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Founded 1909

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THE RADIO CLUB OF AMERICA, INC.
c/o Fred Shunaman, 324 South 3rd Avenue, Highland Park, NJ 08904

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

The Radio Club of America, Inc.

324 SOUTH 3rd AVENUE, HIGHLAND PARK, N.J. 08904

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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TREASURER'S REPORT FOR 1984

(Thomas J. Catanio, Jr., CPA NJ)

RECEIPTS

Dues	\$10,123
Contributions	5,432
Interest and dividends	8,819
Advertising	2,671
Sale of pins and plaques	100
Total Receipts	\$27,145

DISBURSEMENTS

Grants	\$7,500
Editorial consulting fee	2,500
Publication expenses	5,837
Rent	500
Printing and Stationery	566
Addressograph and office supplies	272
Office service and telephone	357
Postage	581
Meeting	928
Bank service, exchange	19
Newsletter and balloting	632
Legal and accounting	760
Total Disbursements	\$20,452

Excess Receipts over Disbursements\$ 6,693

GRANTS-IN-AID

101 Contributors donated a total of \$5,432 in 1984

The Past and the Future

DIVESTITURE

What Can We Do With It?

by **Morris Tanenbaum**

It's a special pleasure for me to address an organization of fellow pioneers . . . for, while your club's founding fathers were pioneering radio communications, my company's were pioneering telecommunications—and both were closely interrelated.

I feel another—though less direct—connection to the Radio Club through one of your members who was a colleague of mine in the erstwhile Bell System. She was your first female member and fellow, and the first woman to be elected to your board. I knew her also as the spirit of the IEEE in AT&T—a true professional. I'm referring, of course, to Vivian Carr. I'm sorry Vivian couldn't be with us tonight, but I do hope you'll give her my warm regards.

Of course, the interrelationship of our organizations goes back a good deal further than my association with Vivian. For example, Lee de Forest and a former AT&T staff engineer by the name of John Stone Stone demonstrated Dr. de Forest's improved low-vacuum tube to AT&T engineers in 1912.

One of those Bell engineers was Harold Arnold, who modified Dr. de Forest's invention into a high vacuum tube that made possible the first successful transcontinental telephone conversations in 1914 and '15.

The ties between us continued. In the '20s, AT&T entered broadcast radio. The early programming on New York station WEAJ featured vocal selections by Miss Helen Graves and Miss Anna Hermann, and a recitation of



Dr. Morris Tanenbaum

James Whitcomb Riley's poem, "An Old Sweetheart of Mine," by Miss Anna Cunningham. These performers were AT&T employees. We've always taken great pride in the versatility of our employees.

In the late '40s and early '50s, the work of Friis, Dickinson and others in microwave radio greatly expanded the reach of telecommunications—followed by Pierce's echo experiments, Telstar and the development of satellite communications.

Of course, many other individuals and organizations have contributed to the rich benefits that the science and technology of radio have brought to telecommunications.

Telecommunications Today

But Mal* tells me you want to hear about more present-day things—not all of them related to radio—or even technology-based: the AT&T divestiture and resultant restructuring of the telecommunications industry; what consequences the restructuring might have in the event of a national emergency; what AT&T's future plans are, and my view of the future of our industry.

That's a tall order for an after-dinner talk, but I'll try to at least touch those bases for you.

Let's begin with divestiture. The transformation that occurred on that historic day—1/1/84—is often described as

Mal Gurian—Vice President of the Radio Club

a change from a monopoly to a competitive industry. In fact, it's not the first such transition in our industry; nor is this transition complete. Here, again, a little history might be instructive.

Born with telegraphy, modern telecommunications initially grew slowly because telegraphy required experts in code. Bell's invention changed all that by making telecommunications accessible to all—people needed no special expertise to use a telephone.

In its early years, American Bell, the forerunner of AT&T, was a monopoly, protected by Bell's basic telephone patents. When those patents expired in the 1890's, rampant competition ensued.

But the wireline technology of the day didn't permit competition to work gracefully or efficiently. A customer frequently had to have more than one telephone to call different exchanges in the same town—because each exchange was controlled by a different company. Multiple wire networks meant a proliferation of overhead wires that in some cases nearly obliterated the sky.

Public opinion, aided by the prescience of one man, Theodore Vail, led to de facto monopoly under regulation. And that system worked well for the first half of the century.

But then technology again began to perturb the situation. Microwave radio made parallel networks more practical. The transistor greatly expanded the power of electronics, most notably in data processing. Telecommunications and data processing became increasingly important to the economy—and began to merge.

Social forces, too, came into play. Entrepreneurs grew interested. Political forces became concerned about the monopoly. Regulators became intrigued with the possibility of competition.

In a series of decisions, the FCC and the courts marched steadily, inevitably toward replacing regulation and monopoly with market forces and competition. It probably also was inevitable that, in the course of that march, the Bell System would be sorely affected. And in 1974, the Department of Justice launched its antitrust suit.

In the end, divestiture seemed the only viable way to break the logjam of regulatory and legislative interests that were impeding the advance of the telecommunications industry in this country—a logjam that not only was preventing AT&T from competing, but also was making our entire industry more vulnerable to foreign competition.

Divestiture and Its Problems

And so it came to pass that, at 12:01 a.m. on January first, 1984, AT&T instantly changed from a corporation with 154 billion dollars in assets and nearly a million employees to one with one-fifth the assets and less than a third as many employees.

But size isn't the only fundamental difference between the old company and the new one.

In more than one sense, we've come full circle. We're not venturing into broadcast radio these days. But we have entered a host of new markets—including computers and office automation—and we're expanding in international markets.

The old monopoly no longer exists. Reminiscent of the post-Bell patent days, today we face fierce competition in every quarter of our business.

But, despite that intense competition, AT&T's communication services remain pervasively regulated—although our competitors are not.

Divestiture was a massive task. Separating over 150 billion dollars in assets. Reassigning hundreds of thousands of employees. But through the sometimes super-human efforts of our people, we got through it.

And our 90 million switched network customers hardly knew it happened, except for a somewhat more complex phone bill. Unfortunately, many thousands of business customers who needed changes in their private line service did experience severe difficulties. But even those problems appear to be well on their way toward resolution.

And, on balance, ten months later, I'd say we're making divestiture work.

We are improving our understanding of the new linkages and relationships among the parts of the former Bell System and with the rest of the industry. While many regulatory and business issues need to be resolved as soon as possible, we're clarifying and stabilizing the technical aspects of providing reliable telephone service.

To Protect Public Security

And that's very important to one of your concerns—and ours—the important role of telecommunications in national security and emergency preparedness.

You should know that AT&T's court-approved Plan of Reorganization specifically addressed national security and emergency preparedness concerns. It provided for the establishment of a single point of contact among the divested local telephone companies that would coordinate with AT&T and the rest of the industry for such national purposes. And that point of contact has been established.

Although the FCC does not permit AT&T Communications—the long distance company—to work with AT&T Information Systems—our terminal and computer company—in serving most customers—a regulatory anachronism, by the way, that begs for remedy—we have obtained a special waiver from the FCC that allows AT&T to work as a single company to provide complete service for 21 critical national communication systems.

That means that, in the event of an emergency, we can temporarily ignore the government-mandated structural separations within our new company and do whatever is required to get the job done.

Moreover, all our pre-divestiture network safeguards are still in place. Nothing has happened with divestiture that dilutes our capacity to restore national network service.

However, these arrangements are somewhat more complex than before. While competition does bring variety and choice, complexity is an inevitable companion. Recognizing this, President Reagan has established a National Security Telecommunications Advisory Committee, comprised of the chief executive officers of all the major carriers.

That group oversees a National Coordinating Center set up in January 1984. AT&T Communications and the other carriers each provide a full-time employee to staff that Washington, D.C., center 24 hours a day, seven days a week. These people will provide guidance in the event of an emergency.

Under the Communications Act, in a national emergency the President can nationalize the telecommunications

industry—in effect, converting it instantly back into one telecommunications system. In that event, the National Coordinating Center staff would report to the Office of Science and Technology to respond to national needs.

So, while this set-up is necessarily more complex, with more organizations involved, we do have a plan that can be implemented to serve.

We Were Unknown

Before I turn to where we are today and where the industry is going, permit me to digress for just a moment with a few words on a lighter aspect of divestiture. With the demise of the Bell System, AT&T found itself in the unique position of being the nation's oldest long-distance vendor, yet relatively unknown to most of our customers—principally because the local Bell operating companies had always been our point of contact with those customers.

So, in addition to our advertising campaign, we took on the job of sponsoring last summer's Olympic Torch Relay to gain some visibility and let customers know who we are. It was a massive undertaking, entailing staggering detail work. One important detail involved communication.

Our 35-vehicle torch run caravan was spread out for miles. Seven or eight vehicles stayed with the torch runner, but other vehicles served as shuttles, or as dining, sleeping or medical facilities. Through it all, ham radio operators kept everybody together.

A Telephone Pioneer of America ham served as network controller in our main communications vehicle—he was the link with Pioneer ham operators in the other vehicles and with local hams and their clubs. As we traversed the 9,000 miles around the country, repeater trustees gave us permission to monopolize their repeaters so our vehicles could stay in touch with each other and the outside world.

Local hams guided us to hospitals, to after-hours gas stations, and directed lost drivers back to the caravan. Needless to say, we are very grateful to our ham friends around the nation. If any of you were involved, my personal thanks.

Now let's turn to the present and to the future. In doing that, I'll concentrate on AT&T Communications and the telecommunications services part of the business.

An Exploding Industry

The telecommunications industry is one of the healthiest and most rapidly growing in our economy. Our market has grown steadily at the rate of ten percent annually for the last decade, and it's expected to continue to grow 10 to 15 percent per year for the next decade.

Competition in our information services market is *exploding*, with more than 400 competitors vying today for a piece of the action. Ten years ago, there were fewer than 10 other firms competing for the business. Fifteen years ago there was only one.

That growth is stimulated by the merging of data processing and telecommunications, and fueled by the resulting emergence of new applications, especially in business—the more innovative services we devise, the more customers discover they need and want.

