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COMPLETE MEMBERSHIP DIRECTORY

To October 1, 1977
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THE RADIO CLUB OF AMERICA, INC.
P.O. Box 2112, Grand Central Station, New York, N.Y. 10017

Founded 1909, New York, U.S.A.
The Radio Club of America, Inc.
 BOX 2112, GRAND CENTRAL STATION, NEW YORK, N.Y. 10017

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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COMMUNICATIONS SYMPOSIUM

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MORNING SESSION, 9 AM, NOVEMBER 18, 1977

STUART MEYER, Chairman

GEORGE JACOBS <i>The Future of AM Broadcasting</i>	CHARLES HIGGINBOTHAM <i>FCC Update</i>
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C. PHYLL HORNE <i>FCC Field Operations and You</i>	JOHN R. MILLER, NASA <i>Proposed Public Service Satellite</i>
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AFTERNOON REVIEW OF MORNING SESSION

JERRY STOVER, Moderator

JOSEPH F. WALKER V.P., Philips Communications
"Digging for Black Gold"

QUESTIONS AND RESPONSES ON MORNING PAPERS

Radio Club of America
Reception and Dinner, 5:30 PM

(see page 6)

From the President

I am very happy that the *Proceedings* is carrying an article on our former distinguished member Dr. Allen B. Du Mont, and wish to thank all those involved in putting the material together. My own career in radio was instigated through the direct moves made by Allen B. Du Mont that involved my leaving the New York Telephone Co. to join him as assistant engineer in the de Forest Radio Co. in 1927. Du Mont was Chief Engineer of the company at the time, and this was the beginning of the Fred Link career in Radio. This being my fiftieth year in business, I would wish all to know that it was Allen B. Du Mont who precipitated the move. I will always feel that of all my friends and contacts in business, no one single person had the impact or incentive for me that was generated by my close personal association with Allen Du Mont. If I have in turn contributed anything important to our industry it should possibly be credited to the early leadership and personal support he gave me. I am happy to see the credit due Du Mont put into the record by the Radio Club of America.

Allen B. Du Mont

*“The Man Who Was
Responsible for Television”*

By
P.S. Christaldi, Fellow
and
T.T. Goldsmith, Fellow



Allen B. Du Mont was born in Brooklyn, N.Y. on January 29, 1901, to William H. B. and Lillian F. (Balcom) Du Mont. His father was Secretary and Treasurer of Waterbury Clock Company, reknowned for the Ingersoll dollar watch; his maternal grandmother was an inventor of some note. At an early age, Allen and his family moved to Montclair, New Jersey; he lived there until his death on November 14, 1965.

While still in elementary school young Allen developed an interest in electricity and wireless. Following an attack of polio at age 11, his recuperation was speeded by working with a crystal radio receiver, and soon he began to construct his own transmitter and receiver. Before long he was owner and operator of amateur radio station W2AYR. By age 14 he had earned his First Class radio operator's license and began a series of summer jobs as wireless operator on coastwise and transatlantic vessels.

On one such trip, aboard a fogbound fruit ship off the New Jersey coast, young Allen was checking out the new-fangled radio compass and was alarmed to discover that they were headed straight for Barnegat and disaster. He warned the skipper, who was very skeptical of the mysterious device. But the skipper dropped anchor for the night. Next morning they found themselves sitting just off Ambrose Channel—safe.

Ironically, many years later, Dr. Du Mont was an observer aboard a Naval vessel evaluating a new cathode-ray tube radar display. This time the skipper was not only skeptical but stubborn—and his ship piled up on a rock!

Following graduation from Montclair, N. J. High School in 1919, Du Mont matriculated at Rensselaer Polytechnic Institute. While studying electrical engineering he was particularly interested in the oscillographic display of electrical waveforms; there he had his initial introduction to the cathode-ray tube, then a relatively crude, short-lived device. But even its limited potential impressed him—influenced the direction of his professional career.

Despite the handicap resulting from the polio attack, Du Mont did not neglect extra-curricular activities, including sports. In addition to being manager of his

class bowling team, he was a member of the varsity swimming team. Indeed, he was known as the “human fish”.

Du Mont as Tube Engineer

Shortly after graduation he joined the Westinghouse Lamp Company as an engineer in the development laboratory and later in charge of receiving tubes production. At the time only 500 tubes a day were being produced. With improvements in the design of the tubes, to facilitate fabrication, and the machinery for manufacture of tubes and their parts, for which ten patents were issued to him, Du Mont increased production rates to 5000 tubes per hour. For this achievement and for other accomplishments that helped make production history in the vacuum tube field, Westinghouse gave him the 1927 First Award of \$500.

Meanwhile, at a party in Montclair, he had met Ethyl Martha Steadman, and in October of 1926 they were married. Their two children are Allen Balcom and Yvonne.

When, in 1928, Dr. Lee De Forest, inventor of the audion tube, started to reactivate the De Forest Radio Company after a year's shutdown, Allen Du Mont's achievements at Westinghouse seemed ideal grounds for his selection as chief engineer, and later vice-president in charge of engineering.

To quote Du Mont: “My immediate problem was to supervise the designing of a complete new line of receiving tubes, lay out and supervise the installation of factory equipment necessary to produce thirty thousand receiving tubes a day, and to get together and organize the necessary engineering and factory staff.” The challenge was met, and in less than a year production exceeded thirty thousand tubes a day. Special test equipment and automatic machines were developed to increase production and decrease costs.

With receiving tube production well under way, Du Mont turned his attention to transmitting tubes and soon had a complete line in production. Then came the design and manufacture of c-w and telephone transmitters, as well as a practical facsimile system.

At about this time De Forest purchased the rights to the



Dr. de Forest and the young Du Mont in de Forest's tube factory at Passaic, New Jersey.

C. Francis Jenkins mechanical scanning system of television, then capable of producing a 48-line picture, and set up television broadcast station W2XCD in Passaic, N. J., operating in the AM broadcast band. In 1930 W2XCD transmitted the first sight and sound test programs in the United States. A small number of television receivers was manufactured and sold to experimenters and amateurs.

Despite the considerable effort expended to develop this mechanical system, it soon became apparent that the limitations were too severe to permit the development of an entertainment type of television system. Du Mont remembered the cathode-ray tube in the laboratory at Rensselaer and decided, with others, that it held the key to the high-resolution television receiver.

In 1931 Du Mont returned from a vacation in Bermuda to find that the depression had taken its toll and that the De Forest Radio Company had failed. While his relationship with the company was ended, his warm personal relationship with Lee De Forest continued, with exchanges of correspondence and visits, as well as personal and business association, until Dr. De Forest's death. Not long before his death, Dr. De Forest was honored on a "This is Your Life" program. Appropriately, the program was introduced by Allen B. Du Mont.

And so, by a stroke of fate, Allen B. Du Mont was in a position to pursue what had been since 1928 the focus of his interest and ambition: the development of a practical electronic television system. He was certain that the key lay in the cathode-ray tube; yet the tubes then available were mainly imported from Germany, were scarce, very expensive, small, with maximum screen size of five inches, and had useful life expectancies of only about a hundred hours. The problem was to produce tubes at reasonable cost with large screen sizes and that would last for thousands of hours.

Quoting Dr. Du Mont, "The road ahead seemed to clear. Develop the tube, develop the circuits to control the tube, and—presto, we'd have television. I invested \$500 and a very good friend (Henry R. Crowley) put in another \$500. This was the initial working capital for Du Mont Laboratories. We hired three good men, and a

fourth man worked for us part time. One was a glass blower, one a chemist, and two were technicians. Our place of business was the basement of my house in Upper Montclair."

A thorough survey and study was made of all available literature on the cathode-ray tube, and many types of guns and deflection plate designs were evaluated and tested. The young Du Mont organization concentrated on high-vacuum tubes, although small quantities of gas-focus tubes were made to fill requests over many years.

Much trial and error was involved in arriving at satisfactory designs. The scarcity of glass bulbs for making tubes meant using chemical flasks and receiving or small transmitting tube bulbs for some of the gun and fluorescent screen tests. The phosphors had to be developed, and the New Jersey zinc mines provided one source of willemite, a component of one type of screen. After hundreds of tubes had been made and tested—many of which ended up in the trash barrel—he was able to achieve several thousand hours of operation in tubes having an electron lens for focusing instead of an inert gas. But since there were no television stations, there was no market for television cathode-ray tubes and no source of income for the fledgling Allen B. Du Mont Laboratories.

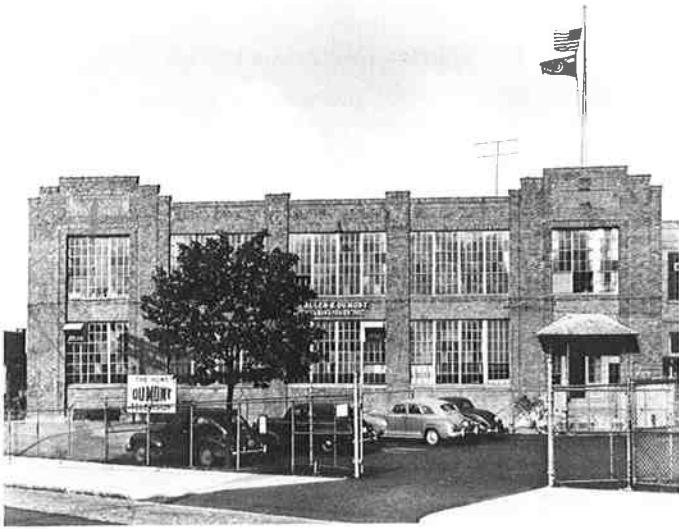
The cathode-ray oscillograph

And so, in 1932, Du Mont introduced his first commercial cathode-ray oscillograph, Type 127, to create a market for his tubes. Also in that year he made, in anticipation of color television, a cathode-ray tube with various color phosphors. The Type 127 was followed shortly by a continuing series of new and more versatile cathode-ray oscillographs as the business was built up as a means to the end of developing an all-electronic television system.

During this period Du Mont, in April 1933, disclosed to the U. S. Army an indicating radio locator. He was re-



Dr. T.T. Goldsmith selects historic cathode-ray tubes for display at the Smithsonian Institute.



The first Du Mont factory, in Passaic, New Jersey.

quested not to file a patent application on the invention, in the interests of national security. This might have been a basic patent in the field of radio/radar location, potentially worth millions of dollars. Later he was to find a French patent on a similar device, issued six years later in 1939.

Du Mont was involved in other approaches to remote detection and location. There was early work in infrared detection; in experiments with the Signal Corps off Atlantic Highlands the heat of ships was detected through fog. During the 1930s Du Mont provided cathode-ray tubes for use as indicators in Potomac River tests in which the Naval Research Laboratory measured distances to remote targets, using radar principles.

With the market for cathode-ray tubes and oscillographs beginning to grow, the basement of the Du Mont residence gave way to a store on Valley Road in Upper Montclair, N. J.; before long it was necessary to break through the wall and expand into a second, then a third, until five stores provided the crowded manufacturing space for tubes and oscillographs. Despite this growth, revenues from sales of all products were small: \$70 in the first year of business, \$1,850 the second, reaching \$18,000 the third. This meant that more funds were needed, which Allen Du Mont raised by borrowing on insurance policies and from members of his family and friends who had faith in the potential of his business. In the first four years he had invested \$25,000 in the company; now he was able to obtain a mortgage of \$16,000 on some property, which provided working capital for a couple of years more.

The famous "Magic Eye"

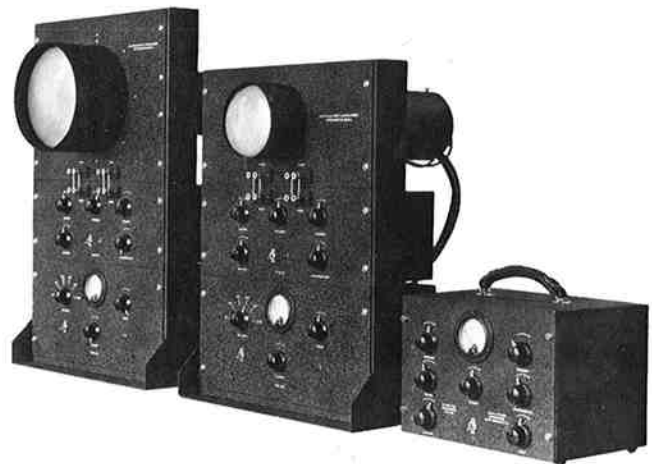
Meanwhile Du Mont developed a tuning indicator using the principles of the cathode-ray tube, and sold rights to RCA for \$20,000. This was the famous "Magic Eye", used extensively for years in radio receivers.

The new funds made it possible to purchase the first manufacturing plant, a 30,000-square foot former pickle works in Passaic, N.J. There the company of some 20 employees began to expand its tube manufacturing capabilities, bringing out 14-inch diameter electrostatic deflection tubes suitable for television receiver use. In 1938 modest production of 14-inch television receivers was

begun. What he had seen of European television during a trip to England, France, and Germany in the late thirties convinced Du Mont that the large-screen receiver had the best hope for commercial success, and he concentrated his efforts there. In addition to table model and console sets, electrostatic deflection 20-inch receivers were produced for commercial sale during 1939 and 1940.

During the decade starting in 1931, the major commercial activity was in the sale of cathode-ray tubes and oscillographs, but toward the end of that period increasing effort was applied to television. Many new and refined oscillograph designs came out of the laboratory and into production, in tube screen diameters of 3, 5, and 9 inches. There was even a 20-inch cathode-ray oscillograph, sold for instructional and demonstration purposes. The tubes were improved in resolution and sensitivity, using the "intensifier" principle of post-deflection acceleration. Many new phosphors were developed, ranging from very short-persistence, highly actinic blues for photographic application to long-persistence types useful for the study of single transient phenomena. An electronic switch was developed to provide two-signal-channel presentation, later supplemented by two-gun cathode-ray tubes, which did not require time sharing. Multi-gun tubes were produced with up to five independent channels. These were used in military electronic counter-measures analyzers designed and built by Du Mont for the Navy.

Applications of the oscillographic technique in fields outside electronics were explored in an effort to build up business volume. The *Resonoscope* was an instrument for tuning musical instruments, using a microphone to pick up the musical tone from the instrument and presenting its output on a timebase stabilized at a selected reference frequency on the musical scale. Then there was the *Cyclograph*, an instrument for analyzing metals by means of a crt pattern derived from eddy current and hysteresis characteristics of the metal sample compared to a reference sample. (One humanitarian application of this device brought relief from pain that had persisted over 20 years to a veteran of World War I. Imbedded shrapnel that had eluded discovery was located on the first probe and promptly removed.)



Early Du Mont oscillographs, built by Link Radio for the Allen Du Mont Labs in the 1933-35 period.

THE RADIO CLUB

68th Anniversary Awards Meeting and Banquet

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

Friday, Nov. 18, 1977

Senior Communications Symposium
9:00 AM

Round Table '77
2:00 PM

Attitude Adjustment Session 5:30
Dinner 7:00 PM

Banquet Keynote Speaker

WILLIAM FLENER

Associate Administrator
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Miss June Poppele, Tele-Measurements Inc.
145 Main Avenue, Clifton, N.J. 07014

Dear June:
My check to the Radio Club of America, in the amount of \$ _____
for _____ tickets, is enclosed.

