

Institutional Affiliate of American  
Congress on Surveying and  
Mapping

# The California Surveyor

THE VOICE OF THE LAND SURVEYORS OF CALIFORNIA

NO. 49

CONVENTION

1978

## “Update” in ’78” is Theme for Convention

We cordially invite you to attend the CLSA Convention '78 at the Town and Country Hotel in beautiful San Diego, March 30, 31, April 1, 1978.

This page is to assist you in completing the enclosed registration form and to provide you with some additional information about the convention.

You will notice that the registration form has three pages. The pink copy is for you to keep for your records and the white and yellow are to be returned with your registration fees. We request that you print or type the information part of the form and include a telephone number where you can be reached in the event we have a question about your form. We have included a telephone number for the registration chairman on the form to answer any questions you may have.

As far as the hotel accommodations are concerned, we advise you to make your reservations as early as possible, since San Diego is a popular convention city. If you propose to stay at the Town and Country Hotel, make your reservations using the enclosed post card, to be sent to the hotel and check the appropriate space on the registration form.

For those of you arriving by air, the Town and Country Hotel has a shuttle bus service from the airport to the hotel for \$2.00 per person. The bus leaves the airport every hour on the half hour. The hotel does not provide free limousine service.

For the ladies activities, we direct you to the enclosed information provided by the Cable Car Seminars, your activity hosts.

The Friday night banquet will be held at the Kona Kai Club on beautiful Shelter Island and will consist of dinner and entertainment. The highlight of the evening will be “The Bright Side” a young singing group who will entertain you to the fullest. Transportation will be provided from the Town and Country Hotel. The price includes the meal, entertainment, tax and gratuity.

On Saturday evening, we will leave the hotel for a trip south of the border for dinner at the La Cupula at the Agua Caliente Race Tract and an evening of Jai Alai. The menu is primarily Mexican and again, the price includes transportation, meal, Jai Alai, tax and gratuity.

For those of you who plan to arrive early and play golf, we have golf tournament planned at the Stardust Country Club on Thursday, March 30th. Please use the enclosed Golf Registration Form if you are interested in participating. Please note, the fee *must* be returned by February 28th if you plan to play.

In addition to the Golf Tournament, we are also offering a Tennis Tournament on Thursday, March 30th from 1-4:00 p.m. The courts are located at the Atlas Health Club near the Town and Country Hotel. The cost includes complete use of the club facilities including swimming pool and jacuzzi. Be sure to mark the form for singles or doubles play.

In closing, please note the 10% discount for early registration. By registering early, in addition to the 10% discount, you will assure yourself of being able to participate in all the activities of your choice and will help the registration committee by avoiding a rush in registration at the convention. Hope to see you in San Diego in '78.

## More Convention News Beginning on Page 16

*The fine article entitled “A Field Party of A Century Ago” which ran on the front page of “The California Surveyor” winter edition 1977 was written by Mr. Leighton Keeling. Due to editorial oversight, Mr. Keeling was not given the recognition due him for authoring the article. May sincere apologies to you, Mr. Keeling. — Ed.*

**CALIFORNIA LAND SURVEYORS ASSOCIATION**  
**HEADQUARTERS: P.O. BOX 1363**  
**SANTA ROSA, CA 95402**  
**TELEPHONE: 707-526-2572**

# The California Surveyor

is the quarterly publication of The California Land Surveyors Association and is published as a service to the Land Surveying profession of California. It is mailed to all Licensed Land Surveyors and Land Surveyors in Training in the state of California as well as to all members of California Land Surveyors Association. The California Surveyor is an open forum for all surveyors, with an editorial policy predicated on the preamble to the constitution of the California Land Surveyors Association and its stated aims and objectives, which read:

"Recognizing that the true merit of a profession is determined by the value of its services to society, the 'California Land Surveyors Association' does hereby dedicate itself to the promotion and protection of the profession of Land Surveying as a social and economic influence vital to the welfare of society, community, and state."

"The purpose of this organization is to promote the common good and welfare of its members in their activities in the profession of Land Surveying, to promote and maintain the highest possible standards of professional ethics and practices, to promote professional uniformity, to promote public faith and dependence in the Land Surveyors and their work."

## 1978 OFFICERS

*President:* Michael K. Welch  
*Vice-President:* Paul W. Lamoreaux  
*Secretary:* Merle W. Eli  
*Treasurer:* Ken Burton

## DIRECTORS-AT-LARGE

Donald E. Bender  
 Raymond B. Thinggaard  
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 James E. Adams, *Immediate Past President*

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*Tahoe:* Ronald W. Turner

## CALIFORNIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS Written Examination Schedule 1978

Examination Dates	*Final Filing Dates
Land Surveyor-in-Training — LSIT November 4, 1978	August 14, 1978
**Land Surveyor — LS November 4, 1978	July 10, 1978

\*Applications filed after the final filing date specified will be considered for the following examination.  
 \*\*Until further notice, these exams will be given only once a year.

## Advertising

Commercial advertising is accepted by "The California Surveyor" and advertising rates and information can be obtained by contacting the Editor, P.O. Box 3707, Hayward, CA 94540.

Classified advertising is published at the rate of \$2 per line for members of C.L.S.A. and \$4 per line for non-members and should also be directed to the Editor of "The California Surveyor."

## Sustaining Membership

Membership in the California Land Surveyors Association as a sustaining member is open to any individual, company or corporation who, by their interest in the Land Surveying profession, is desirous of supporting the purposes and objectives of this association. For information regarding sustaining membership, contact the Editor of "The California Surveyor."

## Editorial Material

All articles, reports, letters and contributions are accepted and will be considered for publication regardless of the author's affiliation with the California Land Surveyors Association. Material should be sent to "The California Surveyor," P.O. Box 3707, Hayward, California 94540.

EDITOR: Michael S. McKissick, L.S.  
 P.O. Box 3707  
 Hayward, CA 94540 Phone 415-483-2170

## DEADLINE DATES FOR THE CALIFORNIA SURVEYOR

SPRING.....FEBRUARY 24, 1978  
 SUMMER.....MAY 19, 1978

*Articles, Reports, Letters, etc., received after the above mentioned date will be placed in the next edition.*

*Editor*



# We Are Proud To Announce...

**1.**

and,

**2.**

**THE APPOINTMENT OF KEUFFEL & ESSER COMPANY AS THE EXCLUSIVE DISTRIBUTOR FOR THE SURVEY 31 COMPUTER.** Due to K&E's long established and world-wide reputation for quality surveying products, we could hardly ask for a more appropriate distributor. And, we hope that you too will also be pleased by having the local representation provided by K&E.

**SURVEY 31, THE WORLDS' MOST POWERFUL SURVEYING COMPUTER, IS NOW EVEN MORE POWERFUL!** The memory has been expanded from 300 to 450 full coordinate points of storage! All 450 points are stored *directly in memory* and all are instantaneously available. Compare this with other computers such as the HP9815 that stores just 50 points in memory with all other points having to be stored on tape (with an access time of up to 30 seconds per point).

**PLUS ...**

- 10,000 STEPS OF PROGRAM MEMORY are also instantaneously available in addition to the 450 points! (Again by comparison, the HP9815 has just 1200 steps). The 10,000 step memory of SURVEY 31 allows over 75 Coordinate Geometry programs to be stored in memory at one time! Reduces the confusion and loss of time caused by loading programs back and forth from cards or tape.
- AN UNLIMITED NUMBER OF POINTS can also be permanently stored on magnetic tapes (not just 2000)
- 45 SURVEYING FUNCTION KEYS allow you to easily choose the correct program to solve a problem. And the keys are clearly labeled in plain "Surveyoreze" not "Computereze" so you don't have to be a computer expert to run SURVEY 31!
- ALPHABETIC PROMPTING MESSAGES simplify knowing *what* to enter as well as *when* to enter the information required to solve a problem. Eliminates errors arising from otherwise having to either guess or to remember numerous code numbers.
- SURVEY 31 WAS DESIGNED TO AVOID OBSOLESCENCE. We don't think it right that every 5 years or so that you should have to buy a new computer just because your old one could not be expanded. SURVEY 31 can be expanded at any time with peripheral equipment that includes typewriters, typewriter/plotters, flat-bed plotters (up to 42" by 54" plotting surface) and, a 32,000 coordinate point disc memory!
- SURVEY 31 CAN BE LEASE/PURCHASED for as low as \$147.40 per month.

IF YOU ARE CONSIDERING A COMPUTER, you owe it both to yourself and your company to look at SURVEY 31. Your local K&E office will gladly provide further information as well as arranging a demonstration in your office if you wish. Or, simply return the coupon and we'll take care of the rest.