That growth is driven by extraordinary advances in three basic technologies: microelectronics, photonics, and advanced software.

The microcomputer chip made today by AT&T

Technologies—the former Western Electric—is the size of a fingernail, and yet it does as much as a room-sized computer of twenty years ago. And as size has shrunk, so has cost. If similar progress had been made in automobile manufacturing, a car today would cost \$2.50.

At the current rate of progress, we may achieve one hundred million components on a single silicon chip by the turn of the century. That will mean a corresponding decrease in cost of about a hundredfold.

Similarly dramatic advances have come in transmission with the advent of photonics, including lightwave communications, in which pulses of light carry information through ultra-pure glass fibers the thickness of a human hair.

Bell Labs scientists recently set a new world record for transmission—two gigabits per second over 81 miles of glass fiber without amplification or regeneration. That's comparable to transmitting the 30 volumes of the Encyclopedia Britannica in about one second.

Software, too, is maturing rapidly, adding intelligence to our machines to handle increasingly complex tasks. Fully half the work being done at AT&T Bell Labs today involves the design of software.

The result of these spectacular advances in telecommunications technology is digitally interconnected intelligent networks of increasing power and lower unit costs.

Today, 98 percent of the AT&T network is switched by computer-controlled systems. It will be 100-percent computerized in the very near future.

Transmission Technologies

Software based controllers tied together by the world's largest packet network send bursts of data between the switching nodes, permitting them to act like a single intelligent machine. They route your calls, test their own circuits, and respond to emergencies with alternate routes to ensure that your messages get through.

We're really beginning the transition to digital transmission, paving the way for many new applications that will make the telephone an ever more powerful information tool.

In fact, just last week we announced we'll have in place more than 34,000 route miles of new digital system by the end of the decade. In this accelerated construction program, we'll deploy digital transmission technology throughout our nationwide network, serving the country's 120 largest metropolitan areas. The lightwave routes, incidentally, will include undersea fiber optic cables to Europe and Japan.

Our digital network will permit vastly improved and more flexible means of moving information, as well as entirely new ways of managing information to meet the needs of our customers. With our computerized, programmable digital network, customers literally will be able to design their own services.

Besides satisfying customer needs, the transition to digital is making us more cost-effective. In 1949, the average cost of a voice-equivalent circuit mile in the network was sixty dollars. Today that cost has dropped to less than ten dollars, and the new lightwave will permit us to add circuits for less than a dollar.

In addition to cost effectiveness, the transition to a

digital network enables us to offer many new and powerful services.

Early in the year, we announced our Card Caller public telephones. Today customers are using more than 1,000 of these automatic phones throughout the country. You make a call by inserting your AT&T Card or an American Express Card, and billing is automatic. In a fraction of a second, our intelligent network automatically validates your card number by checking it against a national data base.

We also launched Accunet Packet Service, which allows customers to transmit and receive packets of information among different locations.

New Customer Services

We are adding optional features to our 800 Service that allow customers greater flexibility and responsiveness in managing their toll-free-calling Service networks.

A call prompting feature will give a caller instructions to dial additional digits to reach a specific department—for sales assistance or customer service, for example. A call locator option will allow subscribers to decide what percentage of calls should go to each answering location, and apportion the calls accordingly. A third feature will give subscribers direct, immediate control over call routing. In an emergency, for example—say a hotel reservation center were suddenly shut down because of flooding—a subscriber could re-route calls from that location to another.

A service we're now testing under the name *Class* lets you know who is calling *before* you answer the phone. The calling party's number is displayed on a screen on your special telephone, and you decide whether to answer. Or you can set up a screening arrangement so that only certain calls ring your phone. And your screening list can change hourly or daily, so that only calls from family members or your boss get through after 11 p.m., for example.

This fall we inaugurated Alliance Teleconferencing Service, which enables customers to establish and control their own teleconference calls with up to 59 locations worldwide, with or without graphics capability. Twenty-five hundred neurosurgeons around the world recently used this service to confer on some new advances in their field. That meeting could not have been held without teleconferencing.

Accunet T1.5 Service allows customers to establish customized data, voice or video networks—and in the future, customers will be able to reconfigure those networks from their own terminals.

The global market also affords vast opportunities for us, and AT&T Communications intends to play a key role in providing Information Age service to the world community.

In overseas services this year, we've introduced International Video Teleconferencing to Canada and England, and any day now, to France. We've extended International 800 Service to Canada and France, and Dial-It 900 Service to 36 countries.

Burdens From the Past

As the technology and its uses charge forward, other aspects of the industry also change—but often with agonizing slowness. The regulatory process, in fact, is struggling

with the transition from monopoly to the competition that it introduced.

Monopoly permitted cross-subsidy—especially from long distance to local service. But competition drives prices to their economic costs. And the necessary transition to a system in which local users pay their full costs has been difficult to bring about.

The FCC's attempt to introduce a two-dollar-per-month customer line charge to help that transition foundered last year. In the interim, local telephone companies are watching their large customers use new technology—much of it radio-based—to bypass overpriced local access lines.

Vestiges of regulation from the pre-divestiture monopoly days weigh particularly heavily on AT&T. I mentioned earlier that AT&T alone among the 400 competitive interexchange carriers remains fully regulated. We pay more than twice as much as our competitors do to use local access facilities—thereby bearing virtually alone the principal burden of subsidizing local service.

We alone must secure regulatory approval to change prices—up or down. It's difficult to compete when competitors can change prices at will.

Our Accunet Packet Switching Service was held from the marketplace for two years, International Video Teleconferencing was delayed for a year, and Alliance Teleconferencing was held up for a year—all through regulatory intervention by our competitors.

While this is onerous for AT&T, it is also bad for the consumer, the business person, and the general public. As you know all too well, cellular radio was held from the market more than a decade by similar tactics. In the interim, foreign competitors caught up. Look closely and you'll see that most of the mobile telephone sets now on the market were manufactured on the other side of the Pacific.

So . . . in a highly abbreviated form, that's where we are today and where we are going. We're witnessing the dawning of the Information Age—and telecommunications is central to its progress.

Ours is an industry in transition . . . characterized by exploding technology . . . with uses we have yet to imagine. But ours is also an industry retarded by anachronistic remnants of the regulated monopoly age that has passed.

However, the exciting information technologies are far from exhausted, and, given some improvement on the political/regulatory front, our technological progress should move at a fast pace for the foreseeable future.

We're living in a world that's moving rapidly into a period as revolutionary as the Industrial Revolution of a century ago. Our nation is well positioned to enter this new era. We have the best telecommunications system in the world—the germinating bed for the electronics and data processing technology that fuels the Information Revolution.

But let us ponder a final and sobering historical fact. Let us remember that although the Industrial Revolution began in Great Britain, it came to fruition not in Great Britain, but in the United States. The Information Revolution has begun in the United States. It lies in our hands to determine whether we will be the principal beneficiaries of *its* fulfillment.

Thank you.

In Retrospect

The Eighteen-Month Year

by John W. Morrissey

The Diamond Jubilee Year is over. Eighteen months long, it was the longest year in the Club's history and one that long will be remembered.

At their meeting of June 1983, the Board of Directors set goals for the Club's 75th Anniversary: to commemorate the achievements of the past and present members; to honor the memory of Dr. Lee de Forest with the merging of the *de Forest Pioneers* into The Radio Club of America; to strengthen the Grants-in-Aid program; to found Sections in those parts of the country where membership is strong; to establish the grade of Senior Member; and to publish a Year Book to record the destinies of the Club.

During the Diamond Jubilee Year, two awards banquets were held at the New York Athletic Club. At the first of those dinners, the newly established de Forest Award was made to D.E. Replogle for his significant contributions to the advancement of radio communications. The Club also was honored by the attendance of Mr. and Mrs. Frank King—Frank being a founding member of The Radio Club and its first president, in 1912. He shares the distinction of 75 years of membership with W.E.D. Stokes, Jr., who was the president of The Junior Wireless Club, from which The Radio Club evolved.

The goals of the Board of Directors have been met. The Grants-in-Aid scholarship awards during the anniversary year totalled \$7,500; an active Section was established by 55 members living in Florida, who held their organizational meeting on February 2, 1985 in Miami; the Senior Grade membership was instituted to grant professional recognition to members whose high qualifications are supported by the recommendations of peer members; and the *Diamond Jubilee Yearbook* was published.

The need for a year book was recognized in 1974 when Leo Sands proposed a 248-page book to commemorate the up-coming 75th anniversary. It was to be an updated and expanded version of the *50th Anniversary Golden Yearbook* which had already become a collector's item. The price was tentatively set at \$10 on pre-publication orders, and \$15 after publication; twelve members sent orders immediately after the announcement in the March 1975 issue of the *Proceedings*.

The project got underway in September 1982 when President Fred Link appointed a year book committee and

undertook the solicitation of contributions from members, friends, and industry supporters. The *Committee For 75* was organized to recognize those who were able to contribute \$75 or more; 95 members and friends and 43 companies donated \$17,210.

Beginning in May 1984, orders for the Yearbook were accepted and shipments against those orders began in December. The publication date had been set as late as possible so that the contents of the Yearbook would reflect the Club's activities throughout the anniversary year. Orders valued at \$3,275 were received from 228 members plus those who had contributed as the *Committee For 75*, and from eleven non-members. Each contributor to the *Committee For 75* received complimentary copies, and these also were sent to the 20 authors who submitted articles for publication. Additionally, copies of the Yearbook were sent to publishers of radio periodicals for their book reviews, and to libraries and universities, including The Library of Congress, the Massachusetts Institute of Technology, Georgia Tech, Stevens Tech, the Florida Institute of Technology, Southern Methodist University, the University of Pennsylvania, and to each college attended by recipients of the Grants-in-Aid scholarship awards.

At the end of January, 660 copies had been shipped. These included one to a non-member living in New Zealand, and ten copies to members and libraries in Australia and the United Kingdom.

The costs of publishing and distributing the Yearbook have amounted to approximately \$17,165. The surplus of \$3,320 will be allocated by the Board of Directors to other activities of the Club such as establishing an archive for historical documents bequeathed to the Club, and for enhancement of the Club's publications.