Name _____

Address _____ City _____

State _____ Zip _____ Phone _____

Du Mont: *Continued from Page 5*

The Military Electronics Period

As the political-military situation in Europe worsened, more and more of Du Mont's activities were in the area of defense. A special oscillograph was developed for testing gunpowder by the closed bomb method. To achieve its precision calibration it was necessary to develop the forerunner of the metallized screen now in universal use. Another special design was used for analyzing the ignition systems in Wright Whirlwind engines. Special circuitry for selecting the number of cylinders, up to the 18 used in the B-29 bomber, permitted expanding the ignition discharge waveform for any cylinder over the full screen. The patent on this delayed and expanded sweep circuit, later used in precision radar ranging, led to improved analysis of high-speed phenomena in many fields. The super-precision *A/R Range Scope*, developed at M. I. T. Radiation Laboratory in cooperation with Du Mont, and produced by him on a crash basis, is generally credited with saving London during the buzz bomb blitz.

Du Mont as Sportsman

Allen Du Mont's love of the water naturally meant that he loved boating, and he spend as much time as he could on his cruisers, successively named Hurricane I, II, and III. Precision navigation was his special interest, predicted-log racing in particular. He was so skillful that he was national champion for three years. In recognition of his special skills in boating and in electronics, he was granted a special license to operate his 35-foot Hurricane II during World War II, making tests in the waterways around New York City of TV ghosts as related to signal transmission and the detection of other objects.

(To be concluded next issue)



Exec. Committee Meets at Shore



Executive Committee Meets at Shore

Jack Poppele, our genial Director, Executive Committee member, Banquet Chairman, Luncheon Caterer and "Part Time" President of **Tele-Measurements Corp.** (which is carrying on successfully with the help of daughter and Corporation official June Poppele) hosted the August 10 Executive Committee meeting at his beautiful shore retreat at Curtis Point, NJ.

Anything done by Jack and June is usually 100% successful, and this day was no exception. Everything was great and the typical Poppele charm and drive were apparent to all. Thanks as always to the Poppele clan for "loaning" us Jack to keep the Radio Club of America on track. In addition, the food was great, too!

The photo above shows the informal gathering. From left to right: Frank Shepard, Fred Shunaman, Jim Morelock, Jerry Minter, Stuart Meyer, Sam Harmatuk, Charles Summers, Joe Rosenbloom, Fred Link and Jack Poppele.

—Fred Link.

HEROISM AT SEA

E.J. Quinby

Two heroic young ladies who lost their lives under similar circumstances in the violent storm that swept over the notorious Bermuda Triangle March 22, 1973, have just been awarded posthumously with the Marconi Memorial Scroll of Honor by the Veteran Wireless Operators Association and their names will be added to the list on the Marconi Monument in Battery Park, New York.

Bente Knudson was only 24 years old when she went down with her ship, the cargo M/V NORSE VARIENT. As usual, she had brought a cargo of Volkswagens from Europe and was taking a cargo of coal back from Norfolk, leaving there March 21.

Within an hour, the M/V ANITA, an identical ship in the same service, carrying similar cargo, also left Norfolk. ANITA's Radio Officer was Kari Bergelien, age 27.

The next day, both of these young seagoing telegraph operators were heard by shore stations, reporting their distress. Bente Knudson flashed that her ship was sinking. Five minutes later she reported that the crew had abandoned ship.

There was only one survivor of that tragic sinking. Motorman Stein Gabrielsen told how the wireless operator, Bente Knudson, had remained on duty in the radio room all through the storm. She had not been on the boat-deck when the crew prepared to abandon ship.

Kari Bergelien was heard by a radio station on Prince Edward Island as she tried three times to contact another station. That was the last heard from the ship.

All hands were presumed lost.

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CITATIONS TO NEW FELLOWS

Alan L. Armitage, *Director of Communications. Hunterdon County Communications System, Flemington, NJ.*

For leadership as President of APCO and work in the field of Public Safety Communications.

Rex Bassett, W4QS *Rex Bassett Electronics, Inc., Fort Lauderdale, FL.*

Radio industry leader and pioneer in the amateur transmitter and broadcast receiver fields.

Robert Batts, *Retired, Tavares, FL.*

For his acknowledged pioneering in two-way mobile radio for police and public safety.

John Daly, *Vice President, Engineering, Repco, Inc., Orlando, FL.*

For his contributions to the improvement of hand-carried portable radio equipment as vice-president and Chief Engineer of Repco.

Charles H. Davison, *Phelps-Dodge Comm. Co., Hightstown, NJ.*

For his lasting contributions and personal standing in the communications industry.

Gary David Gray, *Orange County Communications, Orange, CA.*

For his work as Communications Engineer of Orange County, and the application and development of the multi-cast system of radio transmission for police.

Ray Griese, *Santa Clara, CA.*

For leadership and industry acceptance of his efforts to organize the California Section of the Radio Club.

George Jacobs, *Director of Engineering, Board for International Broadcasting, Washington, DC.*

For his accomplishments in the field of international broadcasting, and his leading role in the development of the Voice of America's worldwide broadcasting system.

R.W. "Bill" Johnson, W6MUR, *The R.W. Johnson Co., Ben Lomond, CA.*

For contributions in the field of mobile radio teleprinters and other inventions important to the communications industry.

James McLean, *President, McLean & Company, general business & consultants, La Jolla, CA 92037.*

For long-time executive leadership in the communications field.

Morgan McMahon, *Vintage Radio, Palos Verdes Peninsula, CA.*

For contributions to the advancement of semiconductor science, and his outstanding efforts to preserve the history of radio.

Tom McMullin, *Chairman of the Board, Communications Industries, Inc., Dallas, TX.*

For unusual leadership in founding and directing Communications Industries, Inc. to an industry peak.

Travis Marshall, *Vice President and Corporate Director of Government Relations, Motorola Inc., Washington, DC.*

For leadership in the fields of communications and the radio business markets.

George Mitchell, *Products Manager, Maxar Mobile Radio Division, Motorola, Inc., Schaumburg, IL.*

For his contributions in the field of land mobile radio.

Nat Pfeffer, W2AIM, *Retired, New York, NY.*

For distinguished activity as a radio amateur from the 1920's to the present, and for devoted service in amateur organizations.

Richard Quantz, *Director, State of Washington Communications Division.*

For leadership in Public Safety communications and as Past President of APCO.

Robinson, John T., *Chief, Equipment Authorization Branch, Laboratory Division, FCC*

For contributions in the development of international technical standards.

Raymond Spence, *Chief Engineer, Federal Communications Commission, Washington, DC.*

For activity in the field of electromagnetic compatibility.

Ben Tongue, *President, Blonder-Tongue Labs, Old Bridge, NJ.*

For contributions in the fields of television antennas and amplifiers.

Val Williams, *President, National Association of Business and Educational Radio (NABER), Washington, DC.*

For work in the field of radio frequency coordination in the land mobile business radio service.

In the Proceedings 50 Years Ago

Among those accepted into membership in 1927 were Edward T. Dickey of the RCA Labs—still a constant attendee at banquets—E.T. Flewelling, inventor of the grid-blocking superregenerative circuit. Edward Loftin and S. Young White; Lloyd Hammarlund and Keith Henney. Loftin and White had a paper "Constant Coupling" in the March issue, and Keith Henney described circuits and methods for measuring tube characteristics. He compares the 201-A tubes of some 29 different manufacturers, from Apco to Zetka. Only one of them appears to be in existence today.

Feature of the January issue was an article by Benjamin F. Miessner, describing a Garod set completely powered by a.c. (It used '112-type tubes, with a '99 detector.)

An ad appears in the March issue for the 1927 Banquet and Entertainment—"Tickets, as usual, are \$4.00 per person."

News of the Membership

Ed. Mathieu (M 1969), has been named Vice President for Marketing & Sales, REPCO, Inc., Orlando, FL.

Nicholas S. Missalides, (M 1972), formerly a lieutenant in the Communications Division of the New York Police Department, has been made a Captain of the Department. Nick, well known in police and communications circles, was the chairman of the very successful National Conference of APCO in New York in 1976.

Sam Lane (1969, F 1974), President of the Vehicular Technology Group of the IEEE, is now Vice President, Marketing, of the Magnasync/Moviola Corp. of North Hollywood, CA.

Allen E. Holt (M 1976), formerly of Search and Recruit International, has formed his own company, Radio Careers. It is a career placement service for two-way radio manufacturers and professionals.

Thomas A. Campobasso (M 1975, F 1976), has been named President of Electronics International Opera-

tions, a new division of Rockwell Electronics Operations. He was formerly Vice President, sales and service, of Rockwell's Collins Radio. o.

David Talley, W2PF, (M 1949, F 1957, L 1970), this year received his 60-year certificate from the Quarter Century Wireless Association, an organization of radio amateurs who have been active for at least 25 years. Dave, who is Treasurer of the Club, has been an active amateur since April 1917.

Emmett B (Jay) Kitchen (M 1971), became Vice President and General Manager of the National Association of Business and Educational Radio (NABER) last summer. He had been Engineering Assistant to FCC Commissioner Margita E. White.

Alfred G. (Jerry) Franz M 1976) has been promoted to Deputy Chief of the Industrial and Public Safety Facilities Division of the FCC's Safety and Special Radio Services Bureau. He had been chief of the Processing Branch of the Division.

Charles E. Summers (M 1972, F 1976 and a Director of the Club) received a striking tribute from IBM on his 35 years of service, in an article in the company's house organ September 14. The article dwelt especially on the phenomenal increase in IBM's use of radio under Summers' direction as Private Radio Services Manager.

Book by Club Member

SARNOFF—An American Success, by Carl Dreher. Quadrangle/The New York Times Book Co., 3 Park Ave., New York, NY 10016. 6½ x 10 inches, 282 pages, hard cover. \$12.50.

The author, a former chief engineer of RCA's WJZ and later of RCA photophone Inc., not only knew and admired Sarnoff, but was closely associated with him in his work and was acquainted with his weaknesses as well as his strengths. The book therefore steers between the adulatory tone of many hero-worshipping works and the debunking attitude of others. It presents a balanced story of how Sarnoff was constituted and how he operated, and explains some of the whys. Possible the best story yet of the man who turned from the engineering approach to the financial, and thereby became one of America's greatest commercial successes.



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GENERAL COMMUNICATIONS SERVICE

Club Holds Spring Banquet In Florida

One hundred twenty-five members and guests attended the Second Semiannual Banquet of The Radio Club of America on Thursday evening, March 17, 1977, at the Orlando Hyatt House in Florida. The Banquet was held in conjunction with the 27th Annual IEEE Vehicular Technology Conference, which had an attendance of almost 400.

An hour-long reception before the dinner permitted the distinguished Club members and friends to visit with each other. After a delicious dinner, they were treated to a special showing of the color/sound movie, "Parade of the Tall Ships," a moving portrayal of the historical sailing ships from around the world that sailed into New York Harbor on July 4, 1976, in celebration of the United States Bicentennial.

After the movie, an exciting drawing was held for several beautiful pictures of the Tall Ships. The first prize was won by Marion Cunningham of Orlando, who selected the prize picture of the Tall Ship Danmark, presented by Decibel Products. The second winner was Ed Boehm, vice president/general manager of Phelps-Dodge. As a commercial guest, he waived his prize so that someone else could receive it. John Gilbert of Orlando was the next winner, and he selected the prize picture of the Tall Ship Christian Radich, presented by Derek Turner of Pye Telecommunications Limited, who came from Cambridge, England, for the Banquet and Conference. Paul Katz of the US State Department (Communications) was the next lucky winner. He selected the prize picture of the Tall Ship Dar Pamorza, presented by Stu Meyer for E.F. Johnson Company. Neal Shepard of General Electric, Lynchburg,



John Gilbert (left) receives his prize picture from Derek Turner of Pye Telecom. LTD.

won the prize picture of the Tall Ship Kruzenshtern, presented by Kim Faust in behalf of Repco, Inc.

Another door prize was a 40-channel CB transceiver made available through Royce via Eric Schimmel. The winner was Bill Brodie, a Florida distributor, who, as a commercial guest, waived his prize so someone else could receive it. The next winner, who received the transceiver, was Joe Sims, a former club director.

The IEEE Vehicular Technology Conference was a tremendous success, due largely to the efforts of Chairman George McClure of Martin Marietta Aerospace in Orlando and his dedicated team. The theme of the conference, "Personal Communications and Vehicular Technology . . . Linking Man to Society," generally described the 40 technical papers, which covered such topics as law-enforcement communications, CB radio and automotive electronics, mobile telephone communications, transportation and automatic vehicle location systems, equipment design, and marine and air-to-ground communications.

The joint Radio Club VTG Banquet was again a big success and plans are already finalized for another joint affair in Denver next March 1978 in conjunction with Modile Radio Week.

—Ken Bourne



Left to right: Dave Talley, Bill Finch, Stu Meyer, Harry Houck, Fred Link, John Rider and Sam Harmatuk.

Executive Committee Discusses Finch Scholarship

The most important business of the March 17, 1977, meeting of the Radio Club Executive Committee, in Orlando Florida, was Capt. Finch's announcement that he intends to start a "Captain William G. H. Finch Scholarship Fund," with an initial gift of \$10,000. It will be under the guidance and administration of the Scholarship and Research Committee, chaired by John F. Rider. Mr. Rider also reported on the 1976 contributions of \$500 to the Armstrong Memorial Research Foundation and of \$250 to the Foundation for Amateur Radio, and recommended that they be continued in the same amounts for 1977.

The well-tanned appearance of the attendees was partly due to the Florida sunshine, but more to an attempt to reproduce a color transparency in black-and-white.

RAY MEYERS RECEIVES AFCEA AWARD



Meyers (left) receives the medal from Admiral Boyes.

Lt. Comdr Ray E. Meyers USN (Ret), long time Regional Vice President of the Armed Forces Communications and Electronics Association, was honored by AFCEA during the annual luncheon held during the convention in Washington, D.C.

Vice Admiral Jon Boyes USN, who will assume the office of AFCEA President this year, decorated Ray with the AFCEA Gold Medal for his long services in behalf of the organization. Ray has held the office of Regional VP for over 16 years, two of which were in the office of RVP on the West Coast. In addition to these offices he is former Chairman of the Greater Los Angeles Chapter.

In accepting the medal—after Admiral Boyes said he had two minutes to respond—Ray gave a most interesting talk on his past experiences as a radioman.

Starting in 1910, he went on the air in Brooklyn, NY and when the Safety at Sea Act became effective in 1912, he obtained his Certificate of Skill granting him operating privileges as both a Commercial Operator and an Amateur. Only three of this type certificates were issued by the Navy, acting for the Department of Commerce.

Ray cited many humorous incidents during his trip to the polar regions aboard the submarine NAUTILUS (ex USS O-12) as the news correspondent, secretary-treasurer, personnel manager, NBC's nemo operator, electrician of the boat and radio operator (after the radioman was washed overboard during the trip from Philadelphia to New York).

On the way over the Atlantic, with the sub rolling 53 and 54 degrees, one engine disabled, one generator burned up, the batteries so low that even the gyro compass had stopped running, Ray sent an SOS by using an oscillating receiver, transmitting calls for help during the silent periods 15-18 and 45-48 minutes after the hour.

His calls were answered some 18 hours after he began calling for help by the SS Independence Hall which in turn asked the Battleships *Arkansas* and *Wyoming* to assist.

For this feat, the Veteran Wireless Association awarded Ray the Marconi Medal for outstanding achievement during the year 1932.

Ray has some very interesting movies of his polar jaunt and his talks have had some excellent press reviews. Who knows, some day he may agree to give his talks during one of our annual meetings. Ray is a Fellow of the Club.

