

COMPREHENSIVE INDEX TO THE PROCEEDINGS OF THE RADIO CLUB OF AMERICA FOR 1913-2013

"Honoring the Past, Committed to the Future"

Compiled By:

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Chairman, RCA Historical Committee
2014

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PREFACE

The Radio Club of America (RCA) was founded in 1909 as the Junior Aero Club; and, almost overnight, became the Junior Wireless Club. Within its first two years, the organization was renamed The Radio Club of America. It was, and remains known today, as a collegial gathering place, or forum, for those interested in all aspects of radio; its science, technology, development, and the art of broadcast. RCA's membership encompasses people interested in not only radio, but in all of its applications; including television, computers, paging, land mobile radio, public safety, internet, telephone, wireless and modern cellular and digital communications.

The year 2013 marked the centennial of RCA's primary publication, the *Proceedings of the Radio Club of America*. Prior to 1913, individual technical papers presented at RCA's meetings were reprinted for the membership. In the early years, papers discussed at RCA's meetings were also published by *QST, Radio Broadcast, Electrical World* or other leading publications. Edwin H. Armstrong's "Theory of Tuned Circuits" was distributed by RCA in May and December 1913 as the first article associated with a specific issue date of the *Proceedings*. The list of RCA's forty-four members issued in 1914 is the earliest surviving publication featuring RCA's name. It includes designations of pending radio licenses, the type of equipment used and the member's evening and weekend hours of operation. That year, eight more papers were presented at RCA's meetings and published. Over the subsequent century, approximately 2,100 topical articles and announcements about RCA and its membership were produced in the *Proceedings*. These articles provide a unique window into the organization and a view into RCA's much heralded membership and their activities. Taken as a whole, the *Proceedings* document critical and important developments in the evolution of modern electronic communications involving radio. They also preserve important historical information about advances in related technologies as well as significant biographical material about RCA's members.

RCA's Historical Committee endeavors to preserve the history of RCA through document retention, artifact collection and publication of historical articles and resources about RCA. In 2008, RCA's archives were relocated to the Antique Wireless Association (AWA) in Bloomfield, New York. For more than fifty years, RCA and AWA have shared many close ties relating to the preservation of historical documents and artifacts pertaining to radio and electronic communications. Included in the RCA archives are copies of the first century of the *Proceedings of the Radio Club of America*.

To commemorate the centennial of the *Proceedings*, the RCA Historical Committee has compiled this Comprehensive Index of all available surviving copies of the *Proceedings* through 2013. The Index includes an introduction to RCA, a history of the *Proceedings* itself, listings of notable RCA inventors and developers, an index to RCA's awards, and photos of some important RCA milestones. It also includes directions about how to work with electronic copies of the Index.

We hope this Index will be of use to RCA, historians interested in RCA's activities; and, most of all, to those who wish to study the origins of our electronic world and the people who created it.



David Bart, Chairman
RCA Historical Committee
February, 2014

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USING THE COMPREHENSIVE INDEX

The following pages include a text searchable Comprehensive Index of the *Proceedings* spanning its first 100 years of publication from 1913 through 2013. The scope of the Index includes all published articles plus notable announcements and key items listed in each issue of the *Proceedings*. The content of the Index is presented in table format with columns for the "Item", "Date", "CD Archive", "Title", "Author" and "Subject Category" as explained below.

I. THE INDEX DATA:

Source Data

The Index is primarily based on the 2009 RCA Centennial CD plus subsequent paper copies of the *Proceedings* issued through 2013 and the partial indices that were produced on the 25th, 50th and 75th anniversaries of RCA. In order to develop a comprehensive listing, items were included in the Index if they were mentioned in any of these sources, even if the item was not reproduced on the Centennial CD. The "Date" of each entry and the "Author" are reported for all items. The file location on the 2009 Centennial CD is provided for those issues of the *Proceedings* that are available on the Centennial CD. Items identified from the previously published indexes that are not present on the Centennial CD are indicated as "1-Index" in the "CD Archive" column.

Highlighted Entries

Previously published indexes issued on the 25th, 50th and 75th anniversaries of RCA are highlighted in YELLOW for easy identification. The 25th, 50th and 75th anniversary yearbooks as well as the 2009 Platinum Jubilee centennial are noted in BLUE.

A Note on Page Numbering

The Index was compiled and sorted multiple ways. The sorts are identified in the top right corner of the page header and the bottom left corner of the page footer. Each sort has its own page numbering in the bottom right corner of the page footer. The following pre-sorted versions of this Index are available:

Part I - Sorted By Date/Item
Part II - Sorted By Author/Item
Part III - Sorted By Subject/Item
Part IV - Sorted By Title/Item

II. INDEX DATA COLUMNS:

Item

Each item included in the Index was assigned an "Item" number for tracking purposes, allowing the entire database to be re-sorted back into its original order. Due to inconsistencies in volume numbers, issue numbers, and dating over the years, the Item numbers have been assigned to place all the articles into a comprehensive order. The assigned Item number takes precedence over any other dating shown.

The Item numbers are shown as "Year.Issue.Item". For example, Item "1920.01.03" refers to the 'Year 1920, January, Item 3' which appeared in issue 1920 Vol. I No. 1 and is available in file 1920-01 on the Centennial CD. The Item is titled *"A New Method for the Reception of Weak Signals at Short Wave Lengths" Presented at RCA at Columbia University Dec l9, 1919* authored by "Armstrong, Edwin H." and is grouped into Subject Category "Armstrong".

Date
The "Date" shown in the Index reflects the publication date on the individual issue. Over the years, there is some inconsistency in the reported dates of the issues. Please refer to the Item number for a consistent ordering of the publications.

CD Archive
Digital copies of the available *Proceedings* for 1914 through Spring 2009 are available on the 2009 RCA Centennial CD in the identified pdf files. Items identified as "1-Index" refer to articles listed in other partial indexes published on the 25th, 50th and 75th anniversaries of RCA that are not available on the Centennial CD. These Items have been noted to make the Index complete. The 2009 Centennial CD also contained other centennial related letters and documents which have their own file names such as A01, T01 and Z01 as shown in the Index. Entries after Spring 2009 do not have a "CD Archive" file name since these items were identified from subsequent paper editions of the *Proceedings*.

Title
The "Titles" reported in the Index are shown as reflected in the articles. Some inconsistency or abbreviated titling was employed over the years in the tables of contents for the *Proceedings* or in the partial indices previously published by RCA. In some cases, titles for news announcements or other articles without a formal title have had their titles designated solely for purposes of this Index to enable the subject matter to be located and identified.

Author
In order to establish consistent author identifications for the Index, a consistent format was applied as "Last Name, First Name" regardless of the format used in the published article. Differences in spellings have also been made consistent. Professional titles such as Dr. or Ph.D. have been eliminated in the "Author" field.

Subject Category
Based on reviewing the title, author, context and apparent subject of each article, generalized subject groupings were developed to enable the articles to be sorted. The "Subject Categories" are not considered definitive. They merely represent an initial grouping of the items for the reader.

III. WORKING WITH THE DATA:

Available Data Sorts
The Index was compiled in Word and is reprinted in both Word and pdf file formats. Each sort is identified in the top right corner of the page header and the bottom left corner of the page footer, and each sort has its own page numbering in the bottom right corner of the page footers. The following pre-sorted versions of this Index are available:

Part I - Sorted By Date/Item
Part II - Sorted By Author/Item
Part III - Sorted By Subject/Item
Part IV - Sorted By Title/Item

Interactive Sorting Options
For those interested in working with the electronic files in Word, the entire table can be sorted. Regardless of location, type CTRL-HOME to go to the top left corner of the table and hover the pointer over the top left corner of Column A. Click on the cross-shaped icon to highlight the entire table. Select "Layout" and then "Sort" from the menu options. Choose a column by selecting "Sort By" specifying the "Type" as "Text". Multiple subsidiary sorting criteria can be specified using the "Sort By" function to define one or more subsidiary sort orders with "Then By" priorities; again selecting the "Type" as "Text" for each specified sorting preference. This is the same methodology that was utilized to establish the Part I through Part IV versions of the Index.

Text Searching

Both the pdf file and Word versions of the Index are text searchable. Simply type CTRL-F to activate the search option.

Copying the Index to Excel

For those interested in working with the Index in Excel, simply highlight the rows in the Word file; type CTRL-C to copy; position the pointer in Excel; and, type CTRL-V for paste. The column widths will need to be reset in Excel. To select the entire table in Word, type CTRL-HOME to go to the top left of the table, then hover the pointer over the top left corner of Column A. Click on the cross-shaped icon to highlight the entire table, then copy and paste into Excel using CTRL-C and CTRL-V as above. Note, the column headings shown in the header of the Word file are separate from the main table, so the column headings will need to be separately copied.

Saving as a PDF File From Word

Due to compatibility issues between the Word and Adobe Acrobat programs, the file may not save from Word directly into a pdf formatted file. Instead, simply print the file from Word into a pdf file, naming the pdf file as a destination instead of naming a printer. This is the same methodology that was utilized to establish the Part I through Part IV pdf versions of the Index.

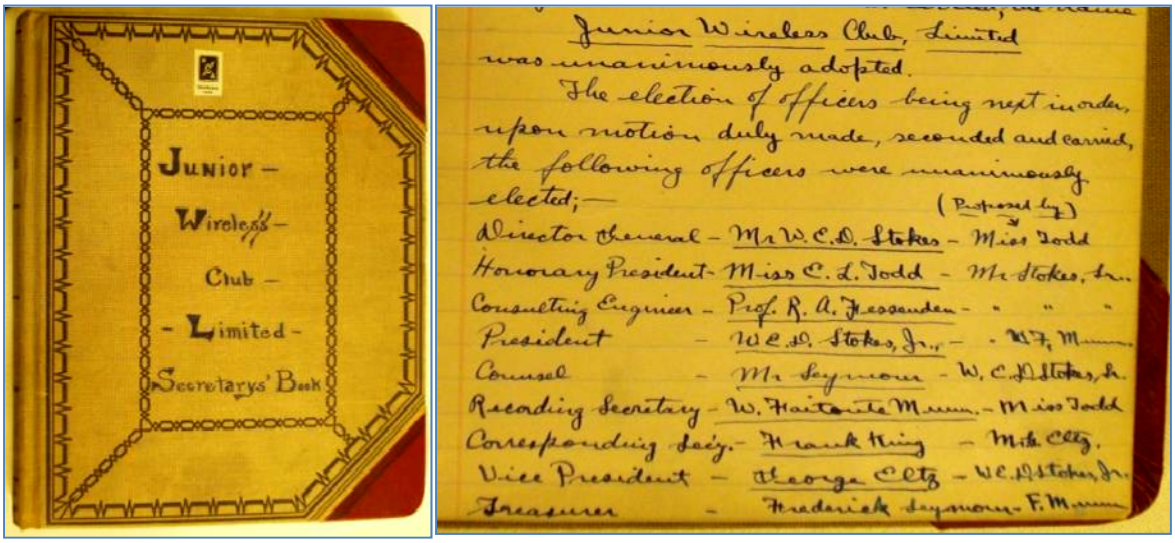
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INTRODUCTION TO
THE RADIO CLUB OF AMERICA

The Radio Club of America was founded in 1909 as the Junior Aero Club, and quickly became the Junior Wireless Club, Ltd. In 1911, the organization changed its name to the Radio Club of America (RCA). It soon became known as a collegial gathering place for those interested in topics related to the still very new sciences of wireless telegraphy and radio. Recently celebrating its centennial, RCA is the oldest organization in the world dedicated to promoting cooperation among those interested in the advancement of radio based communication.

