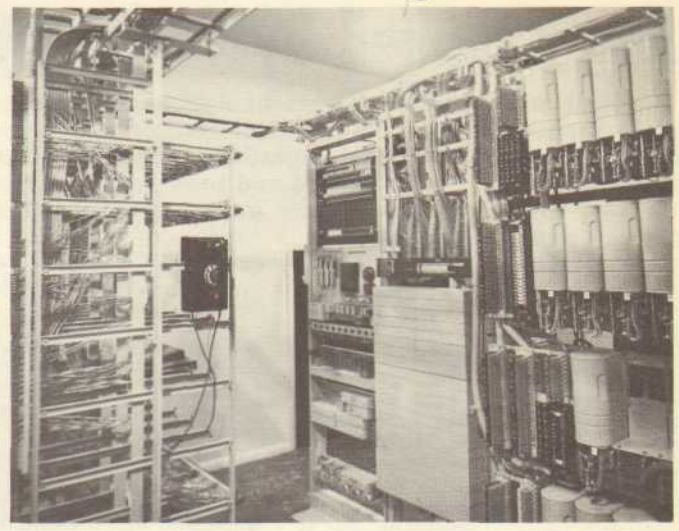
Separating the driveways, in the parking planters are 68 Ligustrum plants, carefully spaced, giving the necessary balance to the overall picture.

If many of the names of these plants, trees and shrubs mean nothing to you, don't despair, they don't mean anything to us either. All we really know is that they make a truly attractive setting for our new building.

—By Bob McCullom

Modern Design, Beauty, Utility Featured in New Building






THE PHOTO MONTAGE shown above represents sample scenes in Librascope's new, half-million dollar administrative building. The picture at upper left is our modernistic lobby, featuring the Librascope trademark worked in mosaic in the floor. The beautiful conference room, upper center, is distinguished by the mural of the Grand Teton range in Wyoming. Shown in the upper right photo is the maze of telephone equipment which gives some idea of the extensive communication system employed by the company. The picture, lower left, represents one of the drafting rooms, while a portion of the blueprint room, looking toward central files, is shown, lower middle. One of the many electronics bays is shown, lower right.

Two Greek Words Give Background For Distinctive Company Trademark

Many Librascope employees, when explaining to friends and acquaintances where they work, are asked this question, "What does the name, Librascope, mean? I've never heard anything just like it."

If you're stuck for an answer, this should help you out, in addition to impressing friends with your knowledge.

This distinctive company trademark and name came from two Greek words, "Libra," meaning 'balance," and Scope, meaning "a means for viewing."

"Libra" is the seventh sign of the Zodiac, according to the astrologers, and ancient mythology established it as the scales or balance. Lewis Imm, president of Librascope, gave this name to his first aircraft balance computor, and then began using it as a trademark for the infant company.

GREEK TRADITION

The Greeks had a tradition that the Balance, "Libra", was placed in the sky to perpetuate the memory of Mochus, the inventor of the system of weights and measures. This was the origin of mathematics and computation, for there was no need to have mathematics before man could weigh and measure.

The ancients attached great importance to the scale or balance being in equilibrium. They recognized the fact that in order to achieve progress as a group they needed harmony and mutual respect for each other. They regarded the symbol of the balance as showing that justice and equality must be in equilibrium.

There are several stories in mythology concerning the creation of the sign of the Libra. The Greeks believed that Libra represented the scales wherein Astrea weighed the deeds of men, and presented them to Jove. The Romans placed the figure of Julius Ceasar in the constellation holding a balance in his hand. He was regarded as dispensing justice. Later the figure of the Emperor was discontinued, and the scales only retained.

TWO MAIN STARS

The scales are represented by the two predominant stars, Alpha and Beta; with five other stars completing the constellation. The fulcrum point is formed by Libra. In the maps of sky paths of the constellations, Libra appears in the summer. The autumnal equinox was once at this period and the length of the days and nights balance at that season.

The constellation is a small one, lying south of the Celestial Equator. It contains no star brighter than the third magnitude, but its chief stars form a four-sided figure, which makes it easy to identify.

Radio Program Sells Company

The personal side of the Librascope story is being presented every morning at five minutes before seven on KABC by Gene Emmett Clark, noted authority on counseling.

Dr. Clark — he recently was awarded his PhD in psychology — tells his Los Angeles area listeners about the many aspects of being a part of the Librascope team that it would be impossible to relate in a limited want ad.

Purpose of the program, which is called "You and Your Future," is to talk about a company that's a little different in its principles, attitude toward employees, and opportunities. He also tells the listeners about the employees themselves, the contributions they make to the community, and their mutual interests.

In turn, the show pays back rich returns by attracting the kind of outstanding people who appreciate a company like Librascope, which helps its employees get ahead.

In recent programs Gene has told how the company gives credit and recognition to those men and women whose efforts contribute to its success. He has related how Librascope offers courses, not only in the jobs workers are doing, but for future and better jobs. He has told how the company encourages suggestions and ideas, weighs them carefully, and acts whenever possible. The atmosphere at Librascope, Clark notes, is one of expansion, personal growth and individual achievement.

