

Triple CDC 6600 System Now Operating in Computer Center



SOFTWARE DEVELOPMENT TEAM members for Sandia's new triple CDC 6600 computer system are (from left) Mike Gleicher, Howard Cilke, Scot Fishburn, Ron Domres and Paul Lemke (all 5421). The third 6600 (in background), after undergoing engineering changes, is now fully operational. A common mass storage system, called CDC 844, will increase the capacity of the system by almost a billion characters and will be installed early next year.

A third CDC 6600 computer became fully operational last week in Sandia's Scientific Computing Center in Bldg. 880. The new computer, transferred here from Lawrence Livermore Laboratory, required a number of engineering changes but is now integrated with Sandia's two other CDC 6600 computers. The triple system uses common software and shares an extended core storage device.

This will be increased early next year with the installation of a new CDC 844 disk storage subsystem which will provide an additional one billion characters of on-line mass storage. All three computers will have concurrent, direct access to the mass storage for commonly used programs and data. A number of program and data files now stored on magnetic tapes will be transferred into the new 844 subsystem, thus increasing the speed of the operation and eliminating much physical handling and transferring of data from tapes into computer memories.

Extensive software for the new 844 system has been under development for some time. Innovations include a "load-leveling" among the three computers and the dynamic sharing of the existing 500,000 words of extended core storage. This extended core storage which augments the main memory of each of the three CDC 6600's is now partitioned into three sections for separate use by the individual computers.

Software development is being performed by a team led by Paul Lemke of Operating Systems Division 5421. Members include Mike Gleicher, Howard Cilke, Scot Fishburn and Ron Domres.

The computing capabilities of the Laboratories have come a long, long way since Sandia got its first true computer, the CRC 102-A, back in 1954. The Labs computing capacity has increased 20-fold since the Computing Directorate was formed in the fall of 1963. At that time Sandia was using an IBM 7090 II and a CDC 1604.

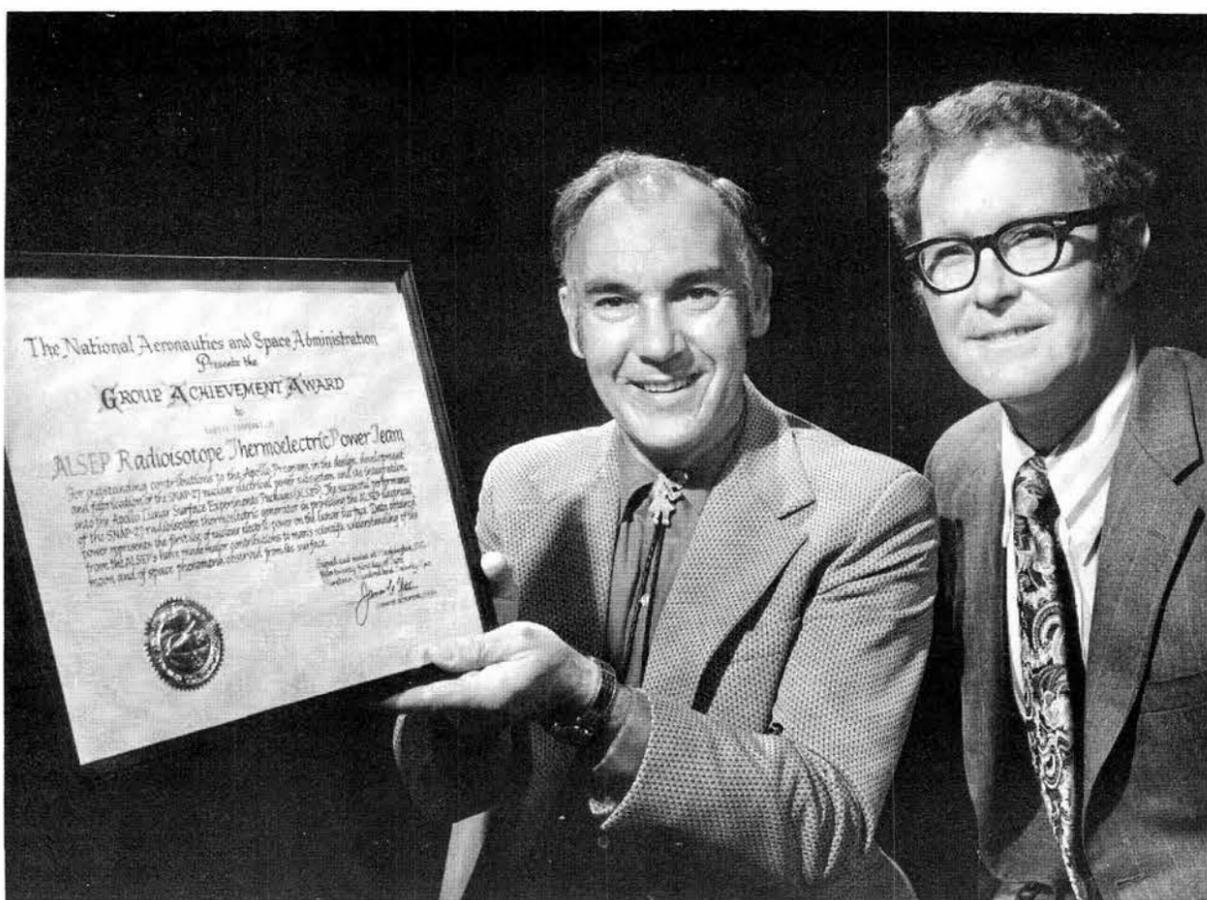
Currently operating three shifts a day, seven days a week in the Computing Center are the three CDC 6600 computers, two IBM 7090 II computers, a UNIVAC 1108, a PDP 10 time-sharing computer, and an IBM 360/50. • dg

LAB NEWS

VOL. 24, NO. 25

DECEMBER 8, 1972

SANDIA LABORATORIES • ALBUQUERQUE NEW MEXICO • LIVERMORE CALIFORNIA • TONOPAH NEVADA



FOR OUTSTANDING WORK performed on the SNAP 27 radioisotopic thermoelectric generator program, Sandia Laboratories recently received a group achievement award from NASA. The generator provided power for a number of scientific instruments left on the moon by Apollo 12 in November of 1969. Designed to provide 65 watts for one year, SNAP 27 is still producing in excess of 70 watts after three years. Three other SNAP 27's on Apollo 14, 15 and 16 are also producing in excess of 70 watts. Sandia provided technical direction for these radioisotopic thermoelectric generator programs for the AEC. John McKiernan (1651), left, was supervisor of the Project Direction Division; Jim Leonard (1213) was SNAP project director.

ASME Meeting Dec. 13 Will Feature Lunar Talk by Klaus Keil

"From the Moon and on to Mars" will be presented by Dr. Klaus Keil at a dinner meeting of the New Mexico Section of the American Society of Mechanical Engineers Wednesday, Dec. 13, at the KAFB East Officers Club.

Dr. Keil is a member of the UNM Department of Geology and Institute of Meteoritics and the principal NASA investigator in astrogeology in the Apollo program. At the meeting he will discuss evidence relating to the formation and evolution of the moon, lunar aspects of organic material and water, and present a model of the origin and history of the moon. He will also discuss the future of the geological space program, with particular reference to the environment of Mars.

The meeting will start with cocktails and dinner at 6:30 p.m. Reservations for the dinner can be made with Leroy Stradford (1551), ext. 8767 by Dec. 11. No reservations are required for the talk which will be presented at 8 p.m. The public is invited.

Afterthoughts

Down With Time--The apotheosis of time is one affliction of modern man. Much of our adult life focuses on being at certain places at very precise times for very precise intervals, and to this end our clock and calendar-watching become obsessive. Recently I read an article about American Indians, their employment, and the so-called Indian attitude toward time, an attitude which many observers feel is perhaps a bit casual (and therefore at odds with our tightly scheduled way of life). To illustrate the Indian perspective of time, the author described the Indian reaction to arriving at the bus stop after the bus has departed, i.e., late. You and I say, "I missed the bus." The Indian says, "The bus missed me." You know, if you think about that, perhaps his view is really the superior perspective of man's relation to time.

Alcoholism & Industry--In August LAB NEWS carried a feature describing the Labs' new program to assist employees who have an alcohol problem. Response within the Labs has been good, according to Medical, but one unexpected development has been the considerable expression of interest outside Sandia. This office has received inquiries about the article from more than a dozen firms, including such largish outfits as Eastern Airlines, J. C. Penney and Amoco. Sounds like a movement whose time is arriving.

Onward & Upward With DMV--A year or two ago, one exceedingly small pleasure to help relieve the tedium of a long drive through our state consisted in noting the county of origin of other New Mexico vehicles. A "2" prefix on the license meant Bernalillo, "1" Santa Fe, "32" Los Alamos, and so on. As you know, we now emulate California, and our tags bear legends like "ACR634" or some similar anonymous combination. Now I've pondered this at length (during those long drives), and I've yet to perceive a single advantage in the new system. I'm pretty sure it has nothing to do with the computer, which has become the scapegoat for all sorts of bureaucratic aberrations, and I don't think it relates to, say, a hit and run situation where it's important that the tag legend of the escaping vehicle be easily memorized. "Don't Californicate New Mexico" reads a current bumper sticker. Amen.

Apt Descriptions--"He's a wonderful talker, who has the art of telling you nothing in a great harangue." Moliere, The Misanthrope
*js

Supervisory Appointment



FLOYD BRAATEN to supervisor of Composites Laboratory 7123-3, effective Dec. 1.

Since joining Sandia in January 1969, Floyd has been associated with the induction chemical vapor facilities, which he will now supervise. His lab work has been chiefly with carbon composites and included materials support in several test vehicle programs.

Floyd earned his BS degree in chemistry from UNM and is currently working on his Master's in materials science.

Floyd is a skier and enjoys most sports. He and his wife Joan and two children live at 3000 Aztec, NE.

Calling All Retirees: Help Cancer Society

The Bernalillo County unit of the American Cancer Society is badly in need of a couple of volunteers — husband and wife would be ideal — to take charge of the Loan Closet. This is the program in which cancer patients are assisted through the loan of special equipment such as beds, wheelchairs and walkers. In addition, a number of expendable items are supplied, such as dressings, tape, oil, powder and gowns.

Volunteers should live in the Albuquerque area and be available to help at the ACS unit office several hours during the week. The office is located at 205 San Pedro NE; call on 268-4501.

Events Calendar

- Dec. 8-10, 12-14 — Albuquerque Little Theater, "Forty Carats," 8 p.m., 242-4750.
- Dec. 9 — Ski Touring Club, 7-Springs Hatchery, Gulf Mart, 8 a.m.
- Dec. 9-10, 15-17 — Mime Experiment, "Beauty and the Beast," 2 p.m., for information call 243-3219.
- Dec. 10 — UNM Chamber Orchestra Concert, Keller Hall, 4 p.m.
- Dec. 10 — N.M. Mt. Club, Tent Rocks, Gulf Mart, 8 a.m.
- Dec. 12 — Matchines, Feast of St. Guadalupe, Jemez Pueblo.
- Dec. 15 — Basketball: UNM vs. Abilene Christian at UNM, 7:30 p.m. UNM, 7:30 p.m.
- Dec. 15 — Up With People, Albuquerque Convention Center, 8 p.m.
- Dec. 15-16, 22-23 — Music Theater, "You're A Good Man, Charlie Brown," Kimo Theater, 8:00 p.m., 242-8749.
- Dec. 16 — N.M. Mt. Club, Windsor Trail, skis or snowshoes, Gulf Mart, 8 a.m.
- Dec. 17 — Ski Touring Club, Santa Barbara campground, Gulf Mart, 7:30 a.m.
- Dec. 17 — Christmas Concert, Albuquerque Civic Chorus and the French Boys Choir, 4 p.m., First Methodist Church, 4th and Lead SW.
- Dec. 17 — Little League Soccer Championships, Albuquerque Sports Stadium, 1:30 p.m.
- Dec. 17 — Los Posados, Old Town Plaza, 7 p.m.

