

Proceedings of The Radio Club of America, Inc.

Volume 57, Number 1



April, 1983

Founded 1909

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THE RADIO CLUB OF AMERICA, INC.
c/o Fred Shunaman, 933 E. 7th St., Plainfield, NJ 07062

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 1982

INCOME

	Receipts	Budget
New Member Fees	\$ 168	\$ 200
Dues, Current Year	4,839	4,900
Dues, Next Year	1,027	1,000
Dues, Second Year	1,000	1,000
Dues, Beyond Above	133	160
Life Membership	563	350
Pins & Plaques	1,119	1,100
Proceedings Ads	4,553	2,500
Dividends & Interest	10,156	6,000
Contributions	4,555	
Misc.	57	250
TOTAL INCOME:	\$28,170	\$17,460

EXPENSES

	Receipts	Budget
Rent	\$ 600	\$ 600
Stationery, Printing	331	650
Office Supplies	207	250
Telephone	211	200
General Postage	797	1,200
Meeting Expense	1,446	1,300
Proceedings expense	7,190	6,000
Pins & Plaques	1,163	1,000
Legal & Accounting	500	500
Balloting & Newsletter	630	600
Consultants Fees	3,000	3,000
Misc.	137	0
Fund disbursements	5,500	5,500
Diamond Jubilee	23	0
TOTAL EXPENSES:	\$21,735	\$15,300

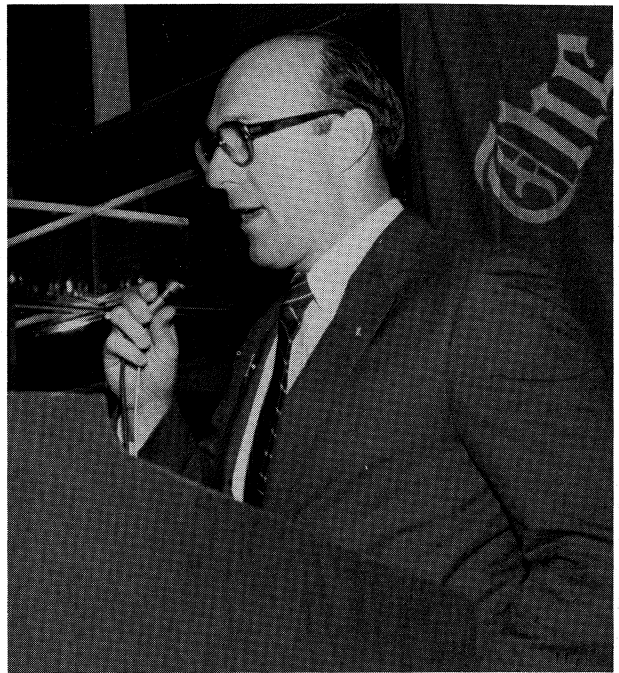
Grants-in-Aid Fund

Contributions 1982	\$ 4,555	122 contributors
Grants-in-Aid disbursed	5,500	
Grants-in-Aid Fund 12/31/82	58,344	

THE COMMUNICATIONS BUSINESS

by John Bain
(Fellow, R.C. of A.)

A financial expert gives his views on the present situation and a peep into the future of the communications industry.



Mr. President, Ladies and Gentlemen: It is a pleasure to address you this evening, and particularly to have the advantage of being the final speaker on the program. I have had some modest experience as a speaker, but a lot more listening to speeches, and I have learned two things about the final speaker on the program: I certainly have the advantage of tying together some of the thoughts that others have expressed before me tonight. And to the extent that my ideas agree or conflict with theirs, my speech will be strengthened. More important, though: as the final speaker, you are certainly listening to every word I say, hoping it will be the last! I will try to be brief.

I guess my job here is to talk and yours is to listen, and I'll try to get done first. My viewpoint here is a little unusual, because I represent the financial community, rather than the professional communications industry. When I was first asked to speak earlier this year I accepted with some misgivings. You will recall that we were in the midst of a terrible bear market in stocks and I was afraid that a stock broker might not be too popular with people who had seen their companies lose a lot of money. Fortunately the stock market has had a little 300-point uptick in the last three months, so I came here tonight confident in the knowledge that I would be greeted as the representative of the great bull market that is going to lead us back to prosperity.

I was slightly shaken, though, when I first got here. I was standing in line at the refreshment stand and ahead of me were two other Club members I had not met. One said to the other, "Have you seen the speaker list tonight?" And I thought, this is great, now I can introduce myself as the final speaker. But the other said, "Yeah, I have—but what the hell is a stock broker going to tell a bunch of radio engineers about our business?"

So I think I should explain what I *am* doing here tonight. Obviously I can't tell you anything about the radio business. So what I would like to do is give you my viewpoint as an observer—of business and of the investment

process—about the communications business in general and how it relates to larger questions about the U.S. economy and world trade.

A few good reasons

Now the communications business is of critical importance to investors and our economy for a number of reasons. First, it is a fairly large portion of the economy. Roughly a hundred years ago, when a couple of guys named Bell and Marconi were tinkering around in their attics with their coils and wires and stuff, the mighty Western Union Co.—the only company that could have been said to have been in the telecommunications business—exceeded (in 1882) \$17 million in annual revenue. From these origins grew today's gigantic telecommunications industry. Depending on what you include in that industry, it's easy to conclude that telecommunications—including the giant telephone company and the radio business—generate something on the order of \$125 billion a year from the revenues of equipment manufacturing alone. Even at today's prices, that's pretty big money. It's interesting to note that today's telecommunications industry generates revenues equal to Western Union's 1882 level of \$17 million about once every 90 minutes! Telecommunications is important because it's big!

The second reason telecommunications is important to investors is because of the fundamental characteristics of the industry. On the technology side—what the economists like to call supply—it looks as though things are pretty sound. Real costs tend to decline in most sectors. And in some areas, such as long-distance switching and transmission, costs are even going down in nominal terms, in spite of the high level of inflation. So the costs of production generally seem to be going down.

On the other side—the demand side—the demand seems to be going up, and it's not very sensitive to price—what economists call "inelastic." The importance of this is that

in most parts of this industry, with costs continuing to decline, and growing inelastic demand, it's at least in theory possible to make money by raising prices. Now it's true that in some sectors competition and the occasional irrational desire of some managements to maximize their market share have led to lower profit levels than we think might be desirable.

Certainly we've seen that happen in other industries, such as consumer electronics, where pricing pressures due to competition have overwhelmed even the astonishing cost reductions that recent advances in microelectronics have produced—electronic wrist watches and pocket calculators come to mind as examples. Certainly over the past couple of decades radio broadcasting—although it's much healthier now—suffered to some extent from the competitive effect of television. In general, though, most sectors of the communications industry have good sound economics. It's possible to make money.

Now contrast that with some other large sections of the economy—residential housing for example. The past couple of years the cost of houses has continued to rise, and there is no customer base that can afford the product. So operating in that industry has nothing to do with price competition, or what your debt ratio is or how the business is managed. The fact is that there is no combination of quantity of output and pricing that can make money in the housing industry today.

