MELPAR-A-GRAPH

MELPAR, INC. • A SUBSIDIARY OF WESTINGHOUSE AIR BRAKE CO.

Volume 2, Number 11 **October, 1957**

ONE PICTURE will tell an important story for these Falls Church people about to take advantage of the chest x-ray service offered by the Fairfax County Tuberculosis Association. The Arlington County Tuberculosis Association will provide the same service at Arlington Division in late October. Of all the reasons for having one's picture taken, none can beat this: be sure, not sorry.

Photo by Norton

FALL REGISTRATION SETS RECORD FOR EDUCATIONAL PLAN

The largest enrollment yet recorded in Melpar's in-plant study program, now in its second year of operation, was achieved during the hectic two-day registration period held in mid-September. Graduate and undergraduate courses to be conducted by the University of Virginia and The George Washington University attracted 195 Melpar employees, compared with a total of 120 enrolled in the program's last semester.

Where once a single conference room at Falls Church housed the entire student body, four large areas within the main laboratory building will be pressed into service during the Fall semester. Classes will be held in the main conference room, the cafeteria, the employment office, and the executive conference room. In addition to all that, a course in Refresher Algebra is to be given in the Bailey's Cross Roads plant.

Graduate courses to be conducted by the University of Virginia drew the largest response for the upcoming term, led by a group of 43 signed up for Advanced Electronic Circuits. A course in Transistor Principles and Circuits, not originally programmed, has been added to the curriculum in response to more than 20 requests.

BUTLER SENT TO ENGLAND TO TEACH EQUIPMENT USE

Under the tutelage of Senior Engineer Martin Butler, of Section Head Leonard Kings' group, scientists and engineers in some of Great Britain's government laboratories currently are studying the operation and application of an advanced type of electronics equipment designed and built by Melpar.

Mr. Butler was sent to England for the mission at the request of the U. S. Government, for whom the unit was developed. It has been loaned to Great Britain to further work being done there for which no comparable equipment exists.

This unit is but one result of a long-term research and development program begun approximately four years ago, and now being carried on by Project Engineers Ralph Mauller and P. M. Thrasher.

MELPAR FUZE IS TRIGGER IN USN'S TALOS MISSILE

Public announcement has been made, that the U. S. Navy's surface-to-air Talos missile will arm the new light cruiser USS Galveston. The Talos warhead is triggered by a proximity fuze in whose design and production Melpar has played a prominent part since 1953.

Taking up design concepts formulated by the Naval Ordnance Laboratory at Corona, Calif., Melpar engineers brought the fuze through to an approved production design. Test missiles were fitted with Melpar fuzes at the Mishawaka plant of Bendix Products, builders of the missile. We now are building units scheduled for fleet evaluation firings.

Section Heads E. S. Conrad and C. M. Volk have been active in the project since its start, while Mishawaka installations were made by C. A. Stackhouse, F. A. Deviney, and N. P. Johnson.

More Definitions

Determined as we are to campaign vigorously in behalf of more education for everybody, we offer here some additional translations from another language. They supplement the ready reference file published in our last issue, and ought to aid some aspiring students somehow.

Management: Das ulzerenbalden grupe.
Engineering: Das aufguefen grupe.
Production: Das schoppen bunche.
Inspection: Das pflaugefinden grupe.
Security: Das schnoopen bunche.
Contracts Administration: Das tablegepaunden grupe.

OPINION

Popular among the wisecrack placards (SNILE, THIMK, and so on) is the one boldly but awkwardly reading . . .

PLAN AHE
AD

Obviously, somebody goofed. Was it the printer, the compositor, the typographer, or the boy who runs the paper cutter?

The problem calls for a high level conference seeking, as all good conferences should, a positive means of preventing such a foul-up in the future.