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EDGAR F. JOHNSON

Honored by U. of Minnesota

Edgar F. Johnson, Fellow and former Director of the Club and recipient of the Sarnoff Citation in 1975, was singularly honored in his native Minnesota last Spring, when he was presented with the University of Minnesota's Outstanding Achievement Award. In presenting the award, Dr. William G. Shepherd, director of the University's Space Science Center, said:

"Edgar F. Johnson was really a pioneer. No one else was manufacturing parts for the needs of the amateur radio enthusiast in Minnesota. He and his wife—and his brothers and their wives—pioneered in the development of an industry that has gone from radio parts to amateur radios to CB's to land mobile. He has been outstanding not only in that field but has been a responsible citizen in his community of Waseca and in the support of higher education," Dr. Shepherd continued, citing Johnson's support of the Operation Bootstrap Mission in Africa and his gift of half a million dollars to Gustavus Adolphus College.

The Outstanding Achievement Award is the University's highest honor to an alumnus and is bestowed by the Board of Regents upon recommendation of the University's Honors Committee. All former students and alumni (nearly three-quarters of a million persons) are eligible, but to date only about .01 per cent have received the award.

Johnson published his own account of his career (*A Lifetime of Radio*) in the midsummer of 1972 issue of the *Proceedings*. In his acceptance address, he went over some of the same ground, with more emphasis on his college experiences. Not entirely new to electrical experimenting and even to amateur construction and operating when he entered the University in 1918, he found a University station in operation, with an experimental license. (Of his own spark station, built on the farm, he said, "There was no one within listening range of my feeble transmitter and no other transmitter near enough for me to hear, if indeed I ever succeeded in locating the 'sensitive spot' on my galena crystal.")

His experience in radio grew with the construction of crude receivers to pick up the new broadcasting stations. He took one of these receivers home during the 1920 Christmas vacation, and brought radio to his home town. The local newspaper duly chronicled the reception of KDKA in Waseca, and observed that the University was "doing all right" for Ed. Johnson.

In 1923, discouraged with the slowness and unreliability of ordering radio supplies "from the East," Johnson



Edgar F. Johnson receives the Outstanding Achievement Award from University of Minnesota's Dr. W.G. Shepherd.

and his young wife decided to start an amateur radio parts business, which they did in their own home. Using the *Amateur Call Book* as a mailing list, their business grew fast, and in a year they were able to move to a vacant store building. In 1936 the E. F. Johnson Co., now a going concern with 17 employees, moved into a new factory and office building and in 1947 began the manufacture of amateur radio transmitters, until that time practically all hand-built by the amateur himself. The Johnson Co. continued to distinguish itself, not only in the amateur field, but in government operations and CB sales, until it has reached its present peak, with Edgar Johnson as Chairman of the Board.

Among the guests present to honor Edgar Johnson was Elmer Engstrom, former President and Chief Executive Officer of the RCA Corporation, another distinguished graduate of the University. He delivered the main address of the evening: "From Alternator to Satellite." Both Johnson and Engstrom spoke with enthusiasm of one of their old instructors, Dr. C.M. Jansky, Jr., who came to the University of Minnesota to initiate courses in radio communications.

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Menegus Honored for 30 years in Electronics Publishing



Some 200 guests attended a reception held at the Sands Hotel, Las Vegas, to honor Al Menegus, Publisher of *Electronic Technician/Dealer*, and his wife Marthe, on the 30th anniversary of Al's start in electronics publishing. The event was held May 3, 1977, during the NEW-COM parts show. Arrangements were made by Dave Hegelin, *Electronic Technician/Dealer's* Midwest Sales Manager, and the Master of Ceremonies was Gerry Goldberger, president of Simpson Electric Co.

Al Menegus began his career in the electronics publishing field (after four years of training in the U.S. Air Force's Army Airways Communications System) with Fred Link, as editor of the house magazine, *The Link Bulletin*, and worked for Link from 1947 to 1952. Between 1952 and 1963, he held a series of positions in the advertising, promotion and public relations fields, including that of advertising manager for Visual Electronics Corp. He also acted as their press information officer at the New York Worlds Fair, 1964, in the Communications Demonstration Center.

In 1967 he returned to publishing as Eastern manager for *Broadcast Engineering* and the *PF Reporter*. In 1969, he became Eastern manager for *Electronic Technician/Dealer*, and in 1971, Publisher of that magazine.

"I am extremely thankful," says Al, "for all the good people I've met and worked with in the electronics industry and electronics publishing field, but I guess I'm most grateful for that first meeting with Fred Link, who pushed me in the direction of the most interesting, challenging and rewarding career I can think of."



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Offenhauser Receives Grierson Medal



William H. Offenhauser, Jr., has been awarded the John Grierson International Gold Medal Award for 1977 by the Society of Motion Picture and Television Engineers (SMPTE). The medal is given "to honor the recipient by recognizing significant technical achievements related to the production of documentary motion-picture films."

Mr. Offenhauser, says the citation, has devoted a lifetime to energy to improving motion picture and sound performance, beginning with his development of the so-called MGM squeeze track for RCA Photophone in 1921, for which 11 patents were issued. Authorship of the book *16mm Sound Motion Pictures*, a manual still in use, and his instrumentality in the development of the JAN projector, was also mentioned.

Further cited is Mr. Offenhauser's service in developing specifications and standards, especially in picture and sound synchronization. He has received some 70 patents, and has been a Fellow of the SMPTE since 1946, and a fellow and Past President of the Club.

Obituaries

Since the last Proceedings was published, we have received information of the passing of 11 members:

Carl E. Atkins (M 1962, F 1967), Montclair, NJ, died May 18, 1977. He started in the semiconductor division of Sparks-Withington (Sparton) in 1928. Joining Tung-Sol in 1940, he continued with Wagner Electric after Tung-Sol's merger with that company, retiring as Director of Research and Development in 1976. He was a member of IEEE and SAE as well as of the Club.

Raymond P. Aylor, Jr. (M 1973), Garrett Park, MD, was a project engineer for the Voice of America. He was 62 years of age.

William J.D. Bradford, (M 1973), National Sales Manager, Antenna Specialists, Cleveland, OH, died last December 12 from a heart attack. He was an active radio amateur and aircraft pilot. He was active in the American Management Association and the EIA, and was chairman of a group in the FCC's Personal Use Radio Advisory Committee (PURAC).

John R. Brinkley (M 1970, F 1971) died suddenly in August of an inoperable brain tumor. Considered one of the world's outstanding communications experts, he was Chairman and Managing Director of Redifon Communications Ltd. and had been managing director of Pye Telecommunications. Mr. Brinkley consistently came to the United States to attend meetings and participate in our Annual Banquets, had given papers at the IEEE Vehicular Technical Group meetings and authored the article "Fifty Years of Mobile Radio" in the October, 1976 *Proceedings*.

F. Vinton Long, (M 1970, F 1975), Boca Raton, FL., was one of the earliest amateurs in his district, with the call 4IH from 1921. A retired communications consultant for the petroleum-gas pipeline industry, he was for years a leader in that field.

Walter Lyons (M 1952, F 1961) Flushing, NY, died last May., He had been Chief Engineer of Wells-Gardner, Emerson and Majestic radio companies during the '30's, and later worked with RCA as design engineer and communications manager for more than 20 years. He was a Director of the Club from 1968 to 1972.

Lucius Packard (M 1940, F 1941), Melvin Village, NH, died at the age of 63. After an early career with General Radio, during which time he developed (in conjunction with H.H. Scott) advanced impedance and phase-angle measuring equipment, he founded his own firm, Technology Instrument Corp., which he retained to the time of his death. He had been semi-retired for some years.

Robert M. Peterson (M 1969), San Diego, CA. He had specialized in information recording and data displays, working most recently with Stromberg Datagraphix.

Arthur Schermer (M 1971) died in September 1976. A petrochemical engineer, he spent much of his life in South America, where he was a leading amateur. W2HYX since the early 1930's, he was the first American to obtain an amateur license in Brazil, and was CE1IE in Chile.

James D. Shaw (M 1973) Assistant Director, Equipment Services Dept, City of Dallas, TX, died last December 19. He came to the Communications Division of the City of Dallas from Communications Industries, where he was Chief Engineer of Secode Electronics.

Louis J. Winslow (M 1971). Long Branch, NJ, died March 14, 1977, at the age of 69. He founded Winslow Tele-Tronics in 1923 with a capital of \$5, which grew to more than \$3 million. He was active in a number of local and national organizations, including the National Trust for Historical Preservation and the Navy League.

Four Members Receive An



Arthur A. Collins



John F. Rider



The 1977 Anniversary Awards are going to an especially distinguished group of members: Arthur A. Collins is known for sophisticated transmitter and receiver design, particularly in aircraft radio. Bill Lear is probably the most versatile inventor and innovator in the field today. John F. Rider produced what was the Bible of the service technician, thereby compiling a record of radio and television receiver evolution. And the work of W.E.D. Stokes was—as pointed out here—possibly fundamental to the very existence of amateur radio. All four are Fellows of the Radio Club of America, and Mr. Stokes is one of the Club's eight Honorary Members.

The Armstrong Medal, highest honor of the Radio Club of America, is awarded this year to Arthur A. Collins. The Medal is given by the Club to "any person in its membership who shall have made...an important contribution to Radio Art and Science."

Arthur Collins founded the Collins Radio Company in 1931 and became a pioneer supplier of equipment to radio amateur, commercial and military services. His engineering developments and refinements made Collins aircraft radio standard equipment on the bulk of U.S. World War II aircraft and caused it to be used extensively by American and foreign aviation since. His precision remote tuning systems are considered an engineering triumph.

Among his other accomplishments are the development of multi-channel automatically tuned radio transmitters, receivers and transceivers. He was directly responsible for

numbers of advances in single-sideband communication, which contributed greatly to single-sideband's wide acceptance in airborne, land and marine use. Among these advances were the development of stable and linear oscillators and numerous refinements in linear amplifier circuits. His contribution to tropospheric scatter communications methods have been significant and include many improvements in antenna design. Most recent contributions include completely automatically tuned radio communications systems and the world's first computer-controlled 250-kW broadcast transmitter.

Mr. Collins was born in Oklahoma in 1909 and received his education at Amherst, Coe College (Iowa) and the University of Iowa. He is a Fellow of the Club and of the IEEE, and holds honorary doctorates from Coe College, Brooklyn Polytechnic Institute and Southern Methodist University.

The Ralph Batcher Memorial Award, "for accomplishments in preserving the history of radio," goes this year to John F. Rider, possibly the best known figure in the field of radio literature. He began his radio writing career in 1921, and conducted the "Laboratory Scrap Book" section of the *New York Sun* from 1922.

In 1929 he founded his book company, *John F. Rider, Publisher*, and started to put out, among other publications, an annual book of radio schematics, with complete chassis layouts, tube complements and parts lists. First called "The Perpetual Radio Troubleshooters Manual" these books were later known simply as "The Rider Manuals." The information in these volumes was not only invaluable to the service technician, but formed a continuing record of the state of the radio art and industry, not to be found elsewhere.

Working with service instruments as well as with service manuals, Rider in the late '30's invented the *Voltohmyst*, to this day one of the outstanding service instruments. Another contribution was the *Chanalyst*, an instrument that, with multiple connections to the receiver, located troubles and especially intermittents automatically.

Retiring in 1961, Rider has since devoted his time to his hobbies of

versary Awards



Stokes

W.E.D. Stokes, winner of the Pioneer Award, was the first President of the Junior Wireless Club, and served from 1909 to 1911, when it changed its name to the Radio Club of America. In 1910, at the age of 14, he and three other members of the Club, Ernest Amy, George Eltz and Frank King, attended Senate hearings on the Depew bill, which was expected to eliminate the radio amateur.

Newspapers headlined the event: "Boy Wars on Air Trust," and reported that the "Bill to Curb Amateurs Is Earnestly Denounced by Him." The press pretty much agreed that Stokes's arguments were the chief factor in killing the infamous bill. Thus all radio amateurs today may feel that their existence is possibly due to his pioneering work.

Stokes was granted four radio patents before 1920, and served as Assistant Communications Officer of the USS Delaware in World War I.

golf, philately and amateur radio. Besides his radio books, (one of which, "The Cathode-Ray Tube at Work," was probably the all-time best seller in the radio technical field) he has published a great deal of material on stamps. He is also an extremely active amateur, with his old call W2RID.



William P. Lear

William P. Lear, a prolific inventor and innovator, will receive the Sarnoff Citation, "for significant contributions in electronic communications." These contributions have been in many fields. He was an early pioneer in the automobile radio receiver field and with cartridge audio recorders. Inventor of the famous Lear Electropilot, he also made important contributions in automatic direction finders and automatic aircraft landing systems.

A pioneer also in the field of aircraft radio manufacture, Lear had a factory in Long Island from about 1935 to 1940, afterward setting up Lear Avia in Vandalia, OH.

As an aviation engineer, his role with Lear Jet is well known. He also modified and made design changes in a quantity of surplus Lockheed Lodestars, selling the improved planes as Learstars.

The eight-track tape cartridge is a later Lear development, and he has made continuing inventive contributions in several other fields. Among his honors and awards, most outstanding are the Collier Trophy in 1950, for developing the first successful autopilot for jets, and the honorary degree of Doctor of Engineering from the University of Michigan, also in 1950. He is a Fellow and former Director of the Radio Club of America and a Fellow of the IEEE.

Club Honors Loyal Members

Two long-time supporters of the Club were honored by the Board of Directors with the title "Director Emeritus for Life" at the semi-annual Directors meeting last July. The members are Dave Talley, the Club Treasurer, and Harry W. Houck, who has been a director of the Club since 1928.



Harry Houck started as a radio amateur in 1909, at age 13, and operated his station until 1917. He then worked with Major Armstrong at the Signal Corps Laboratories in Paris, where he took part in the development of the superheterodyne method of reception. Later he designed the first second-harmonic superheterodyne receiver to be placed in commercial production.



David Talley, W2PF since 1919, has been the Treasurer of the Club since 1969, and is one of the persons responsible for transforming it from its insecure financial position of that time to the economically and financially stable organization of today. Mr. Talley was born in New York in 1903, and has been involved in amateur radio since he was 12 years old. He is the author of books on carrier telephone and telephone switching systems.

