MELPAR-A-GRAPH

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

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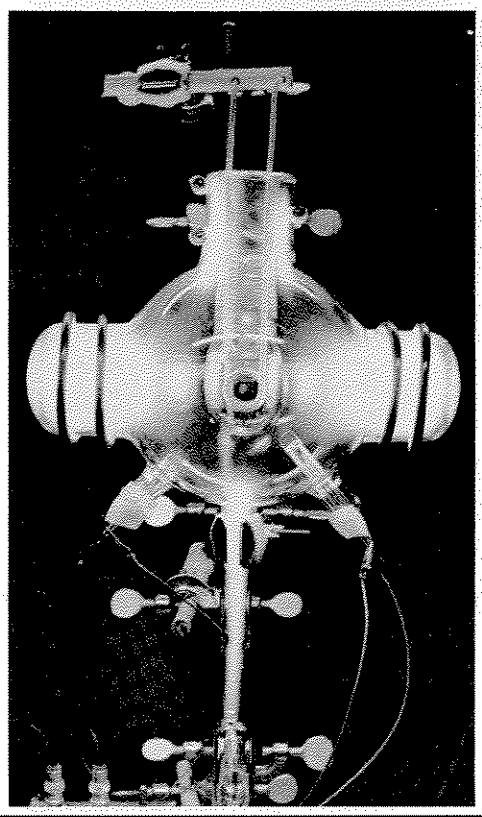
MODULATION TUBE FOR PLASMA STUDIES



A LARGE PLASMA MODULATION TUBE . . . is being used by Melpar's Physical Sciences Laboratory to investigate a possible means for improving transmission through plasma sheaths that normally form on bodies re-entering the earth's atmosphere. The coils on the tube "ears" produce a plasma similar to that encountered during re-entry. Preliminary results of the experiment indicate that, under certain conditions, it is possible to transfer information through a re-entry plasma sheath by using appropriate modulation processes. The large central coil in the tube above is being used to modulate the plasma density. Focused microwave diagnostic equipment is used to measure variations in the reflected power and the two double probes shown are used to measure electron density and temperature at different radial points within the plasma. The use of neon reduces the time required to correlate results of the experiment which is being conducted by the Lab's Physics Section under the direction of Section Head Roger Jones.

Photo by Sakamoto

Campanella to Serve on TV Panel And Present Paper at Conference

Technical Staff Assistant to the Chief Engineer S. J. Campanella is scheduled to act as a member of a TV panel and to present a paper at the 1960 Conference on Communications at Cedar Rapids, Iowa on September 9-10.

The theme for the conference—sponsored by the Cedar Rapids Section of the IRE—is "Tomorrow's Techniques—A Survey."

On Friday evening, September 9, Mr. Campanella will serve on a TV panel that will discuss some of the conference's major topics. On Saturday afternoon he will present a paper entitled "A Survey of Speech Compression Systems."

In his presentation, Mr. Campanella will discuss applications of speech bandwidth compression techniques to voice communications for more efficient utilization of the available radio spectrum and improved performance of long distance communications links.

L. Kings and D. Reiser Present AMRAC Paper

A paper entitled "Radar Discrimination Measurements" was presented by Len Kings and Don Reiser, Manager and Section Head, respectively, of Melpar's Detection and Identifications Systems Laboratory, at the Anti-Missile Research Advisory Council meeting held in Seattle, Washington, on July 21.

The paper was presented in connection with Melpar's work with the Advanced Research Projects Agency.

Fall Registration Set For Sept. 12 and 14

Registration for the Fall Semester in-plant courses to be conducted by George Washington University and the University of Virginia is scheduled for September 12 and 14, respectively.

Highlighting the semester's class schedule is a new Advanced Algebra course to be offered by George Washington University. This course will be taught by Professor F. E. Johnston of the University's Math Staff. Some of the subjects to be covered in the course are linear and homographic transformation, indeterminate quadratic equations of the second degree, probability, complex variables, and topics from mathematical logic. This course is offered to graduate and advanced under-graduate students.

