EDITOR'S PROFILE of this issue

from a historical perspective …

with Paul Wesling, SF Bay Area Council GRID editor (2004-2014)

July, 1966:

Cover: WESCON will be at the Los Angeles Sports Arena and Hollywood Park.

Page 23: Jack Kilby of TI gives a talk on LSI wiring in the same year he was elected an IEEE Fellow; he is awarded the Nobel Prize in 2000 for his part in inventing the integrated circuit. I had breakfast with Jack in Palo Alto in about 1980 to discuss licensing one of his patents for a start-up I was working on.

Page 27: Prof. John Moll of Stanford leads a session on high-frequency amplifier design. He had developed the Ebers-Moll model of the transistor while at Bell Labs. After Stanford, he worked at Fairchild, and then H-P. An IEEE Fellow, he received the IEEE Lamme Medal in 1989 and the Edison Medal in 1991.

Archive of available SF Bay Area GRID Magazines is at this location:
https://ethw.org/IEEE_San_Francisco_Bay_Area_Council_History

At time of scanning, the bound volumes are held by Paul Wesling. July, 2021 Contact p.wesling@ieee.org

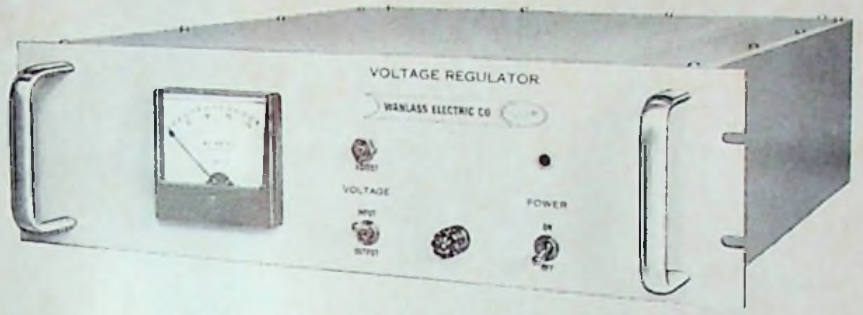
rid-bulletin JOINT PUBLICATION / LOS ANGELES & SAN FRANCISCO, IEEE JULY 1966

vescon '66

AUGUST 23, 24, 25, 26 / LOS ANGELES SPORTS ARENA-HOLLYWOOD PARK-BILTMORE HOTEL

ANOTHER NEW WANLASS PRODUCT

R-1300 VOLTAGE REGULATORS



500, 1000, 2000 and 3000 va
95 - 130 volts 50 or 60 cps

NOW . . . 0.1% RMS LINE AND LOAD REGULATION WITH LESS THAN 1 MICROSECOND RESPONSE AND LESS THAN 3% HARMONIC DISTORTION

Exclusive Wanlass **Dynamic Filter**
Eliminates SCR Spikes and Other Line Transients!

R-1300 SPECIFICATIONS

Line Regulation	95–130 volts input ±0.1% for ±10% input variation
Load Regulation	±0.1% for zero to full load
Dynamic Filter	No residual SCR or other line transients
Distortion	Less than 3%
Response	Regulator: 30 milliseconds Dynamic Filter: less than 1μ-sec
Output Voltage Adjustment	110–120 volts
Temperature Coefficient	Less than 0.025%/°C
Stability	0.05% over 8 hours (after warm up)
Current Limiting	Standard feature
Rack and Case Mounted	Standard 19" rack mount
Remote Sensing	Yes

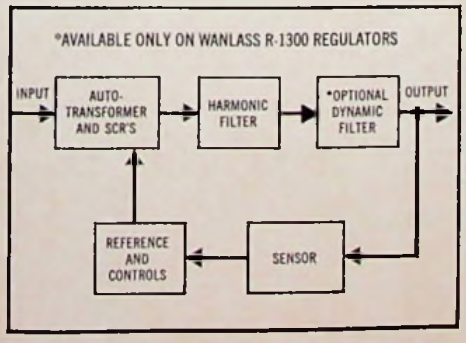
R-1300 PRICES/WEIGHTS*

VA	BASIC UNIT		UNIT WITH DYNAMIC FILTER		WEIGHT
500	R-1305	$300	RF-1305	$350	25 lbs
1000	R-1310	$375	RF-1310	$475	40 lbs
2000	R-1320	$450	RF-1320	$600	60 lbs
3000	R-1330	$575	RF-1330	$775	75 lbs

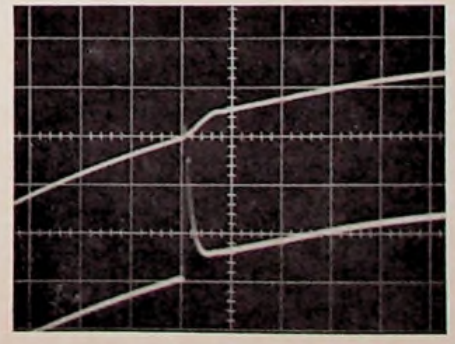
Optional Voltmeter: $25

*FOB Santa Ana, Calif. Prices & Specs subject to change. Patents Pending.

Here's relief for your light weight, high performance voltage regulator worries: the new R-1300 Series with the exclusive Wanlass Dynamic Filter as an optional feature. The R-1300, today's *only* regulator offering the compactness and efficiency of SCR techniques, while eliminating adverse line transients! High speed SCR techniques, plus closed loop control, maintain output voltage to within ±0.1%. Filtered output keeps distortion under 3%. Other features include output voltage adjustment, remote sensing and current limiting. Sound interesting? Write today for complete technical data. Wanlass Electric Co., 2189 S. Grand Ave., Santa Ana, Calif. Or phone 546-8990 for fast, fast, relief.



Operation of Wanlass R-1300 Regulators is shown above. Control of the firing angle of SCR's provides the basis for regulation.



Unretouched scope photo shows 70 volt SCR input spike (lower trace) and spike eliminated by exclusive Wanlass Dynamic Filter (upper trace).

FREE

SPECIAL INTRODUCTORY OFFER

For a limited time*, we are offering the exclusive Wanlass Dynamic Filter absolutely free with the purchase of a standard Model R-1310 Voltage Regulator, at the regular $375.00 price. In addition, you may order a demonstration unit for a one-week trial merely by completing the registration form below. If you decide to buy, the Dynamic Filter will be yours at no extra cost.

*Offer expires midnight, August 15, 1966.

REGISTRATION COUPON

WANLASS ELECTRIC COMPANY
2189 So. Grand Avenue, Santa Ana, California

Gentlemen:
Please reserve me a demonstration unit of your new Model RF-1310 (1KVA) dynamically filtered precision voltage regulator. I understand that I am under no obligation to buy, but if I should on or before August 15, 1966, I will be charged only $375.00, plus $25.00 for the meter (the regular 1KVA unit price without the dynamic filter).

Name_____Title_____
Company_____
Dept._____Phone_____Ext._____
Address_____
I wish to register for_____RF-1310 units.

WANLASS ELECTRIC CO.

SEE WANLASS POWER CONVERSION EQUIPMENT AT WESCON BOOTH 2138–2139 SPORTS ARENA

CIRCLE INQUIRY CARD NUMBER 2

Engineers and Scientists:

The Hughes Aircraft Company
is proud to announce the establishment of

THE HUGHES PROFESSIONAL CAREER DEVELOPMENT PROGRAM

This new Program emphasizes individual career growth through a sequence of selected work assignments for graduate engineers who have acquired between two and eight years of professional experience. It is designed primarily for two types of development:

1. **Specialized, in-depth assignments to develop unusual proficiency in a specific area of interest.**

2. **Broad, systems-types of assignments to prepare for system and project engineering responsibilities.**

There will be a maximum of three assignments which will be determined jointly by the participant and the Professional Development Section. The assignments, which are flexible in length would normally extend for one year each. They may be selected from a broad spectrum of aerospace electronics hardware and systems-oriented programs and will be designed to provide optimum backgrounds in specialized areas of interest.

The Program will be limited to 50 participants in 1966. These will be selected from candidates who are graduates in E.E., M.E. or Physics from fully-accredited universities and who have acquired from two to eight years of professional-level technical experience. U.S. citizenship is required.

Those in the Program will receive salaries commensurate with levels established by their overall experience and qualifications.

We invite interested Engineers and Physicists to submit their qualifications for consideration.

Please forward your resume including details of your educational and experience background to:

Mr. Robert A. Martin
Head of Employment
HUGHES Aerospace Divisions
11940 W. Jefferson Blvd.
Culver City 51, California

HUGHES
HUGHES AIRCRAFT COMPANY
AEROSPACE DIVISIONS

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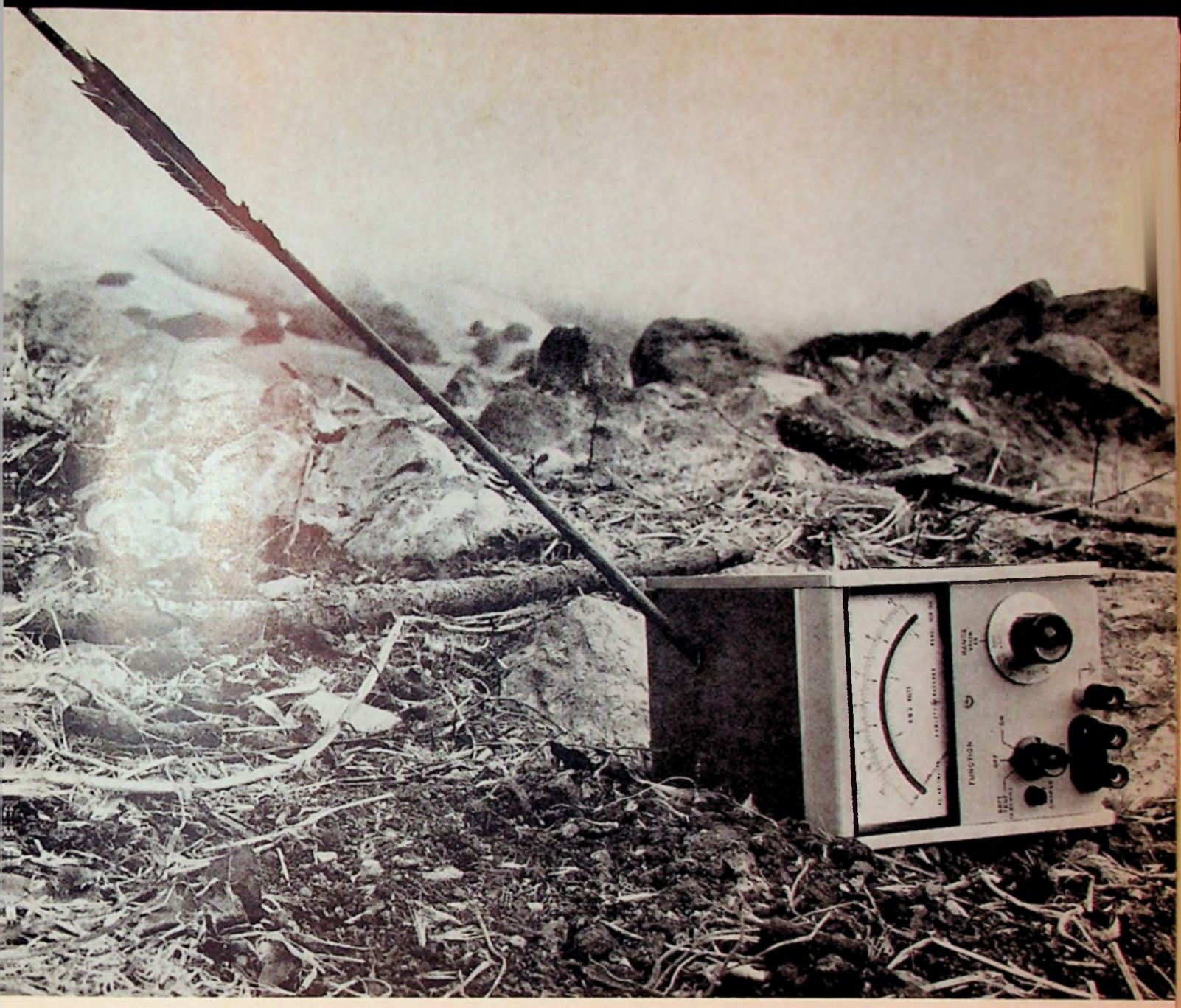

Meanwhile, back at the ranch...

"Down-time" is a short, uncomplicated word for your Neely man, the one who sells you quality Hewlett-Packard instrumentation. Back at the "ranch", he has a bunkhouse full of factory-trained technicians ready to cope with most any situation. Whether it be a matter of repair, calibration or modernization, your Hewlett-Packard instrumentation can be put in new condition in a matter of a few days at your Neely service center. For quality instrumentation with service to match, call Neely:

North Hollywood—(213) 877-1282
Palo Alto—(415) 327-6500
Sacramento—(916) 482-1463
San Diego—(714) 223-8103
Scottsdale—(602) 945-7601
Tucson—(602) 623-2564
Albuquerque—(505) 255-5586
Las Cruces—(505) 526-2486
Seattle—(206) 454-3971
Denver—(303) 771-3455
Salt Lake City—(801) 486-8166

HEWLETT PACKARD hp NEELY SALES DIVISION

CIRCLE INQUIRY CARD NUMBER 3

Someone's life will change greatly as a result of reading this ad.

