DADS Research Tool
Data Acquisition Display System
Serves Area V Reactor Complex

The capability of acquiring and processing large amounts of experimental data rapidly and of efficiently organizing and retrieving data is being realized as the system is brought on line. The new Sandia Area V Data Acquisition and Display System (DADS) is designed to do this in support of experimental activities involving a number of radiation sources (two pulsed reactors, four high X-ray sources, several optical lasers, and a gamma source).

Advantages of the system are immediate availability of processed data, less duplication of equipment, and new methods for compiling. DADS saves time for researchers and insures maximum use of the facilities, important because many of the radiation sources are in high demand.

The system includes an EMR 6130 computer and auxiliary equipment such as a card reader, line printer, magnetic tape unit, disc file, console teletypewriter, analog-to-digital and digital-to-analog converters, graph plotter display units, and a two-millisecond interval timer. Bistatic consoles—which are relatively portable—can be located at various facilities and collect the raw data directly from the experiments as it is underway.

"Until five years ago, such a system wouldn't have been possible," says Ric Davis of Device Physics Research Division 5112. The project engineers for DADS, "The equipment didn't exist then."

Jack Worsh (now 6340) initiated the project many years ago. Experimental programming was done by Rich Berling, Jim Kromer, and Larry Ellis (all 5111). Lucien Van Blaricom (9217) specified, designed, and integrated the various components of the display subsystem. Lee Ebbeler (5112) coordinated the activities associated with fabrication of Sandia-designed hardware.

This is how it works. The researcher—using Fortran language—writes a program for the experiment. When he's ready to run the experiment, he uses a station console to "call" the program to his computer's disc file library, where it is stored. The computer instructs the operator to take data directly from the experiment and immediately display the various results on an oscilloscope. The experimenter can use a "light pen" to request the display of a specific value, an expanded graph, or a tabular listing of the data. There's also a provision for "editing" a graph by moving selected data points.

Rich Berling (9245) and Lucien Van Blaricom (9217) are shown at the computer console checking the use of a "light pen" with a graphic display unit. The new Data and Display System (DADS) at the Area V reactor complex saves time for both researchers and facilities.

The system can automatically control the experiment, as desired. The whole process allows an experimenter to acquire large quantities of data rapidly and eliminates the time delay in submitting data to a centralized data processing facility.

DADS is designed to accommodate up to 31 station consoles more than one could be located at each facility. Four are currently planned and two of these are already in operation. Data conversion resources are connected to the stations via switch panels to allow allocation of the equipment according to varying demands. Programs can be readily transferred between stations, giving additional flexibility to the system.

Area V scientists and engineers feel that DADS gives them freedom to concentrate on analysis and interpretation of the data rather than on data-taking itself. Ric Davis predicts that "DADS capabilities will open the door to different experimental techniques as well as techniques which were previously impractical because of their complexity."

In recent weeks, the system has been demonstrated to the various Sandia organizations, other ARC DADA facilities, and universities, their response has been very favorable.

Harvey Mehlhouse, New WE President

Harvey M ehlhous e , who has been elected president and chief executive officer of Western Electric to succeed Paul Dornan, president since 1964, who is retiring, has been named executive vice president in charge of WE manufacturing and engineering operations, joined the company in 1929 as an engineer. He spent three years at Ban• din, from 1932 to 1935, as superintendent of manufacturing, planning and inspection.

After Sandia, he became general manager of the Merimack Valley Works and later wartime activities. In 1965 he was named executive vice president in charge of corporate staff activities and, in 1967, he assumed his present position. Mr. Mehlhouse is a director of Bell Telephone Laboratories, Sandia Laboratories, Teleg• cy Corporation and the MFB Mutual Insur• ance Company.

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Researchers Participate in International Ferroelectric Meet

Sandia was well represented at the second International Meeting on Ferroelectricity, held in Kyoto, Japan, Sept. 4-9.