Clark also paid tribute to our blood bank account with the Glendale Red Cross Blood Bank. Our account with this bank means we not only give help to one another, but that the 1000 employees will never have to take a drop away from the regular fund at the bank. The full supply will be there when our Glendale neighbors need it.

"You and Your Future" definitely accentuates the positive. When he's not telling others about Librascope, Clark is reminding us of things we tend to forget or take for granted; offering tips on how to make the most of the day's opportunities; how to achieve a proper perspective; and how to forge ahead, whether at Librascope or anywhere.

His subject is about as sure-fire as a subject can get. He talks to us about the thing nearest to all of us — ourselves and our own interests.

Clubs, Sports Popular With Busy Workers

Librascopers are a busy lot, participating in many activities, and belonging to many clubs and organizations. The hub of all this activity is the employee club, the Precisioneers.

The Precisioneers are responsible for most of the entertainment and outside recreation enjoyed by Librascope workers. A well patronized store, offering reduced prices on many household and luxury items, is one of the services offered by this employee group. Vending machines throughout office and shop are owned and operated solely by the members.

The Precisioneers also are responsible for the lunch service. Running the lunch and refreshment counter, which recently has been reorganized, is a trying job, due to limited space and the recent increase in the number of employees.

SOCIAL ACTIVITIES

Social activities promoted by the Precisioneers are many. They go all out on dances, picnics, barbeques and parties — held at regular intervals throughout the year. The Christmas season regularly each year is accompanied by a party for all children whose parents work at Librascope.

The ball teams receive a substantial amount of their expenses from the club's coffers. In addition, the Precisioneers donate trophies for sports competitions held within the company. Bowling, golf, checkers, chess, badminton and marksmanship, to name a few, have known the beneficial helping hand of the club.

The Precisioneers is a democratic organization, with officers elected each year. This year the members chose Bob Jewett as president, and Bob has been most attentive to every detail of his job. Incidentally, the Precisioneers is a completely self supporting organization.

This year's softball clubs are upholding Librascope honor on the field of battle. The day shift team, the Precisioneers, took second place in the Industrial Valley League, under the able leadership of "Moe" Lehman. The night shift team came up with a first place in the playoffs to take the penant. Paul Wilson can take the bows for piloting his boys to victory.

BOWLING FANS

Two leagues keep the bowling alleys busy when the winter and summer leagues practically overlap on their respective schedules. Don Cady was named president of this year's teams, and turned in a good show. A turnout of about 70 members is expected this year, with the signup being conducted now for the 1954-55 winter league.

Mention should be made of the Librasports, with attendance being the largest of all activities within the company. The club was organized in May of 1954, and was primarily designed for the advocates of chess and checkers. But the meeting rooms are also adjacent to the table tennis and badminton courts, so it was thought that these sports could be enjoyed at the same meeting. Meetings are held monthly, and medals of achievement are given to each winner. The holder of the most awards at the end of the season is awarded a permanent trophy. Joseph Leonardi, who is responsible for originating the club, was elected chairman.

AID FOR NEEDY

Librascope's philanthropic organization is the Aid Club, which has donated thousands of dollars to the Community Chest, Red Cross, March of Dimes and other charitable organizations throughout the year. Employee membership in the Aid Club is very high. This club also aids many company employees who have had a streak of bad luck. A recent installation of officers finds Roy Dimon in the president's chair.

The clicking of camera shutters and the flash of bulbs is an ever increasing topic of conversation about the plant these days, as the Shutter Clique, local camera club, warms up for the current vacation photo contest, open to all Librascopers. Some most welcome prizes are on tap for the winners. Corey Davis is president of this club.

The Librashots is a recently organized club devoted to marksmanship. Rifle and pistol lovers meet twice a month to discuss the latest in care and maintenance of their pieces, and of new developments in the realm of firearms. Paul Litvinoff is head of this group, and seems to be the best shot. At least, he won the last trophy given. The Librashots hold a shoot every three months.

GOLF IS POPULAR

The Golf Club yearly draws some 50 to 60 linksmen greenward to play in a contest designed to frustrate all and give the plant something to talk about for weeks. Carl Culver is chairman of the golf committee. Ed Sullivan recently took top honors in the initial play, and now everyone is waiting impatiently to see who wins the Calcutta Playoffs.

One of the most recent Librascope clubs is the Wanderaires, made up of several flying enthusiasts. New members are being recruited, and it is planned to purchase and maintain an airplane for the group. Members estimate flying costs will be reduced at least one third through ownership of a plane.

Sports car enthusiasts at Librascope also have recently formed an organization. They plan soon to hold a driving contest, where the emphasis will be on skill rather than speed.

—By Charles L. Snell

Picnic

Because this paper was already in the printing plant at the time of the annual summer picnic, it was impossible to cover the story. However, the editors hope all concerned managed to eat and drink well, play hard, and suffer no ill effects that a glass of bicarb couldn't cure.