He will be a man who can make a significant contribution to the art of electronic measurement—in either design or production. Chances are he will be working for a large organization where his contribution is not accepted or—if accepted—not widely recognized. He will be looking for the opportunity to show his mettle and get the recognition he deserves. If you are such a man, read on:

For almost a generation, we (The John Fluke Mfg. Co., Inc.) have been one of the world's leaders in metrology. Recently, the demand for our quality instrumentation has created a number of unusually fine professional employment opportunities.

So if you want to join a medium size, well-respected company where your contribution stands out and your identity means something to everyone from the president on down, this is a grand opportunity. Our engineers work in a sophisticated technical environment with great personal freedom to pursue design problems as they see fit. We pick up the total tab on a company-sponsored graduate program for eligible personnel at the University of Washington (now widely regarded as one of the 10 best universities in the Nation).

But, though the job is the main thing, living in the Pacific Northwest shouldn't be ignored either. About 85% of our employees live on wooded acres within 10 minutes of the plant. You can buy twice the house in Seattle for the same dollars you spend in San Francisco or Los Angeles. And the taxes aren't too steep either (there is no state income tax).

Schools are good. The State of Washington ranks among the first three in literacy and number one in terms of college graduates per thousand population. Art, theatre and music flourish in the great new Seattle Center, built for the World's Fair.

If the outdoors is your after hours bailiwick, Washington State offers great skiing (with short lift lines), the nation's best boating, outstanding hunting and fishing (sometimes, the other guy on the stream is five miles away), and fine hiking and climbing.

The company offers in addition to your salary (which is as good or better than anywhere else) profit sharing, medical insurance, and retirement benefits. So if all this excites you and you fit one of the job descriptions below, write our Engineering Manager, Mr. Ted Thomsen, in confidence. Interviews will be arranged in Los Angeles, San Francisco, or Seattle at your convenience. Please address Mr. Thomsen at P.O. Box 7428, Seattle, Washington.

Design or Senior Engineers with communication theory background and/or interest in digital circuits. Preferably an MSEE. Minimum experience, two years. Should be familiar with digital circuit design and frequency calibration techniques.

Design or Senior Engineer with minimum of one year's experience in feedback, digital and analog circuitry. Applicant should be familiar with differential amplifiers, amplifier and feedback design, AC-DC converters, and state of the art measurement instruments. MSEE desired.

Senior Applications Engineer with experience in measurement or development work to provide support to field marketing and marketing research staff. BSEE with marketing knowledge desired.

Electronic Package Design Engineer with either BSEE or BSME. Applicant should be familiar with packaging methods in the MHz to 10 GHz region. Two to six years' experience with good mechanical design aptitude required.

Industrial Engineer with three years' experience in electronics or associated industry. Should possess a BSIE. A BSEE or BSME is acceptable if applicant has industrial experience. Candidate must have knowledge of methods, value, and process analyses, and work simplification.

Senior Production Engineer with four years' experience. Should be a mechanical engineer familiar with electronics or an electronic engineer familiar with mechanical engineering. Applicant must possess a BSME or BSEE. Must be able to carry new product from design to production.

An equal opportunity employer.

FLUKE

Box 7428, Seattle, Washington 98133 • Phone: (206) 776-1171 • TWX: (910) 449-2850

CIRCLE INQUIRY CARD NUMBER 4

grid-bulletin

A combined publication of Los Angeles and San Francisco IEEE

Volume 11 No. 1

July, 1966

In This Issue

WESCON — 1966

COVER DESIGN BY:
BERT ANGELUS & ASSOCIATES

Published monthly. Grid-Bulletin office of publication: 3600 Wilshire Boulevard, Los Angeles, Calif. 90005.

Second class postage paid at Los Angeles, Calif. Subscription: Members: $1.00 per year, non-members: $2.00 per year.

LADIES FIRST

Ladies Plan Fun, Luxury and Leisure During Wescon '66

Women visiting Los Angeles and environs for the first time will discover the singular Spanish architectural influence that pervades through almost all neighborhoods: Pico House, the old plaza, Olvera Street, tile thatched homes, all remnants of what our founding fathers erected within the past one hundred years.

As an entree, the Wescon women's activity committee will further indulge visitors in this Spanish motif *con mucho gusto*. But look out — the modern look also rears its beautiful head.

Setting a less frenetic pace than in previous years, Mrs. John F. Bishop, Chairman, and Mrs. Douglas Maure Vice-Chairman, have slanted their program towards fun, luxury and leisure. For instance, emphasing the latter, on Tuesday the gals are encouraged to drop by the Biltmore Hotel's hospitality room and say, "Hello," meet new friends relax and linger over coffee. No formal events are planned.

The action becomes more kinetic on Wednesday when Wescon shuttles the ladies past the new Music Center to the equally new Los Angeles County Musuem of Art. Whisked down Wilshire Boulevard via air-conditioned bus, the visitors will eventually arrive at the Museum and gaze upon some of the world's greatest objects d'art.

Barbara Trister, one of the leading authorities on haute couture (aren't all women), is the stellar attraction of Thursday's gourmet *Bienvendias* luncheon at the Statler Hotel's commodious ballroom. Feminine fashions from Galanos, Rudi (topless) Gernreich, Irene, Tassell, and Lee Herman plus the latest fur facts from the salons of Europe, including op, pop and English mod creations, will serve as a delicious dessert to the program. The price per plate is $6.00.

Friday the ladies sleep late, fortify themselves with a gratis continental breakfast, and leave the Biltmore for a jaunt to the Future Engineers Show. Visitors may perambulate through the youthful exhibits, query the students on their innovations and return at their convenience to their downtown hotels.

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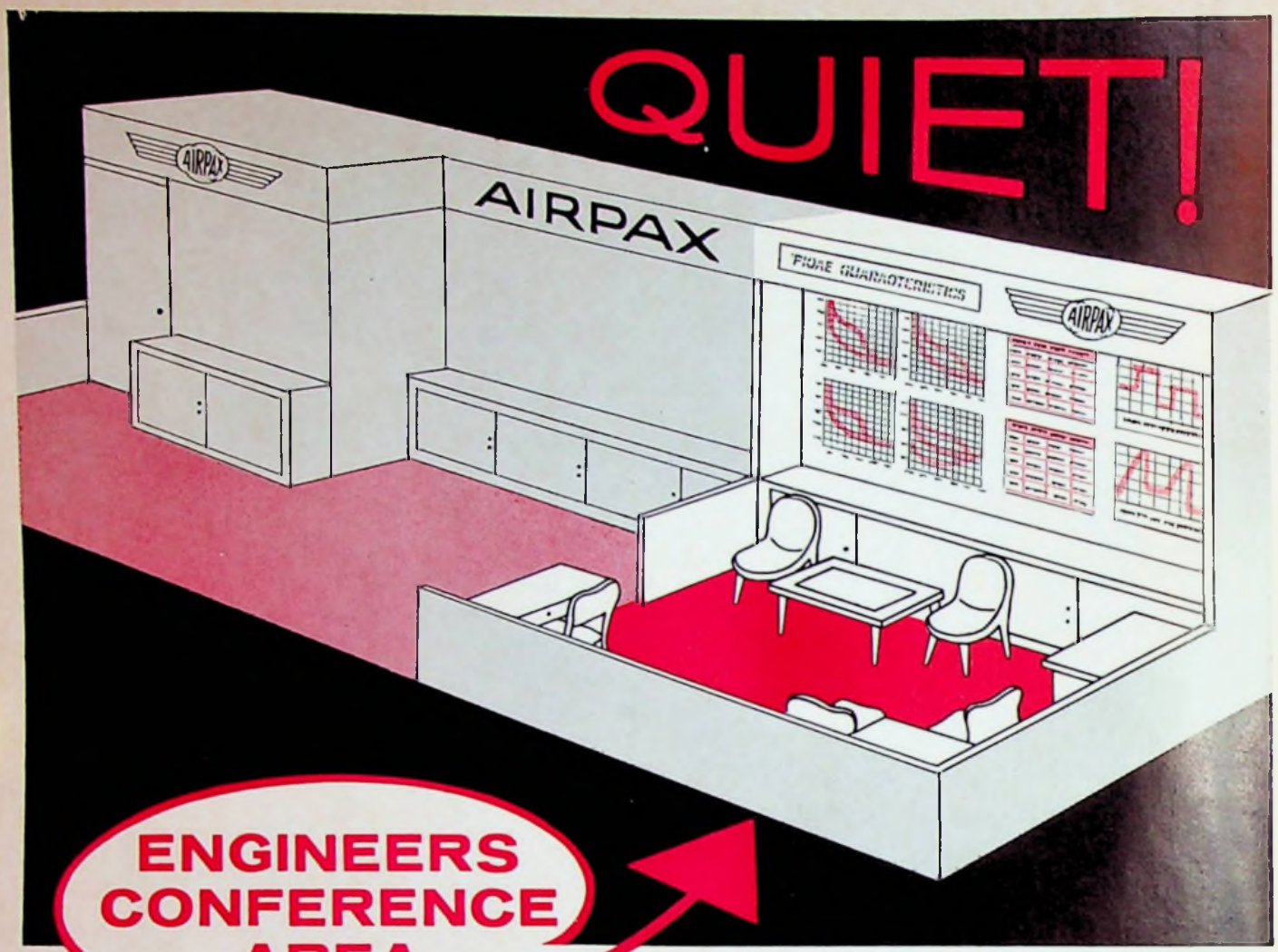

AIRPAX ENGINEERS, FULLY QUALIFIED IN THE FOLLOWING FIELDS, WILL BE AVAILABLE TO YOU FOR CONSULTATION IN THE CONFERENCE AREA.

- TELEMETRY
- CHOPPERS
- CIRCUIT PROTECTORS
- DOPPLER CURRENT METERS
- FREQUENCY SWITCHES

If you desire engineering assistance in any of these fields, please visit Booth 1212. Our secretary will be pleased to make an appointment for you with the engineer best equipped to assist you.

AIRPAX ELECTRONICS

CAMBRIDGE, MARYLAND — FORT LAUDERDALE, FLA.

WESCON 66

SPORTS ARENA — AUG. 23, 24, 25, 26 — BOOTH NUMBERS: 1212 - 1213 - 1214

CIRCLE INQUIRY CARD NUMBER 6

Grow with SPRAGUE ELECTRIC

The Sprague Electric Company, America's largest and fastest-growing manufacturer of electronic components, is enjoying continuous expansion which has created a wide variety of stimulating career opportunities.

Now in its fortieth year, Sprague operates 22 plants in the United States, including a modern new 130,000 sq. ft. microelectronics facility in Worcester, Mass. (1965 All-America City, with its famous educational and cultural environment). With over 12,000 employees and current sales running at an annual rate of $140,000,000, Sprague Electric continues to grow significantly, providing advancement opportunity for its people.

Major electronic product lines include:

- ★ Semiconductor integrated circuits and thin-film hybrid networks.
- ★ Discrete components, including capacitors, resistors, transistors, inductors, pulse transformers, etc.
- ★ Complex components (two or more components in an integral package) such as R-C networks, pulse-forming networks, radio interference filters, magnetic shift registers, etc.
- ★ Special purpose subassemblies for data processing, communications, and other types of electronic equipment.

Sprague Electric is a research-based company with corporate headquarters at North Adams, Mass., in New England's Berkshire Hills, famous summer and winter resort area, just an hour from Albany, N.Y. Manufacturing facilities and laboratories are located in Massachusetts, New Hampshire, Vermont, Maine, Maryland, California, Wisconsin, North Carolina, Virginia, Florida, and Ohio. Wholly owned subsidiaries operate in Canada, Italy, Belgium, Puerto Rico, and Hong Kong; a Sprague-affiliated company is located in Mexico. Sprague has sales offices in principal cities throughout the United States and abroad.

Sprague Electric provides a comprehensive program of employee benefits, including company-financed education toward advanced degrees at leading colleges and universities near our various locations.

Creative engineers and scientists with degrees in Physics, Electrical Engineering, Chemical Engineering, Metallurgy, Mechanical Engineering, Ceramics, and Industrial Engineering are invited to explore the many interesting assignments available at Sprague.

Write or call John F. Miller, Corporate Manager, Recruitment and Staffing, Sprague Electric Co., North Adams, Mass. 01247 (Phone 413-664-4411) to arrange for a Los Angeles interview during the week of August 22, 1966.

