



ARCI NEWS

www.antique-radios.org

Affiliated AWA
Antique Wireless Association 

Volume 43, Issue 6
December 2023



JUST "LISTEN IN"
FOR I'M SENDING
CHRISTMAS GREETINGS

ARCI CALENDAR

Event	Location	Day and Date	Time
Swap meet	American Legion	Sunday, December 3, 2023	8:00 AM
Virtual Forum	Your Computer	Saturday, January 20, 2024	10:00 AM
Swap meet	American Legion	Saturday, February 3, 2024	8:00 AM
Virtual Forum	Your Computer	Saturday, March 16, 2024	10:00 AM
Swap meet	American Legion	Saturday, April 13, 2024	8:00 AM
Virtual Forum	Your Computer	Saturday, May 18, 2024	10:00 AM
Swap meet	American Legion	Saturday June 8, 2024	8:00 AM
Radiofest	Medina Shriner Center	Friday, August 2, 2024 Saturday, August 3, 2024	See program
Virtual Forum	Your Computer	Saturday, September 21, 2024	10:00 AM
Swap meet	American Legion	Saturday, October 26, 2024	8:00 AM
Virtual Forum	Your Computer	Saturday, November 16, 2024	10:00 AM
Swap meet	American Legion	Saturday, December 7, 2024	8:00 AM

American Legion Hall Meetings are located at: Post 76
570 S Gary Ave
Carol Stream, IL 60188

About ARCI Virtual Forum video sessions

10 AM to 11:30 AM Central time, check-in starts: 9:45 AM Central Time

Generally held on the 3rd Saturday in non-summer months

Agenda items (subject to change): History Tips & Tricks
 Technical How-to's
 Show & Tell Items for sale
 Open chat session

To find out more, email: remote-events@antique-radios.org

TABLE OF CONTENTS

ARCI complete meeting schedule	Inside Front Cover
PRESIDENT'S MESSAGE by Tom Kleinschmidt	3 - 5
OCTOBER SWAP MEET PHOTOS by Dan Schoo	6 - 9
<i>RADIOFEST</i> Update by Steve Muchow	10
ARCI ONLINE by Tom Zaczek	11 - 13
MEN WHO MADE RADIO-Heinrich Hertz	14 - 19
THE TUNING EYE	20 - 24
ADS & Classifieds	26
Clubbing Around	27
RENEWAL FORM	28

*WHATEVER HOLIDAY YOU MAY CELEBRATE -
HAVE A WONDERFUL HOLIDAY SEASON*

“All extant trademarks shown herein are the intellectual property of their respective owners.”



WELCOME TO ARCI

Visit ARCI on the WEB

Website: www.antique-radios.org

FaceBook: <https://www.facebook.com/ARCI.org>

YouTube: <https://www.youtube.com/@AntiqueRadioClubofIllinois>

Join ARCI

<http://www.antique-radios.org/membershipinfo.html>

-or-

Use the application in this newsletter

Leadership

President	Tom Kleinschmidt
Vice President	Tom Zaczek
Treasurer	Rudy Hecker
Secretary	Jay Stewart
Membership	Elaine Hecker
Radiofest chair	Steve Muchow
Director on-line events	Matt Pollack
ARCI News editor	Maureen Blevins

Contact ARCI

Antique Radio Club of Illinois

P.O. Box 1139

LaGrange Park, IL 60526

clubinfo@antique-radios.org

630-739-1060



ARCI News is published bi-monthly, February through December.
Antique Radio Club of Illinois is a registered non-profit in the state of Illinois.

PRESIDENT'S MESSAGE

December 2023



PAST

Sunday, October 1, 2023, *Swap meet*

The outdoor October swap meet was blessed with fine weather and a great turn out. The donation sale brought in \$495.00; in addition there was a donation of \$10.00. Membership renewals were \$510.00. Currently, there are 271 active members.

Saturday, November 18, 2023 ARCI *Virtual Forum*

The last Virtual forum of 2023 will be history when this newsletter is published. I am sure it was another great one. As a reminder, all past ARCI Virtual Forums get posted on the ARCI YouTube channel: <https://www.youtube.com/@AntiqueRadioClubofIllinois> or in YouTube search Antiqueradioclubofillinois.

UPCOMING

Sunday, December 3, 2023 *Swap Meet*

The December meet will again be at:

American Legion Post 76
570 S Gary Ave
Carol Stream, IL 60188

There will be free coffee and donuts.

Agenda:

- Doors open at 7:30 AM
- Donation sale in bar room at 8 AM-ish / donation auction 9:15 AM
- Election of officers in bar room 9:45 AM

Officer candidates:

- President Tom Kleinschmidt
- Vice President Tom Zaczek
- Treasurer Rudy Hecker
- Secretary Jay Stewart

See you there!

Event calendar for remainder of 2023 and all of 2024

Two important local swap meet updates:

1. Local meets will be on Saturdays in 2024 by popular demand.
2. Local meets in 2024 will now start at 8 AM – a few die hards will be up before the roosters for outdoor meets, but the rest of us can have a more rational start time.

Event	Location	Day and Date	Time
Virtual Forum	Your Computer	Saturday, November 18, 2023	10:00 AM
Swap meet	American Legion	Sunday, December 3, 2023	8:00 AM
Virtual Forum	Your Computer	Saturday, January 20, 2024	10:00 AM
Swap meet	American Legion	Saturday, February 3, 2024	8:00 AM
Virtual Forum	Your Computer	Saturday, March 16, 2024	10:00 AM
Swap meet	American Legion	Saturday, April 13, 2024	8:00 AM
Virtual Forum	Your Computer	Saturay, May 18, 2024	10:00 AM
Swap meet	American Legion	Saturday June 8, 2024	8:00 AM
Radiofest	Medina Shriner Center	Friday, August 2, 2024 Saturday, August 3, 2024	See program
Virtual Forum	Your Computer	Saturday, September 21, 2024	10:00 AM
Swap meet	American Legion	Saturday, October 26, 2024	8:00 AM
Virtual Forum	Your Computer	Saturday, November 16, 2024	10:00 AM
Swap meet	American Legion	Saturday, December 7, 2024	8:00 AM

Radiofest 2024

A request that came from multiple participants is they would like a display of radio gear as we used to do in the past. If you are interested in displaying radio related items at Radiofest 2024 let me know. We need more help planning and running the event too! *

More repair people needed!

We have continuous requests from members of the public wanting to get their vintage sets fixed. There is a surge in 1940s to 1960s console repair requests. If you want to be part of the repair team please contact me. *

Thank you!