George Samaras (5152) presented his invited paper "The Effects of Hydrostatic Pressure on Ferroelectric Properties." Cecil Land (5153) was chairman of a session on Nonlinear Optics and Optical Properties and presented a paper, "Optical Properties of Ferroelectric Ceramics." Co-author was Gene Hartling (5157).

Two additional papers will be included in the published proceedings of the meeting: "Ferroelectric Field Effect Studies at Low Temperatures" by John Crawford (5130), and "High Field Polarization reversals in Polycrystalline Ferroelectrics" by Ralph Plummer (5133).

The meeting was sponsored by the International Union of Pure and Applied Physics, and 10 foreign countries were represented. Japan and the United States have been leaders in this field for the past 10 years; however, Japan has been making significant progress and presented many papers.

Following the Kyoto meeting, Cecil Land was among eight speakers invited to participate in a Symposium on Applications of Ferroelectrics in the Fields of Electronics and Opto-Electronics, which will be held Sept. 13 in Tokyo. This meeting is sponsored by the Japanese Society of Applied Physics. His paper for this symposium is "Electrooptic Ceramic Storage and Display Devices."

Authors

D. M. Bibb (5134) and R. P. Reed (5161), "Fracture behavior of shock-loaded bismuth-aluminum-composite materials," Vol. 3, JOURNAL OF COMPOSITE MATERIALS.

C. E. Gray (3311) and D. D. Davis (New Mexico State University), "Deformation of Group IV Organometallics." No. 18, pages 1-4, JOURNAL OF ORGANOMETALLIC CHEMISTRY.


Take Note

Jim Griscom, an electrical engineer in Division 2453, recently received a MA degree from the University of New Mexico. His earlier degree in electrical engineering was also from UNM.

Jim has been at Sandia 15 years.

Tech Writers Present Course At UNM Community College

For the seventh year, the University of New Mexico Community College will offer a Survey of Technical Writing and Publishing during the Fall semester.

Instruction is provided by members of the Albuquerque Chapter of the Society of Technical Writers and Publishers, many of whom are Sandia tech writers and editors.

The lecture series includes information about preparing brochures, instruction manuals, proposals, reports and specifications. Employment and career opportunities available to qualified technical writers, editors, and illustrators, and possibilities for free-lance writing in technical fields will also be discussed.

The class will meet in Mitchell Hall from 7-9 p.m. on Mondays for 12 weeks starting Sept. 15. Tuition is $20. For further information call Don Emrich (5151), tel. 264-4972.

CRAFT SKILL IMPROVEMENT program has been completed by 74 on-roll Sandians. The seven-month training program was begun following establishment of an apprenticeship program in the plant maintenance area last winter. Robert Hopper (right), director of Plant Engineering & Maintenance 4500, and Lloyd Chapman (4518), chairman of the Joint Apprenticeship Committee, sign certificates to be presented to the 74 plant technicians. As center is Bill MacDowell (4513), secretary of JAC. The craft skill improvement program was developed to train technicians in some of the newer equipment and to broaden their capabilities and responsibilities.

Deaths

Howard Nicholson, a staff member in Budget Division 4142 died Aug. 25. He was 46. He had been with Sandia Laboratories more than 18 years.

Survivors include his widow, a son and a daughter.

Vern Brockway, supervisor of Maintenance Section A 4512-1, died Sept. 7 after a lengthy illness.

He had been at Sandia since May 1949. Survivors include his widow and two children.

PAGE TWO

SANDIA LAB NEWS

SEPTEMBER 12, 1969
Chairman Announces 1969 Fund Drive at Livermore

Details of the new contribution program LEAP (Livermore Employees' Assistance Plan) have been announced by Bob Novvill (8233), chairman of this year's campaign. A week-long fund drive starts at S&T Sept. 23.

Bob says that a target of 100 percent employee participation has been established by the campaign committee as the Senator goal. "Total participation is the key to a successful drive."

"For the first time Sandians have the opportunity to contribute to a plan which includes local and national health and welfare agencies in addition to those in the United Bay Area."

