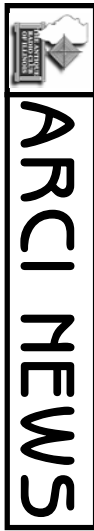


RENEW YOUR
MEMBERSHIP
NOW



Antique Radio Club of Illinois
PO Box 1139
LaGrange Park, IL 60526

 **ARCI NEWS**
www.antique-radios.org

Affiliated AWA
Antique Wireless Association

Volume 34, Issue 1
February 2014



***HAPPY VALENTINE'S DAY!!
DON'T FORGET TO RENEW YOUR ARCI
MEMBERSHIP!***

(Cover Image: Radio News, Jan. 1920)

UPCOMING INDOOR MEET FEB. 9, 2014

AMERICAN LEGION HALL

570 South Gary Avenue, Carol Stream, IL

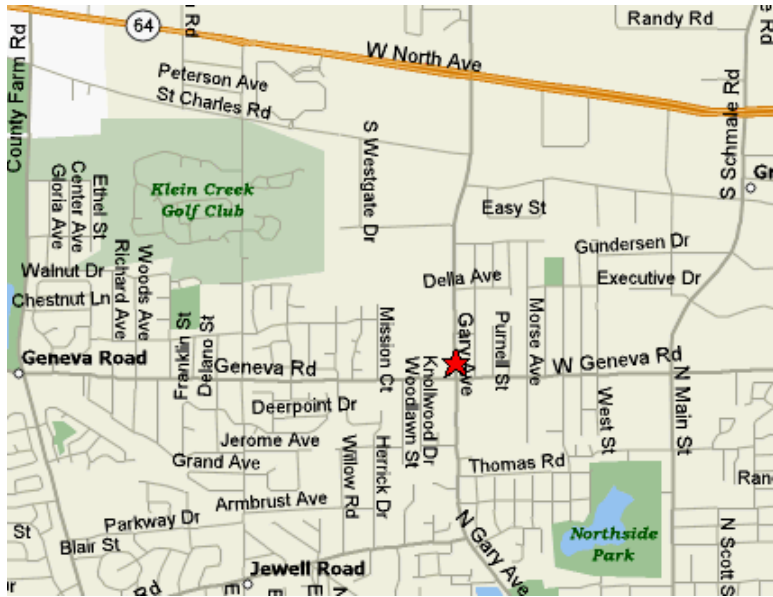
February 9, 2014 7AM – 11AM

Peoples' Choice Contest: Awards For 1st, 2nd, 3rd Place

Business Meeting 9:30am

Boy Scout Pancake Breakfast / Free Coffee, Juice & Cookies

50/50 Cash Drawing Raffle



FROM DECEMBER 2013

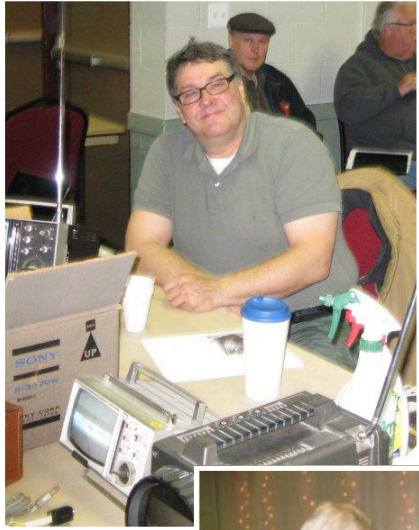


2014 MEETING SCHEDULE

March 30, 2014	7AM-11AM Outdoor Swap Meet Inside Business Meeting 9:30AM	American Legion Hall Carol Stream, IL (See Map)
June 15, 2014	Outdoor - Gates Open 7AM Combined Meet With 6-Meter Club of Chicago	DuPage County Fairgrounds Wheaton, IL (See Advance Ticket Form & Map)
July 31-Aug. 2, 2014 (Thurs., Fri., Sat.)	RADIOFEST Thurs. Main Auction/Full Program on Fri./Donation Auction Sat.	Willowbrook Inn 7PM Thurs. – 1PM Sat.
October 5, 2014	7AM-11AM Outdoor Swap Meet Business Mtg./Officer Election 10AM	American Legion Hall Carol Stream, IL (See Map)
December 7, 2014	7AM-11AM Indoor Swap Meet Business Meeting 10AM	American Legion Hall Carol Stream, IL (See Map)



FACES AND SCENES



ARCI



MEMBERSHIP RENEWALS

PLEASE CIRCLE YOUR MEMBERSHIP:

<u>Membership Option</u>	<u>Dues</u>	<u>Benefits</u>
Annual Membership	\$ 20	Full benefits: <i>ARCI News</i> subscription, Fee Discounts At 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)

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Name: _____

Spouse: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Home Phone: _____ Application Date: _____

Email: _____

Emergency Contact Name: _____ Phone: _____

PRESIDENT'S MESSAGE

Welcome to 2014. I am looking forward to another year of consistently excellent events presented by ARCI. The annual schedule is on a nearby page. Our plans are well under way for *Radiofest 2014*; more on that elsewhere.