*Tom Kleinschmidt, President
Antique Radio Club of Illinois*

*clubinfo@antique-radios.org or voicemail 630-739-1060



ARCI UPDATES

October 2023 Swap Meet Photos

photos by Daniel Schoo





*Two old friends meet at the Swap Meet:
Ralph Dittmer and Barry Janov.*





Here is a link to more photos on the club website. <http://www.antique-radios.org/pictures.html>

RADIOFEST Update

by Steve Muchow, *RADIOFEST* Chair

Radiofest continues to be ARCI's premier annual event. While the Saturday outdoor swap meet at *Radiofest* 2023 was a bit soggy (!), those who attended *Radiofest* 2023 enjoyed getting together again with fellow collectors to participate in the Friday night auction and other scheduled activities. Attendees continue to appreciate the familiarity of the location, the convenient hotel accommodations and the ease of parking throughout the event.

The good news is that ARCI is currently planning for *Radiofest* 2024 to again be hosted at the Medinah Shriners facility with accommodations available at the adjacent Hilton Garden Inn Hotel in Addison, Illinois (same as last year). It is too soon to offer event details except for a single important one! The selected dates are Friday, August 2nd and Saturday, August 3rd in 2024. So, be sure to circle these dates on your calendar and watch future issues of ARCI NEWS, e-mails and the ARCI website over the coming months for *Radiofest* 2024 program updates.

Each year, following *Radiofest*, we review aspects of the event including comments and suggestions from attendees and members. Many have already offered feedback and we would really welcome your feedback on any aspect of the event. Send them to clubinfo@antique-radios.org. Again, we also invite those that can volunteer some time either during or in preparation for *Radiofest* 2024. The success of *Radiofest* depends on our great volunteers. Please let us know if you can help out.

Should you want to reminisce and review highlights from *Radiofest* 2023, check out the October 2023 issue of ARCI NEWS in the ARCI NEWS ARCHIVES section on the ARCI website at www.antique-radios.org.

On a personal note, I need to reallocate much of the time I currently spend on *Radiofest* activities to family-related matters during the next year. I will still be involved as an advisor and assist where I can prior to and during *Radiofest* 2024. For now, Tom Kleinschmidt will coordinate *Radiofest* tasks.

Again, stay tuned to future ARCI media for *Radiofest* 2024 information. In the meantime, we'll stay in touch via ARCI's scheduled in-person swap meets and virtual forums!

Steve Muchow
Radiofest Chair

ARCI ONLINE

By Tom Zaczek

ARCI VIRTUAL FORUM #28

SATURDAY JANUARY 20, 2024, 10AM CT

Join in on your computer, pad or phone to be a part of ARCI's Virtual Forum video meetings! You don't need to be an ARCI member!

ARCI's Virtual Forum continues on! We had a successful series of Virtual Forums in 2023 and we continue on in 2024. The Virtual Forum is a place to share what you have been doing with your radio related activities through presentations, "show and tells" and open discussions. Join in to watch or give a presentation in the areas of radio restoration, company history, and technology, to name just a few.

How to join in: Stay tuned to the emails from ARCI for the registration link for this meeting. We send one out a week or two before and the day before the Virtual Forum.

Almost immediately after registering, you will receive a confirmation email containing the link required to join the meeting. **IMPORTANT-** You need to receive the confirmation email back because this link gets you into the meeting when the time comes. So, if you don't receive the confirmation email, it could be in your spam folder.

Reminder: ARCI is on YouTube. If you can't attend the meeting, you can watch it on-line later! Prior Virtual Forums are available on ARCI's own YouTube channel: <https://www.youtube.com/channel/UCExMw9QGrvcquC1vZBvHWbQ>

Check it out! Each video has a "table of contents" (where it says SHOW MORE) beneath the main video window that you can click on and go directly to that topic or presentation, so it's easy to watch just one specific presentation. Visit ARCI's YouTube channel where you can click the free "subscribe" button and get notified when a new video comes out.

There is now also a new complete index of all the prior presentations with links that go right to the specific presentation. There are more than 100! On the YouTube home page linked above, go to the "ABOUT" tab and under "LINKS" you will see the link to this index. Here it is: [Full Index of Presentations](#) After clicking this link if you do not go direct to the index, please click the "GO TO SITE" link that appears.

AGENDA (may be revised without notice)

9:45 AM – OPTIONAL PRE-MEETING – Time to get logged-in and troubleshoot any access issues.

10:00 AM – Meeting Agenda

- **INTRODUCTION** – *Tom Zaczek*
- **WE'RE ON YOU TUBE** – *Matt Pollack*

PRESENTATIONS: All of the presentations have not been lined up yet for this meet, but this section is where we have several 15-to-25-minute presentations of interest in the areas of radio restoration, company history, and technology, just to name just a few. Let us know if you have an idea for a presentation!

- **SHOW & TELL, TIPS & TECHNIQUES** 1-to-3-minute *informal* presentation of something you'd like to share with the meeting ... Join in and spend a few minutes to show your item, a helpful tip, radio restoration technique, or how you solved a tough restoration problem.
- **ARCI SWAP MEETS** - An update on the upcoming swap meet and on the one we just held
- **ITEMS WANTED----ITEMS FOR SALE**
- **OPEN SESSION:** Non-moderated chat session as time permits.

12:00 Noon – Close

ARCI Virtual Forum 2024 Schedule

January 20th, March 16th, May 18th, September 21st and November 16th.

They are generally on the 3rd Saturday of the month. We take most of the summer off so as not to compete so much with vacations and travel to other clubs' events. Also, in months where there is an "in person" ARCI swap meet, we do not schedule a Virtual Forum.

Be a presenter!

We have seen so many great presentations this past year by folks that *never* made a presentation before! You can do this! The Virtual Forum meeting team can help you learn how to make a Power-Point presentation, or prepare some simple photo slides. If you have some photos and a good idea, we can even make presentation slides for you! We can help you install Zoom on your computer and do a dry-run. It's easy!

Share your radio restoration, collection, research or whatever with a 10-minute or longer presentation. Take that first step and send us an email with your presentation idea to remote-events@antique-radios.org .

Become a member of ARCI!

These meets are open to everyone interested in antique radio. You do not need to be a member of ARCI. If you like these meets, your support of the organization is truly appreciated. Please consider joining ARCI. Your membership dues help support the club's activities. Please click this link for the membership form: [Antique Radio Club of Illinois \(antique-radios.org\)](http://antique-radios.org) or [membership form editable pdf](#) or use the form on the last page of this newsletter.

I look forward to the upcoming meetings and hope you get a chance to attend. I encourage you to be a presenter to share your experiences, knowledge, and passions about these old radios!