**ENGINEERING SERVICES CO., INC.**

P.O. Box 2488  
14604 205th S.E.  
Renton, Washington 98055

(206) 226-7950

**TO: ENGINEERING SERVICES COMPANY**

- Please have someone contact us immediately. We would like to see SURVEY 31 as soon as possible.
- Please send more details.

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_

# Know Your Sustaining Members

# AGA

The EDM  
Specialists.

AGA was founded in 1904, is headquartered in Lidings, Sweden, and has been engaged in the design and manufacture of electro-optical instruments since 1947. AGA's diverse product lines include industrial gases, welding products, batteries, radiators, electronics and medical equipment.

The name Geodimeter is a registered trademark of AGA and represents the ultimate in distance measuring instruments. The Geodimeter Division has just introduced two new Models, the 12 which is a very easy to use "mount-on" with a range of over a mile, and the 78 which is a further development of the Model 76 extending the range to 6 miles. Together with the combined function Model 710 offering automatic recording on paper tape and the 12-mile range Model 6BL, AGA offers the most complete line of EDM Equipment.

In eight of the western states including California and Nevada, AGA Corporation also distributes the high quality Theodolites and Levels made by Jenaoptics. Jenaoptics is one of the world's largest manufacturers of surveying and photogrammetric equipment with over 125 years of experience making high quality instruments.

Sales and Service of all our products is offered from our newly opened California Office in San Rafael:

AGA Corporation  
Geodimeter Division  
80 Mark Drive  
San Rafael, CA 94903  
Phone: 415/479-3816



**CALIFORNIA LAND TITLE COMPANY**  
1020 North Broadway, Santa Ana, California 92701

Although relatively young in terms of years, if measured against the "giants" of the title insurance industry, California Land Title Company, since its inception in 1961, has become one of the fastest growing companies in the industry in California. Dynamic management and innovative thinking, together with the finest title men and women available anywhere have brought "Cal-Land" to the top percentage bracket in virtually every county in which the company operates.

California Land Title Company maintains its Los Angeles County operations and corporate headquarters in Universal City and is currently serving the counties of Orange, Riverside, San Bernardino, Ventura and Solano. A wholly owned subsidiary, California World Title Company, serves San Diego County, the host county for our 1978 convention. We continue to grow: soon to open will be our newest office in San Jose and other Northern California localities.

California Land Title Company is incorporated under the laws of the State of California and is a member of the California Land Title Association and as such issues that association's form policies of title insurance. Our underwriter, Title Insurance Company of Minnesota, one of the country's oldest and most financially responsible insurers, is a member of both the California Land Title Association (CLTA) and the American Land Title Association (ALTA); thus, Cal-Land is able to provide the form policies of both associations.

Our company can be of real value to the surveyor through its Preliminary Title Report, the Preliminary Subdivision Report, the Preliminary Condominium Report, all of which are accompanied by copies of all supporting documentation copies of boundary deeds and boundary surveys (if of record,) and of course, the Subdivision and Condominium Plan Guarantees; moreover, our title and engineering people can be of substantive assistance to the surveyor in the areas of boundary determination, water and water related boundaries, Federal and State Patents, title company requirements for the ALTA Survey and in many other problem areas.

Should any CLSA member have specific requests or need more definitive information, he is invited to telephone Mr. Loren Black, Chief Title Engineer, Los Angeles County office, (800) 232-2718 or Jack Wilcox, Engineering and Subdivision Supervisor, Orange County office (714)835-5575.

California Land Title Company has propounded and firmly believes in the philosophy that title people and land surveyors can be of tremendous benefit to each other by entering into and maintaining cogent dialogue; by learning from each other and sharing the technical and intellectual aspects of our respective disciplines which converge on many levels.

California Land Title Company is proud to be a sustaining member of the California Land Surveyors' Association and we salute the land surveyor of California.

Have a happy and profitable convention!

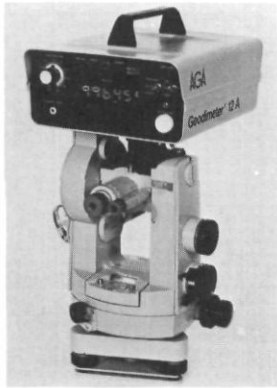
(Continued on Page 6)



## CONVENTION '78

# AGA

## GEODIMETER® EDM



### MODEL 12A

The new 12A has a range of 2 miles, mounts on most theodolites. Continuous tracking made for stake-out. Will track moving reflector up to 15 feet per second.

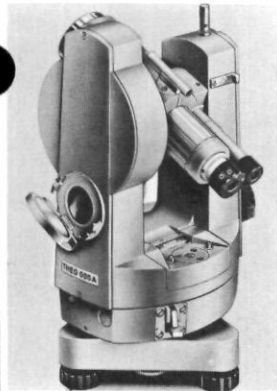


### MODEL 78

Medium range EDM using low power visible laser for distances up to 6 miles. The Model 78 is an improved version of the well-known Model 76.

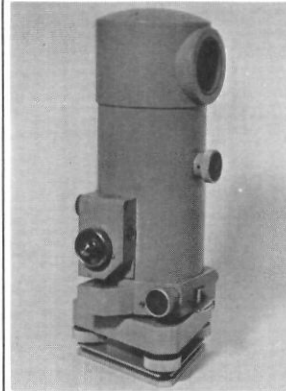
## JENA THEODOLITES & LEVELS

### JENA THEODOLITES



The Model 010A Theodolite is a one second directional instrument for triangulations through the second order, precision traversing and engineering construction projects. Available with repetition clamp.

The Model 020A — One minute reading (optical transit), repeating type for medium accuracy triangulation, land surveying, road and highway layout, city and mining engineering. Available with 1 minute left and right graduation.



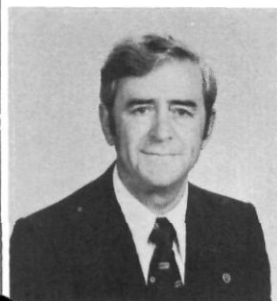
### JENA LEVELS

Model Ni007 — A self-leveling precision instrument with micro-meter for first and second order geodetic control, and civil engineering applications.

#### Other Models:

- Ni050 — for builders.
- Ni025 — for civil engineers.
- Ni002 — for geodetic work.

## SALES & SERVICE



### MEET OUR NEW SALES REPRESENTATIVE . . .

We are pleased to announce that John Weir has joined the Geodimeter Division. John is well-known to many of you, having been in this field of business for many years.

John will be pleased to call on you and discuss with you any of your requirements.

**AGA Corporation**  
Geodimeter Division  
80 Mark Drive San Rafael, CA 94903 (415) 479-3816

MAIL TO: AGA Corporation, Geodimeter Division  
80 Mark Drive, San Rafael, California 94903  
(415) 479-3816

- Please send me more information about the products checked below.
- Please call. My number is \_\_\_\_\_

#### I am interested in:

- Model 12A     Model 78     Theodolites
- Levels         Reflector System     Other, please specify:

Name \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

## Know Your Sustaining Members

(Continued from Page 4)



The fact that Worcester and the immediate vicinity is the birthplace of the sewing machine, labeling machine, and many other necessary inventions, is known to everyone living in the Heart of commonwealth, but there are many smaller articles which, though unheard of, hold high positions in their respective industries. Among these is the steel tape used by surveyors and civil engineers. The first practical steel tape was perfected by Daniel M. Wheeler, Worcester, in 1870.

Steel tape has probably been used for surveying purposes more than 100 years, but it never was of stable composition and wore out soon, previous to 1870. In the early part of 1870, a long strip of hoopskirt wire was marked off for measuring bridge spans. The graduations on this tape were scratched on with a nail and the marks were soon made indistinct by wear. Later in the same year Mr. Wheeler obtained some hoopskirt steel from the Washburn-Moen Co. and put a drop of solder at each foot, marking the graduations on this solder. The tape was 100 feet long.

*Greetings  
and  
Best Wishes  
for a  
Successful Convention  
1978*

**SURVEYORS SERVICE CO.**

**COSTA MESA, CA 92626**

An engineering magazine, published in New York, recently printed an interview with L.A. Nichols, president of the Chicago Steel Tape Co., in which Mr. Nichols said:

"Mr. Wheeler had such satisfactory experience with his tape, he had several made, and I, being one of Mr. Wheeler's party, made some myself. The tapes were crude and the graduations were marked on the solder run on steel. These tapes, so far as my knowledge goes, were the first tapes ever made with graduations marked on solder or babbitt material run on the steel.

"Since that time, I have used the tape in preference to chains and, upon hearing favorable comment from other engineers, I concluded it was a worthy article of commerce. In 1900, I advertised to manufacture this tape and place it on the market, although as far back as 1880 I had made a few and sold them to my brother engineers. After I announced that I was about to manufacture the tapes, in 1900, the name was changed to 'Chicago steel tape.'