43E-6142 V2

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SPRAGUE®
THE MARK OF RELIABILITY

WORLD'S LARGEST MANUFACTURER OF ELECTRONIC COMPONENTS

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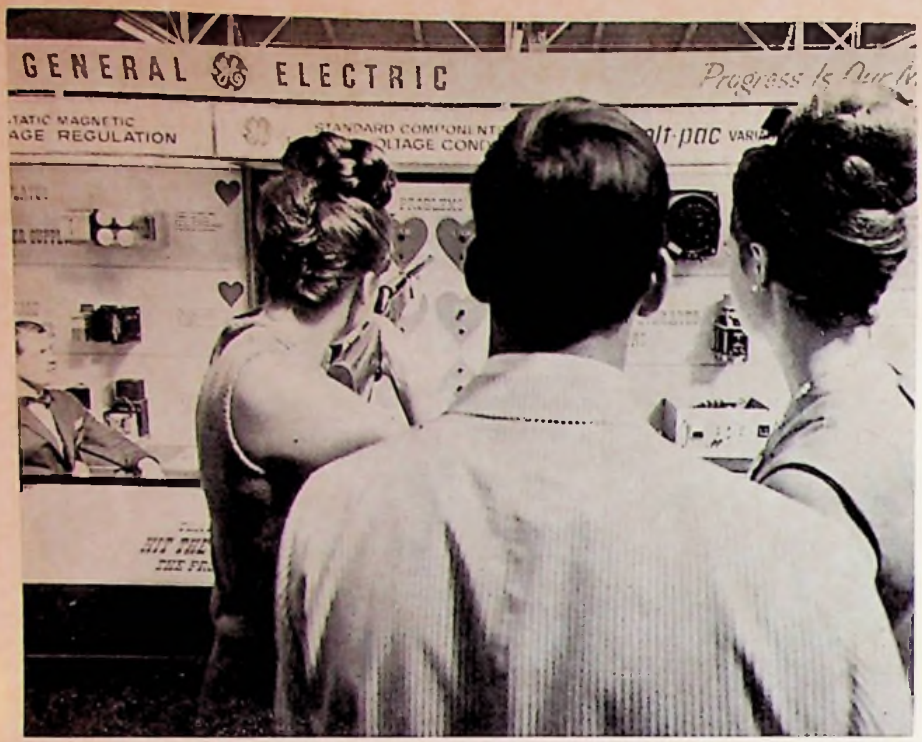
CIRCLE INQUIRY CARD NUMBER 7



Keep your eye on the target — *or the exhibits of your choice. Most Wescon visitors tend to concentrate on exhibits related to their jobs. Save time — know where you're going before going to Hollywood Park and the Sports Arena.*

How to Visit a Booth . . .

For more than a year, Wescon and its 700 exhibitors, filling 1200 booths have been planning ways to be the perfect host to you, the visitor. Professional surveys have pierced the mist of the unknowable and told Wescon what people do at the show; Wescon has passed this information on to its exhibit contacts. Wescon has even produced a small instruction book "What Makes a Winner at Wescon?" It remains for you, the visitor, to live up to the expectations of exhibitors — else why have Wescon?

Here is some friendly advice to the visitor, an assignment the Grid-Bulletin cheerfully assumes, under the title:

How to Meet Wescon Head-On . . .

Registration: Although Wescon makes a serious effort each year to register people in advance — people don't. This shows that people are strange. However, if you really want to be One-up, you'll find that your favorite vendor has advance cards which he will provide you for free (saving $2.00 window registration) (It costs him only 50¢) and you can walk right up, get your badge made and float into the show.

Assuming that you forget this, or don't care, you can register, beginning at 8:00 AM at either Hollywood Park, the Sports Arena or the Biltmore Hotel (for Technical Program buffs) for the usual two dollars, with a certain amount of crowding inevitable on the first morning.

You will sense your importance if you realize that the Wescon Board, the Wescon Management and the Exhibits Committee will be nervously standing on first one foot and then the other, hoping that you show up in large numbers. It takes from 45 to 50,000 visitors to make Wescon Wescon.

Now you are inside the Sports Arena and Hollywood Park, ready to start serious booth-watching.

Exhibits . . .

The first rule is to find the action. Exhibitors have been told that most visitors seek *job-related* displays. You are expected to be snobbish about what you see. Don't disappoint the exhibitors. Now you pull out of your pocket a couple of ads that you have clipped (hopefully some from the Grid-Bulletin) and find your way to the booth in question, with your questions. Surveys have proved that wise attendees read ads and mailers in advance to seek out interesting displays. Since the exhibitor expects a "target" audience, you can complete the loop by hunting out "target exhibitors."

You have arrived at the first booth of your choice. The exhibitor has been told not to cram his booth with too much information, not to put on institutional gobbledegook, not to offer static displays, not to use vague signs. If your target exhibitor has failed in these areas, it is your duty as an official attendee to inform him, in succinct, steely phrases. Deflation of nonsense helps Wescon and the industry.

There is the outside possibility that your exhibitor has ignored other good advice, stocked his booth with immature (technically) engineers, or even attractive (mature) models. It is pleasant to inform the inept and to stare at models, but it really won't do at Wescon. As an official attendee, it is your privilege and duty to ask for the Chief Engineer, the Company president or the Chairman of the Board, if necessary, in order to get the information you came to get. Do not weaken. You are the most important component of Wescon, the exhibitor has to be taught this.

Avoid taking literature. Exhibitors can use your plastic "charge-a-plate" to send you your material later. If you prefer something in your hand, there is the official program, fat and complete, with even the free bus schedules in it. Or the Grid-Bulletin. The waste of literature could decimate some of America's better forests.

If you conduct yourself as the perfect official attendee, the exhibitors will be delighted, and try even harder next year to be perfect exhibitors. Then Wescon will have to try doubly hard to please the both of you.

Exhibit Hours:

(Both Locations)

Tues., Aug. 23: 9:30 AM to 5:30 PM
Wed., Aug. 24: 9:30 AM to 9:30 PM
Thur., Aug. 25: 9:30 AM to 9:30 PM
Fri., Aug. 26: 9:30 AM to 5:30 PM

Hollywood Park features:

- Packaging and production displays
- Instruments displays

Sports Arena features:

- Computers and Data Processing
- Communication and Detection
- Air & Space Control Systems
- Audio & TV
- Automatic Control
- Publishers

Credits: The Exhibits Committee officers: Stephen Skilnyk, Bourns Inc., Chairman; Vice-Chairmen: Herb Becker, Herb Becker Co. Inc., George Gramlich, Beckman Instruments, Inc.

Hidden Committees Discovered at Wescon . . .

Following leads provided by knowledgable engineers the Grid-Bulletin has uncovered the shocking fact that most of Wescon is planned and executed (yes, executed) by many engineer committeemen whose exploits seldom see the light of day. In view of the error made by the N.Y. Times in not revealing the invasion of Cuba early in 1961, we step forward to fill our role as responsible journalists by bringing you all of the facts behind Wescon, no matter whose names gets printed in these columns.

Some of these sinister committees, designed to confuse and even trap unwary visitors by their curious activities go under innocent names like: Attendance Committee, Facilities, Hospitality, Technical Program, Visitors Services, and Public Relations.

Even now, long before Wescon, certain individuals on the Attendance Committee are surreptitiously visiting your boss and other management types, pleading that you be given a little time off from work to visit Wescon. They will write letters, make phone calls and even drop in, in person, to accomplish their fiendish designs. It is self-evident that engineers prefer work to attending shows, yet it is too late to repel this movement. Undoubtedly you'll be asked to spend a day, or two or three visiting Wescon 1966. Resign yourself to your fate: it only happens once per year.

The Grid-Bulletin can now reveal that Mr. William J. Miller, Kierulff Electronics is Chairman of the attendance committee assisted by two Vice-Chairman, viz: Edward T. Clare, Cohu Electronics, San Diego and John F. O'Halloran, O'Halloran Associates.

Other area Vice-Chairmen include: Northern California: William Heflin, Beckman and Whitley; Pacific Northwest: William Webber, Tektronix; Rocky Mountains: Richard C. Webb, Colorado Instruments, and Phoenix: H. Steven Berck.

A committee that has infiltrated Wescon and attached itself to the very bedrock is the Facilities Committee. They may be found in musty back rooms of hotels, dealing in signs and equipment, posters and personnel recruiting for other committees. In spite of the most inept and careless routines of the public committees, Facilities will indefatigably sneak about placing signs to announce the Technical program, where to find buses, where this or that display may be, and choking lobbies of hotels and public places with posters advertising the Cocktail Party, Keynote Luncheon and other events.

As if this isn't enough, they will oversee placement of microphones and slide projectors for speakers, camera projectors, pointers and other impedimentia leading to the crass public discussion of technical information at the Biltmore and other hotels, of subjects about which so few know so little, that the engineer, beguiled by the glitter, may actually attend and learn new things.

The success of TV, movies and cheap magazines has proved that it is bad to hear about new things; this whole operation must be watched with care.

Chairman of the Facilities Committee is Benton Bejach (probably an alias) of Borg Warner Controls. He is assisted by a Vice-Chairman, Jack Easterbrook of the Delco Radio Division, General Motors Corp.

The most super-secret operation of all is run by an innocent, youthful appearing engineer from Lockheed, with the unlikely name of Charles Olsefsky. As Vice-Chairman, he claims a lawyer, named Thomas Walker. These two gentlemen have been in the technical public eye before, Mr. Walker as a former Board Chairman, Mr. Olsefsky on various prior Wescon Committees. Calling themselves the Hospitality Committee, they trap unwary VIP's into inacessible hotel suites, where, rumor has it, that liquor is sometimes served, even during the day. In itself not offensive, the thing to remember is that a Wescon VIP might be anybody. True, it includes company presidents, cabinet members and state governors. But it also includes Section Chairmen, WEMA officials, relatives of luncheon speakers and people who have performed a long service for the sponsors. It is frightening to think that these top-flight people may be getting their heads together to plan new, dazzling technical innovations while the rest of us struggle so hard to keep up with what has already been invented. If the average engineer is ever to enjoy peace and quiet, these innovations must be stopped!

In the American culture, the word "service" must be viewed with suspicion. It usually means non-service at too high a price — you had better do it yourself. When you encounter a committee called "Visitors' Services," a slow chill undoubtedly touches your spine. Yes — the Grid-Bulletin is putting everything on record — there is such a committee in Wescon. Miscreants include Charles Fetty, Fetty-Schoenduve, as Chairman and Tom Matthews, Electronic Specialty as Vice-Chairman.

This committee purports to provide information centers at hotels, airports and exhibit areas and to compound this effort by linking it together with a free shuttle bus service to all Wescon points. This will make it much too easy to get around Wescon and then locate Southern California points of interest with the attendant expenditures of funds, non-reimbursable. It will assist in hotel locating, so you can't use a cheap motel on the edge of town. It will rush you from Technical Program to exhibits and back

CONTINUED ON PAGE 10

The men from WESCON *are shown in clandestine meeting machinating further intrigues. We have dossiers on the ring-leaders in the front row (Guarrera, Moore and Lamm). Come to Wescon and help us identify the other members of their cadre.*

No, it's not a parabolic antenna *but the Los Angeles Memorial Coliseum. Nothing exciting has happened there since the 1932 Olympic Games. Ask any USC football fan. To the right of the Coliseum is the Sports Arena which houses about one-half of the Wescon exhibits and the Future Engineers Show. Electrifying things will happen there every day, August 23-26, during Wescon.*

1966 Wescon Committeemen (Continued)

so fast that there'll be no time for introspective dreaming, or good fellowship. There is no end to this efficiency thing at Wescon, once it gets started.

A doubtful endeavor, designed to make the engineer think more and work harder is the Technical Program, the handiwork of Dr. Sam Sensiper, Space General Corporation. Robert Muchmore, a TRW Systems VP, has joined him in this shady enterprise. Much more, indeed! There will be far too much useful information spewed out in Wescon's Technical Program, 27 sessions in all, contained, it is true mostly in one hotel, the Biltmore, but so rich in content that it will be printed in a Convention Record available by Session breakdown at the show itself. Startled by both the quality and the range of the subject matter, the Grid-bulletin has gone to the lengths of printing each and every topic and author's name elsewhere in this issue. The wise engineer will want to pore over this section to learn what to avoid learning, and even attend these sessions so that he may learn enough to appear modestly ignorant when the time comes (but not so ignorant as to miss the next pay-rise.)

The final villainy stems from a group calling itself the Public Relations Committee. This Group simply cannot keep secrets; it blabs everything it knows to anybody who will listen. It seizes space in technical publications, plasters the Wescon name on billboards, seduces house organ editors with free lunches, and does everything in its power to make the darkest detail of Wescon known to the world. This results in filled aisles at the exhibits, filled chairs at technical sessions, filled rooms at public events. It sets the whole tone of Wescon as business-like and brisk. As any engineer knows, briskness is fatal to the man who wants a contemplative job at a modest salary, with no technical break-throughs to involve him in overtime work — one comes to suspect that Wescon is the deadly enemy of La Technical Dolce Vita!

Richard Hoffman, Norair, Northrop, is Chairman of this Unmanaged News operation. His running mate: Ted Michel, Robert Wolcott Associates.

Peering down into the deepest depths of Wescon, the Grid-Bulletin sees yet two more malefactors, dimly discernible, yet attaching themselves like barnacles to each of these hidden committees, no doubt nurturing and encouraging them. They are Don Larson, Wescon Manager, and Ted Shields, Assistant Manager. If arrests are made, handcuffs should be saved for this nefarious team. One suspects that they contribute heavily to the uplinquency of our profession.

You have been warned. Any steps you take towards Los Angeles in the period Aug. 23-26, this year can only lead to an enormous ingestion of new technical and hardware information, accompanied by extreme expenditures of energy.

DISTRIBUTOR-MANUFACTURER-REPRESENTATIVE-CONFERENCE

1966 D-M-R Confab Grows . . .

On Monday, August 22nd, the day before the Wescon doors swing open, dozens of individuals will be arriving at the Statler Hilton at 7:00 AM to attend a conference. This is a special one-day affair with the elongated appelation: 12th Annual Distributor-Manufacturer-Representative Marketing Conference at Wescon.

Homer Nielsen, Chairman of the Conference, indicates increased interest this year in the event that lasts all day and allows Western electronics distributors, each with assigned tables, to meet with manufacturers and sales representatives with whom they have made specific dates to talk.

That early 7:00 AM arrival allows for breakfast, sessions, trade gossip, no-speaker lunch and more sessions until 5:00 PM. A tariff of $7.50 per person covers everything.

