



Institutional Affiliate of American
Congress on Surveying and
Mapping

The California Surveyor

THE VOICE OF THE LAND SURVEYORS OF CALIFORNIA

NO. 54

CONVENTION EDITION

1979

MUSEUM FEATURES SURVEYING ITEMS

Antique surveying instruments, accessories, field notes and books will be the featured display during May, 1979 at the Placer County Museum, 1273 High St., Auburn, California, at the Gold Country Fairgrounds.

Among the historic items shown will be solar compasses, solar transits, Gunter and vara chains, European theodolites and level, transits, compasses, plus manuals and texts dating back to the 18th century. Particular emphasis will be placed upon the equipment and techniques used in California during the period 1847 through 1920.

The museum is open 10 a.m. to 4 p.m. weekdays and 10 a.m. to 5 p.m. weekends. Admission is free. ▲

RESPONSE TO "WATER BOUNDARY CONTROL IN CALIFORNIA"

*By Mr. F.D. Uzes, Supervising Boundary
Determination Officer, California State
Lands Commission.*

Regarding "Water Boundary Control" by Ronald Greenwell (Fall and Winter 1978 issues of *The California Surveyor*), it would undoubtedly have been helpful to readers if the article was initially identified as having been prepared by an undergraduate student in fulfillment of academic objectives. Mr. Greenwell's desire to provide California surveyors with a guide on water boundaries was certainly commendable, his product was unfortunately inaccurate, incomplete, and misleading. The further claimed result that the article constituted a clarifica-

tion of accepted policies in the State of California was likewise incorrect. Because of the limited time available to submit this response for publication in the succeeding edition of *The California Surveyor*, no attempt was made to present a point-by-point rebuttal. It did seem important to issue an immediate warning against anyone relying on the article though, as L.S. exams occasionally test candidates on water boundary matters. While these comments are necessarily brief, perhaps at a future date someone will submit a more accurate, comprehensive work.

Mr. Greenwell stated in the conclusion of his article that "As Surveyors you should equip your libraries with law sections and keep abreast of the court decisions that will affect you." Unfortunately the author failed to heed his own advice. It was obvious from the treatment of the 3-mile offshore boundary subject that he had not reviewed either the 1965 opinion (381 U.S. 139) or the 1966 supplemental decree (382 U.S. 448) in the case *U.S. v. California*, No. 5 Original. This opinion and supplemental decree decided the very issues which the author stated were open questions in the first portion of the article. It was later noted that neither citation was listed in either the bibliography or

NOTICE

The Western States Regional Conference of Land Surveyors, which is co-hosted by the California Land Surveyors Association (CLSA) and the Nevada Association of Land Surveyors (NALS), will be held in lieu of CLSA's annual conference.

Persons wishing further information should contact CLSA's headquarters, P.O. Box 7400, Santa Rosa, CA 95401. (707) 526-2572.

Conference Registration Form on Page 25

Hotel Group Reservation
Request Form on Page 20

(Continued on Page 32)

**CALIFORNIA LAND
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**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.”

PERSONNEL

Owner: California Land Surveyors Association
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Commercial advertising is accepted by *The California Surveyor*. Advertising rates and information can be obtained by contacting Almac Technical Graphics, 2476 Embarcadero Way, Palo Alto, CA 94303. Phone 415-327-6785.

Sustaining Membership

Membership in the California Land Surveyors Association as a sustaining member is open to any individual, company or corporation who, by the 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 (408) 287-3400

**DEADLINE DATES FOR
THE CALIFORNIA SURVEYOR**

SPRING FEBRUARY 24, 1979
SUMMERMAY 19, 1979

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

**CALIFORNIA BOARD
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Written Examination Schedule
1979**

**Land Surveyor-in-Training—LSIT
*Final Filing Dates:**

April 7, 1979 (Saturday)
August 31, 1979 (Friday)
November 3, 1979 (Saturday)

****Land Surveyor—LS**

July 6, 1979 (Friday)
November 3, 1979 (Saturday)

*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.

NOTE: This schedule is subject to change at any time without prior notice.



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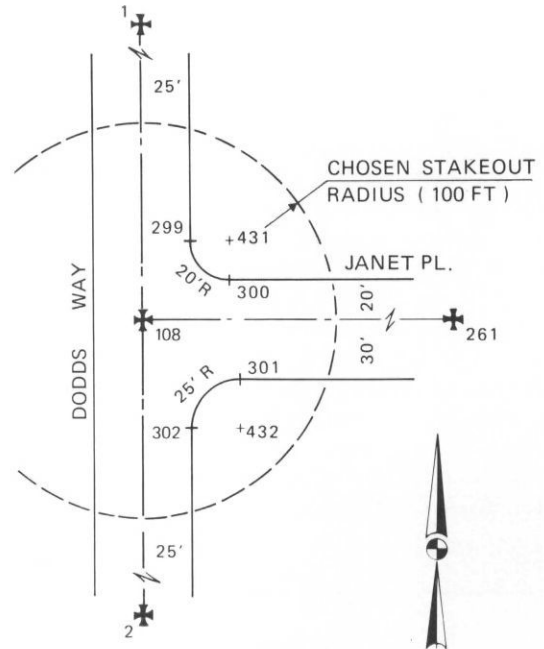
| | | |
|---------------------------|------------------------|----------------|
| STRAIGHT x STRAIGHT | STRAIGHT x CURVE | CURVE CURVE |
| STREET INTERSECTIONS | | |

1. SELECT program.
2. ENTER requested data:

| | |
|---|---|
| (P.I.) POINT# 108. | BACK OFFSET? 30. |
| (1ST C/L) TO POINT# 1. OFFSET? 25. | (NEXT C/L) TO POINT# 2. OFFSET? 25. |
| (NEXT C/L) TO POINT# 261. OFFSET? 20. | CORNER RADIUS? 25. |
| CORNER RADIUS? 20. | RADIUS= 25.0000 |
| RADIUS= 20.0000 | DELTA= 90.00000 |
| DELTA= 90.00000 | LENGTH= 39.2699 |
| LENGTH= 31.4159 | TANGENT= 25.0000 |
| TANGENT= 20.0000 | CHORD= 35.3553 |
| CHORD= 28.2843 | (BC/PC) POINT#? 301. 9238.0842 10052.6976 |
| (BC/PC) POINT#? 299. 9332.9924 10027.4417 | (RADIUS) POINT#? 432. 9238.0843 10052.7890 |
| (RADIUS) POINT#? 431. 9333.0656 10047.4415 | (EC/PT) POINT#? 302. 9237.9951 10027.7894 |
| (EC/PT) POINT#? 300. 9313.0656 10047.5148 | BACK OFFSET? |

then, for staking out all points within a 100' radius of #108:

| | |
|---|------|
| STAKEOUT DATA Successive Points Fixed Point | |
| FROM POINT? | 108. |
| BACKSIGHT POINT? | 1. |
| RADIUS? | 100. |