The almost-daily bouquets arriving by mail or phone confirm that the Yearbook came close to the target of the Board of Directors and the Yearbook Committee. If you haven't already ordered your copies, perhaps you're missing something.

Copies can still be obtained, from John W. Morrissey, 45 South Fifth St., Park Ridge, NJ 07656, at \$10 each. And if you have ordered your copy, but haven't received it, let me know at once, at the same address!

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GAETANO (TOM) AMOSCATO
President

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Robert M. Akin, Jr. (M 1924, F 1944, L 1972), right, receives the Sarnoff Citation from Jerry Minter. The Citation is given to a member "for Significant Contributions to the Advancement of Electronic Communications." Mr. Akin is a pioneer in radio. In 1924 he founded the Westchester Radio Laboratories, builders of custom receivers. In the same year he joined Hudson Wire Co., and is now Chairman of the Board. He was one of the few to witness the Bikini atom bomb test, serving as official observer aboard the USS Parament. Mr. Akin is a trustee emeritus of the Woods Hole Oceanographic Association, and is President of the Naval War College Foundation (Newport, RI).

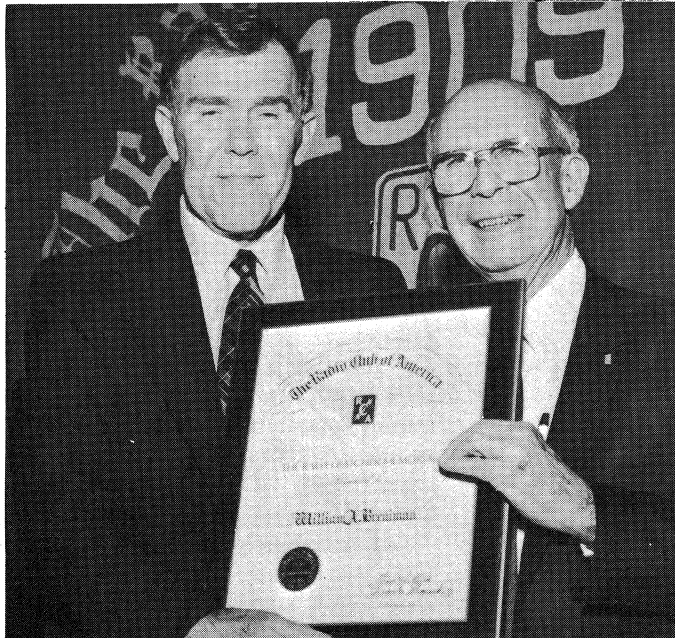
Frank P. Barnes receives the Busignies Award, given "for the advancement of Electronics for the benefit of mankind," from Mrs. Busignies. A true pioneer, Frank started his radio career with a quenched spark in Alaska, later setting up a ham station, K7DVF, in Wrangel. After periods with General Electric and the Radio Corporation of America, he spent 18 years with ITT, directing the corporation's worldwide telecommunications systems and products from ITT World Headquarters in New York. He is now an independent radio consultant.



Dr. Harold A. Wheeler (M 1935, F 1936, L 1971, H 1983), right, receives the Pioneer Citation from Frank Gunther. The Citation is given to long-time members who have contributed substantially to the art of radio communication. Dr. Wheeler started his radio career as an amateur (3OK) in 1920. Later, as a young inventor, he was employed by Professor Hazeltine of Stevens Institute of Technology, working on Hazeltine's newly designed Neutrodyne. Later he became active in antennas and microwaves for IFF (Identification, Friend or Foe) systems, and after World War II, founded Wheeler Laboratories, which he continued until it merged with the Hazeltine Laboratories in 1971. He was made Chief Scientist and is still active. Among Dr. Wheeler's honors and awards is the Armstrong Medal, granted by the Club in 1964.

AWARDS

Commander William G. H. Finch (M 1927, F 1959, L 1971), right, receiving the de Forest Award from Jerry Stover. The de Forest Award is given in memory of Dr. de Forest's many contributions to radio communications. Finch, born in 1895, was a consultant to Dr. de Forest for about five years in the 1920's. Leading figure in teleprinting and facsimile, he established the first teleprinter press circuit in the United States, and his Finch Facsimile systems were world famous. Recipient of many honors and awards, including the Club's Armstrong Medal in 1976, he has most recently received the honorary degree of Doctor of Science from the Florida Institute of Technology.



William A. Breniman (M 1982, F 1983), right, receives the Ralph Batcher Memorial Award from Bruce Kelley, curator of the Antique Wireless Association museum in East Bloomfield, N.Y. The award is given for "substantial assistance in preserving the history of radio communications." Mr. Breniman qualifies amply for the honor as founder of the Society of Wireless Pioneers and publisher of its periodical, *Sparks Journal*, a large quarterly publication devoted entirely to radio history. Breniman was a Navy signalman and radio operator in World War I, later joining the Civil Aeronautics Administration to begin a 32-year career in aviation radio.

June Poppele receives the DuMont Citation from Dr. Samuel Christaldi for her father, **Jack R. Poppele** (M 1941, F 1942, L 1970), who was unable to be present. The award is given to "a person who has made Important Contributions to the Science of Television." Mr. Poppele was a marine operator in World War I. In 1922 he persuaded the management of Bamberger's in Newark to start a broadcast station, and thereafter became constructor and chief engineer of WOR. He was responsible for the start of WOR-TV and supervised the establishment of WOIC-TV in Washington, DC. He was a founder and served six terms as President of the Television Broadcasters Association. A Director of the Club since 1966, and Banquet Director for many years, he has already received the Sarnoff and President's awards of the Club.





President's Award to Joe Walker

Joseph F. Walker, Sr. (M 1977, F 1978), right, receives the President's Award from President Link. Mr. Walker retired in 1984 as Manager of Telecommunications of the Phillips Petroleum Co. of Bartlesville, OK, at the end of a 32-year career with that company. During that period he directed the installation of radio systems in 31 countries, including the \$20 million communications system for the famous North Sea oil and gas project, which required separate communications from the field to England, Norway and Germany, as well as an internal microwave system for the oilfield itself. Mr. Walker is a Director of the Club and headed the Grants-in-Aid Committee from 1981 to 1984.

Vignette of History—Model Airplane and Armory Walls

Readers of the Radio Club's Diamond Jubilee Yearbook were amused with the situation which led to the founding of the club, as related in W. E. D. Stokes' message as first president of the Junior Wireless Club Ltd. He wrote:

"Any history of the Radio Club of America would read like a Jules Verne story. When a handful of boys in 1907 tried to devise a remote control system for their model airplanes so they would not be smashed against the walls of the National Guard Armory, the groundwork for guided missiles was laid and everything we now know as radio was started."

Mr. Stokes recently wrote a sequel to his earlier story:

"Thanks for asking me to tell all about the gimmick I produced to prevent my model plane from getting smashed against the wall of the Armory.

"The problem was only to turn the model when you saw it about to strike the wall and rest content that the motive power would let it fade out as it began to circle. For this purpose, I had two springs attached on either side of the rudder. When I saw the plane getting close to the wall all I had to do was to unlatch one spring so the other spring was free to pull the

plane around into a turn. As luck would have it the head carpenter at the Hotel Ansonia, who was terribly interested in my expensive work shop, was able to produce an electric front door latch for unlocking doors by remote control. This very small piece of equipment was fitted into the large model plane that I had put together and was able to release one spring when hooked up to a decoder and battery carried on board. This was a great idea for saving the plane from damage but did not solve the problem of returning the model to straight flight.

"Various ideas were suggested to produce a system for latching up the spring that had been unlatched in the above way. This required more heavy batteries and a small motor to wind up the spring instead of unlatching it. A scheme was concocted to do this after allowing the plane to turn say 15 seconds and then to flip a switch and reactivate the spring to produce straight flight. It all seemed so simple but never worked. It took one whole month at my father's Summer estate at Little Silver, New Jersey, to put the material together into a heavy box kite. The end came quickly when the box kite made a sudden flip to one side and never recovered, then dove into the river never to be seen again."

Capt. Finch Honored

Capt. Wm. G.H. Finch, Director Emeritus of the Radio Club, has been honored with the honorary degree of Doctor of Science by the Florida Institute of Technology. The degree, said the president of the Institute, was conferred in recognition of: "Your pioneering work as an electronics engineer in a career that spans more than half a century and has produced major contributions to advancement of communications in the fields of telepictures, the facsimile machine and the printing telegraph."

Captain Finch has received more than 200 patents in the communications field, many of them having to do with facsimile.

ADDRESS CHANGED?

Please, please inform the Club if you have moved or if your post office box number has been changed. Delays and loss of second and third-class mail are the least of the problems that can be caused by failing to keep your address updated. And as to the worst case — more than one member has been lost forever because mail came back marked: "Forwarding period expired — unable to deliver."

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31 MEMBERS BECOME FELLOWS



Thirty-one members became Fellows in 1984. Twenty-three of them were photographed at the Annual Meeting and Banquet. Left to right, standing: Taizo Arakawa, Sharp Electronics, Paramus, NJ; Thomas Stevens, retired, Edmund, OK; Gerald Goldberger, Simpson Electric Co., Elgin IL; Mats Ljunggren, Ericsson Communications, Rutherford, NJ; Ivan Coggeshall, retired, Middletown, RI; Arch Doty, retired, Fletcher, NC; John D. Ryder, retired, Ocala, FL; Robert Brandel, E.F. Johnson Co., Waseca, MN; Edward Weingart, Bell Atlantic, Basking Ridge, NJ; Richard Meyer, NABER, Washington, DC; MacDonald Nyhen, U.S. Department of Commerce; George Schleicher, Ameritech Mobile Communications, Chicago, IL; Frank Borsody, distinguished amateur, Sarasota, FL. Seated: Othal Vrana, General Communications, Wichita, KS; Luther Pully, Consultant, Dallas, TX; Claude Buster, REA, Alexandria, VA; R.W. Nelson, Oki Advanced Communications, Norcross, GA; Francis Fuson, Communications Engineering Co., Las Vegas, NV; William Donaldson, Lab Associates, Montclair, NJ; Edward Singer, New York Fire Department, Brooklyn, NY; Homer Huddleston, Action/Honeywell, Dallas, TX; William Gary, Aramco, Saudi Arabia; Eric Schimmel, Electra Corp., Washington, DC. Unfortunately, new Fellows Lewis Best, Ed. Braddock, A.J.F. Clement, Craig Jorgenson, Joseph Risse, James Scoggin, Arnold Rosenberg and Judith Villastrigo were unable to be present.