Nielsen adds that the 1966 conference format remains exactly the same as in the past. Eleven years of experience dictate that the present, simple program is the most popular and most effective way of handling the affair.

TECHNICAL PROGRAM

Technical Program Sets the Pace...

In a sporting proposition required to up-grade the status of technical papers, intrepid Dr. Samuel Sensiper (Space-General Corporation), Chairman Technical Program Committee, blithely issued a world-wide invitation for submission of *Session Proposals* for this year's four-day event. That was back in the month of the Rose Bowl. His object was pointedly to produce an outstanding technical session. He fulfilled this obligation by generally following the successful format established at Wescon, 1965. The format calls for organization of the program into "session units," rather than into "individual paper" units.

Contributed sessions papers were received by the time Willie Mays hit his first homer this spring — and fifty percent rejected. A high percentage of rejections for any technical conference. Sensiper wanted his papers to emphasize the state of advanced technology in new and emerging areas of electrical and electronics application. A Session on "Plastic Transistors—Their Impact on the Industry," is a good example of the type of offering in this category. In addition, goals were established to program material that would stimulate discussion of possible new uses and applications of electronic components, equipments and systems. Take a look at session sixteen on "Electronic Systems for Urban Rapid Transportation." This session covers a wealth of ideas in areas applicable to transportation and other industries.

Besides all this, Sensiper wanted to provide technical and application information in new areas of component, device and equipment design and present new technical information in the field of power generation and transmission. He accomplishes his aims through judicious use of both contributed and invited sessions, confirming the belief that contributed "sessions" for large conventions will be "In" for some time to come.

Detractors of this type of programming should be few and far between after this Wescon. Sensiper doesn't appear a bit nervous with the jury of attendees to make its verdict the week of August 23rd. About that time he can call it a season.

WESCON LUNCHEON

Atomic Energy Chief Keynotes Wescon...

Wescon's bold new look this year includes a keynote talk instead of the usual stuffy, late-night banquet. What better way to introduce this innovation than by having a speaker of high reputation: Dr. Glenn T. Seaborg, Chairman of the U.S. Atomic Energy Commission since 1961.

A paragon in his fields, (he's also a Nobel laureate and educator), Dr. Seaborg accepted the Wescon invitation to be the principal speaker at the Tuesday, August 23 luncheon—the first day of Wescon. Dan Kimball, chairman of Aerojet-General Corporation and chairman of the luncheon event will preside at the program.

Kimball announces that two United States Congressmen, Chet Holifield and James Corman, will be honored guests at the luncheon. Holifield is one of the important House Committee members for Atomic Energy.

Dr. Seaborg holds more than a dozen national and international honors in chemistry, science and education. He was lionized by the Nobel Prize committe in 1951 when he garnared the prize along with Prof. E. M. McMillan. Over a period of more than 18 years, he was a leader in research which helped discover several transuranium elements and, with his colleagues, the identification of more than 100 isotopes of elements. He was also the author of the actinide con-

CONTINUED ON PAGE 12

Twenty-seven technical sessions *at the Biltmore Hotel fill four days. New "session unit" programming offers improved integration of subject matter, obviously an unusual approach to paper presentations at modern conferences. Wescon sets the pace.*

Wescon Luncheon (Continued)

cept of heavy element structure.

A savant the fields of education, and science, Dr. Seaborg served as chancellor of the University of California just prior to his AEC appointment. He was associate director of the Lawrence Radiation Laboratory from 1954 until 1961.

During WW II, Dr. Seaborg headed the plutonium work in the Manhattan Project at the University of Chicago. He is the author of more than 200 scientific papers, and holds 21 honorary doctorate degrees from U.S. universities and comparable honors from many universities and professional scientific societies. He holds his BA from UCLA and PhD in Chemistry from Cal.

The Keynote Luncheon will be in the Biltmore Hotel's Bowl, Tuesday, Noon, $6.00 per person.

WEMA & EKN LUNCHEONS

WEMA Goes "Bowling"

The Grid-Bulletin Luncheon Editor has completed his survey of the Wescon noon tidbits, and has filed the following report:

WEMA Luncheon—they are going to be in the Biltmore Bowl. Traditional day: Wednesday . . . No speaker yet, but in past have had Dan Haughton, president, Lockheed, Tex Thornton, pres. of you-know-who, so am sure they will land a big fish as the speaker. Food is always good . . . worth $6.00 per person. Couldn't reach Biltmore chef on menu, but never saw visitor leave hungry. This is their Annual Meeting, but the report takes less time than for an eager waiter to snatch your half-eaten salad. They also bring in all past WEMA presidents at a sort of sub-head table. Impressive. Wednesday is a good day for this luncheon—the convention has settled down but people are not yet worn out. Tell our readers to get tickets from regular Wescon source—not to miss this Grand Marshall of Wescon lunches.

Ramo Receives EKN Honors

EKN Luncheon

ETA KAPPA NU . . . . For several years, the engineering fraternity has been sidling up to Wescon to put on its Awards Luncheon . . . this year no exception. Too bad more people don't know about it — blue ribbon crowd. Executive Board at head table includes Dr. Lee Du Bridge, Caltech, and Dr. Frederick Terman . . . . a good smattering of future Nobel prize types. The Luncheon is **open to the public.** Cost is $5.00 per person, place is Los Angeles Room, Statler-Hilton Hotel, at 12:00 noon. You can get ticket from regular Wescon sources. Bill Murray, Chairman, local Eta Kappa Nu, states that they will have the usual student award to make at this luncheon . . . . they have another thing going that's kind of different. Each year they honor some broad gauge electronics man by making him an Eminent Member. Not only is he inducted — he becomes the luncheon speaker. This year SIMON RAMO, gets the nod as Eminent Member to be inducted . . . . amusing sidelight —he now carries title of Vice-Chairman of the Board, TRW, Inc. After many years of being a luminous star on the local, national, international horizon he has tried to cut back some, live a life on his own. His hideaway is this post in the company he co-founded and ran so well so long.

The complete luncheon details will appear in the August issue.

Eureka! *Four judges appear to be pleased with a submittal to the Industrial Designs Awards Exhibition.*

Lady midget *in bikini (out of vie appears to have caught eye of seve attendees. Verbotten at this years Wesc*

Long queues *form in Registrat area. Pay $2.00 and see all of Wesc*

INDUSTRIAL DESIGN AWARDS

160 Co.'s Place . . . 18 Show in Pacesetter Race . . .

For the paltry Wescon admission ticket fee, you can gaze upon 18 outstanding product designs from complete systems to small filters included in Wescon's Industrial Design Awards exhibition.

David Malk, chairman of the activity, selected a jury of four professional designers to struggle to a decision. They screened more than 160 entries in the competition during a day-long judging session. Later, in August, the judges will return to their task and single out products for an award of excellence. This award is the "Pacesetter" award given only when one product is judged to be clearly superior in concept and execution.

The preliminary judging was based on photographs and information sheets prepared by designers of the product entries. The final judging will take place during a preview showing at the Museum of Science and Industry, July 23 through August 19th. This museum preview is free and is just a football punt's distance from the Sports Arena, the site of the Wescon showing.

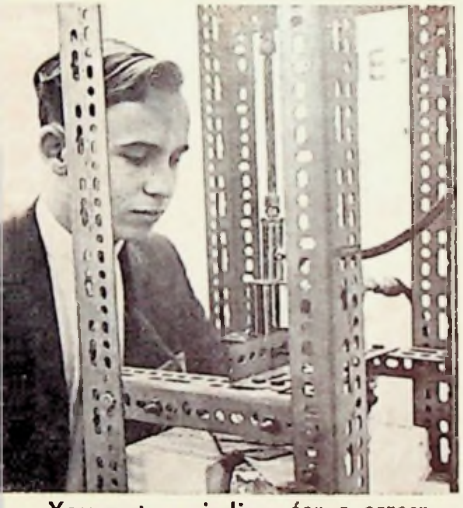
Chances are the Pacesetter winner will come from one of four companies. Why? Ampex, Beckman and Hewlett-Packard each have three entries and Specta-Physics two. See them for yourself. Until then, we'll keep the winner our secret.

FUTURE ENGINEERS SHOW

No Beatniks in This Bunch . . .

While their contemporaries are surfing at Malibu, fishing in the Sierras, or doing odd-jobs in conventional summer fashion, thirty outstanding high school students from the western states will be hard at work preparing exhibits and eventually competing for prizes.

A $2.00 Registration fee brings you *future winners at Hollywood Park. Plenty of exhibits and "wide-screen" science films.*



Youngster girding *for a career in electronics. You could learn a few tricks by viewing the FES exhibits at the Sports Arena.*

Model mimics bat woman *during fashion show for the gals at the Statler Hilton.*

Participating in the "show within a show," otherwise known as the Future Engineers Show at Wescon, these student engineers, each of them selected by a professional committee of engineers at Science Fairs held in their local areas, will be in the show as guests of Wescon.

In addition to a full-scale exhibition of their handiwork in planning, designing and executing their exhibits, they will also participate in a special technical symposium, take part in field trips to Los Angeles area scientific centers, and enjoy a "night on the town."

The students will be competing for $2800 in scholarships, topped by the Frederick Emmons Terman Award of $300 for the best technical paper presented in the symposium (about five will be selected for presentation), and the Lee De Forest award of $1,000 for the best experiment. Second place in the paper competition carries a $200 award, and there are awards of $600, $400, and $300 for runners-up in the exhibit part of the competition.

The field trips offered the students include such unlikely electronics and electrical facilities as the Gas Ejection System Storage Facility, Southern Calif. Gas Company; Scattergood Steam Station, Dept. of Water and Power; Hyperion Disposal Station, Dept. of Public Works. Actually, the facilities are in close proximity in the El Segundo area and offer the students the chance to view uses of electronics equipments as control devices.

You guessed it. The Night-on-the Town will be to Disneyland.

Student participants include youngsters from as far away as Alaska in addition to Arizona, California, New Mexico, Utah and Washington. Only one feminine engineer is included. She is Margaret Fitz Simmons of Phoenix, Arizona, who won participation with her experiment titled, "A Simple Gain Computer."

Dr. Leonard Gardner, Consulting Scientists, Inc., directs the Future Engineers Show. His committee's selection indicates emphasis on communications and, of course, the Laser. Other exhibits open to your inspection include such diverse items as "A Radio Servo System for Automatically Steering Tomorrow's Cars" (wouldn't it take a teenager to solve this problem), and "Development of a New Type of Communications." Is it possible that another De Forest could emerge out of one of these events?

Stop by the FES exhibit at the Sports Arena any day during normal exhibit hours.

COCKTAIL PARTY

The Big CP Remains Camp . . .

As familiar to the Wescon visitor as a Campbell's tomato soup can—that's the Wescon cocktail party, an essential ingredient to this, or any convention.

It may not be hung on the wall or fit comic strip conventions but it is clearly a Happening, with dynamic and static aspects. Like modern life, it has a theme of the serious, a touch of the supercilious, and enough mass communication to satisfy even Marshall McCluhan. Despite all the junk that we Americans like to surround ourselves with, in personal and business environments, people remain interested in other people.

This year's Event runs from 5:45 to 7:45 PM at Hollywood Park, in the delightful open air concourse where even cigar-smokers won't trouble you. There is ample room in the horse establishment for all who care to come, and usually about two thousand care. There will be a $5.50 charge, which gives the visitor three drinks, but of course there are options on further drinks if one meets a customer or friend. Delicious Hollywood Park hors d'oeuvres will be served.

Jack Beamish, Chairman and C. J. Nace Vice-Chairman of this most delightful of committees, wrestled with their idea-list and settled on a Derby Day theme. This puts their 27 or so assistant hosts into Ascot coats, vests, ties, and presumably derbies. Beamish is with Litton, Guidance and Control, Nace from W. Bert Knight Company, but on the evening of Tuesday, August 23, 1966 they will be Wesconning with their cocktail party and want Y'all to come. Be a part of the biggest, merriest Happening going on in town for that day!

Over The Waves to Ocean Symposium . . .

The Hawaii Section, IEEE, sponsors the 1966 Ocean Electronics Symposium in Honolulu, immediately following Wescon. Dates are Aug. 29-31.

The program brings together specialists from engineering, science, government and industry. (See program below).

There will be field trips to the outer islands of Maui, Kauai and Hawaii, including Barking Sands Test Range and the Apollo Tracking facilities at Kauai, astrophysical facilities at Mauai, where the Hawaii Institute of Geophysics, University of Michigan, and Smithsonian Institute all have operations. Hawaii has several observatories. A trip to the Kewalo Oceanographic Center and Ocean Foundation (Sea Life Park) is also scheduled.

There will be a ladies program. Registration is: Advance $5 and $6, students $2. The price goes up $1 at the meeting.

(Editor's Comment) A typical round trip coach flight to Hawaii is about $220, a modest hotel accommodation may be had from $12 single and up.)

For hotel and travel information:
IEEE Ocean Electronics Symposium
1441 Kapiolani Boulevard
Honolulu, Hawaii 96814

General Chairman of the Symposium is Robert R. Hill. Other committee members are: Daniel R. Pang, vice-chairman; Dan Williamson, section chairman; Arden Hendersen, secretary; Les LaTaille, finance; Dr. B. S. M. Granborg, program; Jay Lambeck, publicity; George Hughes, facilities; Edward Schoen, registration; George Curtis, publications; John Ing, aloha; Mrs. Barbara Hughes, ladies; and Bruce Angwin, Region Six Director, is an ex-officio member.