RCA as a Leadership Forum

Within a few short years after its founding, RCA evolved into a primary forum for inventors, developers, amateurs and enthusiasts to gather and share ideas in an environment that was less formal than professional associations such as the Institute of Radio Engineers (IRE), the American Institute of Electrical Engineers (AIEE), or their successor organization, the Institute of Electrical and Electronics Engineers (IEEE).



First RCA Minute Book Dated 1909.

RCA's members initially prepared papers and led technical discussions at a time when little information was available for those interested in these topics. The Annual Banquet, which began in 1919, was a place for members to gather and celebrate their work. Over the years, RCA's membership has included many venerable names associated with important accomplishments in the development of radio communication. Notable examples include:

- *W.E.D. Stokes – Founder Radio Club of America*
- *Jack Binns – 1st Marconi Wireless Distress CQD*
- *Prof. R.A. Fessenden – Radio Transmission*
- *Harry Houck – Armstrong's Collaborator*
- *Paul Godley – Mobile Radio*
- *Edwin H. Armstrong – Key Radio Circuits*
- *Lee DeForest – Audion Radio Tube*
- *Alan B. DuMont – Cathode Ray Tube*
- *Robert H. Marriott – 1st President IRE (IEEE)*
- *William Lear – Electronics and Lear Jet*
- *John Louis Hazeltine – Neutrodyne Circuit*
- *John V.L. Hogan – Single Dial Tuning*
- *David Sarnoff – Radio Corporation of America*
- *Frank Gunther – Short Wave Radio*
- *Fred M. Link – Two-Way Radio*
- *John Poppele – Transmitters and Voice of America*
- *Morgan O'Brien – Founder of Nextel*
- *Martin Cooper – Motorola Cell Phones*

RCA's Ties to Amateurs

At the outset, RCA's membership could largely be considered amateurs since commercial radio communication was in its infancy, and formal regulation, professional training and university education had not yet emerged in the field. When governmental regulation did begin, RCA's members all held amateur or professional radio operator licenses. Today, most members continue to maintain their licenses. RCA also maintains its own dedicated call sign W2RCA. RCA's amateur radio members have included many industry leaders such as:

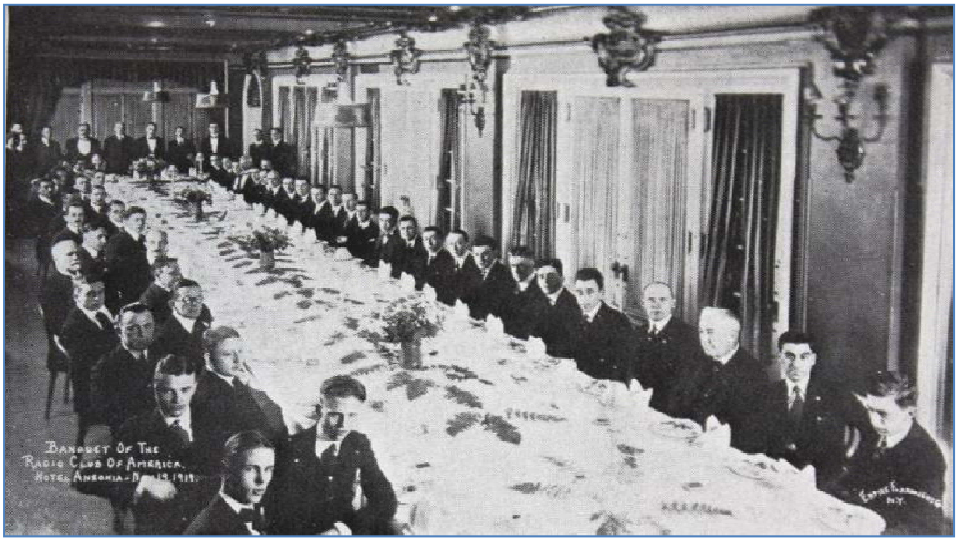
- *Art Collins – Founder Collins Radio Co.*
- *Walter Chronkite – CBS News Anchor*
- *Sen. Barry Goldwater – U.S. Senate*
- *Fred Link – Link Radio Corp. Police Radio*
- *Jim Larsen – Larsen Antennas*
- *Bill Eitel – Eitel-McCullough (EIMAC Tubes)*
- *Jack McCullough–Eitel-McCullough (EIMAC Tubes)*
- *Bill Halligan – Hallicrafters Company*

Membership

Membership in RCA is by invitation. Prospective members are required to have a sponsor to recommend their acceptance by the organization. "Senior" membership status may be granted based on tenure in the organization and professional accomplishments. Members who have made outstanding contributions to the communications industry or to RCA may be selected as "Fellows" by the Board of Directors. Lifetime contributions to RCA may also be recognized by designation as a "Life" member. Announcements of Senior, Fellow and Life membership status are carried in the *Proceedings of the Radio Club of America*.

The Evolution of Relevant Topics

From the beginning, RCA's meetings offered a chance to present and discuss leading developments freely and openly in an exchange of ideas among interested participants, regardless of their formal background. The scope of subject matter soon grew beyond the science and technology of radio to also include the art of broadcasting and the application of radio across public, governmental, military and safety arenas. The full understanding of radio and its various applications would eventually grow to include related topics such as the history of electrical communication in telegraphy and telephony, the evolution of television, satellites, land mobile radio, paging systems, and eventually new cellular and digital technologies used in today's wireless world.



RCA Banquet in Honor of Edwin Howard Armstrong at Hotel Ansonia in 1919.

Over the years, academics, industry leaders, amateurs and historians all participated in RCA on an equal basis. RCA became known as a highly respected forum, a place where top leaders and visionaries could gather to discuss their ideas, and all could make their contributions. RCA has hosted technical meetings since 1913. RCA also held an annual "Technical Symposium" or "Communications Symposium" in conjunction with its annual banquet. In addition, RCA hosted special topical meetings, as well as meetings and industry booths that were held at other industry events such as the Association

of Public-Safety Communications Officials (APCO) and the International Wireless Communications Expo (IWCE). APCO is the world's oldest and largest organization of public safety communications professionals. IWCE is the authoritative annual event for communications technology in the world.

Educational Activities

As early as 1963, RCA began offering scholarship support to worthwhile students interested in radio communications. By 1977, formal scholarship programs were put into place. A number of scholarship funds have been established including the General Scholarship Fund and named funds for prominent members such as Goldwater, Gunther, Link, Poppele and Brownson. Announcements about the Grants-In-Aid Committee and its awards have been published in the *Proceedings* since 1963.

Promotion of radio and electronic communication topics in education has also remained a key activity of RCA. Each year RCA issues its "Young Achievers Award" to students who have demonstrated creativity and technical excellence in wireless communications. The Richard G. Sommers Youth Educational Fund helps "encourage and support educational, technical, ham radio and related activities of young people through high school" by assisting young people in expanding their studies and interest in wireless communications. RCA also manages a donation program that sources and donates used radio equipment to schools supporting educational programming as well as providing curriculum guidance. Activities in these areas are promoted and announced in the *Proceedings*.

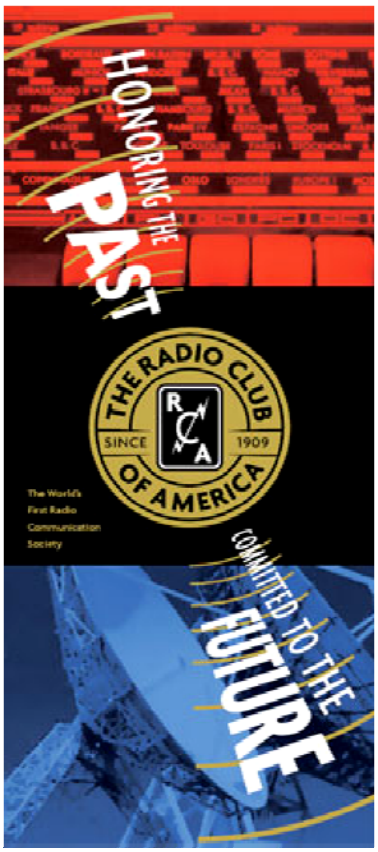
Cooperation and Networking

RCA is the oldest active radio club in the world. Since 1909, its roster of members is a world-wide Who's Who of those who built the modern communications industry with their ingenuity, creativity and practical ideas. Indeed, RCA's key objective continues to be promoting cooperation and networking among individuals interested in the scientific study of all electronic communications.

RCA has strong foundations among far sighted industry leaders. Dr. Alfred N. Goldsmith, John V.L Hogan, Robert H. Marriott, Professor Michael I. Pupin, Henry J. Round, Brigadier General David Sarnoff, John Stone Stone and Professor Jonathan Zenneck were all members of RCA. Hogan, Marriott and Stone were among the founders of the IRE, and in 1912, Marriott was the first president of the IRE. Goldsmith edited the *Proceedings of the IRE* for 42 years. Edwin Armstrong's super heterodyne receiver from 1912 is considered by many to be the most significant of all early radio technologies, and Armstrong was active in RCA for nearly thirty years. The heterodyne methodology was first conceived by Professor Reginald Aubrey Fessenden in 1902, but could not become practical until vacuum tubes were available. Fessenden was RCA's first consulting engineer. John V.L. Hogan's classic 1913 paper in the *Proceedings of the IRE* and his 1914 article in the *Proceedings of the RCA* discuss the significance of radio technology, and his insights remain relevant even today.