~ Tom Zaczek

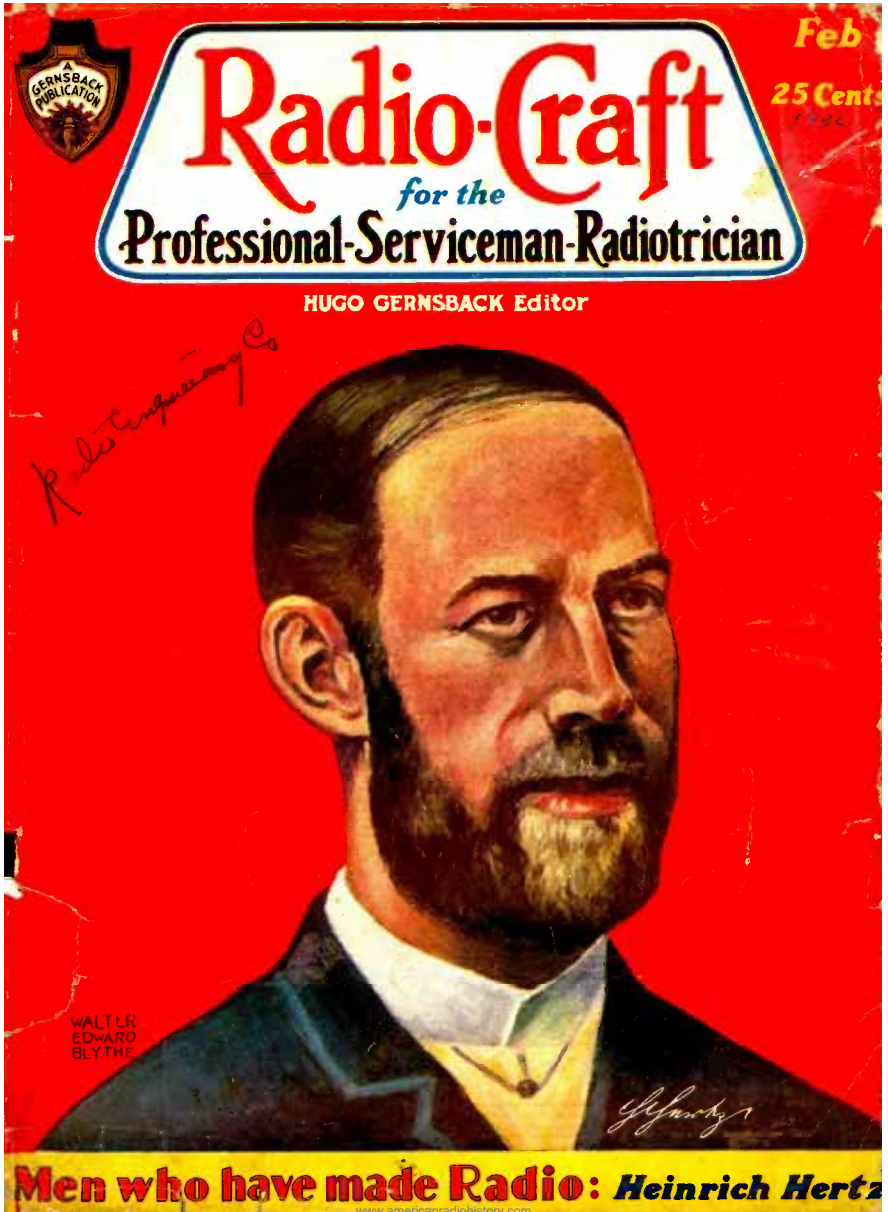
The ARCI Virtual Forum Team: Tom Kleinschmidt, Bill Cohn, Matt Pollack and Tom Zaczek are the ARCI On-Line Meeting Team and can be reached via email at remote-events@antiqueradios.org



Men Who Made Radio

Sorry ladies, it was a male dominated world a century ago.

Reprinted with permission of <https://worldradiohistory.com/>.



Men Who Made Radio—Heinrich Hertz

THE FIFTH OF A SERIES

ON New Year's Day, 1894, a world troubled by wars, social and financial conflicts, with its attention concentrated upon the ambitions of empires, gave little heed to the deathbed of a young man of science whose brilliance of intellect was well matched by his devotion to the advancement of knowledge, and his nobility of spirit. A few scientists knew—but none fully realized at the time—that his genius had given to mankind what is virtually a sixth sense.

Heinrich Rudolph Hertz, born at Hamburg, Germany, on February 2, 1857, pursued as a youth his technical studies, with the purpose of becoming an engineer. The fascinating nature of scientific research, particularly in the field of electricity, where the misty outlines of new worlds were looming on the horizon, inclined him toward a career of discovery. "I would rather," he wrote to his parents in October, 1877, "be a great scientific investigator than a great engineer; but would rather be a second-rate engineer than a second-rate investigator." During the remainder of his short span of life, his ambition was rewarded.

In the following year, his investigations into the subject of "electric inertia," as certain phenomena were then described, won for him a prize, which he elected to receive



in the form of a gold medal from the scientific society propounding the theme for investigation. In 1879, as an assistant at the Berlin Physical Institute, Hertz's ability attracted the interest of the great physicist

Helmholtz, who urged him to study the interrelation of magnetism and electrical charges. His doctor's degree was awarded for a thesis on "the distribution of electricity over the surface of moving conductors."

Appointed professor of physics at the Karlsruhe Polytechnic High School (a term implying, in Germany, an educational institution of collegiate qualifications), Hertz carried out there, under great handicaps from the limited size of his laboratory and the deficiencies of his equipment, the experiments which were to rank him among the immortals of science.

As a physicist, however, his work was not restricted narrowly to the field which is forever associated with his name. We find among his earlier published papers an inquiry into "the contact of elastic solids," brought up by the practical problem of surveying the earth's surface; others on the evaporation of liquids, and the design of a new hygrometer—which occasioned a dutiful letter to his parents, suggesting that the device be employed in their home for the regulation of its humidity to a healthful degree; a study in 1883 of the cathode ray, which he determined to be "a phenomenon accompanying the discharges and having

(Continued on page 410)

ON New Year's Day, 1894, a world troubled by wars, social and financial conflicts, with its attention concentrated upon the ambitions of empires, gave little heed to the deathbed of a young man of science whose brilliance of intellect was well matched by his devotion to the advancement of knowledge, and his nobility of spirit. A few scientists knew - but none fully realized at the time - that his genius had given to mankind what is virtually a sixth sense.

Heinrich Rudolph Hertz, born at Hamburg, Germany, on February 2, 1857, pursued as a youth his technical studies, with the purpose of becoming an engineer. The fascinating nature of scientific research, particularly in the field of electricity, where the misty outlines of new worlds were looming on the horizon, inclined him toward a career of discovery. "I would rather," he wrote to his parents in October, 1877, "be a great scientific investigator than a great engineer; but would rather be a second-rate engineer than a second-rate investigator." During the remainder of his short span of life, his ambition was rewarded.