Advance Program:

8:00 - 9:30 AM Registration

Monday, August 29, 1966
9:30 to 11:30 AM
SESSION I

Chairman: Mr. F. L. Mason, Director, Shore Electronics, INMAN 14, Pearl Harbor Naval Shipyard, Pearl Harbor, Hawaii

1. **"Instrumentation and Communications of a Pacific Tsuanmi Warning System"** Captain D. M. Whipp, Director, Pacific Region, U.S. Coast & Geodetic Survey, ESSA, Honolulu, Hawaii
2. **"Research and Development in the Field of Ocean Eletcronics"** Dr. Felix Fenter, Assistant Director, Ling-Tempco-Vought Research Center, Dallas, Texas, and Director, Ling-Tempco-Vought Research Center, Hawaii Division, Honolulu, Hawaii
3. **"Electronics and Deep Submergence Vehicles"** Mr. J. H. Clotworthy, Vice-President, Westinghouse Underseas Division, Baltimore, Md.
4. **"Communications From Deep Ocean Buoys"** Mr. L. Bondon, President, Prodelin Inc., Highstown, New Jersey
5. **"Communications and Electronics in the Ocean"** speaker to be announced, Bell Telephone Laboratories
6. **"Ocean Technology and the U.S. Navy"** Dr. Charles C. Bates, Scientific and Technical Director, U.S. Naval Oceanographic Office

12:00 - 1:30 PM **Luncheon**
Key-Note Speaker: Assistant Secretary of the Navy (R&D), Hon. Robert W. Morse, title to be announced

1:30 - 4:30 PM **Field Trips**
Coast and Geodetic and Navy Research Ships - Cable Ship Long Lines - Deepstar 4000 - Kewalo Oceanographic Center - Look Laboratory

8:00 - 9:30 PM **Panel Discussion** - Title to be announced
Chairman: Maj. Gen. Edmond H. Leavey, Ret., Chairman, Governor's Advisory Committee on Science and Technology
Participants to be announced.

Tuesday, August 30, 1966
8:30 to 11:30 AM
SESSION 2

Chairman: Mr. F. D. Bennett, P.E., Bennett & Drane, Honolulu, Hawaii

1. **"Special Electronic Systems for Ocean Studies"** Mr. John Stranza, President, Stranza Industries, El Cajon, California
2. **"Electronics — Instrumentation — and Fishing R&D"** speaker to be announced, U.S. Bureau of Commercial Fisheries
3. **"Educational Programs in Ocean Engineering"** Dr. John W. Shupe, Dean, College of Engineering, University of Hawaii
4. **"Ocean Magnetic Instrumentation"** Mr. James Arnold, Manager, Geophysical Instruments, Varian Associates, Palo Alto, California
5. **"Advanced Programs in Ocean Electronics,"** speaker to be announced, North American Aviation, Downey, California
6. **"Electronics and Ocean Engineering"** speaker to be announced, General Motors Defense Research Laboratories, Goleta, California
7. **"The Kauai Underwater Test Range"** Mr. W. H. Organ, ITT/Federal Labs.
8. **"Electronics Used In Ocean Science and Engineering"** Dr. Willard Bascom, President, Ocean Science & Engineering, Washington, D.C.

12:00 - 1:00 PM Lunch — open

FLIP Ship *studying the depths while yacht skims surface in Hawaii.*

1:00 to 4:00 PM
SESSION 3

Chairman: to be announced

1. **"The New Look in Ocean Electronics"** Mr. John M. Alden, President, Alden Electronic & Impulse Recording Equipment Co., Westboro, Mass.
2. **"Advancing the Field of Ocean Technology"** speaker to be announced, Department of Oceanography, University of Hawaii
3. **"Electronics to Meet the Challenge of Oceanography"** speaker to be announced, Marine Advisers, Inc., La Jolla, California
4. **"Developments in Ocean Electronics"** Mr. Ralph A. Lamm, Pacific-Bendix, Bendix Corporation, Los Angeles, California
5. **"Marine Systems and Electronics"** speaker to be announced, Northrop Corporation, Beverly Hills, California
6. **"Underseas Electronics"** Mr. V. T. Boatwright, Director R&D, Electric Boat Division, General Dynamics, Groton, Connecticut
7. **"A Progress Report on Ocean Technology"** speaker to be announced, Woods Hole Oceanographic Institute, Woods Hole, Massachusetts
8. **"Electronics and the Mohole"** Dr. H. W. Tonking, Deputy Director, Project Mohole, Brown & Root, Houston, Texas

Wednesday, August 31
8:30 to 11:30 AM
SESSION 4

Chairman: Mr. Carl H. Williams, Vice-President for Engineering, Hawaiian Electric Company, Honolulu, Hawaii

1. **"The Future of Ocean Electronics"** Mr. Stuart L. Bailey, Jansky & Bailey Division, Atlantic Research Corp., Alexandria, Virginia
2. **"Electronics and Ocean Geophysical Studies"** speaker to be announced, Hawaii Institute of Geophysics, University of Hawaii
3. **"Electronics in the Oceanic Field"** Mr. Ernest A. Massa, President, Massa Division, Dynamics Corporation of America, Hingham, Mass.
4. **"Electronics and the Man in the Sea Program"** Taylor A. Pryor, President, the Oceanic Foundation, Waimanalo, Hawaii
5. **"Problems in Ocean Communications and Electronics"** Dr. John V. Granger, President, Granger Associates, Palo Alto, California
6. **"Electronics and Ocean Systems"** speaker to be announced, Lockheed Corporation, Burbank, California.
7. **"Electronics and Other Disciplines of Ocean Technology"** speaker to be announced, Scripps Institute of Technology, University of California, La Jolla, California
8. **"The Challenge of the Seas"** Mr. Edwin A. Link, Ocean Systems, Inc., Stoneybrook, Long Island, New York

12:00 - 1:30 PM Luncheon — East-West Center

Speaker: Mr. Robert A. Frosch, Advanced Research Planning Agency, Washington, D.C., title to be announced

1:30 - 4:30 PM Field Trips

The University of Hawaii — East-West Center — Hawaii Institute of Geophysics — Oceanography — Engineering — Bureau of Commercial Fisheries — The Oceanic Foundation (Sea Life Park)

8:00 - 10:00 PM Final Banquet

Guest of Honor: The Honorable John A. Burns, Governor, State of Hawaii

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SESSION 3

Chairman: to be announced

1. **"The New Look in Ocean Electronics"** Mr. John M. Alden, President, Alden Electronic & Impulse Recording Equipment Co., Westboro, Mass.
2. **"Advancing the Field of Ocean Technology"** speaker to be announced, Department of Oceanography, University of Hawaii
3. **"Electronics to Meet the Challenge of Oceanography"** speaker to be announced, Marine Advisers, Inc., La Jolla, California
4. **"Developments in Ocean Electronics"** Mr. Ralph A. Lamm, Pacific-Bendix, Bendix Corporation, Los Angeles, California
5. **"Marine Systems and Electronics"** speaker to be announced, Northrop Corporation, Beverly Hills, California
6. **"Underseas Electronics"** Mr. V. T. Boatwright, Director R&D, Electric Boat Division, General Dynamics, Groton, Connecticut
7. **"A Progress Report on Ocean Technology"** speaker to be announced, Woods Hole Oceanographic Institute, Woods Hole, Massachusetts
8. **"Electronics and the Mohole"** Dr. H. W. Tonking, Deputy Director, Project Mohole, Brown & Root, Houston, Texas

Wednesday, August 31
8:30 to 11:30 AM
SESSION 4

Chairman: Mr. Carl H. Williams, Vice-President for Engineering, Hawaiian Electric Company, Honolulu, Hawaii

1. **"The Future of Ocean Electronics"** Mr. Stuart L. Bailey, Jansky & Bailey Division, Atlantic Research Corp., Alexandria, Virginia
2. **"Electronics and Ocean Geophysical Studies"** speaker to be announced, Hawaii Institute of Geophysics, University of Hawaii
3. **"Electronics in the Oceanic Field"** Mr. Ernest A. Massa, President, Massa Division, Dynamics Corporation of America, Hingham, Mass.
4. **"Electronics and the Man in the Sea Program"** Taylor A. Pryor, President, the Oceanic Foundation, Waimanalo, Hawaii
5. **"Problems in Ocean Communications and Electronics"** Dr. John V. Granger, President, Granger Associates, Palo Alto, California
6. **"Electronics and Ocean Systems"** speaker to be announced, Lockheed Corporation, Burbank, California.
7. **"Electronics and Other Disciplines of Ocean Technology"** speaker to be announced, Scripps Institute of Technology, University of California, La Jolla, California
8. **"The Challenge of the Seas"** Mr. Edwin A. Link, Ocean Systems, Inc., Stoneybrook, Long Island, New York

12:00 - 1:30 PM Luncheon — East-West Center

Speaker: Mr. Robert A. Frosch, Advanced Research Planning Agency, Washington, D.C., title to be announced

1:30 - 4:30 PM Field Trips

The University of Hawaii — East-West Center — Hawaii Institute of Geophysics — Oceanography — Engineering — Bureau of Commercial Fisheries — The Oceanic Foundation (Sea Life Park)

8:00 - 10:00 PM Final Banquet

Guest of Honor: The Honorable John A. Burns, Governor, State of Hawaii

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TECHNICA

Session 1

Tuesday, August 23, 9:30-Noon
(Biltmore Bowl)

Circuit Engineering by Digital Computation

Each paper in this program is representative of developments in the application of computation to a phase of the design cycle. Four such phases are: theoretical modeling of units, analysis of proposed circuits, behavior simulation of mechanical and hydraulic systems, and control of processes for manufacture of circuits.

Session Chairman: D. W. Cooper, IBM Systems Development Division, San Jose, California.

1/1 A COMPUTER-ORIENTED METHOD FOR ANALYZING NETWORKS WITH RLC ELEMENTS AND IDEAL TRANSFORMERS. K. Lock, IBM Systems Development Division.

1/2 LISA—A PROGRAM FOR LINEAR SYSTEMS ANALYSIS. K. L. Deckert and E. T. Johnson, IBM Systems Development Division.

1/3 COMPUTER-AIDED DESIGN OF TWO SERVOSYSTEMS. D. B. Gasich and R. H. Friesen, IBM Systems Development Division.

1/4 A COMPUTER-AIDED METHOD FOR CHECKING AND MAKING MONOLITHIC INTEGRATED CIRCUIT MASKS. D. M. Sheppard, A. M. Barone, and M. E. Harris, IBM Components Division, Fishkill, N. Y.

Session 2

Tuesday, August 23, 9:30-Noon
(Biltmore Ballroom)

Solid-State Devices and Integrated Circuits

First of two Tutorial Sessions organized by the IEEE Group on Electron Devices.

Session Chairman: Peter Myers, Bunker-Ramo Corp., Canoga Park, California

2/1 METAL SEMICONDUCTOR SHOTTKY BARRIERS AND DEVICES. M. M. Atalla, Hewlett-Packard, Palo Alto.

2/2 UNPACKAGED DEVICES. J. M. Goldey and J. M. Early, Bell Telephone Laboratories, Murray Hill, New Jersey.

2/3 LARGE SCALE INTEGRATION. Richard L. Petritz, Semiconductor Research Lab, Texas Instruments, Dallas.

2/4 MICROPOWER LINEAR CIRCUITS. J. D. Meindel and P. H. Hudson, U. S. Army Electronics Command, Fort Monmouth, New Jersey.

Session 3

Tuesday, August 23, 9:30-Noon
(Biltmore Music Room)

Piezoelectric Ceramic Devices and Applications

Recent advances in piezoelectric ceramic materials, device technology and analytical methods have led to the development of a number of new devices. Five papers, diversified in technical scope, present a comprehensive account of significant new developments.

WESCON PROGRAM

Session Chairman: Otmar M. Steutzer, Sandia Laboratory, Albuquerque

3/1 IMPROVED CERAMICS FOR PIEZOELECTRIC DEVICES. G. H. Haertling, Sandia Laboratory.

3/2 SWITCHING PROPERTIES OF POLYCRYSTALLINE FERROELECTRICS. R. H. Plumlee, Sandia Laboratory.

3/3 THE THEORY OF LINEAR MULTIELECTRODED PIEZOELECTRIC PLATES. R. W. Holland, Sandia Laboratory.

3/4 FERROELECTRIC CERAMIC LOGIC AND NDRO MEMORY DEVICES. D. G. Schueler, Sandia Laboratory.

3/5 SMALL-SIGNAL APPLICATIONS OF MONOLITHIC MULTIPORT PIEZOELECTRIC DEVICES. C. E. Land, Sandia Laboratory.

Session 4

Tuesday, August 23, 9:30-Noon
(Biltmore Renaissance Room)

Satellite Communications

The program has been structured to provide a good balance in terms of military and commercial applications, in systems concepts and hardware in satellite and ground system considerations, and in industrial participation.

Session Chairman: Frank Druding, Litton Mellonics Systems Development Division, Sunnyvale, California.

4/1 COMMUNICATION SATELLITE SYSTEM OPERATIONS. George D. Dill, Communications Satellite Corp., Washington, D.C.

4/2 MULTIPLE ACCESS — A SURVEY OF THE STATE-OF-THE-ART. R. R. Cagnon, TRW Systems, Redondo Beach, California.

4/3 EVALUATION OF TECHNIQUES FOR SCHEDULING SATELLITE COMMUNICATIONS SYSTEMS. Morton D. Lenske, Litton Mellonics Systems Development Division.