Death

Duane Hillard of Contract Audit Division 4121 died Nov. 18 after a long illness. He was 46.

He had worked at Sandia Laboratories since June 1950.

Survivors include his widow and two sons.



Variable Annuity Unit Value

December	1.793
November	1.786
Average 1971	1.628
Average 1972	1.737

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don graham ass't. editor

bruce hawkinson writes
as does norma taylor while
bill laskar takes/makes pictures
&

in livermore lorena schneider does all

Christmas Activities

Dec. 8 — Christmas Container Contest, display in lobby of Bldg. 911.

Dec. 12, 13, 14 — Third Annual Christmas Program, 25 cents donation, door prize.

Dec. 14 — Bean Guessing Contest, prize winner announced.

Dec. 15 — Box lunch auction, dining to the music of Bruce Nappi (8332).

All activities will be held at noontime in Bldg. 912, Room 185, unless otherwise stated. For further details, see your Division Secretary.

Proceeds go to two charities: Livermore Emergency Fund Center and Nursery School Scholarship Fund.

Speakers

Ron Young (8352), "Local Error Bounds in Mathematical Physics by Finite Element Methods," International Conference on Variational Methods in Engineering, Southampton University, Southampton, England, Sept. 29.

Bob Gallagher (8333), "An Analytical Method for Determining Rotational Relaxation Rates from Velocity Distributions in Molecular Beams," Eighth International Symposium on Rarefied Gas Dynamics, Stanford University.

Tony Thompson (8313), "Structure of Nickel and Nickel-Cobalt Electrodeposits," Annual meeting, Electron Microscopy Society of America, Los Angeles, August 1972.

Ray Mar (8314), and N.D. Stout (LLL), "Enthalpies and Entropies of Fusion of Borides," 27th Annual Calorimetry Conference, Park City, Utah.

Ted Dellin (8341), "Analytical Electron Transport with Applications to IEMP Vulnerability," Livermore Technical Seminar Series, July 19.

Ted Dellin (8341), and C.J. MacCallum (5231), "Exact Analytical Photo-Compton Currents in Unbounded Media," IEEE Conference on Nuclear and Space Radiation Effects, Seattle, Wash., July 24-27.

Jack Wilson (8411), "Metricate — Or Else!," November meeting, Pacifica Chapter, Society for Technical Communication, Chabot College, Hayward.

Walt Bauer (8334) and Ron Musket (8313), "Study of Aluminum Oxide Films by Ion-Induced X-rays and Ion Backscattering"; Bill Swansiger (8333), Walt Bauer (8334), Ron Musket (8313) and Bill Kass (5521), "The Influence of Oxides on the Permeation of Hydrogen Isotopes Through Stainless Steels"; Carl Schoenfelder and Jim Swisher (both 8313), "Kinetics of Decomposition of TiH₂"; Walt Bauer (8334) and George Thomas (5522), "Surface Effects in High Temperature Helium Implanted Niobium and Stainless Steel"; Wes Estill (8311), Steve Gair (8341) and Jack Wirth (8340), "Use of Bremsstrahlung and Characteristic X-ray Spectra to Study Surface Potentials Produced on Insulators"; Ken Dolan (8341), "Energy and Angular Distribution of X-ray-Induced Electron Emission from Thick Targets"; Lawrence Weirick (8313), "Oxidation of Thorium: Oxide Stresses"; and Tony Thompson (8313), "Deformation of Stainless Steel in the Pressure of Lithium Hydride," Fourth Annual Conference on Surface Studies, Sept. 6-8, Livermore, Calif.

Authors

Walt Bauer (8334) and George Thomas (5522), "Helium Release and Electron-Microscopy of Helium-Implanted Palladium," JOURNAL OF NUCLEAR MATERIALS, Vol. 42, No. 96.

Ron Musket (8313) and Walt Bauer (8334), "Surface Characterization of Stainless Steel Using Proton-Induced X-Rays," APPLIED PHYSICS LETTERS, Vol. 20, p. 411, June 1972; "Proton- and Electron-Excited Auger Electron Spectra of Molybdenum Surfaces," APPLIED PHYSICS LETTERS, Vol. 20, p. 455, June 1972.

Bob Huddleston (8321), "Selection of Stepsize in the Variable-Step Predictor-Corrector Method of Van Wyk," JOURNAL OF COMPUTATIONAL PHYSICS, Vol. 9, No. 3, June 1972.

Dick Basinger (8325), "On the Coefficients of an Entire Series with Gaps," JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS, Vol. 38, June 1972.

LIVERMORE NEWS

VOL. 24, NO. 25

LIVERMORE LABORATORIES

DECEMBER 8, 1972



HERMAN ARMIJO (8257) is presented his diploma by Hilt DeSelm, Director of Staff Services 8200, after completing apprenticeship requirements qualifying him as an electrical plant technician.

First Livermore Plant Technician Apprentice Graduates

After the equivalent of five years (10,000 hours) of on-the-job training under Sandia/Livermore's apprenticeship program, with additional instruction in job-related courses at Delta Junior College in Stockton, Herman Armijo is now a plant technician (electrical) in Plant Maintenance Division 8257.

The first employee to complete the plant technician apprenticeship program requirements, he had also passed board of examiners review in the City of Stockton, qualifying him as a journeyman electrician.

Herman, who has been with Sandia over 13 years, began working toward his goal while a janitor at Sandia/Albuquerque. Concurrently, he held a part-time job with a local building contractor as a helper electrician. "At first one wire looked the same as another to me," he recalls. "After about six months, I was thinking of myself as really being an electrician. Little did I know how far away I was."

In the meantime, Herman took some out-of-hours electrical courses and later became an electrical helper in the maintenance organization. Subsequently, in 1968, he moved to California, joining Sandia/Liver-

more as a mail clerk. When the apprenticeship program was established at Livermore in 1969, he was one of the first employees selected for training.

Herman feels "the program is great and those who are in it should make every effort to finish — not just because the company goes all out for the apprentice, furnishing books and paying the individual for class attendance, but he should take advantage of the opportunity for his own personal growth and benefit.

"Of course, it's not easy, especially if you have a family," he comments. "In my case, I was married with six children. I have a lot to be thankful for because my family went along with me 100 percent. They had to forego doing many things because of my night classes and studying, but all of them, particularly my wife, were patient and understanding.

"I realize," he continues, "I still don't know everything in the electrical field and new things keep coming up, so I'd like to take some additional courses. My fifth apprenticeship year included basic knowledge of fluidics for control work, and some follow-up in that area would be interesting. I feel everyone should keep on learning, especially in their chosen field. It's good job security and, besides, I don't like to be idle." • ls

Congratulations

Mr. and Mrs. Roger Crawford (8432), a daughter, Cary Christianne, Nov. 3.

Harriett Sitton (8182) and Cliff Skoog (8342) married in Reno, Nev., Oct. 21.

Credit Union Reporter

Make It Easy on Yourself — The Credit Union has two major functions: 1) to encourage saving; and 2) to make loans to those who have a need. Sometimes you can take advantage of both functions at once. When you need to borrow, for example, you can save money by getting the lowest possible interest rate on your loan.

Here's where having saved earlier so you've acquired some property can help you save at borrowing time. If you own land, a vehicle, or a life insurance policy, you can use it as collateral and thus qualify for lower interest rates.

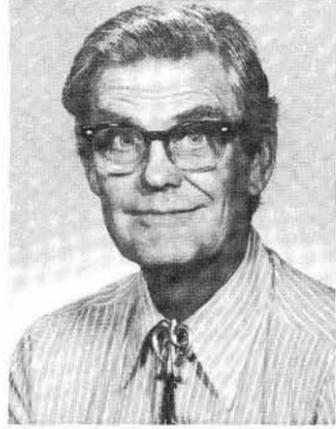
Whatever the purpose of the loan, use whichever property you own that carries with it the lowest interest. There are only a couple of stipulations: 1) length of time for repayment can make a difference as to what you can use as collateral; and 2) generally the loan must be for at least \$400; smaller loans carry a higher interest rate. That's because a small loan requires about as much processing as a large one, but the interest paid doesn't cover the processing expense.

Here's a summary of the current interest rate for each common type of collateral. Note the difference between, say, a life insurance policy and an old automobile. The loan interviewer will be happy to help you determine the collateral that carries the best interest rate.

Collateral Offered	Annual Interest Rate	Minimum Loan
Automobile		
New and One Year Old	8.4%	\$400
Two to Four Years Old	9.6	400
Over Four Years Old	10.8	400
Pleasure and House Boats		
New and One Year Old	9.6	400
Over One Year Old	10.8	400
Campers, New and Used	9.6	400
Furniture and Appliances	10.8	400
Life Insurance	7.2	400
Mobile Homes, New and Used	9.6	400
Motor Homes		
New and One Year Old	8.4	400
Two to Four Years Old	9.6	400
Over Four Years Old	10.8	400
Pass Book and Cert. of Deposits	8.4	400
Real Estate		
First Mortgage	7.2	400
Second Mortgage	9.6	400
F.H.A. Title I	8.4	500
Credit Union Shares	7.2	200
Signature	10.8	None



BY NOW, most everyone has heard about the little matter of some forty thousand plus disappearing from the Base finance office last weekend. Well, we think we've caught the guy red handed. Tagged him as he was about to disappear within Bldg. 634.



By Joe Miller, Secretary

Stocks, Bonds, Mutual Funds	7.2	400
Travel Trailers		
New and One Year Old	9.6	400
Over One Year Old	10.8	400
* * *		

1040 and You — The Credit Union plans a course on Federal Income Taxes on a trial basis. The pertinent facts:

Period: 7:30 to 10 p.m. on Wednesday nights for nine weeks starting Jan. 10 (plus 2-3 hours per week preparation)

Place: Coronado Club

Teacher: George Arnot

Text: Commerce Clearing House's "Master Tax Guide"

Class Size: 35 students; first come, first served

Cost: \$10, payable at time of enrollment

Contact: Bill Bristol or Red Turner at the Credit Union

* * *

What Price Firewood? A custom in these parts that's sort of fun is to load up the pickup or carryall with family, picnic lunch, and chain saw and proceed to the woods for firewood (for which you usually need a permit from the Forest Service). Given the local price of firewood, the theory is that the chain saw cost — \$150 up — will be recovered in not too many outings. The October issue of Consumer Reports carries an article about chain saws in which is delineated a rather considerable hazard over and above the obvious one. It consists of "... a truly ear-shattering 117 decibels when cutting. Even a 15-minute exposure to such a noise level could permanently damage hearing." Admittedly, this was the noisiest saw tested. But even the less noisy saws could cause hearing problems after longer exposures. The study's recommendations: "Ear protectors are a must."

BILL LASKAR, Lab News photographer, caught this photo of a group of our lady fighting men (somehow that doesn't sound right) during recent change of command ceremonies on the Base. Hey — there's a familiar face. Let's see... didn't he work in 802?



