

# Proceedings of The Radio Club of America, Inc.

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Founded 1909

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THE RADIO CLUB OF AMERICA, INC.  
P.O. Box 2112, Grand Central Station, New York, N.Y. 10163-2112

Founded 1909, New York, U.S.A.

**The Radio Club of America, Inc.**  
BOX 2112, GRAND CENTRAL STATION, NEW YORK, N.Y. 10017

**Price \$2.50**

Organized for the interchange of knowledge of the radio art, the promotion of good fellowship among the members thereof, and the advancement of public interest in radio.

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**To the Membership:**

Your Board of Directors and Officers are laying plans to suitably honor the "Diamond" anniversary of the founding of the Radio Club of America and its predecessor group—The Junior Wireless Club Limited some 75 years ago—January 2, 1909.

At this stage we are definitely planning on putting out an anniversary issue of the *Proceedings* that we hope will match the detail and quality of the now famous "Golden Jubilee" issue of 1959.

To do this job, and do it right, will require a strong dedication on the part of members who hopefully will man the committee. This Committee makeup is now under consideration and the object of this notice is to solicit volunteers who can and will be a part of this historical effort to insure a fitting record for posterity.

It is my thought that copies of this 75-year story of the Club would be made available not only to all active Club members, but in addition would be made available to key libraries both here in the USA as well as all over the world. In other words I visualize the effort to be of monumental value to the history of radio and the Radio Club of America.

Fortunately the club has in our membership a number of highly qualified historians who could, if they wished, make this volume a treasured story of our lives and industry. I am now requesting that you members who have the knowledge and the desire will come forward and offer to serve on this committee to insure that the end result will be nothing short of fantastic.

The Board and the President will have a sizeable job in lining up a strong committee to handle the "Diamond Jubilee" issue of the *Proceedings* as I visualize the need to have this finished copy available for distribution early in

the spring of 1984. This deadline date gives us approximately 18 months to prepare the work, and I believe this should be adequate. We are also planning a major Annual Banquet in late 1983 which will be geared to feature the 75 years of the Club, (and tentatively this banquet will be held at the famous New York Athletic Club, which facility will practically be at our disposal for the date, and in view of the Club's record for excellent food and facilities should be a very excellent site for our big affair). This banquet will be billed as our "Diamond '75" and Jack Poppele is already stirring up great things for this November 1983 affair. Hence we would want the story and pictures of this "75 year banquet" to be a part of the anniversary issue of the *Proceedings*—which means availability and distribution possibly by May of 1984.

What I am getting at is our need to get a committee set up of workers and people who will make this combination of the *Proceedings* and the Banquet something to be remembered for years to come. It will be a very difficult task to match or outdo the job done by the committee that put together the 1959 "Golden Jubilee" issue of Club Yearbook, but I think it can be done and hopefully I will get the support of the many highly qualified club members who could insure the success of the effort.

If you feel you could be of assistance, either as a researcher, a production coordinator, a writer or an organizer—just let us hear from you. We would like this to be a complete effort, utilizing the talents of members from all over the world, and not be limited to the efforts of the Executive Committee and a few dedicated officers and individuals.

LET US MAKE THIS A BLOCKBUSTER. . . .

**Fred Link**  
*President*

# Sarnoff, Busignies Awards



*Julian Millar*

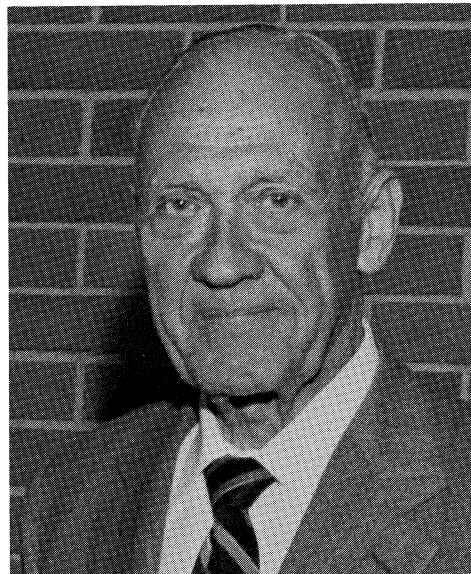
Col. Julian Z. Millar, (M 1971, F 1973) recipient of the Sarnoff Citation "For Significant Contributions in Electronic Communications," became a radio amateur before World War I, learning the code by listening to NAA time and news transmissions on the time signal receiver of a local jeweler. Attending the University of Illinois, he received his B.S.E.E. in 1923. He entered the Apprentice Engineering Program of Western Union at Washington, D.C., and was transferred to its Electronic Research Laboratory in 1926.

In March 1941 he was called to extended active duty as a member of the Signal Corps Board at Fort Monmouth, becoming Deputy President of the Board after graduating from the Command and General Staff School. In 1944 he became Chief Signal Officer of the Normandy Base Section, ETO, in support of the 1st Army, and later CSO of the Loire Section, ETO in support of the 3rd Army. Col. Millar was retired from the Signal Corps in 1961, at a Garrison Review held in his honor at Fort Monmouth.

With Western Union, he became Radio Research Engineer in 1945, Director of Research in 1949, and Assistant Vice President, Research and Engineering, in 1953. He was responsible for a number of large communication networks, including AUTODIN, for which he was system architect, and for development and production of Radio Teletype Terminal FGC-29.

After retiring from Western Union in 1965, he became a Corporate Director and consultant with the Hazeltine Corp, a position he held until 1982, when he became an Advisory Director.

Col. Millar received Fellow Awards from the IRE in 1956, the AIEE in 1962, the Club in 1973, and from the AAAS in 1980. He has received a number of awards from civilian and military sources, and has been active in a wide range of organizations. He was a charter member and has been a director of the Armed Forces Communications and Electronics Association (AFCEA) since its founding.



*James Weldon*

James O. Weldon, (M 1980, F 1981) recipient of the Henri Busignies Memorial Award, "for the Advancement of Electronics for the Benefit of Mankind," is a pioneer in high-power radio transmission. Born in Canton, MO, in 1905, he received his education in the University of Nebraska. Obtaining a First Class Radiotelegraph license in 1926, he operated for three months on a Great Lakes steamship during one of his college summer vacations.

After serving as chief engineer for several broadcast stations, Mr. Weldon formed his own company in 1933, as a consulting engineer and manufacturer of transmitting equipment. In 1938 he designed, constructed and put into action a 500-kilowatt broadcast station, incorporating a high-efficiency linear amplifier.

In August 1942 he was employed by the Office of War Information as Chief of the Bureau of Communication Facilities, Overseas Branch, and later became Chief of that bureau, taking charge of the technical facilities for international broadcasting for the Office of War Information. Those facilities became "The Voice of America."

In 1946 he organized Continental Electronics Mfg. Co., of which he is Chairman of the Board, President and Chief Executive Officer, closely directing the design and development of many of the high-power transmitters now being used by the United States Armed Forces, the Bureau of Standards and the Voice of America. Recently his company has installed 1,000- and 2,000 kW broadcast stations in Saudi Arabia, Jordan and Egypt.

In 1954 Mr. Weldon was made A Fellow of the IRE, "for his work on high power transmitters and their application to International Broadcasting." He holds six patents and is the author of numerous technical reports and articles. He was made a Fellow of the Club in 1981.

# Dumont, Batcher Awards



Wm. Fingerle

William Fingerle (M 1970, F 1973) the recipient of the 1982 Allen B. DuMont Memorial Award, "for important electronic contributions to the Science of Television," was born in New York City, attended New York Military Academy and MIT, where he received an S.B. in Electrical Engineering in 1936.

After serving briefly as chief lamp design engineer of the Duro-Test Lamp Corp., he joined Link Radio in 1937. As Assistant Chief Engineer, he was in charge of the Special Products Group, which designed and produced high power transmitters and—during WW II—numerous radar and special communications systems. In 1938, he designed and built the first experimental 300-watt TV broadcast transmitter for the Allen B. DuMont Laboratories, followed by 1-kW and 5-kW units. The 5-kW was installed at 515 Madison Avenue in 1940 and was one of the first to broadcast TV programs on a regular basis. In 1945 he developed improved transmitters, which were installed in numerous cities in the United States (and in Russia).

In 1952, he was one of the founders of the Budelman Radio Corporation and was President and Chief Engineer from 1954 to 1965. During this period, the company generated over 250 new products, among them being point-to-point microwave, used extensively by the Bell System, telephone subscriber carriers, SSB multiplex and radio paging systems. Among the special projects completed was an ionosphere height measuring transmitter, the experimental predecessor of the Arecibo project.

Mr. Fingerle has been with Cook Laboratories since 1970 and is at present engaged in the design of special equipment for the replication of personal computer software. A former amateur, holding WBPS and W1JMV during the 20's and 30's, and former president of the MIT Radio Club, he is no longer active.

Memberships include the IEEE (LM), Pi Tau Pi Sigma, the honorary military society, and WWW, the honorary Boy Scout Society. He is a Director of the Radio Club.



L. R. Moreau

Louise Ramsey Moreau, W3WRE (M 1975, F 1980), recipient of the Ralph Batcher Memorial Award, "to the member who is considered to have contributed to insuring a permanent place in history of important Radio and Communications activity," was brought up in Johnstown, PA. Her works include articles and other communications on the role of communications in all of the three Johnstown floods (1889, 1936, 1977).

Licensed as W3WRE (99.9% c.w.) in 1953, she also operated with the call WB6BBO during a sojourn in California.

Her telegraph key collection, started about 1955, includes 322 instruments that cover the evolution of the key from the hand-machined "Camelback" series of 1848 through the spark era, the military keys of World Wars I and II, semiautomatic keys and foreign types. She has a library of more than 100 books on communications, some dating from 1858, and a large collection of magazines, dating back to 1876, as well as numbers of taped interviews and photographs.