I did a double-take when I turned into the parking lot at the American Legion Hall in December, and then counted nearly 50 cars already on the parking lot shortly after 7:30am. The weather was a bit nippy, but the snow held off until we were headed home afterwards. A few hardy guys, with heavy items, none-the-less set up on the parking lot. Inside, the attendance was surely at a near-record; attracted by the special estate auction advertised in the December *ARCI News*. In addition, Daniel Schoo donated some very attractive items for the donation auction -- our thanks to him for his support.

The auction yielded a number of happy new owners for some nice items in the estate auction. I occasionally visit with older hams and collectors who don't want their radio items, to which they are personally attached, to "wind up in the dumpster, when I am gone." I tell them that clubs like ARCI can provide a means to place their equipment in the hands of people who will appreciate it, and care for it. And, that quality items will attract serious buyers at a good price. That is one of the primary missions of ARCI and other collector/restorer clubs. Please, when you hear conversations like that, please tell them about ARCI.

The December auction enabled this collector to add two good looking Motorola plastic table radios made in Quincy in 1953 and 1954, when I was away in the Army, to my collection. My eagerness for a bargain caught up with me though, when I bid \$2.00 for what I thought was an MFJ Morse Code reader. I wondered why no one else bid. It went into the bottom of a paper bag that I didn't open for a couple of weeks. It turned out to be a digital router, and a dial-up one at that. Carelessness, tri-focals, and poor hearing will get you every time.

In the business meeting that followed, plans for items relating to *Radiofest 2014* were discussed. This year *Radiofest* will commemorate the 100th Anniversary of the start of World War I and the 70th Anniversary of D-Day in Europe. Details about the Atrium Display and the Equipment Contest categories will be forthcoming.

Our next meet is Sunday, February 9, 2014 at the American Legion Hall in Carol Stream (570 South Gary Avenue, just south of North Avenue Route 64). We look forward to seeing everyone there. And yes, there will be a People's Choice Contest Table.

ARCI continues to need your support!! In order to properly support all of the planned *Radiofest* activities we "need a little help!" Not necessarily for all day, but what about one or two, two-hour stretches, to help us out? Please consider giving us a hand when asked. And, it IS membership renewal time. So please be sure to send in your 2014 membership renewals so you don't miss all the news about *Radiofest* planning, and the really good articles in each issue. Thanks to our prolific writers. You can use the enclosed form. Dues can also be paid at the February 9th meet.

CLUBING AROUND

ANTIQUÉ WIRELESS ASSOCIATION

The Antique Wireless Association will have its next meeting on May 3, 2014 at the AWA Museum Annex in Bloomfield, New York. There will be a swap meet, auction, membership meeting and board meeting. The AWA, our national affiliate, publishes the *AWA Journal*, the *AWA Review* and *The AWA Gateway*. The latest edition of *The AWA Gateway* is available for free at <http://antiquewireless.org/pdf/GatewayV2no3.pdf>. Dues are \$25 per year. Information can be found at <http://www.antiquewireless.org>.

WISCONSIN ANTIQUE RADIO CLUB, INC.

The next WARCI meeting will take place in late Mar. 23, 2014 at the The Terminal, 5917 S. Howell, Milwaukee. For information about the club, please contact President Greg Hunolt at ghunolt@excel.net or see the website at www.warci.org.

NORTHLAND ANTIQUE RADIO CLUB

The Minnesota Club has its next event is scheduled for Feb. 16, 2014, a workshop and outdoor mini-swap meet. Radio Daze, the Upper Midwest's ultimate vintage radio collecting event, will be held in May 2014. For more information and the date which will be announced, please see <http://www.northlandantiqueradioclub.com/index.shtml>.

MICHIGAN ANTIQUE RADIO CLUB

MARC's next meet is scheduled on May 3, 2014 at Valley Plaza Resort in Midland, Michigan. Details will be announced. Please see the MARC website for more information at <http://michiganantiqueradio.org/>.

INDIANA HISTORICAL RADIO SOCIETY

IHRS Winter Meet will be held Saturday, Feb. 22, 2014 at the Lawrence Park Community Center, City of Lawrence, 5301 N. Franklin Road (north east Indianapolis). There will be a Swap N Sell indoor meet 8-11AM and a donation auction at 10AM. For

CLASSIFIEDS

FOR SALE: Lon Johnson's stash of radios, tubes and testing gear for pickup in Cary, IL. E-mail ljohnson8585@gmail.com or cell phone 847-366-8339.

WANTED: Oscillator coil for Zenith Model 4V31 Farm radio. Please Contact: Michael Guillemette at mikeg52@sbcglobal.net.

PAID ADVERTISING



Scientific Instrument Society

Join fellow enthusiasts – visit our website for details: www.sis.org.uk

The Society has existed for over 25 years to promote the history and preservation of scientific instruments

How to join

The annual subscription is due on 1 January. New members receive copies of the Bulletin for the year in which they join. By joining the SIS you will support instrumental history and meet fellow enthusiasts with a wide range of interests.

The Scientific Instrument Society
90 The Fairway, South Ruislip
Middlesex HA4 0SQ
Tel: 020 8582 3895
Email: sis@sis.org.uk
Website: www.sis.org.uk

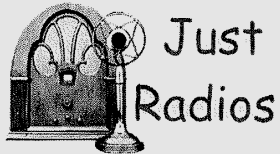
(The Society is registered as a charity in the UK No 326733)



For the current Annual Subscription rates, see the SIS website www.sis.org.uk and click on 'join', or consult the latest *Bulletin*.