Current Focus

RCA's current membership focuses on two-way radio in public safety applications, television broadcasting, wireless messaging, satellite Global Positioning System technology, paging systems, wireless voice and data systems, cellular and digital applications, Internet and smart phone technologies, and even cognitive radio. RCA's leaders continue to be active in leading research and development of 4G wireless network standards for mobile video and high-speed wireless data services and Long Term Evolution (LTE) technology.



RCA's Website Logo During Its Centennial Year 2009.

And, RCA's membership is continuing to pioneer the future of modern telecommunications. For example, RCA's Ted Rappaport is responsible for establishing three of the largest wireless academic research centers at the University of Texas (Austin), Virginia Tech and New York University. He holds over 100 patents for applications of radio wave propagation for cellular and personal communications, wireless communication system design, and broadband wireless communications circuits and systems at millimeter wave frequencies. RCA member Nathan Cohen is the leading authority on fractal antennas and RF cloaking devices. He holds 28 patents on ultrasound and medical devices; real-time de-convolution; compression; image processing; antennas; and fractal engineering. Of course, Martin Cooper is the 'father' of the Motorola handheld portable cell phone and is recognized as an innovator in radio spectrum management. He holds 11 patents and has received numerous awards including the highly prestigious Marconi Prize from The Marconi Society which is granted to a living scientist who has made advances in communication technology that benefits mankind. He is also known for formulating the Law of Spectral Efficiency, otherwise known as Cooper's Law. Cooper found that the ability to transmit different radio communications simultaneously and in the same place has grown at the same pace since Guglielmo Marconi's first transmissions in 1895. Cooper's Law states that the maximum number of voice conversations or equivalent data transactions that can be conducted in all of the useful radio spectrum over a given area doubles every 30 months.

Legacies

The tradition of presenting high quality technical papers at RCA meetings extends from the very roots of the organization. RCA's activities have always encouraged scientific education through the presentation and discussion of technical papers given by outstanding invited guest speakers at its meetings.

After one hundred years, RCA continues to distinguish itself from other purely technical societies through the great freedom and range of expression sought in the interchange of ideas, and by its continuing effort to provide a meeting ground for people with scholarly interests in common. Over the years, RCA members have developed their lifelong friendships as a happy byproduct of their shared interest in and dedication to the communications industry.

THE RADIO CLUB OF AMERICA, INC.

THE PROCEEDINGS OF THE RADIO CLUB OF AMERICA

Founded in 1909, the Radio Club of America (RCA) is the world's first radio communications society, or club. By 1912, two other organizations, The Society of Wireless Telegraph Engineers and The Wireless Institute, had also formed, and merged, to create the Institute of Radio Engineers (IRE) as a professional association dedicated to the new fields of wireless telegraphy and radio. Two years later in 1914, the American Radio Relay League (ARRL) was established to promote the interests of the growing number of amateur radio operators.

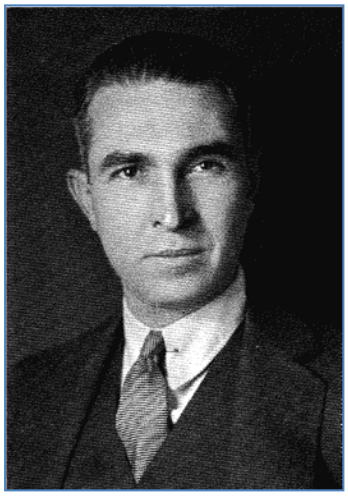
RCA's Unique Identity

The IRE offered a formal environment for academic and technical presentations as well as a larger, international membership. In contrast, the ARRL operated with a political focus on preserving the rights of amateurs. The ARRL also offered a place for amateurs to share information about new products and ideas, to learn about operating tips, and to obtain technical education that was needed to satisfy licensing requirements. Although the IRE and its successor the Institute of Electrical and Electronics Engineers (IEEE) [formed from a merger between the IRE and the American Institute of Electrical Engineers (AIEE)] served professionals, and the ARRL served amateurs, RCA always sought a more unique identity. All of these organizations provided locations for technical presentations; but, RCA sought from the outset to attract the best and brightest from all three worlds.

By design, RCA brought together leading amateurs, professionals and academics under one roof in a more collegial forum that broke down barriers. RCA invited members with widely varied backgrounds to participate and share their knowledge and their interests in the new technology and its applications.

Sharing Technical Papers

RCA's members initially met informally to present papers and lead technical discussions at a time when little information was available for those interested in radio related topics. Under the direction of President Frank King, the club was the first organization of any kind to publish an Amateur Radio Call Book in 1912; and, since 1914, RCA has regularly published lists of its members. But, club members wanted more.



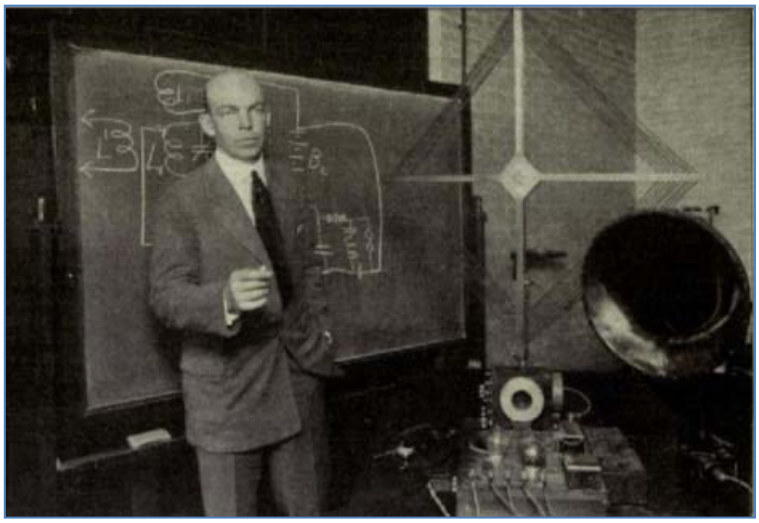
Frank King.

The Proceedings of the Radio Club of America

From the beginning, RCA's members shared copies of their papers or notes from their presentations. In many cases, RCA reproduced articles already published in *Radio Broadcast*, *Electrical World*, *QST* or other professional journals as the basis for "discussion topics". Based on RCA's archives, six papers were read and formally shared at RCA prior to 1913.

Beginning in 1913, RCA began publishing the papers presented at its meetings as the *Proceedings of the Radio Club of America*. The first article published in the *Proceedings* was Edwin H. Armstrong's "Theory of Tuned Circuits" which was distributed in May and December 1913. This is the first article associated with a specific issue of the *Proceedings*; even though the list of RCA's members issued in 1914 is the earliest surviving publication featuring RCA's name. That year, eight more papers were presented at RCA's meetings and published.

The *Proceedings* served as a unique publication, offering a mix of technical articles, often with comments about the technical presentations. Over the subsequent 100 years, the subject matter in the *Proceedings* expanded from radio to all forms of electronic and electrical communication including telephony, television, cellular, digital, and modern wireless communication. The scope also shifted over time from science and invention to include manufacturing, development, marketing and a search for other applications as well as relevant standards, most notably in public safety.



Edwin H. Armstrong's Presentation at RCA About the Regenerative Circuit in 1919.

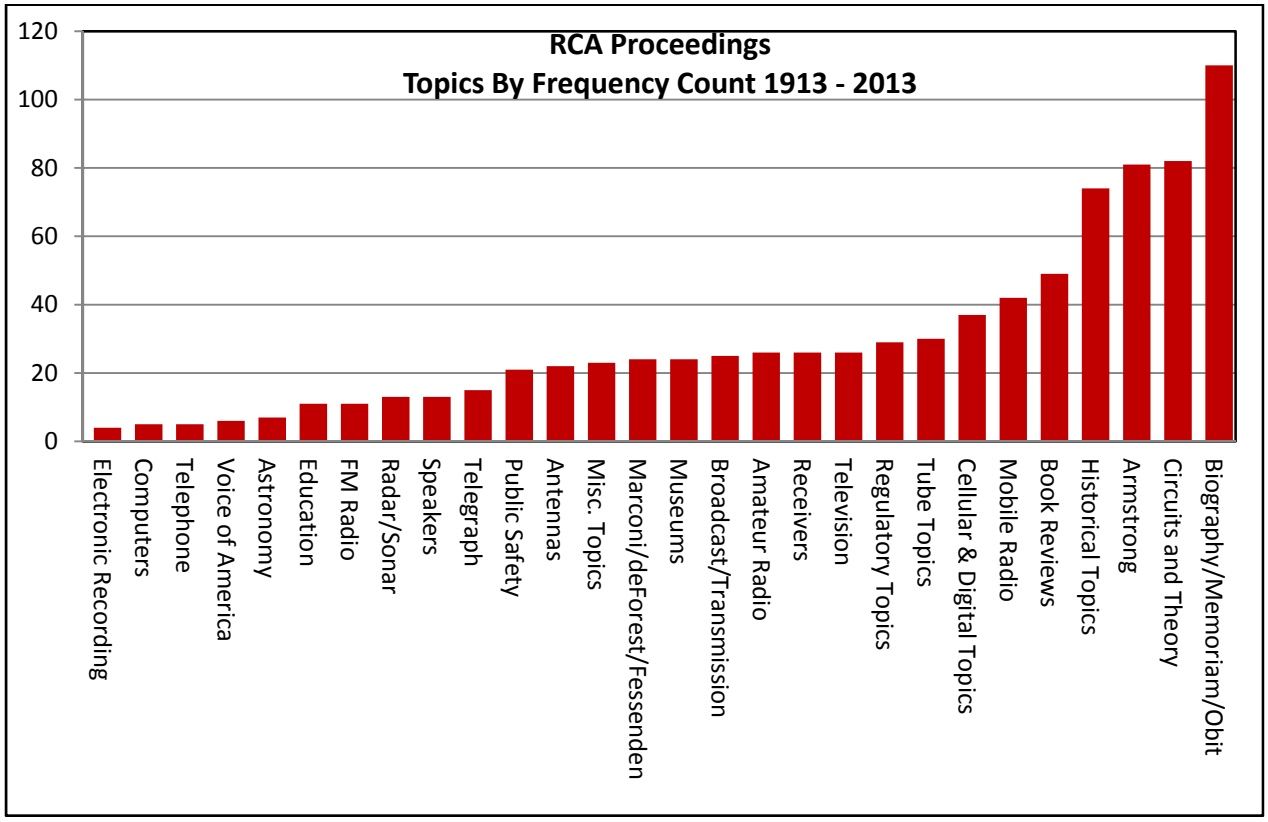
Wide Breadth of Subject Matter

Reviewing the full scope of the *Proceedings* offers the reader an opportunity to see the evolution of electronic wireless communication through the eyes of its developers as they shared their discoveries and grappled with the issues inherent in designing and bringing forth new cutting-edge technologies. In many cases, the topics addressed were decades ahead of the products that eventually became available to the general public. These pages offer an important reference for the history of communications technology and the people who contributed to the field. Over the century of its publication, the *Proceedings* have published almost 2,100 articles, announcements and news items. A summary of the major topics by item count is shown in the following table:

