



on

SONICS & ULTRASONICS

27

February 1964

Editor
 Dr. John E. May, Jr.
 Bell Telephone Laboratories, Inc.
 Murray Hill, N. J.

Dr. White was born in Minneapolis, Minnesota, in 1929. He received his bachelor's degree in Applied Mathematics and Mechanics from the University of Wisconsin in 1952 and his Ph. D. in physics from the same university in 1956. He then joined the Bell Telephone Laboratories and worked on quartz crystals for frequency control for a couple of years. He soon became interested in ultrasonics and piezoelectricity in solids, especially the new materials constantly being synthesized by modern crystal growth methods. The availability of high resistivity semiconducting crystals which are also piezoelectric led to the invention of the depletion layer transducer, a new method of generating and detecting ultrasonics waves in the UHF region, and other thin semiconductor transducers, and then to the ultrasonic amplifier. He is currently working on the physics and device possibilities of ultrasonics in solid state physics.

215 Attend the 1963 Ultrasonics Symposium

The 1963 Ultrasonics Symposium was held from December 4 to December 6 at the Marriott Motor Hotel in Washington, D. C. A total of 215 persons attended the three-day meeting which consisted of six technical sessions with 12 invited papers and 24 contributed papers. On Thursday evening a social hour was held through courtesy of :

- Acoustica Associates, Incorporated
- Aeroprojects, Incorporated
- Branson Instruments, Incorporated
- Piezoelectric Division of the Clevite Corporation
- Valpey Corporation

At the banquet following the social hour Prof. Robert T. Beyer of Brown University gave a very interesting talk entitled "Current Ultrasonic Work in Europe." For the success of this meeting special credits are due to Dr. A. H. Meitzler, General Chairman; Dr. T. R. Meeker, Program Chairman; and Dr. W. P. Raney, Arrangements Chairman.

1964 Ultrasonics Symposium in Planning Stage

Arrangements have been completed to hold the 1964 Symposium at the Miramar Hotel in Santa Monica-by-the-Sea, Calif., on October 14, 15 and 16. Robert L. Rod will be Chairman of the Symposium Committee. Dr. Allen H. Meitzler, Technical Program Chairman, has announced the Technical Program Committee as follows:

- | | | |
|------------------|-------------------|--------------------|
| Stanley E. Jacke | John E. May, Jr. | Robert L. Rod |
| Cameron Knox | Thrygve R. Meeker | John H. Rowen |
| Warren P. Mason | E. P. Papadakis | Robert N. Thurston |
| | Calvin F. Quate | |

The initial meeting of this committee was held at IEEE Headquarters on February 14th, 1964. Contributed papers are sought in any of the various specialized areas of sonics and ultrasonics. The rapidly developing area of microwave ultrasonics will again receive particular attention. Papers are desired on the more established topics such as industrial ultrasonic devices, piezoelectric resonators, delay lines and mechanical filters, ultrasonic image forming and display devices and internal friction of solids. Of particular interest are papers dealing with applications of sonic and ultrasonic energy in aerospace programs.

Dr. L. White Wins W. R. G. Baker Prize

The 1964 W. R. G. Baker Prize will be presented to Donald L. White, Bell Telephone Laboratories, Inc., Murray Hill, New Jersey, for his paper entitled "The Depletion Layer Transducer" which appeared in the IRE (now IEEE) TRANSACTIONS on Ultrasonics Engineering (now Sonics and Ultrasonics), Vol. 9, No. 1, July 1962. The award is made by the IEEE Awards Committee for the best paper appearing in any of the IEEE TRANSACTIONS. This award is one of the major IEEE Awards which will be presented at the 1964 IEEE International Convention, March 23-26, in New York City.

Donald L. White

Authors should submit three copies of a 200 word abstract to:

Dr. Allen H. Meitzler
Technical Program Chairman
Bell Telephone Laboratories
Murray Hill, New Jersey 07971

Authors are requested to follow the format for abstracts used by the American Physical Society. The deadline for receipt of abstracts is, the Chairman is June 1st, 1964.

Administrative Committee Meeting

At the 1963 Ultrasonics Symposium in Washington, D. C., an Administrative Committee Meeting was held on December 4 at 8 p.m. This meeting was marked by the largest attendance of Adcom members (100%) in the history of the group. Decisions were reached on the following major points:

The 1964 Ultrasonics Symposium will be held in Los Angeles with Robert L. Rod, General Chairman, and Allen H. Meitzler, Program Chairman.

The name "Ultrasonics Symposium", rather than "Sonics and Ultrasonics Symposium," will be retained for continuity reasons.