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- Alimpich, Nicholas** (M 1972, F 1972), Michigan Bell Tel. Co., 23500 Northwest Hwy., Southfield, MI 48075
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- Baker, Arthur J.** (M 1972), 11518 Lovejoy St., Silver Spring, MD 20902
- Baker, Bentley G.** (M 1969), 3559 Primrose Road, Philadelphia, PA 19114
- Baker, James H.** (M 1976), Forest Industries Comms., Box 5446, Eugene, OR 97405
- Bane, Clayton F.** (M 1976), 155 St. Elmo Way, San Francisco, CA 94127
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- Bishop, William T.** (M 1973), 4936 N. Kansas Ave., Kansas City, MO 64119
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- Bloor, Robert E.** (M 1974), 24338 Smith Avenue, Westlake, OH 44145
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- Bolin, Ray E.** (M 1959), 26 Twin Springs Lane, St. Louis, MO 63124
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- Borden, Edward W.** (M 1969, F 1975), 22 College Ave., Upper Montclair, NJ 07043
- Borman, William W.** (M 1976), 18 Orchard Way North, Rockville, MD 20854
- Borst, John M.** (M 1934, F 1940, L 1971), 335 West 88th St., New York, NY 10024
- Bose, John** (M 1938, F 1940), 549 W. 123rd St., New York, NY 10027
- Bourne, Kenneth M.** (M 1974), 362 Hawthorne St., Glen Ellyn, IL 60137
- Bower, A. T.** (M 1975), Repco, P.O. Box 74, Needham Heights, MA 02194
- Boyle, Harry** (M 1970), RCA Corporation, 60 Evergreen Place, East Orange, NJ 07018
- Bradshaw, Carl J.** (M 1972, F 1973), Oak Industries Inc., Crystal Lake, IL 60014
- Brizzolari, Anthony J. W2TG/K4TG** (M 1972), 109-10 Queens Blvd., Forest Hills, NY 11375
- Broad, Monroe, M.** (M 1975), 81-34 Kent St., Jamaica, NY 11432
- Brodie, William** (M 1973), Brodie Comms. Co., P.O. Box 687, Brandon, FL 33511
- Brooks, Carl N.** (M 1973), 414 Falls Rd., Chagrin Falls, OH 44022
- Brown, John S.** (M 1972), Unit 109, 2301 W. 183, Homewood, IL 60430
- Brown, Louis E.** (M 1970, F 1972), Decibel Products, Inc., 3180 Quebec, Dallas, TX 75247
- Brown, Robert M.** (M 1970), 5611 Middaugh Ave., Downers Grove, IL 60515
- Brumbaugh, Joseph W.** (M 1975), 506 Mashie Dr., Vienna, VA 22180
- Brunet, Meade** (M 1928, F 1952, L 1971), Millsdale Farm, Mendham, NJ 07945
- Bryant, John A.** (M 1974), 1542 Linden Avenue, Owensboro, KY 42301
- Bryson, William B.** (M 1969, F 1972), 403 Middle Rd., Hazlet, NJ 07730
- Bucknell, James M.** (M 1975), Pye Telecommunications Ltd., Newmarket Road, Cambridge, England
- Bunday, Dale L.** (M 1973), Rte. 1, Box 719-C Bagdad Rd., Leander, TX 78641
- Burchard, Earl O.** (M 1971), 2017 Sumter Ave., Tallahassee, FL 32301
- Burns, Robert F.** (M 1969, F 1971), 19 Silver Beech Road, Riverside, CN 06878
- Burton, Jan A.** (M 1970), 14231 E. 4th Ave., Aurora, CO 80011
- Busignies, Dr. Henri G.** (M 1973, F 1974), 71 Melrose Pl., Montclair, NJ 07042
- Buster, Claude F., Jr.** (M 1969), 5407 Richenbacher Ave., Alexandria, VA 22304
- Buttner, Harold H.** (M 1928, F 1940, L 1971), Int. Tel. & Tel. Corp., 320 Park Avenue, New York, NY 10022
- Cain, Marshall L.** (M 1975), 20 Ft. Williams Pky., Alexandria, VA 22304
- Campbell, Bernard J.** (M 1977), 167 Fisher Ct., Calimesa, CA 92320
- Campobasso, Thomas A.** (M 1975, F 1976), Rockwell Intnl., Electronics Intnl. Operations, M.S. 407-420, Dallas, TX 75207
- Canavaciol, Frank E.** (M 1934, F 1941, L 1971), 7119 Juno St., Forest Hills, NY 11375
- Caperton, John H.** (M 1969), 3114 Boxhill Court, Louisville, KY 40207
- Carini, Louis F. B.** (M 1930, F 1942, L 1971), 246 Wolcott Hill Road, Wethersfield, CN 06109
- Carr, Vivian A.** (M 1973, F 1975), 645 Hoey Ave., Long Branch, NJ 07740
- Carter, Thomas F.** (M 1969, F 1969), North Highway 20, Gun Barrel, TX 75147
- Caspers, George E.** (M 1975), Coolidge Drive, Box 333, Lake Nebagamon, WI 54849
- Cassidy, Francis T.** (M 1976, F 1976), ITT, U.S. Transmission Systems, 67 Broad St., New York, NY 10004
- Cassidy, Hugh** (M 1974, F 1976), 77 Coleman Drive, San Rafael, CA 94901
- Castanera, Juan S.** (M 1975), P.O. Box 331, Loquillo, PR 00673
- Caywood, William** (M 1972), 5740 Beulah Lane, Murrysville, PA 15668
- Cervantes, Howard T.** (M 1939, F 1940, L 1971), 34 Johnson Road, Binghampton, NY 13905
- Chalfin, Norman L.** (M 1948, F 1974), 460 San Juan Pl., Pasadena, CA 91107
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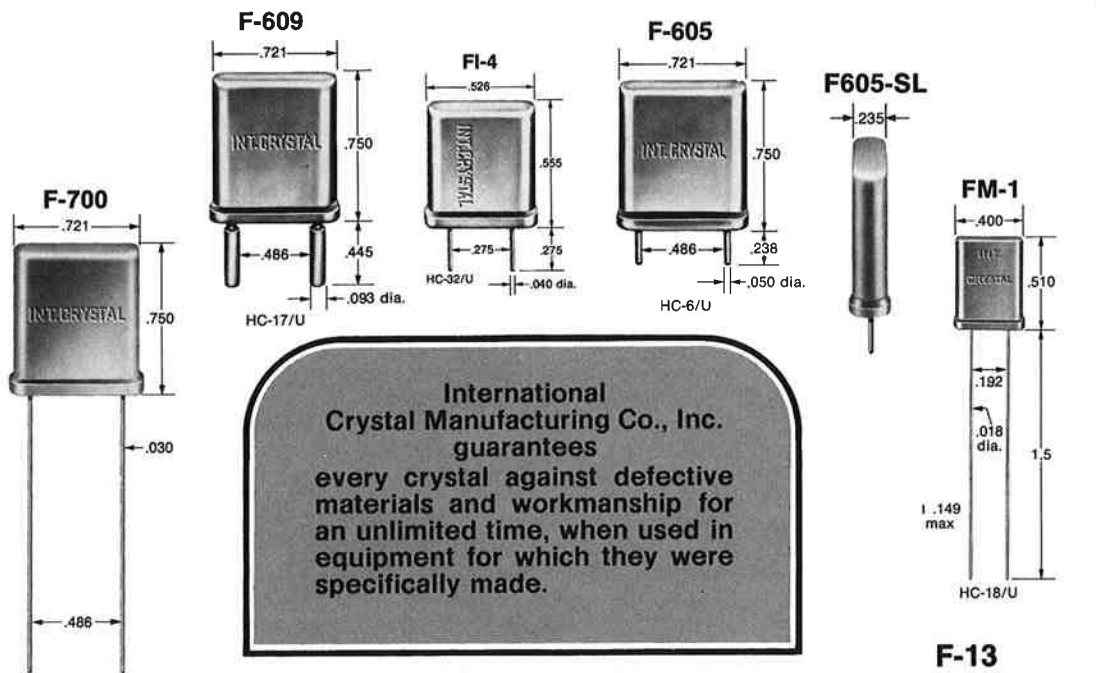
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- Childs, Gailand M.** (M 1976), E. F. Johnson Co., Waseca, MN 56093
- Chislow, Joseph H.** (M 1970), 61 Phillips Ave., Deal, NJ 07723
- Chittick, Kenneth A.** (M 1941, F 1953, L 1972), 8020 College Ave., Indianapolis, IN 46202
- Christaldi, P. S. W2TF** (M 1940, F 1950), 132 Squire Hill Road, Upper Montclair, NJ 07043
- Christie, Donald M.** (M 1973), 9610 Newberry, Round Rock, TX 78664
- Chupp, James W.** (M 1974), 241 Lidge Drive, Farmingdale, NY 11738
- Citron, Robert** (M 1975), Bomar Crystal Co., 201 Blackford Ave., Middlesex, NJ 08846
- Clark, Eugene W.** (M 1971), 1-14 Plaza Road, Fair Lawn, NJ 07410
- Clement, Louis M.** (M 1920, F 1926, L 1971), 72 Palm Court, Pompano Beach, FL 33062
- Cobb, Howard L.** (M 1934, F 1944, L 1971), 250 Rockaway Ave., Boonton, NJ 07005
- Cohen, Leslie L.** (M 1970), 440 West Broadway, Cedarhurst, NY 11516
- Cohen, Monte WIFU** (M 1975), Box 860, Chicopee, MA 01014
- Cohn, Hugo** (M 1939, F 1953, L 1971), 905 West End Avenue, New York, NY 10025
- Collamore, Jerry A.** (M 1976), Forest Inds. Telecomms., P.O. Box 5446, Eugene, OR 97405
- Colaguori, Victor J.** (M 1974, F 1976), 240 South Lincoln Ave., Oakhurst, NJ 07755
- Colen, Roy** (M 1969), 115 Morning Sun Ave., Mill Valley, CA 94941
- Collins, Arthur A. W0CXX/WB5MAR** (M 1974, F 1975), 13601 Preston Rd., Suite 590W, Dallas, TX 75240
- Connor, George C.** (M 1936, F 1942, L 1971), P.O. Box 528, Weirsdale, FL 32695
- Cook, Lawrence** (M 1939, F 1957, L 1971), 610 William St., Boonton, NJ 07005
- Cook, Lloyd F.** (M 1975), 70 Sadler Road, Bloomfield, NJ 07003
- Cooley, Austin G.** (M 1971, F 1973), 690 West Second St., Reno, NV 89503
- Cooper, Robert B.** (M 1976), Route 5, Box 782, Guthrie, OK 73044
- Coperich, Franklin F.** (M 1975), 6317 Beechwood Dr., Columbia, MD 21046
- Copson, John M.** (M 1975), 103 Rampton Road, Cottenham, Cambridge, England
- Corbin, David N.** (M 1969), P.O. Box 1246, Littleton, CO 80161
- Cornell, Paul M. W8EFW** (M 1976), 1340 Ford Rd., Lyndhurst, OH 44124
- Cote, Andre F.** (M 1972), 1901 North Moore St., Suite 602, Arlington, VA 22209
- Covey, Arnold B.** (M 1972, F 1974), 5 Heights Rd., Apt. E-2, Ridgewood, NJ 07450
- Cowan, Stuart D.** (M 1971), Box 596 North St., Rye, NY 10580
- Crabb, Robert C.** (M 1973), 4321 Clear Valley Drive, Encino, CA 91316
- Craig, James A.** (M 1971), 4902 Justin Drive, N.W., Albuquerque, NM 87114
- Cramer, Bruce D.** (M 1955), P.O. Box 2542, Menlo Park, CA 94025
- Crawford, John D.** (M 1939, F 1957, L 1972), 16 Lodge Rd., Great Neck, NY 11021
- Crawford, Robert V.** (M 1940, F 1953, L 1970), 11 Crest Circle, Murray Hill, NJ 07914
- Cressman, Charles** (M 1970), Box 327, Leesville, SC 29070
- Cudmore, Barry J.** (M 1975), Shell Beach, Mattapoisett, MA 02739
- Cumeralto, Quinten G.** (M 1970), 7091 Springboro Rd., Marine City, MI 48039
- Cunniff, Leo C.** (M 1958, F 1963), 35 Hillcrest Rd., Cedar Grove, NJ 07009
- Cushman, Leroy T.** (M 1977), 201 Marchmount Dr., Los Gatos, CA 95030
- D'Airo, Leonard J.** (M 1971), 383 Pittsburgh Ave., Massapequa Park, NY 11762
- Daly, John** (M 1969, F 1977), Repco Inc., 1940 Lockwood Way, Orlando FL 32804
- Dane, Paul N.** (M 1977), 146 Coleen, Livermore, CA 94550
- Daniel, Jack K.** (M 1977), Vega Div., Celtec Corp., 99 Baldwin Pl., El Monte, CA 71710
- Dannals, Harry J.** (M 1973, F 1974), 16 Arbor Lane, Dix Hills, NY 11746
- Darrell, Robert D.** (M 1946, L 1971, F 1972), Balmoral, The Vly, Stone Ridge, NY 12484
- Davis, E. Stuart** (M 1955, F 1975), 1149 Weber St., Union, NJ 07083
- Davis, J. M.** (M 1971), P.O. Box 798, Orange City, FL 32763
- Davison, Charles H.** (M 1971, F 1977), 107 Springcrest Dr., Hightstown, NJ 08520
- Davison, Charles H., Jr.** (M 1972), 11 Moline Rd., E. Brunswick, NJ 08816
- Dawes, Paul K.** (M 1971), 5735 Fontenelle, Houston, TX 77035
- Dawley, Garwin R.** (M 1976), Motorola Inc., 1299 E. Algonquin Rd., Schaumburg, IL 60196
- DeCoste, Ernest A.** (M 1975), 1959 Conrad Ave., Ottawa, Canada K1H 6V7
- de Cubas, Jose** (M 1973), 2148 Maney Dr., Jacksonville, FL 32216
- Deitz, Sidney L., Jr.** (M 1974), 14 Wichford Ave., Trenton, NJ 08618
- Demas, Elias** (M 1976), 3 Beach St., Norton, MA 02766
- deNeuf, Donald K. WA1SPM** (M 1972, F 1974), P.O. Box 329, Southbury, CN 06488
- Dettra, John E.** (M 1976), 7906 Foxhound Rd., McLean, VA 22101
- Detwiler, Royce D.** (M 1976), 3668 El Grande Dr., San Jose, CA 95132
- Detwiler, William L.** (M 1973), 304 Palm Court, Indialantic, FL 32903
- Devine, Frank J.** (M 1969, F 1976), 101 E. 12th St., Huntington Station, New York, NY 11746
- DeZonia, William J.** (M 1970), 4608 Fieldale Road, Lynchburg, VA 24503
- DiBlasi, John** (M 1920, F 1926, L 1971), 155 Bay View Rd., Plandome, NY 11030
- Dickey, E. T.** (M 1927, F 1927, L 1971), 104 Jefferson Road, Princeton, NJ 08541
- Diehl, Wm. F.** (M 1920, F 1926, L 1971), 6851 Roswell Rd., N.E., Apt. F-4, Atlanta, GA 30328
- Dirmann, John F.** (M 1973), 3700 Crandon Lane, Raleigh, NC 27604
- Dooley, Edward G.** (M 1974), COMSAT General Corp., Suite 2662, 630 Fifth Ave., New York, NY 10020
- Dorian, Charles** (M 1971, F 1973), 4444 Chesapeake St., N.W., Washington, DC 20016
- Dornfeld, Seymour** (M 1970), 2760 Elaine St., Bellmore, NY 11710
- Doty, Archibald D., Jr.** (M 1972), 8360 Rush-ton Rd., South Lyon, MI 48177
- Drexler, Harford P.** (M 1973), 73 Cherry Lane, Wycombe, PA 18980
- Dunnell, Richard C.** (M 1970), 41-71 Denman St., Elmhurst, NY 11373
- Duskis, Ephraim F.** (M 1964), Ansonia Hotel, 2109 Broadway, New York, NY 10023
- Dux, Walter C.** (M 1973), 9014 Monroe Ave., Jacksonville, FL 32208
- Edge, Walter H.** (M 1969), 104 Forest Ave., W. Caldwell, NJ 07006
- Edinger, J. Raymond** (M 1949, F 1957, L 1975), 852 Henry Street, Uniondale, NY 11553
- Edwards, Henry M.** (M 1975), Phelps-Dodge Comm. Co., 3043 Rosslyn St., Los Angeles, CA 90065
- Eggert, Jack** (M 1977), 203 Golf Rd., Deal, NJ 07723
- Eichenseer, Lee E.** (M 1976), Hop Brook Rd., Brookfield, CN 06804
- Eitel, LaNeil** (M 1974, L 1975), P.O. Box G, Dayton, NV 89403
- Eitel, William** (M 1974, F 1975, L 1975), P.O. Box G, Dayton, NV 89403
- Elder, William E.** (M 1974), 3322 Albion Court, Fairfax, VA 22030
- Eldridge, Albert B.** (M 1958), 23 Fern Rd., Sparta, NJ 07871
- Elliott, Max** (M 1973, F 1976), 416 Loma Vista Dr., Redding, CA 96001
- Ellis, I. M.** (M 1971), 6615 Pemberton Dr., Dallas, TX 75230
- Elms, Robert I.** (M 1976), Custom Comms. Eng. Co., Smithtown Rd., Budd Lake, NJ 07828
- Engle, Karl D.** (M 1929, L 1971), 3621 W. Devon Ave., Chicago, IL 60645
- Erickson, Ero W9HPJ** (M 1970, F 1975), 4024 No. Pioneer St., Chicago, IL 60634
- Espenschied, Lloyd** (M 1923, F 1926, H 1959), 99-82nd Road, Kew Gardens, NY 11415
- Evans, J. Lawrence, Jr.** (M 1967), 79 Glenwood Rd., Englewood, NJ 07631
- Evans, R. J.** (M 1969, F 1972), 525 Highland Ave., E. Lansing, MI 48823
- Fahrner, Joseph A.** (M 1971), 6094 East Lake Ave., Box 88, Orchard Park, NY 14126
- Farrand, C. L.** (M 1920, F 1926, L 1971), 117 Wall St., Valhalla, NY 10595
- Faust, Ted R.** (M 1976), 301 Valley Dr., Longwood, FL 32750
- Felch, Edwin P.** (M 1939, F 1942, L 1971), 109 Fairmount Ave., Chatham, NJ 07928
- Feller, Arthur H.** (M 1976), 6511 Tucker Ave., McLean, VA 22101
- Felt, Marcus A. W2GY** (M 1964), 669 Sunnit St., Englewood Cliffs, NJ 07632
- Fennimore, Roland M.** (M 1968), 5148 Napoli Drive, Naples, FL 33940
- Ferrell, David C.** (M 1973), 601-12th Ave., S.E., Waseca, MN 56093
- Ferrell, Oliver P.** (M 1968), Box 239, Park Ridge, NJ 07656
- Finch, Capt. Wm. G. H.** (M 1927, F 1959, L 1971), 3025 Morningside Blvd., Port St. Lucie, FL 33452
- Fine, C. Robert** (M 1971), 570 North St., Harrison, NY 10528
- Fingerle, William** (M 1970, F 1973), 35 Midbrook Lane, Old Greenwich, CN 06870
- Fink, Donald G. W2AFX** (M 1934, F 1940, L 1973), 103-B Heritage Hills, Somers, NY 10589
- Finlay, Robert C. S.** (M 1939, F 1953, L 1970), P.O. Box 4712, Fort Lauderdale, FL 33304
- Finlay, William P.** (M 1965), 157 Vincent Ave., East Providence, RI 02914

