

Volume 4, No. 5 **Royal Precision Plans Picnickers LGP-30** Promotion **Application Engineers Are Transferred to Royal-McBee**

Production has started on Librascope's general purpose com-puter, the LGP-30, at our Burbank facility, and the LGP-30 engineering applications group has been transferred to Royal-McBee.

These moves mark the culmination of six months of planning by L. S. Crandall, president of Royal Precision Corpora-

GPE Stockholders OKay Plan to Acquire Graflex

Graflex, Inc., maker of the famous Speed Graphic camera and other quality photographic equip-ment, will be the newest General Precision Equipment Corporation subsidiary, as a result of GPE stockholder approval of a charter amendment at a special July 10 meeting.

GPE stockholders approved an increase of authorized shares of preference stock to 1,500,000 from the present 25,000 and the author ized common shares to 3,500,000 from 2,000,000.

Mr. Herman G. Place, GPE president and chairman, said the acquisition will involve an issue of approximately 60,000 shares each of preference and common shares. These shares will be ex-changed for Graflex stock at a mutually agreed on exchange rate mutually agreed on exchange rate. Remainder of the shares will be available for corporate purposes, Mr. Place said.

Mr. Place said. Graflex, a Rochester, N. Y. firm, is an old and respected name in the field of still photography. Mr. Place said in a message to stock-holders that Graflex business complements that of certain GPE subsidiaries. He stated that the Craflex management and person. Graflex management and personnel would be maintained when the acquisition is effected, a policy that GPE has followed since it began its diversification program after World War II.

The report quoted Graflex net sales for 1955 at \$11,310,000 with

tion, whose organization will handle LGP-30 promotion.

As announced in a previous is-sue of the Librazette (Jan. 1956), Librascope will produce the LGP-30 while Royal-McBee will have responsibility for its sale.

10 Scheduled for 1956

Ten computers are scheduled to be completed during the remainder of 1956 and work will be started on a second lot for deliv-ery in early 1957, according to Dick Hastings, Burbank manager. The applications engineers (Continued on Page 2)

Will Revel August 25 "Something for everyone"

Published B LIBRASCOPE, INCORPORATED GLENDALE, CALIFORNIA

July 1956

could well be the motto for this year's annual Librascope picnic as the Precisioneers go ahead with their plans for a bigger and better than ever outing.

Sunland Park, just off Foothill Boulevard in the Sunland-Tujunga area, is the site. Saturday, Aug. 25, is the date. Festivities begin at 10:30 a.m.

Jack Nelson, production control, is lining up a topnotch fun and frolic program which should send everyone home in a happy state of exhaustion.

For the children, there will be free pop, ice cream and cotton candy, plus rides galore on the Park facilities. Jack is also plan-ning novelty games for the young-sters which he promises will fill own idle moments they may have

For the grownups, there will be plenty of five cent beer to quench the thirsts raised by the free pretzels and the contests and games Jack is scheduling.

care and treatment of those

afflicted by crippling disease, and for many other worthwhile objec-

The new plan was formulated

by Aid Club committee members in office prior to July 1. Terms of

four members expired on that date. They are Jewett, Don Derrington, engineering; Reggie Moore, model shop; and Ross Ha-

zeltine, optical assembly. Members

whose terms in office will expire

Dec. 31 include Vi Tarbell, ac-counting; Bob Somerville, engi-

neering; and Thole Isebrands and

Ed Grossman, machine shop. Ray



CLAMP PRODUCTION IS in high gear at Librascope as a result of standardized design and increased emphasis on tooling. One of the key tooling fixtures in the operation is the splitter designed by Roy Dimon (left). Center is John Delle Fave, tool design supervisor. The operator is Libravet Lillian Petrach. (Photo by Duggan)

New Fixtures Step Up Shaft Clamp Production

"Standards are everybody's business," says Dave Harrison, Standards Group supervisor, and a lot of Librascope employes, from tool designers to field service engineers, are beginning to agree with him.

Take a simple thing like a shaft clamp. We've made them by the thousands, in a variety of designs. The trouble was,

we never made enough of any one design to warrant extensive tool-ing. Consequently, production was low and cost high.

low and cost high. Following several minor crises in clamp production and use, the designers and engineers sat down and took a good look at the situa-tion. The result was that we standardized on the production of two clamp designs where several two clamp designs where several, in a variety of materials and tol-erances, had existed before.