In the following year, his investigations into the subject of "electric inertia," as certain phenomena were then described, won for him a prize, which he elected to receive in the form of a gold medal from the scientific society propounding the theme for investigation. In 1879, as an assistant at the Berlin Physical Institute, Hertz's ability attracted the interest of the great physicist Helmholtz, who urged him to study the interrelation of magnetism and electrical charges. His doctor's degree was awarded for a thesis on "the distribution of electricity over the surface of moving conductors."

Heinrich Hertz

(Continued from page 375)

nothing to do directly with the path of the current"; and in the same year, the invention of the hot-wire ammeter for high-frequency current.

In 1883, Helmholtz proposed to his young friend an inquiry into the electromagnetic theory of Clerk Maxwell. The fruits of this study, four years later, carried to the world the proof of the existence of radio. In 1887, working under many difficulties, Hertz proved, with his simple apparatus, that electromagnetic radiation, in wavelengths from three meters down, can be created, and that it follows the law already recognized in the behavior of the immensely shorter waves of light.

"All propagation of electrical disturbances," he announced, "takes place through non-conductors; and conductors oppose this propagation which, in the case of rapid alternations, is insuperable." In the same year Hertz, examining into spark-gap discharges (the rather crude means by which he was able to detect the presence of radio waves by the currents which they set up in a resonant circuit) found that the existence of one spark affected the length of another; and finally traced down the reason to the presence of ultra-violet light—which we now know to cause ionization, and consequently greater conductivity, of the air.

Intensely chivalrous, Hertz exemplified in his modest announcements to the scientific world the utmost desire that all of the theorists and discoverers who had preceded him should have their full share of credit toward the pyramid of achievement he had reared on the previous bases. He was in, truth, the very knight of science; self-effacing, seeking no personal distinction, but only to advance the progress of truth, and let the glory fall where it would. "I have carried out with the greatest possible care these experiments (by no means easy ones) although they were in opposition to my preconceived views"; he wrote, and accepted with generous approval, the results of better-equipped experimenters.

The conclusions of Hertz, derived from the study of what we would now class as ultra-short radiation, have never been carried out in practical exploitation to their full limit. After longer waves had been found, in practice, most suited to distant communication, radio practice has swung back, year by year, toward shorter wavelengths. The phenomenon of wave reflection has been employed in directional-beam transmission and reception; that of plane polarization has been experimentally utilized; but as yet the refraction of waves (demonstrated by Hertz with a large prism of pitch in his laboratory) has been put to no practical account. However, as work with ultra-short waves proceeds down to the lengths of less than a meter, we may expect to see radio projectors using lenses like those of a searchlight, and possibly receivers like telescopes.

"It is a fascinating idea, that the processes in air which we have been investigating represent to us on a millionfold-larger scale the same processes which go on in the neighborhood of a Fresnel mirror, or between the glass plates used for exhibiting Newton's rings," wrote Hertz, describing

Appointed professor of physics at the Karlsruhe Polytechnic High School (a term implying, in Germany, an educational institution of collegiate qualifications), Hertz carried out there, under great handicaps from the limited size of his laboratory and the deficiencies of his equipment, the experiments which were to rank him among the immortals of science.

As a physicist, however, his work was not restricted narrowly to the field which is forever associated with his name. We find among his earlier published papers an inquiry into "the contact of elastic solids," brought up by the practical problem of surveying the earth's surface; others on the evaporation of liquids, and the design of a new hygrometer - which occasioned a dutiful letter to his parents, suggesting that the device be employed in their home for the regulation of its humidity to a healthful degree; a study in 1883 of the cathode ray, which he determined to be "a phenomenon accompanying the discharges and having nothing to do directly with the path of the current"; and in the same year, the invention of the hot-wire ammeter for high-frequency current.

In 1883, Helmholtz proposed to his young friend an inquiry into the electromagnetic theory of Clerk Maxwell. The fruits of this study, four years later, carried to the world the proof of the existence of radio. In 1887, working under many difficulties, Hertz proved, with his simple apparatus, that electromagnetic radiation, in wavelengths from three meters down, can be created, and that it follows the law already recognized in the behavior of the immensely shorter waves of light.

"All propagation of electrical disturbances" he announced, "takes place through non-conductors; and conductors oppose this

some of the experiments which he has made classic. (They are described in the January issue of *RADIO-CRAFT*, on page 312).

The experiments of Hertz lacked, undoubtedly, the publicity with which today's press would have greeted them; but, in the world of science, they gained for the modest professor immediate recognition, just as his fine personality commanded the esteem of all who met him.

Appointment to the chair of physics at the University of Bonn (where he was to end his days) was welcomed by him, for the added research facilities which were thus placed at his disposal. He there added nothing sensational to the knowledge of the great subject which he had so masterfully handled; but it may be noted that, in 1891, Hertz found that cathode rays pass through metal, thus anticipating the inquiries into the X-ray which have been of such scientific and medical value. His last work was a treatise on "The Principles of Mechanics." Hertz possessed the faculty, not always found among great scientists, of dealing with abstruse subjects in a popular manner; and his lecture to the Heidelberg Association for the Advancement of Science on his discoveries is a classic of this nature. Its closing words may appropriately be quoted here:

"We have found a starting point for further attempts, which is a stage higher than any used before. Here the path does not end abruptly in a rocky way; the first steps that we can see form a gentle ascent, and among the rocks there are tracks leading upward. There is no lack of eager and practiced explorers; how can we feel otherwise than hopeful of the success of future attempts?"

How well this prediction of Hertz is to be fulfilled, time is still telling. The young explorer in the untrodden ways of science was cut off in his prime; but the paths he indicated are thronged and frequented by those who reverence his name.

A graceful tribute is paid to the memory of Hertz by his countrymen, who place his name in the daily speech of radio beside those of his predecessors, Volta, Ohm, Ampere, Faraday and Henry. The "Hertz" is the unit of frequency, a cycle of alternation per second; most used in its multiple, the "kilohertz" (kilocycle). The more general use of this term would be a well-deserved international tribute to a man who has merited much from the entire human race, who are his beneficiaries.

The rare autograph and photograph of Professor Hertz, which *RADIO-CRAFT* has been privileged to reproduce, is from the large collection of Major William J. Hammer, of New York, a distinguished electrical engineer, and former vice-president of the A. I. E. E. and the New York Electrical Society. Major Hammer, who was intimately associated with Edison during the development of the electric lamp and its commercial introduction, was in 1889 Edison's personal representative at the Paris exposition, and later accompanied Mr. and Mrs. Edison to the German Scientific congress at Heidelberg. At this time Major Hammer made many acquaintances among European scientists; and he later obtained from Dr. Hertz the original photograph, with the autograph, which remains among the most-prized of the treasures which he has assembled.

propagation which, in the case of rapid alternations, is insuperable." In the same year Hertz, examining into spark-gap discharges (the rather crude means by which he was able to detect the presence of radio waves by the currents which they set up in a resonant circuit) found that the existence of one spark affected the length of another; and finally trailed down the reason to the presence of ultra-violet light -which we now know to cause ionization, and consequently greater conductivity, of the air.