Members Contribute Generously

More than 100 members have made generous contributions to the Grants-in-Aid Fund during 1984:

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Penril Corp.

1984 Annual Report
to Shareholders



Penril Corp. (AMEX-PNL) designs, manufactures and markets a diversified line of high tech electronic equipment, at nine U.S. and three foreign profit centers.

The first quarter of fiscal 1985 saw earnings rise 63%, to \$770,000, compared to \$473,000 in the like period of 1984. EPS were up 57%, to 36c/share in the first quarter of 1984. Revenue climbed to a record \$21,005,000 for the period, compared to \$10,497,000. The Company is currently generating revenue at an annualized rate in excess of \$84,000,000, compared to a total of \$65,702,000 during the year ended 31 July 1984.

Penril has made fourteen acquisitions during the past eleven years and continues to seek \$10 million to \$50 million revenue electronic manufacturing businesses, for cash.

Contact: Kenneth M. Miller, President and C.E.O., Penril Corp.
5520 Randolph Road
Rockville, Maryland 20852-2676
Telephone: (301) 881-8151



We must be doing something right —as once again the Club hit the Jackpot with our 1984 Award Banquet. Jack Poppele and his “elves” undertook the task of matching or topping the super affair held last year honoring our 75th year, and the universal comment from just about everyone of the roughly 300 present agreed that the Club had put on another super party, starting with the excellent technical session in the afternoon. That Communications Symposium, arranged by Stuart Meyer, our Executive VP, not only had three very timely and interesting topics but backed that up with three super speakers who knew their subject matter: in Bruce Kelley, Fellow as well as Curator of the Antique Wireless Association Museum talking

about the very famous and outstanding work of the Radio Club sponsored amateur station 1BCG in December 1921. (I might add that I wish I had the slides of the quality that Bruce put on to support his presentation.) This important segment was followed by member Gregory Stone of Stone Industries giving a solid technical presentation on the subject of “Bandwidth Efficient Technology.” The piece de resistance was the always interesting and solid discussion by member Bob Foosaner, Chief of the Private Radio Bureau, FCC. Bob is a delight and we will certainly have him back—if he’ll come . . .

Nick Radnai, Manager of Banquet Facilities at the NYAC with his magical man Friday, Captain Nelej

and the NYAC famous Banquet Staff took over about 5:30 and the service and quality of the “hors d’oeuvres” became the talk of the reception. The service as well as the quality of both food and drink could not be improved. The banquet itself had the top-of-the-line food, featuring a NYAC filet mignon with all the side goodies, so there could be no question but that everyone was more than satisfied.

As is usually a key feature of our awards banquet, the recognition of the new Fellows again took center stage and we had twenty-three of the thirty-one honored new Fellows of 1984 on hand in person to receive their honors. That group of new Fellows came from all over the country, plus at least two who broke travel records to make the affair. Bill Gary



came from Dhahran, Saudi Arabia, where he is a top official for Aramco while another Fellow, Wayne Nelson, made a special rush trip from Tokyo where he was on business for his company, OKI Advanced Communications. He set a special record we may never match or exceed—he left Tokyo at 12 noon, November 16 and arrived at JFK the same day, Nov. 16 at 10:30 am . . . *We knew he was speedy*, but this is ridiculous, don't you think??? So much for records—but here is even a more fantastic one: Among our twenty-three new Fellows were two men who were past Presidents of IRE and IEEE, the famous Ivan Coggeshall, and equally famous Dr. John Ryder. In fact the Board considered our selection of Fellows for 1984, our "Diamond

Jubilee" group, to be totally outstanding and we are happy to congratulate each and every one.

The major awards again honored outstanding members, and the detail citations of each and every one of them carried on pages 8 to 10 of this issue supports the selection of these top members to receive the key honors.

We also were very fortunate to have Dr. John D. Ryder, a former Dean of the School of Engineering at Michigan State University as well as a former President of IEEE, be the respondent for the new Fellows and his excellent presentation is carried on Page 16. This year, being a milestone for the Club, we were fortunate in being able to have Mr. Morris Tannenbaum, the Chairman and CEO of

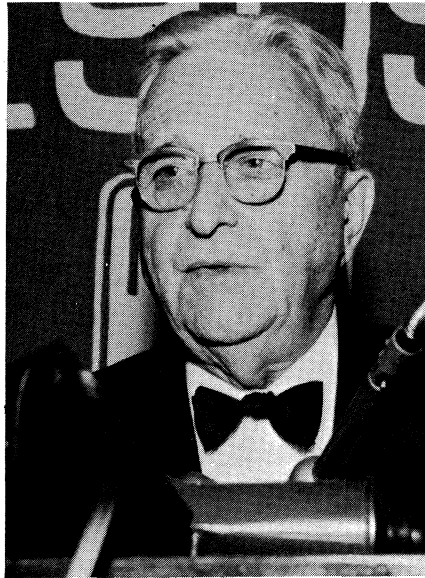
AT&T Communications, as our guest speaker and again we hit the jack-pot. Mr. Tannenbaum was outstanding and excerpts from his excellent talk appear in this issue. Last, but not least—the whole show went off on time and for the first time in recent history we pulled down the curtain on schedule. It was a great banquet—and I doubt if we will ever improve on it. Thanks to Jack Poppele, who unfortunately was unable to be present, his team outdid him—so, thanks to all who contributed to making the affair our greatest.

That means Jack Poppele, Director Emeritus; June Poppele; Connie Conte and the many club members who helped keep things rolling. We cannot close this out without giving a solid vote of appreciation and ad-

John Ryder Responds for Fellows

miration to the job done by the *Diamond Jubilee* book committee headed by John Morrissey, Fellow and Director. John promised to have this 320-page historical masterpiece finished and ready for distribution in time for the November 16 banquet—and that he did. Copies of those excellent documentaries were given to the Communications Symposium speakers as well as all the honored major awardees and the keynote speaker, Mr. Tannenbaum—and by the time you read this your own copies should have long since been in your hands. Hopefully you will have the same appreciation that I do for a gargantuan job well done by Morrissey. It is a tribute to all of our friends and industry supporters who through their financial support made this effort a reality. Thanks to those "Committee of Seventy Five" backers and also thanks to the Reception Sponsors who really made the banquet possible, and kept us in the black. These contributors are listed on Page 17 for your appreciation and information. In my capacity as President of the Club, I salute everyone who was involved.

Fred Link



John D. Ryder

Joseph Henry, co-discoverer of electromagnetic induction, believed that once the basic science was in place, any knowledgeable investigator of electricity could invent a telegraph, an electric generator or an electric motor. He proposed discovery and invention as the normal steps in the path of technical progress. Being a scientist, he can be excused for overlooking another step, that of the "art" which intermingles with the science and precedes and often leads to the invention. It is to the "art" of radio communication that this Club gave its first attention, circa 1910.

It may be observed that the period in which a new field progresses as an art is the period where the fun is—the period of enthusiasm after discovery, often by crude and ill-adapted techniques. Such was the discovery by Marconi that signals did follow the curvature of the earth for whatever reason—or de Forest's discovery that the Audion would amplify in spite of the remanent gas which he believed necessary. In this period lie the thrills—all too soon lost and buried by the cold, hard facts of scientific reasoning. Was Langmuir as thrilled with his mathematical prediction of space charge as was Armstrong in finding that the Audion would regenerate?

The Radio Club of America was founded to perpetuate the "art" of

radio. There are many in this room who remember early details of that art—who would understand if I speak of Fahnestock clips, litzendraht wire, loose couplers, variometers, hedgehog transformers, pencilled grid leaks, Baldwin cans, honeycomb coils. Perhaps there are a few who learned as I did, to drill plate glass for mounting a fifty-watt self-excited transmitter, or that a small light bulb shunted across a few inches of antenna made a good antenna current indicator, and that Xmas-tree bulbs had a greater tolerance for overcurrent than did flashlight bulbs—or that lead pipe scraps and sulfur fused to lead sulfide in a tin can on a kitchen stove made a better crystal detector than the galenz detectors sold at Kresge's five and dime. I daresay Hazeltine had more genuine pleasure in working out the sacred angle than he did in collecting Neutrodyne royalties in later years.

One learns the art of his field by doing, not by study—the work illuminates the study that must follow. Thus we have laboratory with our formal education.

The art of a field does not die, it just moves ahead to new problems, to new fields, often before a field is recognized. Who can now say that Lady Ada did not contribute some "art" to Babbage's computer of 1834? Was there not "art" in the Williams electrostatic computer memory of 1950—which could not work but did, because RCA happened to be using lime glass for cathode-ray bulbs? Did not Bushnell have fun in devising the program for PONG, the first Atari game in 1972—or was there not fun in the arts of pedagogy learned in programming some of the TI learning games for children?

And what of the programmer who conceived the clever bite out of the "Apple"?

I am sure of support from my companions, the newly inducted Fellows, when I say we are indeed proud to join with the other Fellows of the Radio Club of America. I greatly appreciate the honor of representing such an illustrious group—and I hope that we will all continue to work toward retaining the fun in the art of radio.

SENIOR MEMBERSHIP

Applications Now Ready

The Board of Directors approved the establishment of a Senior Member Grade at its meeting in June, 1984. A Senior is one who has "been a member for at least three years and whose contributions to the art and science of radio and electronics are such as to qualify for the grade of Senior Member."

Application forms are now available. For your application, please write or call the Executive Secretary:

Fred Shunaman
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Prof. Michael I. Pupin
Capt. Henry J. Round
Joseph Stantley
John Stone Stone
Brig. Gen. David Sarnoff
W. Walter Watts
Prof. Jonathan Zenneck

Jack Poppele Honored

J. R. Poppele (M 1941, F 1942, L 1970) was inducted into the Advertising Hall of Fame of New Jersey, at a March 21 dinner at the Mayfair in West Orange. The speaker noted that Jack was a pioneer in all phases of broadcasting. He started WOR in 1922, was among the first with commercial FM programs and a TV pioneer with WOR-TV and WOIC-TV (in Washington).