Cerampic Device Receives Patent

The Cerampic, a unique ceramic imaging device invented by Cecil Land and Willis Smith of Solid State Electronics Division 5113, was awarded a patent recently. The patent was assigned to the AEC in the names of its inventors.

The Cerampic (LAB NEWS, March 30, 1972) is a thin transparent PLZT electro-optic plate with a photoconductive film deposited on one major surface. Transparent electrodes are deposited on the film and on the other major surface. An image is stored within the plate by illuminating it through a photographic negative placed on the film or by scanning the film with an intensity-modulated light beam while voltage is applied across the electrodes.

Ferroelectric domain orientations are changed within the ceramic by electric fields which vary according to the light intensity incident on various areas of the photoconductive film. A positive image is formed with a typical resolution of 40 line pairs per millimeter in a 0.25 mm thick plate.

The device has a number of possible uses. Most promising is the storage of images from electrical signals received by telephone or radio. The Cerampic principle could also be used in light shutters, computer-like memories and other electro-optical devices.

Authors

J.R. Freeman and J.W. Poukey (both 5241), "Magnetic Focusing of a Relativistic Electron Beam: Theory," Vol. 43, No. 10, JOURNAL OF APPLIED PHYSICS.

J.E. Houston (5332) and R.L. Park (5331), "Instrument Response Functions for Potential Modulation Differentiation," Vol. 43, No. 10, THE REVIEW OF SCIENTIFIC INSTRUMENTS.

G.E. Laramore (5151), "Low-Energy-Electron-Diffraction Rotation Diagrams for the (100) Face of Aluminum," Vol. 6, No. 8, PHYSICAL REVIEW B.

C.B. Norris (5112), "Investigation of Static Electron Irradiation Effects in Bulk Si and Thin Si Films at Energies Far Below Threshold," Vol. 43, No. 10, JOURNAL OF APPLIED PHYSICS.

J.N. Olsen (5213), E.D. Jones (5214) and G.W. Gobeli (5210), "Nanosecond and Picosecond Laser-Produced CD₂ Plasmas," Vol. 43, No. 10, JOURNAL OF APPLIED PHYSICS.

R.K. Quinn (5154), "Low Temperature Faraday Susceptibility Apparatus," Vol. 43, No. 10, THE REVIEW OF SCIENTIFIC INSTRUMENTS.

J.W. Reichardt (1414), J.E. Marceau (1824) and T.B. Mason (7121), "An Apparatus for the Study of Hydrogen-Metal Reactions," Vol. 43, No. 10, THE REVIEW OF SCIENTIFIC INSTRUMENTS.

H.J. Sutherland and R. Lingle (both 5163), "An Acoustic Characterization of Polymethyl Methacrylate and Three Epoxy Formulations," Vol. 43, No. 10, JOURNAL OF APPLIED PHYSICS.

Square 'Em Up

"Forward eight and back you reel;
Pass through and wheel and deal."

To some of us that may look like a secret code or a nursery rhyme. But several Sandians would recognize it immediately and react with a foot tap or two. It's part of a square dance call — and square dancing is a hobby with some enthusiastic advocates. Take Jerry Hurley (1612), Wayne Sebrell (1543), Bill Caskey (1555), and Dick Siebenforcher (4152), for example. We asked each of them the simple question — why square dance?

Well, it seems that people square dance because it's fun. As the existence of 30 or so Albuquerque square dance clubs would indicate, there's been something of a resurgence of the sport (art form?) in the last few years — ballroom dancing is, after all, about as passé as bundling. But square dancing, you see, gives you a chance to do more than tap your foot to a catchy rhythm. You really get involved with it and with others who are involved too.

It's less "dancing" than it is, quoting Jerry, "close order drill to music — without the solemnity." And while the Archie Bunkers in our culture will deride a male ballet dancer (who is generally a superb athlete), somehow square dancing and machismo have no difficulty with each other.

So it's fun, and that's basic. It's also something husband and wife can enjoy together. And it's good physical exercise — jogging, after all, demands a certain ascetic bent.

And it's terribly wholesome — parallels with "swinging" notwithstanding. And it's inexpensive — less than a dollar per couple per dance in most clubs.

And it's relaxing — it's simply impossible to think about cares of the day when you're concentrating hard on the caller and enjoying yourself.

Finally, it's a place to meet interesting



IRMA AND BILL CASKEY (1555) prepare for a "swing your partner."

people from all walks (and some shuffles) of life. "We see other square dancers socially all the time. In fact we've taken a couple of square dance vacations — fish and hike all day, then square dance half the night," says Wayne. Incidentally, he's State Vice President of the New Mexico Square Dance Association this year; Jerry is Central District Secretary-Treasurer; and Bill is a past District Chairman.

Dick Siebenforcher doesn't hold an office, but he's got status too — he's a caller and a busy one. Two or three nights a week he loads up his special square dance caller's PA system, his records, and his 18 years of experience and heads for a club date. Given the ego it takes to want to stand up in front of 30 to 100 people and get them all to do what you tell them, Dick is surprisingly modest. "I don't give a vocal concert — that's not what they pay me for. I just try to keep from boring them with stuff that's too elementary or frustrating them with stuff that's too advanced."

He has some strong feeling about how often a couple should dance — once a week. More and they burn themselves out; less and they get rusty. It's not easy to find a middle ground there, but the dancers seem to agree. Most get out about once a week.

So if you're shopping around for a new or replacement hobby, you might well give square dancing a try. All the clubs have lessons for beginners — contact any of the guys mentioned. And promenade! •bh

Sympathy

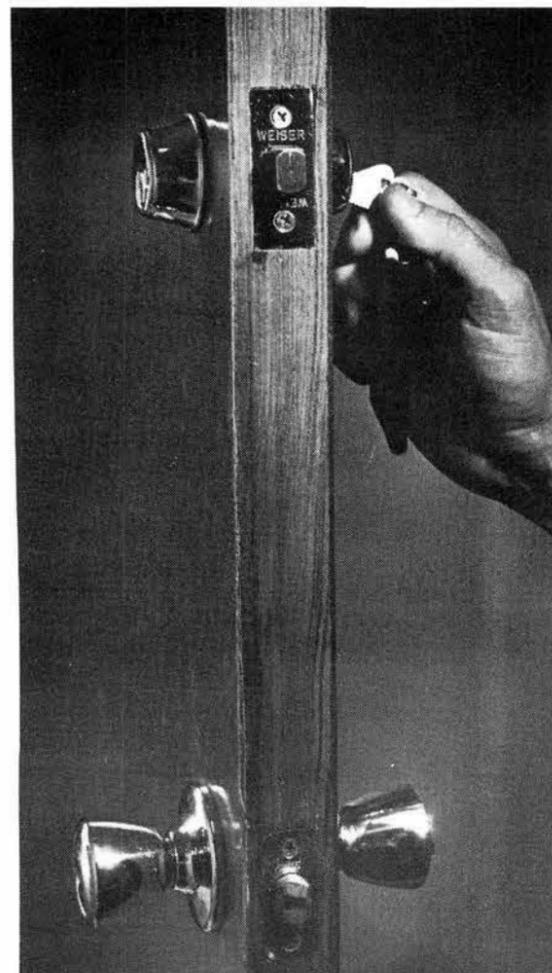
To Chris Dalton (1213) on the death of his mother in Enterprise, Kans., Oct. 29.

To Willard Flowers (7113) on the death of his father-in-law in Kansas, Nov. 17.

To Norman Smith (4622) on the death of his father in Sun City Center, Fla., Nov. 16.



WAYNE SEBRELL (1544) and momentary partner promenade.



TO FOIL A THIEF — Phil Bircher (7414) suggests this simple but effective lock system. In addition to the regular outside door lock, install an inside lock, the premise being that a thief may break into your home through a window, hoping to release the outer door lock from the inside. Finding the door also key-locked from the inside may thwart him — he can't easily remove your color TV through a window.

Take Note

Christmas trees will be sold on the Base this year at the parking lot east of the Base Exchange, 9 a.m. to 8 p.m., Monday through Saturday, and 10 to 5 on Sundays. Tree purchases at this facility may be made by Labs people.

* * * *

Need a guest speaker? A new list of Sandia Laboratories Speakers Bureau topics was recently issued by Public Information Division 3161, and can be obtained by calling Phyllis Wilson, ext. 4207.

New topics and speakers are always welcome, according to Phyllis. If you're interested in participating in the Speakers Bureau, let her know.

* * * *

Up With People is a small group of 140 young people who, as you have probably heard, are putting on a concert the evening of Dec. 15 at our new convention center. UWP members range from 18 to 25, come from eight countries and 30 states, and will be in Albuquerque from Dec. 9 to 16. Problem: The young people need places to stay. Can you accommodate one (or more)? If you can, call the convention center on 842-0220 and ask for the Up With People person, who will make the arrangements.



Shalako — Nocturnal Ritual of the Zunis

Shalako — the fall festival climaxing the Zuni ceremonial year — will be held at Zuni Pueblo this weekend. It is one of the most unique and colorful of the rituals of the Pueblo tribes. The 49-day ceremonial, beginning early in October, actually takes a year of preparation and culminates when the masked gods enter the village to bless the new houses.

To be selected as host to one of the six shalakos and his attendants is an honor but an expensive one. New houses are built or old ones replastered and purified; ceremonial rooms are decorated with bright cloths, blankets, silk shawls, feathers and skins; and large quantities of food must be prepared.

At the outset of the 49 days, two kachinas (deified ancestral spirits) participating in the ceremonies receive a cotton string tied in 49 knots, one to be untied each morning. On the 40th day the first of the masked apparitions appear in public. These are the "mudheads" or clowns, and they are greeted with sprinkles of meal and taken into seclusion for an eight-day retreat. On the 44th day another group led by the Rain god of the North appears. The Rain god symbolizes long life, and among his group is the little "Fire god," portrayed by a 10-year-old boy.

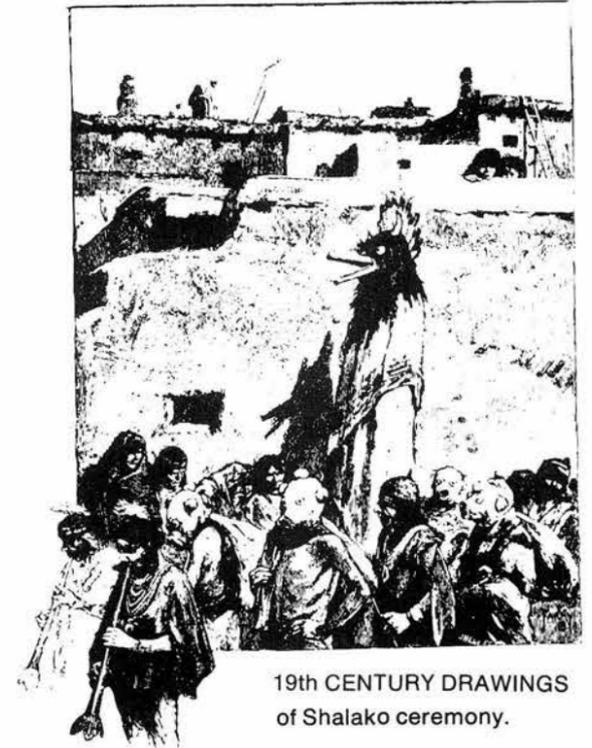
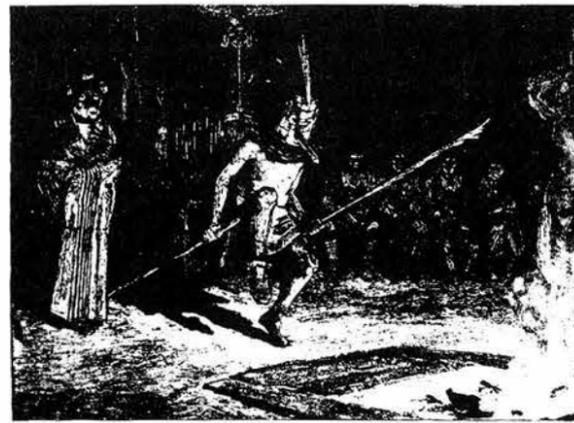
On the 48th day everything is ready. The procession begins with the Rain god of the North, and with him his war chief, the Rain god of the South. Next are the Two Warriors of the East and West, and finally the two War Brothers representing zenith and nadir. The latter are whippers who carry yucca rods to punish stumbling dancers or a spectator who might fall asleep during the dancing.