... with the stakeout data printed on an optional page printer:

| | | | | | | | | | |
|------------------|-------------|------------|------------|-----------|------------|--------------|----------|-----------|------------|
| INSTRUMENT PT= | 108. | 9292.9012 | 10002.5882 | | | | | | |
| BACKSIGHT PT= | 1. | 10000.0000 | 10000.0000 | | | | | | |
| STAKEOUT RADIUS= | 100.00 | | | | | | | | |
| TO PT: | BEARING | N AZIMUTH | TURNEd< | 2XTURNEd< | DEFLECTEd< | 2XDEFLECTEd< | DISTANCE | NORTHING | EASTING |
| 299. | NE 31.47444 | 31.47444 | 32.00194 | 64.00388 | - | 147.59406 | - | 295.59212 | 47.17 |
| 300. | NE 65.49410 | 65.49410 | 66.02160 | 132.04320 | - | 113.57440 | - | 227.55280 | 49.24 |
| 301. | SE 59.14445 | 120.45155 | 120.57505 | 241.55409 | - | 59.02095 | - | 118.04191 | 58.31 |
| 302. | SE 24.39132 | 155.20468 | 155.33218 | 311.06435 | - | 24.26382 | - | 48.53165 | 60.42 |
| 431. | NE 48.09243 | 48.09243 | 48.21593 | 96.43585 | - | 131.38007 | - | 263.16015 | 60.21 |
| 432. | SE 42.28593 | 137.31007 | 137.43357 | 275.27113 | - | 42.16243 | - | 84.32487 | 74.33 |
| | | | | | | | | | 9332.9924 |
| | | | | | | | | | 10027.4417 |
| | | | | | | | | | 9313.0656 |
| | | | | | | | | | 10047.5148 |
| | | | | | | | | | 9263.0842 |
| | | | | | | | | | 10052.6976 |
| | | | | | | | | | 9237.9931 |
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(Continued on Page

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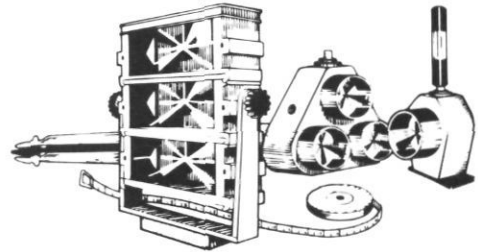
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| †Hewlett-Packard 3808 Distance Meter | 50.00 | 30.00 | 20.00 |
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| *†K & E Autoranger with Azimuth Base or mount for Theodolite | 30.00 | 18.00 | 12.00 |
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| *Lietz C3-A Engineers Automatic Level | 4.50 | 2.70 | 1.80 |
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| | | | |
|--|-------|-------|------|
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(Continued from Page 4)

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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.

Here's to a happy and profitable convention '79! ▲



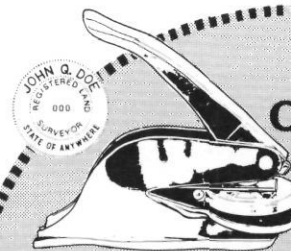
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(Continued on Page 8)

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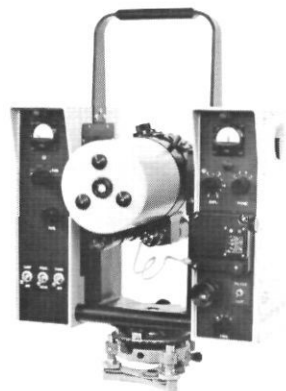
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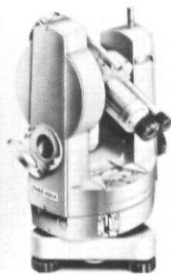


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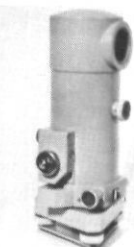
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SUSTAINING MEMBERS

(Continued from Page 6)

I ENGINEERING III COMPUTER IIII SERVICES

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

Engineering Computer Services is a surveying oriented company, offering technical assistance in horizontal and vertical control calculations, earthwork volume computations, and computer plotting. Our projects during this past year have included residential parcel maps, industrial tracts, control calculations for multisection watershed studies, and earthwork calculations for projects ranging from less than 1,000 cubic yards to over 4,000,000 cubic yards. For brochures or quotes write Bob Perrine at ENGINEERING COMPUTER SERVICES, 2200 "F" Street, P.O. Box 1443, Bakersfield, California 93302, or phone (805) 325-7012. ▲

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-Only-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. Almost any peripheral desired can be interfaced to SURVEY 31. These include thermal printers,

(Continued on Page 10)

ELECTRONIC DISTANCE MEASURING EQUIPMENT RENTALS

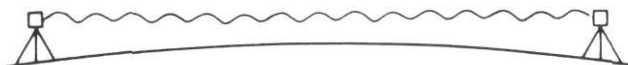
HEWLETT  PACKARD

DISTANCE METERS



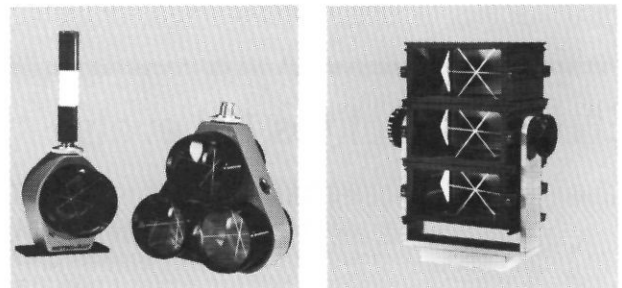
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Padded storage bags available for above models.

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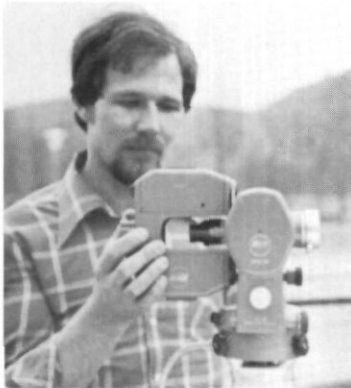
Lewis & Lewis

surveying
equipment

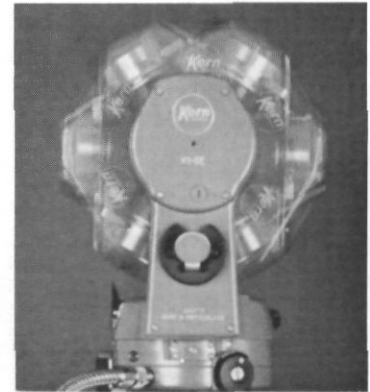
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Telescope fully Transitable



Entire system portable in one case



Reflector with target and right-angle prisms

Features: Fully automatic/Tracking mode.
 Range: 1 mile / 1600 meters
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 /carrying case—6 lbs.



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- 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.

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WESTERN STATES REGIONAL CONFERENCE OF LAND SURVEYORS

MARCH 28-31, 1979
SAHARA TAHOE
LAKE TAHOE, NEVADA

PRELIMINARY PROGRAM

CALENDAR OF EVENTS

Wednesday, March 28, 1979

- 10:30 a.m. Golf Tournament, Eagle Valley Golf Course, Carson City, Nevada.
- 12:00 noon Registration opens (extending until 8:00 p.m.) Alpine Room foyer.
- p.m. Meeting of individual state Land Surveyor Assoc. Board of Directors.
General assembly of states Board of Directors.
- 7:00 p.m. Exhibitor-sponsored cocktail party.

Thursday, March 29, 1979

- 8:00 a.m. Registration (extending until 5:00 p.m.) Alpine Room foyer.
- 9:00 a.m. Opening ceremonies & welcoming remarks High Sierra Theater.
- 9:30 a.m. Keynote address. Speaker to be announced.
- 10:00 a.m. Introduction of dignitaries.
- 10:30 a.m. Convention Theme. Edwin Brownell, Vice President, ACSM.
- 11:00 a.m. Coffee
- 11:30 a.m. Official opening of exhibits, Exhibit Hall
- 12:00 p.m. Luncheon. Speaker, Dr. Helmut Leitz, Chief, Research & Dev., Carl Zeiss, Inc., Oberkochen, Germany—"Black Box Technology."
- 1:30 p.m. California-Nevada Boundary Dispute, Nevada Attorney General, Sequoia Ballroom.
- 2:30 p.m. Intent and How to Prove It. Edward "Ned" Elder, L.S. Consultant.
- 3:00 p.m. Coffee
- 3:30 p.m. 1983 Readjustment of the North American Datum. Joseph E. Dracup, Chief, Control Networks Div., National Geodetic Survey.
- 4:30 p.m. Land/Sea Boundaries by Air. Cmdr. J. Collins, National Geodetic Survey.