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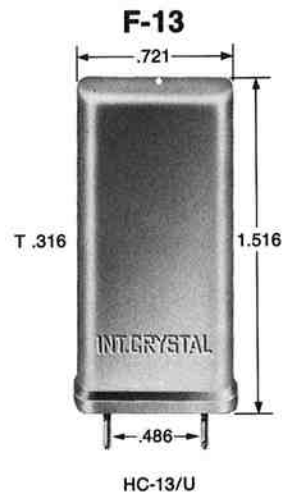
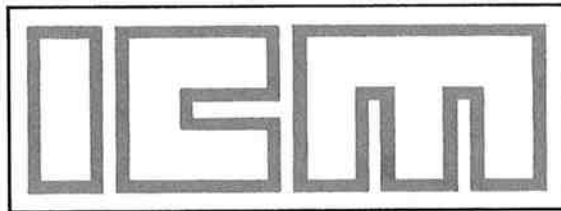
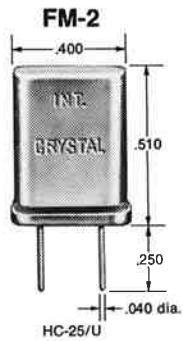
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- Flinn, David F. W2CFP** (M 1970), Starlane Farms, 866 Ridge Rd., Lansing, NY 14882
- Flood, Bernard H.** (M 1970, F 1971), Arizona Dept. of Public Safety, P.O. Box 6638, Phoenix, AZ 85005
- Ford, J. W. (Bill)** (M 1975), E. F. Johnson Co., 1402 Norton Ave., Suite 106, Everett, WA 98201
- Forster, William H.** (M 1970, F 1970), Deputy Products Group Manager, ITT, 320 Park Ave., New York, NY 10022
- Fowler, H. L., Jr.** (M 1956), 37 MacSpar Drive, Mt. Fern, NJ 07801
- Fox, Don L.** (M 1975), 1156 West 51st Place, Hialeah, FL 33012
- Franz, Alfred G.** (M 1976), 10105 Hereford Pl., Silver Springs, MD 20901
- Fraser, Clifford G.** (M 1973), 462 Muriel Ct., Santa Clara, CA 95051
- Frederick, Andrew** (M 1970), 954 Shackamaxon St., Philadelphia, PA 19125
- Frederick, Gary M.** (M 1975), 600 8th St. N.E., Waseca, MN 56093
- Freeman, E. W.** (M 1969), Box 57, Yankton, SD 57078
- Freeman, Robert J.** (M 1972), 11537 Brandy Hall Lane, Gaithersburg, MD 20760
- Freer, F. S. III** (M 1977), 3330 E. Fairfax Rd., Cleveland Heights, OH 44118
- Frey, Ivan J.** (M 1976), 646 Moorfield Rd., Fairlawn, OH 44313
- Friedberg, Milton R.** (M 1971, F 1976), 2537 Claver Rd., Cleveland, OH 44118
- Friedberg, Randall J.** (M 1977), Antenna, Inc., 23850 Commerce Park Dr., Cleveland, OH 44122
- Friedman, Robert W.** (M 1976), 1770 Robin Wk., Hoffman Estates, IL 60194
- Fruehauf, Milton C.** (M 1969, F 1975), 5325 Ponderosa Dr., Columbus, OH 43229
- Fuller, Stephen H.** (M 1975) 337 South Main St., Centerville, MA 02632
- Fuson, Francis G.** (M 1977), Communication Engineering Inc., 3420 Spring Mountain Rd., Las Vegas, NV 89102
- Gagne, Joseph W.** (M 1969, F 1972), Town Lane, Amagansett, NY 11930
- Galpin, W. H., VE3CK** (M 1977), 33 Baker Road, Ajax, ONT, Canada L1S 2T7
- Gamble, William M.** (M 1971, F 1972), 2503 Allender Ave., Pittsburgh, PA 15220
- Ganzenhuber, John H.** (M 1974), Hughey & Phillips Inc., 3050 N. California St., Burbank, CA 91505
- Gartsman, Harry S. W6ATC** (M 1970, F 1975), 9921 Sunset Blvd., Beverly Hills, CA 90210
- Geils, John** (M 1975), 121 Delaware Avenue, Stirling, NJ 07980
- Genochio, Frank A.** (M 1969, F 1972), 428 Luther Drive, Santa Clara, Calif. 95051
- Gerard, Steven A.** (M 1976), Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England CB5 8PD
- Gernsback, M. Harvey** (M 1970, F 1975), 210 E. 15th St., Apt. 14H, New York, NY 10003
- Gilbert, Kenneth A.** (M 1972), 1716 Saddle Ridge Ct., Vienna, VA 22180
- Gilbert, Robert H.** (M 1970), 521 North East 134, North Miami, FL 33161
- Gilbert, Vincent C.** (M 1975), Gilbert Mfg. Co., 16800 Quarry Road, Los Gatos, CA 95030
- Girard, Paul A.** (M 1975), 303 Colly Toste St., Hato Rey, PR 00918
- Glaser, Marcus** (M 1941, F 1957, L 1975), 50 Colgate Dr., Plainview, NY 11803
- Glodell, Leroy M.** (M 1975), 143 Institute Rd., Worcester, MA 01702
- Goebel, Eugene S.** (M 1972), 934 Pleasant St., Oak Park, IL 60302
- Goldsmith, Arthur** (M 1972), 4303 Wynwood Dr., Annandale, VA 22003
- Goldsmith, Thomas T., Jr.** (M 1939, F 1942, L 1971), RR #2, Box 312, Travelers Rest, SC 29690
- Goldwater, Barry** (M 1969, F 1970), P.O. Box 1601, Scottsdale, AZ 85252
- Gould, Wm. B., 3rd** (M 1975), 926 Woodgate Ave., Elberon, NJ 07740
- Graham, Charles B.** (M 1960), 27-41 Jackson Ave., Long Island City, NY 11101
- Grammes, Elton G.** (M 1971), 1444 San Francisco Ave., Long Beach, CA 90813
- Gravely, Rear Adm. Samuel L. Jr., USN.** (M 1972, F 1972), Quarters K, Ford Island, Honolulu, HI 96818
- Gray, Gary David, P. E.** (M 1971, L 1974, F 1977), Orange County Communications, 481 the City Drive So., Orange, CA 92668
- Grebe, Alfred H.** (M 1953, F 1959), 15 Caraway Road, Setauket, NY 11785
- Greenburg, Arthur L.** (M 1972), Box 311, Park St., Wading River, NY 11792
- Gregory, Glydus** (M 1971), 1501 London St., Sacramento, CA 96822
- Grenfell, William** (M 1969, F 1970), 7216 Valleycrest Blvd., Annandale, VA 22003
- Griese, Raymond H.** (M 1973, F 1977), 405 Giannini Drive, Santa Clara, CA 95051
- Griffith, Percy E.** (M 1970), Route 1, McCrory Lane, Kingston Springs, TN 37082
- Grim, Edgar P.** (M 1970, F 1971), 7400 Roosevelt Blvd., Apt. P-306, Philadelphia, PA 19152
- Grimm, Frank F.** (M 1973, F 1974), Pye Telecommunications Ltd., Newmarket Road, Cambridge, England CB5 8PD
- Grim, W. Manning W2AQJ** (M 1926, F 1938, L 1971), c/o Minogue, Box 251, Somers, NY 10589
- Grossman, Marvin S. W8AZO** (M 1977), 20859 Ellacott Pkwy., Cleveland, OH 44128
- Groth, Willard B.** (M 1975), 158 Oakland Ave., Eastchester, NY 10707
- Grove, Ronald E.** (M 1973, F 1975), Pye Telecommunications Ltd., Newmarket Road, Cambridge, England CB5 8PD
- Gruber, Paul** (M 1956, F 1961), 831 Coventry St., Boca Raton, FL 33432
- Gumpport, Stephen L., M. D.** (M 1974), 244 East 68th St., New York, NY 10021
- Gunther, Frank A. W2ALS** (M 1940, F 1951, L 1970), 10 Highpoint Rd., Dongan Hills, NY 10306
- Gurian, Mal** (M 1969, F 1976), 141 Sunset Lane, Old Tappan, NJ 07675
- Guthrie, Tom F.** (M 1973), 61-19 228th St., Bayside, NY 11364
- Guzzetti, Robert L.** (M 1975), Bomar Crystal Co., 201 Blackford Ave., Middlesex, NJ 08846
- Hajek, Robert J.** (M 1973), P-I-C Communications, Inc., P.O. Drawer H, Riverside, IL 60546
- Hale, Weldon P.** (M 1976), Supt. Of Communications, 308 Centre Ave., Towson, MD 21204
- Halligan, William J. W9AC/W4AK** (M 1960, F 1964), 179 E. Lake Shore Drive., Chicago, IL 60611
- Halstead, William S.** (M 1972, F 1976), 22210 Victory Blvd., Apt. D-102, Woodland Hills, CA 91364
- Hamilton, Hugh G.** (M 1950, L 1971), 1280 Royal Palm Way, Boca Raton, FL 33432
- Hamilton, Hugh S. B.** (M 1976), 24, The Coppice, Impington, Cambridge, England
- Hamilton, Joseph D.** (M 1969), 5 Mary Bell Rd., Norristown, PA 19407
- Hansen, John R.** (M 1976), 433 Christopher Ave., Suite 14, Gaithersburg, MD 20760
- Hara, Benji W2TIM** (M 1956), 918 S.W. 27 Way, Boynton Beach, FL 33435
- Harmatuk, Samuel N.** (M 1957, F 1961, L 1970), 1575 Odell Street, Bronx, NY 10462
- Harnden, John D., Jr.** (M 1973), G-E Co., Corp. Research, P.O. Box 43, Schenectady, NY 12301
- Harris, Jack R.** (M 1976), Pinkerton Computer Consultants, Inc., 65 West St., Warminster, PA 18974
- Harvey, Robert** (M 1970), 238 West St., Suite 20, Annapolis, MD 21401
- Hayes, John F.** (M 1974), 201 Carter Rd., Princeton, NJ 08540
- Heintz, Ralph** (M 1973, F 1973), P.O. Box 546, Los Gatos, CA 95030
- Helms, Clegg A.** (M 1971), 10 Forecastle Dr., Gulf Harbors, New Port Richey, FL 33352
- Henney, J. Keith** (M 1927, F 1932, L 1970), Snowville, NH 03877
- Henson, Marion** (M 1973), 6028 Hollyhurst Way, Sacramento, CA 95823
- Herlihy, Warren W.** (M 1974), 166 Overhill Rd., Orinda, CA 94563
- Herrin, Charles W.** (M 1972), 11622 Newbridge St., Reston, VA 22091
- Hervey, James P.** (M 1969), 27925 Rodgebrook Ct., Palos Verdes Peninsula, CA 90274
- Higginbotham, Charles A.** (M 1973, F 1974), 14416 Pecan Drive, Rockville, MD 20853
- Hill, Dean G.** (M 1976), Myse & Hill, 2000 L St., N.W., Washington, DC 20036
- Hirsch, Charles J.** (M 1947, F 1952, L 1971), 1065 Princeton-Kingston Rd., Princeton, NJ 08540
- Hively, Robert R.** (M 1974), 2643 Soderblom Ave., San Diego, CA 92122
- Hollingsworth, Lawrence V.** (M 1972), Communications Systems Div., RCA Corp., 2720 DesPlaines Ave., DesPlaines, IL 60018
- Hollister, Frank J.** (M 1968, F 1972), 26 Townsend St., Glen Head, NY 11545
- Holt, Allan E.** (M 1976), 2721 S. Sandfiddler Rd., Virginia Beach, VA 23456
- Holt, Carles A.** (M 1971, F 1971), 22061 Del Valle St., Woodland Hills, CA 91364
- Hopper, Kenneth D.** (M 1970), P.O. Box 188, Holmdel, NJ 07733
- Horner, Richard E.** (M 1971, F 1976), President, E.F. Johnson Co., 299 Tenth Ave., Waseca, MN 56093
- Houck, Harry W.** (M 1920, F 1926, L 1970), Mountain Rd., Wallpack, NJ 07881
- Howes, Arthur W. H.** (M 1976), Wells Music Stores, Ltd., Western Road, Romford, Essex, England

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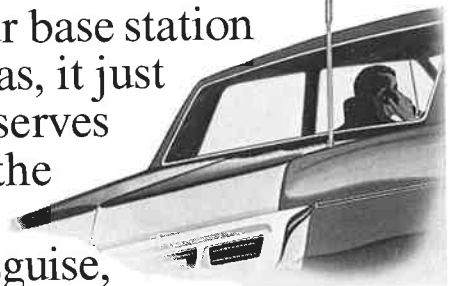
That picture of me next to Stationmaster base station antennas in an ad about vehicular antennas is no mistake. It's there to prove a point. We're the undisputed leader in base station antennas of every conceivable type. We achieved that position through superior design