Proceedings of the Radio Club of America
Item Count By Topic 1913-2013

RCA Board/Officers	258	Misc. Topics	23
RCA News and Notices	120	Antennas	22
Biography/Memoriam/Obituary	110	Public Safety	21
Awards/Medals	101	Editorials	19
RCA Directory	96	RCA Symposium	15
General News	88	Telegraph	15
Banquet	83	Museums	13
Circuits and Theory	82	Radar/Sonar	13
Armstrong	81	Speakers	13
Members and Member Lists	79	Education	11
Historical Topics	74	FM Radio	11
RCA History	72	RCA Proceedings Announcements	11
RCA Fellows	67	de Forest	9
Equipment	65	Fessenden	9
Book Reviews - Current & Historical Topics	49	Museums-AWA	8
Mobile Radio	42	Astronomy	7
RCA President Letters/Messages From	38	RCA Constitution	7
Cellular & Digital Topics	37	Prior Indexes	6
Grants and Scholarships	32	Marconi	6
RCA Treasurer and Treasury Reports	32	Voice of America	6
Tube Topics	30	Computers	5
Regulatory Topics	29	Poems	5
Amateur Radio	26	Telephone	5
Receivers	26	QCWA	4
Television	26	Electronic Recording	4
Broadcast/Transmission	25	Museums-Marconi	3
RCA Centennial	24	Contributors	2
		TOTAL	2,065

As shown by the comparative chart (which excludes RCA Board Notices, RCA News Items and articles about RCA's own history), the *Proceedings* included considerable biographical material about its members through feature stories, awards, memorials and obituaries. The *Proceedings* also include significant coverage of historical topics. Much of this material is unique, offering historians a wealth of information about key figures and their contributions to our modern world.



Shifting Focus

In the early years, articles in the *Proceedings* focused on circuit development, the evolution of new radio tubes as well as new regulatory standards. "Navy Receiving Equipment" by L.C.F. Horle in 1920 shared information about the latest in governmental applications of radio. Edwin H. Armstrong published several articles on the regenerative, heterodyne and super heterodyne circuits. "Tuned Radio Frequency Amplification With Neutralization of Capacity Coupling" by Louis A. Hazeltine in 1923 further advanced circuit design. In 1924, C.L. Farrand explained "A Single-Control Receiver", and C.W. Hewlett introduced "An Induction Loud Speaker". Topics continued to widen by including professional broadcasting such as the 1928 "Acoustics and Microphone Placing in Broadcast Studios" by Carl Dreher. In 1930, C.F. Goudy and W.P. Powers introduced "A Study of Sound Recordings", and D.E. Replogle introduced "A Practical Television System". Allen B. DuMont introduced his own "Practical Operation of a Complete Television System" the following year, which also included "Recent Development in the Guidance of Aircraft by Radio" by Harry Diamond. In 1934, RCA published a special edition 25th Anniversary Yearbook, and the stage was set for the next 75 years. The scope of topics would continue to expand and the *Proceedings* would continue to feature leading articles.

The World War II era was marked by secrecy due to national security concerns, but following the war, the story of the proximity fuze, one of the leading technological developments of the war, was unveiled by Jerry Minter and others. Topics continued to expand into satellites, deep space, and computer-produced movies by the mid-

1960s. Fred Link documented "From Drums to Mobile Radio (History of Mobile Radio Communications)" in 1968. Microwave antennas and cellular developments followed.

Throughout, RCA recognized the achievements of its award recipients with extensive biographies of important personages. With time, historical topics emerged and RCA covered museum preservation efforts. As the century closed, obituaries and memorials also provided considerable information about the membership and their noteworthy lives.

The Authors

The range of authors who provided content to the *Proceedings* encompasses legendary figures who first established radio including Armstrong, Hogan and Marriott to today's leading figures in the birth of cellular telephone technology such as Martin Cooper. Industry leaders in mobile communications networks such as Jerry Minter, Fred Link and Frank Gunther were also frequent writers. Don Bishop, Donald deNeuf, John Belrose and George Burghard also made significant contributions over the years.

Most authors contributed one or two articles. But, some were more prolific. Authors contributing ten or more articles include Edwin Armstrong (26), Don Bishop (21), Jerry Minter (18), Don deNeuf (15), Fred Link (15), Jack Belrose (12) and George Burghard (10). Nineteen more authors contributed 6-10 articles each. All together, more than 500 authors provided materials to the *Proceedings* during its first 100 years.

RCA Proceedings 1913-2013
Major Author Contributions (4 or More Items)

Armstrong, Edwin H.	26	Doty Jr., Archibald C.	6	Stoll, Eric D.	5
Bishop, Don	21	Helfrick, Albert D.	6	Talley, David	5
Minter, Jerry B.	18	Miller, Kenneth M.	6	Boucheron, Capt. Pierre	4
deNeuf, Donald K.	15	Minichiello, Raymond	6	Carr, Vivian	4
Link, Fred M.	15	Morrisey, John W.	6	Christaldi, P.S.	4
Belrose, John S.	12	Offenhauser Jr., William	6	DuMont, Allen B.	4
Burghard, George E.	10	Shepard Jr., Francis H.	6	Gary, William R.	4
Dreher, Carl	9	Brittain, James E.	5	Gunther, Frank A	4
Quinby, Cmdr. E.J.	9	Casciano, Philip M.	5	Hudson, Walter G.	4
Bart, David and Julia	8	Cooper, Martin	5	Lessing, Lawrence P.	4
Carini, Louis F.B.	8	Dettra Jr., John E.	5	Marriott, Robert H.	4
Perry, Carole J.	8	Goldsmith, Alfred N.	5	Poppele, Jack R.	4
West, C.P. (Pat)	8	Hazeltine, Louis A.	5	Rubenstein, Stan	4
Aceves, Julius G.	7	Jacquet, Lloyd	5	Stone, Gregory M.	4
Batcher, Ralph R.	7	Kahn, Leonard R.	5	Walker Sr., Joseph F.	4
Bryant, Jane	7	Kelley, Bruce L.	5	Wayne, Debra	4
Eltz Jr., George J.	7	Lee, Rikki T.	5	Welsh, Robert H.	4
Godley, Paul F.	7	Reichler, Richard J.	5	Zouary, Maurice H.	4
Amy, Ernest V.	6	Sabino, Anthony	5		

In these pages, RCA's founders and other prominent leaders in RCA shared their views on current items of interest, as well as their perspectives on the future. Indeed, the *Proceedings* have done much to document RCA's own history and the contributions of the organization.



Ernest V. Amy.

Editors Who Left Their Mark

The earliest issues of RCA's *Proceedings* reported T. Johnson, Jr. as the Editor. RCA suspended operations during World War I, including its distribution of articles and papers. In January 1920, RCA resumed publication of the *Proceedings*, naming W.S. Lemmon as Editor-in-Chief, and E.V. Amy, A. Lescaboura and L. Spangenberg as Assistant Editors.

Amy would continue to be involved in an editorial capacity for many years and would also serve as an RCA President. He designed and constructed the antenna for the 1BCG transmitter which sent the first radio message ever to be received across the Atlantic Ocean on short waves. He also developed early vacuum tube transmitters for commercial marine use, high power short wave transmitters and directional antennas and multi-coupler master antenna systems used in FM and TV broadcasting.

NAMED EDITORS OF THE PROCEEDINGS			
1917	T. Johnson Jr.	1960-62	Ralph R. Batcher
1920-23	Walter S. Lemmon	1963	Lloyd Jacquet
1928-29	Austin C. Lescaboura	1963-1966	Edgar H. Felix
1929	Carl Dreher	1967-1968	Leo G. Sands
1929-1932	D.E. Harnett	1971	Ralph M. Brozan
1933-39	L.C.F. Horle	1971-1985	Fred Shunaman
1940	Donald G. Fink	1992	John W. Morrisey
1940-43	Charles E. Dean	1993-1997	Don Bishop
1944-45	Milton B. Sleeper	1999-2002	Cindy Stevens
1946-47	Jerry Minter	2003-2007	Debra Wayne
1948-49	Ivan G. Easton	2008-2009	Debra Baker
1950-53	Frank A. Shephard	2010-2013	John S. Belrose
1954-56	Walter Knoop		