(Continued on Page 14)

SUSTAINING MEMBERS

(Continued from Page 8)

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 now exists which appoints K & E as the exclusive world-wide distributor for the SURVEY 31 computer and other items produced by Engineering Services Co.▲

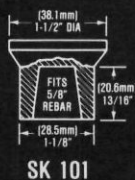
HEWLETT  PACKARD

**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 instrument systems; electronic calculators; computers and computer 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, Hewlett-Packard is an international organization with over 37,000 employees. Hewlett-Packard produces more than 4,000 products at 24 domestic divisions, located in California, Colorado, Oregon, Idaho, Massachusetts, New Jersey, and Pennsylvania, and at seven overseas locations. Hewlett-Packard products are marketed

(Continued on Page 12)

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SUSTAINING MEMBERS

(Continued from Page 10)

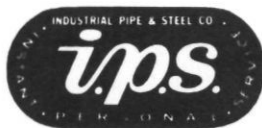
and sold in the United States and 64 countries abroad, primarily through the company's own network of sales and service offices.

During the past decade a large share of Hewlett-Packard resources has been devoted to the design and manufacture of civil engineering products such as electronic distance measuring systems, programmable desktop calculators and peripherals, and powerful pocket-sized calculators for surveyors and civil engineers.

The latest contribution from HP's Civil Engineering Division is the new HP Survey System One—a system designed to let you do more work in less time and with much less chance for error. In brief, the system transfers all of your measurement data from the field to the office electronically, with speed and accuracy. In the office, your field data is reduced in a fraction of the time it would take using conventional methods, and you get answers while the job is still fresh in your crew's mind. Time savings are substantial, and the potential for error is all but eliminated.

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.

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-C, Loveland, Colorado 80537 (303) 667-5000. ▲



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INDUSTRIAL PIPE & STEEL CO. has been located in South El Monte (approximately 15 miles east of Los Angeles) for the past 20 years. INDUSTRIAL PIPE & STEEL CO. has serviced industry and the "Do-It-Your-

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

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(Continued on Page 14)

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There's a lot more to Topcon Auto Levels than meets the eye.



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WESTERN STATES REGIONAL CONFERENCE OF LAND SURVEYORS

Friday, March 30, 1979

- 8:00 a.m. Registration — (Extending until 5:00 p.m.) Alpine Room foyer.
- 8:30 a.m. Why A Digital Theodolite? D. I. Michael, K & E Co. Glenbrook Room.
- 9:15 a.m. Wooden Evidence. Don Wilson, L.S. New Hampshire.
- 10:00 a.m. Coffee with Exhibitors, Exhibit Hall.
- 10:30 a.m. California-Nevada Boundary Dispute. F. D. Uzes, L.S., Calif. State Lands Div.
- 11:15 a.m. Land Surveying In Alaska. Claud Hoffman, Chief, Anchorage, Alaska Cadastral Surveyor, B.L.M
- 12:00 p.m. Luncheon. Surprise Guest Speaker.
- 1:30 p.m. Cash Flow and How To Get It. Gerald Johnston. Director, Bureau of Business Research & Service—Cal State University at Fresno, Glenbrook Room.
- 2:15 p.m. Coffee with Exhibitors, Exhibit Hall.
- 3:00 p.m. How To Hire and Fire. Leila Johnson, Psychologist, Tuscon Public Schools.
- 3:45 p.m. Future Role of the Land Surveyor. T.S. Madsen, L.S. & Attorney, Florida.

Friday, March 30, 1979

Concurrent Technical Session

- 9:00 a.m.—12:00 p.m. State Plane Coordinate Workshop. J.F. Dracup & NGS Staff, Fern and Incline Rooms.
- 9:00 a.m.—12:00 p.m. Judicial Function of the Land Surveyor. Walter Robillard, L.S. Consultant, Hillside Room.
- Research and the Land Surveyor. Roy Minnick, L.S. Calif. State Lands Div., Hillside Room.
- Legal Procedures. John Briscoe, Deputy Attny General—Calif. Dept. Justice, Hillside Room.
- Presenting Evidence. W. Robillard, L.S. and R. Minnick, L.S., Hillside Room.
- 1:30 p.m.—4:30 p.m. State Plane Coordinate Workshop (Repeat of morning session). J. F. Dracup & NGS Staff, Fern and Incline Rooms.
- 1:30 p.m.—4:30 p.m. History of a Court Case. W. Robillard, L.S., L. Kiley, L.S., R. Minnick, L.S., D. Wilson, L.S., J. Briscoe, Deputy Attny General. Hillside Room.

Saturday, March 31, 1979

- 8:00 a.m. Five Mile Fun Run.
- 9:00 a.m. Land Surveyor Liability. Gerald Igl, Vice Pres., Pioneer Title Co., Seattle. Hillside Room.
- 9:45 a.m. L.S.I.T.—A Right to Life? James R. McLaughlin—L.S. & P.E., N.C.E.E. Representative.
- 10:30 a.m. Coffee with Exhibitors, Exhibit Hall.
- 10:45 a.m. Training Programs for Survey Aids. Timothy R. Ryan.
- 12:00 p.m. Closing Remarks.

(Continued on Page 18)

SUSTAINING MEMBERS

(Continued from Page 12)

instruments of highest precision since 1819. This tradition finds its continuation today in complete lines of modern equipment for photogrammetry and surveying.

The systems concept pioneered by Kern with the introduction of the PG2-AT in 1974 for photogrammetry equipment finds its reflection in the modularity of Kern theodolites and electronic distance measuring instruments.

The DM501 distance meter, with a range of more than 1 mile, can not only be used interchangeably with the K1-S and DKM2-A theodolites, but will also be the tachymeter-component of the electronic theodolite introduced during the International Congress of Surveyors in 1977 in Stockholm, Sweden. The electronic tachymeter-theodolite will become available early 1980.

The ME3000 Mekometer has justifiably established itself throughout the world as the most precise distance meter. It has an accuracy of ± 0.1 mm and a range of 3000 meters. The Mekometer is intended for distance measurements of highest precision.

The Distometer ISETH was introduced in 1977 to expand the Kern line of precision measuring tools for deformation and displacement measurements.

Kern levels also enjoy a worldwide reputation. Both automatic and tilting styles are available for construction, engineering, and precision work.

In photogrammetry, the PG2 and PG3 Semi-Automatic Stereoplotting Systems are greatly enhanced with two newly developed system modules:

The SDU Closed-Loop X Y Servo Positioning Drive Unit provides for semi-automatic, computer controlled cross-sectioning, profiling and collection of digital terrain models. The DC2-B Digitizer-Graphics Computer features 4-axes display, greatly increased automation of on-line stereo-compilation and intelligent structuring of the digital data bank by overlays.