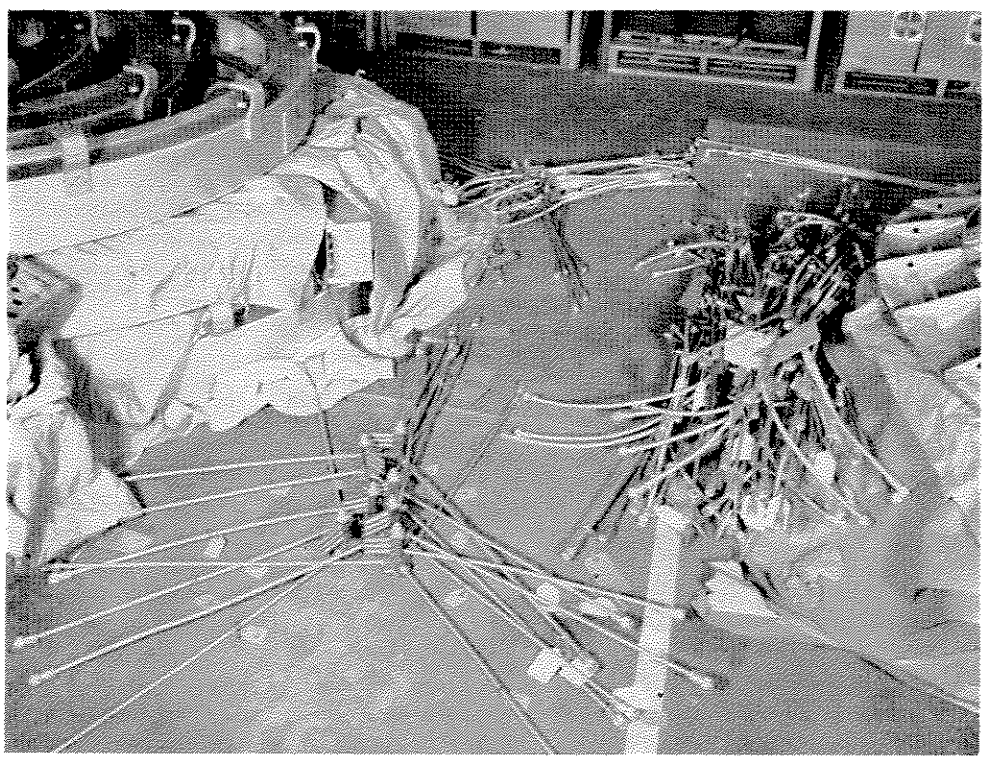
But consider the alternative solutions available. Use smaller type. Use larger paper. Print two lines instead of one. Put one word on one side of the paper, the other on the reverse . . . that one has merit. It would permit use of smaller paper, thus saving money. On second thought, the paper would have to be put through the press twice. No saving there.

The final solution is bound to be a compromise. And it can't be guaranteed to lick the problem forever. New complications inevitably will arise, to take the place of those just resolved. Right now, the typographer wants small type and the printer wants large paper. But they'll change their minds. And has anybody asked the customer what he wants?

When one has properly comprehended the grave and stubborn nature of the difficulties faced in that conference, it becomes obvious that planning and problem-solving are not relaxing pursuits.

True it is at Melpar, and possibly in a few other companies too, that problems have beset us in the past and have been superseded by those which beset us now. Our planning for yesterday was far from perfect and we won't score 100 tomorrow. But many good men will be bending their energies toward finding solutions drawn from experience and judgment, or effecting compromises born of a commonsensical approach.

And perhaps the best of them, plugging away at their daily problems and planning a route around the boobytraps tomorrow probably will bring, have seen and taken wisdom from another placard which declares that people get ulcers from mountain-climbing over molehills.



IT MIGHT HAVE BEEN WORSE, but just by luck it wasn't. No lasting damage was suffered by these intricate and expensive sub-assemblies during their stormy passage between plants. They only were dented, scratched, and bent. But Luck is a fickle lady and should not be employed in materials handling. The better method is to wrap well, handle with care, and deliver safely. Photo by Tatroe

USAF SURVEY TEAM IN 3-DAY BRIEFING

A three-day session, held during September, was required to fully brief a 24-man survey team, composed of USAF officers and civilians, on Melpar's current activities in the related fields of communications and data handling, and to review approaches to specific problem areas proposed by our Engineering Department representatives.

The USAF team, led by Lieutenant Colonel John Paup of SAC Headquarters at Omaha, Nebraska, is engaged in an extensive tour of Air Force commands in the United States and Europe, and of major industrial and government laboratories on both continents. Its mission, results of which are to be reported to the Joint Chiefs of Staff, involves a comprehensive study of the state of the art in communication techniques.

At Melpar, the team was briefed by Project Manager K. S. Kelleher, Section Heads Bergman, Cleckner, Courtney, Diehl, and Kings, and Consultant R. E. Williams. A high point of the visit was a tour of the Bailey's Cross Roads Engineering Department facility, which drew favorable comment from many who observed the Department's B-58 sub-systems work.