Moreau has written numbers of articles on telegraph keys, emergency and disaster communications, and the role of women in communications, past and present. She was editor of the "YL News and Views" section of *QST* from 1966 through June 1979, and edits the "Key and Telegraph" column of the Antique Wireless Association's *Old Timer's Bulletin*. She has won a number of awards, including the A.W.A.'s Harry Houck\* Award, for "Outstanding Research and Documentation on Telegraph Communications," and the Young Ladies Radio League (YLRL) President's Award for "Research and History of Women in Communications," and is a member of the Telegraph Hall of Fame.

\*Fellow and Director Emeritus of the Club, Armstrong Medallist 1941, superheterodyne pioneer (assistant to Major Armstrong).

# President's, Pioneer Citations



Vivian Carr

Vivian A. Carr (M 1973, F 1975) is District Manager in the Fundamental Planning Division of the Tariffs and Costs Department of the American Telephone and Telegraph Company. Her election as a member of the Radio Club, and subsequently as a Fellow and member of the Board were firsts for a woman. Another first was Vivian's election as Chairman of the New York Section of the Institute of Electrical and Electronics Engineers, the first female officer ever named. She was also the first woman to be elected to membership in the Engineer's Club of New York, and was later elected to their Board of Trustees.

Upon completion of studies at Stevens Institute of Technology she joined Bell Laboratories in the Switching and Systems Development Department. In 1954 she moved to AT&T where she filled positions in various divisions of the Engineering and Executive Departments before moving to the Tariffs and Costs Department.

She has held assignments in the Transmission, Switching, Government Communications, Systems Planning, Market and Service Plans, Corporate Planning and Rate and Tariff Planning Divisions.

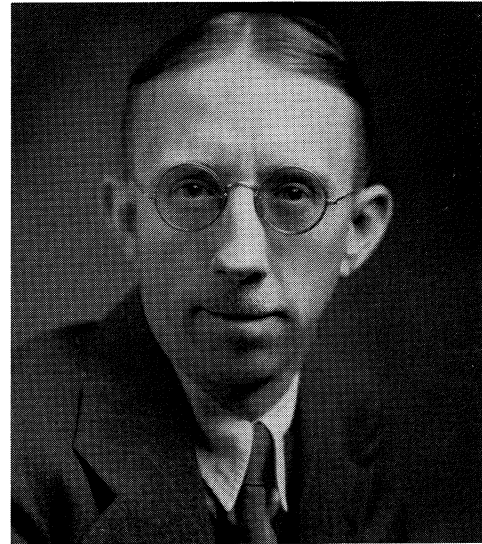
She attended Iowa State University where she participated in graduate studies in Engineering Economics of Public Utilities. In 1981 she received the Honorary Baccalaureate degree of Mechanical Engineer from Stevens Institute, and the Presidents Award of the Club in 1982.

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## A Message from Connie Conte to all the Members of The Radio Club of America

Thank you for your kind words, and most especially, the honor of receiving an award from such a distinguished group of professional people . . . It was a privilege—not a job.

Sincerely,  
Connie Conte



Keith Henney

Keith Henney, K1AC (M 1927, F 1932) recipient of the 1982 Pioneer Award, "to a senior member who has contributed substantially to the success of the Club and to the art of Radio Communications," was born in McComb, OH, October 28, 1896. He received an A.B. degree from Western Reserve University in 1921 and an M.A. from Harvard in 1925.

He was a radio operator for United Wireless in 1918 and for Marconi in 1922, presumably during summer college vacations.

After a year as engineer with Western Electric, he joined *Radio Broadcast* magazine in 1925. In 1930 he went to McGraw-Hill as the editor of *Electronics* magazine and remained with that company until his retirement.

Among Henney's several books are *Principles of Radio* (1930), *Radio Engineering Handbook* (1933) and *Electron Tubes in Industry* (1934). He also wrote books on color photography.

Mr. Henney was the Club's recording Secretary from 1934 to 1938, Vice President in 1939, and President in 1940. He is a Fellow of the IRE as well as the Club. He now resides in Snowville, VT, from where he maintains regular schedules on c.w. with his friends and fellow workers of earlier days.

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## News of the Membership

Niles Barlow, (M 1975, F 1980) has moved up from the post of President to that of Chairman of Sideband Technology Inc.

John Munro (M 1974, F 1981) has retired from TACTEC Systems of Meadow Lands, PA.

Steven Beeferman (L 1977), Vice President of Marketing for Sideband Technology, reports that a full line of working ACSB (see pages 7-9) products will be on display at M/C Expo in Chicago, Feb. 10, 11 and 12, 1983.

# Citations to New Fellows

**Charles J. Affelder, N3AYU.** *Retired, formerly Chief, Radio Engineering, Voice of America, Adelphia, MD.*

Long-term contributions to international broadcasting, especially in the fields of high-power transmitter design and counter-interference.

**Bob Alexander,** *Alexander & Associates, 1925 Beltline Road, Suite 305, Carrollton, TX 75006.*

Industry leadership in the field of Radio Common Carrier and related communications equipment development.

**Willard D. Andrews, WB2LCF.** *Becton Dickinson & Co., Paramus, N.J.*

Valuable service to the Club through work on the Board and its Finance and G-in-A committees.

**Joseph A. Banos, WA5PHO,** *Vice President, Wilson Electronics, Inc., Las Vegas, NV.*

Contributions to the advancement of Land Mobile Communications.

**Robert J. Baughman,** *Phillips Petroleum Co., Communications, Bartlesville, OK.*

Design and management of Petroleum Industry Communications systems internationally.

**John C. Black,** *Radio Systems, Inc., Seattle, WA.*

Continuing activity in numbers of business organizations, with the aim of bringing professionalism to the Land Mobile Industry, both in technical standards and business ethics.

**William T. Bishop,** *Vista Mfg. Co., Kansas City, MO.*

Contributions to radio progress and technology dating back more than 50 years.

**William H. Cole,** *Harris Corp—RF Communications Division, Rochester, NY.*

Leadership in promotion of Radio Common Carrier and Cellular Communications.

**Andre F. Cote,** *Special Industrial Radio Service Association (SIRSA) Arlington, VA.*

Contributions to industry leadership through service in industry organizations.

**Trevor John Dearn, VK3GL,** *Philips TMC, Ltd., Victoria, Australia.*

International Communications Marketing leadership in the field of Land Mobile Radio.

**Max C. de Henseler, HB9RS/W2,** *Chief, Cartography Section, UN Hqs. New York, NY.*

Special achievements in the field of international amateur radio.

**Irving I. Emig, W6GC.** *Retired, formerly Jet Propulsion Laboratory engineer, Manhattan Beach, CA.*

For contributions to the NASA deep space satellite network and for radio amateur organizational work.

**Oliver P. Ferrell,** *Gilfer Associates, Park Ridge, NJ.*

Outstanding service in radio publication.

**Alfons F. Goossens,** *Secretary and Director of Quintron Corp., Quincy, IL.*

Leadership in design and production of special radio transmitters for RCC and related fields.

**Frank L. Gronert, WB0KXX,** *Gronert Computers Ltd., Des Moines, IA.*

Industry leader in the field of Paging and Common Carrier Radio.

**A. K. "Kenny" Guthrie, WA4JXY,** *General Electric Co., Lynchburg, VA.*

Upgrading practical application and servicing skills of mobile radio engineers and technicians through published articles and industry-association presentations.

**Jan David Jubon, K2HJ,** *Telecommunications Engineering, Inc., West Berlin, NJ.*

Technical and administrative enhancements to mobile telephone service.

**Karl F. Kachadoorian,** *Manager, Radio and RFI Engineering, IBM, Armonk, NY.*

Contributions to the successful application of radio paging for industry.

**David E. Kass, WA2LKJ.** *Mobilfone Radio Systems, New York, NY.*

Contributions to Land Mobile and Radio Common Carrier.

**Bernard E. Keiser, WA4BNC,** *Keiser Engineering, Inc., Vienna, VA.*

For pioneering in the development of extremely low frequency radio.

**Edward H. Krueger,** *Motorola Communications & Electronics, Glen Rock, NJ.*

Leadership in Public Safety Radio Communications marketing.

**Ferris Levin, W2EZQ.** *Retired, Maywood, NJ.*

Pioneer work in Public Safety radio.

**Irving E. McAndrew,** *Communications Officer, State of Vermont, Montpelier, VT.*

Contributions in development and operation of statewide microwave law enforcement and governmental telecommunications systems.

**Harriett H. Maehling,** *Treasurer, Engineered Communications, Inc., Pittsburgh, PA.*

Application of management techniques to improve efficiency of Mobile Radio services.

**Donald R. Nelsch, K8EIW,** *Engineer, Ohio Telephone Co., Cleveland, OH.*

Application of Mobile Radio Common Carrier to telephone services.

**I. Otto Rhoades, W9KPT,** *Illinois Bureau of Investigation, Springfield, IL.*

Outstanding services in the field of Public Safety communications.

**Russell V. Robinson,** *President, AP-CO, Inc., Detroit, MI.*

Technical and administrative contributions to public safety.

**Dale M. Walsh,** *President, Communications Engineering Co., Dallas, TX.*

Leadership in specialized fields of land mobile radio services.

**William E. Wheel,** *Pye Telecommunications Ltd., Cambridge, England.*

International leader in promotion of mobile radio communications products and services.

**Marc. B. Wiskoff, WA2JDK,** *Motorola Communications & Electronics, Jericho, NY.*

Instrumental in developing specialized news gathering communications systems for broadcasting.