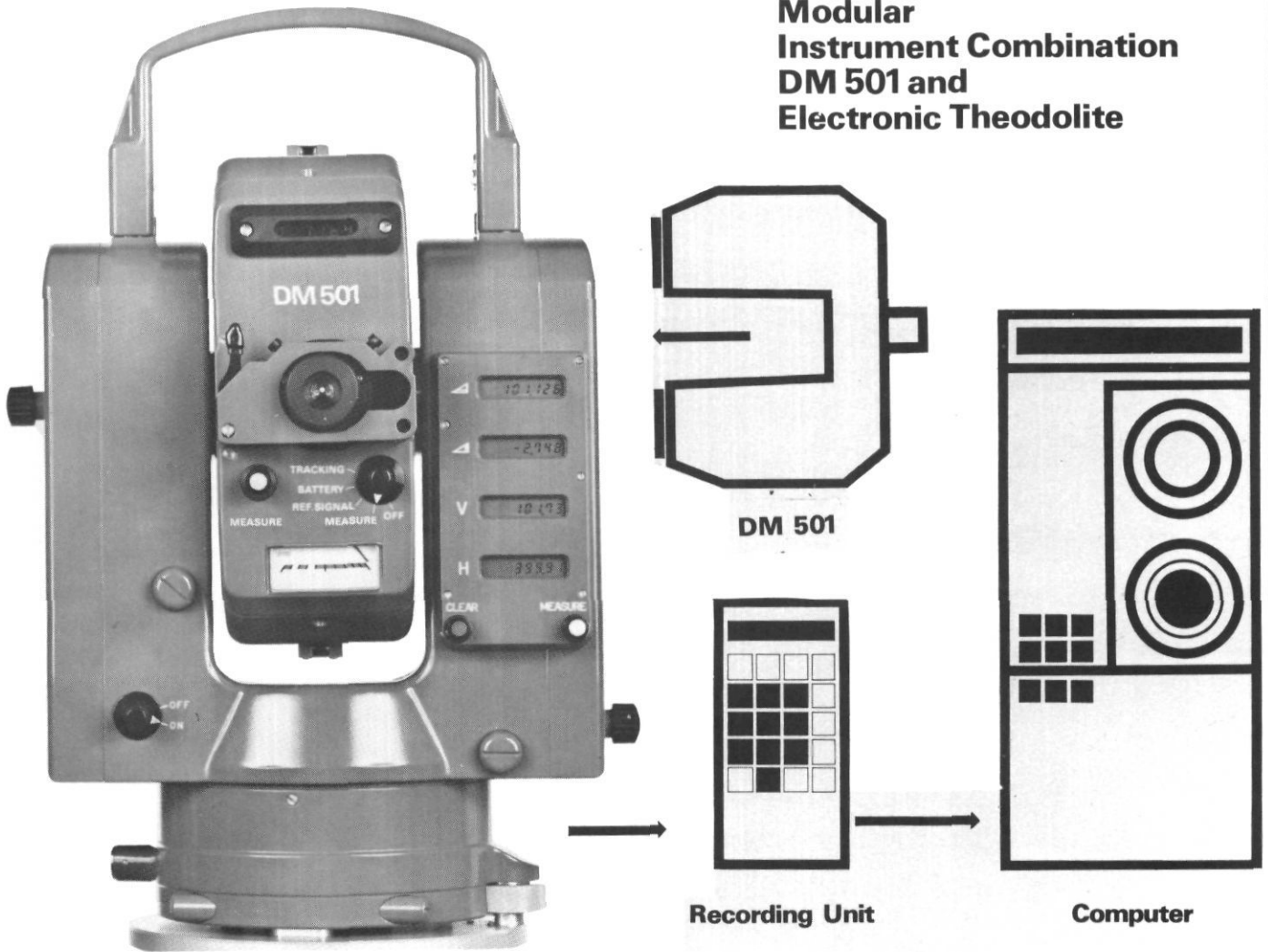
With the recently introduced Zoom Point-Transfer Instrument PMG2 and the unique CPM1, which combines point-transfer with a measuring capability on the left stage, and the well known Monocomparator MK2, Kern now offers a complete line of instruments for fully analytical aerotriangulation.

(Continued on Page 18)

The Kern DM 501 Survey System

The Step into the Future

Modular
Instrument Combination
DM 501 and
Electronic Theodolite



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Now K&E achieves the ideal matchup of electronics and surveying technology.

Introducing the VECTRON Electronic Surveying System— a total surveying package in a modular format.

K&E brings the full force of its surveying instrument experience and leadership into the age of electronics. Result: the first total surveying package in a modular system. The system consists of three separate electronic components:

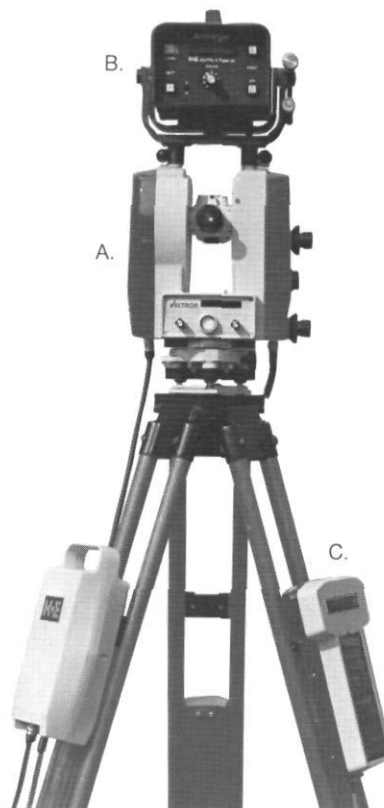
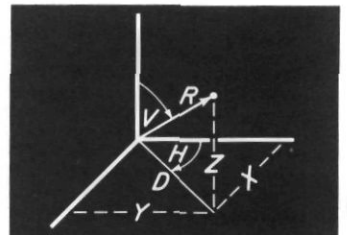
- A. VECTRON Surveying Instrument: for angle measurement and calculation of surveying coordinates
- B. AUTORANGER® EDM Instrument: for range measurement
- C. VECTRON Field Computer: for data storage and calculation.

Each is a fully independent unit that can be purchased separately, and operated independently, or in combinations. All three are programmed to interconnect in a system unparalleled in performing all functions.

The VECTRON System makes angle and distance measurements electronically, calculates surveying coordinates in the field, and stores data without manual transcription. That translates to increased productivity and greater accuracy in all surveying projects.