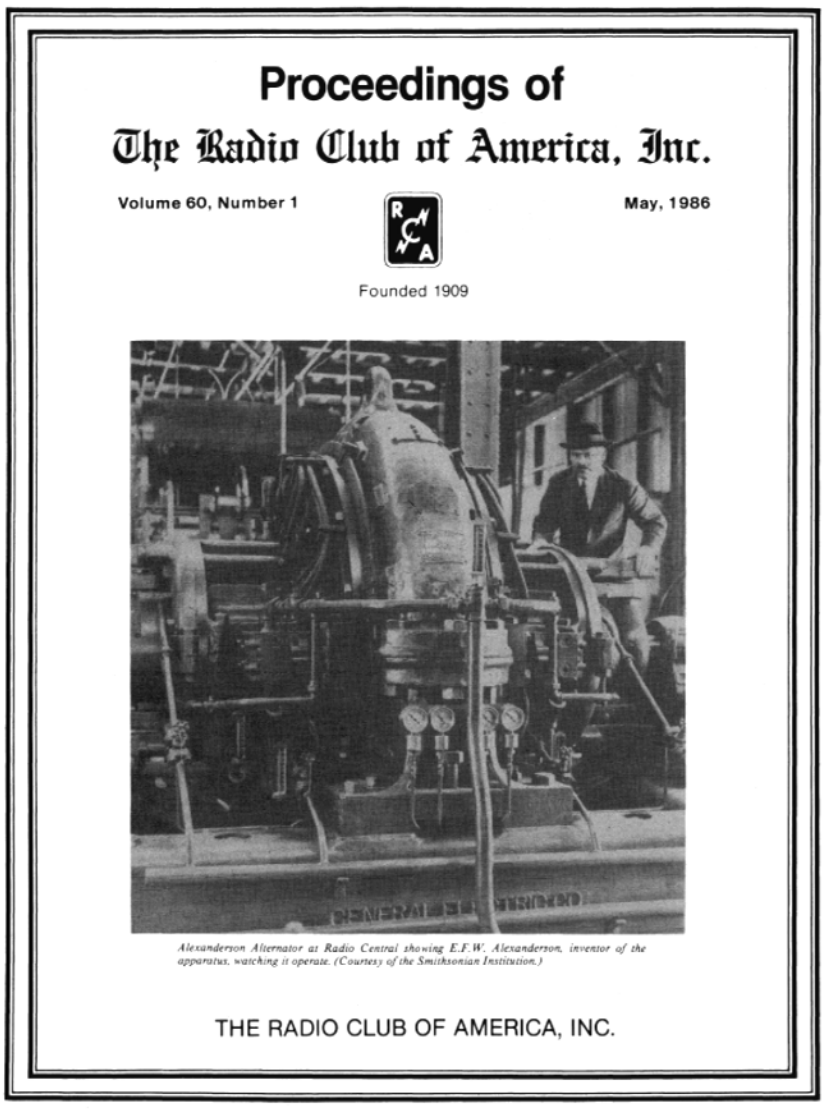
Over the next 60 years, many editors and assistant editors made their contributions to the *Proceedings*; guiding its subject matter and formats, and selecting the number of papers published in each issue based, in part, on their success in recruiting a range of authors. Some of these editors shared dual roles at RCA also serving as chairmen of the publications committee, papers committee or meetings committee. Although most issues named the editor or editor-in-chief, many did not. Some issues also named assistant editors or committee chairman.

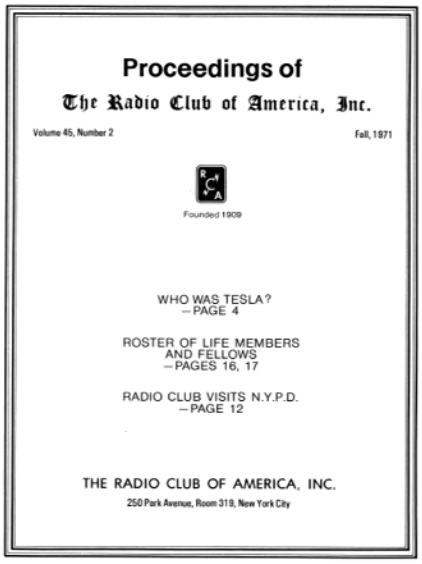
Evolving Formats

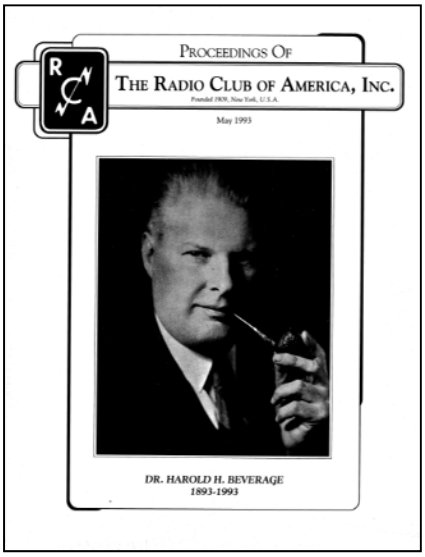
Over the years, the *Proceedings* have varied in format; from single reprints of papers to a more formalized publication. Today, the *Proceedings* have a more modern, less formal magazine style format; and, plans are underway in 2014 to make the *Proceedings* an electronic journal in keeping with current internet based publication technologies.

Early covers simply stated RCA's date and issue number. Tables of contents began to appear on the cover in Fall 1971. The first cover to contain an illustration appeared in May 1986 featuring a photograph of an 'Alexanderson Alternator at Radio Central showing E.F.W. Alexanderson, inventor of the apparatus, watching it operate', courtesy of the Smithsonian Institution.

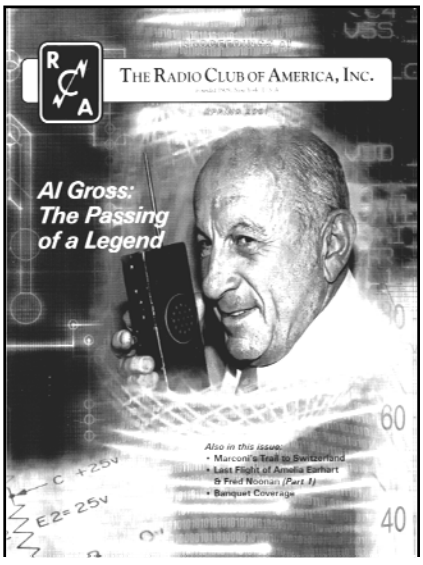
In May 1993, a new style was adopted with a sleeker, more modern logo. The following year, the cover identified highlighted articles along with the cover illustration. The passing of Al Gross brought an edge-to-edge photo background to the cover design beginning Spring, 2001. This style remains in place as of 2013.







Clockwise: Proceedings in 1986, 1971, 1993, 1994, 2001.





Growth in Advertising

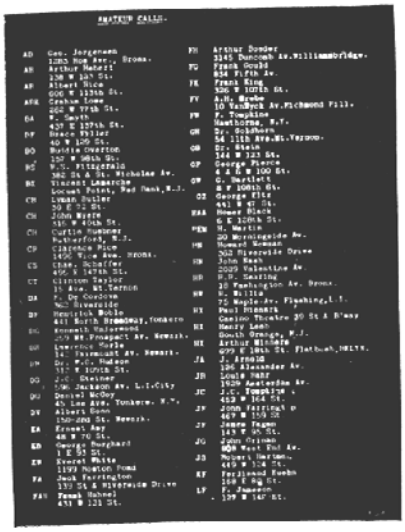
Paid advertisements first appeared in 1928. The Radio Corporation of America published a full page 'Nine Reasons Why Radiotrons UX-280 and UX-281 Are Most Economical Rectifiers' and Freed-Eisemann Company published 'The Latest Development In Broadcast Receivers'. Other ads included R.H. McMann, Isolantite Company of America, Pacent Electronic Company and Continental Radio and Electric Corp.

In 1964, RCA issued its first request for paid business card advertising. Thereafter, paid advertising would become a much needed source of revenue to help support printing and distribution expenses for the *Proceedings*.

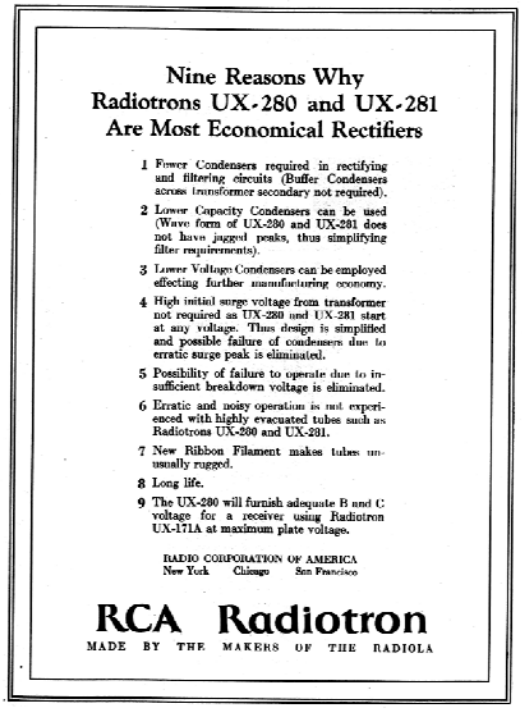
Membership Lists Facilitate Ties

A key membership benefit for RCA is the opportunity to fraternize with top level professionals, amateurs, academics and others interested in radio and its application. RCA was the first organization to publish an Amateur Radio Call Book in 1912; and since 1914, RCA has regularly published lists of its members including deceased members, Fellows and Life Members with contact information.

Beginning in 1973, RCA began publishing its Professional Directory; and, business listings with cross-references by organization started in 1989.



RCA's First Official Publication: Amateur Radio Call Book Dated 1912.



Nine Reasons Why
Radiotrons UX-280 and UX-281
Are Most Economical Rectifiers

1 Fewer Condensers required in rectifying and filtering circuits (Buffer Condensers across transformer secondary not required).

2 Lower Capacity Condensers can be used (Wave form of UX-280 and UX-281 does not have jagged peaks, thus simplifying filter requirements).

3 Lower Voltage Condensers can be employed effecting further manufacturing economy.

4 High initial surge voltage from transformer not required as UX-280 and UX-281 start at any voltage. Thus design is simplified and possible failure of condensers due to erratic surge peak is eliminated.

5 Possibility of failure to operate due to insufficient breakdown voltage is eliminated.

6 Erratic and noisy operation is not experienced with highly evacuated tubes such as Radiotrons UX-200 and UX-201.

7 New Ribbon Filament makes tubes unusually rugged.

8 Long life.

9 The UX-280 will furnish adequate B and C voltage for a receiver using Radiotron UX-171A at maximum plate voltage.

RADIO CORPORATION OF AMERICA
New York Chicago San Francisco

RCA Radiotron
MADE BY THE MAKERS OF THE RADIOLA



MODEL NB-70
PRICE $235.00
LOOP $15.00

The Latest Development in Broadcast Receivers

Specifications:

Four stages of fully shielded, Neutrodyne, tuned radio frequency amplification.

Series antenna inductive tuning.

Loop operation for local stations; loop can be folded into set when not in use.

All-electric operation: for use on 110-120 volts 60 cycle A. C. supply.

Set uses 5 UX-226 tubes, 1 UV 199, 1 UX-281 and 1 UX-210 power amplifier tube operating at 400 volts in the output audio stage, or equivalent Cunningham tubes.

The power unit is self-contained in cabinet with the receiver.

Illuminated scale calibrated in kilocycles with single tuning control.

Cabinet is of figured walnut veneer.

Embossed bronze front escutcheon plate.