Production Up-Cost Down

The new designs feature a split type construction which facilitates installation in already assembled instruments. The new clamps require more machining operations, have more finished surfaces and the same close tolerances; yet can be produced many times faster, at lower cost, and with far fewer re-jections than previously.

Two things combined to effect this revolution in clamp produc-tion at Librascope. First, standardization of design permitted longer runs and, consequently, more emphasis on tooling. Second, the split-type design could be produced using relatively simple tools and fixtures.

Once the engineers had agreed on the design, the problem of tooling up for production was passed on to our tool design section.

tion. It's the Key Key item in the mass produc-tion of the clamps is a splitting fixture designed by Roy Dimon and built by Wally Small. Mount-ed on a standard Cincinnati hori-rontal milling machine the fixzontal milling machine, the fix-ture is air-powered, hydraulically controlled, and electrically actuated. As a safety precaution, volt-age to the two micro switches which control action of the hydraulic cylinder has been stepped down from 115 to 10 volts.



... clamp tapping fixture

In operation, the splitting fix-ture functions much like an auto-matic pistol. The operator, whose main duties involve turning the machine on and keeping it loaded, fills a cylindrical magazine mounted on the fixture with clamps to be split.

In its forward cycle, the fixture picks up a piece from the maga-zine, clamps it in position, carries it to the cutting position where it is split into two identical halves by a 0.030-inch thick saw, ejects the pieces, then returns to pick up a new part.

Day's Work in an Hour It repeats this operation 20 times a minute, turning out in excess of 1100 clamps per hour, a figure representing almost a full day's production using previous

Aid Club Will Poll Members To Determine Fund Allocation Officers and directors of the Librascope Aid Club are plan-

ning to ballot all Aid Club members to determine allotment of funds to the various recognized charities, Aid Club President Bob Jewett has announced.

tives

At the same time, they are planning a drive to boost employe participation in the Aid Club program from its present 72 per cent of all employes to a 90 for relief from suffering and want,

per cent or better figure. Balloting of members to deter-mine Aid Club funds distribution constitutes a major change in the approach to the problem, Jewett pointed out. In the past, the Aid Club committee has had full re-Club committee has had full re-sponsibility for fund allocation. The only exceptions were those funds earmarked for a specific charity by members. Under the new set up, the re-sponsibility for allocation of Aid Club funds will rest directly with the members.

the members. The plan, as outlined by Jewett,

will provide for yearly balloting to determine Aid Club fund dis-tribution. Funds will be allocated according to the following schedr cent of total for assisting Librascope employes where need has been established; 70 per cent of total to be alloted to major charities as determined by the balloting; the remaining 10 per cent held as a reserve for unanticipated community needs arising during the year. Balloting will take place Thurs-day, July 26. The ballots will list approximately a dozen major charities. Voters will rank these charities in their personal order cf preference. Percentage allotments to the various charities will then be calculated based on this preferential voting. Provision has been made for writing in any additional charity the voter may wish. Those of you who do not now belong to the Aid Club but are willing to join can indicate your desire to do so in the place pro-vided for in on the ballot. The buck or so a month you contrib-ute will never be missed by you (don't forget it's a tax deduction). But your dollar, added to hun-dreds of others, will provide vitally needed funds for medical research,

profits of \$336,000. GPE's net sales for the same period were \$133,-338,000 and net income was \$2,-513,000.

Buseth Appointed Production Manager

W. E. Bratton, vice-president, operations, has announced the ap-pointment of Harlan Buseth, factory superintendent, to of Production Manager superintendent, to the post

In his new capacity, Harlan will be responsible for the Machine Shop, Assembly, Adjustment, Methods, Estimating, Tool Design, Tool Room, Machine Maintenance and Production Control.

The Quality Control and Op-eration Analysis departments will continue to report directly to Vice President Bratton.

Don't miss Librascope's "You and Your Future," broadcast Mon-day through Friday at 6:55 a.m., over radio station KABC. McDonald, personnel, is a perma-nent, non-voting member.