By contrast, the communications industry looks like paradise. Investors don't really have to worry about whether it's possible to make money. We know that. What investors are trying to find out is whether competition and regulation are going to permit profits to be made, and who's going to make them. Compared with problems facing housing, steel or autos, those of communications are problems that investors should be glad to face. So the second reason investors are attracted to the communications business is that it's good business today.

A growing industry

The third reason that telecommunications is important is that the industry is growing. Growth itself has several causes. It results from the relative cheapness and the increasing cheapness of communications services. As the use of communications as part of our economy gets cheaper and cheaper, we are going to use more of it. Also, there is a well-documented shift in our economy toward the so-called "information worker." In fact, I'd be surprised if more than a handful of the members of this Club could describe themselves as anything else. As our technology of production continues to improve, an increasing proportion of the work force is going to be involved in designing, controlling, tracking and managing in that production, and in marketing, reporting on and accounting for the output of goods and services produced. Because information workers need communications, the industry will grow along with them.

I had the good fortune to be invited to the Bell Telephone Laboratories just yesterday, and to hear an address by Dr. Arno Penzias, who many of you will recognize as recipient of the Nobel Prize for his work on the background radiation of the universe. Dr. Penzias placed great stress on his belief that a great opportunity lies in making information, and the control of information,

available to the individual in the workplace and the home. Surely, the industry will grow, because access to and control of information is becoming more important to all of us.

And finally the industry is going to grow because of the fundamental structural changes that are taking place. Deregulation and competition are clearly here to stay. Established companies in the industry view the deregulation and competition with dismay, and new entrants with some degree of glee. I expect the former are probably overestimating the problems and that the latter are probably underestimating the difficulties of entering an industry in which the long-established participants—most notably the telephone companies—will be increasingly free to compete.

For established companies, the focus is normally on the fact that increasing competition means that the telecommunications pie is being cut into more pieces. Everybody is afraid that his piece is going to disappear onto somebody else's plate. Investors who can take a diversified view of the industry are more likely to focus on the size of the entire pie. It seems reasonable to believe that more open competition is going to bring a broader range of products and services to the public, thus further stimulating demand and enlarging the entire pie.

To cite one perhaps trivial example: I doubt that, left to its own devices in a competition-free world, the telephone industry would ever have developed the Mickey Mouse telephone. In fact, I recall that when it was first engineered by American Telecommunications Corp it was sneered at by the telephone companies as being beneath the dignity of the industry. But after they sold a couple of hundred thousand of them at \$150 each, you better believe it got the industry's attention, and today a wide variety of designer telephones are available from telephone and nontelephone companies alike. Has this helped make the pie bigger? You bet!

A more serious example of how competition has benefited the consumer is provided by the impact of specialized long-distance carriers on the telephone industry. I think it's reasonable to suggest that such innovative services as WATS, "800 Service," and the ill-fated Telpak were created by the industry as a response to new competition. And, as many of you in this room know, those services aided the growth of many communications-related companies, including news services, airline reservations, electronic credit verification, telephone opinion research, and telemarketing. Did that make the pie bigger? I'm sure it did!

Faster than the economy

The industry is attractive to investors because, it's growing. And we believe it's going to grow at a rate that exceeds that of the economy as a whole. So in answer to the question "Where are we now?" I can report that we are in an industry that's big, has extremely sound fundamental economics, and is growing more rapidly than the general economy. That's not a bad place to put your money, either as a business manager or an investor. In recognition of that, the capital markets have awarded something of a premium to the securities that are available, and there seems to be an adequate supply of capital to finance expansion of the industry. The present looks good.

Nevertheless, we must recognize that some problems must be addressed. And the list of problems gets longer depending on who you talk to. When I mentioned to our securities analyst who covers the mining and metals industry that I was going to address the problems of the telecommunications business, he was astonished. He suggested that anyone who wants to forget about all the problems you have now—just open up a steel plant! However, there are some problems that you all perceive as problems. I'd like to turn now to what they are and where we are going in the future.

The first problem is that of deregulation and the opening of the traditional telecommunications industry to numerous new entrants. The head of the Department of Transportation and Public Utilities when I attended the Wharton graduate division of the University of Pennsylvania was Dr. Joseph P. Rose. His opening comment to his first-year students was always the same. He would observe that businessmen are always in favor of competition—for everyone else. But in their own area, whether it be in autos, textiles, farming, metals, consumer electronics, shipping, or (God forbid) defense, competition was always clearly contrary to the national interest. One writer—I believe it may have been Adolph A. Berle—noted that “the best of all monopoly profits is a quiet life.” The implication was that the competitive marketplace represents a constant threat of economic disaster, and that most of us would rather avoid it if possible.

Now with deregulation and competition I'd like to offer two personal observations. The first is that it seems reasonable to argue that there is such a thing as a natural monopoly, and that certain marketplaces are not well served by the natural forces of competition. I suspect that some of us who have looked at their recent power bills may conclude that one power company is about all we can afford. Numerous spokesmen for the industries we would normally consider natural monopolies argue their case. In many instances I agree with them. It is evident that certain elements of the economy will be disadvantaged by increased competition, as anyone who recently tried to fly to Syracuse can tell you. Nevertheless, it seems that our society has decided that we're going to have competition in the telecommunications industry, whether it's good for us or not. It's going to happen.

A change in orientation?

My main observation regarding this new competition would be that our industry in the past has not been oriented toward the marketplace. A truly market-oriented attitude is a little hard to explain, so I'll contrast it with what I perceive to be our traditional technology-driven approach to the telecommunications industry.

In the past, we've taken a rigid technology approach to solving communications problems. The attitude has been that if customer X wants to communicate with customer Y, all we need to do is provide the channel. The problem is that we have tended to treat a fairly diverse customer base as a uniform whole. In particular, we've been guilty—if that is the word—of designing our services more to meet the needs of technology than the needs of our customers. Let me give you one example.

The traditional telephone network has been designed,

literally, from the ground up, to provide a uniform, excellent grade of service. However, it is not clear that all of us need or want to pay for the absolute top quality that is available. A T & T has designed its network to provide 99% access during the busy hour of the business day. That's pretty good service, but I note that the busy hour is less than 5% of the entire day. Which means that a lot of fairly expensive capital equipment is sitting around idle most of the time. Besides, who said that 1% blockage is the right number in the first place?

One of the salient features of communications planning in the past is that it seems to have been done in the absence of any feedback from the marketplace. We have concentrated too much on the technology and too little on the human factors that make service a success or failure. I have a recurrent vision of a group of engineers going into a closed room and deciding what is the best method of providing a given service from an engineering point of view, and then going out and designing it. In the future, the competition will mean that we'll have to tailor our product to the marketplace and to the demands of the customers. The objective of any business should be to provide a product or service that satisfies the needs of the customer—nothing more, nothing less. That will require a lot of reorientation on the part of a number of telecommunications companies, but it will insure the future viability of the industry.