4/4 "MASCOT," A MILITARY AIR TRANSPORTABLE SATELLITE COMMUNICATIONS TERMINAL FOR CRISES MANAGEMENT. J. M. Rosenberg, G. R. Hickcox and C. D. Sordal, Philco Western Development Laboratories, Palo Alto.

4/5 SATELLITES FOR TV DISTRIBUTION. P. S. Visher, Hughes Aircraft, El Segundo.

Session 5

Tuesday, August 23, 9:30-Noon
(Biltmore Galeria Room)

Recent Advances in Non-Digital Applications and Inter-Connection Aspects of Integrated Electronics

The interconnections aspect of microcircuits, an area where substantial progress has been made, will be discussed together with the fabrication approach and operational performance of an engineering evaluation unit employing automated design techniques.

Session Chairman: Adi J. Khambata, Univac, St. Paul, Minn.

5/1 LASER-INDUCED RESISTIVITY CHANGES IN FILM RESISTORS. Stanley J. Lins and Richard D. Morrison, Univac, St. Paul, Minn.

5/2 THIN-FILM MEMORY SENSE AMPLIFIER USING LINEAR INTEGRATED CIRCUITS. John W. Staubus, Univac.

5/3 LAMINATE PRINTED CIRCUIT INTERCONNECTION OF INTEGRATED CIRCUITS. Joseph A. Kimlinger, Univac.

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Technical Program/Cont.

5/4 PACKAGING MONOLITHIC INTEGRATED CIRCUITS IN THE UNIVAC 1824 AEROSPACE COMPUTER CENTRAL PROCESSOR. R. A. Beck and E. I. Moore, Univac.

5/5 SOME FUTURE ASPECTS OF MICROELECTRONICS. Vasil Uzunoglu, Arinc Research Corp., Annapolis, Md.

Session 6

Tuesday, August 23, 2:00-4:30 p.m.
(Biltmore Ballroom)

Electron Devices

Second of two Tutorial Sessions organized by the IEEE Group on Electron Devices.

Session Chairman: William R. Luebke, Eimac Division, Varian Associates, San Carlos, Calif.

6/1 HIGH POWER LINEAR BEAM TUBES. T. Moreno, Varian Associates, Palo Alto.

6/2 RECENT ADVANCES IN BEAM-PLASMA AMPLIFIERS, Paul Chorney, Microwave Associates, Burlington, Mass.

6/3 TELEVISION CATHODE RAY DISPLAY TUBES Fred Townsend, Westinghouse Electric, Elmira, New York.

6/4 SOLID-STATE SWITCHING DEVICES, Vinod Sundra, Transitron Electronics, Wakefield, Mass.

Session 7

Tuesday, August 23, 2:00-4:30 p.m.
(Biltmore Music Room)

The Application of State-Variable Techniques in Communication and Radar

Purpose of this session is to demonstrate importance of state-variable techniques in the solution of many diverse problems in the field of optimum communication (and radar) theory.

Session Chairman: Harry L. Van Trees, Department of Electrical Engineering and Research Laboratory of Electronics, M.I.T.

7/1 DETECTION AND CONTINUOUS ESTIMATION THEORY. Harry L. Van Trees, M.I.T.

7/2 THE USE OF STATE-VARIABLES AND MARKOV PROCESSES TO PROBLEMS OF ANALOG COMMUNICATION. Donald Snyder, M.I.T.

7/3 MAXIMUM A POSTERIORI INTERVAL ESTIMATION. Arthur Baggeroer, M.I.T.

7/4 SIGNAL OPTIMIZATION FOR ADDITIVE NOISE CHANNELS WITH FEEDBACK. Jim K. Omura, Stanford University.

7/5 A MODERN SYSTEMS APPROACH TO SIGNAL DESIGN. Fred Schweppe, Michael Athans, M.I.T.

Session 8

Tuesday, August 23, 2:00-4:30 p.m.
(Biltmore Renaissance Room)

Recent Advances in High Frequency Solid State Transmitter Systems

The session describes design and application of components and systems in small, high-performance mobile communications systems, development of advanced multi-junction microwave varactors, and design and performance of miniature solid-state microwave transmitters in the lunar excursion program.

Session Chairman: E. E. Spitzer, RCA, Lancaster, Pennsylvania

8/1 R. F. TRANSISTOR CONSIDERATIONS. Stanley Matyckas, RCA, Somerville, New Jersey.

8/2 APPLICATION OF OVERLAY TRANSISTORS TO SOLID STATE MOBILE EQUIPMENT. Nicholas Richards, RCA Broadcast and Communications Division, Meadowlands, Pennsylvania.

8/3 MICROWAVE TRANSISTORS. Hon C. Lee, RCA Industrial Semiconductor Operations Dept., Somerville, New Jersey.

8/4 HIGH POWER MICROWAVE VARACTORS AND VARACTOR MULTIPLIERS. Jacques Collard, RCA, Princeton, New Jersey.

8/5 MICROWAVE SOLID STATE MULTIPLIERS FOR SPACE SYSTEMS. Wellesley Dodds, RCA Microwave & Power Tube Operations, Harrison, New Jersey.

Session 9

Tuesday, August 23, 2:00-4:30 p.m.
(Biltmore Galeria Room)

Advanced Spaceborne Computer Concepts

As future space missions increase in both complexity and direction, so also do the requirements on spaceborne computer systems. This session outlines present Electronics Research Center programs aimed at developing feasible machine structures which handle a wide variety of computation tasks.

Session Chairman: Warren Semon, Burroughs Corp.

9/1 SPACEBORNE MULTIPROCESSING ORGANIZATIONS. Thomas E. Burke, NASA Electronics Research Center.

9/2 ASSOCIATIVE MEMORIES FOR SPACE APPLICATIONS. Dale Gunderson, Honeywell Systems and Research Division.

9/3 LOGIC DESIGN TECHNIQUES FOR ERROR CONTROL. Jack Goldberg, Stanford Research Institute.

9/4 A SYSTEMS APPROACH TO THE VOICE INSERTION OF DATA. Warren Brodey, NASA Electronics Research Center.

Session 10

Wednesday, August 24, 9:30-Noon
(Biltmore Bowl)

Large Scale Integration

Session will include talks on various aspects of the evolution of monolithic silicon integrated circuits to higher and higher integration levels.

Session Chairman: D. E. Rosenheim, T. J. Watson Research Center.

10/1 SYSTEMS CONSIDERATIONS FOR L.S.I. M. G. Smith, T. J. Watson Research Center.

10/2 DESIGN AUTOMATION FOR L.S.I. H. Freitag, T. J. Watson Research Center.

10/3 DISCRETIONARY WIRING APPROACH TO LARGE SCALE INTEGRATION. J. Kilby and J. Lathrop, Texas Instruments, Inc.

10/4 A NEW DIMENSION IN MICROELECTRONIC SYSTEMS. A. C. Lowell, and T. Mitsutomi, Autonetics, Anaheim, California.

10/5 MICROMATRIX APPROACH TO MOS COMPLEX ARRAYS. Leslie Vadasz, Fairchild Semiconductor Research and Development Laboratory.

Session 11

Wednesday, August 24, 9:30-Noon
(Biltmore Ballroom)

Field Effect Transistors

Five tutorial papers presented by engineers from five manufacturers of FETs will offer more information on FETs and their application in both analog and digital circuits.

Session Chairman: George Rostky, EEE—The Magazine of Circuit Design Engineering, New York.

11/1 FET VS. BIPOLAR TRANSISTOR CHARACTERISTICS. Donald L. Wollesen, Motorola Semiconductor Products.

11/2 THE FET AS AN AMPLIFIER. James Sherwin, Siliconix.

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Technical Program/Continued

11/3 THE FET AS A SWITCH. Carroll Perkins, Raytheon Semiconductor.

11/4 CIRCUIT SIMPLIFICATION WITH FETS. George Luettgenau, TRW Semiconductor.

11/5 CONSIDERATIONS OF THE FET IN COMPLEX ARRAYS. Michael Dix, General Microelectronics.

Session 12

Wednesday, August 24, 9:30-Noon
(Biltmore Music Room)

Millimeter Wave Techniques and Applications

This session will present recent results in areas of research which are of fundamental importance to the utilization of the millimeter wave spectrum. The session content related to applications will be devoted to atmospheric scattering and absorption, radioastronomy and spectroscopy. Papers concerned with techniques will present the most recent results of current research in millimeter solid state devices and components.

Session Chairman: Donald D. King, Aerospace Corporation, El Segundo, California.

12/1 SOLID STATE MILLIMETER WAVE POWER GENERATION AND AMPLIFICATION. Robert Rafuse and Donald Steinbrecher, Research Laboratory for Electronics, M.I.T., Cambridge.

12/2 SOME APPLICATIONS OF MILLIMETER WAVES IN ATMOSPHERIC RESEARCH. R. L. Mitchell, Aerospace Corporation, El Segundo.

12/3 MILLIMETER WAVE RADIO ASTRONOMY. Douglas Thornton, Space Science Lab., University of California, Berkeley.

12/4 MILLIMETER SPECTROSCOPY AND APPLICATIONS TO HIGH TEMPERATURE AND UNSTABLE MOLECULES. James J. Gallagher, Martin-Marietta, Orlando, Florida.

12/5 SOLID STATE MILLIMETER WAVE RECEIVERS. James Kirwan and Charles Abronson, Space-General Corp., El Monte.

Session 13

Wednesday, August 24, 9:30-Noon
(Biltmore Renaissance Room)

Theory, Design, and Testing of Error-Correcting Devices

This session will concern itself with the description of the theory underlying error-correcting devices, and with the techniques of their construction and will review results of actual tests made on digital communication channels.

Session Chairman: A. E. Fein, Westinghouse Defense and Space Center, Baltimore, Maryland.

13/1 FORCED ERASURE DECODING. R. M. Heller and R. G. Marquart, Westinghouse Electric Corporation.

13/2 DESIGN AND TEST OF A SIMPLE ERROR-CORRECTING CODING SYSTEM. Joseph M. Van Horn, Codex Corporation.

13/3 DESIGN AND PERFORMANCE OF A TIME-SPREAD CODER. L. E. Hayden and A. E. Fein, Westinghouse Electric Corporation.

13/4 EVALUATION OF ERROR CORRECTION BLOCK ENCODING FOR HIGH SPEED DATA. K. Brayer and O. Cardinale, The Mitre Corporation.

Session 14

Wednesday, August 24, 9:30-Noon
(Biltmore Galeria Room)

Effective Utilization of Grid-Based Interconnection Systems

This session will describe capabilities and limitations of grid-based interconnection systems.

Session Chairman: S. V. Worth, Elco Corporation.

14/1 EFFECTIVE UTILIZATION OF GRID-BASED INTERCONNECTING SYSTEM. S. M. Paulson, Interstate Electronics Corp. Anaheim, Calif.

14/2 DESIGN PARAMETERS FOR PROGRAMMED MACHINE WIRING. D. P. Brouwer, Gardner-Denver.

14/3 DESIGN CRITERIA FOR METAL-PLATE CONNECTORS. B. Sheingold, Elco Corporation.

14/4 TOLERANCE SPECIFICATION BY MULTIPLE ALIGNMENT STATISTICS. L. Nanis, Institute of Direct Energy Conversion, U. of Pennsylvania.

Special Session "A"

Wednesday, August 24, 2:00-4:30 p.m.
(Biltmore Ballroom)

Information Management: A Technology Amplifier

The electronic computer has stimulated an avalanche of interest in the problems and prospects of scientific and technical information flow. This session will explore the present limits of our information capabilities (in both concepts and hardware), the prospects for future technological improvements, and various organizational forces behind these developments.

Session Chairman: Robert M. Hayes, University of California at Los Angeles.

A/1 AN OVERVIEW OF THE INFORMATION RETRIEVAL FIELD. Robert M. Hayes, Institute of Library Research, UCLA.

A/2 AVAILABLE HARDWARE FOR INFORMATION STORAGE AND RETRIEVAL. J. C. R. Licklider, T. J. Watson Research Laboratory, IBM.

A/3 THE CHEMISTS' APPROACH TO THE INFORMATION PROBLEM. Herbert R. Koller, Research and Development, U.S. Patent Office, Washington, D.C.

A/4. DEVELOPMENTS IN THE IMPROVEMENT OF SCIENTIFIC AND TECHNICAL INFORMATION EXCHANGE. Melvin Day, Scientific and Technical Information Division, NASA.

A/5 A PLAN FOR TECHNICAL SOCIETY INFORMATION RETRIEVAL AND EXCHANGE. Morris Rubinoff, University of Pennsylvania.

Special Session 15

Thursday, August 25, 10 a.m.-12:30 p.m.
(Biltmore Bowl)

Engineering Education for Student and Professional (Panel)

National needs for engineers and engineering training will be dis-

cussed from the points of view of education and industry. Methods of coping with continuing technological developments will be discussed from the points of view of the professional educator and the professional society.

Session Chairman: Dean Joseph M. Pettit, Stanford University.

Panel Members: Dr. Frederick E. Terman, Foundation for Science and Engineering, Southern Methodist University.

Dr. Thomas F. Jones, Jr., President, University of South Carolina.

Dr. Robert E. Samuelson, Motorola, Inc., Military Electronics Division/Western Center.

Dr. R. W. Kulterman, IBM Corporation, Rochester, Minnesota.

Dr. F. K. Willenbrock, Associate Dean of Engineering, Harvard University.