Intensely chivalrous, Hertz exemplified in his modest announcements to the scientific world the utmost desire that all of the theorists and discoverers who had preceded him should have their full share of credit toward the pyramid of achievement he had reared on the previous bases. He was in, truth, the very knight of science; self-effacing, seeking no personal distinction, but only to advance the progress of truth, and let the glory fall where it would. "I have carried out with the greatest possible care these experiments (by no means easy ones) although they were in opposition to my preconceived views"; he wrote, and accepted with generous approval, the results of better-equipped experimenters.

The conclusions of Hertz, derived from the study of what we would now class as ultra-short radiation, have never been carried out in practical exploitation to their full limit. After longer waves had been found, in practice, most suited to distant communication, radio practice has swung back, year by year, toward shorter wavelengths. The phenomenon of wave reflection has been employed in directional-beam transmission and reception; that of plane polarization has been experimentally utilized; but as yet the refraction of waves (demonstrated by Hertz with a large prism of pitch in his laboratory) has been put to no practical account. However, as work with ultrashort waves proceeds down to the lengths

of less than a meter, we may expect to see radio projectors using lenses like those of a searchlight, and possibly receivers like telescopes.

“It is a fascinating idea, that the processes in air which we have been investigating represent to us on a million-fold larger scale the same processes which go on in the neighborhood of a Fresnel mirror, or between the glass plates used for exhibiting Newton’s rings,” wrote Hertz, describing some of the experiments which he has made classic. (They are described in the January issue of RADIO-CRAFT, on page 312).

The experiments of Hertz lacked, undoubtedly, the publicity with which today’s press would have greeted them; but, in the world of science, they gained for the modest professor immediate recognition, just as his fine personality commanded the esteem of all who met him.

Appointment to the chair of physics at the University of Bonn (where he was to end his days) was welcomed by him, for the added research facilities which were thus placed at his disposal. He there added nothing sensational to the knowledge of the great subject which he had so masterfully handled; but it may be noted that, in 1891, Hertz found that cathode rays pass through metal, thus anticipating the inquiries into the X-ray which have been of such scientific and medical value. His last work was a treatise on “The Principles of Mechanics.” Hertz possessed the faculty, not always found among great scientists, of dealing with abstruse subjects in a popular manner; and his lecture to the Heidelberg Association for the Advancement of Science on his discoveries is a classic of this nature. Its closing words may appropriately be quoted here:

“We have found a starting point for further attempts, which is a stage higher than any used before. Here the path does not end abruptly in a rocky way; the first steps that we can see form a gentle ascent, and among the rocks there are tracks leading upward. There is no lack of eager and practiced explorers; how can we feel otherwise than hopeful of the success of future attempts?”

How well this prediction of Hertz is to be fulfilled, time is still telling. The young explorer in the untrodden ways of science was cut off in his prime; but the paths he indicated are thronged and frequented by those who reverence his name.

A graceful tribute is paid to the memory of Hertz by his countrymen, who place his name in the daily speech of radio beside those of his predecessors, Volta, Ohm, Ampere, Faraday and Henry. The “Hertz” is the unit of frequency, a cycle of alternation per second; most used in its multiple, the “kilohertz” (kilocycle). The more general use of this term would be a well - deserved international tribute to a man who has merited much from the entire human race, who are his beneficiaries.

The rare autograph and photograph of Professor Hertz, which RADIO-CRAFT has been privileged to reproduce, is from the large collection of Major William J. Hammer, of New York, a distinguished electrical engineer, and former vice-president of the A. I. E. E. and the New York Electrical Society. Major Hammer, who was intimately associated with Edison during the development of the electric lamp and its commercial introduction, was in 1889 Edison's personal representative at the Paris exposition, and later accompanied Mr. and Mrs. Edison to the German Scientific congress at Heidelberg. At this time Major Hammer made many acquaintances among European scientists; and he later obtained from Dr. Hertz the original photograph, with the autograph, which remains among the most-prized of the treasures which he has assembled.

This article first appeared in the February 1930 issue of *Radio-Craft* magazine, page 375. EdNote: It is recreated here for ease of reading. View the original at <https://www.worldradiohistory.com/Archive-Radio-Craft/1930s/Radio-Craft-1930-02.pdf>



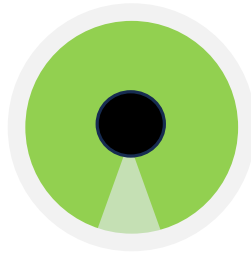
Editor's Note: Heinrich Rudolph Hertz was just 36 years of age when he died in January of 1894, a little less than two months shy of his 37th birthday. He died of a condition called Granulomatosis with polyangiitis (also called: Wegener's granulomatosis). The disease can affect the ears, nose, throat, lungs, and kidneys. Blood flow to organs and tissues may be reduced, causing damage. A rare disease, treatments today include drugs that suppress the immune system and monitoring for recurring symptoms.



1994 German stamp honoring Hertz

The Tuning Eye

The tuning eye was invented by Allen B. Dumont. The first US commercial tube was patented by RCA.¹ The article reprinted below is from a pamphlet titled: *Radio Tube Hints Volume One by Sylvania Electric products Inc., 1943.*



Tuning Indicators Type 6E5 vs Type 6G5

The Type 6E5 tube became quite popular as a visual tuning indicator. After the novelty of this type of tube wore off, it was found that the tube had some disadvantages over the regular tuning meter which had previously been employed, to indicate the visual tuning. These disadvantages mainly were that either the indication of weak signals was unsatisfactory or that on strong signals the shadow closed entirely.

This tube consists of a triode and a target and a deflecting plate. The triode is intended to function as a d-c amplifier. The electron ray section of the tube consists of a portion of the heated cathode as a source of electrons which are attracted to a target that has a positive potential on it. The shaded or unlighted sector which is used as the indicating means is produced by the shadow of a control electrode or deflecting plate attached to the plate of the triode.

By referring to the schematic diagram shown in Figure 1 we will get a better picture of the action taking place when Type 6E5 is used in circuit applications. We will assume E_c is variable by means of control A. If 250 volts is applied to the target, electrons will be attracted to it and will cause it to glow. The deflecting plate is connected to the triode plate as is indicated in the diagram. These two elements are connected to the target through a 1 megohm resistor. If we now apply zero bias to the triode, the maximum plate current will flow to the triode plate. The current flows through the 1 megohm resistor, producing a voltage drop between the target and the deflecting plate.