(Continued on Page 4)

Golfers Tee Up for 8th Annual Tourney

Librascope golfers, their games sharpened by several rounds of match play and their handicaps pared to the bone, tee off Sunday, July 22, in the eighth annual Librascope Golf Tournament.

This year's affair, like last year's, will be held at the Fox Hills Country Club. Dinner, the awarding of trophies and prizes, and the Calcutta auction will follow the activities on the course.

As in past tournaments, golfers will be taking dead aim on the President's Cup, donated each year by Librascope President Lewis W Imm. Last year's winner, Andy Lee, adjusting, will be back to defend his laurels, but he'll have to do it with a couple of strokes chopped off that 36 handicap he sported then.

Last year's low gross winner, Kenny Gowan, is no longer with us and any one of a dozen Librascope golfers looks capable of stepping into Kenny's shoes. Based on their play in league competi-tion, Walter Jobe, Burbank di-vision, who walked off with the Calcutta; Bob Somerville, engineering-shipboard, erratic but tough at times; Bill McAboy, engineering-administrative, a real rugged competitor; Forrest Mc-Coll, adjusting, bad back and all; or Bill Newman, model shop, could win it all.

The Whiffer's Trophy, presented to the 36-handicapper who shoots the best gross score, is up for grabs now that Art Curley, timekeeping, has abdicated.

In addition to the trophies, the

golf committee, headed by Ed Sul-livan, operations analysis, has come up with a number of fine merchandise prizes. Many of these will be purchased with funds donated by the Precisioneers, the official tournament sponsor. Others were obtained through the efforts of Walter Jobe, Burbank division, and of Marsh Cowan and his boys in the Purchasing Department.

There will also be a number of special events prizes-golf balls in most cases - whose presentation should enliven the evening.

Tee-off time for the first foursome is 11:00 a.m. Ed Sullivan asks the cooperation of all golfers in teeing off promptly and keeping the play moving. Keep your heads down, come out swinging, and we'll meet you on the 19th.

Page 2

PREPARATION AND MAINTENANCE of Standards designed to increase our operating efficiency is the responsibility of the Standards Group. Under the supervision of Dave Harrison, the Group prepares and issues standards applicable to Librascope products and procedures. Current emphasis is on the preparation of standards in the areas of drawings and specifications, where misunderstanding or misinterpretation has existed in the past. Group members are (seated, 1. to r.) Lynn Fortina, secretary; Vern Mayclin, and Jim Kay. Standing (1. to r.) are Vern Crooks, gearing specialist, and Supervisor Dave Harrison.

Work of Standards Group Important to All of Us

By MYRTLE GROSS Librazette Staff Reporter

What is the master key that unlocks the door to mass production? If you were to query one . . . a hundred . . . or a thousand production experts on this point, the answer would be an unvarying "Standardization."

The benefits gained from standardization are most appar-entin mass-produced items such as automobiles, appliances

and clothing. Equally important, though less tangible, benefits can often be gained through stand-ardization in areas where mass production techniques are not al-ways applicable to the complete item.

Use Similar Parts

This is the case at Librascope, where our production is normally limited to a relatively few units of a particular instrument. In many instances, however, our in-struments use similar parts and components. These parts may dif-fer from one instrument type to particular in the parts are parts in the parts of the par another in tolerances or materials

only. If standardized parts and com-If standardized parts and com-ponents could be agreed upon which could be utilized as "build-ing blocks" in existing and new instrument designs, substantial savings could be effected in pro-duction and components could be stockpiled for future use. Valuable work in this and in

Valuable work in this and in related areas is being done right now by our own Standards Group. The Standards Group, supervised by Dave Harrison, prepares stand-ards applicable to Librascope products and procedures and assists in preparation of standards for other GPE affiliates. Its mem-bers include Vern Crooks, Jim Kay, Vern Mayclin and Lynn Fortina

Provide Common Language

Standards, according to Dave Harrison, can help us in many ways. In the area of drafting, for example, they can provide us with a common language. Drawings produced in accordance with the Standard will be uni raiting form in format, call out, and style no matter which draftsman prepares them. Designers, by following Design Standards, will avoid duplication of effort and will be able to devote a greater share of their time to new and special areas of design. Shop Standards will supplement the blueprints and will spell out standard shop techniques and requirements applicable to production.