"Prior to this, however, if the word steel could be considered in the light of any preparation of bronze and iron, I believe I have read somewhere in a translation of some foreign work, that a standard measure made of metal was used in the construction of the Roman aqueducts."

To The Telegram, Mr. Nichols said: "I graduated from the Massachusetts agricultural college in the pioneer class of 1871, and in the early spring, I think it was in February, I obtained a position as leveler in the party of which Mr. Wheeler was the leader. The party was working on the construction of the Massachusetts Central railroad from Hudson to Rutland. After I had been with the party about four months, Mr. Wheeler resigned and I was promoted to take his place at the head of the party.

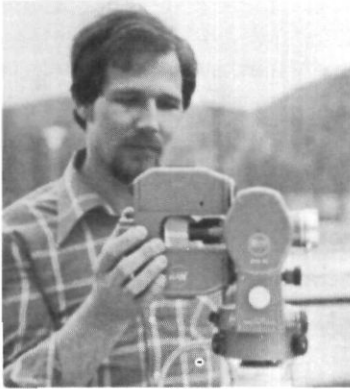
"Mr. Wheeler at that time was a resident of Worcester and had a local business in that city, and when he resigned he went back to resume his business. When I joined Mr. Wheeler's party, they were using the first steel tape I had ever seen, that is, the first steel tape with the graduations marked on solder run on the steel. It made an excellent substitute for the chain, and I became an immediate convert to it in preference to the chain.

"As soon as Mr. Wheeler left and I assumed his duties, I went through the same processes, under his direction. I went to the Washburn-Moen mills and obtained some hoopskirt wire and made some other tapes for my personal use. I was so enraptured with the advantages of these tapes for use in field work, that I afterward made a number for my own use, and in the year 1900 I financed a company to start making these tapes and selling them. I have since developed a large business in the line in connection with other surveyors' accessories. The steel tape was first put on the market by the Chicago Steel Tape Co."

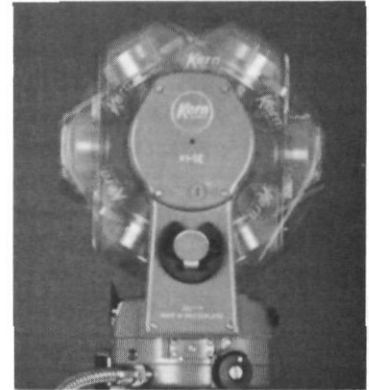
According to the city directory of 1870, Mr. Wheeler lived on Mulberry Street. He removed to a house on Prescott Street in 1875, and in 1882 he left Worcester for parts unknown. Mr. Wheeler was in business in partnership with Albert C. Buttrick, who died last spring. Mr. Buttrick lived at 52 May Street. (Continued on Page 8)

# The Kern DM 501 Survey System

An EDM that will mount on and interchange a one second directional and a thirty second repeating theodolite without brackets or electrical cable connections.



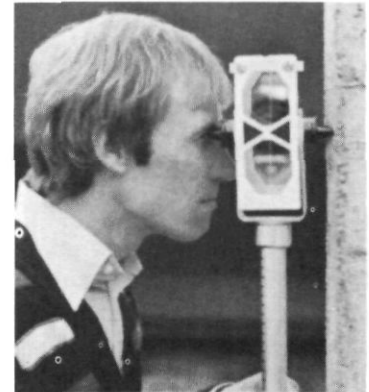
*Mounting without Brackets*



*Telescope fully Transitable*



*Entire system portable in one case*



*Reflector with target and right-angle prisms*

- Features: Fully automatic/Tracking mode.  
 Range: 1 mile / 1600 meters  
 Weight: EDM—3.5 lbs. / compl. system—18 lbs.  
 / carrying case—6 lbs.



## KERN INSTRUMENTS, Incorporated

154-A HAMILTON DR./NOVATO, CA 94947/415-883-0616  
111 BOWMAN AVE./PORTCHESTER, N.Y. 10573/914-939-0200

- I would like to order the DM 501 Survey System.
- I would like a field demonstration.
- I would like a DM 501 brochure.
- I would like a DKM2-AE, K1-SE Theodolite brochure.

NAME \_\_\_\_\_  
 COMPANY \_\_\_\_\_ PHONE \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

\_\_\_\_\_  
(SIGNATURE)

# Know Your Sustaining Members

(Continued from Page 6)

## I ENGINEERING III COMPUTER VIII SERVICES

2200 'F' St. Bakersfield, Calif. 93301  
Phone (805) 325-7012

ENGINEERING COMPUTER SERVICES has changed. We still have our same thoroughly tested system of hardware and software. In addition, we have spent the last year developing our new data entry system to allow for three-way interaction between the computer, the operator and the client. For your next project, whether it be horizontal or vertical control calculations, map platting, earthwork volume calculations, or computer aided drafting of a complete set of plans for any project, large or small, ENGINEERING COMPUTER SERVICES can offer you the control you need to have your project done the way you want it done.

Call Bob Perrine, at (805) 325-7012 or write to us at 2200 "F" Street, Bakersfield, California 93301.

### ENGINEERING SERVICES COMPANY

14604 205th S.E.  
Renton, Washington 98055

Engineering Services Company of Renton, Washington manufactures and distributes computers and peripheral equipment specifically designed for the Surveying and Civil Engineering professions.

According to Bill Watson of Engineering Services Company, the SURVEY 31 computer is programmed to provide fast and complete solutions to surveying and related civil engineering problems. Many of the more commonly used surveying solutions such as traversing, inverses, curves and area computations, are "built-in" to SURVEY 31 with a "ROM" (Read-Out-Memory). Other programs such as intersections, vertical curves, section breakdown, etc., can be added to the existing ones by loading programs stored on magnetic tape cartridges or from a disc memory.

In addition to the unmatched power of its memory, the other important feature of SURVEY 31 is its utter simplicity of operation. There are 45 surveying function keys appropriately labeled so that an operator may easily select the solution to a specific problem. These, combined with prompting messages, make SURVEY 31 all but fool proof to use. As opposed to other computers, requirements of using codes to select different programs has been kept to an absolute minimum.

450 coordinate points (optionally 300 at less cost) can be stored directly into the memory of SURVEY 31. Any point can be instantaneously recalled by number. Data tape cartridges allow an unlimited number of points to be stored for later recall and use.

SURVEY 31 overcomes the two major causes of obsolescence in computers. These are lack of memory expansion and the ability to interface with peripheral equipment. A disc memory is available that allows memory expansion to over 500,000 program steps or nearly 35,000 coordinate points all of which are available in less than one second. Most any peripheral desired can be interfaced to SURVEY 31. These include thermal printers, typewriters, typewriter/plotters, flat bed plotters, drum plotters, digitizers, graphic plotting displays plus other devices.

A marketing agreement between Keuffel & Esser Company and Engineering Services Company has recently been signed. The agreement appoints K & E as the exclusive world-wide distributor for the SURVEY 31 computer and other items produced by Engineering Services Co.



Electronic Distance Meters  
Total Station  
Programmable Calculators

Hewlett-Packard — "Creators of Working Tools for People Who Measure and Compute" — is one of the world's leading designers and manufacturers of electronic measuring and test instruments and systems; medical instruments and systems; instruments and systems for chemical analysis; and high-technology, solid-state components.

Founded in 1939, with headquarters in Palo Alto, California, the company is an international organization with some 30,000 employees. Hewlett-Packard produces more than 3,000 products at 22 domestic divisions in California, Colorado, Oregon, Idaho, Massachusetts, New Jersey and Pennsylvania and at eight overseas plants located in the German Federal Republic, United Kingdom, France, Japan, Singapore, and Malaysia. These products are marketed throughout the world, primarily through the company's own network of 172 sales and service offices in 65 countries.

A large share of Hewlett-Packard's resources are devoted to the design and manufacture of distance/angle measuring systems, programmable desk-top calculators and peripherals, and powerful pocket-sized calculators for the surveyor.

The latest contribution from HP's Civil Engineering Division is the new HP 3820A Electronic Total Station. The powerful surveying instrument allows the surveyor to electronically measure horizontal, vertical and slope distances, plus vertical and horizontal angles from a single cable-free instrument. This instrument also incorporates a tracking mode which is ideally suited for layout and location surveys.

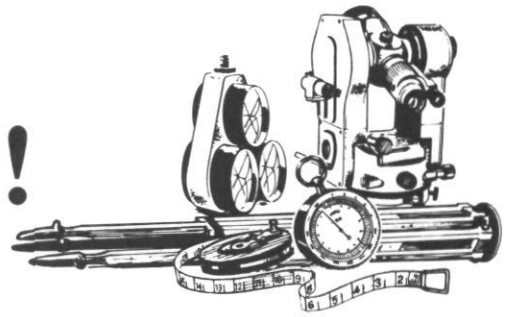
In the expanding programmable surveying calculator line, the latest contribution is the new HP 9815A Surveying Calculator. The HP 9815A is almost as portable as HP's hand held calculators, but has the problem solving power of a mini-computer.