Since the plate is negative with respect to the target, it will reduce the number of electrons reaching the target. Because of the shape and location of the deflecting plate a shadow will be cast around the target. The shadow angle will be about 100 degrees. If the bias is increased slightly to approximately 2 volts, the plate current will decrease somewhat, decreasing the voltage difference between the target and the deflecting plate resulting in the shadow angle closing in since not as many

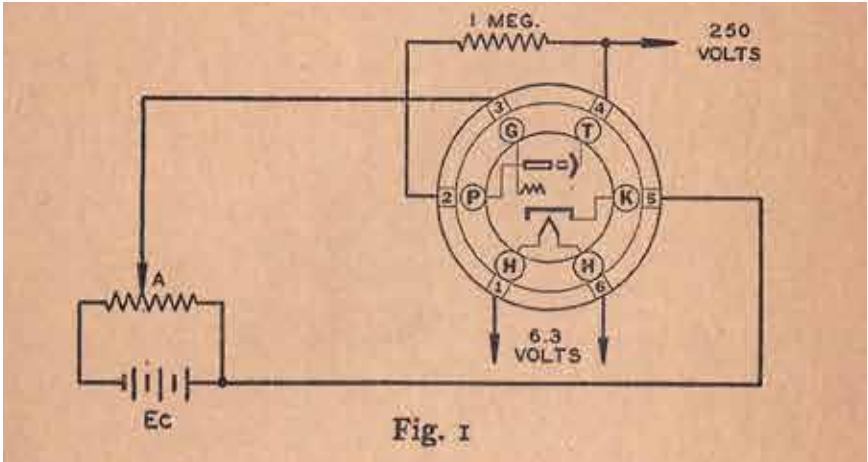


Fig. 1

electrons are repelled as before. After 2 volts bias is applied, the shadow angle change per volt bias applied to the grid increases somewhat and remains constant until about 6 volts bias is applied. From 6 to 8 volts the rate of change slows up somewhat but at 8 volts the shadow has usually entirely disappeared. Figure 2 shows how the shadow angles and the plate current of the triode vary if different bias voltages are applied to the triode section.

In an ordinary superheterodyne receiver the d-c voltage developed across the diode load resistor in the a-v-c circuit varies from zero volts at no signal input to a maximum of 25 volts or higher. If we refer to Figure 2, it is evident that the largest bias which may be applied to the triode without completely closing the shadow is about 6.5 volts. This means we can utilize only a fraction of the developed a-v-c voltage in order to prevent complete closing of the shadow on strong signals. By tapping a portion of the a-v-c voltage, we reduce the indication for weak signals, since if we develop 3 volts of a-v-c, instead of applying it to the triode, we will use only the same fraction of voltage employed on strong signals, with the result that the indication is greatly reduced. It can readily be seen that this type of performance is not wholly satisfactory.

The Sylvania Type 6G5 tube was introduced to correct the difficulties mentioned above. The triode grid has been changed somewhat so that the plate current cut-off occurs around -22 volts instead of -8 volts as in Type 6E5. Figure 3 shows two

curves on the Type 6G5 corresponding to those shown in Figure 2 for Type 6E5. It will be noted from the curves that it will be possible to use all of the developed a-v-c voltage with this tube with the result that the indications of weak signals are as large as possible while the strongest signals will not quite close the shadow.

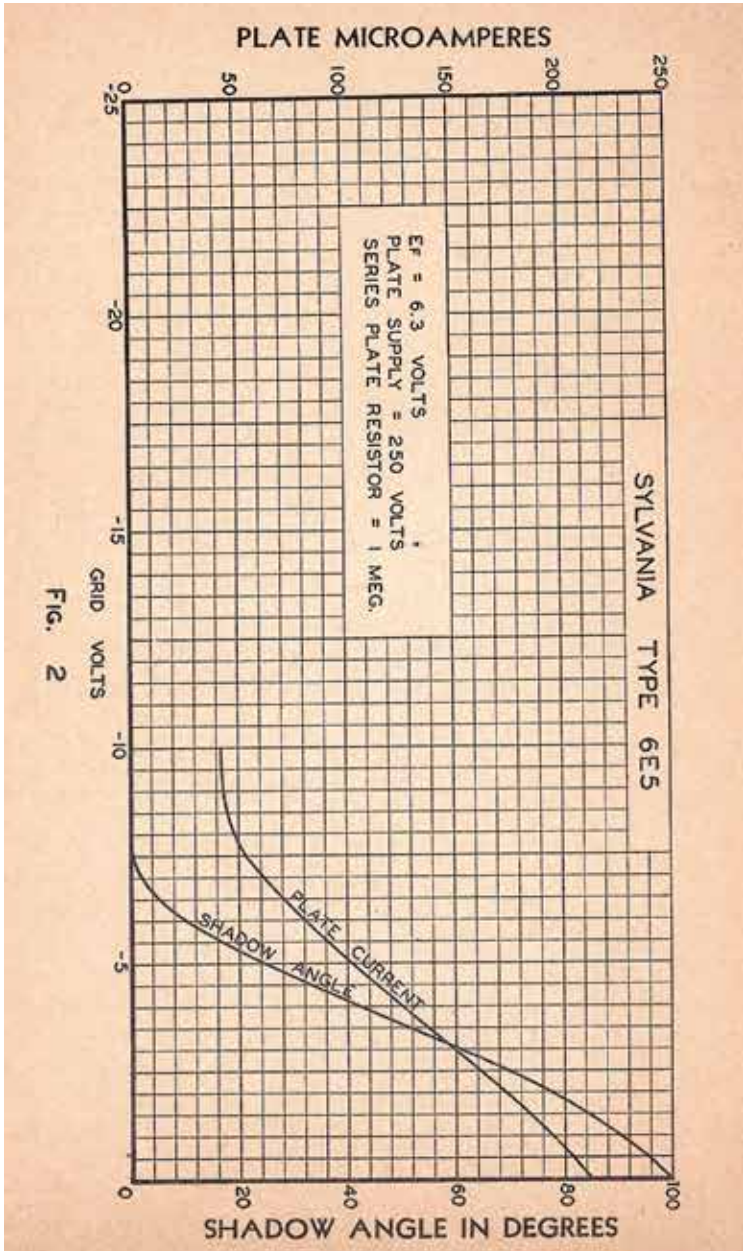


FIG. 2

Type 6G5 can be used to replace Type 6E5 in nearly all applications where difficulty is experienced due to the closing of the shadow. Usually no circuit changes will be required. Where the difficulty does not exist due to the closing of the shadow, increased weak signal indications can be obtained, if only a portion of the a-v-c voltage is now being used, by applying the total a-v-c voltage and substituting a Sylvania Type 6G5.