Join using online application at www.sis.org.uk

BUSINESS CARD ADS



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(416) 502-9128

and send it to jbart1964@gmail.com and mail a check for \$80 to Rudy Hecker, ARCI Treasurer, 127 Weymouth Court, Schaumburg, IL 60193. Thank you all for your continued support of ARCI!!!

Remember, ARCI is your club! So please let me know if you have any ideas or suggestions for activities or events that you would like us to consider for 2014. You can email ARCI's website address clubinfo@antique-radios.org or you can email me directly at oshuler@comcast.net.

See You At The Next Meet, 30 & 73

OLIN SHULER W9PCD
ARCI PRESIDENT

ARCI UPDATE

The President's Column - All The News That's Fit To Print

UPCOMING BUSINESS MEETING ***FEBRUARY 9, 2014***

We strongly urge all interested members, Officers and Board members to attend the upcoming business meeting. WE NEED YOU!!! New blood is needed to preserve the vitality and innovation of one of the best radio collecting clubs in the country. Planning for *Radiofest 2014* is already underway. ARCI is your club!! Please plan to participate and lend a hand! See you at the meeting!!

NEW ARCI WEBSITE LAUNCHED

2014 Starts off with some exciting news. If you check ARCI's website, www.antique-radios.org <<http://www.antique-radios.org/>>, you will find a new look and feel. Back in 2002 we had a vision to get the Antique Radio Club of Illinois on the web. Our good friend and longtime club member Chuck Schwark stepped forward and has been our webmaster for more than 13 years. Chuck has devoted much of his spare time to keeping the website up to date. Chuck was developing websites long before it became an easy thing to do with user friendly tools. But now we have a new volunteer. Jim Rajkovic has stepped forward and is now assuming primary responsibility for the club's website. Chuck will continue to be involved as back-up and mentor to Jim as the club continues to update the site with new information and a new look.

If you have suggestions for the website, please send them to the club at clubinfo@antique-radios.org.

Again we would like to recognize and thank Chuck Schwark for his many years of service to the club and for his many future years of being a mentor and guide. And thanks to Jim Rajkovic for being our newest volunteer.

A LITTLE INFORMATION ABOUT OUR NEWEST VOLUNTEER

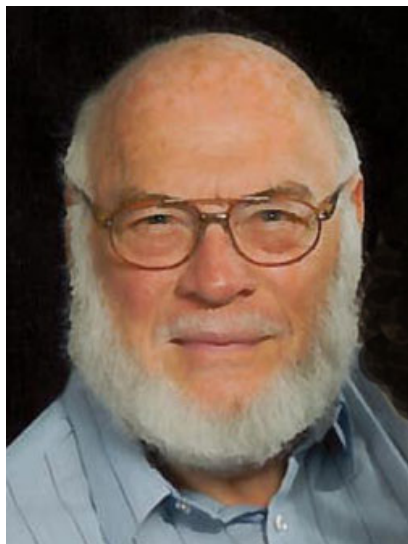


Jim Rajkovic

Jim Rajkovic joined ARCI 3 and 1/2 yrs. Ago and has helped out at the last two Radiofests. He enjoys going to the meets and talking with the members. He often finds a radio that I just has to take home. Jim has a small shop in his basement and only has 30 radios so far. He always enjoy tinkering/restoring all types of items, not just radios. Jim and his wife enjoy music from the 20's on up. They do have an AM transmitter set up so they can listen to any radio around the house.

Jim just recently started working on building websites. According to Jim "The ARCI site right now is just polished up a bit, but I look forward to some new changes as we go forward. I'm really glad to be asked to help out with the ARCI site. ARCI needs to keep this hobby alive for future generations...**nothing sounds as good as a tube radio!**"

HEALTH & WELFARE



Marion Edward Van Hal

We are sorry to report the loss of Marion Edward Van Hal, a long time collector and friend of Arie Breed in Iowa. Marion was born in 1935 near Pella, Iowa. He was married to Joan Brumel and had four children: Bruce, Mark, Steve and Linda. He worked for the Pella Rolscreen Company (now Pella Corporation) for 40 years and was in the Naval Reserve. He was an active member of the Dutch Masters Antique Car Club and the Antique Radio Club. He owned a 1940 Indian motorcycle and was a champion of the national Monster Arm Wrestling organization. He passed away on December 9, 2013 in Des Moines at the age of 78. Funeral services were held December 13 at Trinity Reformed Church. Further information can be found at: <http://www.gardenchapel.com/memorials/2013/120913-vanhal.html>.