(Continued on Page 10)



# Rent from us and save money!

- Overnight delivery anywhere!
- Charges stop on day shipped for return!
- Purchase options available!
- Call toll-free!



## Electronic Distance Measuring Equipment:

†Hewlett-Packard 3800 A .....	25.00	15.00	10.00
†Cubic DM-60 Cubitape Distance Meter .....	25.00	15.00	10.00
†Hewlett-Packard 3805 Distance Meter .....	25.00	15.00	10.00
†Hewlett-Packard 3810 Total Station .....	60.00	36.00	24.00
*†K & E Autoranger with Azimuth Base or mount for Theodolite.....	30.00	18.00	12.00
Cubic DM-20 Electrotapes—Two Units .....	40.00	24.00	16.00

## Positioning Equipment:

*Motorola Mini-Ranger with two Coded Transponders .....	200.00	105.00	70.00
Each Additional Mini-Ranger Coded Transponder .....	36.00	18.00	12.00
Cubic DM-40 Autotape with Two Responders .....	300.00	150.00	100.00
Autotape or Mini-Ranger Printer .....	15.00	6.00	4.00
Raytheon DE-719 Recording Fathometer .....	25.00	15.00	10.00
Raytheon DE-119D Recording Fathometer .....	20.00	12.00	8.00

## Optical Surveying Equipment:

*Lietz TM-1A 1" or Wild T2 Theodolite (Direct reading Horizontal and Vertical to 1", Self Indexing Vertical Circle) .....	20.00	12.00	8.00
*Lietz TM-10C 10" Theodolite (Horizontal and Vertical Estimation to 1", Self Indexing Vertical Circle) .....	15.00	9.00	6.00
*Lietz TM-20C 20" or Wild T1 Theodolite (Horizontal & Vertical Estimation to 3", Self Indexing Vertical Circle) .....	13.00	7.80	5.20
*Lietz T-60D 60" or Wild T-16D Theodolite (Horizontal and Vertical Estimation to 6", Self Indexing Vertical Circle) .....	12.50	7.50	5.00
*Lietz TS-20 60" Theodolite (Estimation to 20" Horizontal, 1' Vertical) .....	9.50	5.70	3.80
*Lietz BT-20A 20" Optical Plummet Transit .....	6.75	4.05	2.70
*Lietz B-1 Engineers Precision Automatic Level .....	6.00	3.60	2.40
*Lietz B2-A Engineers Automatic Level .....	4.50	2.70	1.80
*Lietz C3-A Engineers Automatic Level .....	3.25	1.95	1.30
*Lietz B-4 Contractors Automatic Level .....	2.50	1.50	1.00
Builders Transit-Level .....	2.00	1.20	.80

## Miscellaneous:

*4500 Computing Planimeter .....	30.00	18.00	12.00
*Lietz #7312-45 Traverse Set .....	6.00	3.60	2.40
*Magnetic Locator, Schonstedt .....	4.00	2.40	1.60
Spectra-Physics LT-3 Laser Transillite with Fan Beam attachment .....	20.00	12.00	8.00
*American Paulin Model M-2 Surveying Altimeter — 0 to 10,000 feet, 2 foot graduation ..	4.00	2.40	1.60
*Kern #173 W Tripod with 5/8" x 11 Adaptor .....	2.00	1.20	.80
*Lietz #7512-52 or Equal Wide Frame 5/8" x 11 Tripod .....	.75	.45	.30
*Lietz #7533-10 3 1/2" x 8 or #7533-20 5/8" x 11 Standard Wooden Tripods .....	.50	.30	.20
*Lietz #7311-35 or Wild GDF-6 Tribrach with Optical Plummet .....	1.50	.90	.60
*Lietz #7311-38 Tribrach Prism Adaptor .....	.50	.30	.20
*Retro-Ray Single Prism Assembly (round) .....	1.00	.60	.40
*Retro-Ray Triple Prism Assembly (round) .....	2.50	1.50	1.00
*Retro-Ray Tilting Single Prism Assembly (round) .....	1.25	.75	.50
*Retro-Ray Tilting Single Prism Assembly (lateral) .....	1.50	.90	.60
*Retro-Ray Tilting Triple Prism Assembly (lateral) .....	3.50	2.10	1.40

NOTE: For 30-day minimum contract rate, disregard "1st 10 days" column above.

\*New and used equipment available for purchase. Option to purchase information in rental agreement. Additional equipment available for rent or purchase—information on request. Authorized Lietz Distributor.

†All short-range E.D.M. units are supplied with power supply, altimeter, thermometer and one single prism assembly.

We purchase used surveying equipment. Call us for a quote.

Lessee pays all round trip shipping charges on rented equipment.  
Rental charges commence on the day the equipment leaves Lewis & Lewis and terminates on the day the equipment is returned or shipped for return to same Lewis & Lewis office from Lessee's location. Rates for longer periods available on request. Rates subject to change without notice.



## Lewis & Lewis

surveying equipment

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# Know Your Sustaining Members

(Continued from Page 8)

Complete information on Hewlett-Packard Surveying Products is available from local HP Sales and Service Offices in Sacramento, Santa Clara, Fullerton, North Hollywood, Los Angeles, San Diego, or from Hewlett-Packard Civil Engineering Division, P.O. Box 301, Loveland, Colorado 80537, (303)667-5000.



9936 EAST RUSH STREET  
SOUTH EL MONTE, CALIFORNIA

INDUSTRIAL PIPE & STEEL CO. has been located in South El Monte (approx. 15 mi. east of Los Angeles) for the past 20 years. INDUSTRIAL PIPE & STEEL CO. has serviced industry and the "Do-It-Yourselfers" with steel, metals, and industrial hardware.

Over the past 20 years INDUSTRIAL PIPE & STEEL CO. has grown from 2 employees to 30 employees.

The President is Joe Schorr, Vice President-General Manager in charge of steel and metals is Tom Plumley. The Vice-President-General Manager in charge of industrial hardware is Allen Horowitz.

INDUSTRIAL PIPE & STEEL supplies surveyors with large assortments of the finest steel surveyor-stakes.

Their business has enjoyed tremendous growth and they are looking forward to equal or greater growth in the years to come.

MARK of EXCELLENCE



SINCE 1819

Kern & Co. Lt., Aarau, Switzerland has manufactured surveying instruments of highest precision since 1819. This tradition finds its continuation today in a complete line of technically advanced levels, theodolites and EDM equipment.

A number of new instruments were introduced this year during the XV FIG Congress (International Surveying Society) held in Stockholm, Sweden.

Most noteworthy of these is the new Distance Meter Model DM 501. This lightweight meter (3.5 lbs.) has a range of 1 mile (1600 Meters) using 3 reflectors; it features continuous tracking for state-out work and automatic intensity control. The DM 501 is quickly attached to the telescope of either the Kern DKM 2-AE one-second theodolite or the K 1-SE repeating theodolite with direct scale readout to 30 seconds. The 501 can be readily interchanged with either theodolite. Plunging of the telescope is not impaired when the meter is attached and no cables interfere

with the free movement of the alidade.

The new GK 2-A Universal Automatic Level features a unique compensator and 32<sup>x</sup> magnification. It complements the extensive line of Kern leveling instruments.

To expand its line of precision measuring tools for deformation and displacement measurements, Kern introduced the Distometer ISETH. It is particularly suited to precisely determine variations of structural deformations.

The ME 3000 Mekometer has justifiably established itself throughout the world as the most precise distance meter. It has an accuracy of  $\pm 0.1$  mm and a range of 3000 Meters. The Mekometer is intended for distance measurements of highest precision.

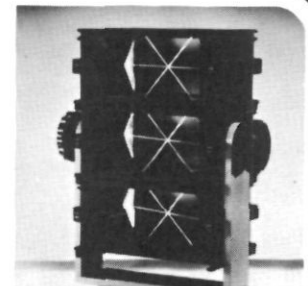
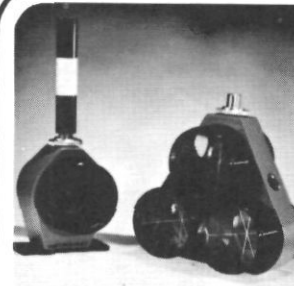
At the 1977 ASP-ACSM Congress in Washington, D. C., Kern continued to set the standards and trends for photogrammetric equipment by introducing three new instruments.

The new PMG 2 Point-Transfer Device features 5-25<sup>x</sup> zoom, dove prisms, very stable high speed drill spindles, a novel mechanism to adjust the measuring marks for differential zoom, and facilities to orient the photogram so that stereoscopy is maintained throughout. The PMG 2 is the companion instrument to the MK 2 One-Micron Monocomparator.