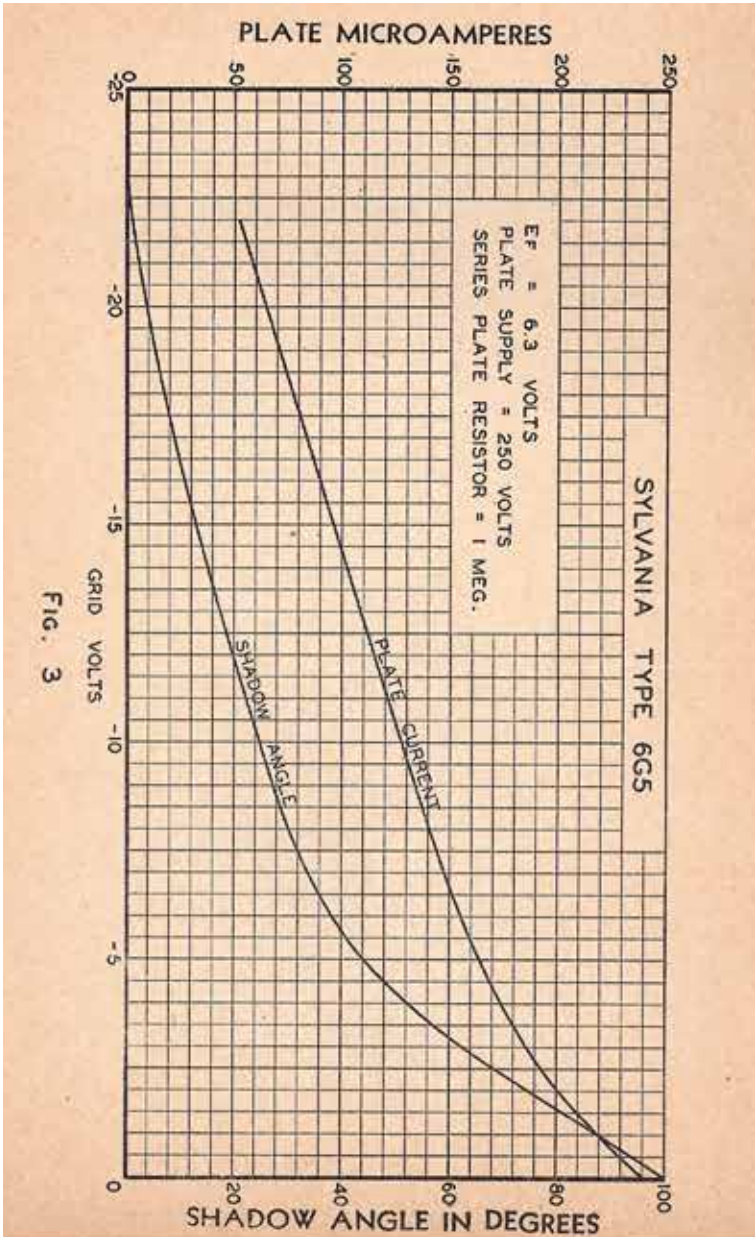
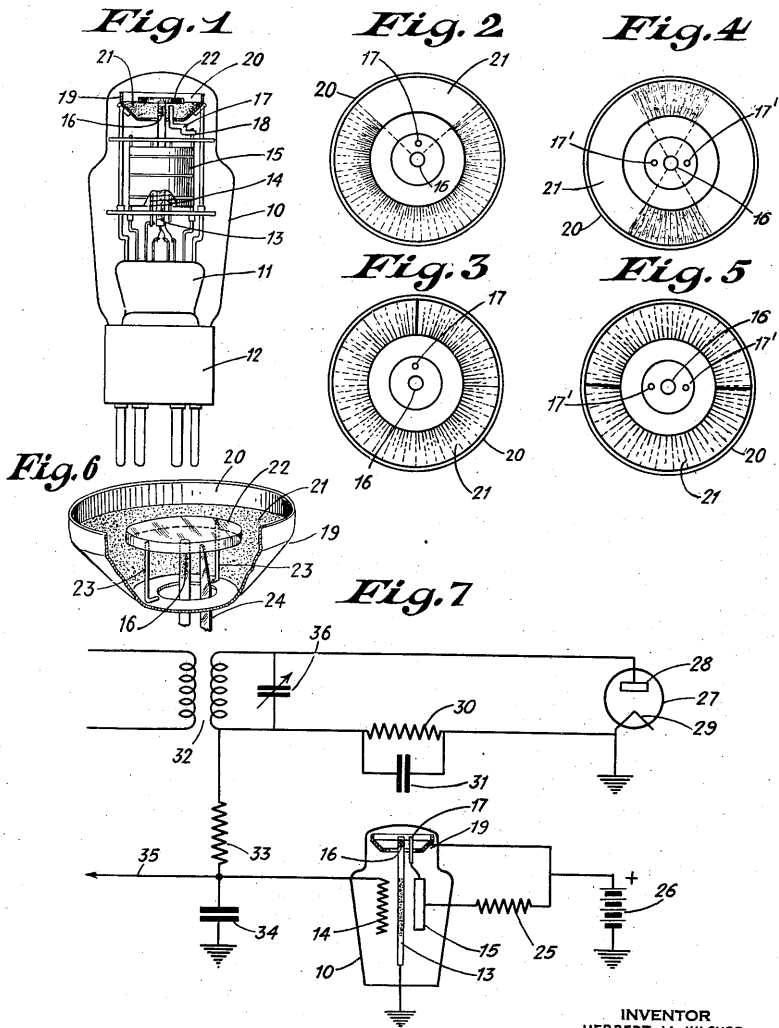


FIG. 3

Aug. 18, 1936.