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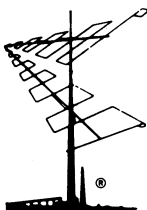
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Nine Members Have Passed On



William E. Fingerle, Jr.

With deep regret, we report the death of William E. Fingerle, Jr. on December 6, 1984 at his home in Old Greenwich, Connecticut. Bill joined The Radio Club of America in 1970 and became a Fellow in 1973. He was a Director at the time of his death, and served as chairman of the Technical Papers Committee.

Born in The Bronx, NY on April 9, 1914, he graduated from MIT in 1936 with degrees in electronics and mechanical engineering. He then accepted an engineering position with the Link Radio Company where he rose to the position of Assistant Chief Engineer. During World War II, he directed the development of FM mobile radio equipment, radio-sondes, the AN/TRC-1, 3, 4, and special radar modulators for the MIT Radiation Laboratory. Following the war, he designed and supervised construction of early UHF and VHF television transmitters supplied to the Allen B. DuMont Laboratories Inc. and their pioneer station WABD-Channel 5, in New York City. Another development was a transmitter for Cornell University for measuring ionospheric wave transmission. This became the prototype for equipment which monitors the planet Mars.

Mr. Fingerle's contributions to the early development of television were recognized by The Radio Club with the awarding of The Allen B. DuMont Citation at the annual awards dinner in 1982.

With the sale of the Link Radio Company in 1950, Fingerle joined with Fred Budelman, then Chief Engineer of Link Radio, in forming Budelman Electronics Inc., of Stamford, CT, to develop and manufacture telephone carrier and 2000 MHz point-to-point radio control systems for the petroleum and gas pipe line industry. In the mid-1950's, Mr. Fingerle became president of the company.

In 1964, he retired and took a year-long world cruise with his family. From 1966 until his death, Mr. Fingerle was a director of Cook Laboratories, creating machines for manufacturing tape cassettes.

His avocation was music and he built instruments at home in his spare time. He sang in the Chancel Choir of the First Congregational Church of Old Greenwich and with the Greenwich Choral Society. He was a life master in tournament bridge.

Mr. Fingerle is survived by his wife, Martha; a son, Mark; a daughter, Beth; and a brother, Albert.

A memorial service was held on December 12, 1984 at the First Congregational Church of Old Greenwich. Members of The Radio Club who attended included Tom Amoscato, Fred Link, Jerry Minter, and MacDonald Nyhen. A special committee consisting of those officers and directors plus Capt. Wm. G.H. Finch are planning a memorial to Mr. Fingerle to carry out one of his wishes: to refurbish the chimes and bells of his church.

Joseph J. Stantley (M 1920, F 1926, H 1967) died October 3, 1984, at the age of 93. An amateur from the age of 15, he was W2SC from 1906 to 1913. In 1920 he joined Continental Radio Corp of Newark, NJ as secretary and treasurer. He became president of the company, and later Chairman of the Board until his retirement in 1967. He was for many years Treasurer of the Armstrong Memorial Research Association, and was Treasurer of the Radio Club for more than 40 years, becoming an Honorary Member on his retirement.

Ray E. Meyers, W6MLZ (M 1971, F 1977, L 1984) died in December 1984. Born in Cambridge, MA, on March 2, 1895, he moved with his family to Brooklyn at age 7. He and his brother went on the air with the call MI in 1910. In 1911 he took a job as pick-up boy with the Commercial Cable Co., and soon found himself working on the Azores cable, transmitting in both International and land Morse codes.

He then went to sea, and after operating on Clyde Line steamers for a time, joined the Navy as Electrician (radio) 3rd Class, and saw service in the Mexico, Haiti, Domingo, Nicaragua and Honduras areas. In World War I he was in Ireland, England and France, serving, he said, on every type of vessel the Navy had, as well as on heavier- and lighter-than-air flying craft.

Immediately the war was over he became Chief Operator at NBD, Bar Harbor, ME, with 55 Chiefs and several hundred operators under him. Later he was aid to Sir Hubert Wilkins on his attempts to reach the North Pole by submarine, on the Williams-Lecato expedition to the Amazon, and as navigator and radio operator on the raft Lehi-V in an attempt to drift around the world.

After a stint as news correspondent and columnist for the Los Angeles *Express* and *Herald-Examiner*, and as Chief Radio Inspector in the San Francisco area, he became Manager, Radio Operations, for Lockheed Aircraft in Burbank, CA, a post he held until his retirement at age 65. He then became interested in the plight of the handicapped, and, among other things, sponsored the International Handicapped Net. He was a member of the President's Committee on Employment of the Handicapped.

Meyers was a member of the ARRL (former Director, 6th District) of the Society of Wireless Pioneers, the Old Old Timers Club and the de Forest Pioneers. He received many Navy decorations and other awards, including the Columbus Gold Medal (only American to receive that decoration) and the Marconi Medal of the Veteran Wireless Operators Association.

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Mobile Radio

PHILIPS



John F. Rider, W2RID (M 1932, F 1937, L 1950) an active member of the Club for more than 50 years, died Feb. 6, 1985, age 85.

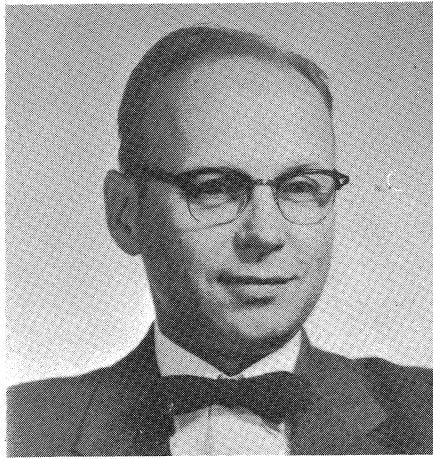
Rider was a radio pioneer, author, philatelist and publisher. He began as a radio feature writer for several New York papers in the 1920's, and in 1930 became Service Editor of Hugo Gernsback's *Radio-Craft* magazine. After leaving Gernsback, he published the famous *Rider Manuals*—anthologies of receiver schematics that became the bibles of the service technician for many years. He also wrote and published numerous books on radio service subjects.

He developed a vacuum-tube voltmeter, the *Rider Voltohmyst*, and an intermittent indicator, the *Chanalyst*, which were standard equipment in many service shops.

In WW II, John Rider served as Director of the Signal Corps Publication Agency, responsible for preparing and publishing the myriads of instruction and service manuals covering all Signal Corps equipment. He retired as a Lt. Colonel, AUS, after the war, and resumed operations at John F. Rider, Publisher. In 1962 he sold the business to Hayden Book Co. and retired.

He became an ardent philatelist, specializing in 19th century stamps and covers, and was internationally known as an expert in identifying counterfeit stamps for philatelic organizations. At the same time he was extremely active in Amateur Radio with his station W2RID.

John Rider was a Director of the Radio Club in recent years, and in 1977 became Chairman of what is now the Grants-in-Aid Committee. He received the Ralph Batcher Award in 1977.



Leo Sands (M 1960, F 1969, L 1984) former Executive Secretary of the Club, died October 29, 1984 in San Diego, CA. Born in Spokane, WA, in 1912, he was educated in the university of California and the U.S. Army Air Corps Radio Engineering School. He held positions with Remler and Philco and was once president of Bogue Electric Co. He was a radio amateur in the '20s (W7PH, W7ABV).

Leo was a prodigious writer, and author of more than 40 books, many of them on two-way radio. His latest book, *The Illustrated Cyclopedia of Solid-State Circuits and Applications*, co-authored with Don Mackenroth (Prentice-Hall) had not reached the market at the time of his death.

Always a staunch supporter of the Club and the Vehicular Technology Group of the IEEE, Leo was also active on IEEE publicity committees. He took a particularly effective part during the Club's crisis period of 1969.

Robert E. Franklin, W5OX (M 1979) died June 29, 1984. He was owner and manager of Franklin Mobilephone Co. of Houston, TX, a mobile phone and radio paging service. An old-time amateur, he was a member of the Houston Amateur Radio Club and the Houston Engineering and Scientific Society.

William D. McCuin, N3BGU (M 1984) died of a stroke at his desk, November 23, 1984. He was 70 years old. Mr. McCuin was president and chief executive officer of S.I.C., Inc., of Folsom, PA, and an expert in electronic security and surveillance equipment.



Amory L. ("Bud") Waite, W2ZK (M 1974, F 1976) died January 15, 1985, at his home in Valencia, FL. He was 82 years old.

Born in Boston, MA, he set up his first ham station, 1AW, in 1912. He joined the U.S. Navy in 1919, for a four-year term. In 1929 he worked for Hollis Baird as Chief Operator of voice and TV stations, televising Rudy Vallee, Rin Tin Tin and others to 5,000 Baird TV receivers in New England.

In 1933 he became chief operator on Admiral Byrd's ship to the Antarctic (1933-1935). He was one of the three who rescued Byrd in 1934. Thereafter he took part in 11 Antarctic and 12 Arctic expeditions, becoming a world authority on radio and radar transmission over and through ice, and an inventor of greatly improved (radio) methods of sounding (measuring) depths of polar ice.

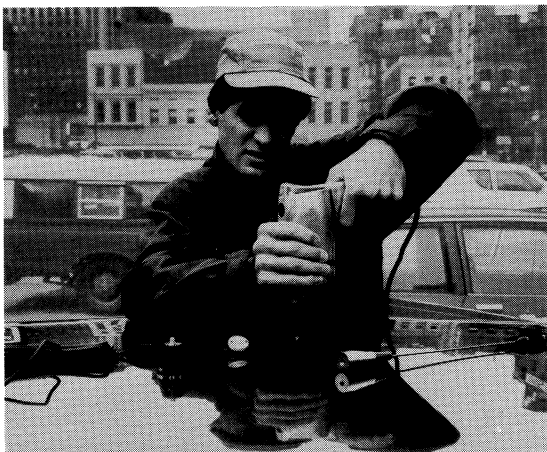
Waite's part in the D-Day invasion is told by him in the Jubilee Year Book, page 170. He and Victor Colaguori (M 1974, F 1976) were the British and French terminals, respectively, of the communications system in that invasion.