# Amplitude Companded Single Sideband

*The emerging near-term solution  
to the severe channel competition  
in the land mobile frequency band.*

by  
**Niles  
Barlow**  
(Fellow 1980)



Single sideband modulation is old-fashioned amplitude modulation with one sideband and the carrier suppressed. It translates the human voice frequencies (300—3,000 Hz) from the audio range to the desired radio frequencies without additional modulation products and can be extremely efficient frequencywise.

Amplitude compression in the transmitter and expansion in the receiver (companding) greatly improves the signal-noise ratio of the system, provides a “capture effect” equal to or better than that of FM systems with 5 kHz deviation and provides for better weak-signal performance than comparable FM systems, with increased communication effectiveness as an added bonus.

Automatic frequency control circuits using advanced phase-locked-loop technology reproduce the transmitted signal exactly. Selective signalling, data and facsimile transmission, tone squelch—all are possible with ACSB.

An identity carrier of 3.1 kHz at the high end of the voice bandwidth provides a reference for the AFC, AGC and squelch circuits.

The result is a radio system that operates as simply as an FM system, sounds as good as an FM system, with communication effectiveness as good as or better than an FM system—but does all this using only one-fifth or one-sixth of the spectrum required by an FM system.

## A Little History

Single sideband modulation is not new—it was first used in the 1920’s in long haul radio circuits. Improved methods for generating the single sideband signal—crystal and mechanical filters, balanced modulators, and high stability oscillators, made practical, cost-effective equipment possible, resulting in the widespread use of SSB in the high-frequency portion of the spectrum starting in the early 1950’s. AFC circuits were even used in some of this early equipment where telephone quality communication was required, but the equipment was bulky and generally unreliable for long term stability. The first SSB equipment for telephone services on a U.S. passenger vessel was installed by the author on the Moore-McCormack liner *SS Brasil* in 1958.

The marine services were the first licensed commercial services to use SSB in the United States—in the HF bands for voice transmission—and the use of the developmental license procedure was very effective in getting this service started prior to the issuance of formal rulemaking—just as is happening today in the land mobile services. The reason

for the transition to SSB from the DSB (double sideband or amplitude modulation) prevalent at the time was the same as that in the land mobile services today—frequency congestion. Over a period of years, a complete transition was made from DSB to SSB, with a resultant doubling of the number of operating channels. Today, DSB is not permitted in marine telephony service.

The FCC permits a frequency tolerance of  $\pm 20$  Hz for SSB shore stations and  $\pm 50$  Hz for ship stations. While this is sufficient to keep the signals within the allocated channel, the extreme  $\Delta f$  of 70 Hz is noticeable in the distortion of the reproduced voice—the so called “Donald Duck” effect so commonly associated with SSB operation—especially by radio amateur operators. Most marine equipment employs a “frequency clarifier” to set the receiver exactly on the transmitted frequency, to eliminate this effect.

As operating frequencies became higher (as with land mobile), the frequency stability requirements became much more stringent, since an absolute value is required (in Hertz) not a tolerance expressed as a percentage of the operating frequency. Automatic gain control circuits and squelch circuits on conventional SSB equipment are not very satisfactory, since, due to the lack of a constant transmitted carrier, there is no signal during voice pauses and the AGC calls for more gain (and noise) and the squelch circuit squelches the radio, since there is no signal. Proper choice of time constants help of course. However, operation of these circuits is far less satisfactory than those in DSB and FM systems.

The new ACSB land mobile radios in production today incorporate modern circuitry that solves all the technical problems of SSB for land mobile use, in equipment that—from the outside—looks no different from existing FM radios. The extensive use of integrated circuits reduces the size and cost of the control circuitry, from the racks of equipment required years ago to a configuration competitive in today’s market. It is estimated that for equal quality, specification level and communications capability, an ACSB radio will ultimately cost a mere 10% more than a comparable FM radio.

## The Beginnings

How did it all start? About five years ago, the FCC let a small contract to Stanford University’s Communications Satellite Planning Center headed by Dr. Bruce Lusignan.

The object of the contracted study was to “try to find more efficient means for using the land mobile radio spectrum”. The result of this work is what is now called Amplitude Compandored Sideband or ACSB.

In his first report of this work to the FCC in 1978, Dr. Raymond Wilmotte, head of the FCC’s UHF Task Force, stated “. . . if all the present land mobile channels (about 1600) were converted to ACSB, the number of channels could be increased to about 8,000. . .”. Naturally, such a statement raised the hackles of many in the industry. “If that is possible, why hasn’t this technique surfaced before?” was a common strongly raised question. Dr. Wilmotte and Dr. Lusignan responded . . .

Automatic frequency control and companding had not been considered together previously.

There had been no previous “challenge” for evolving a new technique for spectrum savings—emphasis by manufacturers had been on cost rather than on spectrum efficiency.

Any new research had been in the area of digital techniques rather than analog.

It is the combination of existing technologies in a form not previously considered that resulted in ACSB.

Recognizing the extreme potential of the ACSB technique, in 1980, the author and three others—Hal Davis, Paul Jacobs and Steve Beeferman—formed a new company, Sideband Technology Inc., in Rochester, NY, to develop and manufacture a line of land mobile two-way radio equipment using ACSB. The first public demonstrations of this newly designed equipment were made in June 1981 at the Business Radio Dealers Conference in Denver, Colorado.

. . . And they were a smashing success! Actual on-the-air communications on narrowband channels set in between existing 30-KHz spaced FM channels in the Business Radio Service showed that all the STI design objectives, the analytical research and laboratory work of Dr. Lusignan and the predictions of Dr. Wilmotte and others at the FCC who had fostered this work, were now a proven reality. The extremely good quality of voice reproduction, the lack of interference from existing nearby FM systems, the ease of operation and the familiar packaging concept amazed an industry that had listened to the early claims of ACSB proponents with a tongue-in-cheek attitude.

Since that first demonstration of prototype equipment there have been many more, not only in the United States, but in Canada as well, using prototype equipment made available by Sideband Technology. Following are some excerpts from test reports: “. . . In the 40 to 50 hours of driving with the ACSB radio in operation, there have been less than a dozen instances in which any FM signal (from an adjacent channel) broke through the squelch even momentarily . . . this in spite of the fact that the channel used is located between two heavily congested FM channels in the Business Radio Service in the Chicago Metropolitan area”. . . “Voice quality (of ACSB) is indistinguishable from conventional FM in strong signal areas and, in fringe areas, ACSB appears to gain the advantage in providing equal intelligibility (to FM) while at the same time being accompanied by a startling absence of background noise”. . . “ACSB (radios) provide a reduction in user fatigue under adverse listening conditions.”

Another user included the following brief but very explicit findings in a report to the FCC. “In January and February 1982, 1,435 radio calls were completed. No significant interference, noise or other reception impairments were noted. The overall quality exceeded that experienced on standard radio nets we operate in the same area . . . Especially noteworthy was the ACSB ability to maintain contact without significant reception loss in rolling terrain where line of sight is marginal. ACSB operated in some of our standard blind spots. Overall, ACSB exceeded standard FM in the same frequency band and terrain.” . . . The reported results of the testing done by the Canadian Pacific Railroad in Canada reflects a summary of the testing and experiences gained through the use of ACSB in the field as presented in a recent paper given to a

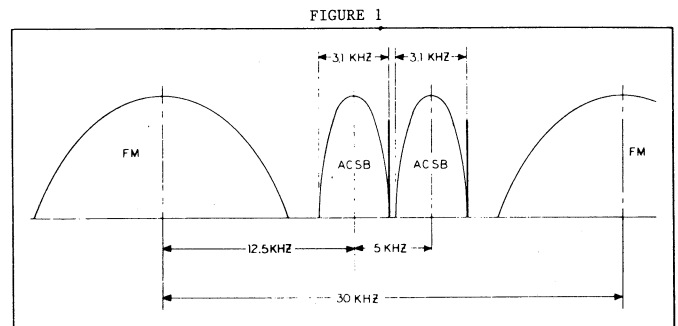


Figure 1. Additional ACSB channels are derived from use of existing spaces between current assignments. Shown is the location of two such channels in a VHF 30 kHz-spaced channel environment. ACSB channels occupy slightly greater than 3 kHz of spectrum and provide 60 dB of adjacent channel protection at 5 kHz spacing from other ACSB signals and about the same level of protection when separated by 12.5 kHz from FM assignments.

regional section conference of the Association of American Railroads. The report included the following findings:

### How They Compare

- The ACSB signal transmissions were comparable to telephone audio quality. These ACSB signal transmissions were equally intelligible to FM at all times. In fact, ACSB channel proved to be a readable and workable radio channel.
- Background noise fluctuations were greater with FM than with ACSB.
- ACSB degrades slightly differently than FM. ACSB signals are relatively quiet until RF levels are low. Thus, the user does not observe the rising noise levels of ACSB until quite close to the edge of radio coverage.
- Protection offered by an ACSB receiver against an adjacent FM channel (12.5 KHz separation) was at least 65 dB.
- Protection offered by an FM receiver against an adjacent ACSB channel (12.5 KHz separation) was at least 52 dB.

How were these developmental tests made? The FCC has established the Development Licensing procedure to permit on-the-air operation of ACSB systems prior to the establishment of formal rules.

### Getting It Under Way

With the results of early testing being extremely positive, the desire to use ACSB narrowband technology on a commercial basis (with the assurance of continued license



validity for a period of time long enough to make economic sense from an equipment purchase point of view or until formal rules were in place) has increased rapidly. Private Radio Bureau Chief James McKinney is overwhelmingly supportive in stating that while ACSB narrow-band technology is at the moment available only on a developmental licensing basis (normally renewed at each anniversary) he is ready" . . . to approve renewal of one-year developmental licenses for a period of up to five years". It is expected that a formal rule system for narrow-band operations will be in place long before five years have passed. A notice of proposed rule making by the FCC is expected early next year.