These six kachinas visit the six ceremonial houses, planting prayer sticks on the roof and inside the doorways. Walls, floors and ceilings are marked with meal, and the house is

Zuni Pueblo is located 35 miles south of Gallup on paved highway No. 32. Spectators should plan to arrive in Zuni about midnight, Saturday, in time to witness the start of the dancing. Picture taking or sketching is not allowed. The Zuni tribe provides maps to the shalako houses. It will be cold and you'll be walking — maybe in mud or snow. A thermos of hot coffee might be a good idea.

blessed in a long prayer. Then begins a long recital between a kachina and his host, lasting several hours. In all of the houses, similar ceremonies are taking place in order to make the house ready to receive the shalako.

The shalako masks are imposing, with eagle feather headdress, buffalo horns, bulging eyes and long black wooden beaks. They are about nine feet tall. The mask is supported on a long pole hidden underneath and must be steadied by the dancer who also manipulates the strings which roll the great eyes and clack the wooden beak, all the while



19th CENTURY DRAWINGS of Shalako ceremony.

swaying, gliding and dipping — an ordeal of endurance and skill requiring considerable coordination and balance.

The ritual chants and prayers between the shalako and his host last about two hours, and then both the shalakos and the kachinas dance until dawn. Meanwhile spectators come and go from one house to another.

At dawn the dancing stops and the Rain god of the north climbs to the roof of one of the houses. Facing east he unties the 49th knot and intones a prayer. The ceremonial houses are emptied and closed while the dancers remain inside to eat and rest. At noon on the 49th day the shalakos leave the village.

• nt

Hi-Q Machining Company— A Sort of Success Story

Back in '68, Stan Rosales and Ben Serbin were machinists working in a job shop here in Albuquerque. They got together and decided to open up their own shop. Assets — a little money, three pieces of machine equipment, not much else. They went to the Small Business Administration for a loan and one of the first things they learned from SBA was that the mortality rate for the kind of enterprise they were planning approached totality, and SBA wasn't too enthusiastic about adding one more statistic to the list of failed firms. But they persisted, got an SBA loan, and today — four years later — the Hi-Q Machining & Mfg. Co. of Albuquerque looks to this eye like a going concern.

LAB NEWS became interested in Hi-Q when we learned from buyer Leroy Huenefeld (4373) that the firm was one of several so-called "minority business enterprises" that the Labs does business with. Definition: "... a business, at least 50 percent of which is owned by minority group members," this from a document published under the lofty aegis of something called the Federal Executive Board.

Given the present climate, readers will be forgiven if they have already concluded that what we have here is one more governmental exercise to insure that a minority group gets some sort of preferential treatment and that Sandia Labs spoon feeds Hi-Q choice orders. Well, it's not that way.

I visited Hi-Q in their small plant on North Edith and talked with the two

proprietors. These are able and perceptive guys, and I could sense a certain restraint because they knew I was there not because they operated a machine shop but, rather, a minority-operated machine shop. After the customary tour and a few pictures, Stan, the more talkative of the two, broached the subject directly. He was bemused by his and Ben's rather recently conferred special identity as a certified minority group member.

"OK, so we're minority. But neither one of us would use this in our business. Actually, in the long run it just wouldn't pay. We just want Hi-Q to be judged by the quality of its work. . ." Sounds like a pretty sensible

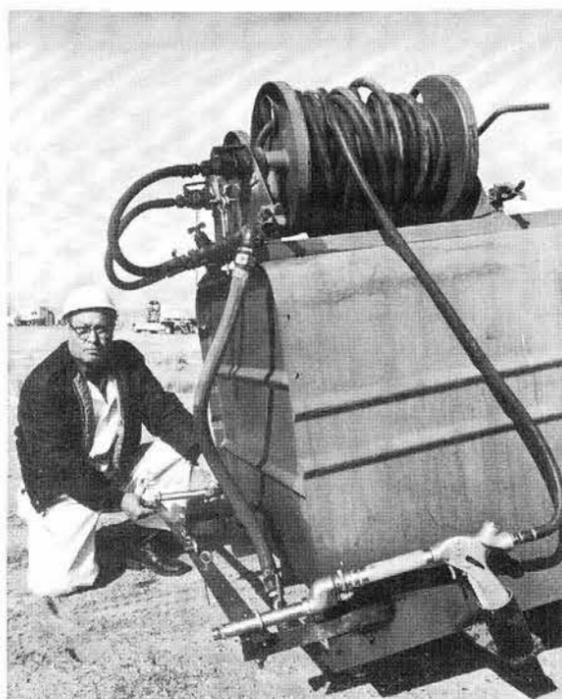
philosophy.

Sandia's policy with respect to local minority businesses is simply to provide the opportunity for the minority business to quote along with other firms on Sandia work. The successful bidder is the one who quotes the job that best satisfies Sandia's needs.

Hi-Q has been successful bidder on a large number of Sandia orders. "The quality of their work is impressive" says buyer Huenefeld. "The technical people like them because of the high quality and because they're easy people to deal with — willing to work from rough sketches and under tight schedules. I think Hi-Q is here to stay." • js



Stan Rosales (left) and Ben Serbin own and run Hi-Q Machining Co.

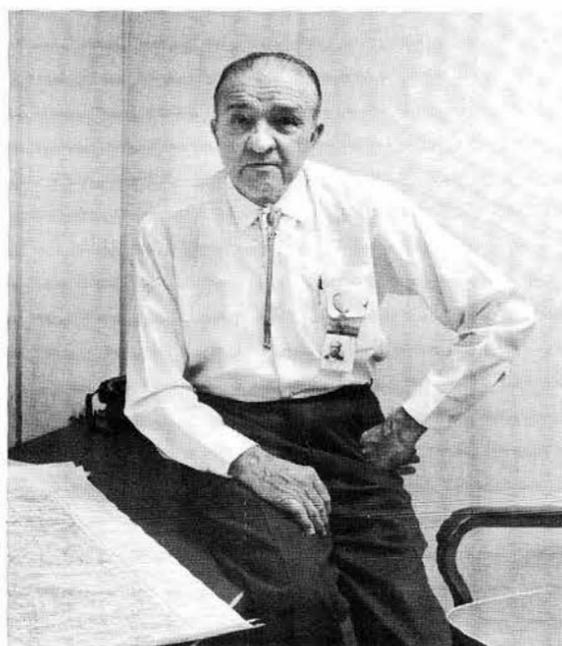


IT'S A MAN-SAVER. Used to be a nasty job — wearing gloves and mask and walking behind this weed sprayer in the dust and fumes while aiming the nozzles. Pete Ortiz (4518-3) came up with a better way — both nozzles can be pre-set for the desired coverage and direction.



SNOOPY fighting the Red Baron is a great part, according to Gary Shepherd (5428) who will appear in the forthcoming Albuquerque Music Theatre production "You're a Good Man Charlie Brown" Dec. 15-16, 22-23 and 29-30 at the old Kimo Theatre downtown. Curtain is at 8 p.m.

Retiring



Tom Tate (1534)

Take To The Hills Men — They're Getting Mean

Used to be it was safe for a dude to attempt a rapprochement with a pretty girl walking through the Tech Area. But after next week . . . well you'd better watch out. I quote from a really rather nasty brochure to be distributed to Sandia females attending a session next week of the "Women's Alertness Program."

- ** Scream as loud as you can
- * Gouge eyes with thumbs, scratch with fingernails
- * Bash temples, nose or Adam's apple with purse or book
- * Dig down on instep — kick shins
- * Grab little finger (his, I assume) and bend back sharply."

Ouch! Jeez — I was just gonna ask the time . . .

* * * *

Two Federal Protection Officers named Ann Smith and Reba Greener have a sort of road show they put on for groups of women. It deals with how a woman can protect herself, through fair means and foul, if need be. A brave man named Hugh Taylor (7544) has agreed to be the "assailant" (translation: patsy) while Ann and/or Reba work him over. It's live, in color, and on the magnificent



stage of the fabulous Bldg. 815 theater, every day at noontime next week. All Sandia ladies are urged to attend one of the sessions.

Men . . . stay away. You'd just get yourself in a predicament anyway. •js

Recreation Notes

FUN & GAMES

Sandia Labs Flag Football League championship was won by a team coached by Buddy Sanchez (5411). Team members are: Ralph Trujillo (1742), Leo Chavez (4614), Ted Garcia (5411), Jake Romero (5411), Floyd Salas (5411), Neil Gholson (5421), Bob Hughes (5514), Larry Rollstin (5624), Dennis Cronin (5626), Art Trujillo (5645), Bob Gardner (7545), and Phil Lopez. This same team, with the addition of Jay Holten (4542), Dave Johnson (5245), and Herb Filusch (9214), also placed second in the City of Albuquerque National-Sandia Flag Football tournament.

* * * *

Couple of years ago I took a five-day trip down the Colorado River with a Sierra Club group. Our outfitter was a professional river-runner using huge inflated boats, comfort and safety very high. I had thought running the Colorado to be a real macho trip, but it isn't. Just an exciting, fantastic voyage amid scenery of incredible grandeur. To float down the Colorado, comfortably stretched out with beer in hand, gazing at this scenery, has to be one summit of existence. Mark Percival (5323), an inveterate river-runner, wants to organize a Colorado River trip for this coming summer. If he can accumulate 20 or more people, including children, he can get a pretty good group rate from an outfitter. Time involved: five or nine days, depending upon where you choose to board. Money: probably more than \$200 and less than \$350 per person. Children usually get a cut rate. Interested? Call Mark, ext. 9108. •js

* * * *

In the last month or two, LAB NEWS has carried articles relating to motorcycles, both pro and con. One of the more vocal "pros"

has been Wayne Ebaugh (9216), and he feels that the time is right for persons interested in motorcycling to pool their interests. Object: to insure that the interests of cyclists are articulated, whenever and wherever appropriate. "Any group can be more effective than any one individual," notes Wayne. If you own a motorcycle, or if there's one in your family, and if you're interested, you can pick up a form relating to the association at LAB NEWS office (802/100) or on the bulletin board.

* * * *

Norris Rose (3113) says that the Old Town and Heights Boys Clubs need a few basketball coaches for teams made up of youngsters from 2nd to 7th grades. Practice starts mid-December. Call Bobby Gibbs, 345-3454, if you're interested.

Speakers

F.P. Hudson (100), "The Role of Negative Ions in Low Altitude Nuclear Burst Phenomenology," 2nd Conference on Applications of Chemistry to Nuclear Weapons Effects, Sept. 12-15, Washington, D.C.