He gave over 3,000 illustrated lectures to schools, colleges, clubs, etc., on experiences with Admiral Richard E. Byrd in the Antarctic.

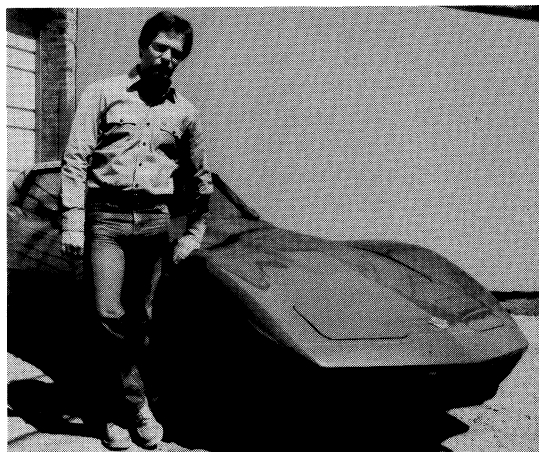
Waite has received awards, medals and citations too numerous to list. Possibly the outstanding one is the Exceptional Decoration for Meritorious Civilian Service, from the Department of the Army for South Pacific. This is the highest award a civilian can be granted.

(continued on page 24)

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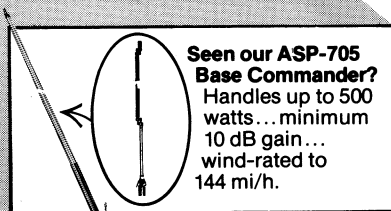
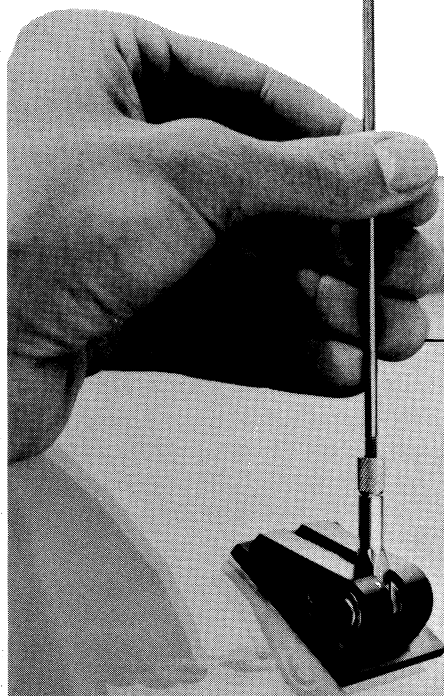


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Florida Section Inaugurated

MODERN AVIATION ELECTRONICS, Third Edition, by Albert Helfrick (M 1981). Prentice-Hall, Inc., Englewood Cliffs, NJ 07632. Hard cover, 7 x 9½ inches, 312 pages. \$34.95.

The first two chapters are an introduction—giving a brief history of the development of aviation electronics—and a chapter on frequency synthesis. In the third, the author discusses VHF and HF communications systems and circuits. Navigation requires three chapters, one each on low-frequency navigation systems, one on VHF systems and one on rho-theta navigation, covering omnirange and distance-measuring equipment (DME). Landing systems—including microwave landing systems—occupy a chapter.

A chapter is given over to radar transponders, the radio altimeter and weather radio, and there is an excellent chapter on the gyroscope.

ENGINEERS & ELECTRONICS, by John D. Ryder (M 1983, F 1984) and Donald Fink (M 1934, F 1940, L 1973). Institute of Electrical and Electronic Engineers, 345 East 47th St., New York, NY 10017. Hard cover, 8½x9½ inches, 251 pages. Price: Members, \$17.95, non-members \$29.95.

Published as part of the Centennial activities of the IEEE, this is a history of the American Institute of Electrical Engineers, the Institute of Radio Engineers, and its merged form, the IEEE.

As might be expected in a history looking back from 1984, the bulk of this work deals with electronics. One-fifth of the way through the book, in Chapter 4. "Marconi takes the stage," and only in Chapter 6 does pure electrical engineering appear again. Chapter 5 is devoted to (mostly entertainment) radio, Chapter 7 to solid-state electronics, and 8 to World War II developments. Television appears in Chapter 9 and computers in Chapter 10. The closing chapters again focus on the engineers, with a significant chapter on education and a thorough coverage of the factors in the merger of the AIEE and the IRE.

While it might have been expected that the story of an association would focus more on the human side than a history of technical progress would, the attention paid to people is outstanding. We hear of completely

The Inaugural Meeting of the Florida Section of The Radio Club of America, Inc. convened on Feb. 2, 1985 at the Ramada Hotel-Airport in Miami, FL. It was held in conjunction with the Tropical Jamboree and ARRL Southeastern Division Convention. There were 41 present including 21 members of The Radio Club and Charter Members of the Florida Section.

The meeting was called to order by Joel I. Kandel, KI14T, Charter Member of the Florida Section, in his capacity as the Co-Chairman of the ARRL Southeastern Division Convention. He discussed the need of interesting young people in Amateur Radio and to participate in the telecommunications field.

Then Captain W.G.H. (Bill) Finch, USN (Ret.) Chairman protem of the Florida Section, introduced the other temporary Section Officers: Ramsey McDonald, Vice-Chairman, and David Talley, Secretary/Treasurer. Capt. Finch briefly outlined the events leading to the authorization of the Florida Section by the Board of Directors of The Radio Club of America, Inc. in June, 1984. The Florida Section now comprises 56 Charter Members who have contributed a total of over \$1,000 to the Section in lieu of dues.

A Constitution and By-Laws for the Florida Section have been prepared by Charter Members Ramsey McDonald, John F. Rider and David Talley. These documents will be submitted for approval to the Florida Section members in connec-

or almost unknown persons, and for the first time learn of the achievements of others previously known only by name.

Digital PPL Frequency Synthesis, by Ulrich L. Rohde (M 1976, F 1983) is a work that the author believes makes a distinct additional contribution to the literature on phased-loop frequency synthesis, by devoting roughly 50 percent of its contents to practical circuitry. This contrasts with earlier works, most of which were almost solely concerned with the theoretical aspect.

Theory is compressed into the first

tion with the ballots for the election of Officers and Directors, to be held during March, 1985.

Capt. Finch also announced the appointment of the following Nominating Committee: Howard W. Mehrling, Chairman, Paul Gruber, and Arthur Greenberg. Their report will be included with the election ballots.

Fred M. Link, W2ALU, President of The Radio Club of America, Inc., presented a most interesting narrative of The Radio Club's history. He gave a number of amusing anecdotes concerning his involvement in the reconstruction of the Club during the past two decades. President Link urged the Florida Section, which has retirees from many parts of the country, to continue their activities in advancing the objectives of The Radio Club of America. He also suggested that consideration be given to establishing a "Radio Hall of Fame."

The last speaker was Stuart F. Meyer, W2GHK, President of the Quarter Century Wireless Association, Inc. (QCWA), and the Executive Vice-President of The Radio Club of America, Inc. Stu Meyer briefly described some pending FCC matters pertaining to the Amateur Radio Service. He further stated that QCWA would continue to promote Amateur Radio matters with the FCC and other government agencies.

A short "Open Forum" question and answer period was held followed by a drawing for three Diamond Jubilee Yearbooks, and adjournment.

three chapters if the book, which covers loop fundamentals, noise and spurious response and unconventional loops. A number of unique approaches are described. Then the author presents detailed information and actual circuits, many taken from equipment made by such companies as Rohde & Schwarz or Hewlett-Packard, finishing with three complete synthesizers.

An appendix includes computer programs and some mathematics to extend the treatment of techniques described non-mathematically in Chapter 1.

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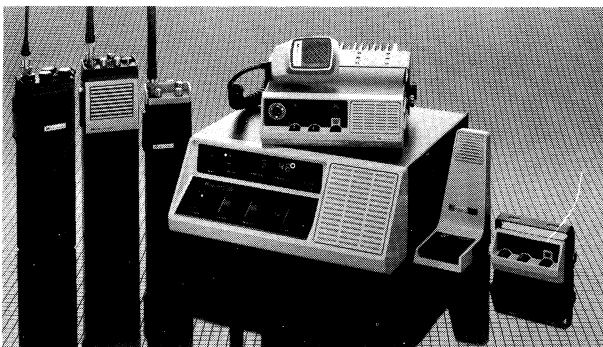
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NEW MEMBERS

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Have Joined the Club

Minnie M. Adams, Mitchell Energy & Development, 2001 Timberloch Place, The Woodlands, TX 77380

Emil J. Beran, 71 Lowery Lane, Mendham, NJ 07945

Don Bishop, 5625 South Sycamore St., Littleton, CO 80180

Glenn M. Bloodworth, 2210 Charles Drive, Raleigh, NC 27611

Richard S. Braz, 102 Chicory Court, Rolling Meadows, IL 60008

Harry E. Bruns, 3926 Glenview Ave., North, Arden Hills, MN 55112

Joseph G. Buswell, K5JB, 3322 North Idylwild, Midwest City, OK 73110

Dorinda S. Carlson, 8935 Hall, Lenaxa, KS 66219

Allen N. Chisholm, Aramco P.O. Box 5730, Dhahran, Saudi Arabia

Iris Colvin, W6QL, 5200 Panama Ave., Richmond, CA 94804

Lloyd D. Colvin, W6KG, 5200 Panama Ave., Richmond, CA 94804

Donald R. Dehn, 927 Clinton Ave., Oak Park, IL 60304

George A. Dennis, 1369 Clayton St., Denver, CO 80206

John E. England, 2467 Marlene Way, Henderson, NV 89015

Bertram Erickson, Rt. 3, Box 275, Waseca, MN 56093

Harry H. Fischer, 205 W. Lake Shore Drive, Rockaway, NJ 07866

Royden R. Freeland, WBSKDC, International Crystal, Inc., 10 North Lee, Oklahoma City, OK 73102