"Since some of these are local, providing service to people in our community, and others are national, it is hoped that every employee will have the satisfaction of knowing that they have really given 'once for all'."

The LEAP program was developed because many Sandians felt that there were worthy causes which were not a part of UBAC and, with this in mind, an employee study committee headed by Bob was formed to recommend a plan which would more nearly meet the wishes of the majority.

Under the new plan, employees may authorize regular payroll deductions which will be accumulated as a fund to benefit the agencies selected by the contribution plan committee. Approval and selection are based on needs offered by the agencies and their need for support.

Employees may participate at any level, as with UBAC, and its 100 members in the five-county Bay Area.

The percentage allocations are as follows:

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<th>Allocation %</th>
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<td>10. Livermore Community Chest</td>
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A contribution of $12 or more on an annual basis qualifies an employee for indicating this support for use in their service to people. Employees will receive a window sticker to be displayed at year end to those earning low income.

Total fund contributed. Beneficiaries of the 1969 fund will receive local non-UBAC agencies as well as UBAC with its 100 members in the five-county Bay Area.

The percentages allocations are as follows:

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A contribution of $12 or more on an annual basis qualifies an employee for participating in the plan. They will receive a window sticker indicating this support for use in their community. Employees will receive the LEAP emblem designed by John Daniel of Technical Art Section 8233-2.

In addition, a "Fair Share" pin will be given those earning less than $10,000 a year who give one hour pass per week and to those earning $15,000 or more who give one percent plus their annual earnings. The contribution plan committee, made up of employees' representatives, will administer the plan and apportion the monies raised annually.

Further details of the Plan are described in a booklet which will soon be distributed to all employees at Bandia Laboratories Livermore.

Profiles of the local non-UBAC agencies selected for support in 1969 follows:

Livermore-Amador Valley Emergency Fund Committee

Organized in 1967 by members of the local community, the Emergency Fund Committee has three purposes: to assist individuals and families in emergencies; to provide clothing, household articles, furniture and appliances to low income families at minimal cost through the operation of thrift stores; and to assist with job information, educational opportunities, and other charitable work.

Nursery School Scholarship Fund

The NSSF was founded in 1961 to place disadvantaged children in cooperating nursery schools. The organization is incorporated under the name of Community Association of Preschool Children (CAPS). This year about 40 children in five out of the six Livermore area are receiving nursery school education through the annual family contribution of $150 per child. The fund is financed by contributions local organizations, businesses, and individuals, and the administration is handled by unpaid volunteers.

Cerebral Palsy Center

The Center in Oakland helps Bay Area victims of cerebral palsy to help themselves assume a productive and meaningful place in society. Services include physical and occupational therapy, speech therapy, medical, social, vocational evaluations, family welfare services, adult education, recreation, and individual and group workshop and vocational services.

Valley Memorial Hospital Equipment Fund

The fund is being established for the purchase of special equipment at Valley Memorial Hospital in Livermore, equipment to serve the health needs of all citizens of the local area. Monies this year are designated to purchase two specialized machines, a replacement of an additional bedside station for the cardiac, respiratory and mental health system located in the hospital's intensive care unit. Total cost for the stations is approximately $25900.

LEAP EMBLEM. Chair. of LEAP Bob Novvill (8233), right, and Herman Armijo (8222), member of the contribution plan committee, hope that every employee will take the big "LEAP." The emblem will appear on the label pin and sticker given to those who participate in the program.

LEAP NEWS

SEPTEMBER 12, 1969

J. N. Deverman Earns PhD Degree

Jere Deverman, Systems Research Division I 8244, recently received his Ph.D. degree in mathematical statistics from Stanford University. His doctoral dissertation was entitled "A General Selection Procedure Relative to the 1 Best Populations."

He is a member of Phi Eta Kappa and served as president of the Mathematical Statistics and presented a paper based on his PhD research at the annual meeting of the HAA in New York City Aug. 19-22. He is also a member of the American Statistical Association.