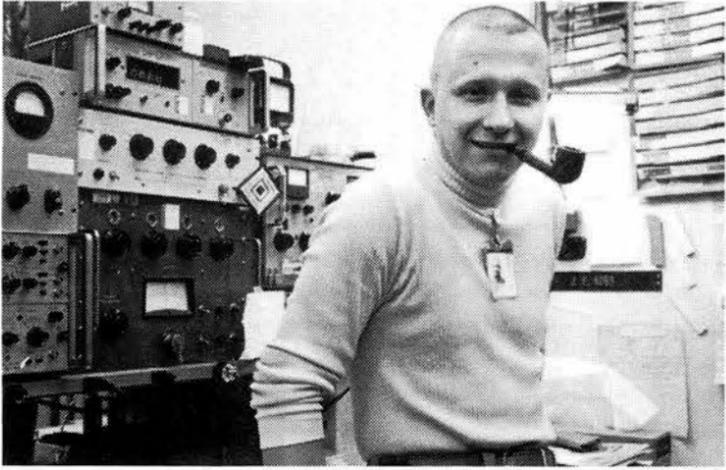
D.M. Mattox (5332), "Physical Properties of Thick Sputter-Deposited Glass Films," Colloquium RCA Labs, Sept. 21, Princeton, NJ.

R.D. Nasby and E.L. Burgess (both 5335), "Characterization of SiGe Thermoelectric Alloys," Intersociety Energy Conversion Engineering Conference, Sept. 25-29, San Diego.

G.H. Haertling (1335), "(1) Transparent Ceramics: Techniques of Processing and Fabrication; (2) Birefringence and Scattering Phenomena in Electrooptic Ceramics," Penn State Univ., Sept. 27-28, University Parks, Pa.

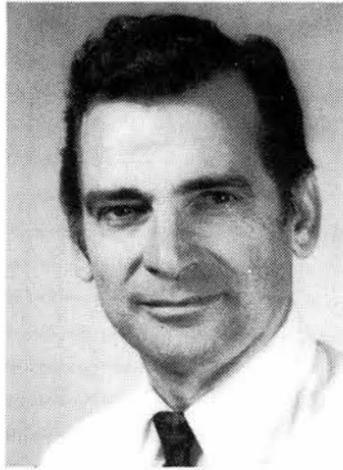
P.B. Rand (5513), "An Aromatic Polyimide Syntactic Foam," International Cellular Plastics Conference, Sept. 27-29, Montreal, Canada.

M.B. Gens (1543), "The Transportation and Handling Environment," SPHE National Symposium, Sept. 1972, Anaheim, Calif.



Jim Kobs — 1315

10



Gayle Cain — 8343

20

MILEPOSTS

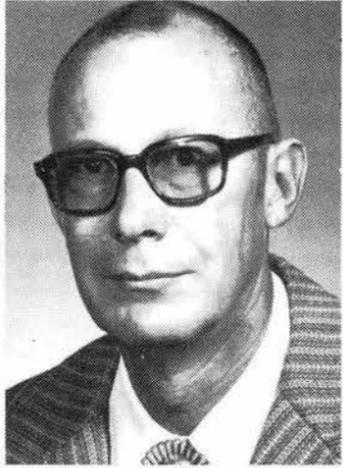
LAB NEWS

December 1972



Lou Paddison — 1800

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Jesse Harness — 5226

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Horace Montoya — 7111

25



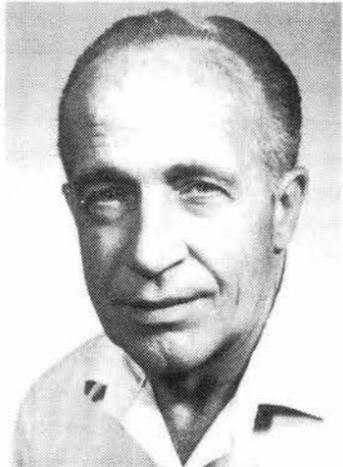
Lee Schulz — 1324

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Charles Roehrig — 5413

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Earle Anderson — 9323

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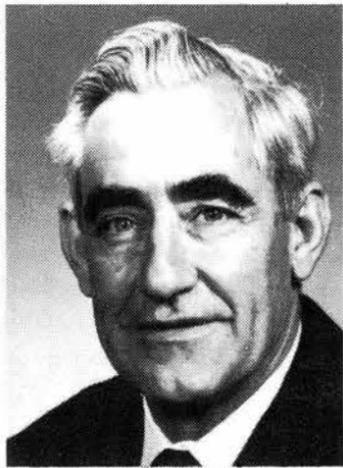
Gordon Bjork — 8433

15



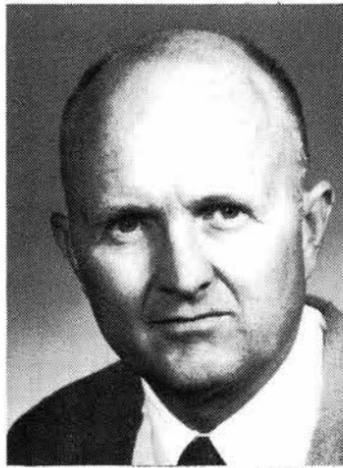
Jack Cannon — 9341

15



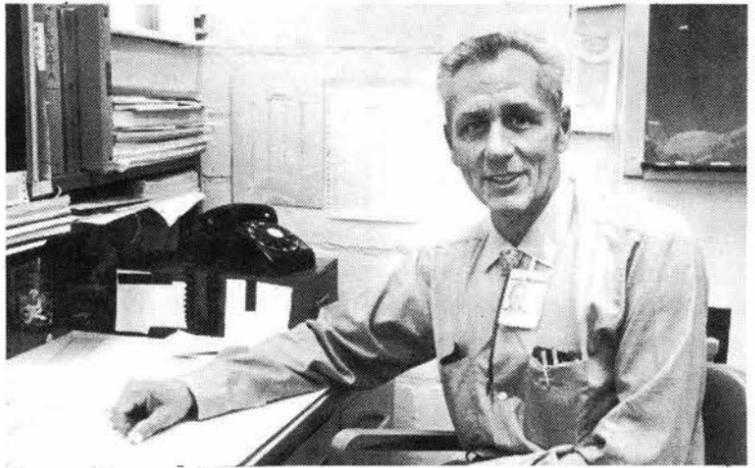
Robert Kindley — 1551

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R. D. Robinett, Jr. — 9310

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Eugene Meyer — 5621

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Lee Ten Haken — 1931

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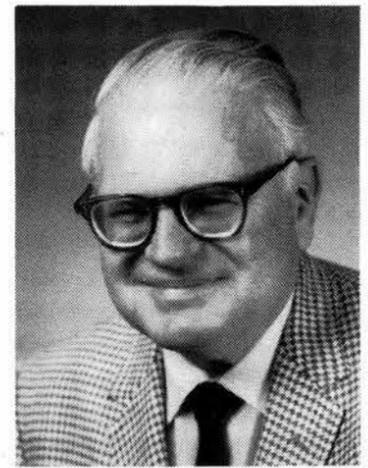
Millie Arrington — 7542

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Walter Drake — 9322

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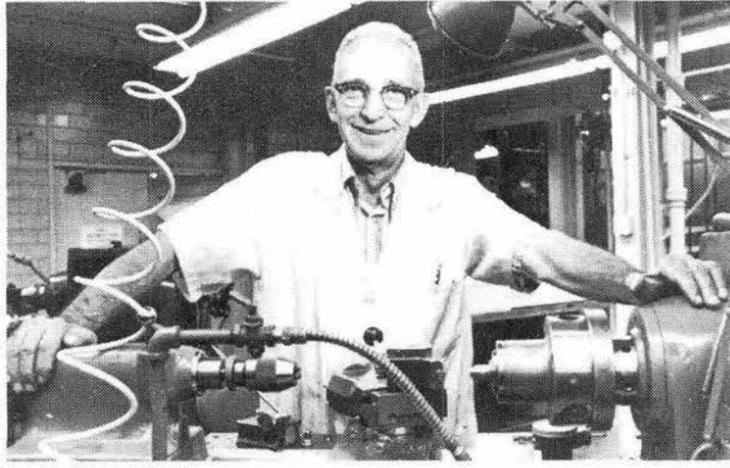


Charles Quillen — 8161

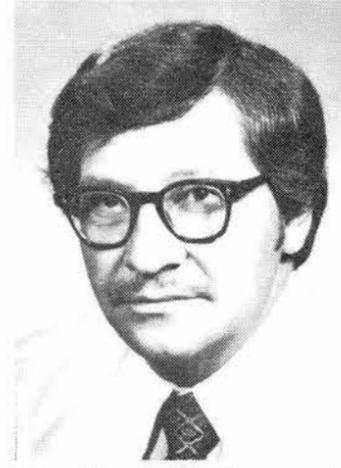
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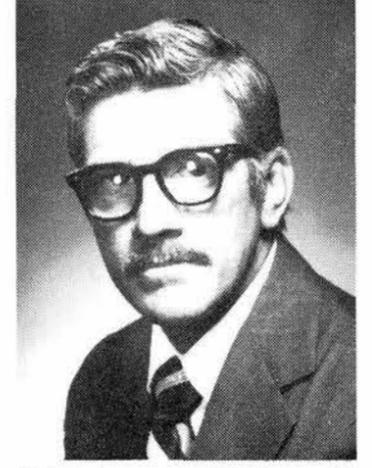
Pauline Aragon — 3256 10