Roger D. Fudge, British Telecom Ltd., 95 Ebury Bridge Road, London SW1W, 8RL, England

Francis L. Fuson, 10540 Calnick, Auburn, CA 95603

Rafael A. Garcia, Teletrol Inc., 9822 N.E. 2nd Ave., Miami Shores, FL 33138

Alex Harboway, A.G.T. Mobile Communications, 16515 116th, Edmonton, Alberta, Canada T5M 3V1

Russell S. Henderson, Midland International Corp., 1690 N. Topping, Kansas City, MO 64120

J. William Hendrix, W0FLE, Communications Systems Associates, 520 West 5th, Cameron, MO 64429

Albert W. Hensley, W6RZK, 299 Johnson Ave., S.W., Waseca, MN 56093

Kenneth A. Hoagland, 114 Oakside Drive, Smithtown, NY 11787

Robert N. Howe, 4141 Joan Drive, Dorr, MI 49323

Richard T. Jones, K4MSP, Metropolitan Comms., 103 Commercial Ave., Carrollton, GA 30117

Bernard Kafes, K3ZZN, 6946 Glenheights Road, Baltimore, MD 21215

John C. Kanode, N4MM, RFD 1, Box 73A, Boyce, VA 22620

John L. Koenrich, OD5CL, Aramco, Box 745, Dhahran, Saudi Arabia

George G. Kirk, G4KOG, 110, Meadow Road, Neeston, Nottingham, England NG9 1JS

James D. McKenzie, W5IGO, 408 South Third St., Homer, LA 71040

Beverly Mang, 1030 South Corona, Denver, CO 80209

Stephen A. Mendelsohn, WA2DHF, 64 Maiden Lane, Little Ferry, NJ 07643

Harvey E. Minsk, W4PPD, 3010 Shenandoah Valley, N.E., Atlanta, GA 30345

Miguel A. Munoz, KP4JZ, Hillside 659, Summit Hills, San Juan, Puerto Rico, 00920

Roy E. Place, 30825 Overfall Drive, Westlake Village, CA 91361

George D. Pugsley, W6ZZ, 1362 Via Rancho, Escondido, CA 92025

Jack L. Pulford, 4204 106 B Ave., Edmonton, Alta, Canada T6A 1K8

Joseph H. Reisert, Jr., W1JR, 17 Mansfield Drive, Chelmsford, MA 01824

Henry L. Schultz, Jr., KA3GXP, 610 Young Road, Apt. 1, Erie, PA 16509-3151

Calvin D. Smith, 867 Kings Post Road, Rockledge, FL 32955

Ethel M. Smith, K4LMB, 2012 Rockingham St., McLean, VA 22101

David Sumner, K1ZZ, ARRL, 225 Main St., Newington, CT 06111

Robert Vincent, 8222 Maureen Drive, Midway City, CA 92655

Pat H. Walton, W5RES, 10300 Delta Court N.W. Albuquerque, NM 87114

Roger D. Webster, W8QFX, Webster Associates Inc., 115 Bellarmine, Rochester, MI 48063

George W. Weimer, Raymond C. Trott, Inc., 1425 Greenway Drive, Irving, TX 75038

Lawrence J. Zabkowski, K8NLD, 18082 Gaylord, Fraser, MI 48026

In Memoriam

Meade Brunet (M 1928, F 1952, L 1971) an active advocate of democracy in the Club in the early period when only Fellows could vote or hold office, died February 10, aged 90.

He was a lieutenant in World War I, and afterward wrote a "History of the 56th Engineers in the First World War." Starting with RCA in 1922, he moved up through a number of managerial positions to vice president and managing director of RCA's International Division, and later RCA vice president in Sales and Services.

Decorated by two South American countries, he held the Order of the Southern Cross from Brazil and the Order of Merit of Chile.

He was a director of the Far East-American Council and of the Pan-American Society of the United States, and was a trustee of the U.S. Council of the International Chamber of Commerce and of the United States Inter-American Council.

Membership News

ROGER L. WILLIAMS, W0WUG (M 1982) points out that he is by no means the Roger Williams listed in the "In Memoriam" section, page 290 of the *Diamond Jubilee Year Book*. He also notes that he is employed with the Willmar (not Williams) Technical Institute.

REED FISHER, W2CQH, was made a Fellow by the IEEE "for contributions to the implementation of cellular mobile phones."

FIRST CONGRESSIONAL CHURCH of Old Greenwich, CT, gratefully acknowledges the receipt of \$1,000 subscribed by Radio Club members to the William Fingerle Memorial Fund.

OTIS S. FREEMAN, W2VSC (M 1984) senior vice president of engineering of TV station WPIX, was presented with the 1984 Engineering Achievement Award by the National Association of Broadcasters. Mr. Freeman is credited with persuading the designers of the World Trade Center to include a transmitting tower in their plans, thus improving reception for millions of viewers. He is also one of the developers of the instant-replay technique, first used by station WPIX, in 1959.

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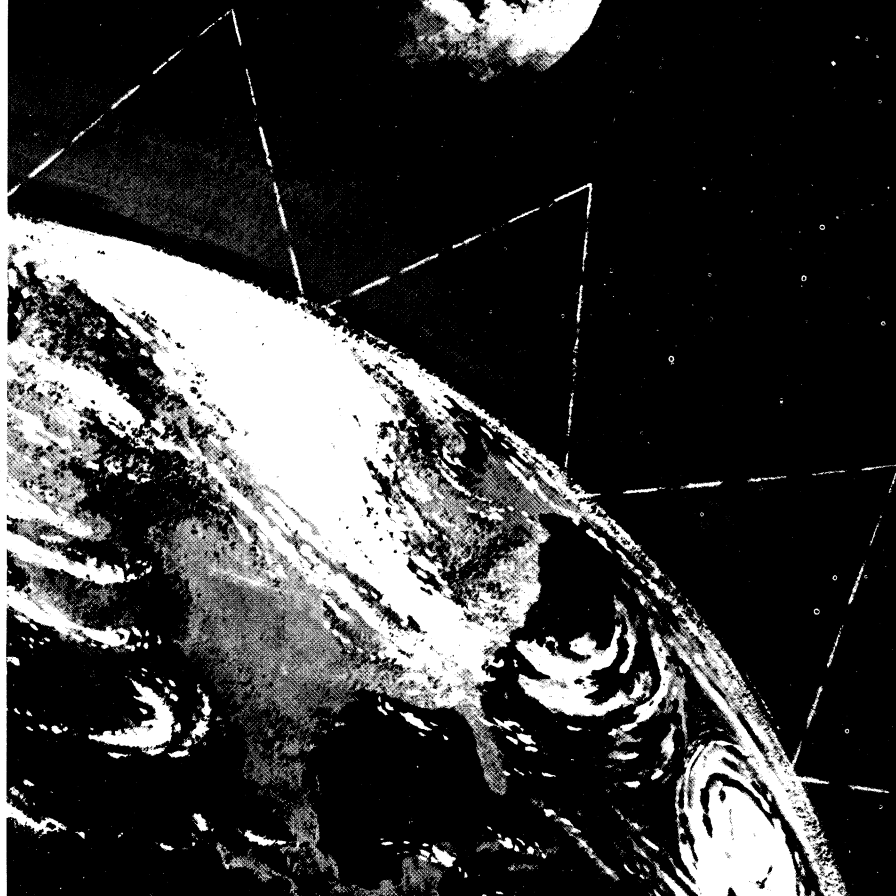
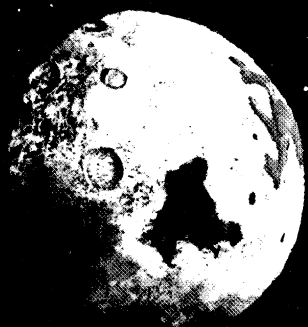
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Ray E. Bolin, W0HN, 704 S. Boyle Ave., St. Louis, MO 63110-1678