Supervisory Appointment

EILEEN CARSON to supervisor of Keypunch Section 8223-3, effective Aug. 16.

Rine joining Bandia Laboratories Livermore in January 1969, Shirley has been a keypunch operator in Computer Operations Section 8223-2. Previously, Shirley was employed for 11 years by the Caterpillar Tractor Co. in Decatur, Ill. As coordinator of keypunch operations in their Data Processing Section for 8 of the 11 years, she was responsible for work distribution, trained in training newly hired keypunch operators and taught new data processing applications to keypunch personnel.

She also worked for two and one half years as a keypunch operator in the Driver's License Division of the State of Illinois.

Mrs. Carson, her husband John, and two young daughters live at 661 Tina Way in Livermore.

Take Note

Reduced admission tickets are available from Employee Benefits for Bandia Days at Marine World in Redwood City (Redwood Avenue exit of Highway 101, Saturday and Sunday, Sept. 27-28. The admission ticket covers all features of the show and including a guided boat trip. Marine World is open from 9:30 a.m. to 6 p.m.)

Population and Pollution Control Subject of Sept. 23 Colloquium

Problems related to population and pollution to control will be discussed at the Bandia Laboratories Livermore Colloquium on Sept. 23rd. The speaker will be Prof. John H. Thomas of Stanford University, who is known for his interest in human population problems, environmental deterioration and conservation.

Prof. Thomas is associate professor of biological sciences and curator of the Dudley Herbarium at Stanford. In addition he is curator of botany at the California Academy of Sciences in San Francisco. He has been associated with Stanford since 1949 in various capacities including as a research associate at the Arctic Research Laboratory in F. Barrow, Alaska, and as a lecturer in biological sciences. Prof. Thomas received his Bachelor of Science degree from California Institute of Technology and his Master's degree from Stanford.

The author of several publications on biological and physical subjects, Prof. Thomas is a member of the Society for the Study of Evolution, American Association for the Advancement of Science, American Institute of Biological Sciences, and Sigma Xi.

Tickets will be required for admission. Curtis Franklin (8153) is host.

FIRST MACHINIST APPRENTICE GRADUATES AT SLL—Tom Cook, Vice President 8000, front left, presented a copy of the "Machinist's Handbook" to journeyman machinist Andy Cartiel (8222), front center, the first employee to graduate from the machinist apprenticeship program established at Sandia Laboratories Livermore in 1966. The four-year program comprised 8000 hours of on-the-job training and 375 hours of related instruction at Chabot College. Others present at the ceremony included (from left) Bill Stalnief, senior business representative, International Association Machinists and Aerospace Workers, District 115, Ed Logue, business agent, IAMAW, Local 384; Hilt DeSelm, Director of Staff Services 8200, Frank Bacon, apprenticeship consultant, State of California Division of Apprenticeship Standards, and union steward Walt Young (8222).
There's always something new—and bad—in the field of smoking. A recent medical bulletin issued by the American Heart Association and the American Cancer Society had a number of interesting new (and bad) findings about smoking.

Recent Medical Studies Offer More Bad News for Smokers

By S. P. Bliss, M.D.

Medical Doctor — 4280

There's always something new—and bad—in the field of smoking. A recent medical bulletin issued by the American Heart Association and the American Cancer Society had a number of interesting new (and bad) findings about smoking.

A recent medical study has shown that various forms of dental disease seem to be connected with smoking. Inflammation of the gums and destruction of the supporting bone tissue with actual loss of teeth is much more frequent among smokers than non-smokers.

A startling statistic for women who still have their own teeth is that women who smoke have twice as great a chance of developing cancer than non-smokers. For cigarette smokers and there's nothing in the non-smoking public .

Risk, by a factor of 13, of developing kidney cancer than non-smokers. For cigarette smokers an d there's nothing in the non-smoking public .

New Great Books Discussion Groups Forming in City

Want to revive the ancient and stimulating art of discussing ideas? In an age of electronic environment, there are those who still enjoy reading and talking about what they have read.