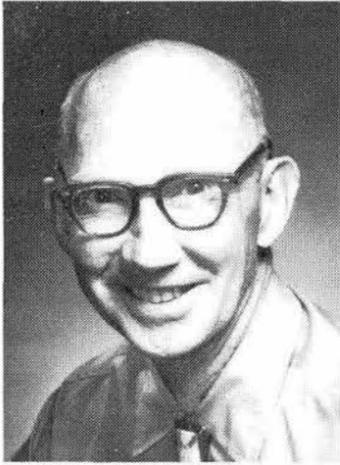
Lewis Carl — 7144 20



Alex Griego — 4338 20



Robert Lowery — 7421 20



Guy Robinson — 1532 15



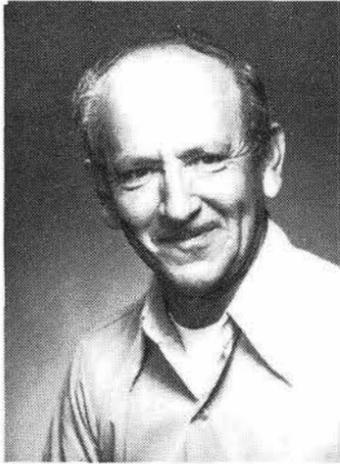
Ronald Helm — 5413 15



John Hoice — 1425 15



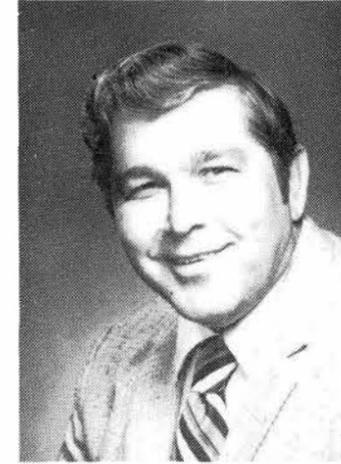
Donnie Papineau — 4363 20



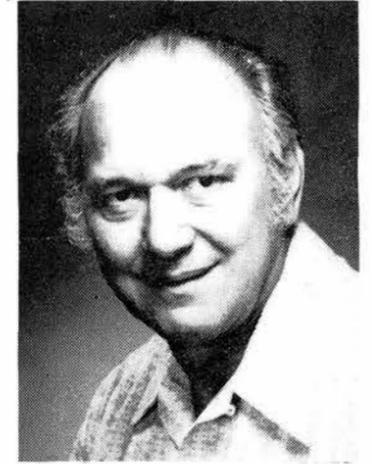
Lamberto Baca — 4137 10



Russell Maxwell — 1312 20



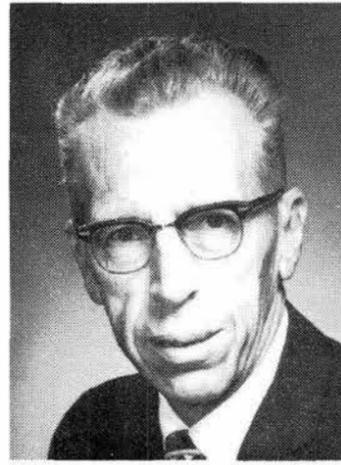
Al Rakoczy — 1525 15



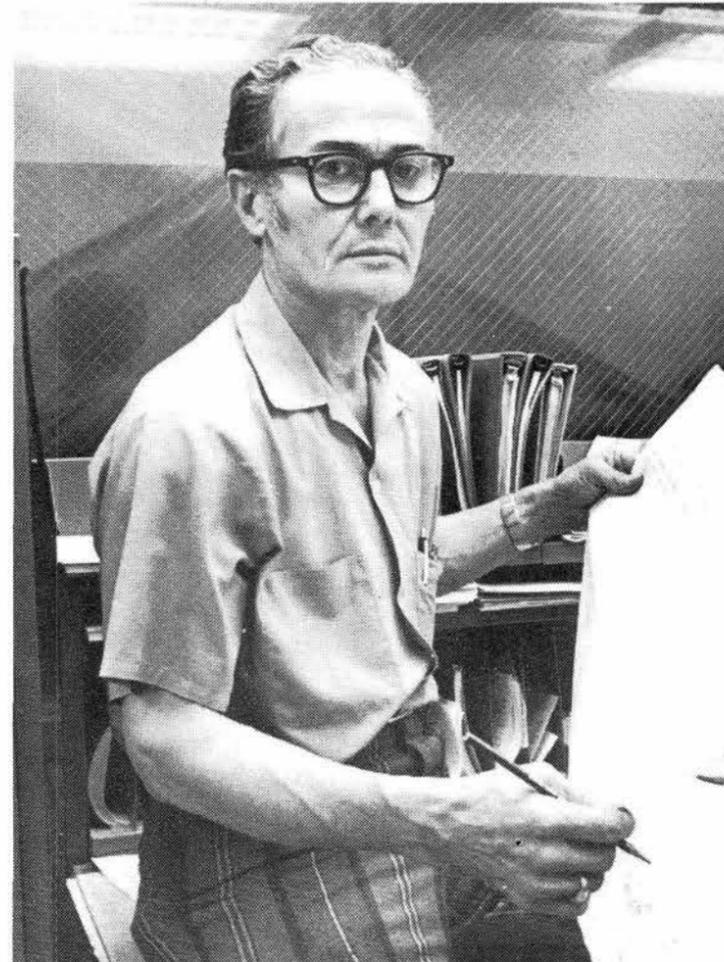
Fritz Wettin — 7154 20



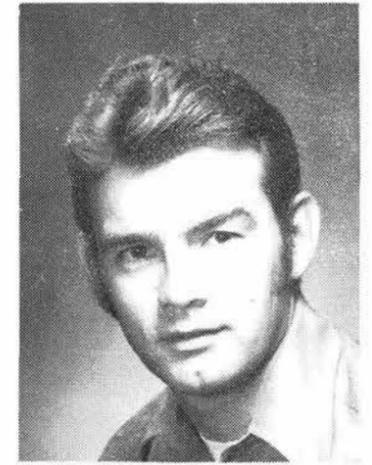
Rosie Jo Hayden — 4154 15



Andrew Ellingson — 7414 20



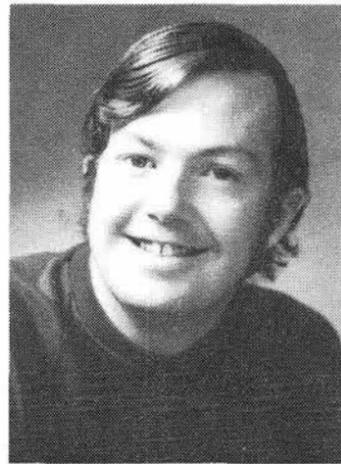
Phil Hendren — 7121 25



Arthur Lynch — 5324 10



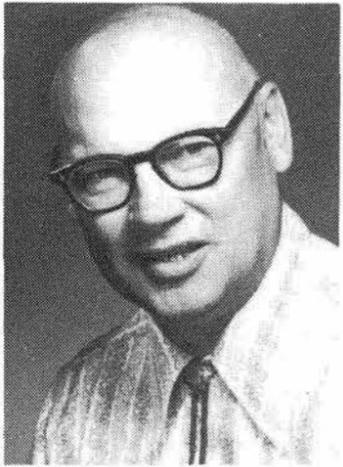
Charles Stuart — 7512 20



Bill Bonivert — 8421 10



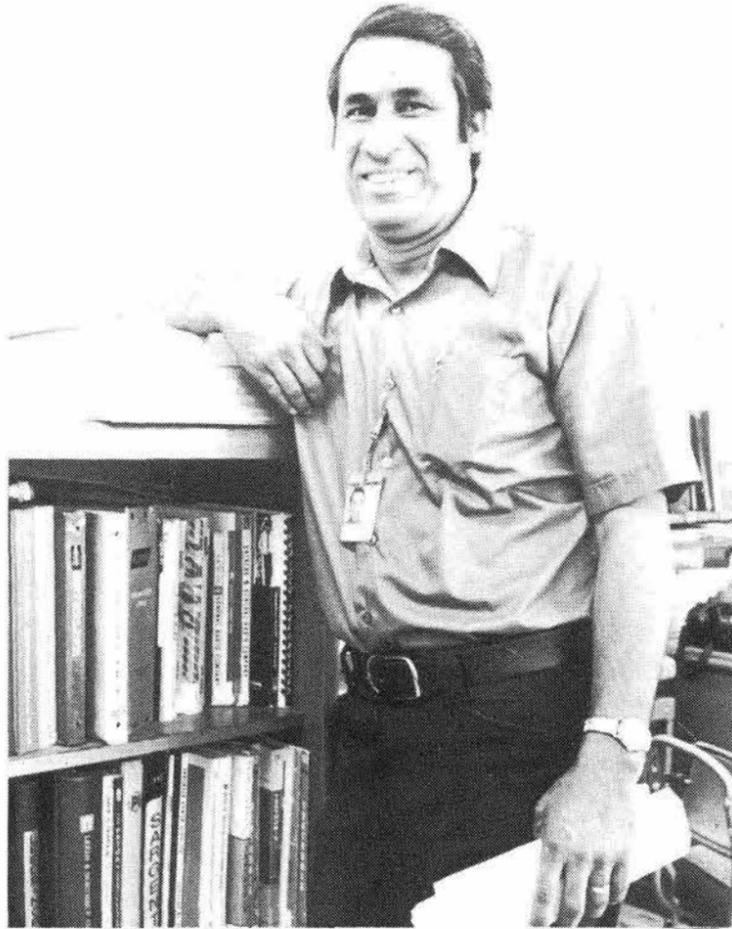
Bud Gauerke — 1822 20



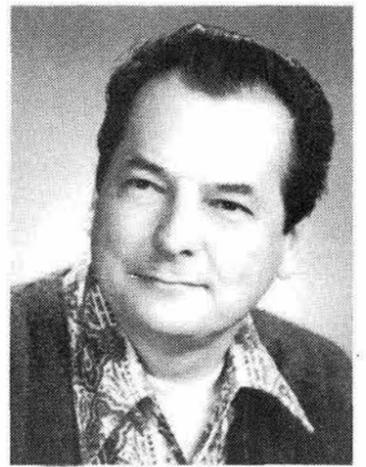
Neith Pollard - 1812 20



Ernest Sanders - 9232 15



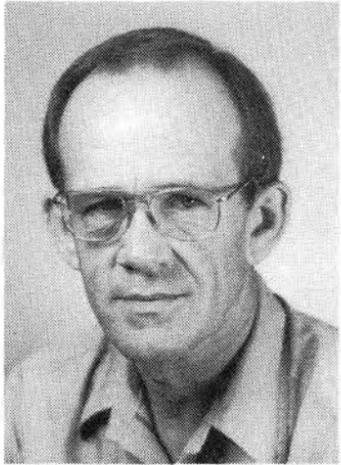
Joe Costales - 7521 20



Don DuBose - 8423 10



Pauline La Forest - 7133 20



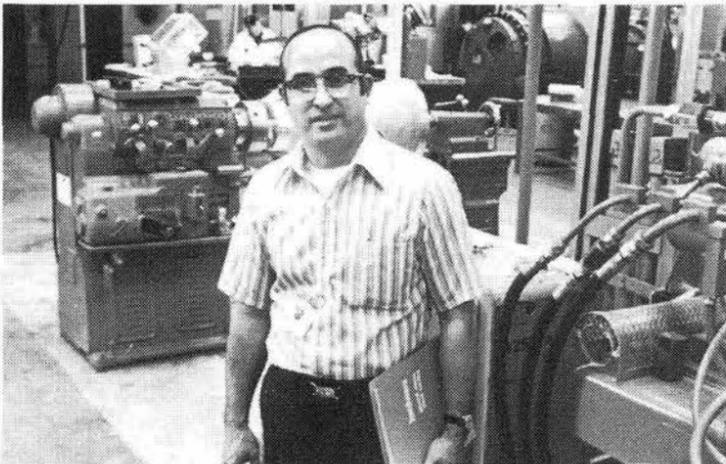
Clark Calder - 8254 15



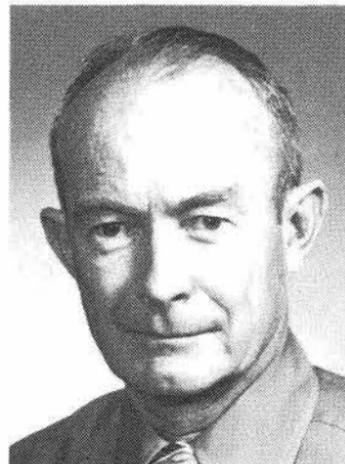
John Miziker - 1523 20



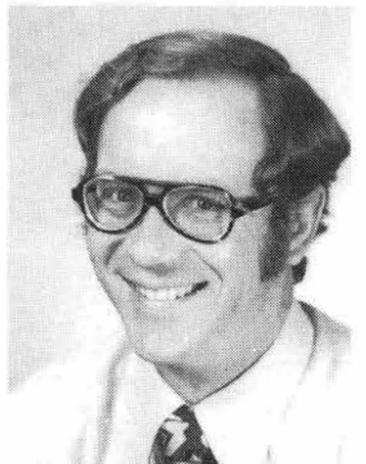
Paul Leonard - 9342 15



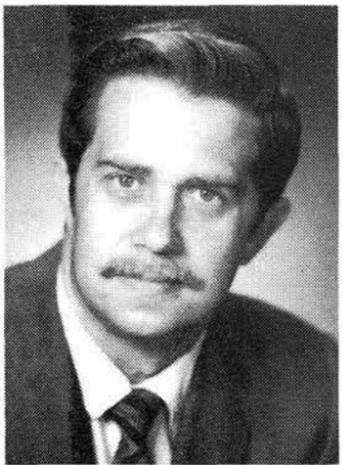
Seyfred Toledo - 7122 20



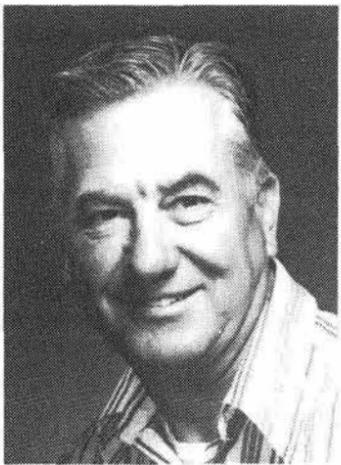
Kenneth Urquhart - 1313 25



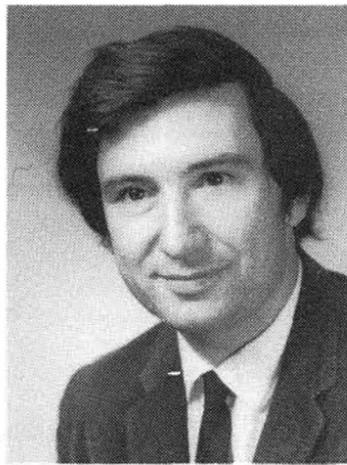
Gerald Williams - 8322 15



Jack Dini - 8312 10



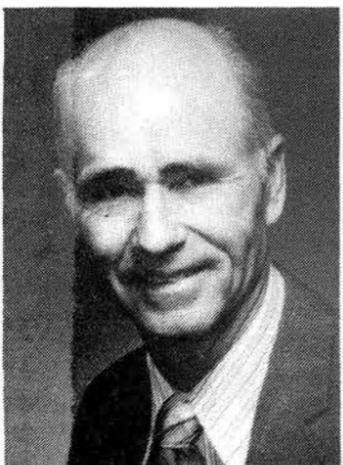
Kenneth Edwards - 9342 20



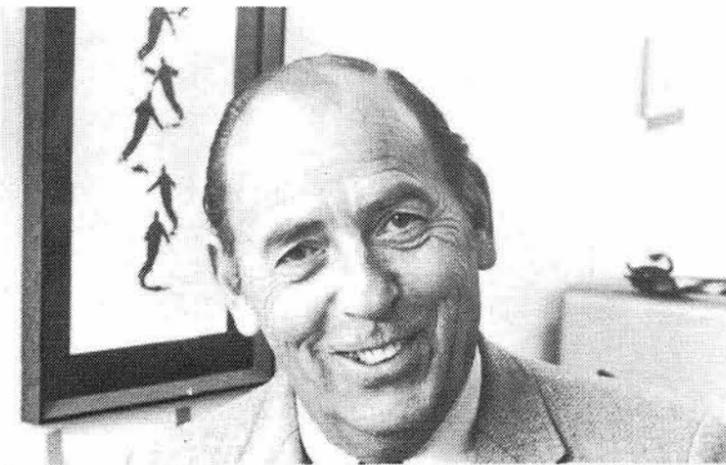
Gene Neau - 8343 10



George Ison - 1930 25



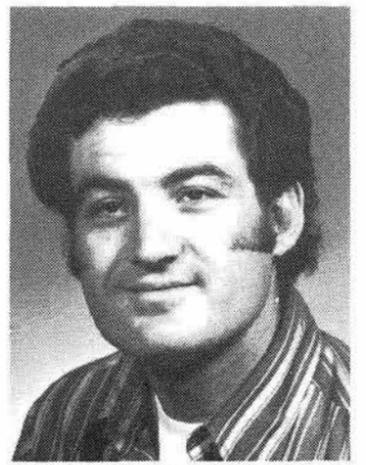
Merle Alexander - 7154 20



Burt Snow - 9131 25



Henry Schroer - 7113 20



Ted Garcia - 5411 10

CLASSIFIED ADVERTISING
 Deadline: Friday noon prior to week of publication unless changed by holiday.
 A maximum of 125 ads will be accepted for each issue.

RULES

1. Limit: 20 words
2. One ad per issue per person
3. Must be submitted in writing
4. Use home telephone numbers
5. For Sandia Laboratories and AEC employees only
6. No commercial ads, please
7. Include name and organization
8. Housing listed here for rent or sale is available for occupancy without regard to race, creed, color, or national origin.

MISCELLANEOUS

PLASTIC BAGS, like those used in city trash collection, pack of 50 for \$2 (usually higher), Lab News office, 802/100, S. Highway 10 Christmas Project.

AQUARIUM, 15-gal. showcase; 10-gal. w/pump, filters, heater, net & other accessories, \$35. Perryman, 247-8485.

TWO TR3 or TR4 racing wheels, 9" indy racing tires mounted on 5 1/2" Plymouth rims welded to Triumph 4-hole webs, \$50; 4 std. TR3 or TR4 wheels w/tires & tubes, \$6 ea. or 4 for \$20. Mead, 299-2396.

8' CABOVER CAMPER, new 3-burner stove w/oven, 50-lb. icebox, water tank, sink w/pump, gas/elec. lights, lt. weight, \$400. Frasier, 299-6933.

BINOCULARS, 35mm lens, 7-14 power zoom, cost \$60, sell for \$35; baby crib & mattress, \$18; play pen, \$15. Jones, 298-8492.

EICO stereo tuner, \$40; amplifier, \$50; RCA radio, 45 rpm player, \$20; Henke ski boots, size 12, \$18. Butler, 299-5626.

WASHING MACHINE, Sears, \$25. Westfahl, 298-5087.

AUTO, washing machine, Norge, does not work, about 10 yrs. old. McIntire, 298-6145.

CUSHIONED side chairs, various colors, \$9 to \$19; tan executive desk, \$69; misc. office supplies, all nearly new. Walsh, 344-3771.

ANTIQUA CLOCKS, \$85 to \$115. Flowers, 282-3458.

GIRARD auto changer, 15" Electro Voice speaker, bass reflex cabinet, Heath Kit amplifier, \$125. Boling, 298-8141.

SKI BOOTS, Lang-Flo, pro., size 8. Lenz, 298-9121.