Lewis Bondon, 14 South Park St., Montclair, NJ 07042

William B. Bryson, W2VHP, 47 Saratoga Ave., So. Glen Falls, NY 12801

J. W. Bucknell, Director Intelsig (Cambridge) Ltd., 42, The Causeway, Cambridge, England CB5 0DU

William H. Cole, WB5QVX, 4 Bromley Rd., Pittsford, NY 14535-2906

Robert C. Corwin, Decibel Products Inc., P.O. Box 47128, Dallas, TX 75247

Arnold B. Covey, 5 Heights Rd., Apt M-1, Ridgewood, NJ 07450

Henry L. Crutcher, 170 Green Ridge Dr., Geneva, OH 44041-9131

John Daly, 2555 Anaconda Trail, Maitland, FL 32751

Jack Daniel, 305 Broxton Lane, Las Vegas, NV 89107-2455

Charles H. Davison, K2DOV, 110 Orchard Ave., Hightstown, NJ 08520

Henry Edwards, 12 Blackbriar Drive, Colts Neck, NJ 07722

Andrew W. Ely, KA2AHS, P.O. Box 457, Piscataway, NJ 08854

William R. Frank, Box 56903, Hayward, CA 94545

William B. Gary, K8CSG/5, 13875 Ella Blvd., #1510, Houston, TX 77014-2513

Frank L. Gronert, C-210 Cardinal Drive, Briny Breezes, Boynton Beach, FL 33435

Michael C. Gurka, K2UGH, 2 Camelot Dr., E. Brunswick, NJ 08816

Moe Joffe, W6PHE, 7251 Willoughby Ave., Los Angeles, CA 90046-6749

Graig Jorgenson, 4501 South 2700 West, Salt Lake City, UT 84119

Kahn Communications Inc., 425 Merrick Ave., Westbury, NY 11590

Edward F. Keller, 4756 N. 33rd St., Arlington, VA 22207-4204

Edward H. Krueger, 6306 Ojibwa Lane, McHenry, IL 60050

O. M. Lehman, 5010 McIntyre St., Golden, CO 80401

Charles B. McMurphy, 41088 Baird Court, Freemont, CA 94538-4408

Carl J. Mathis, 119 Stout Drive, Middletown, NJ 07798

Lyman W. Menard, W4IQW, 6000 New Henderson Hwy., Pisgah Forest, NC 28768

Melvin G. Mills, Jr., 727 Sullivan Rd., Westminster, MD 21157

Robert H. Mitchell, N5RM, 607 Turtle Creek, Greenville, TX 75401-6023

Harold Mordkovsky, 10200 Norton Rd., Potomac, MD 20854

William B. Morton, 5722 Silver Leaf Ext., Emmett, ID 83617-9667

Stuart Nattboy, K2MSO, 94 Escabana Ave., Staten Island, NY 10308-1934

R. W. Nelson, 822 Leonard Court, Lawrenceville, GA 30245

Robert E. Neukomm, KB2WI, P.O. Box 167, Ridgewood, NJ 07450-0167

W. L. Ordway, VP—Network, Pac Tel Mobile Access, 151 Kalmus (Bldg C), Costa Mesa, CA 92626

Edmund Osterland, 2407 Honeysuckle Rd., Chapel Hill, NC 27514

Roger E. Persson, 13 Debby Lane, Raynham, MA 02767

Don C. Pollock, 352, Islander St., Oceanside, CA 92054-4772

Jack L. Pulford, 4204 106 B Avenue, Edmonton, Alta, Canada T6A 1KB

A. H. Quist, P.O. Box 174, Lakehurst, NJ 08733

Gordon S. Raitt, 17104 75th Ave., Apt 124, Edmonton, Alta, Canada T5R 0V6

David A. Reid, 28 First Ave., Uxbridge, Ontario, Canada L0C 1K0

Donald O. Reinert, 19 Hereford Drive, Princeton Junction, NJ 08550-1507

Henry L. Richter, W6VZA, 178 W. Longden Ave., Arcadia, CA 91006

Dan L. Roszelle, P.O. Box 733, Newberry, SC 29108

Chandos A. Rypinski, Radio/Switch Inc., 1372 N. McDowell Blvd., Petaluma, CA 94952

John F. Shafer, W0KWR, P.O. Box 257, Eldorado Springs, CO 80025

Henry L. Shenier, 122 East 42 St., New York, NY 10168

Hyman L. Siegel, K9CCN, 6327 Dovenshire Terrace, Fort Worth, TX 76112

Joseph A. Smith, 3406 Kirkwood Rd., Philadelphia, PA 19114-3607

Harold V. B. Voorhis, 37 Winging Way, Gibbsboro, NJ 08026

Othal D. Vrana, W0WYP, 1959 N. Sedgwick, Wichita, KS 67203-1531

Gary P. Wallin, WA1PCV, 11 Crestview Rd., Manchester, NH 03104

Graham C. K. West, 1 Cedarwood Close, Central Gardens, Greystanes, NSW Australia 2145

Delbert B. Wofford, P.O. Box 2344, Owensboro, KY 42302-2344

In addition, the names of these three members were omitted in the 1984 Directory:

Walter H. Edge, 104 Forest Avenue, West Caldwell, NJ 07006

R. W. Nelson, 822 Leonard Court, Lawrenceville, GA 30245

Richard G. Somers, 9197 Crescent Drive, Los Angeles, CA 90046

Another Myers Exploit

During December 1984, Ray Meyers became a Silent Key at age 89. His biography in the October 1982 issue of the PROCEEDINGS told of some of his resourcefulness.

The Fall 1984 *Newsletter* of the Veteran Wireless Operators of America (VWOA) carried another story, written by Mr. Meyers, of how he had sent an SOS by radio without the use of a transmitter.

On June 14, 1931, the Wilken's submarine *Nautilus* was enroute to the North Pole when both engines shut down and the vessel was tossed around like a cork. Meyers, the radio operator, was to try to get help.

Employing an old Ham trick of using an oscillating heterodyne receiver with a key in the antenna feedline, Meyers tuned the receiver until he picked up a heterodyne signal, and then keyed the SOS which was answered by the "SS *Independence Hall*." Learning of the trouble, the ship's captain sent messages to the battleships *Arkansas* and *Wyoming* advising that he could not attach a tow line due to high seas, and asking if they would assist.

The battleship *Wyoming* then towed the submarine to Queenstown, Ireland, where it remained four days awaiting arrival of a seagoing tug to tow it to Plymouth. After four days wait, the submarine was taken in tow

to England, where shipyard workers made the craft seaworthy. While there, the sub was visited by H.R.H. The Prince of Wales, and by Lady Astor who wrote in Meyers' log: "With wonder and amazement at your daring." She promised to honor them if they returned.

That return visit happened soon afterwards. The submarine never got closer than 280 miles to the North Pole when it lost its diving rudder and had to put into Bergen, Norway. Meyers and other crewmen took a boat to Scotland and then a train to London to see Mrs. Astor; she had a lunch for them and then introduced them to both Houses of Parliament.

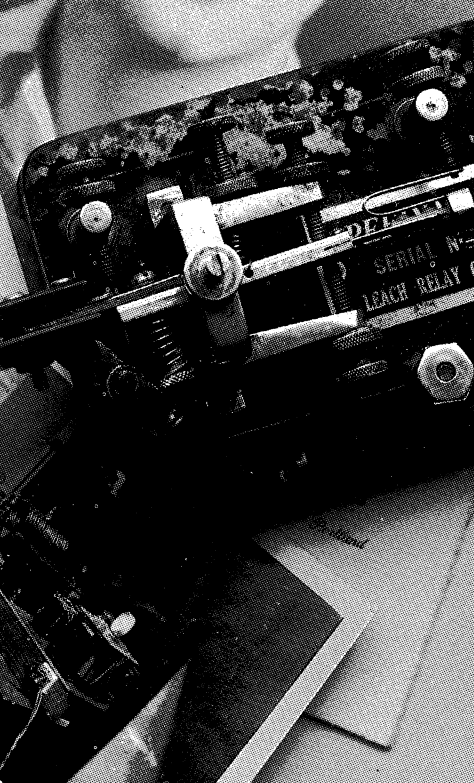
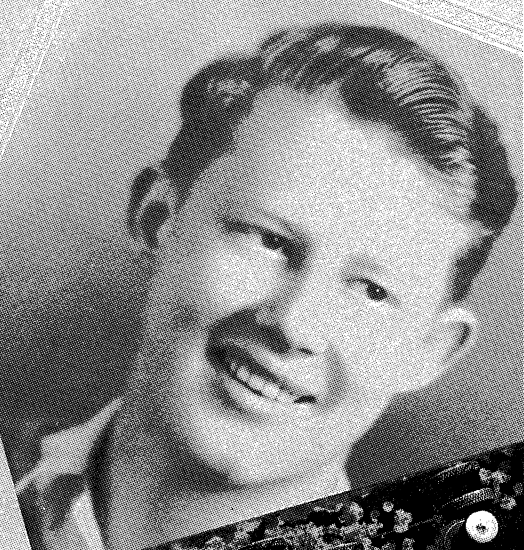
I N 1933, FDR WASN'T THE ONLY ONE MAKING RADIO HISTORY.

While the country gathered around the radio to listen to President Roosevelt's fireside chats, Jim Larsen was already working on a converter to pick up police calls on the family radio. When he found that he could pick up ham signals too, he was soon roaming the air waves as W7DZL, or "Dizzle," to his fellow hams.



A perfectionist even then, he kept taking his radios apart and rebuilding them, and designing antennas to go with them... each time making improvements and each time thinking of more improvements to make.

Now after 50 years as a ham operator, Jim keeps reaching out further — both as an antenna designer, and as an amateur. Because although his call sign has since changed to K7GE, and his QSL cards include nearly every country, he's still dreaming up more improvements...and putting his dreams to work.



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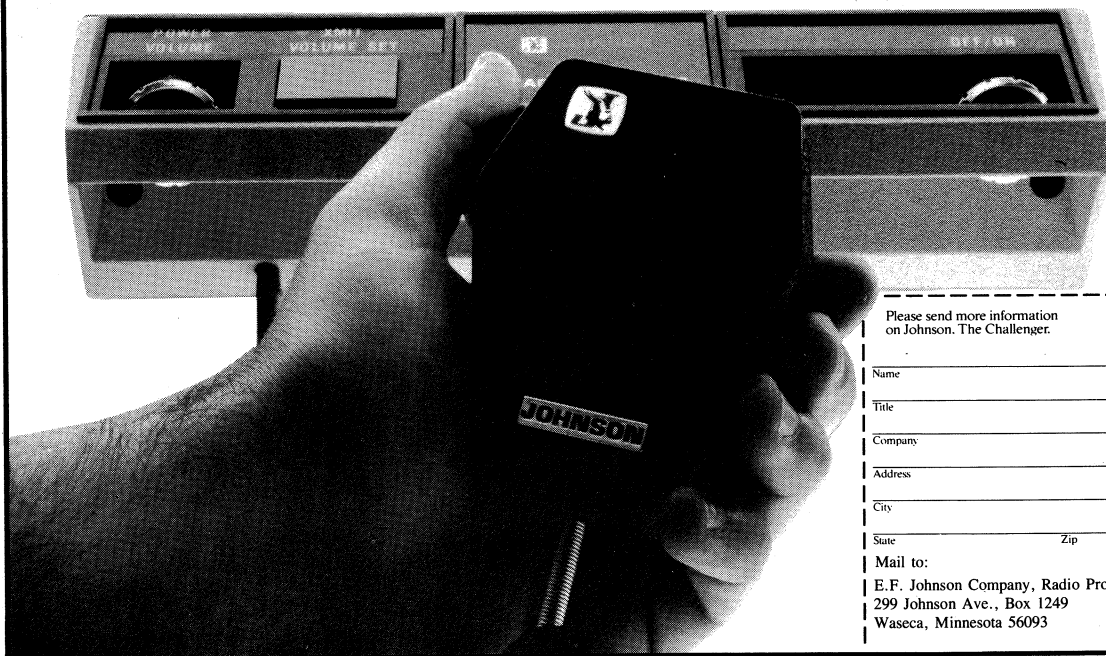
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