A de luxe receiver containing the most modern engineering developments used in broadcast receivers today. There are five tuned circuits, assuring great selectivity. Circuits are completely shielded and carefully matched at long waves by means of coil inductance adjusters and at short waves by means of minimum adjusting condensers.

Extreme sensitivity is obtained by means of the great amount of radio frequency amplification and the special series tuned antenna circuit.

Volume control is accomplished by varying the input to the radio receiver. The proper balance between plate voltage, filament voltage, and biasing voltage is not disturbed at any time

Vernier tuning control is accomplished by special friction drive engaging large rotating drum; variable condensers are all secured to one common shaft.

Specially designed audio frequency transformers and output transformers with split secondary windings in two sections are used.

Tone quality is unsurpassed and a very wide range of musical frequencies is faithfully reproduced.

Built into this receiver are new engineering developments representing the results of years of intensive research and development.

Freed-Eisemann
Junius Street and Liberty Ave.
Brooklyn, New York.

Licensed under patents of Latour-Hendrix, Radio Corp., General Electric, Westinghouse, American Telephone & Telegraph Cos.

First Paid Advertisements in the RCA Proceedings Dated 1928.

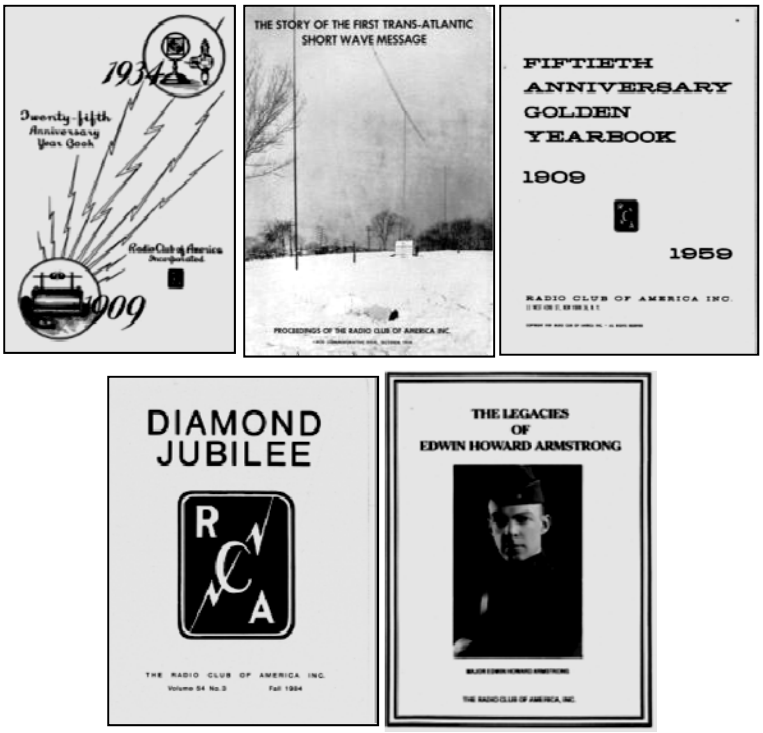
Frequency and Types of Publications

The frequency of the *Proceedings* as well as the dating and numbering of the issues has varied from meeting reprints, to monthly, quarterly, semi-annual publication and even annual yearbooks. Since 1970, the *Proceedings* have published two issues per year.

On the 25th, 50th and 75th anniversaries, RCA published yearbooks containing detailed histories of the club and its members' accomplishments along with comprehensive membership directories.

RCA also issued commemorative books detailing "The Story of the First Trans-Atlantic Short Wave Message" in Fall 1950, and "The Legacies of Edwin Howard Armstrong" in November 1990.

The special edition books as well as the anniversary yearbooks were all produced under the purview of the *Proceedings*, but they each actually stand alone as key works.



Some of RCA's Publications.

Centennial Celebrations

Partial indices to the *Proceedings* were published on the 25th, 50th and 75th anniversaries of RCA and were included in the anniversary yearbooks. As RCA approached its centennial in 2009, it focused on collecting and compiling its archives and publications. All available copies of the *Proceedings* before 2009 were compiled into a commemorative Centennial CD which was issued in 2009 as part of RCA's 100th anniversary. In fact, the Centennial CD was the foundation that enabled a Comprehensive Index to be developed. To commemorate the centennial of the *Proceedings*, the RCA Historical Committee compiled RCA's first comprehensive text-searchable index of the *Proceedings* encompassing 1913 through 2013.



Centennial CD Issued in 2009 With Copies of the RCA Proceedings For 1913-2009.

Legacies

By design, RCA brought together leading amateurs, professionals and academics under one roof in a more collegial forum designed to break down barriers. Reviewing the full scope of RCA's *Proceedings* offers the reader an opportunity to see the evolution of electronic wireless communication through the eyes of those leaders as they shared their discoveries and grappled with the issues inherent in designing and bringing forth new cutting-edge technologies. In many cases, the topics addressed were decades ahead of the products that eventually became available to the general public. These pages capture a century of discovery and offer an important reference for the history of communications technology and the people who contributed to the field.

NOTABLE RCA INVENTORS AND DEVELOPERS FROM THE RCA PROCEEDINGS

Over the years, the *Proceedings* have documented the contributions of many legendary participants in the history of radio and its applications. Among the people appearing in the *Proceedings* are the following notable figures:

- Edwin H. Armstrong – *Key Radio Circuits (AM, FM)*
- Jai Baghat – *SkyTel Nationwide Paging System*
- Ralph R. Batcher – *Chief Engineer A.H. Grebe Radio*
- Dr. Harold Beverage – *Wave Antenna, Diversity Reception, RCA Research*
- Jack Belrose – *Antennas/Propagation, Canadian Defense Research Telecommunications Establishment*
- Jack Binns – *1st Marconi Wireless Distress Rescue CQD*
- James Britain – *Smithsonian Institution*
- George Burghard – *Amateur Radio, 1st Transatlantic Tests 1BCG*
- Henri Busignies - *WWII UHF Direction Finders*
- George H. Clark – *American Marconi, RCA, Smithsonian Radioana Archive*
- Nathan Cohen – *RF Cloaking Devices and Fractal Antennas*
- Arthur A. Collins – *Founder Collins Radio Company*
- Frank Conrad – *Westinghouse, Founder KDKA*
- Martin Cooper – *First Portable Motorola Cell Phones*
- Walter Cronkite – *CBS News*
- Lee de Forest – *Audion Radio Tube, Sound on Film*
- Richard DeMello – *A Founder of National Public Safety Telecommunications Council*
- Alan B. DuMont – *Cathode Ray Tube, Modern Oscilloscope*
- James Dwyer – *Founder CTIA Wireless Association*
- Clair L. Farrand – *Inventor Paper Cone Speaker*
- Prof. R.A. Fessenden – *NESCO Brant Rock, Radio Transmission*
- Robert Galvin – *Founder of Motorola*
- Paul Godley – *Adams-Morgan, 1921 Amateur Radio Transatlantic Tests, Mobile Radio*
- Sen. Barry Goldwater – *Support of Amateur Radio*
- William Glenn – *NASA Imaging Technology Commercial Space Center*
- Alfred H. Grebe – *Grebe Radio and Television Co.*
- John F. Grinan - *1st Amateur Transcontinental and Transatlantic Signals*
- Al Gross – *OSS Espionage Radios, Pager, Wireless Mobile Telephony*
- Frank Gunther – *Short Wave Radio, Radio Engrng. Labs., Military Systems, Police and Fire Radio*

- Mal Gurian – *OKI Data, First FCC Type Certification for a Cellular Telephone*
- Dale Hatfield – *Chief of FCC Office of Engineering and Technology*
- Bill Halligan – *President, Hallicrafters*
- Arlene Harris – *Founder of Jitterbug, SOS Emergency Phone, Founder Wireless History Foundation*
- John Louis Hazeltine – *Neutrodyne Circuit*
- Raymond Heising – *Over 100 U.S. Patents, Class C Amplifier, Diode-triode Detector Amplifier Circuit*
- John V.L. Hogan – *Single Dial Tuning*
- Harry Houck – *Armstrong Collaborator, Dubilier Condenser, Kolster Radio*
- Leonard R. Kahn – *Kahn/Hazeltine AM Stereo Systems*
- Joseph E. Keller – *IRE Fellow, Legal Counsel to the International Association of Fire Chiefs (IAFC)*
- Frank King – *1st US Navy Radio Aircraft Laboratories, 1st Amateur Telephone Station*
- Jay Kitchen – *PCIA Wireless Infrastructure Association*
- Raymond E. Lafferty - *Specialized Electronic Test Equipment*
- William Lear – *Electronics and Lear Jet*
- Fred M. Link – *FM Mobile Radio, Two-Way Radio Used By Police and Fire*
- Renville H. McMann, Jr. - *TV Camera For Lunar Explorations, CBS Labs*
- Robert H. Marriott – *1st President Institute of Radio Engineers (IRE/now IEEE)*
- Jerry B. Minter – *RCA Historian, Measurements Corp., Components Corp.*
- Morgan O'Brien – *Founder of Nextel*
- Greenleaf Whittier Pickard – *Detectors, Antennas, Wave Propagation, President IRE*
- John Poppele – *Station WOR in NY, Transmitters and Voice of America*
- Michael Pupin – *Columbia University Scientist*
- Ted Rappaport – *100 Patents, Site Specific RF Channel Modeling, NYU Wireless, NSF Wireless Internet*
- David Sarnoff – *Radio Corporation of America, Radio and TV Development, NBC*
- Frances H. Shepard – *DC Amplifier, Alarms, Electronic Controls, Printers, Hearing*
- Luther Schimpf – *Bell Labs, 1st Digital Encrypted Speech System, Transistors*
- John Stone Stone – *Columbia, MIT, Wireless Telegraphy*
- Angus Tait – *New Zealand's Tait Electronics, Land Mobile Radio, VoIP*
- Morris Tischler – *Cardiac Pacemaker Designs*
- Paul Ware – *Ware Neutrodyne Receivers*
- James O. Weldon – *Voice of America High Power Transmitters*
- Ralph Williams – *GE Military TV and Information Technology*
- Dr. Jonathan Zenneck – *Radio Circuits, Cathode Ray Tube*

RADIO CLUB OF AMERICA AWARDS

(In Order of Year Established)
(Biographical Material in the RCA Proceedings)

The Armstrong Medal - The first major award established by RCA in 1935 was a special scroll presented to Major Edwin H. Armstrong. Since 1937, the Armstrong Medal has been bestowed by the Board of Directors upon any person within its membership who shall have made in the opinion of the Board of Directors and within the spirit of the club, an important contribution to the Radio Art and Science. This very special medal is not awarded every year, but only after careful study by the Board of the candidate proposed by the Awards Committee.