(Continued on Page 12)

## CONVENTION '78

San Diego, California



### Save money with our prisms!

All of our Retro-Ray reflectors are precision ground to exacting specifications for optimum field use from solid BK-7 optical glass. Compare them, and if you can find a retro-reflector that outperforms Retro-Ray, we'll give you back every cent you paid!

#### Retro-Ray reflectors:

No. 110; Round, single prism .....	\$145 00
No. 109; Round, triple prism .....	395 00
No. 105; Lateral, triple prism, tilting .....	695 00

Padded storage bags available for above models. Send for complete price list and details on all our reflectors.

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surveying equipment

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# Why is AUTORANGER the hottest EDM in sight?



**It's the most automatic EDM ever...reaching a new dimension in versatility, speed and reliability.**

**All these automatic features—**

- Gain control regulates internal signal.
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- Audio target acquisition indicates return signal and shuts off.
- Low voltage signal indicates low battery voltage.
- Dial in correction allows for input for ppm (environment) and feeds correction to computer.
- Input switches for prism and instrument constants allow for any prism constant and feed correction to computer.
- Displayed range automatically updates after 6 second cycle to full accuracy.

**Range:** 1m to 1.6 km (3 ft. to 1 mile).

**Unit of measure:** meters or feet.

**Signal Source:** GaAs light emitting diode.

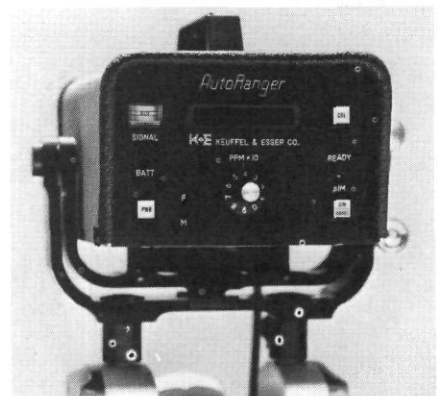
**Battery:** 12 volt DC, rechargeable nickel cadmium.

**With Telescope Mount—**mounts to telescope of most theodolites and transits.

**With Yoke—**mounts to standards of most theodolites, allowing telescope to be plunged for backsighting.

**With Yoke and Sighting Telescope—**adds sighting capability when desirable to mount instrument on azimuth base. Handle-attached telescope permits quick target acquisition.

Before anything else, you'd better look into AUTORANGER, the truly automatic automatic EDM—another K&E advance in electronic measuring. For more details about AUTORANGER and other K&E EDM instruments, write Keuffel & Esser Company, 20 Whippany Road, Morristown, N.J. 07960.



KEUFFEL & ESSER COMPANY

# Know Your Sustaining Members

(Continued from Page 10)

## LEWIS & LEWIS

surveying equipment

Ventura, California



**KEUFFEL & ESSER CO.**

The Keuffel & Esser Company of Morristown, New Jersey, maintains a full line of quality geodetic instruments, field equipment and map-making materials. Keuffel & Esser will be introducing their Vectron Digital Survey Instrument for delivery this quarter. With the Vectron Digital Survey Instrument, Keuffel & Esser engineers have created the most automatic survey instrument on the market today. In terms of operation, the Vectron Instrument is similar to a conventional optical theodolite. In terms of performance, it transcends the capabilities of conventional theodolites. This instrument, tied together with the Keuffel & Esser Autoranger makes a complete Digital Surveying System. Also available in the K&E line are other electronic distance-measuring instrumentation covering distances from 1 to 40 miles. K&E offers its line of STABILENE Films for map making in applications of precision cartography. This wide variety of proven products includes sensitized as well as unsensitized materials in peelable and scribable forms. For additional information contact Keuffel & Esser Company, 1327 South Olive St., Los Angeles, Calif. 90015 (telephone 213/747-7601) or Keuffel & Esser Company, 223 Lawrence Ave., South San Francisco, Calif. 94080 (telephone 415/873-6850).

Lewis & Lewis Company was originally started by Mr. R.B. Lewis as a locally oriented civil engineer-land surveyor company in Ventura, California. During 1953, a partnership was formed by Mr. R.B. Lewis and his son, Mr. R.T. Lewis. In 1953, Mr. Robert T. Lewis took over active management of the firm. During the next few years, "Bob" Lewis became one of the first to actively pursue the burgeoning offshore and navigational work. Using the most modern electronic equipment and survey techniques, the company became world-wide in scope and operation sending men and equipment wherever the need arose.

In the natural course of events, another facet of the business was born. Because much of the precision equipment used by the firm was too costly for many individuals and companies to own, a rental division was started and has grown to include most types of survey equipment.

In conjunction with the Rental Division, the firm of Lewis & Lewis has recently begun sales of selected quality surveying equipment. One of the first items distributed on a national scale was the Retro-Ray line of retro-reflectors — originally used as tested in the operational side of the business. A rental/purchase plan for distance measuring equipment and related survey equipment has also been created. (Continued on Page 13)

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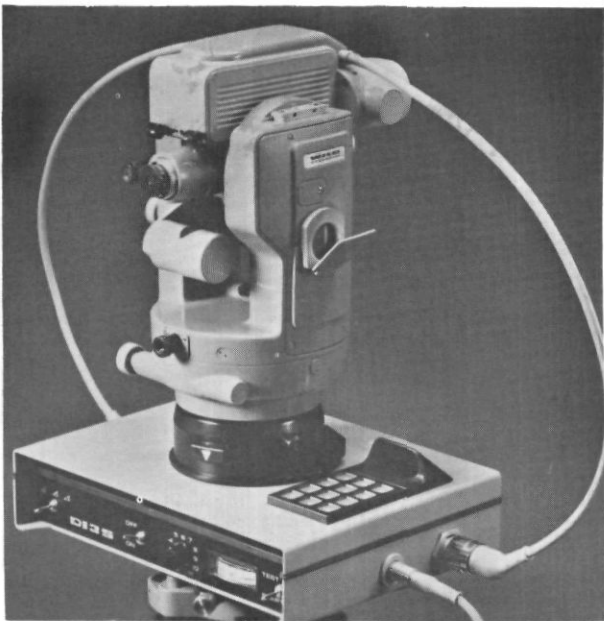
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EXCLUSIVE WESTERN DISTRIBUTORS



## Know Your Sustaining Members

*(Continued from Page 12)*

Two regional offices of Lewis & Lewis — in Maryland and Texas — have been opened to increase availability and service, and future plans include a broadening of the marketing base of the company. As more equipment is tested and added to the line, Lewis & Lewis will continue to offer the options of lease, rental, purchase or a combination of these plus full service capability anywhere there is a need.

The company is headquartered at 1600 Callens Road, Ventura, CA 93001 (telephone 805/644-7405 or toll-free 800/235-3377 outside California) Regional offices: 6580 Washington Blvd., Elkridge, MD 21227; and 8419A Rannie St., Houston, TX 77080.



In 1882, Adolph Lietz founded the company bearing his name which is now the oldest manufacturer of surveying instruments in the western United States. Lietz instruments played a significant part in the "building of the West" having been used on major engineering projects throughout the state of California including the construction of the Golden Gate Bridge. Lietz theodolites were used on many of the primary triangulation projects throughout the state.

Now one of the major suppliers of surveying instruments and equipment in the United States, Lietz products are available from more than 175 Authorized Distributors and 500 Dealers nationwide. As the exclusive importer of Sokkisha surveying instruments, Lietz is able to offer everything from builders instruments to sophisticated theodolites including digital theodolites which instantaneously display vertical and horizontal angles electronically. EDM Equipment, stereoscopes, hand levels, magnetic locators, glass fiber tapes, field books, level rods and planimeters are also part of the broad range of Lietz Products.

Lietz has distribution centers in Carson, California and Kansas City, Kansas. Expert repair and maintenance service on all makes of instruments is provided at each location and a staff of friendly, helpful employees stands ready to serve all members of the California Land Surveyors Association.

*(Continued on Page 16)*

## **CONVENTION '78**

march 31-  
april 1, 1978



# SURVEYING STAKES

## SAVE UPWARDS OF 50% ON THE FINEST STEEL PIPE BOUNDARY STAKES



PRICES FOR  
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3/4"	I.D. x 12"	.28	each
1"	I.D. x 12"	.39	each
1 1/2"	I.D. x 12"	.56	each
2"	I.D. x 12"	.68	each
3/4"	I.D. x 18"	.35	each
1"	I.D. x 18"	.49	each
1 1/2"	I.D. x 18"	.72	each
2"	I.D. x 18"	.87	each
3/4"	I.D. x 24"	.41	each
1"	I.D. x 24"	.58	each
1 1/2"	I.D. x 24"	.87	each
2"	I.D. x 24"	1.06	each
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1"	I.D. x 30"	.68	each
1 1/2"	I.D. x 30"	1.03	each
2"	I.D. x 30"	1.25	each

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PHONE (213)

**443-9467**

## Convention Activities

Friday evening, March 31st . . . 6:30 p.m. Leave hotel for Shelter Island and dinner at the KONA KAI CLUB. This is a beautiful private club, with windows overlooking the Bay. Tiki lights will sparkle on each table for ten.