The second general problem is that of foreign competition. It's true that in the past the domestic telecommunications industry has been largely supplied by domestic manufacturers. It's also true that this domestic market is being increasingly penetrated by foreign competitors. Is this a cause for concern? In the true style of Wall Street analysts, I will give you a clear answer: Yes and no. Foreign competition is a cause for concern because it represents a problem for domestic producers, who formerly viewed the United States market as a private hunting ground. Certainly the appearance of foreign competition means that the aforementioned pie is being cut up into smaller pieces. However, I would like to point out a few facts that seem to have been lost in the emotional debate surrounding foreign competition.

We can compete, too

The first of these facts is that the United States itself is a fairly large exporter. For the last time period for which I have any data, the United States had an annual export rate of more than \$1,000 of goods and services for every man, woman and child in the country. Japan, by comparison, exported about \$200 for each person in that country. In fact, except for petroleum, the U.S. would have one of the largest net export industries in the world today.

The second fact I would draw to your attention to is that the international market for telecommunications products and services is a phenomenal opportunity for domestic companies that we should not ignore. Here are a few facts: At the end of 1981, 96% of U.S. households had telephone service; 99% had at least one radio receiver; and 98% had at least one television in working order. It is clear that the domestic market is well developed, and the case for protecting existing market shares is well taken.

However, here are a few market shares you might find interesting: In all of the developed North American continent, which in our normal modest manner we refer to as

“International Communications Zone No. 1” roughly 79% of all households have telephone service. In the U.S. there are roughly 84 telephones per 100 population. By comparison, in World Zone No. 2, which includes all of Africa, with a population roughly twice that of the North American zone, there is just one telephone for each 100 members of the population. My personal guess is that if we take out the U.S., Western Europe and Japan, we would discover that among the so-called “less developed countries,” probably half the people have never made nor received a telephone call.

So let me ask you: Where is the big growth opportunity for the U.S. telecommunications industry? Is it the domestic market, which already has 99% development, or is it the world market, where the bulk of the population has no communication service today? I think the answer is clear, and I think the interests of the U.S. economy as a whole are best served by the promotion of international competition.

The situation at home

I would like to turn now to a few words on what is the most important problem facing our industry today. I am referring, of course, to the deplorable state of the U.S. economy. The contraction of the economy is clear to everyone here tonight, and in some cases, painfully so. Because of its generally robust economics, the communications industry has perhaps suffered less than other sectors, but even here growth has slowed to a snail's pace. Even the normally invincible Bell System experienced an actual decline in service between the first and second quarters of this year. That was the first time there has been such a decline in the 23 years the statistic has been reported.

I wish I had some advice I could offer on how we can find our way out of our current economic dilemma, but the many thoughtful professionals working on the problem have already offered more advice than we can possibly use. Someone—I forgot who—has observed that if you ask three economists the same question, you'll get six different answers. So I'm not going to offer any advice, but I'd like to offer a few suggestions.

First, it's not wildly optimistic to suggest that the future is likely to be better than the present. It seems there are inevitable cycles in the life of any economy, and it seems that we have reached the bottom of our present one. That is definitely what the securities markets have been trying to tell us.

Second, I believe a case can be made out that the general climate for business is improving in the United States. The argument has been eloquently made by the Chief Economist of Lehman Brothers, Michael Sherman. Way back in the bear market days of last winter, he made these observations on investment strategy, published on January 29, 1982:

“The scope and pace of change within the American economic environment can no longer be viewed as an evolution of trends that are persistent since the 1930's. There has taken place in the last few years a major restructuring of institutional relationships, social commitments, and political alignments, which are only now beginning to affect patterns of investment. The genesis of this restructuring is the perceived failure of the past economic and social policies to provide for continuing, inflationless, and real

prosperity. Now whether prosperity can ever be arranged or whether it is the result of fortuitous circumstances may be debateable. Nevertheless, the sense of anguish and despair that developed over the last few years of the Carter administration created the ultimate reaction in the economy, financial markets, and the body politic. A new direction and a new effort was demanded. History would suggest that immediate success is not terribly important in determining the significance of such epochal shifts. Once committed to change, the society and the markets are loath to return to policies and institutional arrangements that have been formally declared defunct. The investment implications are therefore profound and should not be regarded as transient phenomena.”

My comments tonight might be summed up as follows: The communications industry is a great place to do business. It's vital, it's growing, and both those characteristics will persist in the foreseeable future. Second, the changes that are occurring, both in the industry and in the economy as a whole, guarantee that these opportunities will grow. Third, competition, domestic and foreign, is here to stay. There is nothing inherently wrong with trying to fight it with public opinion and the law. But the fundamental forces at work, as well as the growing importance of international trade to our domestic industry, will guarantee that international competition increases. Any business strategy based on the assumption that foreign competition will somehow be forever restrained is probably doomed to failure.

Finally I would note that prospering in the new age of telecommunications will not be easy. But business has never been easy. It's been part of our American genius to succeed despite all obstacles—natural or manmade. To express that genius I'd like to once again call on the words of a man from Lehman Bros. This gentleman was my predecessor at Lehman Brothers by nearly three-quarters of a century. His name was Paul Mazur, and he wrote a book called *American Prosperity*. In closing his book, he wrote these words 54 years ago:

“America is not dollar mad in the miser's manner. It is activity-mad. It likes the game of business and it keeps score in dollars. Its successful players win and then risk their all once more and then again. To a considerable degree they play the game of business for the sake of play. And they measure their effort—like other sportsmen—by their success. If possession of money were the real end, America would be parsimonious and it would also seem unlikely that the industrial leader would continue his risk when it would be so much safer to withdraw and hoard his money. So long as there is an urge for the American business man to reach the top of the industrial heap he will experience no softness of mind, no flabbiness of body, no diminution of energy. While industry dominates the thought of America, there need be no fears—a cataclysm aside—for the future of American business. There is nothing which indicates any change in the importance of American industrial life and it will continue to write the most significant pages of American history.”

Utilitarian is such a reading of the life-line of America. But it must be remembered that from her palm has come the greatest physical well-being that any nation has been able to afford its people. And certainly that is worth something. Thank you.

A TOUCH OF IMMORTALITY

More than one historian has called the founding of our Club a special moment in human history, both in terms of the institution that was created and the rare quality of leadership that was then present.

For those whose lives intertwine with radio communications, it was an exceptional moment in history. The basis of the Club was exceptional, and we were extraordinarily fortunate in having the caliber of founders that we had. It was indeed a high moment in the history of telecommunications.

Twenty-five years ago, W.E.D. Stokes Jr., the first president of The Junior Wireless Club Ltd., prefaced the Yearbook written to commemorate the Golden Anniversary of the Club. 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 aeroplanes so that 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. Those early contraptions for transmitting signals and voice with low power begot our modern walkie-talkie sets and those prodigious efforts to eliminate static led to our present day smooth FM reception.”

It now is time to chronicle another generation of achievements by our members. As a part of the Club's 75th Anniversary activities, a Diamond Jubilee Yearbook will be issued. It will index the papers published in the *Proceedings* throughout the 75 years of Club activity; it will present a definitive history of the Club from 1909 through 1983; it will be a record of our heritage.

If anything permanent is to come out of the 75th Anniversary, it too will come from individuals who say something that will be a guidepost for the future.