In order to forestall an impending financial deficit brought about by increased publication frequency, the membership fee was raised to three dollars.

The next meeting of the Administrative Committee is planned for the IEEE Headquarters on March 24th, 1964.

New Members of Administrative Committee

This section will introduce the three new Administrative Committee members who took office July 1st, 1963.



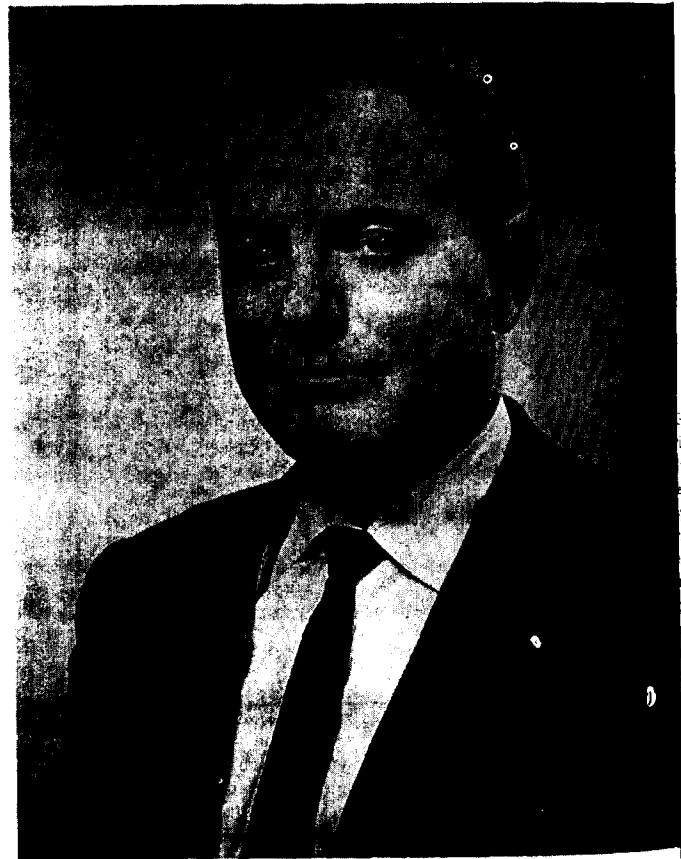
John V. Bouyoucos

John V. Bouyoucos was born in Lansing, Michigan on November 1926. He studied both at the University of Michigan and at Harvard University, receiving from the latter institution an AB degree in Physics in 1949 and a Ph.D. degree in 1955. He continued on at Harvard as a Research Fellow in Acoustics until 1959, while undertaking postdoctoral studies in hydrodynamic sound sources. During the period 1955-59, he served first as Assistant to the Director and then as Deputy Co-Director of the Harvard Acoustics Research Lab.

In 1959, Dr. Bouyoucos joined General Dynamics/Electronics in Rochester, New York, as Manager of the Hydroacoustics Lab.

Dr. Bouyoucos is a Fellow of the Acoustical Society of America and is currently serving as Chairman of the Technical Committee on Sonic and Ultrasonic Engineering of the Acoustical Society. He is also Chairman of the Writing Committee on Ultrasonic Cleaning Standards of the American Standards Association. He has been a member of the Institute of Electrical and Electronics Engineers since 1956.

Dr. Bouyoucos has published and presented numerous papers on the subject of hydroacoustic sound sources. Basic patents on hydroacoustic transducers have been granted jointly to Dr. Bouyoucos and Professor Frederick V. Hunt of Harvard University.



Thyrgve R. Meeker

Thyrgve R. Meeker was born in Pottstown, Pennsylvania, on March 9th, 1929. After attending local elementary and high schools, he was graduated from Pottstown High School in 1947, receiving a degree in Mechanical Engineering from the University of Pennsylvania. He is currently employed as a Research Engineer at the University of Pennsylvania. He has served as Chairman of the Pennsylvania State Society of Mechanical Engineers and as a member of the American Society of Mechanical Engineers. He has also served as Chairman of the Pennsylvania State Society of Mechanical Engineers.

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degree in Chemistry from Ursinus College in 1951, and M.S. degrees in Chemistry from the University of Delaware in 1956, respectively.

Since 1955 he has been a Member of Technical Staff of EML Laboratories, involved first with development of ferrite switching and memory devices and later with development of ultrasonic delay lines both at Whippany, New Jersey, and Rockwell, Pennsylvania. He is presently supervisor of a group responsible for ultrasonic delay line development. He is the Chairman of the Electric and Magnetic Phenomena Section of Chemical and

He is a member of the American Chemical Society, the American Physical Society, the Acoustical Society of America, the Institute of Electrical and Electronics Engineers, and a Fellow of the American Institute of Chemists.