THE LIBRAZETTE

Payroll Computation Simplified by IBMs

Royal Precision

(Continued from Page 1) transferred to Royal-McBee are Fred Flannel, Bud Hazlett and Jack Behr. These men will form the nucleus of the LGP-30 Application Engineering staff. In addition to furnishing assistance in organizing and managing the LGP-30 program, these men will help recruit and train additional applications engineers.

Ultimately, applications engi-neers will be located in three key locations—one group locally, a second probably in Chicago or vicinity, and a third on the East Coast.

Royal to Contact Customers

Present plans call for Royal-McBee to utilize its more than 300 sales offices throughout the coun-try and its many highly experienced McBee systems men to pro-vide the initial contact with po-tential customers and to alert the various industries and agencies on the existence and potential of the LGP-30.

These contacts will be followed up by the applications engineers. The engineers will analyze specific requirements of the customer, will determine programming methods and will make recom-mendations as to accessory equip-



The grey machines arranged in functional array around the room were quiet now, their complex operations tempo rarily interrupted.

The program boards, wired and ready for their jobs of directing the machines in their appointed tasks, were stacked neatly in their respective slots.

The master card decks, their libraries of coded information virtually untapped, lay row on row in their file drawers.

This was the scene as we vis-ited Pete Mobley in Librascope's new IBM accounting facility the last week in June. Pete, the IBM supervisor, made it clear we were witnessing a scene which prob-ably wouldn't be duplicated again during working hours.

Time Cards First

The new facility officially went into operation June 25 when it took over preparation and pro-cessing of all Company time cards. With that operation underway and running smoothly, Pete and big group were ready for the sec. his group were ready for the sec-ond step in the IBM program, that of compiling and printing Librascope pay checks.

IBM-computed pay checks made their first appearance July 12. Be-fore they did, the facility had completed a week-long trial run completed a week-long trial run which included all phases of the operation up to the actual writing of the checks. The results were then checked against those ob-tained using the existing system. This involved checking the IBMcomputed gross and net pay and deductions together with the code and classification for every Libra-

Score of Employes Promoted in June

The Librazette wishes to conratulate the following Libra-scope employes who received pro-motions from within during the month of June:

Engineering—Airborne James Fallet promoted to electronic engineering associate. Frank Olson promoted to elec-

tronic engineering associate. John Walter promoted to elec-tronic engineering associate.

Engineering—Commercial A. J. Pankratz promoted to electronic engineering associate.

Carroll Schramling promoted to electronic engineering associate. Eugene Steen promoted to elec-

tronic engineering associate. William Reinholtz promoted to senior engineer.

Engineering—Shipboard Andy Huot promoted to elec-tronic engineering associate.

George Markham promoted to senior electronic technician. Richard Roepke promoted to electronic technician.

Engineering-Special Devices

Robert Bishop promoted to op-tical engineering associate. Don Lusk promoted to electron-

scope employe against the manu-ally compiled payroll.

July 1956

ally compiled payroll. Pete Explains It We asked Pete to give us a run-down on how the new system operates, and we'd like to pass his information along to our read-ers. Pete explained that the new system consolidates several man-ual accounting functions in a sin-gle area. The operation begins with the IBM cards prepared by four key punch operators after which the IBM equipment takes over the calculation and compila-tion of the payroll and allied ac-counting functions. For purposes of illustration we

For purposes of illustration we created a mythical Librascope employe named Fred and will see how his weekly pay check is com-puted. Fred is a member of the bargaining unit, works on a lathe, and has been a Librascope employe since March 8, 1952.

ploye since March 8, 1952. After Fred's daily time card is received in payroll, an operator key punches the total hours he worked during the preceding day on his time card. This operation takes approximately one minute for each employe. At the same time the key punch operator or-iginates a separate daily job card which tells how many hours Fred worked on a particular job the worked on a particular job the previous day. These job cards are used in cost accounting, the na-ture of which we will go into later.

Pay Rate Is Entered

The next step involves entering Fred's pay rate on his time card. This information is punched automatically at the rate of 100 cards per minute on the IBM 519 Reper minute on the IBM 519 Re-producer from data supplied by Fred's rate card. This card, part of the Master Rate file, lists Fred's name, clock number, de-partment number, Social Security number, rate date, continuous service date and his tax exemp-tions. It also talls whether he is tions. It also tells whether he is a bargaining or non-bargaining unit member, salaried or hourly, male or female.