Other courses being offered by George Washington are College Algebra, Plane Trigonometry, Analytic Geometry and Calculus I, II and III.

Graduate courses available from the University of Virginia are Radiation Field Theory, Transistor Electronics and Introduction to Matric and Tensor Analysis. Registrants for University of Virginia courses must have a prior approved program from the University.

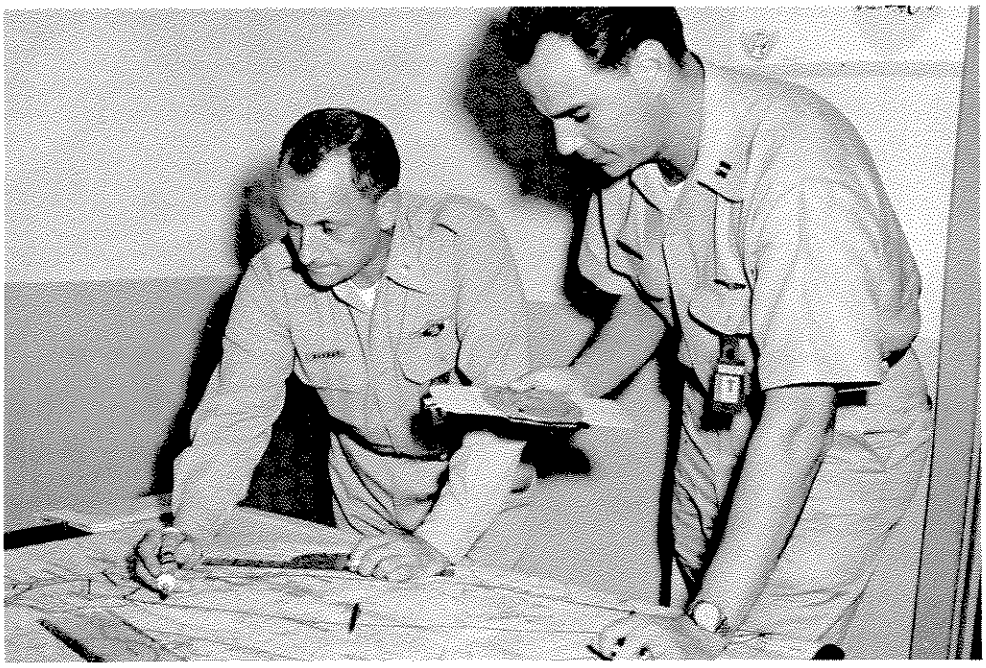
All registrants for in-plant courses who desire to participate in the Melpar Tuition Reimbursement Plan must submit form PER 211 for prior approval of the courses to Personnel.

The plant registration schedule for both dates is: 9-10 A.M., Falls Church (Main Conference Room); 10:30-11:30 A.M., Hardin Street, Leesburg Pike, Columbia Pike and Bailey's Crossroads (at Hardin Street #9 Personnel Office); 1-2 P.M., Shirley Highway (Conference Room #1); and 3-4 P.M. at Arlington (Personnel Office).

For further information contact S. E. Bush on ext. 2181.

Davis Elected IRE Chairman

Mr. Thomas R. Davis, Supervisor of Technical Writing, has been elected Vice Chairman of the Washington, D. C., Section of the IRE's Professional Group of Engineering Writing and Speech.



TWO MELPAR ENGINEERS . . . both Air Force Reservists with the 495th Troop Carrier Wing at Andrews Air Force Base, plot the course to be flown by Wing aircraft during Operation Pine Cone III, largest joint Air Force-Army exercise ever held. They are Major Donald Murray (left), Wing Navigator and Capt. William Risteen who assisted him during the exercise. Air Force Photo

Company Engineers Participate In Airborne Reserve "Invasion"

Two Air Force Reservists from Melpar were among 250 airmen at Robins Air Force Base, Ga., who took part, during August, in the largest peacetime airborne "invasion" to involve Air Reservists.