The heart of the system is the VECTRON Instrument which integrates

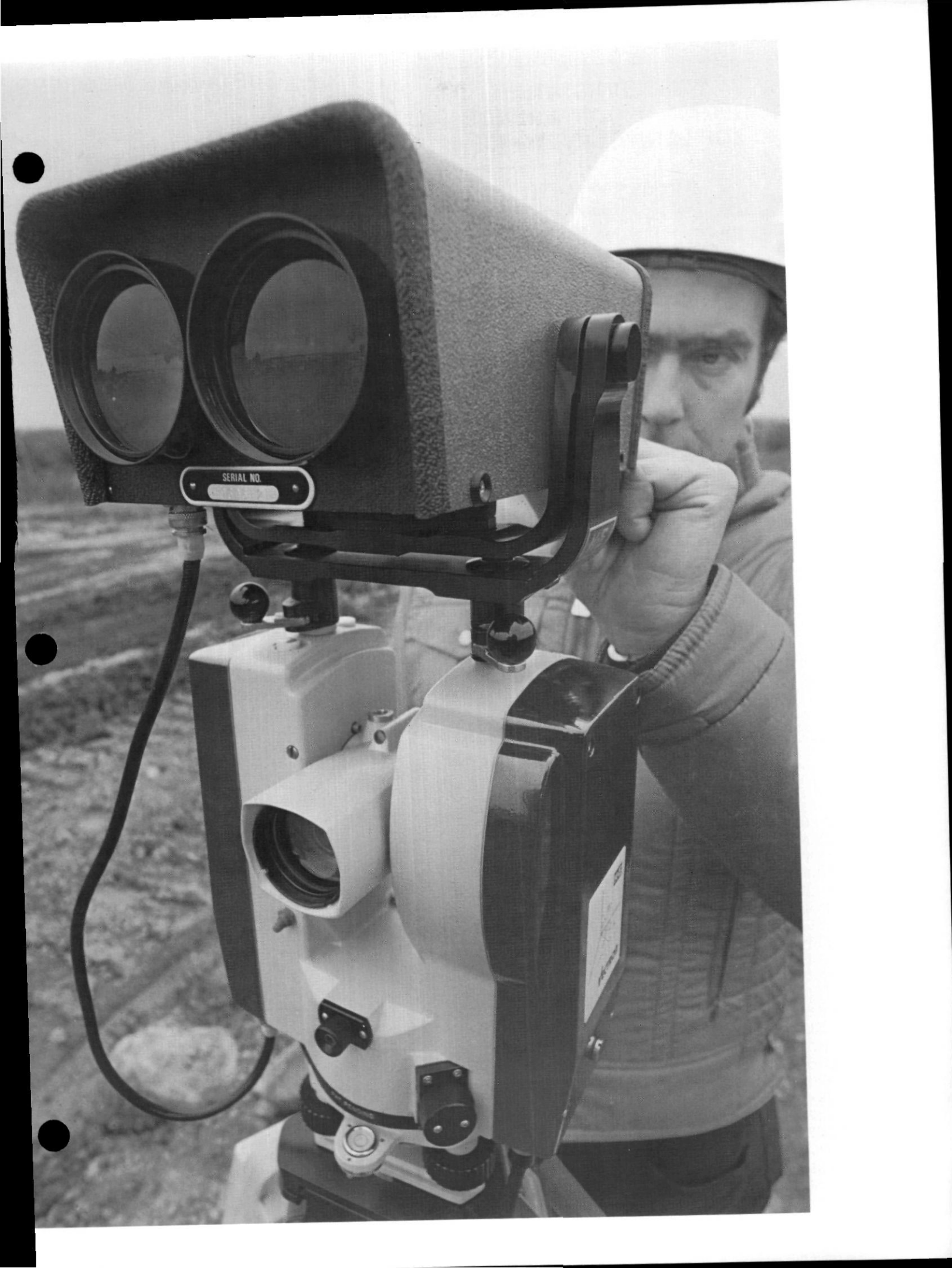
precision optics and mechanics with electronic sensor and microprocessor to perform standard surveying functions with speed and versatility. By means of a numeric keyboard or field computer the readout of the horizontal circle can be preset to a known azimuth or zero. When the VECTRON Instrument is interfaced with its other components the VECTRON system performs the following:



- automatically measures, displays and records slope range, 1m to 2km (3 feet to 1¼ miles) (R)
 - horizontal angle (H)
 - vertical angle (V)
 - automatically computes, displays and records horizontal distance (D)
 - departure (X)
 - latitude (Y)
 - difference in elevation (Z)
 - automatically accumulates and averages readings for slope range, horizontal and vertical angles
 - automatically senses and corrects for mis-level of vertical angle.
 - converts slant range to horizontal and vertical range
 - converts horizontal range and azimuth to x and y coordinates
 - averages data
 - reads out in angular units of degrees, grads or mils
 - permits repeating horizontal angle readings to 9999.999
 - stores measured data and calculated results, identified alphanumerically
 - retrieves data from storage, for display on command, or transfers to magnetic tape recorder
 - automatically verifies stored data
- For more details about the VECTRON System and its individual components, write Keuffel & Esser Co., 20 Whippany Road, Morristown, N.J. 07960.



KEUFFEL & ESSER COMPANY



WESTERN STATES REGIONAL CONFERENCE OF LAND SURVEYORS

Saturday, March 31, 1979

Concurrent Technical Session

9:00 a.m.- 12:00 p.m. Time Management Workshop. Dr. Victor Panico, Professor, Department of Office Administration, Calif. State Univ. at Fresno.
Glenbrook Room.

LADIES ACTIVITIES

Thursday, March 29, 1979

8:00 a.m. Ladies Hospitality Room Opens, Room 202.
11:30 a.m. Fashion Show and Luncheon. Fashions from 1776 to Present Showing the Latest Looks in Fashion and Beauty.
5:00 p.m. Ladies Hospitality Room Closes.

Friday, March 30, 1979

8:00 a.m. Ladies Hospitality Room Opens, Room 202.
12:00 p.m. Luncheon with Men. Surprise Guest Speaker.
5:00 p.m. Ladies Hospitality Room Closes.

Saturday, March 31, 1979

8:00 a.m.- 12:00 p.m. Ladies Hospitality Room Open.

SOCIAL EVENTS

Thursday, March 29, 1979

6:00 p.m. Alpine "Oompah" Party.

Friday, March 30, 1979

6:00 p.m. Dinner Show. Major Show Business Entertainer.

EXHIBITORS

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SUSTAINING MEMBERS

(Continued from Page 14)

lation. All instruments for aerotriangulation are manufactured in the new Kern plant in Brewster, New York.

Kern & Co. Ltd. is represented by Kern Instruments, Inc. Brewster, New York 10509, phone 914-279-5095, and in Canada by Kern of Canada, Ltd., 40 Colonnad Road, Ottawa, Ontario K2E 7J6, phone 613-226-1105. ▲



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The Keuffel and Esser Company of Morristown, New Jersey, maintains a full line of quality geodetic instruments, field equipment and map-making materials.

Also available in the K&E line is a full range of electronic distance measuring equipment: Autoranger-1 mile, Autoranger S-2 miles, Autoranger 11-2 miles, the Uniranger-5 miles, Ranger IV-8 miles, Ranger V-15 miles and Rangemaster 11-40 miles.

Of high importance is the new Vectron electronic surveying system. The Vectron system makes angle and distance measurements electronically, calculates surveying coordinates in the field, and stores all data without manual transcription.

K&E offers its line of STABILENE film 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 and Esser Company, 1327 South Olive Street, Los Angeles, CA 90015 (Telephone 213-747-7601); or Keuffel and Esser Company, 223 Lawrence Avenue, South San Francisco, CA 94080 (Telephone 415-873-6850).

LEWIS & LEWIS

surveying equipment

Ventura, California

Lewis & Lewis Company was originally started by Mr. R. B. Lewis as a locally oriented civil engineer-land sur-

(Continued on Page 20)

New from Hewlett-Packard – Survey System One – boosts productivity from field to finish.

Introducing Hewlett-Packard's Survey System One.

A system designed to let you do more work in less time, and with much less chance for error. In brief, the system transfers all of your measurement data from the field to the office *electronically*, with speed and accuracy. In the office, your field data is reduced in a fraction of the time it would take using conventional methods, and you get answers while the job is still fresh in your crew's mind. Time savings are substantial, and the potential for error is all but eliminated.

Four key components make up the HP Survey System One. For field work, measurements are made electronically with the **HP 3810A Total Station**, a dependable easy-to-use instrument combining angle and horizontal distance measurements. The **HP 3851A Data Collector** is the link between field and office. Readings displayed by the Total Station are stored in the Data Collector's solid-state memory. Back at the office, the Data Collector transfers your field data to the **HP 9815 Surveying Calculator** for processing. This transfer is accomplished automatically, error free, and in a fraction of the time you now spend on the same task. The fourth

component is the **HP 9871A Page Printer**, which makes working plots in minutes and provides convenient page-width printouts.

Call us today and let us show you how the HP Survey System One can make a dramatic difference in your firm's productivity and profitability.