25. The first question you ask the new car dealer is: "What is the alternator's current output"?
26. You buy a brand new car based on the radio mounting locations and antenna mounting possibilities.
27. You have tapped out Morse code on your car's horn.
28. A lightning storm takes out a new Laptop, Plasma TV, and DVD Recorder, but all you care about is if your radios are okay.
29. Your wife has had to ride in the back seat because you had radio equipment in the front seat.
30. Your wife was excited when you were talking about achieving that critical angle, but very disappointed when you finally did.
31. During a love making session with your wife, you stop to answer a call on the radio.
32. Your wife threatens you with divorce when you tell her that you are going on a "fox" hunt.
33. (Deleted due to divorce)
34. (Deleted due to domestic homicide)
35. You always park on the top floor of the deck, just in case you might have to wait in the car later.
36. When house hunting, you look for the best room for a radio shack and scan the property for possible tower placement.
37. When house hunting, you give your realtor topographical maps showing local elevations.
38. The real estate agent scratches his head when you ask if the soil conductivity is high, medium, or low.
39. You have Ham radio magazines in the bathroom.
40. When your doorbell rings, you immediately shut down the amplifier.
41. Fermentation never enters your mind when "homebrew" is mentioned.
42. Instead of just saying no, you have said "negative".
43. You have used a person's name to indicate acknowledgement.
44. You become impatient waiting for the latest AES catalog to arrive.
45. You have found yourself whistling "CQ" using Morse code.
46. You always schedule the third weekend in May for vacation.
47. You walk carefully in your back yard to avoid being cloths-lined.
48. You have deep anxiety or panic attacks during high winds or heavy ice.
49. You and the FedEx/UPS men are on a first name basis.
50. You really start to miss people that you've never seen.
51. Your exercise machine is a Morse code keyer.
52. You walk through the plumbing section at the hardware store and see antenna parts.
53. Your neighbors thought you were nuts when you ripped up your lawn to bury chicken wire.
54. Your next door neighbor thinks that your wife is a widow.
55. Your wife has delivered meals to your Ham shack.

[For More Information, contact the Rockwell-Collins Amateur Radio Club; Mail Station 461-290; P.O. Box 833807; Richardson, TX 75083-3807.]

HAM NEWS

Submitted By: David Bart

[Editors' Note: We received the following from the Rockwell Collins Amateur Radio Club which was published in "Signals", Jan. 2009. Do any of these sound familiar?]

YOU MAY BE ADDICTED TO HAM RADIO IF:

1. When you look at a full moon and wonder how much antenna gain you would need.
2. When a friend gets a ride from you and remarks that you have a lot of CBs in your vehicle, it turns in to an hour long rant on how ham radio is not CB radio.
3. When someone asks for directions, you pause, wondering if long or short path would be best.
4. When you can look at a globe and be able to point to your antipode (and you know what an antipode is).
5. Your cell phone ring tone is a Morse code message of some kind.
6. You have accidentally said your Amateur Radio call sign at the end of a telephone conversation.
7. Your favorite vacation spots are always on mountain tops.
8. You notice more antennas than road signs while driving your car.
9. You have driven onto the shoulder of the road while looking at an antenna.
10. Porcupines appear to be fascinated with your car.
11. If you ever tried to figure out the operating frequency of your microwave oven.
12. When you look around your bedroom of wall to wall ham gear and ask: Why am I still single?
13. The local city council doesn't like you.
14. You think towers look pretty.
15. Your family doesn't have a clue what to get you for Christmas, even after you tell them.
16. Your HF amplifier puts out more power than the local AM radio station.
17. The wife and kids are away and the first thing that goes through your head is that no one will bother you while you call "CQ DX" a few hundred times.
18. When you pull into a donut shop and the cops there on their coffee break ask if they can see your radio setup.
19. You refer to your children as your "Harmonics".
20. Your girlfriend or wife asks: "You're going to spend \$XXXX on what???"
21. You actually believe you got a good deal on eBay.
22. When you see a house with a metal roof, and your only thought is what a great ground plane that would be.
23. You have pictures of your radio equipment as wallpaper on your computer's desktop.
24. Every family vacation includes a stop at a Ham radio store.



I WANT YOU
TO VOLUNTEER WITH ARCI !!

We Need Your Help To Run Your Club!!

- ARCI News – Authors, Contributors
- Radiofest – Volunteers
- Local Meets – Volunteers
- Radiofest Staff – Auction, Registration
- Radiofest Hospitality Tent – Donors, Staff

Earn your stripes today!

Please Contact Your Board Members & Club Officers Or Call
Olin Shuler, ARCI President
oshuler@comcast.net; Cell Phone 217-257-5830

RADIOFEST 2014 PLANNING UPDATE

By Olin Shuler, ARCI President

PLANS FOR RADIOFEST 2014 ARE UNDER WAY. We plan another banner year as ARCI teams up with the Wisconsin Antique Radio Club, Inc. (WARCI), the Vintage Radio and Phonograph Society (VRPS) of Dallas, Texas and the Antique Wireless Association (AWA). *Radiofest* will be co-sponsored by four important clubs, making it truly the National Event of the summer!

Radiofest 2014 will take place July 31 and August 1st and 2nd. We will be returning to the Willowbrook Inn and Conference Center with the full support of the hotel. We plan to keep a schedule similar to 2013 with the Main Auction as our first event on Thursday evening.

Radiofest 2014 will commemorate the 100th anniversary of the start of World War I, and the 70th anniversary of D-Day in World War II. Communications technology leaped forward as a result of each historic event. A special Atrium display will feature hardware and memorabilia from both periods. And, a heads-up to our military radio collectors and their associates-- special plans are brewing for the vintage ham station that operates at each *Radiofest*.