SHOP MANUALS, Pontiac 1968, \$4.50 for pair. Roberts, 255-9527.

TWO 21" B&W T.V.s, \$45 and \$80; bowling ball, \$5; MGVB record player & AM-FM radio, \$15. Finley, 299-0739.

13 CU. FT. refrigerator w/freezing compartment, turquoise, \$75. Lovato, 299-3293.

MINIATURE SCHNAUZER puppies, the intelligent dog w/beard & eyebrows, does not shed, Forsythe, 299-2785.

BELL & HOWELL 8 mm camera, Mansfield Holiday Zoomee 8mm camera, Bell & Howell 8mm projector, both cameras include light bars. Mason, 296-7267.

BING & Grundahl Christmas plates, orig. boxes, years '68, '69, '70, '71 & '72, \$65. Myers, 299-2219.

TENT, Armijo, 299-2428.

ELEC. RANGE, M-W Signature, 30", coppertone, 4-burner, timer controlled oven, glass door, \$75; Conn guitar, 12-string, spruce face, rosewood back & sides, 12:1 tuning, w/case, \$200. Turner, 344-7082.

PHILCO 1937 classic Cathedral table model radio, \$35;

western oil paintings, trade for old knives or daggers. Smitha, 266-9977.

FLUTE, Artley Wilkins model, solid silver, retails \$525, sell \$450 cash. Fisher, 266-2266.

TOBOGGAN, 6', w/pad, \$15. Parks, 296-2261.

MINIATURE CAMERA: '72 Minolta 16qt. dual shutter speeds, built-in lightmeter, flash, case, film w/pre-paid mailers, \$90. Cockelreas, 256-7570 evenings.

ROLLIFLEX, old but functional, w/Sixomat lightmeter, flash, closeup lenses, flashgun, film & fine leather gadgetbag, \$85. Cockelreas, 256-7570 evenings.

600:15 VW mud-snow tire, \$10; 3 ea. 560:15 reg. tread tires for spares, \$2 ea. Wilkinson, 299-8327.

TRAVEL QUEEN CAMPER, 10', stove, oven, toilet, sleeps up to 8, \$1250. Smith, 255-9852.

PENTAR H-1 35mm camera w/55mm f2. lens. Harris, 299-6664.

MEN'S 9 Kastinger buckle ski boots, \$20; ladies' 7 1/2 Penneys buckle ski boots, \$15. Roth, 877-4997.

WATER CONDITIONER, completely automatic, 15,000 grain capacity, \$100. Martin, 869-2049.

HEADS: 205cm competition giant slalom or will trade for shorter skis of equal value, \$30. Zownir, 256-3717.

TRAIN LAYOUT: "N" gauge, 8 elec. switches, 10 track polarity switches, completely landscaped, detachable legs, transformer, etc., \$75. Deverman, 296-8317.

25" GE B&W TV, walnut cabinet, remote control, needs some work, \$75. Jewett, 298-2796.

CAR RADIO, Blaupunkt AM, list \$85, sell for \$25. Laval, 898-0518.

CAMPER WATER PUMP; 18 24 36" pipe wrenches; tennis rebound net; Wilson 2000 racket; seat belts; Windham, 265-3031.

MONROE calculator, \$35; pr. of Heathkit AS-105W speakers & Eico Quatrasonic adapter, \$160. Hollowwa, 255-6938.

FISH, tropical, guppies, 2 cents ea., bring your own container. 9708 Aztec Rd. NE. Ellison, 298-2978.

RELOADING DIES, 6.5 x55mm, almost new, \$5. Taylor, 265-9387.

2 CEMETERY LOTS in Sandia Memory Gardens, \$175 per lot. Miller, 255-1838, 5308 Constitution NE.

FLUTE, Evette, by Buffet, cost \$175, sell \$100; Bell & Howell 35mm slide projector, Headliner 303 w/tray, \$35; Packard Bell 21" B&W TV, new pic. tube, \$40. Cano, 296-6955.

DOUBLE mattress and springs, \$10; roll-a-way bed & mattress, single, \$10. Sears typewriter, \$45. Philbin, 266-4942 after 5:30.

SKI BOOTS, size 6 1/2 & 8 1/2, \$30 ea. Traver, 294-2138.

TWO Marchant calculators. Maes, 268-1012.

KOHLER 10kw motor generator set, 115/230, 2-cyl. gasoline engine w/manuals, \$100; drum set; bass, 2 tom toms, snare, top hat, cymbal, \$115. Barnaby, 265-4353.

PLAYPEN, mesh net, \$10; shooters ear muffs, \$6; 19" B&W Zenith port. TV w/stand.

\$30. Lewis, 296-7896.

EMERSON upright piano, 85 yrs. old, \$175. Richardson, 294-5312 after 6:30.

GROVES Prestige Magnum bow 47 lb., 2" overdraw, arm & finger guard, Quiet quiver & 12 hunting arrows, \$74. Gonzales, 242-6264.

AKAI 1800 SD tape recorder, records from reel to reel on 8-track. Bridge, 296-2310 after 5.