1935 - Edwin Howard Armstrong (Scroll)	1967 - John Bertrand Johnson
1937 - Louis Alan Hazeltine	1968 - Jerry B. Minter
1938 - Harold H. Beverage, D.Sc.	1969 - Francis H. Shepard, Jr.
1940 - Greenleaf Whittier Pickard	1970 - Frank A. Gunther
1941 - Harry W. Houck	1972 - Renville H. McMann, Jr.
1945 - Carman Randolph Runyon, Jr.	1974 - Lewis M. Hull
1946 - Charles Stuart Ballatine	1975 - Henri G. Busignies,D.Sc.,Ph.D.,D. Eng.
1947 - John V.L. Hogan	1976 - Capt. William G. H. Finch
1950 - Ernest V. Amy	1977 - Arthur A. Collins
1950 - Maj. Edwin H. Armstrong	1978 - Murray G. Crosby
1950 - George E. Burghard	1980 - Leonard R. Kahn
1950 - Minton Cronkhite	1981 - Arthur V. Loughren
1950 - Paul F. Godley	1983 - Edwin P. Felch
1950 - John F. Grinan	1986 - George H. Brown, Ph.D.
1950 - Walker P. Inman	1987 - William W. Eitel
1952 - Capt. Henry J. Round	1988 - Luther G. Schumpf
1953 - Raymond A. Heising	1991 - E. King Stodola
1956 - Melville Eastham	1992 - Paul M. Gruber
1959 - John H. Bose	2003 - Morris Tischler
1962 - Paul Ware	2007 - John S. Belrose, Ph.D.
1964 - Harold A. Wheeler	2007 - Walter Cronkite
1965 - Ernest V. Amy	2010 - Donald C. Cox, Ph.D.
	2011 - Jerry Stover

The Sarnoff Citation - Established by the Board of Directors in 1973 to be awarded to a person or RCA member for significant contributions to the advancement of electronic communications. The Sarnoff Citation has been made to RCA members who have contributed to advancement of electronic communications in any significant manner, including nontechnical support of the wireless industry.

1973 - Barry M. Goldwater	1991 - Lt. Gen. Walter E. Lotz, Jr.
1974 - Jack R. Poppele	1992 - Ake L. Lindqvist
1975 - Edgar F. Johnson	1993 - Ben Tongue
1976 - Fred M. Link	1994 - Jack McCullough
1977 - William P. Lear	1995 - Jai P. Bhagat
1978 - William W. Eitel	1996 - Emmett B. Kitchen, Jr.
1979 - Donald G. Fink	1997 - William O. Hunt
1980 - Monte Cohen	1998 - James A. Dwyer, Esq.
1981 - Jerry S. Stover, P.E.	1999 - Sidney Topol
1982 - Julian Z. Millar	2000 - Theodore S. Rappaport
1983 - William F. Halligan, Sr.	2002 - William F. Baker

1984 - Robert M. Akin, Jr.	2004 - Hubert Schlafly, Jr.
1985 - Dana W. Atchley, Jr.	2007 - C. Dennis Bodson
1986 - Kenneth M. Miller	2008 - Paul H. Jacobs, Ph.D.
1987 - William J. Weisz	2008 - Brian Willilams
1988 - Mal Gurian	2010 - Andrew M. Seybold
1989 - William E. Endres	2011 - Peter W. Moncure
1990 - John D. Goeken	2013 - William Riley Hollingsworth

The President's Award - In 1974, the Board of Directors designated that the president be allowed the discretion to select a recipient of a new President's Award to be given to a person for unselfish dedication to support of RCA. In 1994, a special triple President's Award was made to Frank Gunther, Jerry Minter and Frank Shepard (posthumously).

1974 - George W. Bailey, Ph.D.	1994 - Jerry B. Minter
1975 - Ernest V. Amy	1994 - Francis H. Shepard, Jr. (posthumous)
1978 - Joseph L. Stanley	1995 - Gilbert R. Houck
1980 - Jack Poppele	1996 - Fred M. Link
1981 - Jerry B. Minter	1997 - Steven L. Aldinger
1982 - Vivian A. Carr	1998 - Richard G. Somers
1983 - Stuart F. Meyer	1999 - Vivian A. Carr
1984 - Joseph F. Walker, Sr.	2001 - Mercy S. Contreras
1985 - Fred Shunaman	2004 - Patrick E. Buller
1986 - Archibald C. Doty, Jr.	2005 - Eric D. Stoll, Ph.D., P.E.
1987 - Gaetano (Tom) Amoscato	2006 - Raymond C. Tortt P.E.
1988 - David Talley	2008 - Ronald J. Jakubowski
1989 - Joseph E. Sims	2009 - Carole J. Perry
1990 - Joseph W. Morrisey, P.E.	2010 - Stephen M. Meer
1991 - Connie M. Conte	2011 - Verle G. "VG" Duvall, Jr.
1992 - June Poppele	2012 - Carole J. Perry
1993 - Don Bishop	2013 - Elaine Walsh
1994 - Frank A. Gunther	

The Special Service Award - Established in 1975 to be made at the discretion of the Board of Directors to persons who have contributed substantially to the support and advancement of RCA, however, non-members qualify for receipt of the award.

1975 - Ernest V. Amy	1997 - Stanley Reubenstein
1975 - William H. Offenhauser, Jr.	1998 - Maxine Carter-Lome
1976 - David Talley	1999 - June Poppele
1982 - Connie M. Conte	2001 - Loren R. McQueen
1986 - Mal Gurian	2002 - Karen J. Clark
1987 - John W.Morrisey, P.E.	2003 - Andrew A. Conte
1988 - Jerry S. Stover, P.E.	2004 - Debra Baker Wayne
1989 - Eric D. Stoll, Ph.D., P.E.	2006 - Richard J. Reichler
1990 - Jay R. Huckabee	2009 - Richard P. Biby, P.E.
1991 - Maurice H. Zouary	2009 - Carroll L. Hollingsworth
1992 - Joseph S. Rosenbloom, Esq.	2010 - Paulla A. Nelson-Shira
1993 - Raymond C. Trott, P.E	2011 - Roger D. Madden
1995 - David E. Weisman, Esq.	2012 - Gordon V. West
1996 - Mercy S. Contreras	2013 - Stan Rubenstein

The Edgar F. Johnson Pioneer Citation - Initiated in 1975 as the Pioneer Citation, this award is designated by the Board of Directors to be awarded to long-time members who have contributed substantially to the success and development of RCA, or to the art of radio. It was later modified to The Edgar F. Johnson Pioneer Citation.

1975 - Richard W. Konter	1986 - O. James Morelock
1976 - Harold H. Beverage, D.Sc.	1987 - Edward Sieminski
1977 - William E.D. Stokes, Jr.	1988 - Francis H. Shepard, Jr.
1978 - Lewis M. Clement	1989 - Capt. W.G.H. Finch
1979 - Clair L. Farrand	1990 - Alexander A. McKenzie
1980 - Frank King	1991 - William G. Russell
1981 - James J. Lamb	1992 - George J. Apfel
1982 - J. Keith Henney	1994 - Chandos A. Rypinski
1983 - F.X. Rettenmeyer	1997 - Norman L. Chalfin
1984 - Harold A. Weeler	1998 - John E. Balint
1985 - George C. Connor	

The Allen B. DuMont Citation - Initiated in 1979 by the Board of Directors to be awarded to a person who has made important contributions in the field of electronics to the science of television.

1979 - Thomas T. Goldsmith, Jr., Ph.D.	1989 - Kenneth A. Chittick
1980 - P. Samuel Christaldi, Ph.D.	1990 - Donald G. Fink
1981 - Horace Atwood, Jr.	1991 - Loren F. Jones
1982 - William Fingerle	1992 - William F. Bailey
1983 - Fred M. Link	1993 - Andrew F. Inglis
1984 - Jack R. Poppele	1994 - William E. Good, Ph.D.
1985 - John W. Morrisey	1995 - Renville H. McMann, Jr.
1986 - William H. Sayer	1999 - William E. Endres
1987 - Kenneth A. Hoagland	2003 - William E. Glenn
1988 - William D. Kelly	

The Henri Busignies Memorial Award - Initiated in 1981 by the Board of Directors to be awarded to any person who has contributed substantially to the advancement of electronics for the benefit of mankind. This field covers many areas which may not involve normal communication equipment, since it honors the memory of Busignies who invented the UHF direction finders used in WWII to track down enemy submarines.

1981 - William H. Forster	1990 - William G. Donaldson
1982 - James O. Weldon	1991 - Raymond E. Lafferty
1983 - David Talley	1992 - Stuart F. Meyer
1984 - Frank P. Barnes	1994 - Eric D. Stoll, Ph.D., P.E.
1985 - Jerry B. Minter	1997 - Leslie A. Geddes
1986 - Frank A. Gunther	1998 - Reed E. Fisher
1987 - Renville H. McMann, Jr.	2000 - Stephen M. Meer
1988 - Francis T. Cassidy	2003 - Leonard R. Kahn
1989 - Avery G. Richardson	2011 - Paul Gierow

The Lee DeForest Award - Initiated in 1983, the award was established concurrently with The DeForest Pioneers merger into The Radio Club of America. The award is made by the Board of Directors to a person for significant contributions to the advancement of radio communications in memory of the many contributions of Dr. Lee DeForest to the radio communication industry.

1983 - D.E. Replogle	1991 - Louis Rabinowitz
1984 - William G. H. Finch	1992 - Louise Ramsey Moreau
1985 - Austin G. Cooley	1995 - Edward Dervishian, P.E.
1986 - Maurice Zouary	1999 - Joe Franklin
1987 - William Storm Halstead	2001 - Leslie A. Geddes, Ph.D.
1988 - Fred M. Link	2006 - Sean Maloney
1989 - Fred Shunaman	2008 - Joe Vestal
1990 - Marguerite E. Warshaw	2013 - John Powell

The Ralph Batcher Memorial Award - Presented by the Board of Directors since 1986 to an RCA member who has assisted substantially in preserving the history of radio and electronic communications.