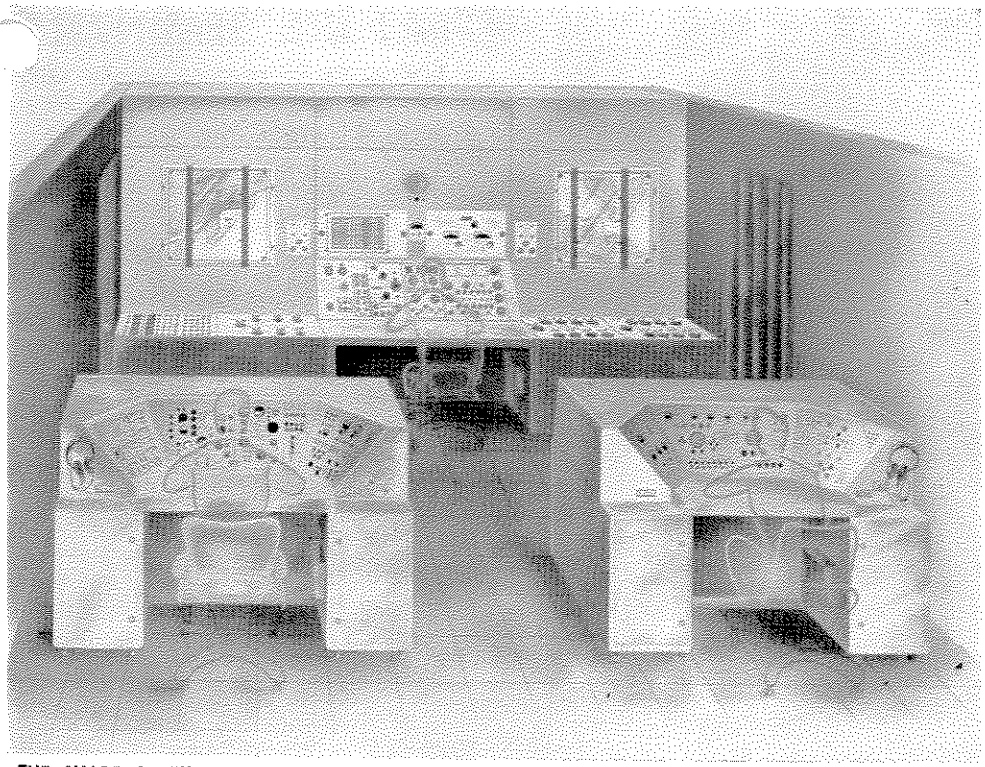
FT. HUACHUCA SYMPOSIUM SHOWN ELECTRONIC AIDS

Melpar representatives from Falls Church and Tucson attended the annual Communications and Electronics Symposium conducted by The Association of the U. S. Army at the Army's Electronic Proving Ground, Ft. Huachuca, Arizona. Field Project Engineer J. E. Swafford and Senior Engineer R. M. Scott represented our Tucson facility, while Engineering Services representatives S. A. Beckley and G. O. Kurtz attended from Falls Church.

Both static and live displays of command and control communications equipment, radar, fire control, missile guidance and navigation aids crowded the two-day calendar; adding a Buck Rogers touch to the busy scene was a jet powered, one man helicopter touring effortlessly around the Proving Ground's vast expanse.

Other Army aviation performance drawing attention included demonstrations of helicopter air-lifting capabilities, and the dispatch, control, and recovery of pilotless drones.

The Human Engineer - New Man On The Team



THE SHAPE OF THINGS TO COME . . . specifically, in this artist's rendition, the Instructors' stations of Melpar's F-101B Flight simulator. The blend of art and science called Human Engineering has tailored the array around its vital element: he who does the thinking.

A cherished aim of the modern day equipment designer, who may be engaged in fashioning either a search radar or a machine for twisting pretzels, is to eliminate the human being and all the random variables which go with him.

At first glance, it does seem like a good idea. People make mistakes. They forget what they are supposed to do. They are easily distracted and they get tired. However, it still is true that people do many things better than can equipment.

People are superior at perceiving intricate patterns of light and sound, and at improvising action to fit circumstance; and most fundamental, people remain supreme at reasoning inductively and exercising judgment. In short, people are necessary.

Resigned to that fact, the best designer then is he who cranks in this essential component of his system so as to exploit it at the top of its rating while hedging against its inadequacies.

Becoming more and more an active partner on good design teams is a comparatively new breed of engineer: the Human Engineer. He is part engineer, part mathematician, and a good bit of a psychologist. Confining himself generally to the role of the operator, the man behind the Go switch, the Human Engineer poses touchy questions. Exactly what does this system require of its operator? How can he do it best? Remembering how fallible he is, how can we surely guard against his failings?