In the meantime, applications for ACSB developmental licenses continue to grow as more and more organizations turn to spectrum-efficient communications as a means of finding their way out of frequency congestion while still retaining the preferable qualities of the systems they have owned before. The benefits of clear channel operation are immediate.

Assuming that the ACSB technology works (which it does), assuming that frequency congestion exists (which it does), and assuming that radio users experience problems in effectively using their present radio systems due to congestion (which they do)—how can narrowband channels be set up in the land mobile radio services so that ACSB systems can be implemented under formal rulemaking? This is the present task of Dr. Ray Wilmotte, who has recently been designated as the project head for rulemaking within the Office of Science and Technology (OST) of the FCC. Present channels for ACSB operation are being assigned in 5-KHz segments set between existing channels. (See Fig. 1). The Business Radio Service in the 150-MHz band presently has 30-KHz spaced FM channels

The FCC issued a public notice in the fall of 1981 suggesting certain spectrum areas that seemed very compatible with the licensing of ACSB channels between existing FM channels, and provided essentially clear channels for this operation. The public notice did not preclude the applicant from picking other frequencies, and, in fact, today there are a number of systems operating in several services on channels set midway between 15 KHz spaced FM channels.

Many scenarios of implementation can be visualized. Jim McKinney has said that ACSB "needs a chunk of spectrum for itself". Naturally, that would be nice—if available—and therein lies a problem. Change is always difficult to accept—it's new, it's not well understood, and it's therefore suspect. It is this writer's opinion that rulemaking should provide for a gradual implementation process, perhaps applying just to the Business Radio Service initially, with the developmental licensing procedure continuing in other services as channel assignments are gradually worked out. The setting up of channel pairs, for repeater or even trunked system operation, is already happening under developmental licenses. The tremendous positive acceptance of repeaters in the UHF band, with the attendant frequency efficiency and user benefits, makes the opportunity for channel pairing at 150 MHz extremely exciting. A time-phased process whereby FM channels are split into 5 or 6 narrowband channels and the use of FM is prohibited can be visualized.

The ACSB technique is proven—the equipment is available and the time for implementation is NOW!

# THE RADIO CLUB

## 73rd Anniversary Awards Meeting and Banquet

**New York Sheraton Hotel**  
7th Avenue at 56th St., New York City

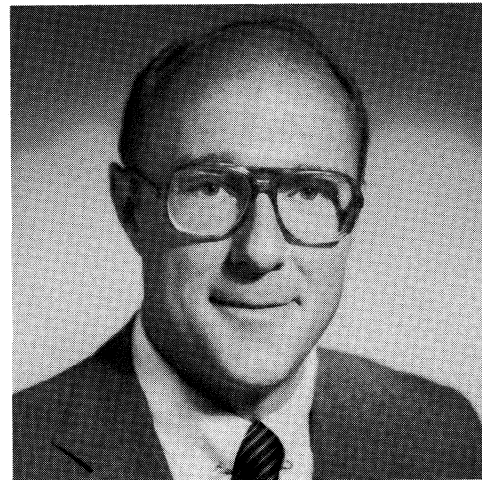
**Friday, November 19, 1982**  
Assemble 5:30 Dinner at 7

### COMMUNICATIONS SYMPOSIUM 2:30 PM

900 MHz air-to-ground, coast-to-coast telephone service  
**J. Goeken**, President, Airfone, Inc.

Emergency F. D. Radio Communications  
**Edward Singer**, NYC Fire Dept.

### Keynote Speaker



**JOHN S. BAIN**  
Financial Analyst—Cellular Radio

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Miss June Poppele, Tel-Measurements Inc.  
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# Man of Distinction

RAY E. MEYERS, W6MLZ



Ray E. Meyers

Among our distinguished members, Fellow member Ray Meyers—W6MLZ, No. 1 in QCWA's Hall of Fame, may be worthy of special attention. Son of a British Navy engineer, Ray was born in Cambridge, MA, on March 2, 1895. At the age of seven, Ray's family moved to Brooklyn, NY, where his father took up duties with the Brooklyn Rapid Transit Co. in its Flatbush and Maspeth shops.

Ray and his brother, the late Fred H. Meyers, became interested in telegraphy and wireless. In 1910 they went on the air, using the call MI. A year later Ray took a job as pick-up boy with the Commercial Cable Co., 2 Broad St., NYC. Within a few months he was working on the Azores cable. Messages for Canada were sent on the wire by Continental Code; traffic for Chicago and points West went by Morse.

A fellow cable operator, Sid Fisher (who was last heard from as organist for the Rockefeller cathedral on the Hudson River) taught Ray to play the organ. As a musician he has written several songs—the most popular being "March on With a Song of Love," which he dedicated to his XYL, Marge.

In 1912, after the Ship Act, which

required radio operators to be licensed, went into effect, Ray took the examination at Brooklyn Navy Yard and obtained a Certificate of Skill, which permitted him to operate both amateur and commercial stations. His exam covered proficiency in both Morse and Continental codes.

With this document in hand, he went to sea for the Marconi Co. and operated on Clyde Line steamers running between New York and Jacksonville, with stopovers in Charleston, SC. He operated on the *Arapaho* and *Comanche* with such distinguished operators as the late David Sarnoff and Willard Wilson, who held the call W3DQ.

On one of his trips he met the founder of the Florida East Coast Railroad, who owned hotels in Palm Beach and Miami. His Miami hotel, the Royal Palm, was having elevator troubles, because local electricians were not quite up to snuff with DC circuits. Ray agreed to take on the job of straightening out the mess. When he arrived in Miami, this time as passenger and guest of his new boss, he found that the electricians had no DC meters. So to straighten out the foul-ups in the control circuit wiring he used the old "potato trick" (when the spud turns color, that's the positive wire). In short order all twelve elevators were working OK and Ray became the favorite son.

One evening he attended a smoker put on at the local Elks Club. When no opponent showed up for the Navy lightweight, Ray put on the gloves with him. He apparently made a hit with the Torpedo Boat Squadron Commander, who talked him into joining the Navy and attending the New York Electrical School in the Brooklyn Navy Yard. At that time all Naval electricians had to know the code—It was the Navy electrician who operated the wireless. Ray became Electrician (radio) 3rd class.

From then on, it was one exciting thing after another. He got involved in skirmishes in Mexico, Haiti, San

Domingo, Nicaragua and Honduras. During World War I he spent a little time in Ireland, England and France. During his service he served on every type of vessel the Navy has, from torpedo boats, destroyers and submarines to cruisers and battlewagons, and both heavier-than-air and lighter-than-air aeronautical units. He is a former flying mate of the late Floyd Bennet and still holds Floyd's cigarette case, given him by Rodman Wanamaker after the Byrd flight over the North Pole.

During World War I his ship, the *Benham*, was cut in half by the steamer *New York* and he was assigned to the British Communications school, but was fired from there when he refused to obey a "Bobby" during a Zep raid on London. From there he went with the North Bombing Squadron, flying out of Polliac, a base near Bordeaux. After a crash landing off the Coast of Brest he was sent to a D/F station at Polliac, with additional duties as Shore Patrol in St. Nazarre.

Wanting to get home he agreed to take the job of Chief Operator on the *USS Floridan*, a transport bringing wounded home from the war zone. He was aboard that ship when the Armistice was signed. Ray then went to shore duty as Chief Operator at NBD, Bar Harbor, ME, where he had some 55 Chiefs and several hundred operators working for him. It was here that members of the General Electric Co. and Navy Brass decided to form an American Radio firm to take over all the transatlantic Navy circuits plus stations at Tuckerton and Sayville that the Navy had taken over. It was decided to call the firm the Radio Corporation of America. Jack Binns was suggested for the first President, but Ray pointed out that Jack was a British subject, not an American citizen. So the Vice President and general manager of American Marconi, Edward J. Nalley, became president. American Marconi's Commercial Manager had

been David Sarnoff, and he became Commercial Manager of RCA.

After his release from the Navy Ray had some exciting experiences as aid to Sir Hubert Wilkins on his first attempt to reach the North Pole by submarine, the Williams-Lecato expedition to the Amazon in the search for Paul Redfern, missing New York-to-Rio flyer; as Navigator and Radio Operator on the raft Lehi-V on an attempt to drift around the world, and as news correspondent and columnist for the Los Angeles Herald-Express and Herald-Examiner.

In 1933, after a plane crash, he took a post as second operator at KPH and within a year or so took an exam and became Chief Radio Inspector, U.S. Civil Service, in the San Francisco-Oakland Bay area. At the same time he took on a job as Radio Supervisor for the Vallejo police. During a police convention at

Houston, TX, he agreed to take a job with our President Fred Link as Sales Manager for the 11 Western States. When that company folded up operations, Ray took a position at Manager, Radio Operations, for Lockheed Aircraft in Burbank, a post he held until he reached the age of 65, when company rules required all flying employees to retire.

At present he serves as Chief of Communications for the city of San Gabriel at the fabulous salary of a dollar a year—which he is still trying to collect. He is listed in *Who's Who in California* (1st to 11th editions) and is enjoying life in sunny California with his wife Marge and daughter Marilyn—an executive with Shell Oil Co. living in Burbank—and his son Roger, also ex-Navy, who is assistant Production Manager for Sears-Roebuck, in charge of newspaper advertising.

Ray is a member of the Radio Club (Fellow 1972) of the Old Old Timers Club (current President and former Secretary and Editor of *Spark Gap Times*); ARRL (former Director 6th District) De Forest Pioneers, Elks, Masonic Lodge, Shriners, SOWP, APCO, CPRA, and member of the President's Committee on Employment of the Handicapped.