Major Donald Murray, Design Engineer in the Ground Data Handling Equipment Lab., and Captain William Risteen, Mechanical Engineer with the Ground Support Equipment Lab., prepared the 459th Troop Carrier Wing's navigation phase of Operation Bright Star-Pine Cone III. The Wing is regularly stationed at Andrews AFB.

The important navigation charts and diagrams these men drafted successfully guided the Wing's C-119 "Flying Boxcar" aircraft in a massive drop of the 101st Airborne Division over Fort Bragg, N. C., on August 20.

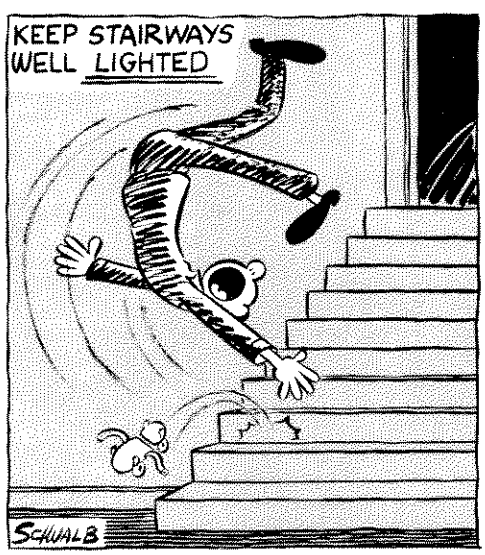
Robins AFB is one of 12 staging fields from which the attack was launched. More than 500 planes were dispersed on these fields as a protection against "enemy" nuclear warfare. About 25,000 Air Reservists and 11,000 paratroopers were engaged in the operation.

HOME SAFETY TIPS

At home, at work, at play

Accidents Never Pay

Ask the man who had one!



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Boyce, Weber Author Printed Circuit Article

Project Engineer D. Barry Boyce and Engineer Thomas E. Weber of Melpar's Ground Support Equipment Laboratory are authors of an article entitled "New Design Perspective on GSE Printed Circuit Module Boards" appearing in the August-September issue of Ground Support Equipment magazine.

The three-page article discusses some of the modern techniques being employed by Melpar to increase reliability, ease of fabrication and maintainability, and to reduce cost of ground support equipment printed circuit modules.

New Products Corner

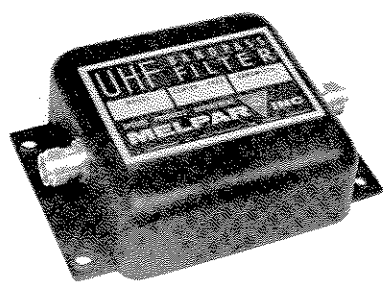
(This is the sixth in our series of reports on new products being marketed by Melpar's Special Products Department.)

UHF BANDPASS FILTERS

Melpar's new line of weight, space and cost saving UHF Bandpass Filters utilize conventional and printed circuit techniques for operation in the 200-1500 megacycle frequency range.

Occupying less than 14 cubic inches and weighing approximately four ounces they provide signal rejection up to 35 decibels at one bandwidth from the filter center frequency and are available with either maximally flat or Tchebycheff response characteristics. These multistage filters hold maximum passband insertion loss to less than 1 decibel. They are designed to meet the requirements of MIL-E-5400 D (Class 2) for airborne equipment.

By virtue of their compactness and performance, the UHF Bandpass Filters are especially adaptable to reconnaissance systems, ECM equipment, radar, television, beacons and other electronic equipment.



Melpar's Contract Administration One of Busiest Service Groups

THE responsibility for negotiating and administering the vast number of large and small contracts received annually by Melpar rests in the hands of one of the Company's busiest service groups—Contract Administration.

Contract Administration or CA, as it is often referred to, was formally established within the Company in August 1948. Mr. N. J. Sargis, present Director of CA, has headed the group since its formation.