Fred's card is then placed in the IBM 602A calculator and his gross pay (hours worked times rate) is computed. This operation is done daily for direct labor, weekly for indirect labor. Cards are processed at the rate of 35 per minute.

At the end of the week, Fred's and all employes' daily time cards are arranged in the proper clock and department number order on the IBM Sorter, an operation re-quiring about 20 minutes.

The cards are then placed in the IBM 402 where Fred's gross earn-ings for the week are totalled and printed on a tape. Simultaneously, the IBM 523, which is connected clectrically to the IBM 402, prepares a total card for the week for Fred. These operations require a hour and a half.



The Shop Standards will indi-cate means of starting machining operations to assure that toler-ances on the finished part will be met; will establish finish and tolerance requirements not specifi-cally cited on the drawing, and production details.

More Standards In addition to those standards already called out, the Librascope Standards Group will prepare sev-eral others for Company use. A Materials and Process Standard will provide a record of the mate-rials suitable for our products and of the processes adopted for the manufacture of standard items.

Equipment Corporation set up a Standards Committee to formulate standards for all GPE affiliates. Chairmanned by Adm. S. E. Bur-roughs, Jr., USN (ret.), the com-mittee includes representatives from Librascope, Kearfott, Gen-eral Precision Laboratory, Inter-national Projector Corporation and Link Aviation. Bob Whitcomb, quality control, is Librascope's of-ficial representative on the com-mittee.

mittee. The GPE Standards Committee serves to coordinate efforts of the member companies in establish-ing and maintaining standards common to all GPE affiliates. Through standardizat the inn Committee hopes to increase the operational efficiency of each GPE affiliate and to provide a com-mon language for all.

ment needed.

How It Works

To pinpoint it a bit more specifically, let's use a casting as an example. The Design Standard will specify the material to be used and other pertinent design characteristics such as strength, corrosion resistance, stability, and

The Drafting Standard will define requirements for converting design information into a finished drawing. The Inspection Standard will provide the inspector with a yardstick for judging the rough casting and for evaluating the effect of various defects against the end use of the part.

A Components Catalog will provide standards for such repeat items as clamps, spacer blocks and printed circuit amplifiers used in manufacturing Librascope products, and for salable items such as integrators, sine-cosine mechanisms, plotters, and keyboards.

In cooperation with the Pur-chasing Department, the Standards Group will establish stand-ards for such purchased parts as hardware, resistors, transistors and switches and will assist in compiling sources of supply.

Standard parts and components, whether produced internally or purchased, will be coded to fa-cilitate IBM inventory control.

Formulation of standards, as Dave points out, is a cooperative venture. The Standards Group works with and for the various Company departments in the writ-ing, publishing and maintenance of standards which can lead to higher production at lower costs —a must in today's market.

GPE Standards

Slightly more than a year ago, in May, 1955, General Precision

Store Offers Pre-**Vacation Specials**

Pre-vacation specials are being offered during July at the Precisioner store, according to Man-ager Eileen Brown.

For those of you who plan to enjoy the beauties of nature during your two weeks, Eileen still has some Coleman camping equipment and a few sleeping bags and air mattresses. If you've neglected that anni-

versary or birthday, Eileen has a limited number of select salesmen samples of Elgin-American jewel-These items are a terrific buy at a third off, Eileen tells us.

Our busy manager is starting an electric blanket club. Sign up now and be prepared for the long, cold winter ahead.

ic engineering associate. Robert Nielsen promoted to

electronic engineering associate.

Roy Pedigo promoted to me-

chanical engineering associate. William Pollock promoted to mechanical engineering associate. Ross Smith promoted to me-chanical engineering associate.

Engineering—Administrative Charles Cardea promoted to field service engineer.

Harold Conley promoted to design draftsman.

Earl Crawford promoted to assistant photographer. Ida Sigal promoted to senior de-

partment clerk.

Accounting-Contracts

John Grieshaber promoted to chief clerk.

Personnel

Eleanor Dowdy promoted to department secretary.

Production Control

James Walsh promoted to dispatch coordinator.