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Communications Company

- Hudson, Bobby J.** (M 1975), Arva-Hudson Inc., P.O. Box 1512, Bellevue, WA 98009
- Hull, Dr. Lewis** (M 1951, F 1951), R.D. #1, Powerville Road, Boonton, NJ 07005
- Hummer, Earl W.** (M 1971), 1007 Borman Ct., Elk Grove Village, IL 60007
- Inglis, Andrew F.** (M 1970, F 1970), RCA Bldg. 15-7, Camden, NJ 08102
- Jacobs, George** (M 1976, F 1977), 11307 Clara St., Silver Spring, MD 20902
- Jacobsen, Erling R.** (M 1975), 1438 34th Avenue, Rock Island, IL 61201
- James, Wallace M.** (M 1931, F 1937, L 1971), 56 Francisca Ave., West Caldwell, NJ 07006
- Janicke, Jack M.** (M 1977), 122 Bellevue Ave., Butler, NJ 07005
- Jarvis, Frank H.** (M 1974), 4485 Gulf of Mexico Dr., Longboat Key, FL 33548
- Jarvis, K.W.** (M 1935, F 1938, L 1971), 14813 County Road 5, Burnsville, MN 55337
- Johansen, Harry** (M 1972), 135 Vernon Rd., Scituate, MA 02066
- Johnson, Douglas J.** (M 1972, F 1976), 13000 East 48th Ave., Denver, CO 80239
- Johnson, Edgar F.** (M 1969, F 1969), 520 9th St., N.E., Waseca, MN 56093
- Johnson, Gustave A.** (M 1969), 33C Red Oak Lane, Old Bridge, NJ 08857
- Johnson, J. Kelly** (M 1941, F 1942, L 1970), R.R. 1, Box 150C, Waitsfield, VT 05673
- Johnson, Robert M.** (M 1971), General Electric Co., 765 Old Springhouse Rd., McLean, VA 22101
- Johnson, R.W. W6MUR** (M 1969, F 1977), P.O. Box 803, Ben Lomond, CA 95005
- Jones, Carl D.** (M 1974), Box 13, RD No. 3, Volant, PA 16156
- Jones, Harold A.** (M 1971, F 1973), Villa del Oro, 5774 No. Scottsdale Rd., Scottsdale, AZ 85251
- Jones, Thomas F.** (M 1973, F 1974), 51 Morningside Drive, Arlington, MA 02174
- Jumper, Bill B.** (M 1976), Suite 321, 300 N. Central Expressway, Richardson, TX 75080
- Kaelin, Walter E.** (M 1976), Intech Inc., 282 Brokaw Rd., Santa Clara, CA 95050
- Kaemmerer, Harry** (M 1974), 6 Patton Dr., Somerset, NJ 08873
- Kahn, Bernard** (M 1975), 252 N. Martha St., Lombard, IL 60148
- Kahn, Leonard R.** (M 1953, F 1961), 74 North Main St., Freeport, NY 11520
- Kanz, William J.** (M 1970, F 1970), Box 753, King St., Orient, NY 11957
- Kardauskas, Edmund** (M 1951, F 1964), 185 Pricilla Drive, Lincroft, NJ 07738
- Karr, Bruce M.** (M 1974), 4202 Chapman Way, Lake Oswego, OR 97034
- Kass, David E. WA2LKJ** (M 1977), Mobilfone Radio System, 522 W. 48th St., New York, NY 10036
- Kaster, Julian W.** (M 1977), 4676 Winston, Tulsa, OK 74135
- Katz, Paul** (M 1973), 8902 Bridgehaven Ct., Alexandria, VA 22308
- Kaufman, Barry M.** (M 1977), 30 Cheryl Rd., Pinebrook, NJ 07058
- Kavanaugh, Michael F.** (M 1975), Route 2, Box 458 Boones Mill, VA 24065
- Kaye, Robert K.** (M 1972), 177 Worcester St., Suite 103, Wellesley, MA 02181
- Keel, William P.** (M 1973, L 1974), 1214 Clancy Ave., Flint, MI 48503
- Keller, Edward W.** (M 1973), 398 North Edison St., Arlington, VA 22204
- Keller, Joseph E.** (M 1976), 1150-17th St., N.W., Washington, DC 20036
- Kelley, Bruce L.** (M 1965, F 1972), Main Street, Holcomb, NY 14469
- Kelly, Kenneth J.** (M 1972), 60-11 Broadway, Woodside, NY 11377
- Kelley, Leo A.** (M 1938, F 1942, L 1971), 34-48 87th St., Jackson Heights, NY 11372
- Kendall, Elson P.** (M 1975), Office, County Prosecutor, Rahway Avenue, Elizabeth, NJ 07207
- Kihchel, Oliver D.** (M 1970), RD 2 Woodlawn, Jeannette, PA 15644
- Kimmel, Robert** (M 1969), 880 Scenery Place, Harrisburg, PA 17109
- King, Frank** (M 1909, F 1926, L 1926, H 1972), 125 Larchmont, Ave., Larchmont, NY 10538
- King, Patrick J.** (M 1972), 6219 Lands End Lane, Indianapolis, IN 46220
- Kirby, Richard C.** (M 1971), P.O. Box 813, Boulder, CO 80302
- Kitchen, Jay** (M 1971), 501 Cannon Rd., Silver Spring MD 20904
- Kline, Larry H.** (M 1972), Antenna Specialists Co., 12435 Euclid Ave., Cleveland, OH 44106
- Klusacek, Emil R.** (M 1969), 26 Locust Lane, Elnora, NY 12065
- Kobi, John T.** (M 1956), 2 Henrietta Lane, Massapequa Park, NY 11762
- Koczon, William J.** (M 1976), 85 Lakeland Dr., Bricktown, NJ 08723
- Konter, Richard W.** (H 1970), 89 Crooke Ave., Brooklyn, NY 11226
- Koski, Jorman I.** (M 1970), 2228 Yucca St., Forth Worth, TX 76111
- Kraus, C. Raymond** (M 1976), 845 Mt. Moro Rd., Villanova, PA 19085
- Krause, R. C.** (M 1972), 2674 Heath Lane, Duluth, GA 30136
- Krossa, Kenneth D.** (M 1976), 23405 Montclair Way, Los Altos, CA 94022
- Kunik, I. Jordan** (M 1952, F 1964, L 1975), 521 Fifth Ave., New York, NY 10017
- Lamb, James J.** (F 1958), 20800 Homestead Road, Cupertino, CA 95014
- Landau, Eric A. WA2KER** (M 1977), 26 Periwinkle Rd., Levittown, NY 11756
- Lane, Samuel H.** (M 1969, F 1974), Magnasync /Moviola Corp., 5547 Satsuma Ave., North Hollywood, CA 91601
- Langer, Peter L.** (M 1954, L 1975), 43-55 168th Street, Flushing, NY 11358
- Larsen, Christina** (M 1976), 11611 N. 50th Ave., P.O. Box 1686, Vancouver, WA 98663
- Larsen, Leland J.** (M 1971, F 1974), Larsen Electronics, Inc., P.O. Box 1686, Vancouver, WA 98663
- Lazlo, John J., Jr.** (M 1977), Citibank N.A. IR Dept. 90, 399 Park Ave., New York, NY 10022
- Lear, William P.** (M 1969, F 1969), RiverHouse Verdi, NV 89439
- Lee, Robert L.** (M 1972), 309 West Lincoln St., Pontiac, IL 61764
- Leo, Robert E.** (M 1971, F 1975), Rt. 3, Box 104, Bozeman, MT 59715
- Leonard, Paul J.** (M 1974), Lenco, Inc., 319 W. Main St., Jackson, MO 63755
- Levergood, John H.** (M 1970), 4659 Dunover Circle N.E., Atlanta, GA 30340
- Levin, Ferrer** (M 1969), 115 Hartwich Street, Maywood, NJ 07607
- Lewis, Harold M.** (M 1923, F 1928, L 1971), 510 Blanchard Pkway., Allenhurst Park, Allenhurst, NJ 07711
- Lewis, Shirley M.** (M 1976), 4 Briggs Lane, Armonk, NY 10504
- Liebman, Jim** (M 1972), 5757 E. 14th St., Tucson, AZ 85711
- Lindberg, C. Edward** (M 1977), Lindberg Co., 640 E. Evans, Denver, CO 80222
- Lindenblad, Nils E.** (M 1974, F 1974), 602 Broadmoor Dr., Chesterfield, MO 63017
- Link, Fred M. W2ALU** (M 1968, F 1968), Robin Hill Farms, Pittstown, NJ 08867
- Lockwood, Judy S.** (M 1976), Communications Pub. Corp., 1900 W. Yale St., Englewood, CO 80110
- Lotz, Lt. Gen. Walter E., Jr.** (M 1974, F 1975), 912 Dalebrook Dr., Alexandria, VA 22308
- Loughren, Arthur V.** (M 1924, F 1929, L 1971), P.O. Box 404, Kailua-Kona, HI 96740
- Lovell, T.** (M 1970), Box 46, Haskell, NJ 07420
- Lundahl, Tore** (M 1959), 5213 Elvira, Laguna Hills, CA 92653
- Lynch, Arthur H. W4DKJ** (M 1921, F 1926, L 1970), 5265 Nautilus Dr., Cape Coral, FL 33904
- Lynch, Joseph L.** (M 1977), 6209 Rose St., San Diego, CA 92115
- McAndrew, Irving E.** (M 1973), Dept. of Public Safety, Comms. Div. Redstone on Terrace Ave., Montpelier, VT 05602
- McBurney, Frank J. W1DTE/W2KRP** (M 1971), 34 Sherwood Ave., Greenwich, CN 06830
- McClure, N. D.** (M 1972), 695 Catkins Dr., Rockford, IL 61111
- McCollum, Byron O.** (M 1970), P.O. Box 145, Penns Park, PA 18943
- McConoughey, Samuel R.** (M 1974, F 1976), 13017 Chestnut Oak Dr., Gaithersburg, MD 20760
- McCormick, John A.** (M 1969, F 1971), 203 Buckingham Dr., Lynchburg, VA 24502
- McDole, Arthur E.** (M 1971), 333 Tapadero Drive, Salinas, CA 93901
- McDonald, Ramsey** (M 1970, F 1972), 308 Golfview Rd., Apt 101-W, North Palm Beach, FL 33408
- McKay, George E., Jr.** (M 1972), McKay Dymek Co., P.O. Box 2100, Pomona, CA 91766
- McKenney, Paul K., Jr.** (M 1974), 1310 West Colonial, Suite 7, Orlando, FL 32804
- McKenzie, Alexander A.** (M 1949, F 1953, L 1970), P.O. Box 38, Eaton Center, NH 03832
- McKim, Wallace W.** (M 1976), 140 Wolverine Dr., Walled Lake, MI 48088
- McLean, James D.** (M 1968, F 1977), 8666 I Via Mamorca, La Jolla, CA 92037
- McLeod, James S.** (M 1974, F 1974), Page Comms., Engineers Inc., 801 Follin Lane, Vienna, VA 22180
- McMahon, Morgan** (M 1973, F 1977), 26451 Dunwood Rd., Rolling Hills Estates, CA 90274
- McMann, Renville H., Jr.** (M 1944, F 1952), 963 Oenoke Ridge, New Canaan, CN 06840
- McMillian, J. Rhett, Jr.** (M 1970, F 1970), 210 Downing St., New Smyrna Beach, FL 32069
- McMullin, Tom J.** (M 1976, F 1977), 4505 Bel- fort, Dallas, TX 75205
- McMurphy, Charles B.** (M 1976), 4917 Sterling St., Fremont, CA 94356
- McNeely, Larry L.** (M 1977), 418 Elder, Cary, IL 60018
- McQueen, Loren R.** (M 1969, F 1975), 2633 S. Bascom Ave., Campbell, CA 95008
- McQueen, Scott R.** (M 1977), P.O. Box 1380 Pismo Beach, CA 93449
- McVey, Wilson** (M 1973), 6904 Carleton Terr., College Park, MD 20740