### MENU

PANACHEE SALAD GARNI ROLLS  
BEEF BOURGUIGNNONE  
RICE PILAF VEGETABLES  
CHOCOLATE MOUSSE

(Two private bars will be set up on each side of the room)

ENTERTAINMENT . . . The most popular entertainment group in the area, the BRIGHT SIDE, will present a special show. They have appeared before many organizations, and have worked at the KONA KAI before. They are a fresh-faced group who sing, dance and play many instruments. There are eighteen members, and they are always well costumed. A small sampling of their repertoire: ON A WONDERFUL DAY LIKE TODAY . . .

HAPPY TOGETHER . . . PUT A LITTLE LOVE IN YOUR HEART . . . DELTA DAWN . . . I BELIEVE IN MUSIC . . . JOY TO THE WORLD . . . EVERYTHING IS BEAUTIFUL . . . CANDY-MAN . . . I'D LIKE TO TEACH THE WORLD TO SING . . . GONNA BUILD A MOUNTAIN . . . SWANNEE . . . plus others to be added . . . (Continued on Page 17)

## Know Your Sustaining Members

(Continued from Page 13)



### SURVEYORS SERVICE CO.

P.O. Box 1500

COSTA MESA, CALIF. 92626

Beginning their second half-century of service to Western land surveyors and civil engineers, CLSA's sustaining member, Surveyors Service Company of Costa Mesa, takes special pride in their long record of conscientious and knowledgeable service to the land surveying profession.

Specializing in the field needs of surveyors and engineers, and alert in promoting products aimed at increasing the efficiency and skill of their customers, they take particular pride in the high reputation they have established for competent and reliable service and repair of the equipment they handle.

As exclusive Western distributors for the universally respected line of fine, modern geodetic instruments produced by Wild-Heerbrugg, SERVCO is especially proud of the part they have played in popularizing the use of better equipment to provide better field results.

For your requirements for either plumb bobs or station targets, theodolites or hand levels, chain tapes or EDM instrumentation, CLSA members will find SERVCO's staff courteous, capable, and anxious to be of service.

## Hewlett-Packard's newest programmable surveying calculator system.

A calculator almost as portable as HP pocket calculators, but with the problem solving power of a minicomputer to handle your surveying computations.



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In surveying, expect HP to set the standards.

### HP9815A Surveying Software

Complete integrated software for virtually all your surveying computations.

#### Volume 1

Programs for general computations including:  
Triangle Solutions  
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Intersections  
Curve Layout  
Spiral Curve Layout  
Vertical Curves  
Line Layout  
EDM Slope Reduction  
Taping Reduction  
Resection  
Stadia Reductions  
Three Wire Leveling  
Solar Observation  
Field Angle Check  
Coordinate Transformations  
State Plane Coordinates  
Average End Area  
Borrow Pit  
Map Check

#### Volume 2

Interlinked programs for field reduction and design including:  
Field Data Traverse  
Field Bearing Traverse  
Radial Surveying  
Transformation  
Coordinate Geometry with:  
Traverse  
Inverse  
Bearing-Bearing Intersect  
Bearing-Distance Intersect  
Distance-Distance Intersect  
Sideshots  
Area  
Enter & Assign  
Curve Computations  
Coordinate List  
Point to Point Area  
Radial Stake-out  
Lot Summary  
Predetermined Area  
Point to Point Angles  
Auto Traverse  
Street Corner  
Street Intersection  
Cul-de-sac  
Right of Way  
Offset from a Line  
Circle Thru 3 Points  
Tangent to a Circle  
Tangent to Two Circles  
Re-number





# “Update” in ’78” is Theme for Convention

## PROGRAM

Thursday, March 30, 1978

*Registration Opens*

*Golf Tournament* (pre-registration by 2-28-78 is required)

*Tennis Tournament*

### Workshops

New Lease Squares Adjustment; Update of Bride and Cosmos. Moderator: Brad Brier

*Committee meetings*

Contact Howard Dye for room assignments

2:00

General Membership meeting — President Michael Welch Standing Committee Reports

6:30

Exhibitor Hosted Cocktail Party

Friday, March 31, 1978

*Registration Opens*

*Exhibitor Booths open* — Coffee and rolls

*Welcoming and Opening of Technical Sessions*

*Keynote Speaker*

Councilman Tom Gade, City of San Diego, attorney engineer, and surveyor.

*Door Prizes*

Unique gifts donated by each chapter: exotic fruits from southern California, rare wines from northern California, and much, much more.

*Break* — Coffee in exhibit area

*Panel Discussion*

“An Update on Hand-Held Computer Hardware and Associated Software” Moderator: Michael S. McKissick

*Attitude Readjustment*

*Luncheon*

Introduction of A.C.S.M. President Jon M. Leverenz.

*Film*

Original 1923 16mm film of Birdseye, the first chief topographical engineer of U.S.G.S. The film concerns the final survey of the Colorado River. Introduction by: Mr. Tom Northrup of Howard Pugh and Associates.

*“The Surveyor and his Library”*

By Mr. Roy Minnick, land surveyor, bookseller, and entrepreneur of Landmark Enterprises. “A surveyor is judged by the library he keeps.”

*“Recent Contributions to the Progress of the Surveying Profession by Cal Trans”*

By Mr. George Katibah

*Door prizes*

Unique gifts donated by each chapter: exotic fruits from southern California, rare wines from northern California and much, much more.

*Break* — Coffee in exhibit area

*“How Surveyors can Make More Money: Solar Surveys”*

By Fareed Nader, Ph.D., California State University of Fresno.

*“Surveying in Oklahoma”*

By Curtis Bunch

*Door Prizes*

Unique gifts donated by each chapter

*Adjournment*

Saturday, April 1, 1978

*Registration opens*

*Exhibit Booths Open* — Coffee and rolls

*“An Update on C.L.S.A. legislation activities”*

By Mr. Al Yelvington, Legislative Representative representing land surveyors before the California State Legislature.

*“The Zeiss Reg Elta and the Doppler System”*

By Mr. Bernard W. Hostrop, Chief Director of Cadastral Surveys, Bureau of Land Management.

*Door prizes*

Unique gifts donated by local chapters

*Break* — Coffee in exhibit area

*“Practical Photogrammetry for Surveyors”*

By Dan Radman, Manager, Genge/Murray-McCormick, Sacramento.

*“Communications: How to Make a Good Appearance at Planning Commission Meetings”*

(Speaker to be announced)

*Attitude Readjustment*

*Luncheon*

*“Notable Land Frauds”*

By Mr. Bob Becker, author, historian, Deputy Clerk of U.S. Courts, currently with the Bancroft Library.

*“Recent Case Law Pertinent to Surveyors”*

A panel discussion by Mr. Neil J. Cummins, Jr., attorney, Mr. Curtis M. Brown, surveyor, and Mr. Bill Wright, surveyor.

*Closing statements*

## Convention Activities

(Continued from Page 16)

Saturday evening, April 1st . . . 5:00 p.m. . . . buses leave hotel for the Mexican Border and Tijuana. Dinner will be at LA CUPULA, beautiful restaurant located at the Caliente. The restaurant looks both old and new Mexico, with the structure 90 feet from floor to crystaled ceiling. Around Caliente there are many charming Mexican shops to explore and find bargains in right before dinner.

### MENU

*Upon entering La Cupula, you will be greeted with a frosty margarita.*

*CARNE EN SADA (FILET)  
with two Mexican specialties (such  
as Cheese Enchiladas, Chili Rellenos,  
Tortillas, Tacos, etc.) Rice, Guacamole*

LA CUPULA is known for their collection of authentic and zesty old world Mexican recipes.

## A. E. Griffin In Memoriam

by Mr. Tom Evnas  
BLM Public Affairs Office

Services for Ambrose E. (Ed) Griffin, 51, who headed the Bureau of Land Management's cadastral survey program in California, were held in Sacramento, January 3. The family asked that memorials be sent to the Children's Home Society.

Griffin died in the early evening of December 29 about one hour after being hit in the chest by a small caliber bullet that apparently was fired from a car passing his home in Sacramento. He was unloading groceries from the family car when he was struck.

He is survived by his widow and three sons, Richard, David and Robert. All three of the adult sons were at their parent's home on a holiday visit at the time of the shooting.