Session 16

Thursday, August 25, 9:30-Noon
(Biltmore Ballroom)

Electronic Systems for Urban Rapid Transportation

Development of the San Francisco Bay Area Rapid Transit District system necessitated development of new techniques and concepts by the electronics industry to meet the need for moving people safely, economically and efficiently. Some of the areas using advanced electronics are automatic train controls, propulsion and automatic fare collection systems.

Session Chairman: Robert C. Wigger, Advance Data Systems Division, Litton Industries, Beverly Hills.

16/1 ENGINEERING TOMORROW'S TRANSIT TODAY FOR BARTD. Deane N. Aboudara, San Francisco Bay Area Rapid Transit District.

16/2 COMPUTER CONTROL OF TRANSIT CARS. C. William Woods, Westinghouse Air Brake Co., Pittsburgh, Pennsylvania.

16/3 URBAN RAPID TRANSPORTATION AND AUTOMATIC REVENUE CONTROL. Raymond Silver, Litton Advance Data Systems.

16/4 APPLICATION OF ELECTRONICS IN URBAN PUBLIC TRANSPORTATION SYSTEMS. John C. Beckett, Hewlett-Packard Co.

Session 17

Thursday, August 25, 9:30-Noon
(Biltmore Music Room)

Design and Performance Capabilities of Solid-State High-Frequency Linear Amplifiers

The session consists of four papers directed to an examination in depth of the combined use of new devices and modern circuit theory techniques to effect the intelligent design of linear amplifiers over a wide range of frequencies.

Session Chairman: R. S. Engelbrecht, Bell Telephone Laboratories, Murray Hill, New Jersey.

17/1 COMPARATIVE APPRAISAL OF HIGH-FREQUENCY SOLID-STATE LINEAR AMPLIFIERS. R. S. Engelbrecht, Bell Telephone Laboratories.

17/2 ANALYTICAL AND EXPERIMENTAL DESIGN PROCEDURE FOR MICROWAVE TUNNEL-DIODE AMPLIFIERS. C. S. Kim, General Electric Co.

17/3 FIELD EFFECT TRANSISTOR AMPLIFIERS. R. W. Ahrons, Radio Corporation of America.

17/4 MICROWAVE TRANSISTOR AMPLIFIERS. P. D. Stark, Bell Telephone Laboratories.

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Technical Program/Continued

Session 18

Thursday, August 25, 9:30-Noon
(Biltmore Renaissance Room)

Plastic Transistors—Their Impact on the Industry

The encapsulation of silicon semiconductors in plastic has opened an entirely new potential to the semiconductor industry. The future impact on the industry in relation to the semiconductor manufacturer and the user will be discussed. Processing techniques and reliability data will be presented showing the capability of these products.

Session Chairman: James E. Harrison, Bendix Semiconductor Div., Holmdel, New Jersey.

18/1 ECONOMY LINE SEMICONDUCTORS—THEIR FUTURE. James Bockhaus, General Electric Company, Syracuse, New York.

18/2 MARKET IMPACT OF PLASTIC SEMICONDUCTORS. George Berryman, Texas Instruments.

18/3 THE TECHNICAL ASPECTS OF PRODUCTION. John McDougall, Fairchild Semiconductor.

18/4 SILICON PLASTIC POWER TRANSISTOR—ITS INTRODUCTION TO THE MARKET. Hy Newman, Semiconductor Division, Bendix.

Session 19

Thursday, August 25, 9:30-Noon
(Biltmore Galeria Room)

Parameters to be Considered in Choosing Sophisticated Microwave Devices in the Design of New Microwave Receiver Systems

Session will define the many problems encountered by the design engineer when faced with selecting microwave components for advanced receiver systems. Papers will cover important component areas in the microwave field, separating the practical from the impractical.

Session Chairman: Bruno Kaiser, Watkins-Johnson Co., Palo Alto.

19/1 STATE-OF-THE-ART ADVANCES IN ULTRA-LOW-NOISE TWT'S AND THEIR APPLICATIONS. B. P. Israelsen and C. C. Billat, Watkins-Johnson Company.

19/2 NEW ADVANCES IN THE DESIGN OF BWO'S: THEIR APPLICATIONS AND RELATIVE MERITS. Bruno Kaiser and A. T. Isaacs, Watkins-Johnson Company.

19/3 YIG DEVICES: THEIR TECHNOLOGY, APPLICATION, ADVANTAGES AND DISADVANTAGES IN THE DESIGN OF SOPHISTICATED MICROWAVE RECEIVER SYSTEMS. L. B. Fletcher and R. W. Peter, Watkins-Johnson Company.

19/4 APPLICATION OF ULTRA-MINIATURE FERRITE DEVICES FOR ADVANCED RECEIVER SYSTEMS. V. E. Dunn, R. W. Roberts, Jr., and George E. Tralle, Watkins-Johnson Company.

Special Session "B"

Thursday, August 25, 2:00-4:30 p.m.
(Biltmore Ballroom)

On-Line Computing — Capabilities, Constraints, and Challenges

Four papers will be presented describing some current applications, stressing achievements and the limits hereto, followed by a panel discussion on the challenges for further work.

Session Chairman: Richard H. Wilcox, Office of Naval Research, Department of the Navy.

B/1 ON-LINE EDUCATIONAL TECHNIQUES. D. Bitzer, University of Illinois Coordinated Science Laboratory.

B/2 UNCOMMON APPLICATIONS. L. C. Clapp, Computer Research Corp., Belmont, Mass.

B/3 COMMAND AND CONTROL APPLICATIONS. W. D. Wilkinson, Bunker-Ramo Corp., Canoga Park, California.

B/4 AN ELECTRICAL ENGINEERING APPLICATION. Speaker to be announced from Project MAC.

Session 20

Friday, August 26, 9:30-Noon
(Biltmore Bowl)

Power and Control Integrated Circuits

Six speakers from NASA, ITT Semiconductors, Westinghouse Molecular Electronics, and Texas Instruments will present a session on work done on circuits accomplishing control type functions which are neither strictly digital nor strictly linear.

Session Chairman: M. J. Hellstrom, Westinghouse Electric Corp., Elkridge, Maryland.

20/1 A MONOLITHIC VOLTAGE REGULATOR. J. Jennings, M. Oppenheimer, Westinghouse Molecular Electronics Div., and E. A. Karcher, ITT Semiconductors, West Palm Beach, Fla.

20/2 A LOGIC—SCR DRIVER INTEGRATED CIRCUIT. M. Oppenheimer, Westinghouse Molecular Electronics Division.

20/3 AN INTEGRATED AMPLIFIER-FIRING CIRCUIT. M. Hellstrom and C. Laughinghouse, Westinghouse Molecular Electronics Division.

20/4 LOW POWER SOLID STATE INVERTERS FOR SPACE APPLICATIONS. P. Vergez, V. Glover, Texas Instruments, and B. Willis, NASA Astrionics Lab, Huntsville, Alabama.

20/5 POWER DEVICES FOR A SOLID STATE INVERTER. D. Manus, D. Smith, L. Hahn, and R. Windecker, Texas Instruments.

20/6 MONOLITHIC INTEGRATED CIRCUIT ARRAYS FOR A SOLID STATE INVERTER. P. S. Newcomb, Texas Instruments.

Session 21

Friday, August 26, 9:30-Noon
(Biltmore Ballroom)

High Availability Computer Systems

The session, organized by the IEEE Computer Systems Committee, will present six outstanding speakers on this important subject.

Session Chairman: William C. Carter, IBM Corp., Poughkeepsie, N.Y.

21/1 CRITERION FOR ASSESSING THE RELIABILITY OF TOTAL COMPUTER SYSTEMS. W. E. Marshall, Control Data Corporation, Minneapolis, Minn.

21/2 SYSTEM EFFECTIVENESS AS A GENERALIZATION OF SYSTEM AVAILABILITY. Stephen W. Leibholz, Auerbach Corporation.

21/3 MONITORING RELIABILITY REQUIREMENTS BY TOTAL SYSTEM SPECIFICATION AND DESIGN. Reynolds Thomas, Jr., Defense Communications Agency.

21/4 DESIGN AND USE OF A FAULT SIMULATOR FOR SATURN COMPUTER DESIGN. F. J. Hardie and R. J. Suhocki, IBM, Federal Systems Division, Bethesda, Maryland.

21/5 SYSTEM DESIGN FOR HIGH AVAILABILITY. C. M. Davis, IBM Systems Development, Poughkeepsie, N.Y.

21/6 MODULAR SYSTEM APPROACH TO HIGH AVAILABILITY. T. S. Stafford, IBM Systems Development, Poughkeepsie, N.Y.

Session 22

Friday, August 26, 9:30-Noon
(Biltmore Music Room)

High-Frequency Amplifier Design

The why, where and how to of designing amplifiers operating at frequencies between 0.5 MHz and 5 GHz will be discussed. All designs are solid state and will incorporate semiconductor components on the market as of August, 1966.

Session Chairman: John Moll, Department of Electrical Engineering, Stanford University.

Session Organizer: Mark B. Leeds, Electronic Design Magazine, New York.

22/1 SMALL-SIGNAL DESIGN (SYSTEMS HANDLING LESS THAN 1 WATT). Speaker to be announced from Fairchild Semiconductor, Mountain View, California.

22/2 LARGE-SIGNAL DESIGN (SYSTEMS HANDLING MORE THAN 1 WATT). Roy Hejhall, Motorola Semiconductor Products, Phoenix.

22/3 JUNCTION FET HIGH-FREQUENCY AMPLIFIERS. J. B. Compton, Siliconix, Sunnyvale, Calif.

22/4 MOS-FET HIGH-FREQUENCY AMPLIFIERS. Paul E. Kolk, KMC Semiconductor, Long Valley, New Jersey.

22/5 DESIGNING FOR LOW-NOISE. George Johnson, Texas Instruments Semiconductor Components Division, Dallas.

22/6 DESIGN TRADE-OFFS. R. Minton, RCA Electronics Components and Devices, Somerville, New Jersey.

Session 23

Friday, August 26, 9:30-Noon
(Biltmore Renaissance Room)

The Impact of Ultra Wideband Sampling and Associated Developments on Electronic Instrumentation

The session will background the work leading to ultra high-speed sampling techniques, will describe their application to phase-locked loops, rector voltage measurements and complex impedance, and will discuss statistical analysis methods.

Session Chairman: Bernard M. Oliver, Hewlett-Packard Co., Palo Alto.

23/1 THE ULTRA WIDEBAND SAMPLING GATE—AN ANALYSIS, CHARACTERIZATION AND APPLICATION DISCUSSION. Dar Howard, Hewlett-Packard.

23/2 SAMPLING BASED PHASE LOCKED LOOPS. Gerald Alonzo, Hewlett-Packard.

23/3 SAMPLER BASED INSTRUMENTS FOR COMPLEX SIGNAL AND NETWORK ANALYSIS. Richard W. Anderson, Hewlett-Packard.

23/4 RANDOM SAMPLING—A STATISTICAL MEASUREMENT APPROACH. John Boatwright, Hewlett-Packard.

Session 24

Friday, August 26, 9:30-Noon
(Biltmore Galeria Room)

Array Antennas for Space Applications

For future interplanetary communications systems, array antennas will become increasingly important on account of their flexibility, electronic steerability, and compactness. In this session, the performance of such antennas will be discussed in terms of future requirements and present practice.

Session Chairman: Lester C. Van Atta, NASA/Electronics Research Center, Cambridge, Mass.

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Technical Program/Cont.

24/1 ANTENNA REQUIREMENTS FOR INTERPLANETARY COMMUNICATIONS. Ralph D. Kodis, NASA/ERC.

24/2 RECENT ADVANCES IN THE THEORY AND PRACTICE OF ARRAY ANTENNAS. Bliss L. Diamond, M.I.T., Lincoln Laboratory.

24/3 AN ADAPTIVE ANTENNA SYSTEM FOR MAXIMIZING SIGNAL-TO-NOISE. Robert T. Adams, Communications Systems Inc.

24/4 A NOVEL SPACECRAFT ANTENNA ARRAY. Willard T. Patton, RCA, Moorestown.

24/5 AN ELECTRONICALLY SCANNED K-BAND PHASED ARRAY FOR A SPACEBORNE RADIOMETER. Merlin E. Louapre, Space-General Corp.

Special Session C

Friday, August 26, 2:00-4:30 p.m.
(Biltmore Ballroom)

The Characteristics of Electricity Supplied from Electrical Power Systems

Electric power systems are designed and operated in a manner to supply electricity to meet industrial, commercial, and residential loads.

As more and more sophisticated information-processing equipment loads, and other critical loads (which are sensitive to very slight variations), are connected to these power systems, problems arise which justify a critical review of the characteristics of the supply and requirements of these new types of loads.

These papers will identify the nature of the systems, conditions, and characteristics of typical supply systems, including voltage and frequency fluctuations, surge, and interruptions.

The effects of these occurrences on information-processing systems will be considered.

Three papers will be presented by: 1) A representative engineer from a large electrical power system; 2) an engineer who is active in the field of data processing systems and on-line computers; 3) a manufacturer who will discuss corrective measures that can be taken to meet these critical loads.

Sessions Chairman: To be announced.

7th IEC Packaging Symposium

CONCURRENT WITH WESCON
AUGUST 22-23 • USC CAMPUS

Monday, August 22, 9:30-11:50 a.m.
(Bovard Auditorium)

Advances in Microelectronic Packaging

Moderator: T. A. Telfer, General Electric Co.