Tool Room

Art Olson promoted to tool crib dispatcher.

Net Pay May Differ Fred's total for week card is then placed in the 602A Calculator where his taxes are calcu-lated and deducted from his gross earnings. This operation requires about an hour for all employes. At this point, Pete advised us that Fred may note a slight increase or decreases in his net nay under or decrease in his net pay under the new system. This difference will arise, Pete said, because the 602A Calculator will compute Fred's taxes on the basis of his orthod compute breaks actual earnings, not by income brackets as has been the case.

The Calculator also determines automatically when to stop FICA and SDI deductions for Fred.

The next step in computing Fred's pay check involves as-sembling all Fred's weekly pay-roll deduction cards—U. S. Sav-ings Bonds, Aid Club, Credit Un-ion, Group Insurance, Union Dues --with is earnings and tax card on the IBM 077 Collator, a 20-(Continued on Page 3)

July 1956



AN OVERALL VIEW of Librascope's new IBM facility is shown above. The equipment, installed in June, includes: an IBM Key

Punch (center foreground); IBM 519 Reproducer (extreme left); IBM 402 Accounting Machine, operated by Edie Wrobel; IBM 082 Sorter, with Harry Ewing at the controls; IBM 077 Collator, manned by IBM Supervisor Pete Mobley. Immediately in front of

Pete is a Moore Business Forms Detacher, which signs and separates the pay checks. Partially hidden by the IBM card files in

the right foreground is the IBM 602A Calculator.



TASK OF SEQUENCING cards is handled by the IBM 082 Sorter. As its name suggests, it will sort IBM cards into any programmed numerical order.



NERVE CENTERS of the IBM operation are program boards like the one shown above. These boards tell the machines what to do with the information key punched on the IBM cards.

IBM Facility

(Continued from Page 2)

minute operation for all employes. The assembled cards are then placed in the IBM 402 and the payroll register is prepared. This is a printed report of Fred's earnings, his deductions and taxes, and his net pay. The operation requires an hour and a half for all employes.

Checks Are Run

The information on the register is simultaneously and automatically punched on a separate card by the IBM 523. This card, and his previous week's year to date earnings card, are assembled on the Collator, placed in the 402, and in one hour all pay checks are run.





ONE OF THE most important machines in the new IBM facility is the IBM 602A Calculator shown above. Working from coded information supplied by IBM cards such as those shown in place in the top right corner of the machine, the 602A computes your pay check each week and punches the information on the cards as they pass through the machine. The finished cards emerge in the opening on the left. Directions for operation are wired into program boards such as that shown in the adjoining column. The boards plug into a receptacle located behind the door on the front of the Calculator.

A CALL AND A CALL AND A CALL

Page 3



IBM EQUIPMENT SHOWN elsewhere on this page does its calculating, tabulating and sorting from information supplied by coded cards. These cards are prepared on IBM Key Punch machines by our key punch operators. Left to right, the operators are Evelyn Truelove, Mary Robson, Phyllis Kirk and Anita Lauenstein.



YOUR PAY CHECK is prepared on the IBM 402 shown in operation above. The 402 prints your check and enters the necessary information on the check stub as directed by the program board shown in place on the left end of the machine. Additional program boards are shown in their racks in the left rear.

THE LIBRAZETTE

July 1956

New Converter for Trig Functions Made

Two Librascope engineers, Hank Norris, engineering-airborne, and Wes Stupar, engineering-special devices, have come up with a new analog-to-digital converter that design engineers concerned with angular measurements will find invaluable.

The device, known as the Librascope Sine-Cosine A-D

Converter, was developed for an eastern firm for use in an air-borne radar system. Its applications, however, extend far beyond the use for which it was developed.

Page 4

What's It All About? With so much talk of analog-todigital conversion filling the air these days, we felt Librazette readers might like a non-technical description of what was involved. We asked Wes Stupar, project en-gineer on the Sine-Cosine Converter, to help us out, and here, for your information, is the story.

The term "analog quantity" is given to such familiar physical variables as length, time, voltage or angular measurements. Quantities such as these may be thought of as varying continuously.

We could, for example, measure the distance between two points in an analog fashion by fastening a string to one point, stretching it out between the points, and marking it at the second point.