Essayists, poets or writers of doggerel — we want your help. The message in the October, 1982 issue of the *Proceedings* from Fred Link, our president, told of the need for volunteers to be a part of this historical effort. There is a need for qualified historians to chronicle these last 25 years in the field of telecommunications — to examine the impact of developments in designs of prosaic items like antennas as well as to examine cable television, satellite communications, the future of amateur radio, cellular radiotelephone, and the hundreds of other uses of radio that have become commonplace in this last quarter-century.

And, in helping, you automatically become a member of the Diamond Jubilee Yearbook Committee, which probably is going to be the biggest committee that this Club has ever known. And even if you haven't talent in writing, we want you as a sponsor; in the next paragraph we'll tell you how that will help.

Maybe each of us can't do more than contribute our money to make permanent the guidepost that the 75th Anniversary Yearbook may become, and to preserve the knowledge that has come down through the years in the *Proceedings* of the Club.

Yes, we have to be prosaic for a moment. We have a budgetary figure of \$10,000 needed from the members to cover the publication costs of the Yearbook; that figures out to \$10 per member — can you spare that? We'd like to be able to distribute the Yearbook without charge to each member, and a few extra copies will be printed for sale and for distribution to libraries. But the scope of the yearbook in encompassing approximately 225 pages of text and illustrations does require that we ask your help. Please mail your check for as much as you can give to the Club Treasurer, Mr. George Apfel, at PO Box 73, Park Ridge, NJ 07656, marked for the Diamond Jubilee Yearbook account.

We ask, then, that each member plan to enjoy this Diamond Jubilee to the fullest. Plan to attend the Jubilee technical meeting and awards dinner scheduled to be held on November 18, 1983 at the New York Athletic Club; join with your local Section in their luncheons and get-togethers; nominate candidates for the Awards and Fellow grade; send us your technical papers for publication; join with us in increasing the Grants-in-Aid scholarships by sending an extra contribution; and help us to commemorate all of this by sending another contribution for the publishing of the Diamond Jubilee Yearbook.

As Fred Link wrote: “*Let us make this a blockbuster . . .*”

John W. Morrisey

VISITOR'S DAY AT THE W6AM RHOMBIC FARM

June 12, 1983—Sunday 1-5 P.M.

Fill your car with hams, spouses and YLs, and go south on the Harbor Freeway to Anaheim Street. Turn right (west) one mile to the Palos Verdes hills (5 corners), bear left up the hill on Palos Verdes Drive North, 3.8 miles to Hawthorne Boulevard. Turn left, up the hill 2 miles, past the Peninsula Shopping Center to “Highridge Road.” Go left $\frac{3}{4}$ of a mile to

28503 Highridge Road, Ranchos Palos Verdes, CA 90274

Drive in two blocks to the 100 ft. long “Ham Shack.” The Palos Verdes Amateur Club is handling the parking, and their XYL's are assisting the coffee table.

Virginia Reynolds and
Don C. Wallace W6AM
will be glad to see you.

The 1982 Award



James C. Weldon (Fellow, 1981) receives the **Henri Busignies Memorial Award** from Jerry Stover, left, retired Chairman of the Board of Communications Industries, Dallas, TX. Mr. Weldon, a pioneer in high-power transmitter engineering, designed and constructed many of the high-powered transmitters used by the Voice of America, the Bureau of Standards and other government agencies, and has recently installed high-power broadcast stations in several Third World countries. The Busignies award is made "for the Advancement of Electronics for the Benefit of Mankind."

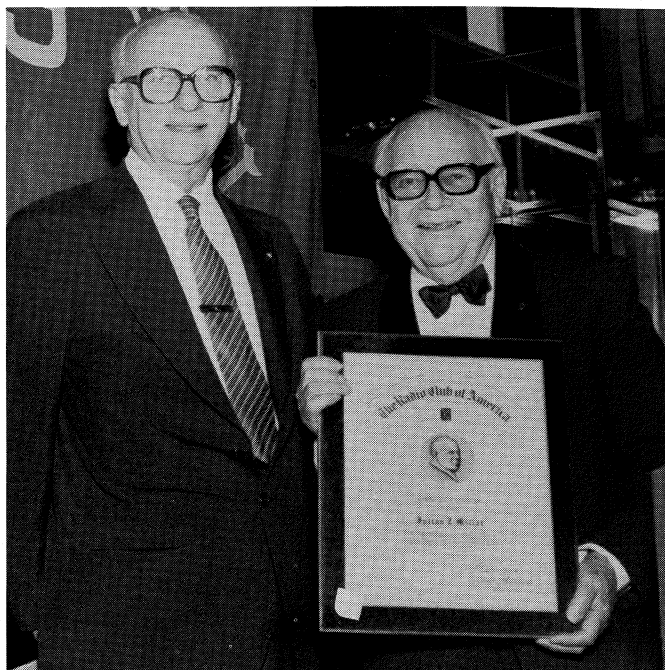
William Fingerle, left, receives the **Allen B. DuMont Citation**, awarded for "Important Contributions to the Science of Television," from Club Director Jerry Minter. Fingerle was a pioneer in television transmitter design, having produced the first experimental 300-watt transmitters for the Allen B. DuMont Laboratories, followed by 5-kilowatt installations for the early DuMont TV stations. He joined the Club in 1970, and was made a Fellow in 1973.



Louise Ramsey Moreau, W3WRE, flanked by Club Director Willard Andrews, left, and Executive Vice President Meyer, right, receives the **Ralph Batcher Memorial Award**, for "Preserving the History of Electronic Communications activity." Born in Johnstown, PA, where the first electrical communications operator to perish while sending disaster messages died in the Johnstown flood, she specializes in the history of disaster communications and of telegraph keys, of which she has a collection of over 300. Mrs. Moreau became a member of the Club in 1975, and a Fellow in 1980.

f the Radio Club

Col. Julian K. Millar, right, receives the Sarnoff Citation, for "Significant Contributions to the Advancement of Electronic Communications," from Frank Gunther, a Past President of the Club. As a radio research engineer for Western Union, and later, Hazeltine, Col. Millar was responsible for a number of communications networks, including AUTODIN, and for the radio teletype terminal FGC-29. He has received numerous awards, especially from the IEEE, and was made a Fellow of the Radio Club in 1973.



Vivian A. Carr (Member 1973, Fellow 1975, and present Membership Chairman of the Club) receives the President's Award for "Unselfish Dedication to the Support of the Radio Club of America," from Club President Fred Link. Mrs. Carr, a District Manager in the Fundamental Planning division of the Tariff and Costs Department of AT&T in New York City, has been active in a number of engineering and executive positions in AT&T, and in organizational activity in engineering organizations.

Don Fink, left, receives for awardee Keith Henney, the Pioneer Award, given to "a senior member who has contributed substantially to the success of the Club and to the Art of Radio Communications," from Stuart Meyer, Executive Vice President of the Club. A pioneer in electronics publishing and author of a number of early books, Mr. Henney reported from his Vermont home that at age 87, his family demurred at his making the trip, and asked his old friend and former colleague Don Fink to accept it for him. Mr. Henney became a member of the Club in 1927, a Fellow in 1932, and was President in 1940.