Ed Haste, California BLM State Director, said Griffin will be greatly missed by his colleagues, not only for his effective leadership, but also for his courteous treatment of associates.

"The cadastral survey function in California is more difficult than in any other western state," Haste said. "In his four and one-half years with us, Ed made tremendous progress toward reducing a heavy backlog of cases. At the same time he vastly improved communications between the Branch of Cadastral Survey and the BLM Districts in California. He established an excellent rapport with other federal and state agencies and the private sector," Haste said.

A native of Portland, Oregon, Griffin attended secondary school in Long Beach, California. He served in the Coast Guard from October, 1944 until May, 1946. He received an A.A. degree from the College of Marin in 1949. He took extension courses from the University of California and attended California State University, San Francisco, where he received a bachelor's degree in geography.

Before coming to BLM, Griffin worked 12 years for the U.S. Forest Service in cadastral and land title work, and seven years with the California Department of Public Works in construction and right of way engineering. Prior to that time he had worked in private industry as an engineering aide and design draftsman.

Griffin, as a supervisory land surveyor, was appointed Chief of BLM's California Cadastral Survey Branch in July, 1973. In this position he was responsible for the total cadastral survey program in California as well as associating mapping and engineering drafting.

There are many private-public boundary problems, accelerated by high land and mineral values. Often it is necessary to reconstruct survey records without benefit of originals, which were destroyed in the San Francisco earthquake and fire of 1906. There also are complications in applying Spanish land grants survey methods to the present day rectangular system.

There is much litigation over boundaries, and Griffin was called upon to serve as an expert witness in many cases involving trespass, boundary disputes and other problems.

While modernizing the cadastral survey function in California, Griffin also provided leadership for a number of professional organizations. He was the immediate past president and member of The Board of Directors of the California Land Surveyors Association and had served as Chairman of CLSA's Legislative and Land Surveys Division Cadastral Programs Committees. He was a life member of the association.

He was member of the California Society of Professional Engineers, a senior member of the American Right of Way Association, member of the American Congress on Surveying and Mapping, and a member of Northern and Southern California Sections of ACSM. At the time of his death he was a candidate for ACSM Director to represent Region 8.

Griffin was a licensed land surveyor in California, Nevada and West Virginia.

## Letters to the Editor

To all fellow Surveyors:

Today I learned of the tragic and untimely death of A.E. Griffin.

I write this letter not to eulogize Ed, for that brings forth feelings of finality. No, I write instead to talk of Ed's life and the positive effects he has had on so many people.

I have personally known Ed since 1967. During that time, we were usually on opposite sides of issues. Yet from this beginning, a friendship grew and developed.

He is the standard to which we can all measure ourselves for professionalism, integrity, moral character, patience and a positive attitude.

If there was to be one criticism of him, it could only be that he should have been called Job instead of Ed.

It is written ". . . unless a grain of wheat falls into the earth and dies, it remains alone; but if it dies, it will bear much fruit . . ."

I know that we are all richer and wiser for having known Ed.

All that is left for us is to carry on and to rejoice in the victory celebration of his homegoing.

Most sincerely,

James R. Dorsey, L.S.

**CLSA Convention  
Women's Activities  
Presented by**



**FRIDAY**

9:00 to 11:00 a.m. *WELCOMING BREAKFAST*. . . . A great time to set the scene for two exciting days. Wives will come to see what it's all about, meet with Nancy, Georgia, and each other and participate in discussions in this active get-together.

**SEMINAR:**

**HOW TO COMMUNICATE AT A CONVENTION WHEN YOU DON'T KNOW ANYBODY.**

Speaker: Georgia Meredith, Coordinator, Continuing Education for Women, Foothill College, and the 1977 recipient of the NUEA'S National Creative Planning Award.

1:00 to 4:00 p.m. *TRIP TO THE WILD ANIMAL PARK*, an 1800-acre wildlife preserve and authentic African-style village, all in the city of San Diego. You will depart Simba Station on a five mile, fifty minute safari aboard a quiet, electric monorail. You will pass through herds of animals and flocks of ground birds in their natural settings. An exciting Asian Elephant Show will follow. Then back in-time to freshen up for evening.

**SATURDAY**

9:30 a.m. Coffee in the lobby.

10:00 a.m. Off to Brunch at the magnificent Coronado Hotel on the Ocean. This area is a heritage of the original Spanish land grant settlers.

**SEMINAR:**

**SELF-ESTEEM: HOW TO BUILD IT AND KEEP IT  
SPEAKER: GEORGIA MEREDITH**

11:30 a.m. to 2:00 p.m. *TWO OPTIONS: BUSES DEPART FOR A TRIP TO OLD TOWN FOR SHOPPING* (Stroll through the tree-lined plaza and see where the U.S. flag was first raised in 1846 *or* *EXPLORE THE SAN DIEGO BEACH* (Stay near the Conorado Hotel and explore the beach area with an amusing beachcombing professional) Back in time to freshen up for evening.

**Letters to the Editor**

*(Continued from Page 18)*

Gentlemen:

On the night of November 22, 1977, a Hewlett-Packard 3800-A Distance Meter was stolen from my truck.

The circumstances strongly suggest that the person knew what he wanted, as the components (vertical circle, battery box, distance meter, reflectors) were taken from different places while other attractive equipment (transit, chainsaw, CB radios) were neglected. The equipment was carried at least several hundred feet by foot, and amounted to what a person could carry away in one armload. Approximately \$5,000 worth of equipment was stolen. The following is a list of what was taken:

1. Hewlett-Packard 3800A Distance Meter, Serial -1225A0]2601, with vertical circle mount (plastic tabs & bot holes on top) in orange fiberglass case, with vertical circle.
2. Triple prism housing with one reflector in orange carrying case.
3. HP 3801A Distance Meter power unit, serial -1149A02066 with a Burgess ni-cad battery inside.
4. Schonstedt GA 32 Magnetic Locator, serial -10435.

Also, the charging cord will be missing, the triple prism reflector will have only one prism, no sight pole, no lens cover in the carrying case, the magnetic locator will not be equipped with the Shonsted Blue rimmed Earphones.

If you have been or are approached with an offer to sell or buy equipment meeting this description, please call collect 408-426-0541. All information will be kept confidential. Thank you for your help.

Sincerely,

Larry Palm Land Surveying  
1324 El Rancho Drive  
Santa Cruz, CA 95060

**New Officers  
and Directors**

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*Michael K. Welch, Santa Maria*

**VICE PRESIDENT**

*Paul W. Lamoreaux, Jr., So. San Francisco*

**SECRETARY**

*Merle W. Eli, Weaverville*

**TREASURER**

*Kenneth Burton, Red Bluff*

**DIRECTORS AT LARGE (3)**

Two year term (1978-79)

*Donald E. Bender, Sherman Oaks*

*Raymond B. Thinggaard, Neward*

*Jerry W. Tippin, Tahoe City*

*Bruce E. Wilt, Sierra Madre*

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# President's Message

Michael K. Welsh, President

When I joined California Land Surveyor's Association, I was impressed by the vigorous style and aggressive action displayed by its members. Working closely over the last several years with your board, CLSA has experienced growing pains and found itself dealing with the more or less menial task of organizing and managing. I think we have built an organization that will be able to cope with the growing needs and expectations of our profession.

As we enter this new year and for me a new job as your president, I find myself personally very busy with my land surveying practice and wondering where I will get the time necessary to attend another meeting. As I ponder who will head each committee, I know I will be asking equally busy people to give up precious time to do a task for all of the surveyors in California. It seems to me that the least each surveyor can do is maintain membership in CLSA and ACSM.

We need increased participation from every member. If you are not a member, join. If you are a member, participate. Through participation, your view can influence the goals and objectives of CLSA. As an example, we are expected by other state survey organizations to participate with them on national issues. In fact, because we are the largest state, we are expected to provide leadership.

As we form our committees and develop their charge, let us know your feelings. You can write to the "California Surveyor" or to me, and I will answer or find the answer. There will also be time provided at the convention for questions and answers, so come to San Diego and take part. I want to see the same vigorous style, aggressive action and "can do" attitude reflected in CLSA that I know exists among surveyors.

With your support of the surveying profession, your board members, chapter representatives, committee chairmen, and committee members will not only continue to unselfishly give time to the many tasks they face, they will do it knowing they have your confidence in them. If any member wants first hand knowledge of how a committee works or would like to begin working in a particular area, please contact me or your chapter representative. The long and short of it is that we need money and people to maintain status quo. We will need more of both to move ahead.

Won't you join with me to make this the best year ever for CLSA and the surveyor.

## Autobiographies

Michael K. Welsh, President

CLSA activities: Vice President, two years and Secretary, two years. Past President and Secretary-Treasurer, Central Coast Chapter. Chairman, Historical Committee and membership on two Board of Registration Ad Hoc Committees concerning future Land Surveyor's educational curriculum and continuing education.