Depends On the String

Within the limits of the string length, we could measure any distance in this manner. Our meas-urement would then be the length the thing measured, and our accuracy would depend on the physical characteristics of the string—its elasticity, reaction to effects of heat and moisture, and so forth.

A digital quantity, on the other hand, is a numerical variable which has discrete, that is, separate, values in contrast to the continuous values of the analog quantity. In meausring the distance between two points in a digital fashion, we would choose some unit of measurement such as a centimeter or inch and place a number of these units end to end until we came up with the correct length to the closest unit.

Analog measurement requires that we carry a string around with us. Digital measurement requires only that we remember how many units we used and represent this quantity by a number.



Librascope welcomes the following new employes who joined us during June:

E

Accounting

Margery Dillon Assembly

Alice Turner

Engineering—Administrative John Mielkus Dwight Roof Myron Strawn Virginia Wall

Engineering-Airborne Leonard Abrams



... converts trig functions

The majority of high-speed computing machines today use the digital or numerical approach in their design to take advantage of the inherent accuracy and ease of calculation of the digital system. Since most of the quantities measured in the physical world are of an analog nature, we must have a means of converting from analog to digital values and back again. The analog-to-digital converter is one means of effecting this change.

The new converter has specific military applications in the area of range determination. It could, however, be used to advantage to control machine tools or in many other areas where angular dis-placements must be taken into account.

Fred Thiel, engineering-admin-istrative, was the designer on the Sine-Cosine Converter project, and the units produced to date were fabricated in the Model Shop.

Sport Activities

Fishing

Opening Match

Librascope table tennis players, their forehand chops and smashes working to perfection, are branching out a bit in their competitive efforts.

With Jack Klosterman, engineering-commercial, doing the or-ganizing, several local paddle wielders have formed a table tennis team and are scheduling matches in the area.

Their initial match, a practice affair, pitted the Librascope contingent against the Reseda Community Center team at Reseda high, June 5. Unable to cope with the still air and the shots off the opposition's sponge rubber paddles, our team wound up on the short end of a 22-10 score.

Librascope players included Klosterman, Dave Hackett, engi-neering-shipboard; Fred Herbst, engineering services; Frank Hill, engineering-commercial; and Chuck Ramba, inspection.

Indoor practice sessions every Tuesday night have been sched-uled at Olive Recreation Center, Burbank.

Mr. Imm Featured In Business Week

Librascope President Lewis W. Imm and several other Southern California executives were featured in a June 16 **Business Week** article entitled "When Scientists Run the President's Office."

The article, using Mr. Imm and other executives in the electronics field as examples, points up the growing number of businesses being headed by scientists and engineers.

Table Tennis George DuVall is Winner Team Drops Of Hare and Hounds Event

A wily "hare" led Librascope "hounds" a merry chase in the third annual Precisioneers Sports Car Rally June 23.

Libra Sport News

The event, held in conjunction with the Precisioneer Barbecue, saw the hare, Lou Buhler, of Clary Multiplier Corporation, weave a tricky trail from Librascope's parking lot to Newhall's Saxonia Park.

One-half hour after the hare's departure, the hounds pealed off at five minute intervals in hot pursuit. Led by Frank Copple, the multi-horsepower propelled hounds attempted to follow the devious course of the hare. The only clues were a series of lime spots spaced along the way.

Winner of the event was Geo. DuVall, engineering - administrative, whose unerring eye and steady hand enabled him to come closest to the correct mileage and number of turns. He was presented with the first place trophy for his efforts, a handsome clock on a wooden base surmounted by a miniature Ferrari, which was donated by the Precisioneers.



... top dog

Second place was taken by Frank Copple, engineering-admin-istrative, driving an MG. Don

More About IBM

(Continued from Page 3) After the checks have all been printed, they are placed in a detacher (a product of Moore Business Machines) where they are signed and separated ready for distribution.

Last week's year to date card and this week's earning card are then assembled on the 077 Collator, placed in the 402, a year to date earnings report is printed, and a new year to date card is cut on the 523 ready for next week's operation.