THE 73rd ANNIVERSARY

November



AWARDS BANQUET

9, 1982

30 MEMBERS BECOME FELLOWS



Thirty members were elevated to the status of Fellow in 1982. Twenty-three of them were photographed at the Annual Meeting and Banquet. Left to right, standing, are Joseph Banos, Wilson Electronics; Alfons Goosens, Quintron Corp; Irving McAndrew, Communications Officer, State of Vermont; David Kass, Mobilfone Radio Systems; Oliver Ferrell, Gilfer Associates; Karl Kachadoorian, IBM; Frank Gronert, Gronert Computers Ltd; Willard Andrews, Becton Dickinson Co; Ferrer Levin, Bergen County Police Communications; Bernhard Keiser, Keiser Engineering; Charles Affelder, retired, ex Voice of America; John Black, Radio Systems Inc, Seattle; William Cole, Harris Corp, R-F Comms. Div; Irving Emig, Jet Propulsion Laboratories. Seated: Marc Wiskoff, Motorola Comms. & Elecs, Jericho, NY; Ed Krueger, Motorola Comms. & Elecs, Glen Rock, NJ; John Bain, Lehman Bros Kuhn Loeb; Kenny Guthrie, General Electric Mobile Comms. Div; Harriet Maehling, Engineered Communications; Andre Cote, SIRSA; Dale Walsh, Comms. Eng. Co, Dallas; Robert Baughman, Phillips Petroleum; Max de Henseler, United Nations, NY. Two others present at the Banquet, Jan Jubon, Telecommunications Engineering, West Berlin, NJ, and William Wheel, Pye Telecommunications Ltd. (England); were not in the photograph, and five other Fellows: Bob Alexander, Alexander & Associates; Carrolton, TX; William T. Bishop, Vista Mfg. Co; Trevor John Dearn, Philips TMC Ltd. (Australia); I. Otto Rhoades, Illinois Bureau of Investigation, and Russell Robinson, President, APCO, Inc, Detroit, were not able to attend the meeting.

REPORT OF GRANTS-IN-AID COMMITTEE

The Club's Grants-In-Aid Committee dispensed \$5,500 in scholarship and research grants during 1982. These grants were approved by the Board of Directors at the November 21, 1981 Board of Directors Annual Meeting and at regular Executive Committee meetings on February 9 and March 9, 1982.

During 1982 the GIA Fund received 121 contributions totalling \$5,155. At year end the GIA Fund balance was \$57,766.

The Board of Directors, on November 19, 1982, authorized the GIA Committee to award \$6,000 in scholarship and research grants, to be distributed in 1983, to the following:

Scholarship Grants

Florida Institute of Technology (Finch Fund)	\$1,000
Polytechnic Institute of New York	1,000
Southern Methodist University	1,000
Foundation for Amateur Radio	500
Steven Institute of Technology	500
University of Central Florida	500
Total Scholarships	\$4,500

Research Grants

Armstrong Memorial Research Foundation	\$ 500
The Radio Amateurs Satellite Corp.	1,000
Total Research	\$1,500
Total GIA Grants for 1983	\$6,000

In recognition of the Radio Club of America's 75th Diamond Jubilee Anniversary, the Grants-In-Aid Committee has established a \$7,500 contributions goal for 1983. Members and friends who share our aims are urged to support the Committee's Fund Drive. The GIA Committee solicits the continued support of our members to aid us in reaching the goal of \$7,500 for our 75th Anniversary.

I wish to express the appreciation of our Committee, the Club's Executive Committee and Board of Directors for the outstanding response our members continue to give to our GIA Program.

Joe Walker

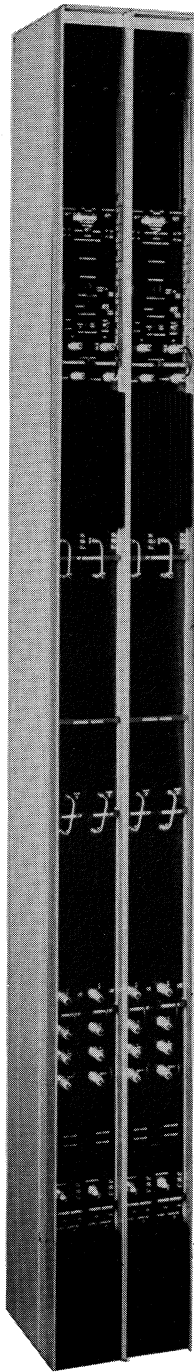
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De Henseler Replies for Fellows



Dr. Max de Henseler, HB9RS, a recipient of the Grade of Fellow at this year's Anniversary Dinner, is a senior official at the United Nations, where he is chief of the Cartography Section. He is also founder, president and moving force of the United Nations Amateur Radio Club, operating Amateur Radio Station 4U1UN.

Born in Geneva, Switzerland, Dr. de Henseler was first licensed as an amateur operator in 1947 with the call HE9RHP, and that has been followed with 14 other calls as he moved through the world. His travels brought him the distinction of being the first amateur to receive the WAC (Worked All Continents) Award from each of the six continents.

In his global travels, he continually meets with overseas radio amateurs who, in many countries, are government officials in the field of telecommunications. Dr. de Henseler is recognized by the Radio Club of America with the grade of Fellow for his leadership and contributions to the promotion of international Amateur Radio!

Mr. President, Members of the Board of Directors, distinguished fellow members, ladies and gentlemen:

It is for me a great honor to have been elevated to the grade of Fellow of the Radio Club of America and it is even a greater privilege to have

been chosen as the respondent for this evening's outstanding roster of the 1982 Fellow Award.

As I have during the past 30 years had the opportunity of operating from all corners of the world and establishing contacts between them, I was able to observe a great difference between countries, peoples and cultures. But I have also discovered that everywhere the bridge towards a true understanding at the global level is communication.

To this end, the United Nations "World Communications Year", which will be celebrated in 1983, could be the starting point of real progress. Its objective is indeed to promote the development of telecommunication infrastructures; only then the barrier of borders will fade away, man-to-man exchanges will be established and bonds between all the peoples of our planet forged. It is only through personal contacts that understanding and fellowship, indispensable for the survival of mankind, will be born.

In spite of all the research, in spite of the many space probes, it seems that at the present time we have not found any trace of other civilizations. It could very well be that our humanity is the only one in our universe. When one thinks, one can ponder on the fragility of our world, a world with a long and difficult past and with a long and difficult future. Communication can play there a great and unique role. As long as we will have the opportunity of being the messengers of peace and hope to the victims of war and poverty striving for a better life, we, the new Fellows of the Radio Club of America, have a unique chance to work hard to ensure that humanity has more than a history, that, between communication and catastrophe, we choose to communicate, and by doing so, ensure the world a future.

We are all very proud to have attempted, each one of us in our own way, to bring this objective a little bit nearer. We are proud and deeply moved by the honor that has been bestowed upon us, and we can assure you, Mr. President, that in all our efforts we will continue to be worthy of this honor.