The organization has negotiated over 1000 prime and subcontracts in the intervening years. To accomplish this gigantic task, CA presently has 24 people on its staff, including the Director, an Assistant to the Director, six Contract Administrators, two Assistant Contract Administrators and fourteen stenographic and clerical personnel.

The Directorate is organized on a specialized basis, having individual Contract Administrators assigned to particular types of contracts and/or equipment. The Administrators work closely with engineering, production and service organizations to insure compliance with all provisions of contracts received by the Company.

In addition to being the contact point for contractual matters between the customer and Melpar, CA—following Bid Committee approval—prepares and signs proposal leters containing bids, terms, conditions, etc., for possible new contracts.

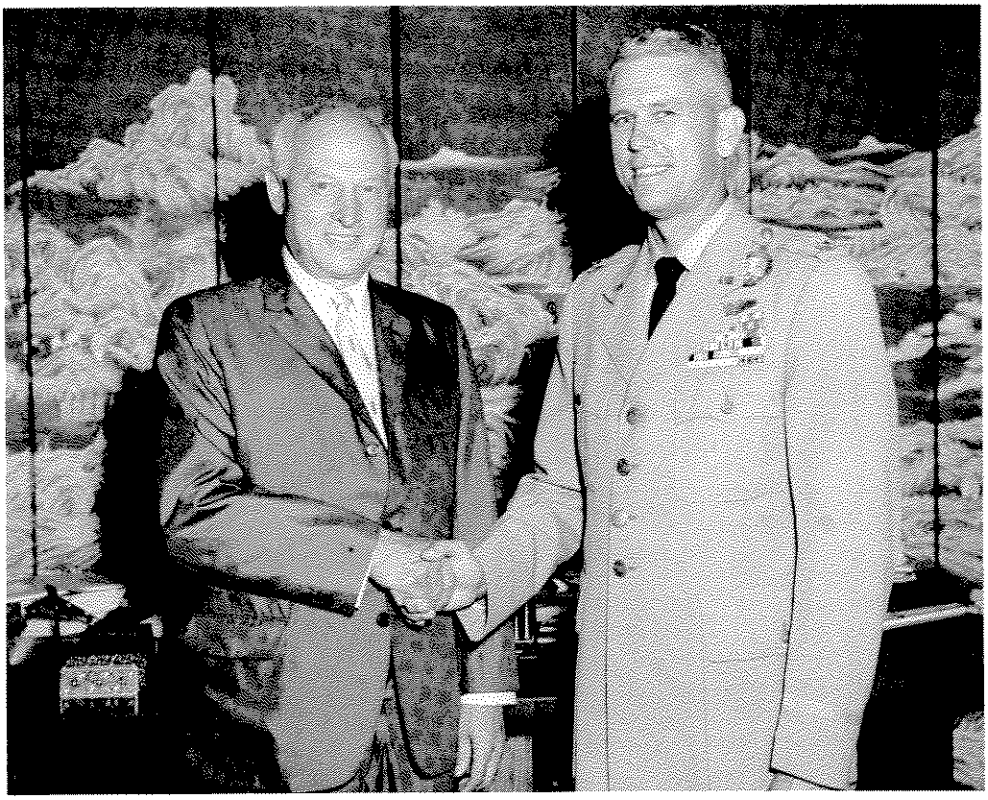
Contract Administration will soon move from the main level of the Falls Church plant into new offices on the third floor of the Falls Church Annex.

ENGINEERING AND CA . . . work closely to insure compliance with provisions of contracts received by Melpar. Radiation Systems Laboratory Manager E. S. Conrad goes over a contract with Assistant to CA Director A. T. Elgin.

A STENOGRAPHIC AND CLERICAL STAFF . . . helps Contract Administration carry out its many important functions.