The Great Books Foundation, a nonprofit educational organization, is currently forming a number of new discussion groups within the city. Participants in the groups meet for two hours every two weeks to explore the meaning of a previously selected "great book."

The discussion are conducted by vol- unteer leaders who have completed an eight-week Great Books Foundation course sponsor- ed by the Great Books Foundation. No special educational qualifications are ne- cessary to join a group—only the desire to participate and a willingness to read the selection in advance.

For additional information, contact Dave Judd (725-1), tel. 684-2805.

Congratulations

Mr. and Mrs. Bruno Morosin (4513) completed their training at Sandia Laboratories Apprentice as Graduate.

LEFT—Twelve plant maintenance technicians received certificates of completion from the New Mexico State Apprenticeship Council for having completed require- ments of an apprenticeship program. They are, from left seated: Andrew Kersey (4515), Fowery Carpenter (4516), Almo Alvea (4513), Henry Austin (4511), Tony Gallegos (4513), and Raymond Morses (4511). At rear standing next to Department 4510 Manager Robert Flashart are: Miguel Lucero (4513), John Hatisher (4511), Glenn Haycock (4518), Alfred Jones (4511), and receiving a certificate from 4505 Director Robert Hopper is Woodrow Glasscock (4511). Not present, Joe Wynn (4511).

LOWER LEFT—Being congratulated by 4200 Director R. J. Hansen are machinist apprentice graduates (from left): Tom Robert, Lee Webb, Ed Shuff, and (seated) Bill Wagner (all 4252). At Hansen's left is Homer Messenger (4213), vice president of the Metal Trades Council.

BELOW, electronic skills acquired by newly-graduated apprentices are demonstrated to R. J. Hansen. The graduates of the electronic apprentice program are, from left: Ernie Montoya (4433-3), Rosando Saavedra (4423-1), and Rudolph Lewis (4423-1).
MARC DAVIS to manager, Metal- 
urgy Department 639f, effective Sept. 1.

Mark came to Sandia as a staff mem-
ber in the metalurgy group in 1963. He has 
worked on a variety of areas related to metal-
techniques and, lately, studies of stress cor-
rosion and cracking of uranium alloys. 
He was promoted to supervisor of the Metal-
urgy Division in 1968.

Before coming to Albuquerque, he 
graduated in high temperature metal-
urgy at the University of California in 
Berkeley. He has BS and MS degrees in 
metallurgical engineering from that school.

He is chairman of the board estab-
lished by the American Society for Metals and 
is a member of the American Institute of Min-
ing, Metallurgical and Petroleum Engi-
neers, and the American Welding Society.

Mark, his wife Diana, and their three children live at 1513 Cedar Ridge Dr. NE.

HAP STOLLER to manager, Compo-
site Research & Develop-
ment Department 3310, 
effective Sept. 1.

Hap joined Sandia at Livermore in 
1962. He was assigned to the 
Applied Mechanics Division where he 
was involved with development work and 
project support in aerodynamics and gas 
dynamics. He later transferred to Liver-
more's Analytical Division.

In 1967, Hap moved to Albuquerque as supervisor of what is now Exploratory Sys-
tems Division II 2222.

Before coming to Sandia, he worked for 
two and a half years at Hydronetics Inc., 
Rockville, Md., in fluid mechanics research. He also has worked in aerodynamic design at General Dynamics/Astronautics in San Diego.

Hap received a Bachelor of Engineering 
Science in mechanical engineering at Johns 
Hopkins University and an MS in aeronau-
tical engineering at the University of Mary-
land. He has also done graduate work at the 
University of California, Berkeley.

He is a member of the American Insti-
tute of Aeronautics and Astronautics, Pi Tau Sigma, and Tau Beta Pi.

Hap, his wife Nancy, and their two children live at 8202 Harvard Ave. NE.

GLEN KUPIFER to manager, Organ-
ic Materials Research 
Department 5510, effective Sept. 1.