H. E. VanValkenburg

H. E. VanValkenburg received the degree of B. S. in Mechanical Engineering from Union College in 1942, after which he worked in the engineering laboratories of the General Electric Company in Connecticut. There he was associated with projects relating to the development of instrumentation for vacuum measurement, manometer controls and nondestructive testing. Since 1949 he has worked with Sperry Products in Danbury, Connecticut, serving as Research Engineer, Research Supervisor, and currently as Director of Medical Instrumentation. His principal interests are in the development and application of ultrasonic techniques for materials testing. An investigational program on transducer characteristics performed with E. G. Cook resulted in one of the first demonstrations of the "thick crystal" technique for strain generation.

Dr. VanValkenburg has published papers in various journals and holds numerous patents in his field. He is active in several professional societies concerned with ultrasonic standardization and is currently serving on Committees of ASTM, SNT and IEEE.

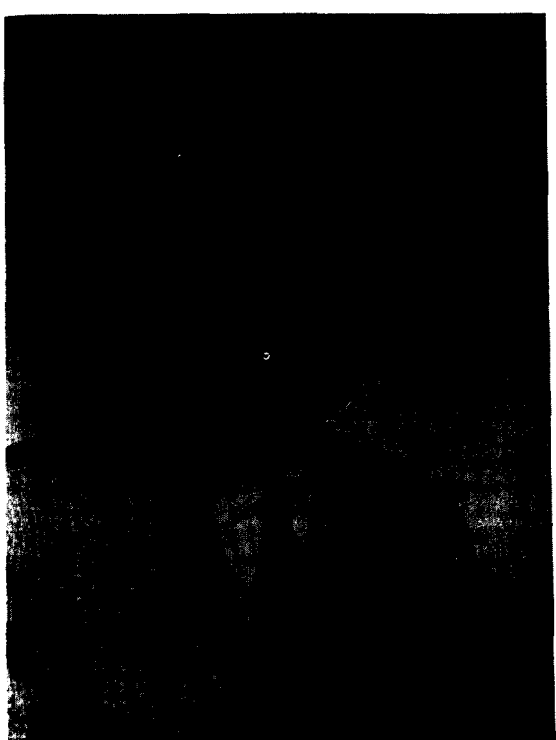
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International Convention, New York City, March 23-26, 1964
Acoustical Society of America, New York City
Chairman-Dr. Warren A. Tyrrell, Bell Telephone Laboratories
Whippany, New Jersey - May 6-9, 1964

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Since 1955 he has been a Member of Technical Staff of Bell Laboratories, involved first with development of ferro-switching and memory devices and later with development of delay lines both at Whippany, New Jersey, and recently at Wharton, Pennsylvania. He is presently supervisor of a group responsible for ultrasonic delay line development. He is the Editor of the Electric and Magnetic Phenomena Section of Chemical Abstracts.

He is a member of the American Chemical Society, the American Physical Society, the Acoustical Society of America, and the Institute of Electrical and Electronics Engineers, and a Fellow of the American Institute of Chemists.



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1964 Ultrasonics Symposium, Santa Monica, California
October 14-16, 1964 - Abstracts by June 1, 1964 to:
Dr. Allen H. Meitzler, Bell Telephone Labs., Murray Hill, N.J.
Acoustical Society of America, Austin, Texas, October 21-24, 1964
Abstracts by July 22nd, 1964 to:
Dr. C. Paul Boner, The University of Texas, Austin, Texas

NEW NAME, SCOPE, FEE

Near the close of 1963, the membership was asked to vote on a proposal to change our name from PTG Ultrasonics Engineering to PTG Sonics and Ultrasonics, and to adopt a broadened definition of scope. The vote in favor of the change was 378 in favor and 12 opposed. The large and prompt return of ballots indicated a lively interest in the question; there was an impressive vote from overseas, and in this category all ballots were in favor of the change. The Administrative Committee is naturally very glad to have its judgment so emphatically endorsed.