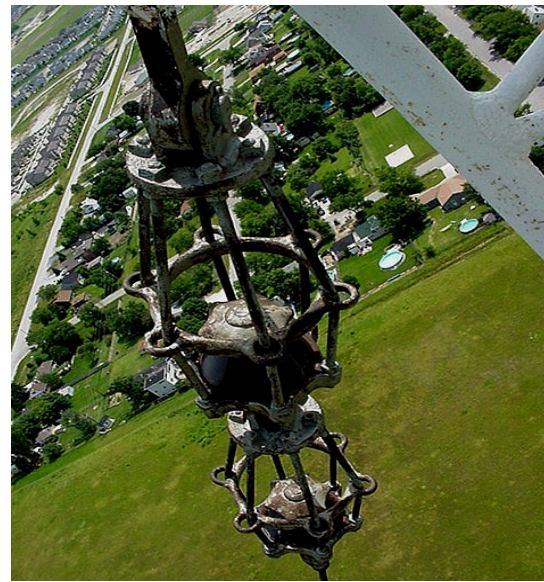
FLASH – FLASH, Special Notice: The entertainment at the Friday Night banquet will feature the Chicago's very own *LEGACY GIRLS*, a trio deftly re-creating the amazing sounds and style of the 1940's *ANDREWS SISTERS*. Come and enjoy!

The opening night auction will be in the hotel Ball Room followed by our traditional pizza party. Our enhanced A/V equipment makes it a "class-act!" The huge quantity and excellent quality of items available in the auction made this a great event. Jim Sargent from VRPS is returning to co-manage the auction. We look forward to refinements in our computerized check-in, sale tracking, and expedited check-out procedures. If you have specific ideas, please contact Greg Hunolt at ghunolt@excel.net.

Radiofest 2014 speaker's programs will feature subjects related to this year's theme. Stay tuned for further details.

The Donation Auction is scheduled for Saturday morning. We need your donations, which benefit the club by helping to offset operating expenses. Thanks to our members who have helped so much in years past. If you have questions, comments or donations, please contact Tom Kleinschmidt at Thomaskleinschmidt@yahoo.com

We are still working on the budget and final pricing arrangements with the hotel. The Board of Directors will do everything possible to maintain affordable event prices that provide excellent value for our members. Prices will be carefully reviewed and announced in or before the next issue of *ARCI News*.



The original "cage" insulators, part of the guy system, were replaced in 2001 with the new guy wires.

The tower stands out as man's finger on the northern Illinois plains, so nature has a love-hate relationship with it. Across the decades, Zeus' thunderbolts have failed to topple the tower, wind merely makes the guy-lines sing, and ice storms can cause the VSWR to jump, but the tower remains.



The "platform" and side light system can be seen here during a retrofit of the tower.

Early Bird Special Passes to Donley's Wild West Phonograph Show on June 13,14,15 (\$80 dollar value). I'm looking for the best answer about WLS history, looking for dates, when it was established, what WLS stands for, and other pertinent info about WLS' history. Write it up and get it published in ARCI News! You can email me at N9QDS@ARRL.NET. Good Luck. Thanks, Keith.

There has been some refurbishment of the tower over the years. Shulz recounted that during a heavy snow the guy-lines became caked and began to "flash." A more modern insulation design was installed with new guy-lines in 2001. Shulz noted that the typical lifetime for guy-lines was 20 years, so the guy wires were refurbished well past their normal replacement time. The anchors for the guy-lines are concrete piers that extend 12 feet below grade. They would not appear to be a failure point. The stick is a svelte four feet wide. Shulz says it is built of solid rod, courtesy of Truscon's railroad bridge-building roots.

The tower stands out as man's finger on the northern Illinois plains, so nature has a love-hate relationship with it. Across the decades, Zeus' thunderbolts have failed to topple the tower, wind merely makes the guy-lines sing, and ice storms can cause the VSWR to jump, but the tower remains.

A hawk once took up residence at the 100-foot side of the light platform. Tower climbers and the bird tolerated each other. There are five platforms in the triangular tower, each corresponding to a set of side lights. This doesn't match FAA regulations, but as one can imagine, the tower has earned grandfather status.

Quiz Time -- Now for a quiz, I'm looking for club participation, so the best answer to this question will receive two



The ceramic insulator at the base of the tower. Note the rectangular hole in the faceplate.



OUR NEW TRANSMITTER

WLS begins a new era with a bigger and better transmitter. Our most modern transmitter equipment, dedicated November 12, 1938, will bring WLS services to many more homes.

Above are two of our most valuable men, Tommy Rowe, chief engineer of WLS, and Homer Courchene, chief engineer of the new transmitter on Route 45 and 183rd Street. Below are the WLS operators, Maurice Donnelly, Bill Anderson, Charles Nelson, Jimmy Dougherty, Burr Whyland and Herbert Wyers. The top pictures are, from left to right, looking up at the tower, the power transformers, one of the guy wire anchors and a guy wire insulator. In the far right corner is another view of the tower. Below, an aerial view of the transmitter and tower.

The WLS Engineering Team.

Remember, *Radiofest* is your show!! And, we are looking for suggestions on ways to improve it. The feedback we received last August was extremely helpful. If you have other ideas, please contact Olin Shuler at oshuler@comcast.net.