Glen hired in at Sandia as a divi-
sion supervisor in 1964. He headed 
what is now Physics of Organic Solids Division 5133 where the 
effects of high energy radiation on or-
ganic solids are being investigated. He has 
been with that division until his present 
promotion.

Before joining Sandia, he was a tech-
nical staff member at DePount where he 
did studies relating to organic crystals and 
organic semiconductors.

Glen has a BS in physics from Stanford 
University and MS and PhD degrees, also 
in physics, from the University of Califor-
nia at Berkeley.

He is a member of the American Physical Society and the American Association for 
the Advancement of Science.

Glen, his wife Carol, and their four children live at 5064 Heilhaven NE.

JERRY HOOD to manager, Radiation 
Effects and Semicon-
ductor Devices Division 2669, 
effective Sept. 1.

Jerry joined Sandia in 1956 as a staff member in an electronic compo-

tents group where he studied radio-
ed effects and worked on development of 
semiconductor devices.

He took a year's leave of absence in 1963 to do graduate work at UM. He returned 
as a member of the Radiation Effects on 
Electronics Components Division and in 1967 was promoted to supervisor of the 
Radiation Effects Division 2669.

Jerry has three degrees in electrical en-
geniering: a BS from the University of 
Oklahoma, and an MS which he earned 
under the Educational AIDS Program and 
PhD from UNM.

He is a member and chairman of the 
local chapter of IEEE.

Jerry, his wife Norma, and three children live at 13113 Turquoise Ave. NE.

JOHN FREEMAN to supervisor, Theo-
retical Atomic & Molecular Physics Division 5224, effective Sept. 1.

John joined Sandia in 1954 and has 
worked briefly in the Advanced Data 
Systems Development group before 
transferring to the Magneto-Physics Research Division. A few months ago, he joined the Plasma Physics Department. He has been involved in the 
theory work related to plasma physics and 
explosive flux compression devices.

He has a BS in EE from MIT, and earned both MS and PhD degrees in EEE at 
UNM. His Master's work was done under Sandia's Technical Development Program.

He is a member of the American Physical Society.

John and his wife Margaret live at 610 Solano Dr. NE.

WARD HUNNI-
CUTT to manager, Fianct 
Engineering Planning & Bud-
geting Department 4590, effective Sept. 1.

Ward, supervisor of Field & Plant 
Operations R&D, next 
became the supervisor of the Metal-
urgy Division since 1963, joined 
Sandia in 1950. He was involved in structural design before being promoted to section 
manager.

Ward's division has been concerned with the configuration and performance of 
new PETROULS purchase order controllers and ASC con-
tracting. His current work includes 
planning and coordination of fire 
protection and operations engineering related tasks.

He is a member of the American Institute of Chemical Engineers and, more recently, in thin film bonding and coating work.

Before joining Sandia, Ward was physicist in various technology for the Midwestem University Research Association, an organi-
ization that was designing high energy ac-
terators.

He has an AB degree in physical science from Kansas State Teachers College and an MS in physics from the University of Wisconsin.

He is a member of the American Physical Society, the American Association for 
the Advancement of Science, and the American Vacuum Society.

Ed, his wife Carma, and their three children live at 7400 NE. NE.

ROBERT WEAV-
ER to supervisor, Plastics 
Section 4222-2, effective July 1.

Bob joined Sandia at Livermore in 
1957 and worked there for 12 years, primarily as a spe-
cialist in honey-
combs and adhesives.

He arrived in Albuquerque this month and will be in charge of the Plastics Development Laboratory.

Before joining Sandia, Bob worked for 12 years in chemicalengineering from Washington State University and an MS — also, he earned a graduate degree — in natural science from San Jose State University.

During WW II, Bob was a Lieutenant in the Army Engineers and served in the Middle East from 1944-46.

Bob and his wife Helen have three 
children. They have not yet established their 
permanent residence in Albuquerque.

Speakers

R. O. Brastering (1643), "Discrimination 
Intervals for Perceptrons in Recognition," 129th meeting of the American Biological Association, Aug. 12, New York City.