Present job: Self-employed Land Surveyor.

Education: AA degree earned at Allan Hancock Community College.

Life credential to teach surveying in the Community College. Teaching a daytime three-unit Plane Surveying course — lecture and lab. Past President, Central Coast Chapter of the American Public Works Association as well as a member of the American Congress on Surveying and Mapping. Community activities include membership in Rotary, Chamber of Commerce, Santa Maria Developers and Campfire Girls Board of Directors.

### Paul W. Lamoreaux Jr., Vice President

CLSA activities: Secretary for one year and Treasurer for one year. Director-at-Large for three years. President, Santa Clara/San Mateo Chapter for two years, Vice President and Secretary-Treasurer, Santa Clara/San Mateo Chapter and Chapter representative for three years. Past Chairman, Status Improvement Committee, ASCE Liaison Committee Convention committee member for five years.

Present job: Real Estate Engineer for BART. Duties include administering three consulting land surveyor contracts.

Education: Bachelor degree from San Diego State University, majored in Economics with minors in both Business and Chemistry.

(Continued on Page 21)

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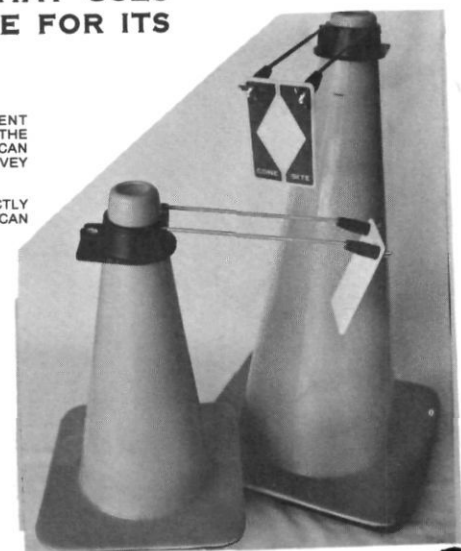
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## Autobiographies

(Continued from Page 20)

Memberships: ACSM-Land Survey Division; Northern California Section of ADSM; East Bay Council on Surveying and Mapping; BART delegate to California League of Surveying Organizations; American Right of Way Association-Chapter-2 and Commonwealth Club of California.

### Merle W. Eli, Secretary

CLSA activities: Member since 1970. CLSA Treasurer, 1977. Vice President, Feather River/Northern Counties Chapter in 1974.

Present job: Self-employed, Owner of Tri County Land Surveying Co., Weaverville.

Education: A.A. Compton College. Attended Humboldt State.

Started surveying in private practice in 1953. Employed in private surveying 10 years; California Division of Highways, 14 years. Licensed since 1968.

### Ken Burton, Treasurer

CLSA activities: Presently Director-at-Large and Chairman, FAM Committee. Past Co-chairman, Convention Committee; President, Northern Counties Chapter (1969-70); Past Vice President, Marin County Chapter &

member, Feather River/Northern Counties Chapter. Present job: Deputy County Engineer — Public Works Division, which includes the administrative functions of the County Surveyor.

Education: College of Marin — two years, majored in Elect. Eng. plus a multitude of surveying and engineering oriented classes & seminars.

Worked for Contra Costa County for twelve years and in private practice for six years (1962-68) in Marin County.

### DIRECTORS-AT-LARGE

#### Donald E. Bender

CLSA activities: Delegate to the Land Surveys Division of ACSM, 1977. Secretary, 1976; Treasurer, 1974-75; Chairman, Status Committee and Land Surveying Definition and Classification Committee, 1973-76; Southern Counties Chapter Representative, 1973. Committee memberships have included: Nominating, F.A.M., Legislative, education and President's Advisory Committee.

Present job: Survey Supervisor with Los Angeles Department of Water & Power. Responsible for R/W property, photogrammetry, computations, research and special projects.

Education: Graduate, Pasadena City College in surveying. Supplemented with study in supervision and surveying at UCLA & East Los Angeles City College. Presently attending third year of law studies at the University of San Fernando Valley, College of Law.

Membership in ACSM, national and local and A.S.P.; Chairman 1976 ACSM Ad Hoc Committee on Definition and Classification

(Continued on Page 22)

# Hewlett-Packard Announces The HP 3820A Electronic Total Station



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## Autobiographies *(Continued from Page 21)*

and member of the new ACSM Committee on Position Classification and Statistics.  
Registered in Nevada.

### Raymond B. Thinggaard

CLSA activities: Director-at-Large Since 1975. Coordinator, Professional Masters Division. Committees: Board of Registration Liaison (chairman), Readjustment of the North American Datum, License Examination Committee and worked on Water Boundaries Workshop. Present job: Assistant Manager — Real Property for Leslie Salt Co., engaged in all aspects of Real Estate Management.

Education: Presently attending San Jose State. Will receive B.S. Business (Real Estate) in December, 1978.

### Jerry W. Tippin

CLSA activities: Member, Board of Directors; CLSA/Chapter representative, six years; Charter member, Tahoe Chapter and Charter member, Northern Counties Chapter. Member and Chairman, Convention Committee since 1972 and Chairman of the 1979 CLSA/NALS Joint Convention.

Present job: Vice-president, Raymond Vail and Associates, Tahoe Office. Office Manager, responsible for all work functions in the North Tahoe area.

Education: AA Engineering, El Camino College, California.

Seminars attended: Water Boundaries Workshop, Retracement Workshop & Evidence Workshop.

Registered Land Surveyor in California, Arizona, Alaska and Oregon.

### Bruce E. Wilt

CLSA activities: Joined CLSA in 1975 after being asked to participate in the Land Surveyors Examination Committee. Have served on that committee until present time, assuming chairmanship in 1976. Served on Land Surveying Definition Committee as sub-chairman responsible for development of definition from the point of view of the Lexicologist and Occupational Analyst (1976.)

Present job: With the Metropolitan Water District of So. California (since 1968) with joint responsibility for surveying and mapping MWD's rights-of-way and land.

Education: B.S.E. in Civil Engineering with specialty in Surveying & Mapping (Univ. of Michigan, 1961); M.S.E. in Geodetic Engineering (Univ. of Michigan, 1973). Member, Chi Epsilon & Tan Beta Pi.

Active participant in the activities of the League of California Surveying Organizations since 1972. Served on Record-of-Survey, Parcel Map & Sub division Committee; Accuracy Committee and Legislative Committee.

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### Special Registration for Golf Tournament.

If you wish to participate in the Golf Tournament at the Convention on Thursday, March 30, 1978, fill out the card below and mail it along with the registration form (located on page 14). This *must* be mailed prior to February 28 if you wish to participate in the golf tournament. Mail the card and application to Convention '78, P.O. Box 788, Santee, CA 92071.

### Registration for Golf Tournament at 1978 CLSA Convention

---

Name (print)

---

Address (print)

FEE: \$20.00 — includes green fee, lunch (at approximately 2 pm) and prizes. Tournament will start at 9 am on Thursday, March 30 at the Stardust Country Club. Registration with FEE must be returned by February 28, 1978.

- Carts are \$5.00 (per person) extra.  
 Rental Golf Clubs are available @ \$5.00 per bag.

### HANDICAP:

N.C.G.A.    S.C.G.A.    CLUB (add name)    or Approx.

# CLSA Convention '78

## Special Meeting with N.G.S. Relative to 1983 Adjustment

By: Eugene P. Ehe

On Wednesday morning, January 18, representatives of Southern California cities and counties met with Captain John Bosler and John Gergen of the N.G.S. The meeting was for the purpose of discussing the 1983 horizontal datum adjustments now in progress by N.G.S. The two items we discussed were the input of local city and county information into the adjustment, and the California Co-ordinate System relative to the new adjustment. N.G.S. has established a policy where, after the re-adjustments, they will publish new values for monuments, utilizing the California Co-ordinate System in meters. Because a new reference spheroid will be used in the adjustment, there will be considerable translation between the old and the new co-ordinate values that will be given. The State law defining the California Co-ordinate System should be amended in the early 1980's to make reference to this new spheroid and values in meters.

Starting in about six weeks, Mr. Stem from N.G.S. will be stationed in the Los Angeles area. His main project will be to help Los Angeles County put 3,500 control points into the proper input format for re-adjustment. Mr. Stem is very familiar with the format required to input into the re-adjustment and will be available for consultation. The cutoff date for input of data is January 1, 1979.

In the winter 1977 edition of "The California Surveyor" we ran an article by Mr. Neil J. Cummins, Jr. entitled "Notice Afforded by Record of Survey Maps in California." Due to an oversight, we neglected to print the footnotes that should have accompanied that article. With our sincerest apologies to Mr. Cummins, we are printing the footnotes in the next edition of the Surveyor.

Editor

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