He may usually be heard on the International Handicapped net, which he sponsors, on 14287 Monday-through-Friday for two hours, starting at 1800 UT, or in QSO with OOTC members Mon-Wed-Fri on 14115 at 1800 UT. He holds many Navy decorations, the Columbus Gold Medal (only American ever to receive this decoration) and the Marconi Medal for the most outstanding service in 1932, and he received that a year before the memorial medal was made in Marconi's memory.



## Greetings to the Radio Club of America

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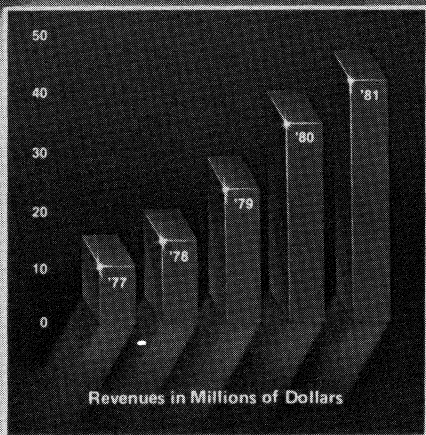
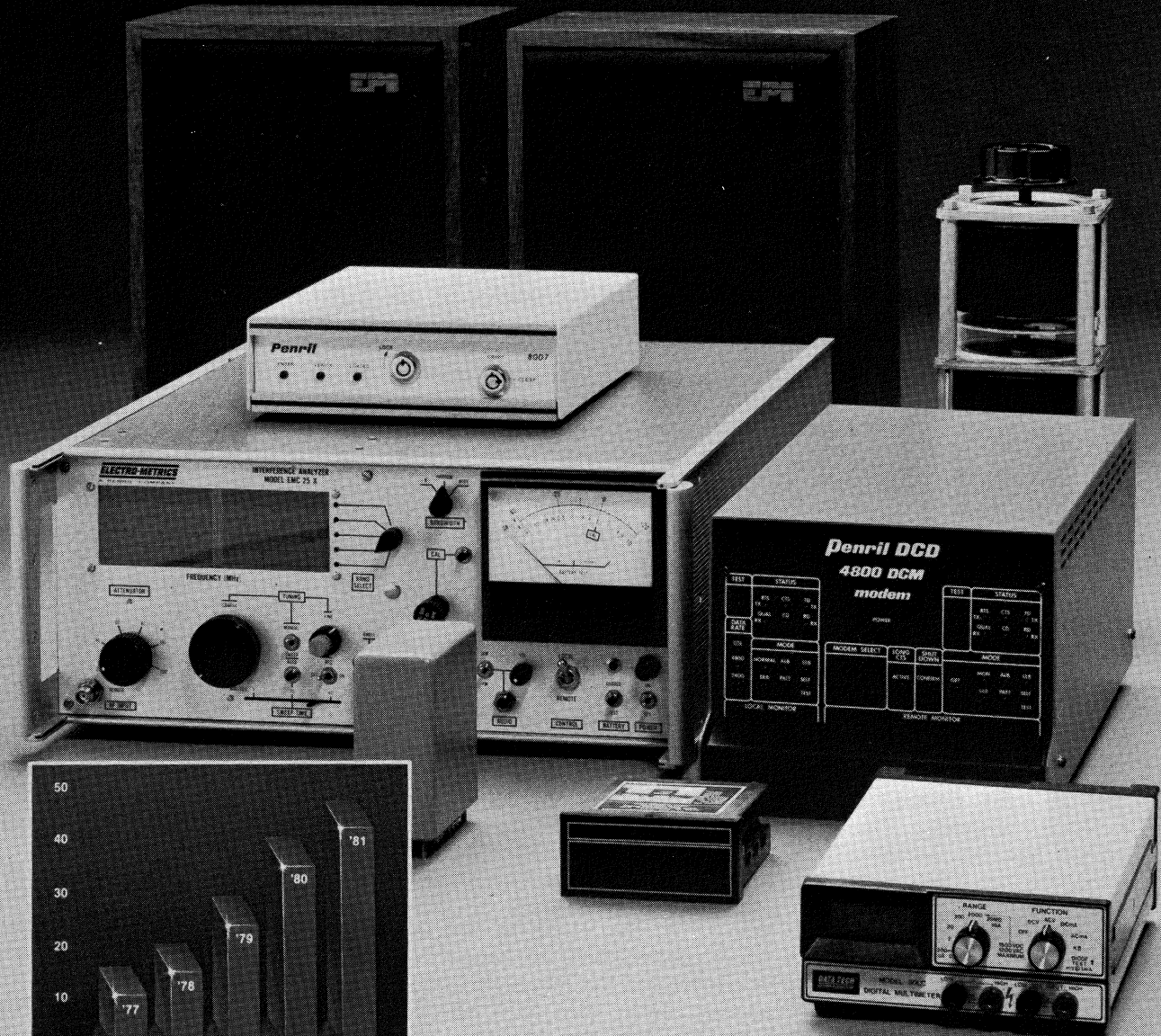
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# Penril Corp.

## Annual Report to the Shareholders

1981



Penril Corp., headquartered in Rockville, Maryland, produces electronic data communications equipment, electronic test and measurement instruments, electronic power conversion and other electronic equipment, at profit centers in five states and Switzerland. Record 1981 revenue was \$40,073,414, up 20% from \$33,333,828 in 1980. Record 1981 earnings were \$2,286,631, up 28% compared to \$1,783,405 in 1980. Cash dividends have been paid for 7½ consecutive years with regular increases, the most recent of which was 13%. Penril continues to offer shareholders substantial discounts on audio products and has recently introduced a Dividend Reinvestment and Stock Purchase Plan.

Inquiries may be addressed to: Kenneth M. Miller, President and Chief Executive Officer, Penril Corp., 5520 Randolph Road, Rockville, Maryland 20852—Telephone: (301) 881-8151

# A CLUB IS BORN

Last week, the post delivered a copy of the latest QCWA Year Book. Handsomely conceived, we could not but admire its format and neat legible type. Our older members whose eyesight is not what it used to be will be especially appreciative, and publishers of Call Books should take due note.

Some time was spent in perusal of its different sections. We paused at "Silent Keys". How those columns have grown—almost six pages full! We lingered over familiar names while vivid recollections of faces and voices unfolded like a film on the screen of the mind.

K4GG—Earle W. Dannals 1965 says the book; yet it seems only recently that we paid Chief Electrician (Radio)Dannals a visit at the Naval Radio Station down at 44 Whitehall Street. Was that really back in 1919?

W2GX—Russell D. Valentine 1951; we recall listening enviously as he knocked over VK's and ZL's one after the other on 11 meters. He had a pipe-line to "down under".

W2II—Walter J. Howell 1963; there comes to mind old Pop Howell dispensing words of wisdom right from the horse's mouth down at the Radio Inspector's Office, Bureau of Commerce, on Bowling Green.

Gazing down the list the eye lights on many other familiar names: Earl Thomas, Fred Parsons, Lester Spangenberg, George Burghard, Henry Hayden, Bill Schweitzer, Larry Dunn, John Stobbe, Fred Ostman, Oscar Oehman, George Droste, Leon Hansen, George Eltz and amongst others Ben Lazarus W2JB, who was in charge of the radio shack on the old "Carolina" (later torpedoed) in 1917 when I was on my way down in brand new Navy uniform to operate the 30-KW Poulsen arc transmitter at NAU.

Memory again returns to the days when an antenna was an aerial and a crystal was a piece of rock you pushed a cat's-whisker against, oh so delicately, probing for a sensitive spot while the Century buzzer buzzed. But as Kipling would say, that is another story, to be recounted elsewhere.

But let's get on with our tale: 1947 found the ham bands burgeoning under the vast influx of new blood from the hordes of ex-service men who had gotten a taste of radio during the late hostilities. The additional drain on the three-letter call list had exhausted it and new prefixes had to be coined to take up the overflow. By then, the possession of a two-letter call automatically placed one among the Elite, a sort of "first family" of radio which entitled one to due respect as a pioneer just a little behind Hertz and Marconi.

## A Historic Round-Table

Picture six such ancients, all two-letter men who by extraordinary coincidence ran into one another on the air one night in November of that year on the 10-meter band, then in its heyday. They were: W2FX, known to all second-district hams since he managed the radio department at Mesco on Park Place, one of the early "hangouts"; W2UD, now also OA4J, the self-effacing author of these lines: W2DI, famous from spark days for his 500-cycle note; W2FD over in Brooklyn where the tree grew; W3EF, who was Fire Chief or something equally authoritative in Hempstead; W2DX, then residing over the frontier in Jersey but since quite a globe trotter. What did such a group of old fuddy-dufs have in common to discuss during the three-hour QSO on that eventful evening?

Simple! As all old-timers do, they reminisced. [Editorial Note: The verb reminisce is generally defined as the attempt of one ancient to outdo another in the telling of tall tales which need not have too large a basis in actual fact.] But they accomplished another thing; they took the first steps to form an old-timers' club from which would be excluded all those who were unfortunate enough to be born too late. Actually that is the purpose of a club—to exclude others. Clubs were supposed to have originated among the English in foreign parts; wherever three Englishmen could be found far from

home, two of them would form a club to snub the third. However, the more liberal souls in our group of six prevailed; the bars were let down to admit younger people provided they could present proof of 25 years of activity as hams.

Thus the seed of our present organization was planted. Before the final "30" sign-off signal, a date was set for the following month for a general meeting and dinner. The place selected was the Fraunces Tavern at the foot of Pearl Street, the inn where General Washington bade farewell to his staff at the end of the Revolutionary War.