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- Mackey, David L.** (M 1975), 59 Mine St., Flemington, NJ 08822
- Macklin, Frederick R.** (M 1973), 506 Gerona Ave., Coral Gables, FL 33146
- Mallory, Henry R.** (M 1958, F 1964), c/o Mallory Battery Co., Broadway & Sunnyside Lane, Tarrytown, NY 10591
- Mann, James** (M 1973), 28710 Canwood St., Agoura, CA 91301
- Margiotta, William C.** (M 1970), 3975 Broadlawn, San Diego, CA 92111
- Marshall, Joseph F.** (M 1976), 7401 New Hampshire Ave., Apt. 802, Hyattsville, MD 20783
- Marshall, Travis** (M 1972, F 1977), Motorola, Inc., 1776 K St., N.W. Washington, DC 20006
- Martin, Julian S.** (M 1965, F 1970), 2480 East 7th St., Brooklyn, NY 11235
- Marx, Frank L.** (M 1955, F 1964, L 1975), 490 Bleeker Ave., Apt. 1-C, Mamaroneck, NY 10543
- Masavage, Irvin R.** (M 1965), 18 Schuler Avenue, Waldwick, NJ 07463
- Masuch, Joseph J.** (M 1976), 63 Sagamore Rd., Milburn, NJ 07041
- Mason, Robert A.** (M 1971, F 1972), P.O. Box N, Cottonwood, CA 96022
- Mathews, J. C., Jr.** (M 1972), c/o Hallicrafters, 2501 E. Arkansas Lane, Grand Prairie, TX 75050
- Mathieu, Edward** (M 1969), 1501 Chris Lane Westminster, MD 21157
- Mattingly, Robert L.** (M 1977), Bell Labs, One Whippany Rd., Whippany, NJ 07960
- Maxwell, James A.** (M 1975), P.O. Box 473, Redwood Estates, CA 95044
- Mayo, Harry L.** (M 1962), 280 Prospect Ave., Hackensack, NJ 07601
- Meador, Myron E.** (M 1973), 7330 Alto Caro Dr., Dallas, TX 75240
- Mehrling, Howard W.** (M 1976), 365 LaVilla Dr., Miami Springs, FL 33166
- Meehan, John D.** (M 1975), 74 Hampshire Rd., Rockville Center, NY 11570
- Maxwell, James A.** (M 1975), P.O. Box 473, Redwood Estates, CA 95044
- Menegus, Alfred A.** (M 1971), 300 E. 40th St., Apt. 3V, New York NY 10016
- Merriam, Robert W.** (M 1963, F 1973), Deep Peace Farm, Tillinghast Rd., East Greenwich, RI 02818
- Meserve, George D.** (M 1971), 8212 Briar Lane, Prairie Village, KS 66208
- Meyer, Stuart F. W2GHK** (M 1956, F 1967), 2417 Newton St., Vienna, VA 22180
- Meyers Ray E. W6MLZ** (M 1971, F 1972), Box B, San Gabriel, CA 91778
- Meyerson, Art H.** (M 1957, F 1963), 60 Knolls Crescent, New York, NY 10463
- Meyerson, Leo I.** (M 1972), 1210 N. 97th Court, Omaha, NB 68114
- Mignault, Robert D.** (M 1970, F 1976), Pye Electronics Ltd., 8580 Darnley Road, Montreal 307, Canada
- Millar, J.Z.** (M 1971, F 1973), 72 Blackburn Pl., Summit, NJ 07901
- Miller, Arthur G.** (M 1949, F 1964), 153 Awixa Avenue, Bay Shore, NY 11706
- Miller, C.C.** (M 1970, F 1972), 972 Northampton, Cambria, CA 93428
- Miller, H. Wilson** (M 1977), 60 Riverside Dr., Florham Park, NJ 07932
- Miller, J. William** (M 1976), 10919 Woodfair Rd., Fairfax Stn., VA 22039
- Miller, Kenneth M. K6IR** (M 1970, L 1975), 16904 Geo. Washington Dr., Rockville, MD 20853
- Miller, William** (M 1974, F 1975), Chicago Police Dept. Comms., 1121 South State St., Chicago, IL 60605
- Milliron, Robert** (M 1973), 506 Diamond Spring Rd., Denville, NJ 07834
- Minderman, Edward K.** (M 1971), 10205 Lakeside Drive, The Village, OK 73120
- Minter, Jerry** (M 1942, F 1944, L 1975), Normandy Heights Rd., Morristown, NJ 07960
- Missailidis, N.S.** (M 1972), 253 Longstreet Ave., Bronx, NY 10465
- Mitchell, George J.** (M 1970, F 1977), 1082 Cork Dr., Bethel Park, PA 15102
- Mitchell, Robert H.** (M 1976, L 1976), Route 1, Box 300-A, Allen TX 75002
- Moody, Charles S., Jr.** (M 1977), 6108 Westover Dr., Mechanicsburg, PA 17055
- Moreau, Louise R.** (M 1975), 305 N. Lanwelyn Ave., Glenolden, PA 19036
- Morelock, James** (M 1937, F 1940, L 1971), 120 Basking Ridge Rd., R.D., Millington, NJ 07946
- Morrisey, John W.** (M 1973), 45 S. 5 St., Park Ridge, NJ 07656
- Morrison, Dearl O.** (M 1969, F 1974), 252 Cambridge Dr., Mt. Clemens, MI 48043
- Morton, William B.** (M 1970, F 1971), 11114 Cedar Lane, Beltsville, MD 20705
- Moss, George K.** (M 1961), P.O. Box 463, Locust Valley, NY 11560
- Mullings, Sanford A.** (M 1971, F 1972), 19 West Armour Heights, Kingston 8, Jamaica, West Indies
- Munns, Ernest F.** (M 1973), Ashley, Church Road, Hartley, Dartford, Kent, England DA3 8DL
- Munro, John A.** (M 1974), 2660 Frontier Trail, Chamblee, GA 30341
- Murray, W. Wallace** (M 1976), 30 Preston Dr., Somerville, NJ 08876
- Myers, Robert W.** (M 1972), 15120 Alaksa Rd., Woodbridge, VA 22191
- Natole, Anthony** (M 1973, L 1975), 141-18 South Drive, Malba, NY 11357
- Nelsch, Donald Rd.** (M 1974), 2545 N. Haven, Cuyahoga Falls, OH 44225
- Nelson, Leroy O.** (M 1976), 1035 Lassen Dr., Belmont, CA 94002
- Neubauer, John R.** (M 1970, F 1974), 1013 Lakeshore Drive, Collingswood, NJ 08108
- Nicol, William P.** (M 1972, F 1973), Director of Telecommunications, British Home Office, 60 Rochester Row, London, S.W. 1, England
- Nieson, Norman** (M 1969), 15 Tanwood Dr., Massapequa, NY 11758
- Niles, Clayton E.** (M 1977), Communications Inds. Inc., 1100 Frito-Lay Tower, Dallas, TX 75235
- Novak, Robert D.** (M 1975), 24875 Apple Crest, Novi, MI 48050
- O'Donnell, Cedric F.** (F 1969), V.P. Research & Tech. Div., Autonetics, 3370 Miraloma St., Anaheim, CA 92805
- Oefinger, Hawley C., W1GUP** (M 1968), 1758 Newfield Ave., Stamford, CN 06903
- Offenhauser, Wm. H., Jr.** (M 1936, F 1941, L 1970), 655 Weed St., New Canaan, CN 06841
- Oliver, Benjamin H.** (M 1974, F 1975), 9100 Burning Tree Road, Bethesda, MD 20034
- Onnigian, Peter K.** (M 1975), 1236-40th Ave., Sacramento, CA 95822
- Palmer, C. W.** (M 1935, F.1948, L 1972), 8701 Marble Dr., EL Paso, TX 79904
- Papamarcos, George** (M 1941, F 1953), 2841 S. W. 5th St., Boynton Beach, FL 33435
- Parten, Merle B.** (M 1976), 341 Laurel St., San Carlos, CA 94070
- Osborn, Perry H.** (M 1944, F 1957, L 1972), 1075-A Argyll Circle, Lakewood, NJ 08701
- Osterland, Edmund** (M 1950, F 1957, L 1975), Mountain Lakes, NJ 07046
- Ostrowski, Richard J.** (M 1969), 33 Ravine Drive, Hawthorne, NJ 07507
- Otis, G. Edwin** (M 1953, F 1973), 923 Rollins Ave., Ormond Beach, FL 32074
- Owens, James** (M 1973), 3461 Charleston Blvd., Fort Lauderdale, FL 33304
- Pagano, C. Carl** (M 1971), 1807 South Gladys Ave., San Gabriel, CA 91776
- Page, E.C.** (M 1946, F 1957, L 1974), c/o Telcom, Inc., 8027 Leesburg Pike, McLean VA 22101
- Patterson, Allen C.** (M 1972), 712 Hawthorne Lane, Newton, KS 67114
- Pavek, Joseph R., W0FWI, W0CEO** (M 1977), 243 Blake Rd So., Hopkins, MN 55343
- Pearson, Donald R.** (M 1976), U.S. Forest Service, North Fork, CA 93643
- Peck, Gordon V., K4RG** (M 1961, F 1964), Apt. 704, 521 N. Riverside Dr., Pompano Beach, FL 33062
- Pederson, Robert C.** (M 1976), Andrew Wilson, Inc., Elecs. Div., 1170 U.S. Route 22, Mountainside, NJ 07092
- Perlmutter, Louis** (M 1974), 437 Golden Isles Dr., Hallandale, FL 33009
- Perretto, Armand** (M 1954), ON 269 Woodvale St., Winfield, IL 60190
- Persson, Roger E.** (M 1971), 147 West St., Elmwood, Mass. 02337
- Peterson, Marvin** (M 1975), Route 1, P.O. Box 125, Saline, LA 71070
- Pfeffer, Nathaniel, W2AIM** (M 1970, F 1977), 1085 Park Ave., New York, NY 10028
- Phillips, Harold L.** (M 1972), 24333 Southfield Rd., Southfield, MI 48075
- Phillips, Ronald** (M 1975), 1925 Baltimore Ave., Kansas City, MO 64108
- Pierce, Cameron G., K6RU** (M 1976), 570 La Mesa Dr., Ladera, Menlo Park, CA 94025
- Piller, S. Edwin** (M 1957, F 1976), 80 Birchwood Park Drive., Syosset, NY 11791
- Place, Roy E.** (M 1976), 543 S. Park Victoria 18, Milpitas, CA 95035
- Polecyn, Stephen J., Jr.** (M 1965), 161A Data-track Dr., Lake Hiawatha, NJ 07034
- Popkin, Samuel K2DNR** (M 1976), Route 1, Box 43—Augusta Dr., Hopewell Jct., NY 12533
- Poppele, J. R.** (M 1941, F 1942, L 1970), 9 Crest Circle, So. Orange, NJ 07079
- Powell, Richard A. W6OML** (M 1976), 13764 Recuerdo Dr., Del Mar, CA 92014
- Preston, Lester C.** (M 1976), Motorola, Inc. Comms., 85 Harristown Rd., Glen Rock, NJ 07452
- Price, Larry E., W4RA** (M 1977), P.O. Box 2067, Georgia Southern College, Statesboro, GA 30458
- Praul, George A.** (M 1969), 1054 Bristol Road, Warminster, PA 18974
- Prior, William A.** (M 1974), Aerotron, Inc., U.S. Highway One North, Raleigh, NC 27608
- Prystup, Edward** (M 1970), 686 Gish Road, San Jose, CA 95112

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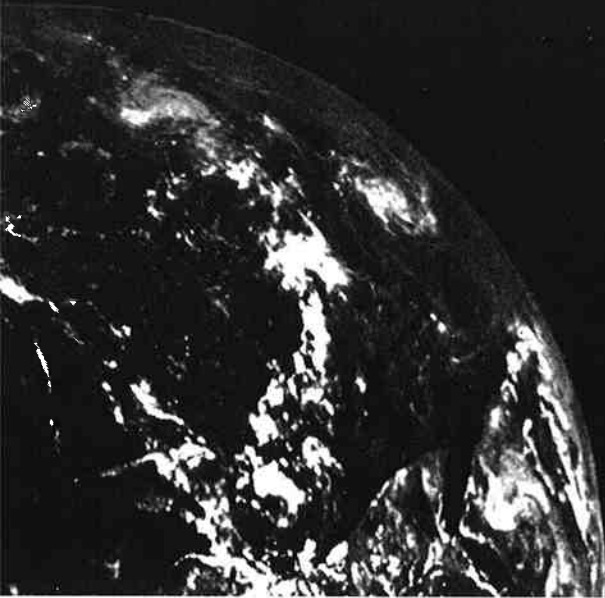
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- Puckeylow, Harold D.**, W6ZGO (M 1977), 14721 Van Ave., San Leandro, CA 94578
- Puett, J. W. F.** (M 1974), 3008 Abston Drive, Mesquite, TX 75149
- Pully, Luther S.** (M 1975), 3910 Cedarbrush, Dr., Dallas, TX 75229
- Quantz, Richard G.** (M 1976, F 1977), 20015 Marine View Dr., Seattle, WA 98166
- Quinby, Edwin J.** (M 1959, F 1963, L 1976), 30 Blackburn Road, Summit, NJ 07901
- Quist, A.H.** (M 1940, F 1957, L 1972), 717 Aviary Way, Homestead Run, Toms River, NJ 08753
- Randall, William R.** (M 1972), Antenna Specialists Co., 12435 Euclid Ave., Cleveland, OH 44106
- Raser, Edward G.** W2ZI (M 1957, F 1964), 19 Blackwood Dr., Wilburtha Gardens, Trenton, NJ 08628
- Redding, Paul B.** (M 1972), 6304 Lansbrook Lane, Oklahoma City, OK 73132
- Redington, Edmund B.** (M 1960, F 1964), 5218 Light St., North Springfield, VA 22151
- Regan, Thomas O.** (M 1970), 293 Blake Ave., Bohemia, NY 11716
- Reiner, Alvin** (M 1972, F 1974), 11243 Bybee St., Silver Spring, MD 20902
- Reinert, Donald O.** (M 1970), 103 Marble Drive, Bridgeville, PA 15017
- Reinhardt, Nicholas J.** (M 1956, F 1961), Box 220-D, Catskill, NY 12414
- Reinheimer, George C.** (M 1975), General Electric Co., Mobile Radio Dept., 10700 Beaverton Hillside Hgwy., Beaverton, OR 97005
- Renner, John J.** (M 1971, F 1973), 5501 North 15th St., Arlington, VA 22205
- Repogle, D. E.** (M 1937, F 1937, L 1971), Route 1, Box 299, Lake Wales, FL 33853
- Rettenmeyer, F.X.** (M 1928, F 1929, L 1970), 740 Stanwick Rd., Moorestown, NJ 08057
- Rhoades, I. Otto** (M 1975), 4414 Grinell Dr. #2, Rockford, IL 61109
- Richardson, Avery G.** (M 1941, F 1944, L 1971), 115 Vreeland Ave., Boonton, NJ 07005
- Richardson, Kenneth** (M 1974, F 1976), 254 Vincent Ave., Lynbrook, NY 11563
- Richardson, Richard G.** (M 1976), City of Minneapolis Comms., 313 South 3rd St., Minneapolis, MN 55415
- Richardt, John W., Jr.** (M 1952, F 1973), 94 Bald Eagle, Hackettstown, NJ 07840
- Rider, John F.** W2RID (M 1932, F 1937, L 1970), 9800 East Bay Harbor Dr., Miami Beach, FL 33154
- Rietzke, Eugene H.** (M 1969, F 1970), 7301 Georgetown Pike, McLean, VA 22101
- Rifenberg, Charles J.** (M 1969), 1138 E. 3rd St., Brooklyn, NY 11230
- Risse, Joseph A.** (M 1965), International Textbook Co., Scranton, PA 18515
- Ritter, Floyd O.** (M 1972), 1045 Millwood Ct., Indianapolis, IN 46260
- Rivkin, David H.** (M 1970), 473 Long Hill Dr., Short Hills, NJ 07078
- Roberts, William W.** (M 1952, F 1959), c/o Sperry, 1755 So. Jefferson Davis Hwy., Arlington, VA 22202
- Robichaud, Joseph A.** (M 1976), Temsco, 6623 Backlick Rd., Springfield, VA 22191
- Robinson, John T.** (M 1975, F 1977), 6204 Greely Blvd., Springfield, VA 22152
- Robinson, Russell V.** (M 1976), 8832 Steel, Detroit, MI 48228
- Rockwell, Paul** (M 1976), 5800 Hillburne Way Chevy Chase, MD 20015
- Rodgers, L.M.** (M 1968), 23 Bettwood Rd., Norwalk, CN 06851
- Rogers, Albert P.** (M 1970), Florida Highway Patrol, Box 15025, West Palm Beach, FL 33406
- Rogoff, Mortimer** (M 1977), 180 East End Ave., New York, NY 10028
- Rohde, Ulrich L.** (M 1976), Rohde & Schwarz International Sales, Inc., 14 Gloria Lane, Fairfield, NJ 07006
- Ronald, T. T.** (M 1946, L 1971), 77 Stocker Road, Essex Fells, NJ 07021
- Root, L. Eugene** (M 1974), 1340 Hillview Drive, Menlo Park, CA 94025
- Rose, Frank L.** W3RO (M 1975), 12506 Knowledge Lane, Bowie, MD 20715
- Rosenburg, Arnold** (M 1970), 1000 16th St., N.W., Washington, DC 20036
- Rosenbloom, Joseph S.** (M 1974), IBM CHQ., Armonk, NY 10504
- Rowe, Fred** (M 1969), 1255 44th Ave., San Francisco, CA 94122
- Ruiz-Lopez, Mariano E.** (M 1977), Comms. & Industrial Elecs. Corp., Hato Rey, PR 00927
- Runyon, John B.** (M 1955, F 1976), 39 Locust Point Rd., Locust, NJ 07760
- Russell, W. Gordon** (M 1926, F 1953, L 1973), 2929 S.E. Ocean Blvd., Apt. 103-10, Stuart, FL 33494
- Rutherford, R.E., Jr.** (M 1961, F 1964), P.O. Box 13, New Canaan, CN 06840
- Ryan, George A.** (M 1971), 23 Willow Rd., Mapleshade, NJ 08052
- Rykala, Theodore** (M 1973, F 1976), American Natural Gas System, One Woodward Ave., Detroit, MI 48226
- Rypinski, Chandos A.** (M 1973, F 1974), Rydax, 76 Belvedere St., San Rafael, CA 94901
- St. Clair, Byron W.** (M 1969), 10150 W. 74th Pl., Arvada, CO 80005
- Salsberg, Arthur P.** (M 1973), 15 Range Dr., Merrick, NY 11566
- Samuels, Ruel P.** (M 1972), 42 Lords Rd., Kingston 5, Jamaica, W.I.
- Sands, Leo G.** (M 1960, F 1969), 7379 Caminito Carlotta, San Diego, CA 92120
- Sanford, Bernard E.** (M 1971), 5411 Falls of Neuse Rd., Raleigh, NC 27609
- Schermerhorn, Romain W.** (M 1976), Repco, Inc., 1940 Lockwood Way, Orlando, FL 32804
- Schimmel, Eric J.** (M 1976), 6216 Hollins Dr., Bethesda, MD 20034
- Schleicher, George P.** W9NLT (M 1976), Ill. Bell Tel. Co., Transmission, 225 West Randolph St., Chicago, IL 60606
- Schnoll, Nathan W2PN** (M 1928, F 1953, L 1971), 132 Dimmig Road, Upper Saddle River, NJ 07458
- Schomburg, Richard A.** (M 1957, F 1971), 1322 S.E. 37 Ave., Hillsboro, OR 97123
- Schwartz, Milton** (M 1971), 166-36 24th Rd., Flushing, NY 11357
- Schwede, Harold F.** (M 1969, F 1970), R.F.D. #2, West Redding, CN 06896
- Scoggin, James F., Jr.** (M 1975), The Citadel, Elec. Eng. Dept., Charleston, SC 29409
- Scoggins, E. Joseph** (M 1970), 195 N.E. 131st St., No. Miami, FL 33161
- Selenius, O. Eric** (M 1971), Box 440, Apple Valley, CA 92307
- Shackelford, Benjamin E.** (F 1943, L 1971), 743 Mosswood Ave., Orange, NJ 07050
- Shafer, John** (M 1974, F 1975), 941 Teller Circle, Boulder, CO 80302
- Shalkhauser, Eric G., W9CI** (M 1977), 27 Spring Creek Rd., Washington, IL 61571
- Shand, William A.** (M 1970, F 1976), S.A. Co. Business Consultants, 207 McHenry St., Vienna, VA 22180
- Shenier, Henry L.** (M 1952, L 1971), 230 Park Ave., New York, NY 10017
- Shepard, F.H., Jr.** (M 1936, F 1942, L 1970), P.O. Box 332, Summit, NJ 07901
- Shepherd, Neal H.** (M 1977), 1914 McGuffey Lane, Lynchburg, VA 24503
- Sherman, Eleanor** (M 1975), 106 Verona St., Elmira Heights, NY 14903
- Shortt, Hubert L.** (M 1945, F 1973, L 1975), 3018 Cambridge Rd., Winston-Salem, NC 27104
- Shunaman, Fred** (M 1968, F 1972), 933 E. 7 St., Plainfield, NJ 07062
- Siegel, Hyman L.** (M 1977), Radio Shack, 2617 Seventh St., Fort Worth, TX 76110
- Siegel, Seymour N.** (M 1967, F 1969), Wells Hill Road, Lakeville, CN 06039
- Sieminski, Edward** (M 1935, F 1953, L 1973), 134-14 Franklin Ave., Flushing, NY 11355
- Simkins, Robert** (M 1970), 69 Auburn Lane, East Norwich, NY 11732
- Simmons, A. C.** (M 1971, F 1975), 6342 Eldergerve, Dallas, TX 75232
- Simons, Leon K2MJN** (M 1976), 303 E 57 St., New York, NY 10022
- Sims, Joseph R.** (M 1969, F 1971), 302 Country Club Dr., Tequesta, FL 33458
- Sirls, Robert E.** (M 1971), 637 So. Waukegan Rd., Lake Forest, IL 60045
- Skipper, Lionel C.** (M 1946, F 1973), 4 Belvedere Cr., Aberdeen, AB2 4NH Scotland
- Sloop, W. B.** (M 1973), 1204 Glen Eden Drive, Raleigh, NC 27612
- Smith, Arthur V.** (M 1960, F 1969, L 1974), 276 Riverside Dr., New York, NY 10036
- Smith, George E. W4AEO** (M 1968, F 1969), Brevard Spring, 1816 Brevard Place, Camden, SC 29020
- Smith, Myron T.** (M 1934, F 1942, L 1970), P.O. Box 36, Cape Rd., South Casco, ME 04077
- Smith, Sanford H.** (M 1977), 1116 Ritters Lake Rd., Greensboro, NC 27406
- Smith, Theodore A.** (M 1975), 1208 Limberlost Lane, Gladwyne, PA 19035
- Somers, Richard G.** (M 1977), 919 Crescent Dr., Los Angeles, CA 90046
- Spence, Raymond E. W4QAW** (M 1976, F 1977), Rte. 1, Box 9, Auburn, VA 22011
- Stantley, Joseph J.** (M 1920, F 1926, H. 1967, L 1971), 213 Harvard Ave., Point Pleasant Beach, NJ 07842
- Stapleton, James W.** (M 1974), 141-03 228th St., Laurelton, NY 11413
- Steckler, Lawrence** (M 1976), 24 Straw Lane, Hicksville, NY 11801
- Steen, Jerome R.** (M 1947, F 1957, L 1971), 472 Sidney St., Madison, WI 53703
- Stenger, William R., III** (M 1973), 2624 Wertz Ave., N.W., Canton, OH 44708
- Stevens, Thomas W.** (M 1974), P.O. Box 976, Edmond, OK 73034
- Stoddart, Hartley T.W.** (M 1975), 1 Cornell Parkway, Springfield, NJ 07081
- Stodola, E.K.** (M 1958, F 1964), 5324 Montgomery, N.E., Albuquerque, NM 87109