Cost Accounting, Too

Cost accounting records are also prepared from information taken 175.00 from Fred's time card. At present 525.00 these records are prepared in two 200.00 areas-labor (or cost) distribu-400.00 tion by job number, and by ma-100.00 At some future chine number date, cost distribution by part 75.00 number will also be obtained for 205.00 accounting purposes, Pete said. 25.00 The first breakdown, that of 50.00 cost distribution by job number, gives an up to the minute report \$ 1,755.00 on actual job costs.

35.00

25.00

25.00



... DCWs and Rick

Webster, chief engineer, tooling his new Jaguar, was the third place trophy winner.

Others competing in the event included the Harlan Buseths, the Walter Leberts, the John Delle Faves, the Rudy Rieders, the Roy Pedigos, Otto Gelormini, Dick Saunder, Rick Girourad (who planned the event) and last (and we do mean last) Jim Fallet.

Jim, it seems, got off on the wrong spoor late in the chase and wound up in the vicinity of Palmdale before realizing his error.

Clamp Tooling

(Continued from Page 1) techniques. Practically speaking, the splitting operation is limited only by the speed of travel of the milling machine carriage.

After the clamps have been split and tumbled to remove any burrs or sharp edges, they are moved to another tool for drilling, counterboring and tapping. Specifically designed for these operations, the tool has permitted a production increase from 100 clamps per hour to 400 per hour.

Librascope tool designers have also come up with an automatic stamping device for part number-ing the clamp halves. The machine is designed around a standard commercial inking fixture. They are also designing a holding fixture which will be used in automatic assembly of the clamps for shipping.

The second breakdown, that of cost distribution by machine number, is a running record of up time for all Librascope machine tools. It will be invaluable in computing machine rental costs and for arriving at realistic depreciation figures.

The third breakdown, that of cost distribution by part number, will provide a current and exact figure on actual parts costs



Canteen Precisioneer Store	2,850.00 6,550.00
Miscellaneous Revenue (sale of tickets)	1,500.00
Total Income	\$12,900.00
xpenditures	
Special Activities	and the second second
Welfare — (flowers, births, weddings, etc.)	1,200.00
Children's Christmas Party	600.00

1956 Precisioneer Budget

\$ 1,800.00

Frank Campbell

Engineering—Commercial Fletcher Gross Gerald Harries

Engineering—Shipboard Charles W. Brown Harold Goldenberg Thomas Kampe Paul Waller

Office Services Judie Johnson

Military Sales Donald R. Welty, Jr.

Publications Carole Beal Evelyn Busch Joseph Herdade Linda Keeman

The Librazette

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	Earl Crawford

Gun Club
Guii Ciub
Colf
Gon
Sport Car
Sport Car
Ain Club
All Club

Basketball

Bowling

Soft Ball

Ping Pong

Llub Activities	
lamera Club	
Bible Study Club	
ibratones	

S	85.00
Social Activities	
Bar-B-Que	1.000.00
Pienie	1,400.00
Summer Dance	480.00
Christmas Dinner Dance	2.000.00

Miscellane Insurance	ous Expenditures	4,880.00 750.00
Operating	Expense	3,500.00
	Total Expenditures	4,380.00

Total	Expenditures	\$12,900
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That, in brief, is the story of the IBM facility to date. The potential of the grey machines has been tapped and the first results are trickling out. As more of this potential is realized, the trickle could become a stream.

Sullivan Team Retains Lead In Librascope Golf League

Competing teams in the Libra-scope Golf League, with half the season behind them, are making plans to dislodge Ed Sullivan's first place Drivers from their po-sition atop the league standings.

Sullivan's front runners consolidated their hold on the league leadership by defeating Forrest McColl's Team No. 2 $8\frac{1}{2}$ - $3\frac{1}{2}$. The loss dropped McColl's Diggers into a tie for fifth.

Tom Ryder's Team No. 1 shot into a second place tie with Bob Berg's Team No. 10 on the strength of a 11-3 shellacking of Bob Somerville's Team No. 6.

Golfers, with an eye on the handicaps they hope to carry into this year's 8th Annual Golf Tournament, scored somewhat higher than they had in previous rounds. Among the better rounds were Chuck Guran's 40 on the Roose-yelt course and Bill Bratton's and Wally Jobe's 42's on the Wilson layout.

Prize for most holes won in the sixth period went to Bill Brat-ton's Team No. 2, who racked up 30 in defeating Arnie Brown's Team No. 5, 8-6.