## The QCWA Is Born

The turn-out that Friday night in December was beyond all expectations. We met friends we hadn't seen for many years. The dinner recalled earlier Ham shindigs where the rolls flew merrily from table to table and dishes crashed noisily in true camaraderie. The flower of the Second District was conducting one of its revels!

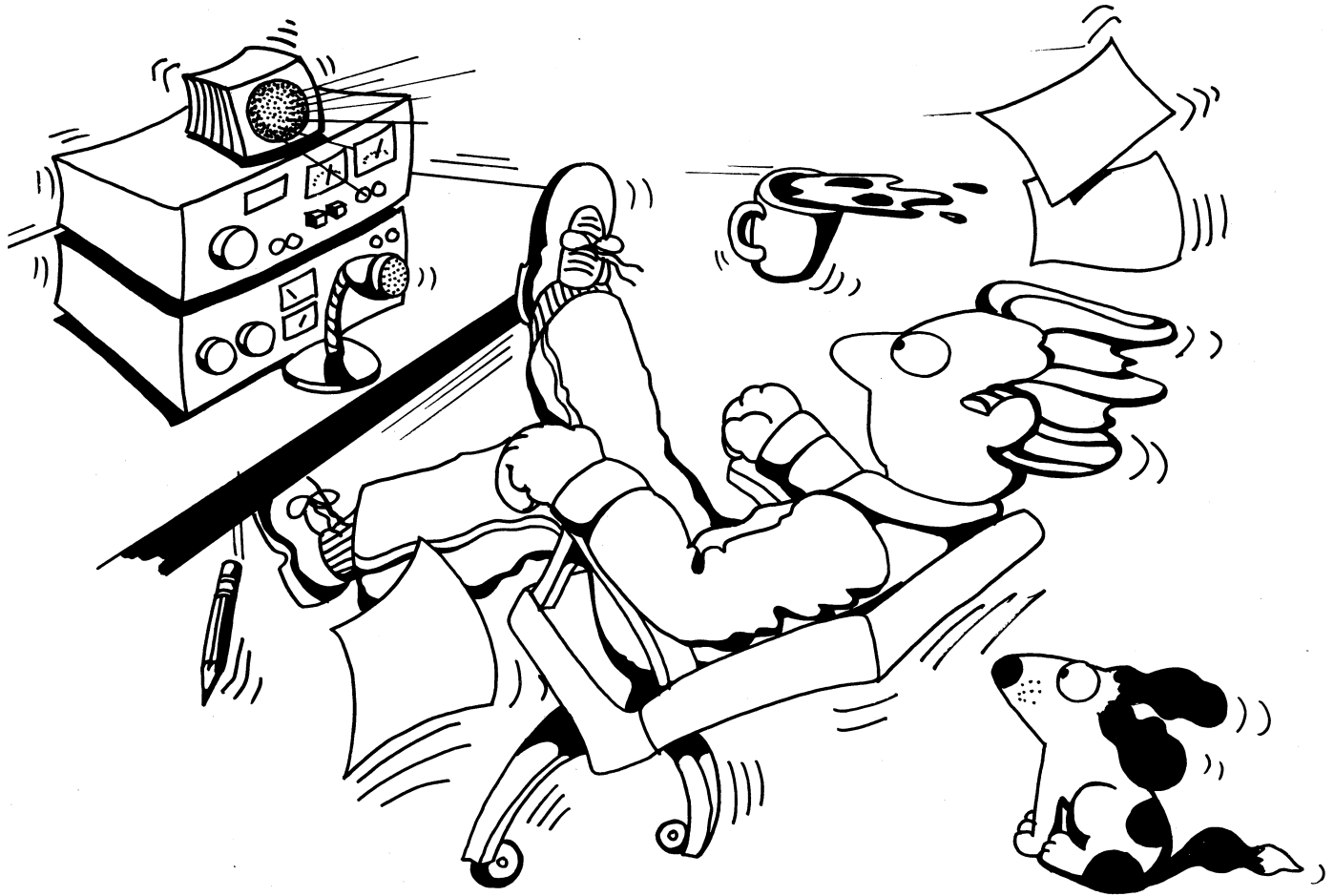
During the meeting there was ample discussion of what kind of an organization it would be, what its purposes were, where and when it would meet, who could belong and other items. As usual in any large gathering, we did not lack a few "Do-Gooders" who suggested we be a second gathering of the Knights of the Round Table or else crusaders of one kind or another. But these were lustily shouted down. John DiBlasi, a born chairman, presided adequately and kept the discussion within bounds. There were two opposing groups over the use of the words "Radio" and "Wireless" in our name. W2AMJ and others of the Bronx Radio Mafia—er Club—staunchly defended the older term and were soon joined by the majority, who thought it was more in keeping with original ideas, besides sounding more romantic.

W2EA, cartoonist par excellence, hastily pulled out a fountain pen and drew on the tablecloth a caricature depicting an old gray-beard tapping a telegraph key. It has remained as our emblem.

The labor pains then ended and the **Quarter Century Wireless Association** closed its first meeting.

—Uda Ross

“... (click) ...  
just turned on  
the ALPHA...”



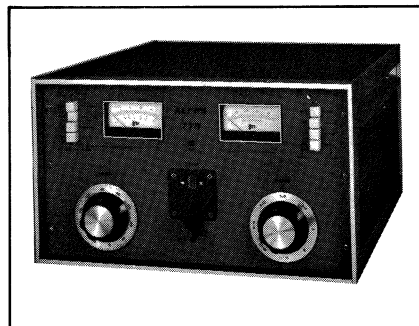
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## NEW MEMBERS

Since the 1982 Directory was printed, 29 new members have joined the Club:

**John S. Bain**, Lehman Brothers Kuhn Loeb, 55 Water St., New York, NY 10041.

**Benjamin F. (Frank) Borsody, K4EZ, W2AYN**, Retired, 8056 Charies Drive, Sarasota, FL 33480.

**William A. Breniman**, Society of Wireless Pioneers, Inc., P.O. Box 530, Santa Rosa, CA 95402.

**Gene A. Buzzi**, Omnicom, Inc., Box 1488, Tallahassee, FL 32302.

**William D. Cheek**, Commtronics Engineering, Box 10723, Edgemont, Golden, CO 80401.

**Victor C. Clark**, American Radio Relay League, 225 Main St., Newington, CT 06111.

**Mark E. Crosby**, SIRSA, Inc., 1700 N. Moore St., Rosslyn, VA 22207.

**Marc de Moor, ON1GR**, Vredstraat 13, B-9720 Depinse, Belgium.

**Alan M. Dorhoffer**, CQ Magazine, 76 N. Broadway, Hicksville, NY 11801.

**William E. Endres**, TeleMeasurements, Inc., 145 Main Ave., Clifton, NJ 07014-1076.

**Charles F. English**, 926 Tanglewood Drive, Cary, NC 27511.

**Larry R. Evans**, Comalco, Ltd., Unit 6, 6325—12 St. S.E., Calgary, CANADA.

**Reed E. Fisher, W2OQH**, 2 Forum Court, Morris Plains, NJ 07950.

**Joseph W. Gallelli**, New York State Police Communications, Bldg. 22, State Campus, Albany, NY 12226.

**Alvin M. Goldstein**, Motorola, Inc., Communications, 1301 E. Algonquin Road, Schaumburg, IL 60196.

**Herbert E. Gullberg**, Tekcom Inc., Box 5902, Huntington Beach, CA 92646.

**Arlene J. Harris**, ICS Communications, 1125 N. Magnolia Ave., Anaheim, CA 92801.

**Dorothy L. Jubon**, Telecommunications Engineering, Inc., 25 Hazelhurst Drive, West Berlin, NJ 08091.

**Gerald M. Kessler**, Omnicom, Inc., Box 1488, Tallahassee, FL 32302.

**Mats Ljunggren**, SRA Communications AB, Torhamngaten 23, Kista S—16300, Stockholm, Sweden.

**William L. Ordway**, Pacific Telephone Co., 220 Montgomery St., (317) San Francisco, CA 94104.

**Roland A. St. Louis, Jr., K2LKH**, 110 Lafayette Ave., Geneva, NY 14456.

**Carl M. Schulte, WA2KBZ**, Motorola Communications International, 1301 E. Algonquin Road, Schaumburg, IL 60196.

**Michael Schwartz**, Schwartz and Jubon, Inc., 25 Hazelhurst Drive, West Berlin, NJ 08091.

**Robert G. Shied**, Motorola, Suite 200, 1776 K St., N.W., Washington, DC 20006.

**Eddie Simon, W6ESN**, 9320 Earl St., No. 20, La Mesa, CA 92041.

**Gregory M. Stone, WB9PHA**, Sachs-Freeman Associates, Inc., 2970 Maria Ave., Suite 107, Northbrook, IL 60062.

**Graham C. K. West**, Pye Telecommunications Ltd., St. Andrews Road, Cambridge, England.

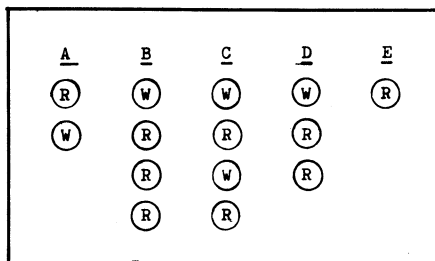
**Malcolm I. Ziegler**, 2055 Clearview St., Walnut Creek, CA 94598.

# Unique Light Signalling Used By U.S. Navy

By Don K. deNeuf, WA1SPM

The first Naval use of any light projector for signalling purposes on record was on a Union warship blocking a Confederate-held port during the Civil War. It was bright enough to be used to a limited extent in daylight hours, depending on the location and brilliance of the sun. In 1877 Lt. W. Wood perfected a "Morse code blinker light signal" for use in the US Navy.