CONTRACTS DISCUSSION . . . CA Director N. J. Sargis and Assistant to Director A. T. Elgin frequently hold meetings to discuss details with Contract Administrators, four of whom are shown above. From left to right are: G. H. Wood, Mr. Sargis, R. M. Brickner, Mr. Elgin, L. H. Ward and F. A. Fenton. Contract Administrators missing from the photo are J. H. Rempe and S. S. Wilmarth.

Photos by Norton



CONGRATULATIONS . . . Melpar President Thomas Meloy (left) congratulates Chief of the Air Force's Melpar Plant Office Delbert H. Strube upon his August 15 promotion to Air Force Major. Major Strube has been assigned to the Melpar office since June, 1959. Photo by Norton

Major Strube Awarded AF Medal and Citation

Major Delbert H. Strube, Chief of the Melpar Air Force Office who received his promotion from Captain on August 15, recently was awarded a commendation medal and an accompanying citation for his ". . . exceptionally meritorious conduct in the performance of outstanding service . . ." to the Air Force.

The award was presented Major Strube for Air Force duties performed prior to his assignment at Melpar. In the words of the citation "He planned and developed an enroute maintenance procedure for century series fighter aircraft that were flown to Europe and a premium maintenance logistic plan whereby the Air Materiel Command could support all tactical weapon systems assigned to USAF air units with minimum manpower and material on a moment's notice."

The plan developed by Major Strube was implemented and proved during the Middle East Crisis, according to the citation.

The citation concludes that "The outstanding individual performance demonstrated by Captain Strube during this period created advantageous and significant results for the USAF efforts in this area of conflict, which materially aided our nation in presenting solidarity of international interests, thus enhancing the prestige of the United States."

Two Employee Articles Published in Magazine

Two technical articles written by Melpar engineers were published in separate August issues of Electronic Design magazine.

An article entitled "Natural Interference in Space Systems" written by Branch Leader James F. Lee of Melpar's Applied Science Division, appeared in the August 3 issue and a second article, "Stripline Technique Produces a Simple 3-Db Directional Coupler," written by Engineer R. Dent of the Bailey's Crossroads plant, was featured in the August 31 issue of the magazine.

Mr. Lee's article discusses the communication interference problems—caused by cosmic radiation—encountered by artificial satellites going beyond the earth's atmosphere. Aspects of the work described in the article were sponsored by the US Air Force's Air Research and Development Command.

In his article, Mr. Dent describes a 3-db directional coupler which employs stripline techniques and provides directivity in excess of 20 db over a 30 percent frequency band. According to Mr. Dent, the unit demonstrates excellent power division characteristics and contains no critical dimensions or construction practices.

Computer Article Featured In Industrial Research

A feature article entitled "Analog Versus Digital Computers," written by Melpar's Technical Staff Assistant to the Chief Engineer S. J. Campanella in conjunction with Mr. Franklyn E. Dailey of Stromberg Carlson and Mr. Paul Cohen of Sperry Gyroscope, is included in a special June-July Instrumentation and Control edition of the Industrial Research magazine.

The American Ordance Association recently devoted an entire issue of it's Logistics magazine to the same article.

Limpwit, this is the kind of thing that could only happen to you!

GOING UP!

Promotions include G. F. Miller and A. W. Wilcox to Senior Engineer and R. H. Belair to Accountant.

J. A. Allison advanced to Engineer and S. Y. Yim was promoted to Member, Systems Analysis Groups. J. Johnson rose to Junior Engineering Assistant, C. K. Steifvater was promoted to Draftsman and A. Kopf advanced to Engineering Assistant.

A. H. Ballard was promoted to Technical Staff Assistant to the Lab Manager, J. W. Jackson advanced to Personnel Representative and D. W. Perdue rose to Junior Engineer.

P. H. La Beau advanced to Junior Planner, J. B. Wright, W. D. Timbro and P. J. McCauley were promoted to Planner. E. H. VanNote advanced to Clerk Typist, C. M. Gillespie rose to Senior Clerk and M. F. Carpenter was promoted to Tabulating Equipment Operator.