NEWS FROM THE HAM SHACK

By Jim Novak, WA9FIH

HALLICRAFTERS' 1948 DXPEDITION TO THE MOUNTAINS OF THE MOON

Just as many radio listeners enjoy searching for distant stations on the AM broadcast band late at night, or tuning in far away stations on the shortwave frequencies, many of us ham operators delight in contacting overseas stations in faraway places – “DX”. Many strive for the DXCC – DX Century Club – award for making confirmed contacts with at least 100 countries. Our late ARCI member Joe Schroeder, W9JUV, was in fact at the top of this list with 394 countries worked. Some of these “countries” are little more than a few square miles of uninhabited rock jutting from an ocean, so in order to make contact with that piece of real estate, a “DXpedition” will be formed to set up a temporary ham station complete with generator power, portable antennas, etc.



Hallecrafters Pith Helmet Promotion: (L) Front (R) Back.

Following the end of WWII, Amateur Radio experienced a period of growth spurred by the many veterans who had a taste of radio operation in the Signal Corps, plus the availability of affordable military surplus equipment that could be made to work on the ham bands. Manufacturers such as Hallicrafters, which had cranked out countless receivers and transmitters for the war effort, retooled for consumer production.

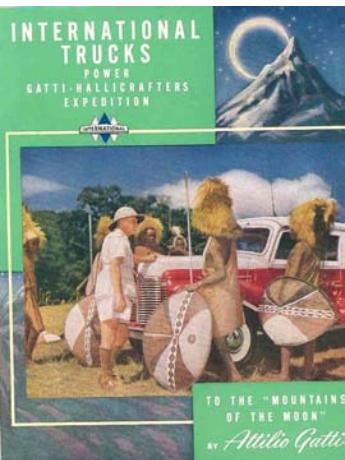
Just as many manufacturers loan or donate equipment to various causes today to obtain favorable publicity for their products, back in 1948, Hallicrafters saw an



“Hallicrafters Gatti Expedition” QSL Card.

Harvester. The transmitting antenna was a wire rhombic for 10, 20, and 40 Meters, which could be assembled in less than an hour. Home base station for the expedition was the Fifth Avenue Ham Club, W9CGC, which was located at Hallicrafters’ plant at 4401 West Fifth Avenue in Chicago.

The leader of the expedition was Attilio Gatti, a well known author and world traveler, who was making his eleventh trip into the African interior. Accompanying Gatti was Weldon King, an ex-Army photographer, an International News Service correspondent, James Powers, and two hams, Bill Snyder, W0LHS and Bob Leo, W6PBV. The call letters used were VQ3HGE, VQ4EHG, VQ5GHE and VQ5HEG – all combinations of “Hallicrafters Gatti Expedition”. First contact was made on January 25, 1948, and the expedition continued for nine months, making some 4000 contacts with all of the then 48 United States and “every country of the world except Tibet”!



August-September 1949 issue of *Harvester World* from *International Harvester*.

and by Attilio Gatti. The International Harvester truck photo appeared in the August-September 1949 issue of *Harvester World*, IH’s trade journal.

opportunity to show off their short wave equipment by co-sponsoring one of the first DXpeditions – a scientific safari into an area of Uganda, then a British Protectorate, known as the Mountains of the Moon. They furnished two HT-4E transmitters (civilian version of the famous BC-610), an HT-18 VFO, and SX-42, SX-43 and S-38 receivers installed in specially equipped trucks which were provided by another Chicago based firm, International

During the time that the Gatti expedition was on the air, Hallicrafters dealers were handing out a free advertising premium to anyone who bought a Hallicrafters radio: a genuine full size souvenir paper-mache helmet commemorating the operation. My helmet is tan with dark green printing: On the front, “Gatti hallicrafters expedition (H) logo, TO THE MOUNTAINS OF THE MOON”, and on the Back, “hallicrafters radio”. My thanks go to fellow ARCI member Marshall Pochay, WD9EXD, who found this unique piece of headgear for me at a local hamfest. Although they were probably made by the thousands sixty-five years ago, it is unlikely that very many are still around. The VQ3HGE QSL card, which I purchased from an English ham on eBay, is printed in dark blue on white stock and features a long necked giraffe at “Base Camp, Tanganyika”. It confirms a contact made by operator W6PBV, running 150 watts, with W0BZK on the 28 Mc band on May 4, 1948. It is signed both by Bob, W6PBV

ANTENNA TOPICS

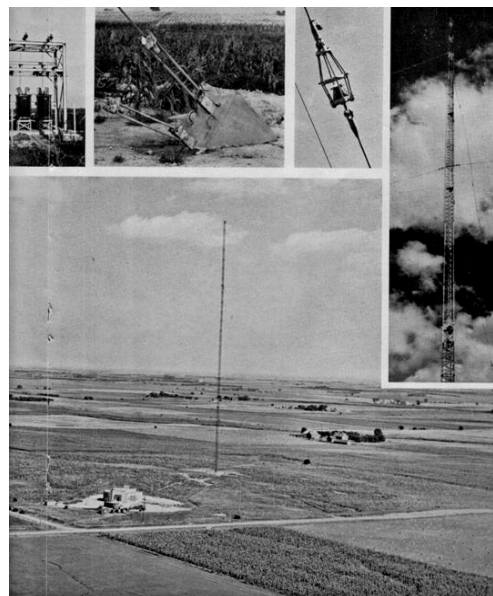
An Occasional Column On Topics of Interest

By Keith Schreier

75 YEARS FOR THE WLS TOWER AND STILL GOING

If you happen to be passing LaGrange Road (US-45) north of I-80 in Tinley Park, Illinois, look to your right. That is a 75 year old radio tower. When it was constructed, *Prairie Farmer* magazine owner Burrige D. Butler had it placed just outside of Cook County in Will County because he was feuding with Cook County officials at the time. The project cost about \$232,000 in 1938. That is \$3.7 Million in 2014 dollars. That tower has just celebrated its 75th anniversary.