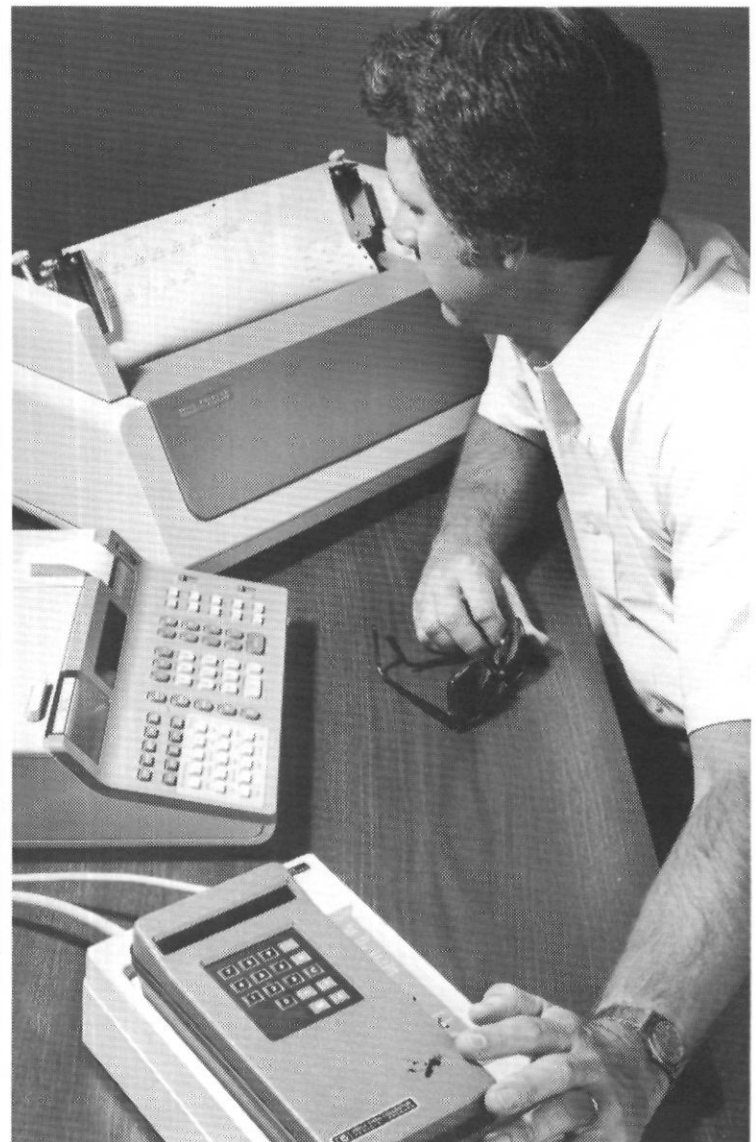
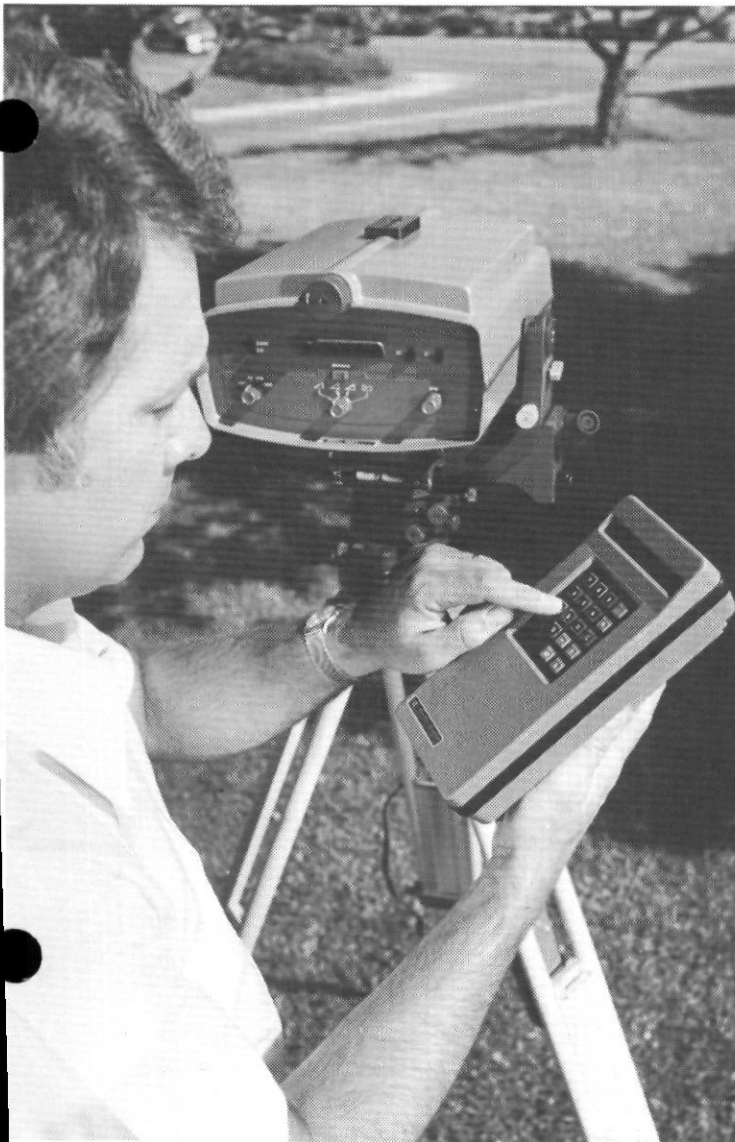
In surveying, expect HP to set the standards.

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SUSTAINING MEMBERS

(Continued from Page 18)

veyor 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.

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). ▲



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Now one of the major suppliers of surveying instruments and equipment in the United States, Lietz products are available from more than 150

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. Stereoscopes, EDM, Hand Levels, Magnetic Locators, Fiber Glass Tapes, Field Books, Level Rods, and Planimeters are also part of the broad range of Lietz Products.

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(Continued on Page 22)

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| Mail ALL parts of this form to: P.O. Box C Stateline Nevada 89449 | | WESTERN REGIONAL CONFERENCE OF LAND SURVEYORS March 28 - April 1, 1979 Room Rates: \$31.00 Single, \$35.00 Double or Twin, Plus 5% Room Tax | | | Check out Time 12 Noon Check in Time Is After 2 p.m. | |
| Arrival Date | Departure Date | # Persons | # Rooms | FOR HOTEL USE | | |
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| STREET ADDRESS | | | | RATE | | |
| CITY STATE ZIP | | | | DEPOSIT | | |
| SIGNATURE | | | | FOLIO NO. | | |
| PHONE | | | | CLERK | | |
| Convention Rates Applicable Only During Above Dates. This Reservation Must Be Received 14 Days Prior To Arrival Date. Reservations held ONLY until 4 p.m. unless an advance deposit of one day's room rate has been received. If time does not permit receipt of advance deposit, reservation MUST be reconfirmed by telephone prior to 4 p.m. on scheduled day of arrival. | | | | PRINT FIRM & CLEAR | | |
| DO NOT WRITE BELOW THIS LINE | | | | | | |
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SUSTAINING MEMBERS

(Continued from Page 20)

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Sacramento Surveyors Supply is a major repair facility with a master check stand for providing the utmost in quality calibration and repairs of all instruments. Along with repairs, Sacramento Surveyors Supply offers a complete line of surveying instruments for rental or rental-purchase. Also, Sacramento Surveyors Supply carries an extensive line of surveyor's supplies.

The business manager for Sacramento Surveyors Supply is Mr. W. (Buck) Buckhalter, who has been in the business for more than 15 years and is most willing to help you with all your surveying needs. Buck has lived in Sacramento most of his life and is well known in the area. He has with him as a technician Mr. Jim Chism, who also is a long time resident of Sacramento.

Begun about five years ago, Sacramento Surveyors Supply changed hands several times before being purchased about three years ago by the O.M.T. Corporation, with Mr. Erland E. Polson as president. Mr. Polson, who has 10 years in the surveying instrument repair business, hired Buck Buckhalter as manager, and the business has moved forward since, a result of Buck's dedication to his motto, "service is our business," and reasonable rates.

Mr. Polson decided this year that the firm needed outside salesmen covering the entire state of California, and opened another office in the Bay Area. He has persuaded Mr. E. J. "Buzz" Williams to come out of retirement and provide the company with an additional boost in sales and service.