New Members

Since the October *Proceedings* was published, 32 members have joined the Club.

Steven L. Aldinger, Phelps Dodge, Route 79, Marlboro, NJ 07746

Kenneth L. Amundson, TacTec Systems Inc., Country Club Road, Meadow Lands, PA 15347

Thomas R. Bailey, 31056 Fairchild, Warren, MI 48093

Charles A. Brown, Jr., W0SFY, Aerotron, Inc., 7245 Dudley, Lincoln, NE 68505

Dennis L. Bruns, 5404 Fossil Ct. N., Ft. Collins, CO 80525

Marion S. J. Campbell, Motorola C & E, 3320 Belt Line Road, Dallas, TX 75234

William J. Dixon, TacTec Systems, Inc., Country Club Road, Meadow Lands, PA 15347

Lyman K. Duggan, VE3ILW/W4, CMC Electronics, Inc., 5479 Jetport Industrial Blvd., Tampa, FL 33614

Thomas A. Farrell, Thomas A. Farrell Inc., P.O. Box 8134, Dallas, TX 75205

Henry A. Freiberger, W5YD, Motorola, 1140 Cypress Sta. Drive, Houston, TX 77090

John F. Fuhrman, K0LFA, Maxon Electronics Inc., Ambassador Drive, MO 64153

William R. Gary, 14834 Falling Creek Drive, Houston, TX 77068

John D. Goeken, Airfone, Inc., 2030 M St., Washington, DC 20036

William D. Kelly, WNEW-TV Metromedia Inc., 205 E. 67 St., New York, NY 10021

Per A. Kullstam, 8508 Shadeway Place, Springfield, VA 22153

James A. Lang, California Microwave, Inc., 990 Almanor Ave., Sunnyvale, CA 94086

John H. Newell, TacTec Systems, Inc., Coun-Club Road, Meadow Lands, PA 15347

Gerald H. Nordberg, Jr., Reinheimer Nordberg, Inc., 641 Lexington Ave., New York, NY 10022

Anthony K. Sharpe, 75 High St., Teversham, Cambridge, England CB1 5AG

Gene F. Smith, K2DBL, Mobile Radio Dispatch Services Inc., 386 Old Bridge Turnpike, East Brunswick, NJ 08816

Grace H. Smith, Telocator Network of America, 1800 M St., N.W., Suite 1020N, Washington, DC 20036

Ray Soifer, 60 Waldron Ave., Glen Rock, NJ 07452

Elmer W. Soldan, K8HMZ, 14016 Rossini, Detroit, MI 48205

Lee J. Stanton, 31 Second Avenue, New York, NY 10003

Don Turney, 15 Grove St., Pompton Plains, NJ 07444

Jay W. Underdown, 58 Judy Drive, St. Charles, MO 63301

Robert A. Wallis, TacTec Systems Inc., Country Club Drive, Meadow Lands, PA 15347

Edward F. Weingart, AT&T, Advanced Mobile Phone Service, 180 Mt. Airy Road, Box 405, Basking Ridge, NJ 07920

Robert W. Weir, VE3WY, Sinclair Radio Labs, Inc., 122 Rayette Road, Concord, Ont., Canada

Roger L. Williams, Willmar Vocational-Technical Institute, P.O. Box 1097, Willmar, MN 56201

Walter B. Williams, 13103 Corbett, Detroit, MI 48213

Donald R. Wilson, K2DSV, 64 Lorraine Ave., Middlesex, NJ 08846

Elise F. Wright, 2430 Nottingham Drive, Falls Church, VA 22043

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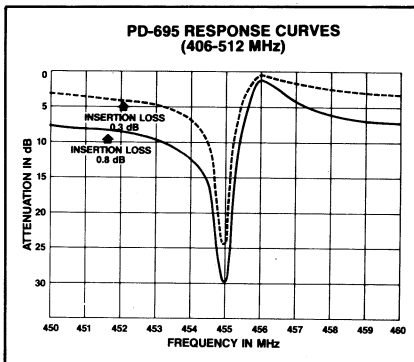
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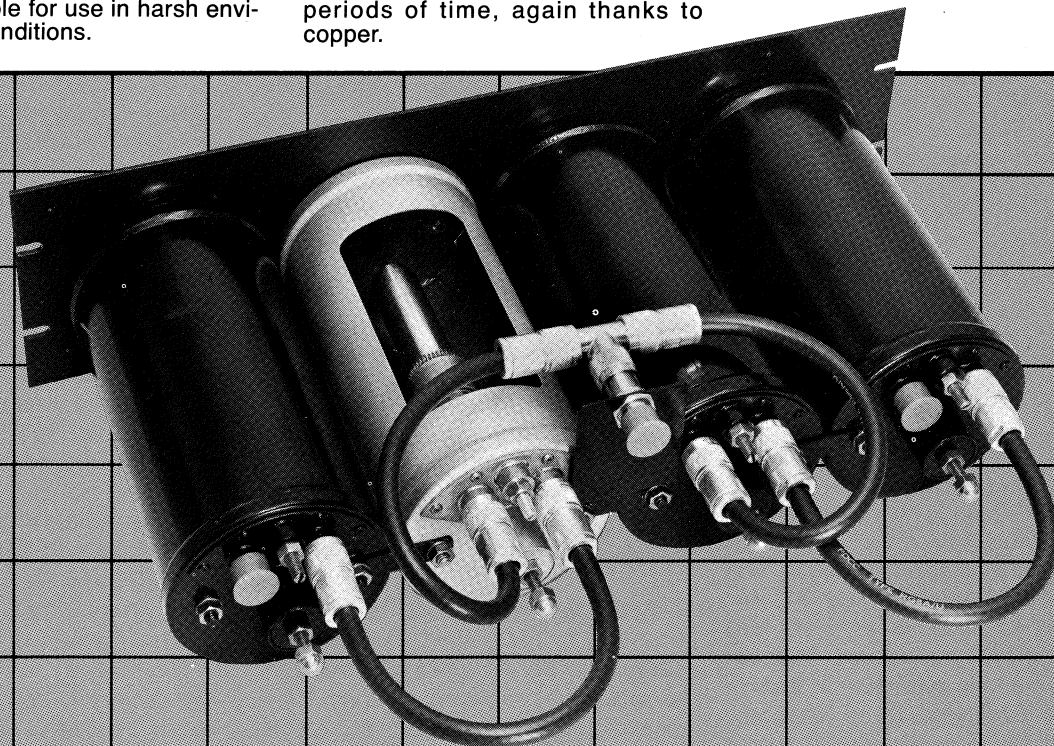
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Obituaries

Eugene H. Rietzke, leading educator in the field of electronics, died of pneumonia January 3, at the George Washington University Hospital. His age was 85. He was the founder of the Capitol Radio Engineering Institute and a founder and four-term president of the National Council of Home Study schools.

Mr. Rietzke's radio career began in the Navy, in which she enlisted in World War I. He became a radio instructor and in 1924 was assigned to the Naval Research Laboratory in Washington as the chief instructor in the Advanced Radio Materiel School.