The tower belongs to one of radio’s senior stations, WLS (AM). It was put up in the spring of 1938 by WLS’ then-owner, *Prairie Farmer* magazine. The area was relatively rural and the 586-foot tower soared over a corn field.



Aerial view from the WLS Album by Prairie Farmer magazine.

The minds behind this idea are pictured in a 1939 *WLS Family Album*. The builder was Truscon Steel. Warren Shulz, who engineered at WLS for decades, says the tower weighs around 42,000 pounds. And it all comes down to a single point, a ceramic insulator that has never been replaced. The rectangular hole that can be seen in a plate above the insulator was thoughtfully placed there so that future generations could replace the insulator by running a steel beam through the hole and then jacking up both ends of the beam. Shulz told *Radio World* that everyone knew about this possible construction strategy, but no one had the nerve to try it.

A Bose software program enabled acoustic engineers to simulate the sound from any seat in a large hall, even before the site was built. The system was used to create sound systems for such diverse spaces as Staples Center in Los Angeles, the Sistine Chapel and the Masjid al-Haram, the grand mosque in Mecca.

In 1982, some of the world's top automakers, including Mercedes and Porsche, began to install Bose audio systems in their vehicles, and the brand remains a favorite in that market segment.

Dr. Bose's devotion to research was matched by his passion for teaching. Having earned his bachelor's, master's and doctorate degrees in electrical engineering at the Massachusetts Institute of Technology in the 1950s, Dr. Bose returned from a Fulbright scholarship at the National Physical Laboratory in New Delhi and joined the M.I.T. faculty in 1956.

He taught there for more than 45 years, and in 2011, donated a majority of his company's shares to the school. The gift provides M.I.T. with annual cash dividends. M.I.T. cannot sell the shares and does not participate in the company's management.

Dr. Bose made a lasting impression in the classroom as well as in his company. His popular course on acoustics was as much about life as about electronics, said Alan V. Oppenheim, an M.I.T. engineering professor and a longtime colleague.

"He talked not only about acoustics but about philosophy, personal behavior, what is important in life. He was somebody with extraordinary standards," Professor Oppenheim said.

Dr. William R. Brody, head of the Salk Institute in the La Jolla neighborhood of San Diego, was a student in Dr. Bose's class in 1962. He told Popular Science: "His class gave me the courage to tackle high-risk problems and equipped me with the problem-solving skills I needed to be successful in several careers. Amar Bose taught me how to think."

Amar Gopal Bose was born on Nov. 2, 1929, in Philadelphia. His father, Noni Gopal Bose, was a Bengali freedom fighter who was studying physics at Calcutta University when he was arrested and imprisoned for his opposition to British rule in India. He escaped and fled to the United States in 1920, where he married an American schoolteacher.

At age 13, Dr. Bose began repairing radio sets for pocket money for repair shops in Philadelphia. During World War II, when his father's import business struggled, Dr. Bose's electronics repairs helped support the family. After graduating from high school, Dr. Bose was admitted to M.I.T. in 1947, where he studied under the mathematician Norbert Wiener, along with Dr. Lee.

An avid badminton player and swimmer, Dr. Bose spent several weeks each year at his vacation home in Hawaii. Dr. Bose and his ex-wife, Prema, had two children, Vanu, now the head of his own company, Vanu Inc. in Cambridge, Mass., and Maya Bose, who survive him, as does his second wife, Ursula, and one grandchild.

RADIO ZONE

An Occasional Column On Topics of Interest
By Rachel Courtland

[EDITOR'S NOTE: We received a copy of this article published by the IEEE demonstrating the latest in FM transmitter technology. It offers an interesting view of just how far radio broadcasting has come in comparison to our usual topics. There are several website links to further explore the subject, including an audio sample. The original article is at <http://spectrum.ieee.org/tech-talk/semiconductors/devices/worlds-tiniest-fm-transmitter-made-from-graphene>.]

WORLD'S TINIEST FM TRANSMITTER MADE FROM GRAPHENE

Graphene has many talents. And now it can count radio transmission among them. A team led by James Hone (<http://hone.mech.columbia.edu/>) and Kenneth Shepard (<http://www.bioee.ee.columbia.edu/~shepard/>) at Columbia University in New York has demonstrated a device built from a strip of graphene that can transmit FM radio signals. The device, the team says, is the smallest FM transmitter yet made (<http://engineering.columbia.edu/smallest-fm-radiotransmitter-0>).