1976 - Morgan E. McMahon	1990 - Brother J. Patrick Dowd, F.S.C.
1977 - John F. Rider	1991 - Ralph O. Williams
1978 - Bruce L. Kelley	1992 - Thomas S. W. Lewis, Ph.D.
1979 - Robert W. Merriman	1993 - Hugh G.J. Aitken, Ph.D.
1980 - Edward G. Raser	1995 - Max C. de Henseler, Ph.D.
1981 - Ernest A. DeCoste	1999 - Maurice H. Zouary
1982 - Louise Ramsey Moreau	2000 - Raymond Minichiello
1983 - Joseph R. Pavek	2006 - Ronald E. Frisbie
1984 - William A. Breniman	2008 - Jerry B. Minter
1985 - Donald G. Fink	2009 - Bart Whitehouse
1986 - Donald K. deNeuf	2012 - Michael H. Adams
1987 - John D. Ryder, Ph.D.	2013 - Bruce D. Roloson
1989 - James E. Brittain, Ph.D.	

The Fred M. Link Award – Established in 1986 by the Board of Directors to be awarded to persons who have contributed substantially to the advancement and development of land mobile radio communications.

1986 - Fred M. Link	1999 - Roger R. Block
1987 - Frank A. Gunther	2000 - Manuel A. Alvarez
1988 - Stuart F. Meyer	2001 - Peter Mailandt, Ph.D.
1989 - Mal Gurian	2002 - James W. Campbell
1990 - Raymond C. Trott, P.E.	2003 - Arthur E. McDole
1991 - Gaetano Amoscato	2005 - William F. Lieske Sr.
1992 - Al Gross	2006 - Sir Angus Tait
1993 - Jerry S. Stover, P.E.	2008 - Michael W. Hunter
1994 - Robert L. Mattingly	2009 - Terry G. Daniels
1996 - Martin Cooper	2011 - Carl “Bernie” Olson
1997 - John E. Brennan	2013 - Curtis Quinter
1998 - Henry B. Kreer	

The Jack Poppele Award - Initiated in 1989 by the Board of Directors to be awarded to a person who has made important and long-term contributions to the improvement of radio broadcasting.

1989 - Leonard R. Kahn	2000 - John R. Gambling
1990 - Robert M. Morris	2003 - Skitch Henderson
1991 - Frank L. Marx	2005 - Gordon B. Bishop
1992 - George Jacobs, P.E.	2008 - Barry M. Farber
1993 - Robert L. Everett, Ph.D.	2009 - George Woodard
1994 - Capt. John B. Knight	2011 - John E. Dettra, Jr.
1995 - Carl E. Smith P.E.	2012 - Andrew Conte
1997 - Charles A. Higginbotham	

The RCA Centarian Award - Initiated in 1989 by the Board of Directors to be awarded to any living member attaining the age of 100 years.

1989 - Hugo Cohen	2012 - Leo Meyerson
2007 - Harry J. Mills	2012 - Charles Davison

The Barry Goldwater Amateur Radio Award - Initiated in 1994 by the Board of Directors to honor the contributions to Amateur Radio by outstanding persons in this field.

1994 - Stuart F. Meyer (posthumous)	2006 - Anthony J.F. Clement
1995 - Archibald C. Doty	2009 - Ralph A. Haller
1996 - Carole J. Perry	2010 - Timothy J. Duffy
1998 - Joseph J. Fairclough	2011 - Bruce S. Marcus
2000 - Jim C. Hirchman, M.D.	2012 - William A. Tyman

The Alfred H. Grebe Award - Initiated in 1994 by the Board of Directors to be awarded in recognition of achievement of excellence in engineering and manufacturing of radio equipment in memory of the outstanding excellence which was so characteristic of the famous Grebe manufacturing team. The first award was made in 1994 to Frank A. Gunther as tribute to the excellence which he maintained as head of The Radio Engineering Laboratories.

1994 - Frank A. Gunther	2007 - Louis J. Meyer P.E.
2001 - Amar G. Bose, Sc.D.	2009 - Larry Conlee
2002 - Gilbert R. Houck	2012 - Charles J. Soulliard
2005 - Jerry B. Minter	

The Frank A. Gunther Award - Initiated in 1996 by the Board of Directors to be awarded for major contributions to the advancement of military, electronic communications systems.

1996 - Frank A. Gunther	2002 - Kenneth A. Hoagland
1998 - Seymour Krevsky, P.E.	2011 - Nicolas Mora Parra
1999 - Thomas H. Traynor, P.E.	2011 - Felix Vega
2001 - Paul M. Gruber	

The Jerry B. Minter Award - Initiated in 1996 by the Board of Directors to be given to persons for significant contributions to the electronics art through innovation in instrumentation, avionics, and electronics.

1996 - Jerry B. Minter

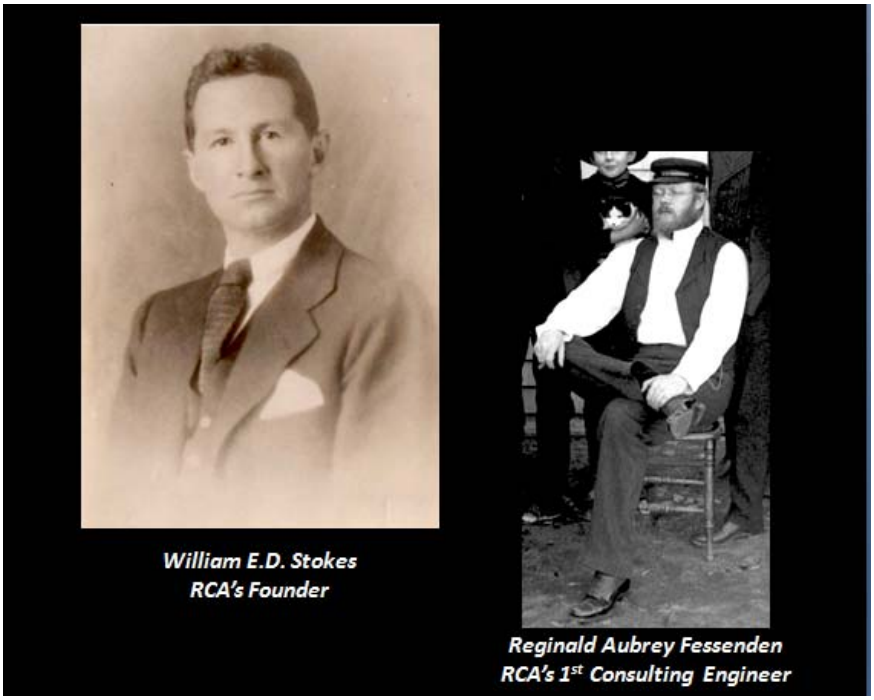
The Special Recognition Award - Initiated in 2000 by the Board of Directors to be awarded in appreciation to individuals for their dedicated service to RCA.

2000 - Jerry B. Minter 2003 - Maurice H. Zouary 2005 - Emmett B. "Jay" Kitchen, Jr. 2008 - Gilbert R. Houck 2008 - Eric D. Stoll, Ph.D.	2010 - Richard G. Somers 2011 - Robert H. Schwaninger 2012 - Sandra L. Black 2013 - Karen Clark

NPSTC'S Richard DeMello Award - The National Public Safety Telecommunications Council ("NPSTC") (www.npstc.org) developed this award in 2006. NPSTC presents this award annually at the RCA Annual Awards Banquet to an individual in public safety communications who has demonstrated the highest levels of personal and professional conduct and performance in the local, state and national public safety communications arena. This award was created to honor the achievement of Richard DeMello, one of the founding fathers of NPSTC and a member of RCA. DeMello was instrumental in bringing all of the frequency coordinators together to form NPSTC.

2006 - Harlin McEwen
(Sponsors: Richard Nowakowski, Motorola, M/A-Com)
2007 - John Powell
(Sponsors: GeoCom, Motorola, M/A-Com)
2008 - Charles L. Werner
(Sponsor: Ericcson)
2009 - Donald E. Root, Jr.
(Sponsors: Eads North America, Jack Daniel Company, Doug A. Sharp)
2010 - Alan C. Caldwell
(Sponsors: Harris Corp., Motorola, American Association of State Highway and Transportation Offices)
2011 - Marilyn Ward
2012 - David Buchanan

MILESTONES OF THE
RADIO CLUB OF AMERICA



William E.D. Stokes
RCA's Founder

Reginald Aubrey Fessenden
RCA's 1st Consulting Engineer



RCA Receiving Booth at Radio Show in Grand Central Palace (1922)



RCA Station 1BCG – 1st Amateur Trans–Atlantic Transmitter (1921) / Now at AWA



RCA Station at Hotel Ansonia, NYC Operated With The Navy League in For Admiral Fletcher & His Staff (1915)



Jack Binns Resends CQD at RCA On The 10th Anniversary of the SS Republic Sinking in 1909 (1919)


Edwin H. Armstrong's Presentation at RCA About the Regenerative Circuit (1919)
NEAR THIS SPOT ON DECEMBER 11 1921 RADIO STATION 1BCG SENT 50 ARDROSSAN, SCOTLAND THE FIRST MESSAGE EVER TO SPAN THE ATLANTIC ON SHORT WAVES. 1BCG, AN AMATEUR STATION, WAS BUILT AND OPERATED BY MEMBERS OF THE RADIO CLUB OF AMERICA.
DEDICATED
GREENWICH, CONNECTICUT
1950
1BCG
Monument to 1BCG (1950)
1st Amateur Trans-Atlantic Radio Station 1BCG (1921)
Lee de Forest & Alan DuMont (1929)
Harry Houck Transmits The Introductory Message Recorded For RCA's 50th Anniversary (1960)
Marconi's Daughter Princess Elettra Marconi Giovanelli & Raymond Minichiello (1995)


Frank Gunther at RCA Banquet (1990)
Fred Link at RCA Banquet (1986)
Carole Perry With Astronaut Jay Apt From The All Ham Crew (1991)
Vivian Carr (1st Female Member IEEE & RCA) & Sen. Barry Goldwater (1974)
Martin Cooper - Inventor of the Motorola Hand Held Cell Phone (2010)
Nathan Cohen's Demonstration of Cloaking Device (2012)



PART I: SORTED BY DATE / ITEM

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PART II: SORTED BY AUTHOR / ITEM

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PART III: SORTED BY SUBJECT / ITEM

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PART IV: SORTED BY TITLE / ITEM

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