Writing a textbook on tubes, he persuaded the Navy in 1927 to permit him to market it for home study. Its success was so great that he left the Navy to devote full time to providing correspondence courses in radio. In 1932, he added a residential school to CREI.

During World War II, CREI trained more than 3,000 technicians for the Armed Forces and industry. In 1958 the school issued the first home study program in nuclear engineering technology, and a branch, CREI International, was established in London.

In 1964 Mr. Rietzke turned the school over to a non-profit board of directors, and sold the correspondence school portion to the McGraw-Hill Continuing Education Center, but remained active in the direction of those organizations until 1980.

A high school graduate who had never entered college, Mr. Rietzke was recognized as one of the nation's foremost educators. In 1977 he received a special citation from the Navy for his contributions as an educator in the electronics field. He also held the Distinguished Service Award of the National Home Study Council. He received three Marconi Gold Medals of Achievement from the Veteran Wireless Operators Association and held the de Forest Audion Award.

Dr. E. Stuart Davis (M 1955, F 1975) a retired research leader in the electrical instrumentation field, died February 15, 1983, at the age of 77. He had been Director of Research at

Potter Aeronautical Corp of Patter-son, NJ, for 10 years before his retire-ment. Previously he had been with Weston Electrical Instrument Co. He had also taught physics at Princeton.

An early telegrapher, he maintain-ed a land telegraph museum at his home in Union, NJ. During World War II, he worked as a code-breaker in Washington, D.C.

Dr. Davis received Ph.D degrees from both Long Island University and the University of Toronto. He was a member of the Antique Wireless Association, Society of Wireless Pioneers, and the Audio Engineering Society.

Eugene S. Goebel, W8JJ/W9ESG (M 1972, F 1980) died March 9 of pulmonary cancer following a series of operations. He was 81 years old.

An amateur in the early days of the century, with calls W3WX and W3HQ, he was a wireless operator for Wanamakers, and later chief engineer for the Philadelphia broad-cast stations WDAR and WLIT.

Joining Galvin Mfg. Co. (now Motorola) in 1941, he rose to the position of Vice President in 1956. In 1959 he retired from Motorola, work-ing later for various government security agencies.

As a communications officer for the Illinois Civil Defense, he perfected a weather warning alert system involving more than 1200 automatic receivers.

Mr. Goebel served on many com-mittees of the International Associa-tion of Chiefs of Police, belonged to numbers of civic and professional associations, and was an Honorary Member of the Associated Public Safety Communications Officers (APCO) a Fellow of the Radio Club and a Life Member of the Society of Wireless Pioneers (SOWP).

Kenneth W. Jarvis (M 1935, F 1938, L 1971) died December 3, 1982, aged 81. He had been President of his own company, Jarvis Elec-tronics Corp., until 1964, and a con-sulting engineer from 1964 to 1979, when a stroke compelled him to quit working. He had been an amateur in the teens, contributed the chapter, "Detection and Modulation" to Hen-ney's *Radio Engineering Handbook*, held at least 22 patents and was at one time Director of Engineering for Zenith.

Dr. Samuel Moses, W1ASD (M 1981) West Hartford, CT., died November 28, 1982, at age 71, after a 53-year career as a radio amateur. An active ham to the time of his death, he was President of the Yankee Chapter of QCWA 1981-82, having been Vice President the preceding year. He was the Secretary of the Hartford County Amateur Association, and was a candi-date for Director of QCWA when he died.

C. Robert Fine, KB2ZU (M 1971) died about the beginning of Decem-ber, 1982. A leader in the sound engineering field, he was Chief Engineer of Reeves Sound Studios from 1948 to 1952, was President of Reeves Production Services when he joined the Club, and later was con-nected with Reeves Cinetel and Tele-tape. In more recent years, he developed a number of inventions and projects in audio and video. He was a charter member of the Audio Engineering Society, and was Presi-dent of the New York Section at the time of his death.

DR. TERMAN PASSES

Dr. Frederick E. Terman, whose *Radio Engineers Handbook* has been the foundation on which a large por-tion of this and the last generation of electronics students have built their education, died of cardiac arrest December 19, 1982, at age 82.

Graduating from Stanford Univer-sity in 1920 with a B.S. in chemical engineering, he received a degree in electrical engineering from Stanford in 1922 and a doctorate from M.I.T. in 1924. In 1925 he took a part-time teaching job at Stanford, which he extended to full time in 1926. He became chairman of the Stanford Department of Electrical Engineering in 1937, and at the time of his death was emeritus provost of Stanford.

Dr. Terman is credited with being "the father of Silicon Valley," because he continually urged his students to start small businesses near Stanford, rather than join the "brain drain" to the East. In 1951 he helped establish the Stanford Industrial Park, believing that locating high-technology enterprises near a univer-sity would benefit both the enter-prises and the institution. The prac-tice has been adopted since by a number of educational institutions.

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A Letter from Keith Henney

Snowville, NH 03949
Feb. 11, 1983

Mr. Fred M. Link
Pittstown, NJ

Dear Fred:

Don Fink has sent the plaque on to me and it is a beauty. As soon as I get tired of enjoying and exhibiting it at eye level it will go up on the wall. I am sure there is nothing like it in Snowville, or Carrol County or in NH!

Alex McKenzie got the story about the award in the local papers and I get more attention now when I go to the stores. Better than if I chased women, I think. Again many thanks, and regards.

Keith Henney

70 Years of Radio Tubes and Valves—a guide for *Electronic Engineers, Historians and Collectors*, is a new book on a subject about which one might have expected to have received more attention. Written by a New Zealander, John W. Stokes, its coverage is international, with stress on tubes produced in English-speaking countries.

The treatment is human—Mr. Stokes takes time to explain why the early de Forest Audions became globular, the rational behind certain systems of nomenclature, and to include many similar notes.

The development of tubes is followed step-by-step, from the diode to the pentode, and then through special tubes—multiple, metal, frequency changers and rectifiers. Since the tube developed progressively with time the treatment also tends to be chronological.

There are special chapters on British and American independents, and special attention is given to non-mainstream types of tubes throughout the book. Illustration is lavish, and many readers will see pictures of tubes they never heard of.

With Tyne's work, this should give the tube enthusiast an almost complete library. The book is obtainable through bookstores, or direct from Vestal Press, P.O. Box 97, Vestal, NY 13850, for \$21.50, plus \$2 for shipping (New York residents add 7% sales tax).

Reception Sponsors

An unfortunate error in the 1982 Banquet program resulted in leaving out the name of one of the sponsors of the reception preceding the Radio Club's annual meeting and banquet last November. We apologize to Scientific Atlantic for the omission. The complete list of sponsors follows:

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News of the Membership

Andrew F. Inglis (M 1970, F 1970) retired as President of RCA American Communications Inc. (Americom) as of February 1, 1983. Mr. Inglis was the featured speaker of the 1980 Awards Banquet of the Club.

Dick Horner (M 1971, F 1976) Chairman and Chief Executive Officer of E.F. Johnson Co., has been named a Director and will sit on the Board of Western Union. Congrats!