In 1891 a French inventor named Ardois developed an unusual signal-light system, which was introduced into some squadrons of the US Navy. Using the Morse code as a basis, it was distinctly different from any other system. It employed a display



of four red-and-white-light units arranged vertically. Each unit consisted of red and white lamps so closely spaced as to appear from a distance as a single light. A red light ("R" on the figure) indicated a dot—a white light ("W") represented a dash. The lights were operated through an ingenious keyboard device.

Numerals were indicated by secondary meanings of letters, starting with

"Q" as 1, "R" for 2, etc., ending with "Z" for zero. To make a numeral sign, the upper light was pulsed or "blinked." Other special signals designated "error, negative, affirmative," etc.

All the elements making up one code character were flashed on at the same time with the keyboard unit. In a sense this system might be considered one of the fastest manual code transmission methods of those days, since all elements of each code character were transmitted simultaneously, rather than by progressively "building" each Morse code letter.

But for some reason the Ardois system was not popular and was abandoned in favor of the Morse code blinker method. Perhaps the communicators preferred the Morse blinkers, somewhat like the US telegraphers who refused to change from the old code invented by Samuel F. B. Morse to the new code adopted as a worldwide standard at the International Telegraph Conference held in Berlin in 1851.

In the early 1900's the electric arc was introduced in searchlight form in the Navy, which was quick to develop a venetian-blind type of shutter controlled by a telegraph key for signalling. These lights were powerful enough to use effectively for 9 to 10 miles during the day, and some 16 miles at night. Later someone thought of directing the beams to a cloud at night. This often extended the readable range beyond the line-of-sight in some cases to as much as 50 miles.

## Meyer Honored in VA

**Stu Meyer, W2GHK**, Executive Vice President of the Club, was selected "for services provided in behalf of amateur radio," by the Roanoke Division of the ARRL. The award, given annually to a member of the Division, is special in that emphasis is placed on sustained service and contributions over a period of years, rather than on single accomplishments of a spectacular nature.

## Are You Moving?

Or have you just moved? If so, let the Club know about it. Every year members are lost because mail sent to them is returned marked "Addressee unknown" or "not forwardable." If you are changing your address—if only to the next street—fill in one of the Post Office's change-of-address forms and send it to the Executive Secretary, Fred Shunaman, 933 East Seventh Street, Plainfield, NJ 07062.



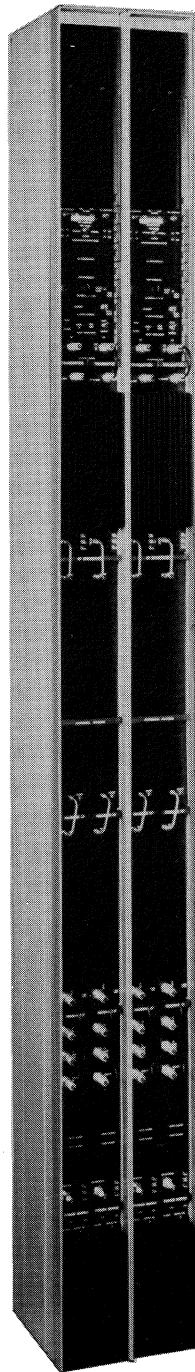
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## L700 Radio Link System

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# Books by Radio Club Authors

**The Early Days of Wheeler and the Hazeltine Corporation—Profiles in Radio and Electronics**, by Harold Alden Wheeler, Chief Scientist, Hazeltine Corp., Greenlawn, NY 11740. 6 x 9 inches, 432 pages; hard cover, \$30.00.

This work, which covers the personal life of Dr. Wheeler and that of the Hazeltine Corporation up to the second World War, is a unique blend of narrative and reference work. As a result, historical sequence disappears in many places. In Dr. Wheeler's own words, "This account has so many facets that I have not perceived any one scale of continuity on which all could be presented in readable form." This is particularly noticeable in the autobiographical section—his wife is mentioned several times before he describes first meeting her.

The book is divided by subject into several sections. Sections 1 and 3 are biographies of Wheeler and other persons important to the organization. Section 2 deals with the company from 1924 to 1939.

Sections 4 to 10 cover technical apparatus in a narrative way, describing the invention and use of circuits and instruments, as well as the litigation

that followed the introduction or infringement of some of them. Other sections support these main portions of the book.

A very useful work for any historian of radio, who will find not only events, but factors leading up to them, technical reasons for the direction of the path of development, and background material—technical and historical—not hitherto available.

**Basic Electronic Switching for Telephone Systems, Second Edition**, by David Talley. Hayden Book Co., Inc., Rochelle Park, N.J. 6 x 9 inches, 312 pages. Soft cover (silver finish) \$10.95.

The book is considerably larger than its predecessor—312 pages as against the 228 of the first edition. Most of the increase is distributed throughout the book, chapters running from three to seventeen pages longer than in the earlier edition. In addition, there is a new chapter, Digital Telephony, of 37 pages.

Electronic switching and control systems, from the basic principles through central control units, memory systems and devices, and stored program control, are reviewed in detail. "Electronic switching

systems for suburban and rural areas" receives a chapter, as does "switching networks, master control centers and power supply."

The new updated edition, like its predecessor, takes its place as the authoritative work on modern telephone switching.

**Confidential Frequency List, Fifth Edition**, by Oliver P. Ferrell. Gilfer Associates, Inc., P.O. Box 39, 52 Park Ave., Park Ridge, NJ 07656. 6 x 9 inches, 225 pages. Soft cover. \$9.95.

This is an "index of 'unusual' radio stations that can be heard in the shortwave spectrum." The author states that the number of "details" listed in this work "exceeds 100,000 items concerning 8500 frequencies and stations."

The main section, of 143 pages, is arranged by frequencies, starting at 4,000 kHz and running to 27,500 kHz. Call, location, and service are given. A 62-page section then lists the stations alphabetically by callsigns.

Two opening chapters explain the reason for such a list and give some tips on using it, as well as a few details on stations that are unusual even in a list of "unusual" stations.

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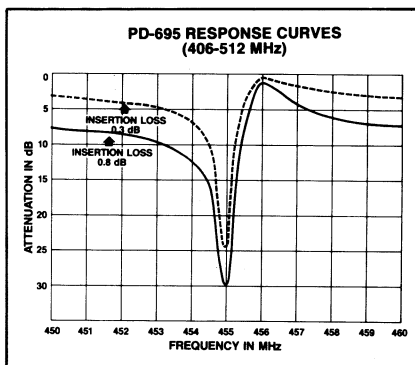
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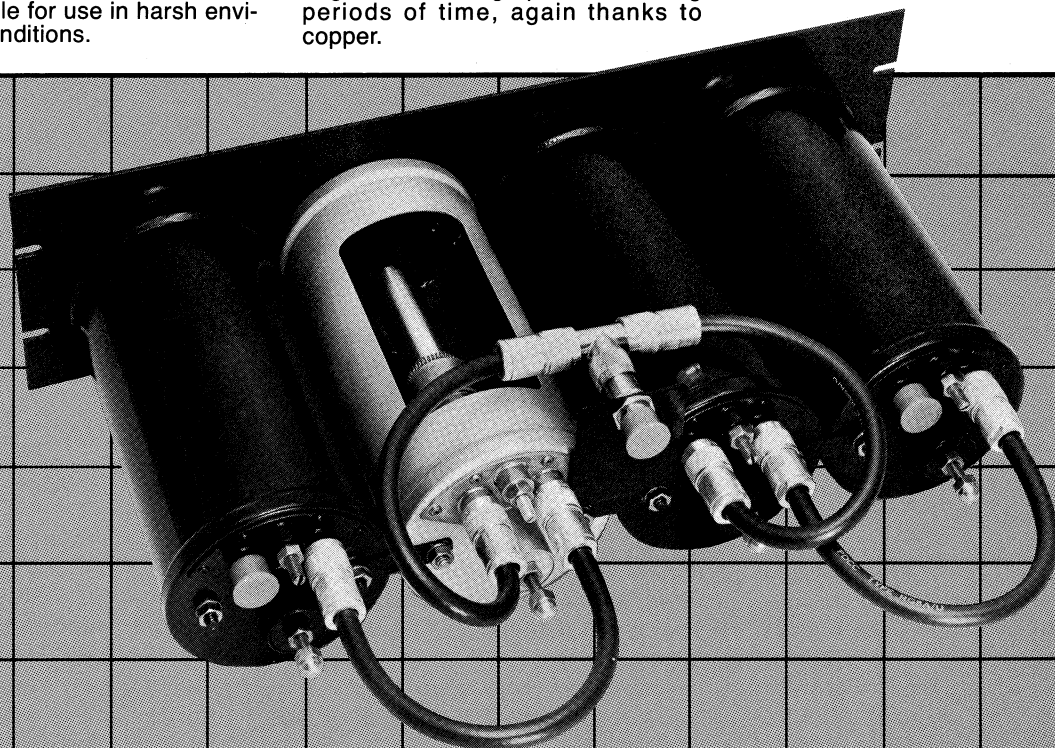
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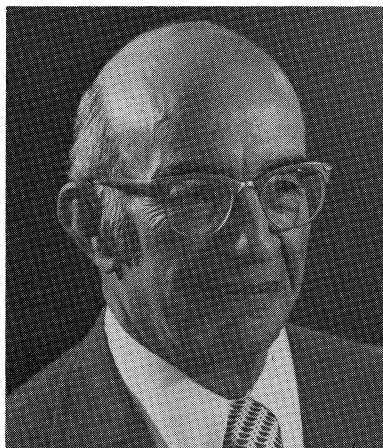
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# Six Members Have Passed On



Monte Cohen

**Monte Cohen, AA4MC** (M 1975, F 1980) died at his home in Longmeadow, Mass., August 12. He was 82 years old.

Building his first radio station at the age of 10, he served as wireless operator on merchant ships during World War I. Later he became an RCA operator and, in 1924, RCA office technician.