FREE to good home, 16-mo.-old neutered Sealpoint Siamese, friendly, intelligent, affectionate. Brinegar, 299-7887 after 5:30.

GRAVELY tractor w/mower, plow & cultivator, \$250; Bear front end turntables & caster camber gage, \$40. Waldorf, 344-1017.

BINOCULARS Zoom 7-15 power, 35mm lens, \$35; OSSA Pioneer motorcycle, '71, \$600. Jones, 298-8492.

EASY CHAIR, fabric stuffed & sturdy, \$20; dissimilar hi fi speaker systems, one cheap, one expensive. Church, 299-2175.

RIFLES: 308 Savage, model 99, \$100; dbl.-barrel J.C. Higgins 12 gauge, \$60; std. elec. range, \$25. Chaves, 242-8637.

FOUR SPEED Chevy transmission w/shifter, \$125; positraction rear end, \$40; 2 racing tires, \$40 ea.; Empire 400 power telescope w/tripod, \$65. Shaw, 268-7938.

PUPPIES, Lhasa Apso, AKC reg., championship background, have shots, \$100 ea. White, 299-6411.

COUCH, brown contemporary, sound condition w/some cat damage, \$20; pr. of van seats, fold into bed, \$20; camper ice box, coppertone, \$15. Kromer, 255-5013.

BRUMBERGER slide projector, lens 5", f3.5; uses Airequipt slide tray or singles, \$40. Slide trays, \$1 each. Sweet, 255-0255.

'69 PLA-MOR 14' trailer, equipped for 3, stove, icebox, heater, etc., levelers, spare tire, other extras, \$850. Bodine, 296-3620.

KNIVES, collection of US martial knives. Mattox, 296-4149.

SOLID STATE 80 peak watt tremolo & reverb amplifier, 3 inputs & speaker, \$100. Lucero, 243-7517.

TRANSPORTATION

'71 MG MIDGET, wire wheels, best offer or trade for pickup. Baca, 264-2543.

'67 MGB, new top, wire wheels. Chavez, 345-0389.

'67 CHEVELLE MALIBU, 4-spd., new tires, bucket seats, \$1,200. Henry, 299-2790.

'61 FORD 1/2-ton pickup, V8, 4-spd., \$350 or best offer. Brassell, 298-9349.

10-SPEED bicycle, Sears, thorn-proof tires, \$60. Stevens, 299-6086.

'67 CHEVY El Camino, blue, std. shift, R&H, \$1,000 or best offer. Speakman, 299-8831.

'72 SUZUKI motorcycle, 500cc Titan, 3,500 miles, \$750, cost over \$1,000 new. Bolles, 294-3167 evenings.

'68 TOYOTA ENGINE, low mileage w/AT, radiator, drive shaft, \$200; new F78-15 tire & rim, \$35. Ault, 282-3280.

21 1/2" RALEIGH professional, fully Campagnolo equipped, including brakes, Cinelli stem &

bars, Regina Oro freewheel, \$425. Nielsen, 255-2045.

'57 FERRARI 250 Gran Turismo coupe, \$3,500. Clements, 255-1285.

'68 OLDS 442, R&H, 3-spd. floor shift, \$1,495. Courtney, 255-4663.

'70 CHEVROLET, Impala Custom, 2-dr. HT, vinyl roof, PS, PB, AT, AC. Gartrell, 294-8027.

'63 FORD Fairlane V8, std. shift, AC, \$300. Gals, 296-2065.

'69 VW BUG, \$850. Hill, 255-6538.

'58 CHEVROLET pickup, V8, 3-spd., new clutch & pressure plate, \$350 or trade for equity on later model pickup. Houghton, 299-3386.

'71 MGB-GT, reasonable offers will be considered. Wright, 296-7670.

'69 GRAND PRIX, 20,000 mile guarantee, \$2,500; '71 Yamaha 125 MX, \$425. Lutheran, 294-3297.

'65 LINCOLN Continental, rebuilt trans., new exhaust system, new tires, all within last year, \$600. Barnes, 898-2375.

'72 MODEL 10-speed Schwinn Varsity bike, 5 mos. old, paid \$127, sell for \$65. Sanchez, 344-8212.

GO CART, needs work. Lewis, 294-1692.

GIRL'S 20" bicycle, Sears spyder type w/banana seat, \$20. Gentry, 296-5876 after 3.

'71 YAMAHA CTI Enduro (175cc), adult ridden, \$475. Henderson, 294-5164.

TWO girl's bicycles, 26", \$20 ea. Brooks, 299-1884.

'66 VW 113 bug, new brakes, 57,000 miles, see at 6708 Loftus NE. Karnes, 264-2979.

'67 PLYMOUTH SPORT FURY convert., loaded; '66 Falcon, AT. Ray, 298-0408.

'71 OLDSMOBILE 98, 4-dr., sedan, AC, PS, PB, elec. windows & seats, AM-FM stereo radio, radial tires, \$3,400. Swanson, 842-9695.

TRUCK, '50 Inter'l., new mtr., parts, but not running, \$80. Archuleta, 877-1320.

'69 MACH I, loaded, \$350 under book. Hawkinson, 281-5239.

WORK WANTED

FLUTE lessons for beginning students, will teach in home, reasonable rates per half hour. Weart, 298-0614.

FOR RENT

2-BDR. unfurn. apt., new, NE, dishwasher, self-cleaning

oven, intercom, sec. gates, laundry rm., storage, \$187/mo., util. pd. Crosby, 1217 Chelwood, 299-1459.

WANTED

7 1/2 TO 10 HP outboard motor, must be in excellent condition. Reed, 299-7425.

RIVER RATS, no experience needed, group organizing for summer '73 Colorado River run. Percival, 299-0535.

LADIES' SIZE 9/10-long ski pants; size 7-7 1/2 ski boots. Pettersson, 299-0164.

283 CHEVY engine, complete, just about any condition. Otero, 294-0060.

INBOARD/OUTBOARD tri-hull boat, open bow, 16-18', 2-4 yrs. old; water skis, jr. and adult; ski belts; snow skis & boots for lady, 5'3", size 8B. Chandler, 296-3323.

USED UNICYCLE, good condition, for sub-teener. Hurley, 298-4440.

SMALL SADDLE in reasonable condition. Baxter, 344-7601.

GENTLE SADDLE HORSE, buy or will trade hay. Patterson, 877-3158.

OLD RADIOS, wind-up phonographs, music boxes, telephones, pre-1930, the older the better, will pay plenty. Sander, 299-5761.

GARAGE DOOR, type used in Roberson Homes, 9'wx7' high, 5-panel w/1 panel glass, roll up type. Taft, 281-3257 evenings.

PAIR 195 cm glass or metal skis. Kepler, 298-5652.

YAMAHA 100 YL2C trailmaster, any age or condition, to salvage parts. Sims, 255-6967.

UTILITY TRAILER & contractor type wheel barrow. Ogle, 296-7125.

SOMEONE TO SHARE expenses to Pen Yan, New York, leave 12-24-72, return 1-3-73. King, 298-2991.

FIREPLACE TOOLS: lg./old desk; filing cabinet. Hardesty, 294-3430.

LOST AND FOUND

LOST - Ladies' watch - white gold Hamilton w/turquoise on band, 5-ring notebook w/initials ATJS, ladies' Timex watch w/black band. **LOST AND FOUND**, tel. 264-2757, Bldg. 832.

FOUND - Man's raincoat, pr. men's brown gloves. **LOST AND FOUND**, tel. 264-2757, Bldg. 832.

Classified Advertising DEADLINES

Next issue of LAB NEWS will be on Dec. 22. Deadline for classified ads will be Thursday noon, Dec. 14. The first issue of 1973 will be on Jan. 12. Deadline for classified ads will be Friday noon, Jan. 5.

Holiday Party Time

HOLIDAY PARTY TIME fills the Club calendar for the next several Fridays pushing Happy Hours into the main lounge while organizational Christmas parties take over the dining room, ballroom and downstairs. The main lounge, however, will be going full blast with special prices (cheap) from 5 to 10 p.m. Denny Gallegos and guitar will entertain there from 9 until midnight tonight, Yolanda Adent and piano will conduct a sing-along next Friday and Denny will return Dec. 22.

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KIDS CHRISTMAS PARTY for children of Coronado Club members age 10 and under is set for Saturday, Dec. 23, starting at 10 a.m. Ron Day and Mary Kay will present an all-new original puppet show, cartoons will be shown and, of course, Santa Claus will arrive with goodies for everyone.

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TEENAGERS at home for the holidays can get together Thursday, Dec. 28, for a dance with a group called Magic Sam. Disc jockeys Don Nelson and Chuck Logan of KQEO will be masters of ceremonies. Member parents should pick up tickets for their youngsters.

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NEW YEAR'S EVE will be a blast upstairs and downstairs with champagne, noise-makers, confetti, balloons and hats for everybody. Frank Chewiwie will play upstairs in the ballroom while Wildman Bob Banks and the Trio will hold downstairs. At midnight, a breakfast buffet will be spread. Tickets cost \$7.50 for member couples, \$4 for single members. Guest couple tickets are \$11, guest singles \$6. Better pick up yours soon.

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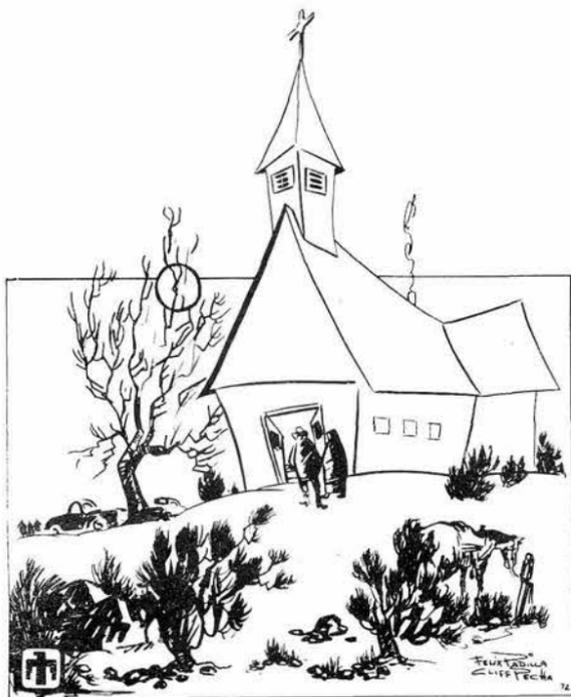
CORONADO SKI CLUB will meet Tuesday, Dec. 12, at 7 p.m.

Featured speaker will be Willy Schaeffler, Alpine Program Director for the United States Ski Association and former coach of the U.S. Olympic ski team. Also on the speaker's stand will be Ernie Bleak, whose subject will be what's new at Taos Ski Valley. Both Willy and Ernie are old friends from European ski country and differ considerably in their approach to the sport. Should make an interesting meeting. Free refreshments will be served.



SANTA'S HELPER Jenny Baca (7000A) reminds you of all the swinging party packages scheduled at the Coronado Club through December. While organizational Christmas parties dominate the Club calendar, Friday night Happy Hours will continue in the main lounge.

Seasons Greetings



KIDS CHRISTMAS PARTY Saturday, Dec. 23, starting at 10 a.m. at the Coronado Club will feature a new holiday show by Ron and Mary Kay Day with a menagerie of strange creatures plus cartoons and a generous Santa Claus. It's for member's kids, age 10 and under. The 30-voice Valley High choir will sing some carols.