1/ ADVANCED MICROELECTRONIC PACKAGING TECHNIQUES UTILIZING MULTILAYER THIN FILM INTERCONNECTIONS. James R. Crawder, Conductron Corporation.

2/ PACKAGING CONCEPT FOR AN INTEGRATED MICROWAVE TRANSISTOR AMPLIFIER. Bruce H. McGahey, Bell Telephone Laboratories.

3/ SEMICONDUCTOR ATTACHMENT TO CERAMIC-BASED MICROCIRCUITS. J. H. Martin, D. P. Burks, T. W. Johson, Sprague Electric Company.

4/ COMMON POSITION DESIGN FOR THIN FILM CIRCUITS. L. E. Schoenberger, J. R. Peek and L. P. Perdick, Western Electric Company.

II

Monday, August 22, 1:10-2:40 p.m.
(Bovard Auditorium)

Problems and Solutions in High-Speed Digital Computer Interconnections

Moderator: E. J. Lorenz, IBM Corp.

5/ PULSE CROSS-TALK BETWEEN MICROSTRIP TRANSMISSION LINES. H. R. Kaupp, RCA.

6/ COUPLED NOISE PREDICTION IN PRINTED CIRCUIT BOARDS FOR A HIGH-SPEED COMPUTER SYSTEM. John T. Kolias, Nicholas Arvanitakis, W. Radzelovage, IBM Corporation.

7/ ELECTRONIC PACKAGING FOR TRANSMISSION OF ULTRA-HIGH-SPEED PULSES IN A COMPUTER. Michael Lazar and Henry P. Dupre, Burndy Corporation, and Al J. Munn, Bell Telephone Laboratories.

III

Monday, August 22, 3:00-5:00 p.m.
(Bovard Auditorium)

Maintainability / Reliability / Compatibility / Evaluation

Moderator: J. R. Goodykcontz, TRW Systems

8/ A SIMULATION APPROACH FOR EVALUATING SYSTEM PACKAGING. Anthony Kimer, IBM Corporation, and S. Fielden.

9/ MAINTAINABILITY AS A DESIGN FACTOR IN PACKAGING MODULES CONTAINING INTEGRATED CIRCUITS. George L. Beigel, Westinghouse Electric Corporation.

CONTINUED ON PAGE 31

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7th IEC Packaging Symposium (Continued)

CONCURRENT WITH WESCON
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10/ PACKAGING CONSIDERATION FOR SHIELDING ELECTRONIC PACKAGES. L. J. Johnson and A. Lucic, Autonetics.

11/ CONNECTOR DESIGNING FOR RUGGED MILITARY FIELD SERVICE: PROBLEM — DESIGN-TESTING. Harry P. Sparkes, Lockheed and W. R. Luebben, Air Force Logistics Command.

IV

Tuesday, August 23, 9:00-10:30 a.m.
(Bovard Auditorium)

Joining Techniques

Moderator: E. C. Neidel, Sandia Corp.

12/ MECHANICAL THERMAL PULSE METAL JOINING. R. H. Cushman, Western Electric Company.

13/ ELECTRONIC JOINING BY THE PERCUSSIVE-ARC METHOD. J. Morrison, R. B. Spanholtz, D. S. Crowther, Martin Company.

14/ TESTING OF INTERCONNECTING LEADS AND BONDS IN INTEGRATED CIRCUITS. Edward J. Mangan, The Boeing Company.

V

Tuesday, August 23, 10:50-11:50 a.m.
(Bovard Auditorium)

Advances in Interconnections

Moderator: D. A. Beck, Bendix Research Labs.

15/ ADVANCED ELECTRONIC PACKAGING TECHNIQUES USING MINIMUM-RISK DESIGN PRINCIPLES. Leon Schwartz, Univac Corporation.

16/ AUTOMATED MULTILAYER INTERCONNECTION SCHEMES. John R. Hanne, Texas Instruments.

VI

Tuesday, August 23, 1:10-3:10 p.m.
(Bovard Auditorium)

Meeting the Challenge in Electronic Packaging

Moderators: J.C. Rubin, Eastman Kodak Co.; M. I. Ross, Milton Ross Co.

17/ PACKAGING THE RF FREQUENCY CONVERTER FOR AN AIRBORNE RANGE AND ORBITAL DETERMINATION SYSTEM. R. C. Havens, Motorola, Inc.

18/ MICROMINIATURIZATION OF AN INTEGRAL SENSOR TELEMETRY TRANSMITTER. J. S. Brown, General Electric Company.

19/ PACKAGING AN INTEGRATED CIRCUIT AIRBORNE TAPE CONTROL UNIT. M. J. Berberian and M. B. Altobelli, Sylvania Electric Products, Inc.

20/ SPECTRA 70 MULTILAYER BACK PANEL WIRING — ITS CONCEPTION AND USE. G. R. Gaschnig, RCA.

VII

Tuesday, August 23, 3:30-5:00 p.m.
(Bovard Auditorium)

New Approaches to Modular Electronics

Moderator: W. J. Prise, Lockheed Missiles & Space Corp.

21/ HYBRID INTEGRATED CIRCUIT DELAY LINE. J. M. Greenman III, E. H. Melan, F. J. Pakulski, P. C. Reichert, IBM Corporation.

22/ AN ULTRA HIGH DENSITY POWER CONVERSION SYSTEMS PACKAGE. L. J. Lawson, Lear Siegler, Inc.

23/ WIRECON — A WELDED MODULE SYSTEM. Frank L. Rhodes, Jet Propulsion Laboratory.

S.A.V.E. Symposium

CONCURRENT WITH WESCON
AUGUST 22-23 • AMBASSADOR HOTEL

1

Morning Session/Monday, August 22

9:00 a.m. (Ambassador Ballroom)

1/ VALUE ENGINEERING INCENTIVES — PROFIT IN ACTION. George E. Fouch, Deputy Assistant Secretary of Defense, Equipment Maintenance and Readiness.

9:30 a.m. (Ambassador Ballroom)

2/ DEVELOPING AND SUSTAINING MULTI-PLANT VALUE ENGINEERING PROGRAM. Everett Knickerbocker, Head of the Value Analysis Office, Ammunition Procurement and Supply Agency.

10:00 a.m. Coffee Break

10:30 a.m. (Ambassador Ballroom)

3/ A JOINT VENTURE IN VALUE ENGINEERING BY D.O.D. AND A CONTRACTOR. Maj. Gen. Earl C. Hedlund, Commander, Warner Robins Air Materiel Area, Georgia.

11:00 a.m. (Ambassador Ballroom)

4/ COMPLEX FUNCTION VALUE DETERMINATION. Morgan D. Roderick, Manager, Value Engineering, Naval Ship Engineering Center, Washington, D.C.

5/ CONCEPT AND OPERATION OF THE D.O.D. VALUE ENGINEERING SERVICE OFFICE. Richard E. Biedenbender, Director, D.O.D. Value Engineering Services Office, Alexandria, Virginia.

2

Luncheon Session/Monday, August 22

12:15 p.m. (Cocoanut Grove)

6/ VALUE ENGINEERING IN THE D.C.A.S. REGION. *Speaker:* Brig. Gen. Arthuh E. Exon, Director, Defense Contract Administration Service Region, Los Angeles.

3

Afternoon Session/Monday, August 22

1:30 p.m. (Ambassador Ballroom)

7/ PRIME VIEW OF VALUE ENGINEERING INCENTIVES. Ken Gay, Executive Director, Material Division North American Aviation Inc., El Segundo, California

2:00 p.m. (Ambassador Ballroom)

8/ INTEGRATING VALUE ENGINEERING INTO SYSTEMS MANAGEMENT. W. E. Mesh, Manager, Value Engineering, IBM Corporation.

2:30 p.m. (Ambassador Ballroom)

9/ VALUE ENGINEERING AND ITS RELATION TO SYSTEM EFFECTIVENESS. Ivar M. Holiday, Manager of Operations Center, TRW Systems, Redondo Beach, California.

3:00 p.m. (Ambassador Ballroom)

10/ VALUE ENGINEERING IN STATE AND MUNICIPAL GOVERNMENT. Robert J. Gillespie, Headquarters Staff Coordinator, Value Engineering and Services, Sylvania Corp.

3:30 p.m. (Ambassador Ballroom)

11/ VALUE ENGINEERING IN THE STATE OF MASSACHUSETTS. Robert Lovell Yasi, Executive Assistant to Commissioner of Massachusetts Department of Resources, Chairman of Massachusetts Value Engineers Commission.

CONTINUED ON PAGE 32

S.A.V.E. Symposium (Continued)

4:00 p.m. (Ambassador Ballroom)

12/ DEVELOPMENT OF PENNSYLVANIA'S COST REDUCTION PROGRAM. Arthur Sampson, Deputy Secretary of Procurement, Property and Supplies, Commonwealth of Pennsylvania.

4:30 p.m. (Ambassador Ballroom)

13/ APPLYING VALUE ANALYSIS TO STATE GOVERNMENT OPERATIONS. John W. Bryant, Director of Harbridge House Value Engineering Service Group.

4

Dinner Session/Monday, August 22

7:00 p.m. (Sunset Room)

14/ HOW THE NASA CONTRACTOR COST REDUCTION PROGRAM WORKS. *Speaker:* Brooks Preacher, Head of the Office of Cost Reduction, NASA.

5

Morning Session/Tuesday, August 23

8:30 a.m. (Ambassador Ballroom)

15/ TOPIC TO BE ANNOUNCED. David H. Brown, General Manager, Bendix-Pacific.

9:00 a.m. (Ambassador Ballroom)

16/ COMMUNICATING THE VALUE ENGINEERING MESSAGE. E. T. O'Connell, Editor and Publisher, *Cost Reduction Digest and Value Engineering Guide*, Washington, D. C.

9:30 a.m. Coffee Break

10:00 a.m. (Ambassador Ballroom)

17/ REALIZING VALUE ENGINEERING POTENTIAL IN MANUFACTURING. John A. Chartz, Executive Vice President, Dalmo Victor Co., Belmont, California.

10:30 a.m. (Ambassador Ballroom)

18/ EVALUATING THE WORTH OF A FUNCTION. Carlos Fallon, Manager, Value Analysis, RCA, Camden, New Jersey.

Awards Luncheon/Tuesday, August 23

11:30 a.m. (Cocoanut Grove)

AWARDS LUNCHEON HONORING LARRY MILES. *Speaker:* Larry Miles.

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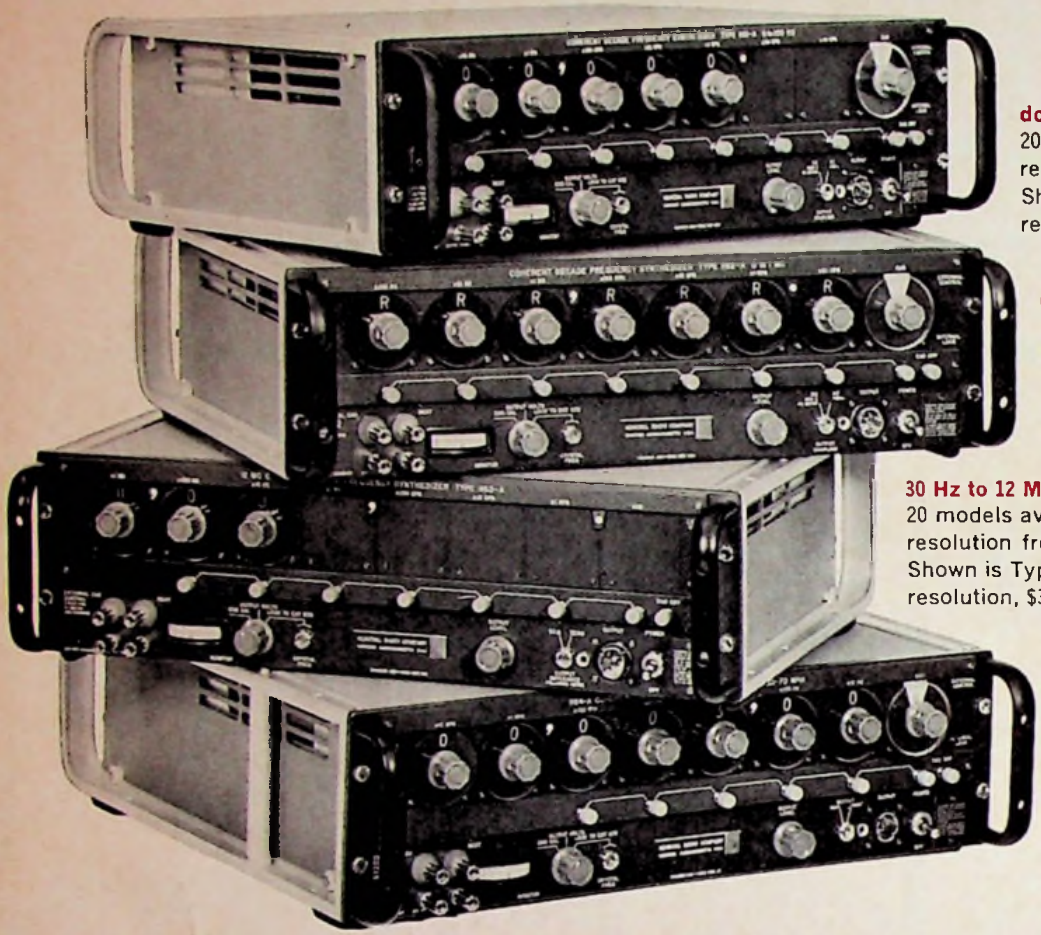

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