Before retiring, "Buzz" worked for 12 years as a salesman for Brunson Instrument Co., becoming sales manager, and serving the last five years as Vice President of Western Operations. Prior to his employment with Brunson, he owned a surveying business for seven years in Southern California. ▲

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Swiss Precision Instruments was founded on May 1st, 1978, much to the surprise of everyone, including Peter Muller, the sole proprietor. Having worked for Kern Instruments for the past twelve years as a repair technician, and later, as the manager/technician of the Western Division, he was given thirty days notice of their intention to close down in the west. Moving quickly, Peter Muller obtained the necessary permits which would allow him to open a business of his own, thereby making it possible to continue his service to his customers.

Now in business for himself, Pete decided to expand and include the line of instruments by Wild, Lietz and Top-

con, as well as Kern. Besides the sales and service of these instruments, Swiss Precision Instruments is able to offer a full line of surveyor's supplies.

Business quickly became more than one man could handle so a partnership was formed with the well-known salesman, Steve Carlon. Although this partnership did not last long, both Pete and Steve feel they benefited by the association. A somewhat unique idea was put into operation during the partnership which Pete has continued, namely, to visit customers in a van stocked with supplies.

What has remained of utmost importance for Peter Muller has been his instrument repair department. His long association with Kern provided him with the skill and knowledge of manufacturing techniques and required tolerances of optical components. He quickly realized that local repair service for the surveyor left much to be desired and lacked professionalism. With the founding of Swiss Precision Instruments, he was able to realize a life-long dream of providing dependable repair service to the land surveyor.

In February, we were pleased to welcome Mr. Otto Senn to the repair department. Like Pete, Otto has completed the precision-mechanic apprenticeship in Switzerland. He has worked for Kern Instruments, specializing in electronic distance meters.

Miss Elizabeth Murphy has been hired for administration and supplies sales.

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Within a few years, optical tachometry, which itself had taken about 20 years to replace the conventional

(Continued on Page 24)

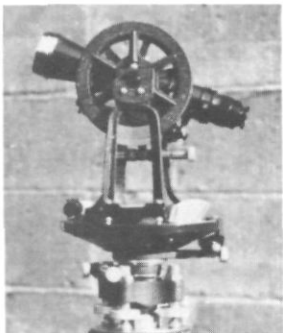
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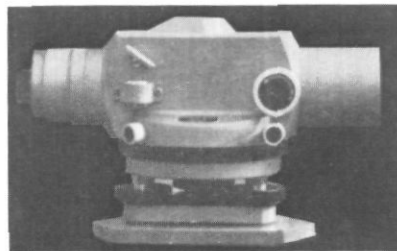
TT-600 TRANSIT

DESCRIPTION:

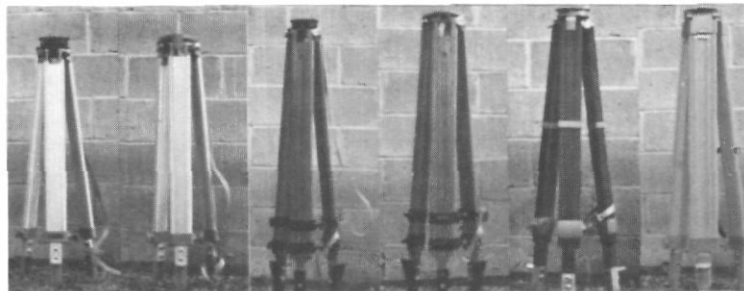
5½ inch graduated on silver, Double numbered from 0-360 and 360-0 degrees, 2 verniers graduated on silver double direct reading to 20 seconds.

CONSTRUCTION:

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SUSTAINING MEMBERS

(Continued from Page 22)

techniques, was ousted almost completely from such fields as detail surveys and traversing.

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(Continued on Page 28)

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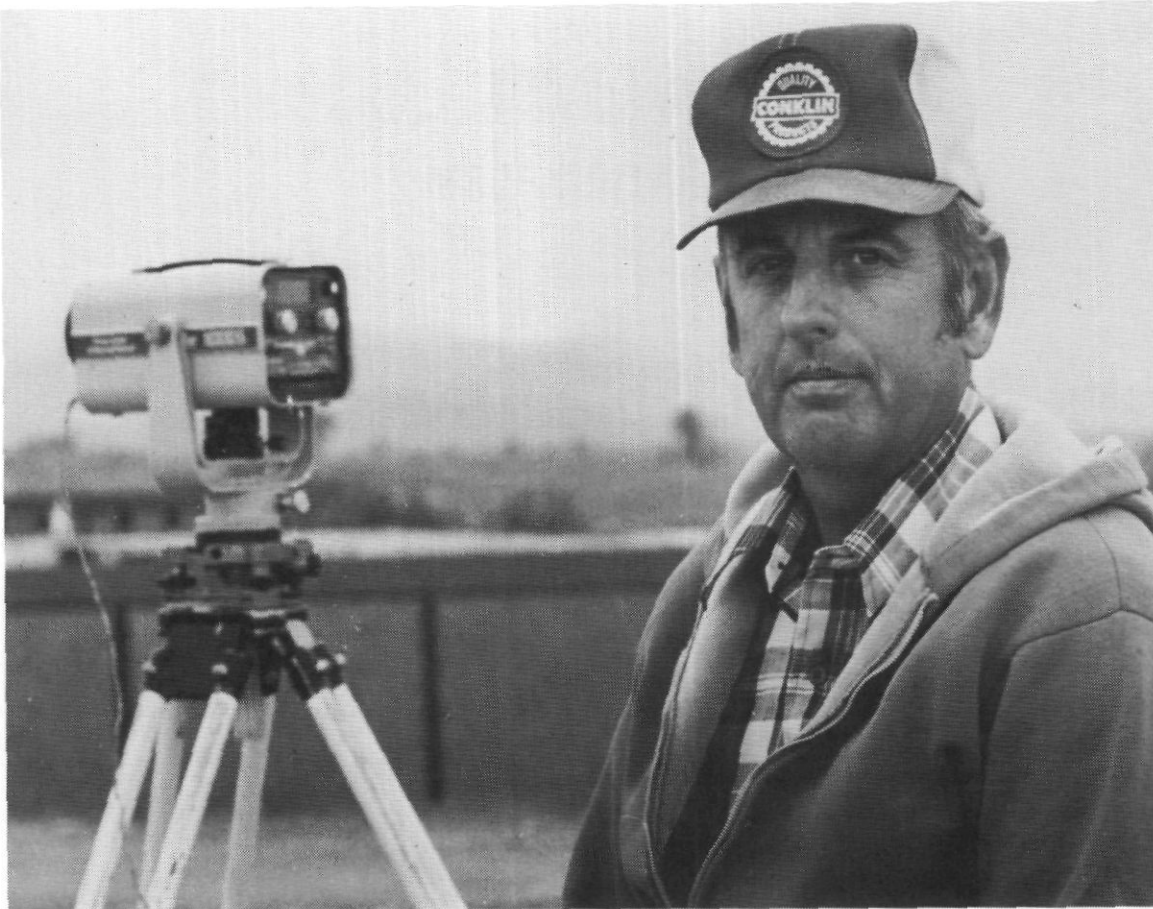
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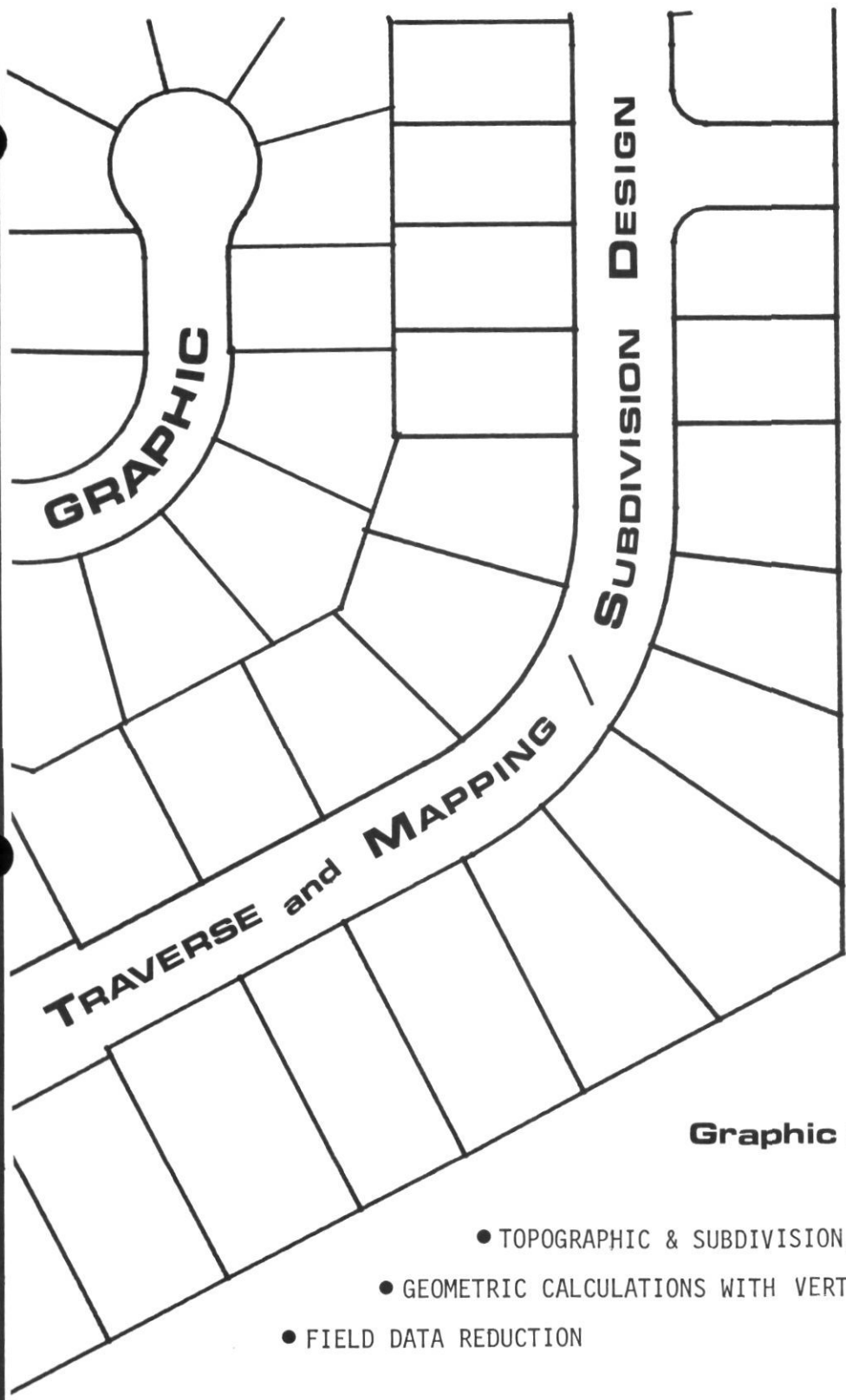
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(Continued from Page 24)