Frederick G. Suffield (M 1978) completed his two-year term as elected Director of Region 6 of the IEEE, and as a member of the IEEE Board of Directors. Region 6 consists of the 12 western states, including Alaska and Hawaii, with 45,000 members, and is the largest of the world's ten IEEE regions.

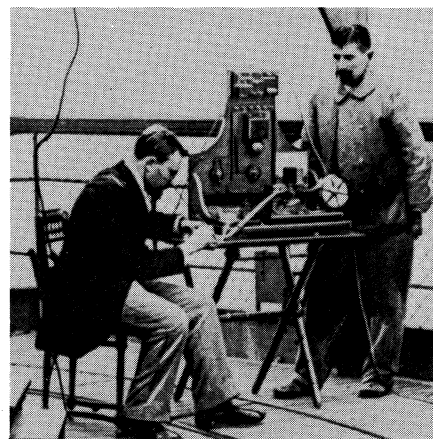
Radio Communications Report, the land mobile radio industry's tabloid newspaper, comes out twice a month in 1983, according to officials at Titsch Communications, Inc. Issue dates are the first and 15th of the month.

E.A. DUCRETET

by Don K. deNeuf, WA1SPM

There were a number of scientists and inventors who made important contributions to the advancement of telecommunications, but for whom historical recognition is very much on the short side, compared with the lavish honors heaped on others.

Among them was the French scientific instrument manufacturer Eugene Adrien Ducretet. In his early experiments he constructed radio telegraph apparatus, following the designs of the Russian scientist Popov, but with numerous modifications. He experimented with transmissions from the Eiffel Tower in Paris, and on November 5, 1898, succeeded in signalling from the Tower to the Pantheon, about 4 km distant. A French postage stamp and "first day cover" commemorating that event was issued in 1973.

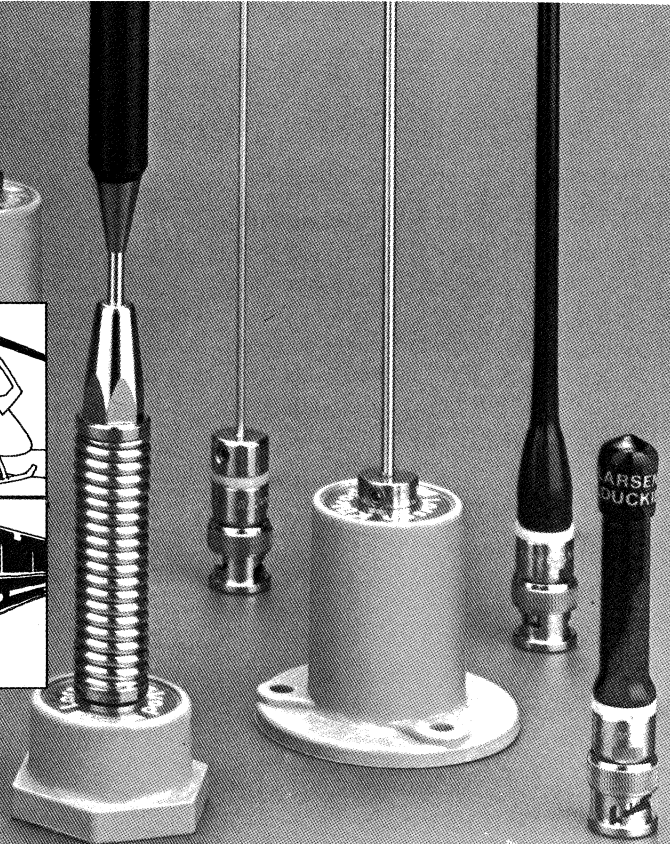
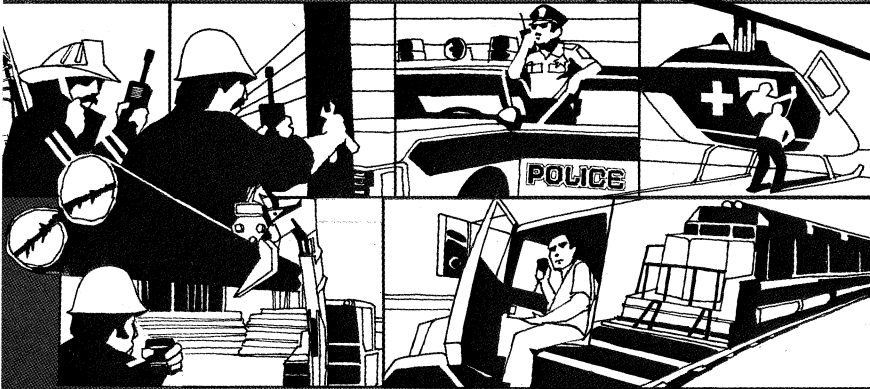


The Eiffel Tower Transmission

In 1910 Ducretet produced a "rotary spark" transmitting system. The principle of this unusual device for interrupting the spark was used for many years. The spark took place between the open end of an aluminum tube and a copper ball, which revolved on an axis at right angles to the tube, just in front of its opening. A jet of air under pressure was forced through the tube onto the spark. Another of his devices was receiving apparatus for automatically recording code signals on a paper ribbon. For a number of years ships used the service for recording weather signals from Paris.

Ducretet authored several publications on telecommunications. One of the best known was published in 1911.

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Before you buy a mobile radio on name alone, there are a few things you should know about Johnson.

Johnson isn't the best-known two-way radio. So we work at being the best-made.

If you spend a few minutes with a Johnson radio... talking on it... listening to it... checking out its performance and reliability features... we think you'll see what we mean.

WE WON'T SETTLE FOR A SECOND-RATE RADIO. NEITHER SHOULD YOU.

At Johnson, we specialize in one thing only. Making the best two-way radios.

And because we concentrate our attention on this one job, we think we do it better. Johnson radios have pioneered many breakthroughs in the mobile communications industry. Our CLEARCHANNEL LTR™ solved

channel crowding problems by utilizing an advanced micro-processor design.

The innovations continue throughout our entire product line, from handheld radios to mobile two-way FM radios to mobile telephones. In fact, Johnson is one of the few approved suppliers of an advanced new mobile telephone system now being introduced in the U.S.

WE DON'T SELL IT UNTIL WE'RE SURE OF IT.

After we build our radio to precise standards, we put them through at least 42 different quality control tests.

Many of our radios are baked at 150°. Others are chilled at 40° below zero. And some are even put through vibration tests for hours at a time.

Why so much testing? Because in the unlikely event that one of our radios has a problem, we want to find out about it before you do.

WHEN YOU'RE NOT THE BEST-KNOWN RADIO, YOU HAVE TO BE THE BEST-MADE.

That's why every Johnson two-way radio is built to deliver trouble-free performance. It's also why we offer one of the industry's best warranties. Because we know that seldom, if ever, will one of our radios be back for repairs.

Every Johnson radio is also backed by a nationwide network of dealers... providing parts, service and technical assistance whenever you might need it.

It's this kind of commitment that makes Johnson a leader in mobile communications.

It's also why when you're looking for the right two-way radio, you shouldn't just go with a name. You should go with the best. Johnson.



JOHNSON

RADIO PRODUCTS DIVISION

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