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- Stoll, Eric** (M 1976), 117 Hillside Ave., Teaneck, NJ 07666
- Stone, W.R.** (M 1974), Brown-Ferris Co., 250 North Central Ave., Wayzata, MN 55391
- Stover, Jerry S.** (M 1972, F 1975), Communications Industries, Inc., 511 No. Akard, Dallas, TX 75201
- Stromberg, Roy T.** (M 1976), 2286 Villanova Rd., San Jose, CA 95130
- Stuart, John F.** (M 1969), 2622 Guenevere Ave., Huntsville, AL 35803
- Styles, Thomas J.** (M 1915, F 1926, L 1926), 160-01 84th Drive, Jamaica, NY 11432
- Sudia, Andrew T.** (M 1974), 1556 Putty Hill Ave., Towson, MD 21204
- Summers, Charles E.** (M 1972, F 1976), IBM Corporate Hqtrs., Old Orchard Rd., Armonk, NY 10504
- Surina, Robert C.** (M 1976), 2605 Ridge Rd. Dr., Alexandria, VA 22302
- Swafford, John H.** (M 1974), 2025 N. Kensington St., Arlington, VA 22205
- Swigart, James F.** (M 1972), 2520 W. Greenacre, Anaheim, CA 92801
- Swinyard, W.O.** (M 1941, F 1957, L 1973), 3612 Kempner Road, Salt Lake City, UT 84109
- Tall, Robert E.** (M 1970, F 1971), Industrial Communications, 647 National Press Bldg. Washington, DC 20004
- Talley, David W2PF** (M 1949, F 1957, L 1970), Harbour House 1533-S 10275 Collins Ave., Bal Harbour, FL 33154
- Tarbell, Harry** (M 1976), 3619 S.W. 50, Portland, OR 97221
- Tary, John J.** (M 1974), 7739 Spring Dr., Boulder, CO 80303
- Tawney, Royce I.** (M 1976), Kokusai Electric Co. of America, 5422 West Rosekrans Ave., Lawndale, CA 90260
- Taylor, Lewis E.** (M 1977), 424 Wanaque Ave., #19, Pompton Lakes, NJ 07442
- Taylor, Willis H., Jr.** (M 1920, F 1927, L 1971), 330 Madison Avenue, New York, NY 10017
- Telcher, Theodore F.** (M 1975), 1113 Claybourne Rd., Kettering, OH 45429
- Thomas, Leslie G.** (M 1928, L 1971, F 1975), 200 Ocean Lane Dr., Key Biscayne, FL 33149
- Thompson, Owen E.** (M 1972), I. Herman Co., 1050 Ralston Ave., Belmont, CA 94002
- Thompson, Robert W.** (M 1974), 14715 Eastview Drive, Los Gatos, CA 95030
- Thorpe, Wilbur E.** (M 1948, F 1953, L 1971), 2714 Balboa Blvd., Port Hueneme, CA 93041
- Tillson, Benjamin F., Jr.** (M 1971), P.O. Box 668, Brewster, MA 02631
- Tischler, Louis** (M 1965), 785 Hyslip Avenue, Westfield, NJ 07090
- Tongue, Ben** (M 1971, F 1977), 41 Ferris Dr., West Orange, NJ 07052
- Towns, Mirabeau C., Jr.** (M 1975), 13035 Regan Lane, Saratoga, CA 95070
- Treado, Marshall J.** (M 1971, F 1972), National Bureau of Standards, Law Enforcement Standards Lab., Washington, DC 20234
- Trenkle, William J.** (M 1975), 172-70 Highland Ave., Jamaica, NY 11432
- Troster, John G.** (M 1975), 82 Belbrook Way, Atherton, CA 94025
- Trott, Raymond C.** (M 1976), Decibel Products Inc., Box 47128, 3184 Quebec St., Dallas, TX 75247
- Tsao, T.C.** (M 1966, F 1973), 351 E. 84th St., New York, NY 10028
- Tucker, Robert A.** (M 1977), Telecom Ventures Ltd., 800 Busse Hwy, Park Ridge, IL 60068
- Tuckerman, Lucien P.** (M 1928, F 1942, L 1970), 3001 Veazey Terrace, N.W., Washington, CD 20008
- Turdo, Malcolm M.** (M 1973), 3106 Harrison St., Wall, NJ 07719
- Turnbull, J.C.** (M 1969), Pye Business Comms. Ltd., Cromwell Rd., Cambridge, England CB1 3HE
- Turner, Derek** (M 1975), Pentland North Rd., Whittlesford, Cambridge, England
- Tuxen, Niels** (M 1953, F 1972), 24 Nordica Drive, Croton-on-Hudson, NY 10520
- Tyne, Gerald F. J.** (M 1966, F 1974), 40 Kline Place, So., Berkley Heights, NJ 07922
- Ulm, Ernest H.** (M 1950, F 1957), 372 Demarest Drive, Orange, CN 06477
- Van Beuren, John M.** (M 1942, F 1944, L 1975), 1212 Royal St., New Orleans, LA 70116
- Vashrow, Leo M.** (M 1975), 284 Vly Rd., Schenectady, NY 12309
- Villers, Ralph I.** (M 1975), 1645 Oregon Ave., P.O. Box 1, Steubenville, OH 43952
- Vogel, William H., Jr.** (M 1940, L 1971, F 1972), Strawberry Lane, New Preston, CN 06777
- Voorhis, Harold V.B.** (M 1964, F 1976), 105 New England Ave., Summit, N.J. 07901
- Vorporian, Harry** (M 1941, L 1971), 60-20-B 194th Street, Flushing, NY 11365
- Wahlin, William S.** (M 1972), 144 W. 86th St., 12B, New York, NY 10024
- Wainwright, Wayne** (M 1976), RTS Comms., 3475 Woodward Ave., Santa Clara, CA 95050
- Waite, Amory H., Jr. W2ZK** (M 1974, F 1976), 46 Monmouth Blvd., Oceanport, NJ 07757
- Walker, A. Prose** (M 1971, F 1972), 12200 Pendercrest Ct., Fairfax, VA 22030
- Walker, Joseph** (M 1977), Phillips Petroleum Co., 601 Armstrong, Bartlesville, OK 74004
- Walker, Robert E.** (M 1971), 607 E. Brevard St., Tallahassee, FL 32303
- Wallenburg, Robert C.** 1349 Mithra St., New Orleans, LA 70122
- Wallin, Gary P.** (M 1970), 1092 Union St., Manchester, NH 03104
- Wallower, Donald R.** (M 1975), MTI, Inc., College Hill Road, Summerdale, PA 17093
- Walsh, Stephen T.** (M 1971, F 1971), 3911 Avenue J, Brooklyn, NY 11210
- Walters, Charles W.** (M 1970), Apt. C-5 Talla Villa, 925 East Magnolia Dr., Tallahassee, FL 32301
- Walton, Robert C. W6CYL** (M 1972), 680 South 15 St., San Jose, CA 95112
- Wand, Hal F.** (M 1969), 4770 N. 7th St., #G1184, Phoenix, AZ 85014
- Warshaw, David** (M 1974, F 1975), 141 Quaspeck Blvd., Valley Cottage, NY 10989
- Warshaw, Marguerite E.** (M 1974), 141 Quaspeck Blvd., Valley Cottage, NY 10989
- Watson, Herbert M.** (M 1971, F 1972), 76-955 Sandpiper Dr., Indian Wells, CA 92260
- Watts, W. Walter** (M 1960, F 1964, H 1972), The Chalfonte, No. Tower, Apt. 1202, 500 South Ocean Blvd., Boca Raton, FL 33432
- Wayman, N.J.** (M 1970, F 1972), 3612 Ridge-way Terrace, Falls Church, VA 22044
- Wehking, Ralph T.** (M 1977), 1987 Fossway Ct., Cincinnati, OH 45230
- Wehner, John H.** (M 1962), 172 Bogert St., Totowa, NJ 07512
- Weisburger, Joseph S.** (M 1974), Motorola, Inc., Nat. Accts. Dept., 85 Harristown Rd., Glen Rock, NJ 07452
- Weisz, William J.** (M 1976, F 1976), 721 Apple Tree Lane, Glencoe, IL 60022
- Wentzel, Amandus G., Jr.** (M 1975), 318 Gardner Ave., Trenton, NJ 08618
- West, Gordon V. WB6NOA** (M 1977), 2414 College Dr., Costa Mesa, CA 92626
- Wheel, William E.** (M 1976), Pye Telecommunications Ltd., Newmarket Rd., Cambridge, England
- Wheeler, Harold A.** (M 1936, F 1936, L 1971), 59 Derby Place, Smithtown, NY 11787
- White, Lowell E.** (M 1972, F 1976), c/o Motorola 85 Harristown Rd., Glen Rock, N.J. 07452
- Wickline, William A.** (M 1976), 2907 West Willowick Dr., Willowick, OH 44094
- Williams, Dorsey** (M 1971, L 1972), 1631 S.W. 83rd Ave., Miami, FL 33155
- Williams, Grant A.** (M 1974, F 1975), 12-P Northgate Apt., Camden, NJ 08102
- Williams, Val J.** (M 1970, F 1977), NABER, 1330 New Hampshire Ave. N.W., Washington, DC 20036
- Wilner, John T.** (M 1977), RD—1, Continental Lane, Titusville, NJ 08560
- Wilson, John W. K2BW** (M 1972), 175 Meadowbrook Rd., Garden City, NY 11530
- Wilson, William A.** (M 1970), Star Route 1, Box 117, Union, WA 98592
- Winans, Henry W., Jr.** (M 1976), 3707 Gaston Ave., Suite 220, Dallas, TX 75246
- Winter, David W.** (M 1971), 84-26 87th St., Woodhaven, NY 11421
- Witt, Frederick E.** (M 1961), R.F.D. 1, Claper Hollow Rd., Jefferson, NY 12093
- Witt, Leonard T.** (M 1972), 144-35 222 St., Springfield Gardens, NY 11413
- Wofford, Delbert R.** (M 1975), 624 Suffolk Drive, Owensboro, KY 42301
- Wolfe, Benjamin** (M 1977), 6300 Red Cedar Pl., Apt 402, Baltimore, MD 21209
- Woodin, Roy H., KL7IHH** (M 1970), RCA Alaska Communications, 606 E. Bluff Dr., Anchorage, AK 99501
- Worthen, Kent J.** (M 1972), 19301 Harleigh Dr., Saratoga, CA 95070
- Wright, Winter W.** (M 1973), 141 Black Rock Rd., Hampstead, MD 21074
- Yeager, Clair J.** (M 1972), 502 Davis St., Endwell, NY 13760
- Yefsky, Sheldon A.** (M 1971), 5033 Morse St., Skokie, IL 60076
- Yellen, Anthony G.** (M 1957), 84-46 117th St., Richmond Hill, NY 11418
- Yocum, Charles H.** (M 1927, F 1952, L 1973), 463 Adamsville Rd., Central Village, MA 02790
- Zaret, Matthew E.** (M 1951, F 1961, L 1975), 3468 Richard St., Ann Arbor, MI 48104
- Zauderer, Jerome** (M 1970, F 1972), Hazeltine Corp., Greenlawn, NY 11740
- Zayac, Frank R.** (M 1948, F 1955, L 1972), R.D. #3, Box 55, Boonton, NJ 07005
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