First casting modesty to the wind, it may be said that Melpar's design team approach to the twin task of equipment engineering and operator utilization in the F-101B Flight Simulator's Instructor stations will stand as a model achievement in answering those questions.

To do so, Senior Engineer Paul Lavis and Engineer Richard Hanes, of the Flight Simulator Section, joined with Staff Engineer Herman Williams, human engineering specialist for Melpar, on the problem of effectively "marrying" the instructor and his multitude of dials, buttons, switches, and lights.

Almost instrument by instrument, they have grouped his controls in functional arrays which enable him to smoothly guide, or follow, the sequence of events demanded of the pilot in his cockpit.

The result of their work is apparent even to the layman. The control panels look right; they make sense. And to the operators, they'll feel right. What they reach for in the way of any control or actuator will *be* there!

MATERIAL STUDIES BROADENED BY NEW X-RAY EQUIPMENT

As imposing in its potential uses as it is in its title, the Chemistry Laboratory's newly installed Geiger Counter X-Ray Spectrometer brings to the Company one of the finest and surest known means of determining the ultimate structure of materials, both qualitatively and quantitatively.

The X-Ray Spectrometer will find varied use in research, development, production processing, and quality control because it offers positive identification, differentiation, and control of some 7000 substances whose structure has been analyzed and recorded in the unit's ready reference file.

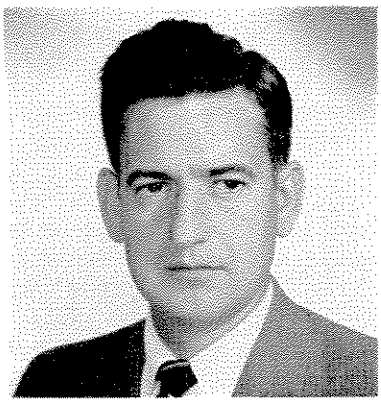
In operation, the Spectrometer exploits the principle of X-ray diffraction, the effect produced when a fine beam of X-radiation is played on the material under analysis. As individual as fingerprints, no two substances have been found to exhibit identical diffraction patterns.

As the X-ray beam, housed in a motor-driven mechanism, scans across the specimen its unfolding pattern is traced on specially calibrated chart paper in a recording console; read from the chart, the data leads directly to the correct identification card on file. Qualitatively, the specimen's composition is then known absolutely; even quantitatively, the proportionate mix of ingredients can be determined closely enough to serve many practical purposes.

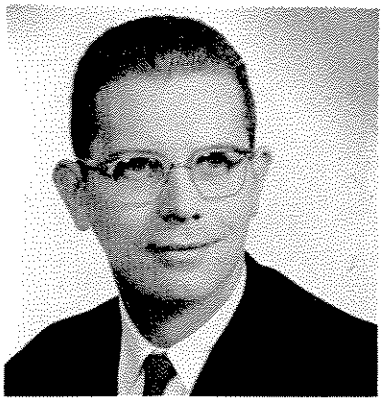
X-ray diffraction will determine the structure and stability range of alloy metals, including the effects of hardening or annealing. It will control the thickness of galvanized coatings, and will select steel having the best characteristics for a desired fabricating method. Changes in structure during the life of resistance alloys are detected and recorded by the diffraction technique. In fact, its ability to tell tales about materials could—and does—fill pages.

So pressing is the need for a continuous up-grading of quality and reliability in modern electronic equipment, that it well behooves the wise designer to dig deeply into those pages to find that special material for that special job. For further information, write, wire, telephone, or visit the Chemistry Laboratory at Falls Church.

GOING UP!



E. S. Conrad



C. M. Volk

Edward S. Conrad and Charles M. Volk are newly appointed Section Heads at Falls Church. Mr. Conrad earned his BSEE at VPI in 1947 and joined Melpar in January 1948, as a Junior Engineer. He rejoined the Company in 1952 as an Engineer and became a Project Engineer in 1953.

Mr. Volk took his BEE at New York University in 1951 and joined Melpar immediately. He rose to Engineer in 1952, to Senior Engineer in 1954, and to Project Engineer in 1955.

Bailey's Cross Roads Engineering Department promoted I. J. Mason to Senior Engineer and S. Phillips to Engineer. Quality Control posts went to Test Supervisors H. T. Richards and H. L. Michael, and Inspection Supervisor H. N. Hockett.

D. S. Price rose to Senior Specifications Engineer, and J. L. Mooney became Specifications Engineer. W. C. Briggs and J. R. Ross are Senior Technicians; N. C. Clayman is a Lead Wire Technician, and A. J. Lyhus rose to Junior Engineer.