Most of the objections to change arose either from misgivings about our relation to PTG Audio, or else from dislike of a name deemed to be redundant. Some ballots endorsed the changes but expressed apprehension on these points. Concerning PTG Audio, I feel sure that everybody can relax. We are not going to try to drive that Group out of business, nor are we going to degenerate into a hi-fi club, as one alarmed voter predicted. "Sonics" is too new a term to have taken on a rigidly defined meaning, but certainly Hueter and Bolt's Sonics (McGraw-Hill, 1955) is close to accepted usage in saying (page 2) that sonics is "the technology of sound as applied to problems of measurement, control, and processing." There are systems in which elastic vibrations convey sense to the human ear, and there are systems in which elastic vibrations do not do this, but do something else. It is the latter type of system that the Group will continue to be interested in. The new name and scope merely serve notice that our interest in vibrations and their applications does not cut off at 15 kc.

A very few members who voted against the proposed change gave as a reason that we should merge with PTG Audio. The Administrative Committee can look into the possibility of such a merger if a significant number of members write in and ask us to do so. However, the overlap in interest does not appear to me to be appreciable. Moreover, PTG Audio has been exploring the advisability of merging with PTG Broadcast and Television Receivers.

Most of the other objections were based on dislike of redundancy in the proposed name. It is hard to see how a person who is really dead set against redundant names can maintain membership in an Institute of Electrical and Electronics Engineers. Nevertheless, there is no use in throwing good words after bad. The Administrative Committee believes that Sonics and Ultrasonics is indeed redundant, and that belief is clearly spelled out in the new definition of scope: "sonics, including ultrasonics and phonon technology." Whether the redundancy should be recommended or not was discussed at length by the Administrative Committee before the ballots went out. The view that prevailed (by a generous margin) was that to go from PTG Ultrasonics Engineering to PTG Sonics, all in one jump, would suggest that PTG-UE had simply gone out of existence. In particular, it was felt that the title of our TRANSACTIONS should be indicative of continuity. If after a few years there is a desire to simplify the name to PTG Sonics, the change can be made at that time with a minimum of confusion.

The reason for proposing the present changes is that whether sonics are ultra is determined by the properties of the human ear and these are irrelevant to practically all that the Group has been concerned with. If a man has a new type of sonar transducer to describe, he should not be discouraged from using our platform, or our journal, merely because his work is embodied in a model designed for 10 kc. In addition to bringing in more papers that are germane to our interests, removing the implied restriction on frequency can be expected to enlarge our membership. This is desirable, because of the cost of the TRANSACTIONS.

A journal that is printed only once or twice a year is not likely to be a good one, because people with good papers do not want to wait

out a long delay in publication. Our TRANSACTIONS should have at least four issues a year. To provide a reservoir that can supply good papers at this rate, and also to help with the printer's bills, it is desirable--perhaps essential--that the Group be larger. It is therefore to be hoped that the new name and the redefinition of scope, together with the substantial improvement that Dr. Mattiat has already effected in our TRANSACTIONS, will attract new members. The revised name of the journal should bring in some papers on concepts and experiments that have not yet reached the engineering stage.

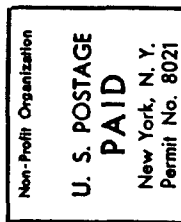
From 1954 through 1961, the TRANSACTIONS appeared at an averaged rate of 1.25 issues per year. A campaign to remedy this situation has resulted in 2.0 issues for 1962 and 3.0 for 1963. We have therefore come a long way toward putting the TRANSACTIONS on a quarterly basis. The increase in expense has been met by drawing on the surplus that accumulated during the years of meager publication. To decrease the rate at which the surplus is being consumed, the Administrative Committee has voted to raise the membership fee to three dollars per year, feeling that the increase is thoroughly justified by the improved status of the TRANSACTIONS. If this improvement, plus the new name and scope, plus the high quality of the annual Ultrasonics Symposiums, result in a modest increase in membership, the new fee will support quarterly publication on a balanced budget.

Some of the ballots raised questions about how the redefinition of our scope will affect the Acoustical Society of America. I think the answer is "Not perceptibly." One thing is quite clear: Sonics is a part of electronic engineering, and the more than 150,000 members of the IEEE have a right to expect the Institute to provide a forum for reporting and discussing progress in that field; it is the duty of those who guide the PTG-SU to make the forum as good as it can be. Although this certainly implies some degree of competition with the Acoustical Society of America, the areas of competition are quite limited, and the Acoustical Society is a vigorous, healthy organization. In the opinion of the officers of the PTG-SU, such competition as exists is not likely to hurt either body.

J. J. G. McCue

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11 February 1964



IEEE Professional Technical Group on
SONICS & ULTRASONICS



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.
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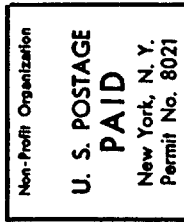
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