H. M. WAGNER
TUNING INDICATOR TUBE
Filed June 27, 1935

2,051,189



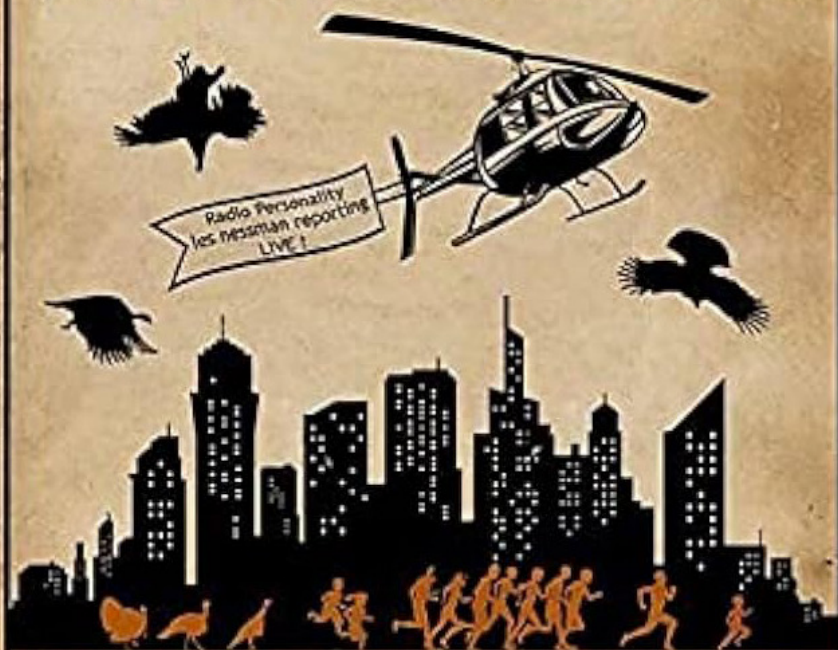
RCA patent

INVENTOR
HERBERT M. WAGNER
BY
Charles McClain
ATTORNEY

References

1. https://en.wikipedia.org/wiki/Magic_eye_tube
2. <http://magiceyetubes.com/>
3. <https://www.rfcafe.com/references/popular-electronics/the-tuning-eye-how-it-works-jan-1955-popular-electronics.htm>

1ST ANNUAL
WKRP
THANKSGIVING DAY



TURKEY DROP
NOVEMBER 22 1978

"AS GOD IS MY WITNESS, I THOUGHT TURKEYS COULD FLY"

BUSINESS CARD ADS

WANTED: Small 5" Reel-to-Reel Tape Recorder (monaural)
OR fix same (GRANADA).

SELLING: Vintage Radio-related memorabilia (paper) collection.

For list call GEORGE 610-970-2123

OR write George Reed
1552 Glasgow St.
Pottstown, PA 19464

Will travel if within a 50 mile radius.

Would like to play old family tapes before I kick the bucket!

Thank you very much!



Just Radios

Capacitors & Resistors for Tube Radios

David and Babylyn Cantelon
6 Ferncrest Gate, Scarborough
Ontario, Canada, M1W 1C2

www.justradios.com
justradios@yahoo.com
(416) 502-9128

We invite all of our members to scan and send in your business card to be included in *ARCI NEWS*. For \$80 your card will appear in the next 6 issues and will be seen by approximately 400 people per issue and up to 1,000 people at *Radiofest* where we make additional copies of *ARCI NEWS* available at no charge. If interested, please scan your card and send it to clubinfo@antique-radios.com and mail a check for \$80 to Rudy Hecker, A.R.C.I., P.O. Box 1139, LaGrange Park, IL 60526. Thank you all for your continued support of ARCI!!!

RENEWALS

DO YOU KNOW WHEN YOU WILL EXPIRE?

Or, more specifically, your ARCI Membership? The address label shows your expiration month. It takes time to process renewal requests, so please renew at least one month BEFORE the month indicated on the label. This also helps ensure that you will continue receiving your *ARCI NEWS* without interruption.

Look on the last page of this newsletter for the renewal form.

CLUBBING AROUND

EARLY TELEVISION FOUNDATION CONVENTION

<http://www.earlytelevision.org/>

ANTIQUE WIRELESS ASSOCIATION

<http://www.antiquewireless.org/>

WISCONSIN ANTIQUE RADIO CLUB, INC.

www.warci.org

NORTHLAND ANTIQUE RADIO CLUB

www.northlandantiqueradioclub.com

MICHIGAN ANTIQUE RADIO CLUB

<http://michiganantiqueradio.org/>

INDIANA HISTORICAL RADIO SOCIETY

<http://www.indianahistoricalradio.org/>

MID-ATLANTIC ANTIQUE RADIO CLUB (MAARC)

www.maarc.org

THE COLORADO RADIO COLLECTORS CLUB

<http://coloradoradiocollectors.com>





ARCI

MEMBERSHIP RENEWALS

PLEASE CIRCLE YOUR MEMBERSHIP:

<i>Membership Option</i>	<i>Dues</i>	<i>Benefits</i>
Annual Membership	\$ 25	Full benefits: <i>ARCI News</i> subscription, Fee Discounts Events, Seller Privileges at ARCI Events.
Spousal Annual Membership	\$ 10	Discounts at Events.
Student Annual Membership	\$ 5	Must Be 18 or Under, Full Benefits.
Lifetime Membership	\$ 340	Full Membership Benefits For Life (non-transferable)

MAKE YOUR CHECK PAYABLE TO ARCI AND SEND TO:

Antique Radio Club of Illinois
P.O. Box 1139
LaGrange Park, Illinois 60526

EMAIL DELIVERY OF ARCI NEWS? YES or NO (circle one)

PRINT DELIVERY OF ARCI NEWS? YES or NO (circle one)

Name: _____

Spouse: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Home Phone: _____ Application Date: _____

Email: _____

Emergency Contact Name: _____

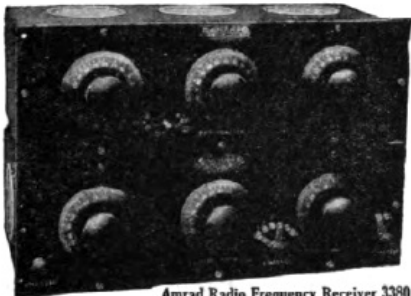
Phone: _____



Make this a Radio Christmas— But satisfy with AMRAD

Unless you have heard the AMRAD, you haven't heard Radio. AMRAD Receiving Sets—large or small—incorporate the latest, TESTED refinements only possible after many years of deliberate research and actual Radio engineering and manufacturing experience.

Superior performance, reasonable cost, lasting satisfaction—if your Radio is AMRAD.



Amrad Radio Frequency Receiver 3380
Latest Amrad Quality Receiver, furnished completely assembled in Solid Mahogany Cabinets. Price, less tubes, \$125.00

Go to Your Dealer

Ask him to show you the latest AMRAD Receiving Sets, from \$21.50 to \$300.00. If your dealer is not supplied, place your order, and he will fill it quickly. Look for the green and yellow AMRAD labels in the best stores, and insist on seeing the AMRAD before you purchase.

Complete new catalogue describing over 80 Radio Specialties, 10c. in stamps

AMERICAN RADIO AND RESEARCH CORPORATION

217 College Ave., Medford Hillside, Mass.
 (4 Miles North of Boston)

New York City
 17 Park Row

Chicago
 220 So. State St.



ARCI NEWS

Antique Radio Club of Illinois

PO Box 1139

LaGrange Park, IL 60526