D. W. Kiger rose to Electro Mechanical Inspector 1st Class. M. Dumal and S. Lichok are now Senior Planners; R. L. Howard became a Planner.

At Alexandria, J. S. Trautman rose to Senior Engineer and J. G. Eskinzes to Engineer. R. Burton, of Melpar-Boston, is Staff Assistant to the Technical Administrator. At Melpar-Watertown J. C. Siedlecki was named a Project Engineer, J. E. Jakul a Design Engineer, and L. J. Pauliot a Junior Engineer.

S. D. Henry, of Falls Church, is now Switchboard Supervisor. New Senior Engineers are E. O. Houseman, K. L. Nelson, and O. F. Adams. Now Senior Technicians are R. E. Cochran, B. R. Gross, and C. A. White. C. L. Gibson is a Mechanical Technician 1st Class.

R. C. Olson is a Senior Technical Editor, and R. T. Prescott and R. J. O'Brien are Senior Technical Illustrators. S. Auer was named Mechanical Inspection Supervisor and J. F. Hunt became Mechanical Inspection Group Leader. V. J. Quinta and A. D. Wolfer, Jr., are now Mechanical Inspectors 1st Class and F. A. Serfass is a Mechanical Inspector 2nd Class.

Named Design Engineer was R. L. Crafts; C. V. Gardner became a Senior Draftsman. R. E. Perrero and E. L. Smith are Junior Engineers. J. F. Dotz rose to Engineer. J. R. Barrick is now a Maintenance Foreman. E. Culver became Sheet Metal Group Leader.

P. A. Kiser and J. M. Caporaletti moved up to Junior Planner. T. A. Ramos advanced to Procurement Planner. In Purchasing, W. T. Crombie became a Senior Buyer. E. S. Brothers is now a Junior Accountant.

R. V. Yost is a Shipping Dept. Group Leader. R. D. Straw is a Lead Engraver. J. W. Boretos is a Senior Chemical Technician. N. H. Beckwith is a Paint Spray Operator 1st Class.

At Arlington, W. F. Buczek and E. Pulsifer rose to Senior Engineer. A. S. Kozak rose to Engineer. J. T. Griffith, of Quality Control, now is Shop Inspection Supervisor

Hazel Crockett and A. Blasioli are now Assembler Task Leaders. Wm. Hainsworth, W. T. Jervis, W. H. Abitz, and Clarence Richardson rose to Precision Assembler 1st Class, and B. F. Hale is a Light Assembler 1st Class.

W. E. Cates, J. C. Hicks, Jr., and L. E. Armstrong are now Production Planners. J. W. Miller is a Planner, and R. C. Acton is a Junior Planner. J. L. St[illegible] became Mechanical Inspector 1st Cl[illegible] and C. C. Deel became Packing Inspector 1st Class. E. D. Rhodes was named Senior PBX Operator. T. H. Lyon became Shipping Foreman.

TECHNICAL THEMES FEATURE SEMINARS

Continuing its practice of past years, the Company again is sponsoring a Fall-Winter season of Technical Seminars open to all those having a genuine interest in and need for the type of material to be presented by the various speakers. Normally held every two weeks at 3:45 p.m. in the Falls Church cafeteria, the seminars ultimately will cover a broad sampling of the Company's work in many fields.

The purpose of the seminars is to disseminate useful technical information, to stimulate thought and produce new ideas, and to reduce duplication of engineering effort, through the medium of group presentations and technical discussions. As its subject matter dictates, the organized part of a seminar may be followed by a demonstration of the equipment involved.

Subjects thus far programmed range from the consideration of new components to "progress reports" on current projects.

EMERGENCY LIGHTS INSTALLED AT FC

The Falls Church laboratory has b[illegible] equipped with an emergency lighting system, powered by a 10 KW motor-generator set, distributed throughout the building so as to provide sufficient illumination to enable an orderly evacuation in the event of a power failure.

Wired in by Maintenance Department electricians under the direction of Chief Electrician R. L. Herring, the system assures adequate general lighting in all occupied areas and in the hallways, in addition to operating the electrified Exit beacons located at strategic points. The installation also provides current to operate the public address system.

ANNUAL RECRUITING DRIVE OPENS SOON

Some 28 engineering colleges and universities throughout the East, South, and Mid-West will be visited by Melpar's field recruiters during the course of the annual graduate recruiting campaign which opens October 7 and extends to November 26.