R. H. Antoni (1157), "Structural De-
cants from Molecular Gates," American Ceramic Society Meeting, Sept. 13, Bal-

"C. J. Mallick (5223), "Western Prac-

tographic Study of the Transexual: Malibury." 28th annual meeting of the 
International Society for the Advancement of Sexology (ISSAS), Sept. 4-8, San Francisco.

D. E. Packer (1131), "Air and Water 

24-CARAT cuts are assayed with this diamond band saw in Ceramics Lab. One of two recently-acquired instruments, the saw can make repeated cuts accurate to within two thou-
sandsths of an inch (0.002".). Ceramics, quartz glass, carbon, or any other extreme material can be cut with ease by the 118-inch long diamond-coated band. A unique feature of the tool is that the blade does not come into contact with the blade guide but rides on a cushion of water, thus preventing wear and promoting accuracy. Blade pictured above is coated with 200-mesh diamond grit (about 0.002" thick). Other meshes can be used. Tom Spadle (4222-1) is the operator.
Sandia's new Rolamite Laboratory is now complete. The facility's mission is to develop a fabrication technology for devices using the rolamite principle, first disclosed at Sandia in late 1967.

The Lab is located in the west end of Bldg. 839 and is operated by the Development Shops 4200 organization. The Lab works closely with component development organizations.

In addition to rolamite development work, the Lab has supported several organizations in the development of chemical etching techniques for other electromechanical devices.

ENLARGED DRAWING shows detail of a tiny rolamite acceleration-sensing switch. The "force-bias" feature of the band holds the rollers in place until a predetermined acceleration force causes the rollers to move, operating the switch. Fred Dumstra (2232), rolamite project group leader, holds the switch while Doug Schuler (2231), rolamite design engineer, displays the drawing.

ROLAMITE BANDS are produced from 10-times oversize drawing prepared by Precision Graphics Section 7653-1. The large negatives are photographically reduced to size by Printed Circuitry Lab Section 4221-1 and then the image is transferred to metal and etched in the Rolamite Lab. Tom Cleveland (4222-3) compares negatives with finished set of metal bands.

LARRY MCCOLLUM (4221-4) operates a furnace in which rolamite glass case material is formed. The system was developed by Ron Sridow and K. D. Bowtinghouse of Scientific Glass Lab Section 4221-4.

VERN CLARK (4222-3) assembles rolamite switches at a clean bench location in the Rolamite Lab. A complete rolamite fabrication technology has been developed and transferred to outside suppliers for production of rolamite switches.

PT-1504, a programmed centrifuge testing machine, is loaded with rolamite switches by Bill Roche (4222-3). The machine can test eight units simultaneously. The centrifuge can be accelerated from 0 to 100 g's in six-tenths of a second. The tester can duplicate most acceleration and deceleration loads that a rocket payload would see from launch to re-entry. The tester was designed and developed by Glenn Elliott (2454).

BEN GARDNER, supervisor of the Rolamite Laboratory Section 4222-3, displays finished models of a rolamite acceleration-sensing switch.
Leisurly Vacation for the Endres? Grandparents Prefer Mt. Climbing

A quiet, restful vacation with the children and grandchildren for Carl and Marjorie Endres was quiet Following a recent three-day back-pack trip into the Olympia Peninsula with their three daughters, two sons-in-law, and five grandchildren (the youngest is three and a half), Carl and Marjorie (1725) promptly attempted to climb 14,410-foot Mt. Rainier.

The Endres, their daughter Pats Endres Dunn and her husband Kent, attempted the three-day climb to the summit of one of the highest peaks in the continental U.S. last hot month. They started their ascent from Paradise Valley at 5000 feet altitude and climbed to the 10,000-foot level camp on the first day. "We left at 2 a.m. the next morning to try to reach the summit," says Carl. "However, at about the 12,000-foot level, we lost the trail and by the time we reached it there wasn't enough time left to reach the summit and return," says Carl.