He joined Radio Corporation of Worcester, MA, in 1925, rising to the position of chief engineer. In 1929 he joined F. W. Sickles Co. as chief engineer and general manager.

Sickles became part of General Instrument Corp in 1945, and Mr. Cohen became President of the company in 1951. He was a director of General Instrument to the time of his death.

In World War II he was a member of the War Production Board, representing the radio and electronics industry.

Mr. Cohen was a Life Member of the IEEE, and a member of the Veteran Wireless Operators Association (VWOA) from which he received the Marconi Medal of Achievement. He was awarded the Club's Sarnoff Citation, "for Significant Contributions to the advancement of Electronic Communications," in 1980.

**Jacob E. (Jack) Eggert** (M 1977, F 1981) said to have been "the most decorated civilian employee of the Federal government," died June 20, at the age of 64.

He retired from government employ in February 1970, his last position being Chief Engineer, USA

Strategic Communications Command, Europe. He had also served as special engineering assistant for communications to the Commanding General, U.S. Army Strategic Communications Command—Europe. After his retirement he acted as consultant on global communications for various Southeast Asia and Middle East countries.



Lewis M. Hull

**Dr. Lewis M. Hull** (M 1951, F 1951, L 1974) died March 24 at Riverside Hospital in Boonton, N.J. Born in 1898, he became interested in radio at age 13, and was an amateur in his teens. Later he worked as assistant and associate at the Bureau of Standards.

An organizer of Radio Frequency Labs in Boonton in 1922, he was responsible for a number of advances in radio instrumentation. He made even greater contributions to aircraft radio. Practically every combat plane in the early part of World War II was equipped with one of Dr. Hull's radios. He retired in 1959 as Chairman of the Board of Aircraft Radio, Boonton, where he had worked for 31 years, remaining as a consultant to the company.

Among his other honors, Dr. Hull received the Armstrong Medal of the Club in 1974.

**Albert Perry Rogers** (M 1970) of the Florida Highway Patrol, died recently, we are informed by phone from Don Fox (M 1975) also of the Florida Highway Patrol. He had worked for the Patrol as a communications equipment technician for 22 years. Previous to that he was a

radio operator and technician with the U.S. Coast Guard, retiring in 1959 as Senior Chief Radioman.

Mr. Rogers was a Past President of the Florida Chapter of APCO.

**Edgar W. Freeman, K0MOA** (M 1969) died last June 27 at his home in Yankton, SD. His age was 79. An electrical contractor, he was an enthusiastic amateur and a member of the Old Old Timers Club, life member of the ARRL and a member of the Quarter Century Wireless Association, as well as Sigma Phi Sigma national Physics fraternity.

He had received honorary degrees from Mount Marty College and the University of South Dakota. He was also active in a number of engineering and industrial civic and fraternal associations.



John DiBlasi

**John DiBlasi, W2FX** (M 1920, F 1926, L 1971) died on December 13, 1981, at the age of 83. He had been inactive since 1969, when he suffered a catastrophic stroke.

A founder and for twelve years President of the Quarter Century Wireless Association (QCWA), John was known as the radio amateur par excellence. He was first licensed in 1915, as 2AGD. Involved in commercial radio since 1915, he managed the Manhattan Electric Supply Co., famous for its MESCO spark coils and other early radio equipment.

He received an E.E. from Cooper Union in 1922, and taught radio in YMCA schools and Jamaica Vocational High School. He was a Senior Member of the IRE, and a member of the Club for more than 60 years.

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Test AN/ARM-25C, -17, -20, -22, -31, -84; NUS-4123, HLI-103A, B, C, D, D/A, D/2A,  
GBN-169, HLD-144, 145; AN/PCS-1B, AN/GRA-34, GRA-111, URM-101, MM-TMC-212  
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Signal Data Converter CV-2068/AP; AN/ASA-13, -16, -20; AN/APA-74; AN/AQA-3, -4, -5;  
AN/ARR-52A; AN/ASQ-8, -10; Test AN/ARM-53B; AN/ASM-35; Jamot Tester 17 H-2;  
AN/ASA-26 Julie Recorder

#### IFF

AN/APX-72, -76, -6, -7, -25, -28, -35, -37, -44, -46, -47, -49, -64; AN/TPX-17, -19, -20, -21,  
-22, -26, -27, -28, -32; AN/UPX-1, -5, -6, -7, -12, -14; AN/UPA-24A, -25, -35, -38, -39;  
tests sets: AN/UPM-98B, -99, -111, TS-1843/APX; AN/GPM-40A, AN/UPM-92

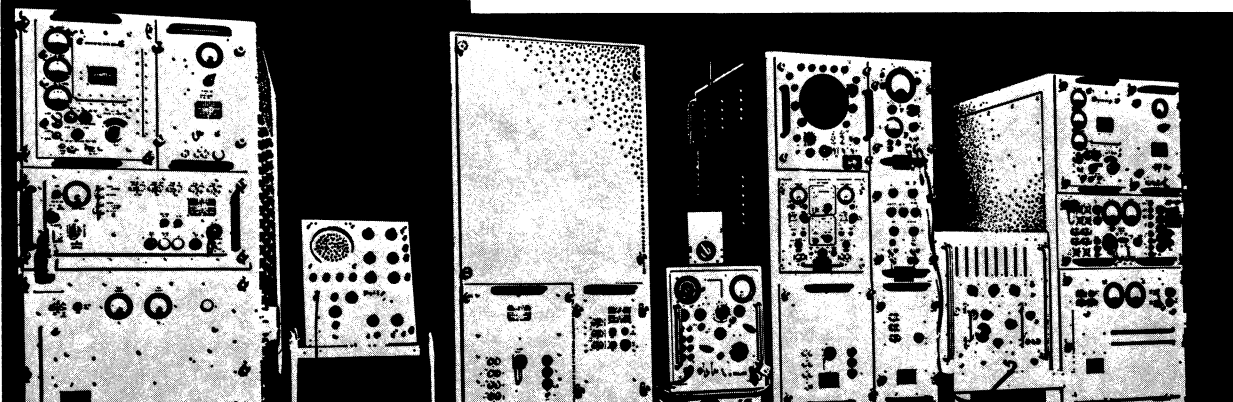
#### METEOROLOGY

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AN/AMT-6; AN/AMQ-7; AN/TMQ-5; AN/SMQ-1; AN/GMQ-10, -11, -13, -15, -19, -20

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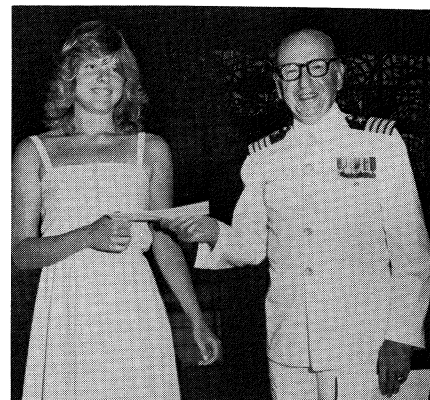
# Chairman Walker Reports On Grants-in-Aid

In behalf of the Grants-In-Aid Committee I wish to express our appreciation for the financial support our members have given to the Club's GIA Program. As previously reported in the NEWS LETTER, \$5,500 has been awarded in grants this year. Our Committee will recommend to the Board of Directors, at the November meeting, that \$6,000 in grants be authorized for distribution in 1983. The grants will be made from income generated by GIA funds. This

permits the GIA funds to remain intact, to generate further income for future grants.

Federal assistance and private resources available for student aid have declined in recent years. This trend is expected to continue for some time. These facts serve to emphasize the importance of such programs as Grants-In-Aid.

Grants are made to colleges and universities with the provision that Radio Club of America Scholarships



*Deborah Janicke, student in Electronics Technology at the Florida Institute of Technology receives a \$500 check from Captain W.G.H. Finch, Director Emeritus of the Club.*



*Louis Brown (M 1970, F 1972) presents a \$1,000 check to Dr. Robert R. Fossum (left) Dean of Southern Methodist University.*

be awarded to students who have a bonafide need for financial assistance to commence or continue their studies in radio, telecommunications or allied fields. All grants carry the provision that scholarships are to be awarded without restriction as to race, religion, creed, sex or ethnic origin.

The Grants-In-Aid Committee receives many letters of appreciation from scholarship recipients, stating that, without the assistance of the Radio Club of America, their studies could not have continued.

Your GIA Committee members are, Joseph F. Walker, Chairman; Dave Talley, Vice Chairman; Willard Andrews; George Apfel; Charles Higginbotham; James Mann; Jerry Stover and John Whiting.

Mr. David Talley, W2PF & WLN-1

Dear Mr. Talley:

Heartiest congratulations on your 65th anniversary as a radio amateur. The Federal Communications Commission is especially proud of your pioneering in amateur operations and your valuable service to the armed forces of the United States.

My Managing Director, Ed Minkel, remembers you with highest regard from the days when he was a MARS Director of the First Army Area in 1952. Ed tells me that "Peter Fox" was one of the best network control stations in the MARS system.

Again, congratulations and best wishes.

Sincerely,

Mark S. Fowler  
Chairman

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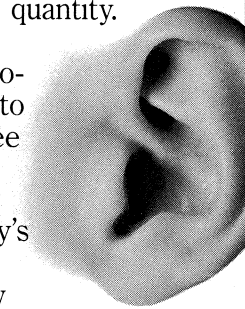
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