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In early 1977, Lietz Company decided to close their retail regional office located in Burlingame, California. From this decision came Western Surveying Instrument Company.

The personnel are all former Lietz employees with many years of service to the land surveying profession. Western Surveying, as an authorized Lietz distributor, carries the complete line of theodolites, automatic levels, field supplies and the latest from Lietz, the new RED-1 EDM system.

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BOOK NOOK

- Shore and Sea Boundaries* (1962) Reprint 1975—Aaron L. Shalowitz, U.S. Department of Commerce Publication No. 10-1
 Vol. I—Boundary problems Associated With Submerged Lands (Including Recent Developments In The International Law Of The Sea) \$ 9.45 ea.
 Vol. II—The Interpretation and Use of U.S. Coast and Geodetic Survey Data \$11.95 ea.
- Tide and Current Glossary*—U.S. Department of Commerce, N.O.A.A.—National Ocean Survey (1949) Revised 1975. Special Publication No. 228. \$ 0.75 ea.

*This item
out of stock*

- Proceedings; Water and Water Related Boundaries Workshop II, May 20 & 21, 1977, Irvine, CA* (262 pages)
 CLSA Members . . . \$15.00 ea.
 Non-Members . . . \$20.00 ea.
- Coastal Zone Map #TP-00189—Florida, Palm Beach County, Lantana to Boynton Beach—1:10,000* (1970)
 An extremely interesting map format which contains detailed printed instructions to Surveyors on How to Locate a Mean High Water Line According to Law, adopted by the Florida State Legislature. A real collector's item \$ 2.50 ea.
- Restoration of Lost or Obliterated Corners & Subdivision of Sections*—a guide for surveyors—United State Department of the Interior, Bureau of Land Management—1974 Edition. . .75 ea.

- Metric Practice Guide for Surveying and Mapping*—American Congress on Surveying and Mapping. This Metric Practice Guide has been prepared to aid those engaged in surveying and mapping in the use of the International System of Units (SI) in accordance with recommendations contained in the Metric Conversion Act of 1975, Public Law 94-168 1.50 ea.

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RESPONSE TO "WATER BOUNDARY CONTROL"

(Continued from Page 1)

footnotes. Nor were mentioned the more recent second and third supplemental decrees, which gave further definition to the delimitation of the offshore boundary. The Court is presently considering the treatment of piers as qualifying harborworks, as well as how to draw the closing lines of San Diego and San Pedro Bays, which will soon result in a fourth supplemental decree. The problem with the author's lack of review of these decisions is that he made many incorrect statements as to their effect in locating the offshore boundary. Examples of errors occurred in the reference to the mean low tide line instead of mean lower low water, the qualifying as inland waters of Monterey Bay, a 10 mile closing limit instead of the 24 miles that has been adjudicated for non-historic bays, and the statement that "The Special Master's report has essentially been adopted by the Court in its settlement of State and Federal boundaries"—which it certainly wasn't.

On the subject of inland water boundaries, an erroneous impression was given with the reference to the California [Harbors and Navigation] Code Sections 90; 100-106, regarding navigable waters. This is only a limited means of determining the character of a given body of water; the ultimate

test of navigability in California is navigability in fact.

Additional misrepresentations are numerous, such as the use of the low water mark as the boundary on non-tidal waters. This is hardly the up-to-date policy in California, with four pending lawsuits presently testing that very issue. The author makes brief mention of this uncertainty, and of the Attorney General's letter on the same subject, but only in the conclusion to his article. This brief "tack-on" comment follows only after extensive assertions advocating the low water mark concept, thereby misleading and confusing the reader.

Another serious defect was the lack of discussion on the 1977 Corvallis decision (429 U.S. 363) which raises serious questions about the application in California of earlier federal decisions, such as the Borax case. Similarly, the effect of artificial erosion on boundaries was oversimplified, as no precedent judgement yet exists on that problem. Also, the underlying title to waterways and beaches located within the exterior limits of confirmed Spanish and Mexican land grants is now being questioned, based in part upon recent language in the case City of Los Angeles v. Ethel Fraser Carmen-Ryles, Case No. 868223, Los Angeles Superior Court. Numerous inferences, citations, and other statements were similarly wrong or misleading. I cannot overstate my feelings that absolutely no reliance should be placed on the material in that article. ▲

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