The Endres were born to 40-pound packs as far as Camp Muir. On the last leg of the climb, however, they carried only essential equipment and emergency rations. "We also had to take flashlights since much of the climbing was done in the darkness of early morning," says Marjorie.

Since Mt. Rainier is glaciated, it was necessary to use ice axes, crampons and ropes. Because of the glaciers and the many crevasses the climb is considered dangerous. The Endres said that only a few days before two climbers perished after falling into a crevasse.

They are interested in climbing through our daughter who, as a graduate student at the University of Washington, took formal climbing lessons. When we visited her two years ago we climbed Mt. Olympus," says Marjorie. "Mt. Rainier, one of the best climbing areas, is lots of hiking on the trails in New Mexico," she adds.

Both Marjorie, a programmer, and Carl, a project leader in the component shop, are unimpressed by their failure to reach their objective. "Now it's a challenge to get to the top. We're planning to go back next year to finish the job."

SHOOPING CENTER

DASH FOR THE TOP of 14,410-foot Mt. Rainier began from Paradise Valley. The mogul, one of the highest in the U.S., is visible in background. Carl (1725) and Marjorie (1723) are shown proceeding on the two-day climb by their daughter Pats Dunn and son-in-law Kent (1722).
Coronado Club Activities

Three Swinging Social Hours Set

On Friday, Sept. 19, Frank Chelewicz will play for dancing while the southern fried chicken will be the buffet feature.

Max Madrid returns to the bandstand for the Sept. 26 social hour. Mexican food will be served for the buffet.

In the meantime, the mid-week social hour continues on Tuesday evenings from 5 until 8 p.m. Pat Reich and pianists entertain.

Theatre Night

Has the villain, cry with the pretty girl who can't pay the rent, and cheer for the hero on Saturday, Sept. 27, when the Club presents the "Great Western Melodrama" as entertainment for a dinner dance.

The play will be performed by the Albuquerque Melodrama Theatre starting at 8:30 p.m. Dinner "until you work" will be served at 7 p.m. Phil Graham will play for dancing from 9:30 p.m. until 12:30. Cost is $3.50 for members, $4 for guests. Make your reservations early.

Teen Dance

Tomorrow night, teenage sons and daughters of Club members will dance to the music of "The Wedge" starting at 7:30 p.m. The band will be plugged in and amplified until 10:30 p.m. Tickets $2.50 for members, $3 for guests. Tickets should be picked up by member parents tonight.

Director Assignments

The newly-reorganized Board of Directors has determined areas of responsibilities for the coming year. Members with suggestions or comments should contact one of the following:

Bob Banks (3100), president; Bill Weinberger (4245), vice president; Chief, Force Protection (4155), secretary; Howard Romne (4117), treasurer; Bill Shacey (AEC), Club improvements; Pete Gallegos (3125), swimming; John Nakayama (3134), indoor recreation; Max Newsom (1215), entertainment; Howard Shidell (3194), membership; Don Graham (4352), publicity; Jack Mestas (2510) is the Sandia representative. Don Dickson is the AEC representative.

Sandia Painters Happy—New Tape Saves Effort, Time and Money

It's a little thing. But little things add up. This one is going to save Sandia Laboratorie's some $3000 annually.

The cost improvement action, initiated by R. Malcher, supervisor of Painting and Sheet Metal Section 4513-3, involves using a new peel-adhesive tape to mark crosswalks and to stripe parking lots. The new product costs just over seven cents per linear foot but takes significantly less time to apply when compared to the old tedious method of painting the stripes by brush. In addition to the initial savings in labor costs, the new material has a life expectancy of 18 months compared to three months for painted stripes.

"It's easier to lay down," Ron says, "and it looks better. We don't have to wait for the paint to dry. The street is usable immediately." Before using the metal tape throughout the area, Ron ran tests to determine the paint that would hold up through continued use. The tape does, in fact, adhere better to street surfaces after heavy traffic.

"It works," Ron says. "And it saves us time. We'd rather paint other things than streets anyway. This was always a chore."