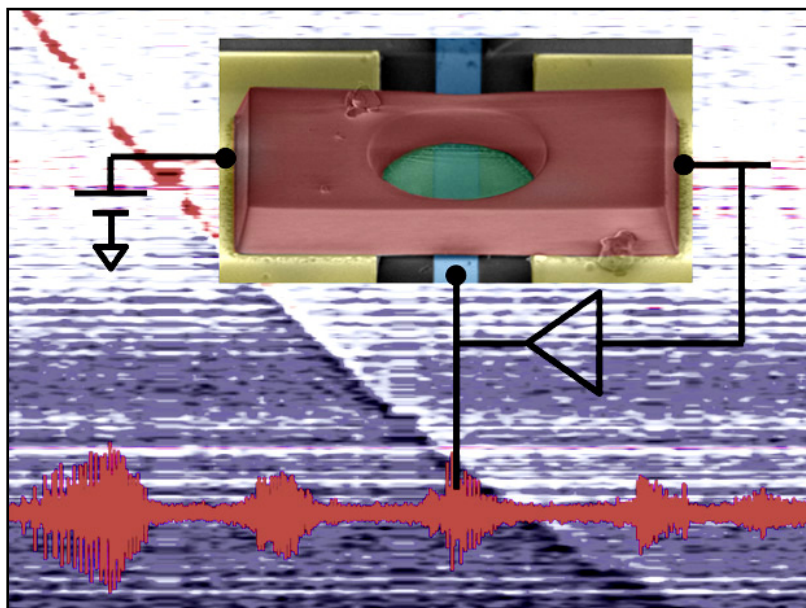
Many research groups have built graphene transistors that could be used in future RF circuits (<http://spectrum.ieee.org/techtalk/semiconductors/nanotechnology/ibm-extendsgraphene-to-silicon-scales>) such as signal processors. Hone and his colleagues decided to test a different radio application for graphene, by building a moving, vibrating, electromechanical device. The team reckons that such graphene-based nanoelectromechanical systems (NEMS) could be more compact and easier to integrate onto chips than silicon MEMS and quartz devices, which are used today to pick up and filter RF signals in smartphones and other gadgets.

To build a graphene transmitter, the team suspended a 2-4 micrometer-long strip of graphene above a metal electrode. By applying a voltage to the electrode, they could draw the strip of graphene down. The resulting strain altered the strip's resonant frequency, tuning it up much as you might tighten a guitar string. By altering the voltage on the gate, the team found they could use the graphene device to generate a frequency-modulated electromagnetic signal. In a paper (<http://www.nature.com/nnano/journal/vaop/ncurrent/full/nnano.2013.232.html>) published this week in *Nature Nanotechnology*, they report the device could transmit radio signals at 100 MHz, right in the center of the FM band.

For an aural demonstration, the team queued up the now classic K-pop song "Gangnam Style" on an iPhone and fed it into one of their graphene devices. They picked up the result on a regular FM radio tuner that Hone had brought in from home. Here's what it sounds like: (<http://spectrum.ieee.org/ns/audio/mp3/nnano.2013.232-s2.wav>)

You'll notice a fair amount of static in the audio clip. That's partly because the graphene oscillator is quite sensitive to electrical noise: a small voltage on the gate electrode can dramatically shift the frequency, Hone says. The team didn't add insulation in order to optimize their set-up for this demonstration. "We were also trying to operate at 100 MHz, right smack in the middle of the FM spectrum, where you can pick up a lot of FM signals," he adds.

But the transmitter was just a proof of principle demonstration. "I think the big kinds of applications here are in filters and signal processing," Hone says. The team next hopes to show that they can integrate graphene NEMS devices onto silicon chips.



*World's Tiniest Fm Transmitter Made From Graphene And Its Audio Track.
(Image: Changyao Chen & Sunwoo Lee/Columbia University.)*

HISTORY ZONE

An Occasional Column On Topics of Interest
By Glenn Rifkin

[Editors Note: Courtesy, New York Times, July 14, 2013.]

AMAR G. BOSE, ACOUSTIC ENGINEER AND INVENTOR, DIES AT 83

Amar G. Bose, the visionary engineer, inventor and billionaire entrepreneur whose namesake company, the Bose Corporation, became synonymous with high-quality audio systems and speakers for home users, auditoriums and automobiles, died on July 12 at his home in Wayland, Mass. He was 83.



Amar G. Bose.

His death was confirmed by his son, Dr. Vanu G. Bose. As founder and chairman of the privately held company, Dr. Bose focused relentlessly on acoustic engineering innovation. His speakers, though expensive, earned a reputation for bringing concert-hall-quality audio into the home.

And by refusing to offer stock to the public, Dr. Bose was able to pursue risky long-term research, such as noise-canceling headphones and an innovative suspension system for cars, without the pressures of quarterly earnings announcements.

In a 2004 interview in *Popular Science* magazine, he said: "I would have been fired a hundred times at a company run by M.B.A.'s. But I never went into business to make money. I went into business so that I could do interesting things that hadn't been done before."

A perfectionist and a devotee of classical music, Dr. Bose was disappointed by the inferior sound of a high-priced stereo system he purchased when he was an M.I.T. engineering student in the 1950s. His interest in acoustic engineering piqued, he realized that 80 percent of the sound experienced in a concert hall was indirect, meaning that it bounced off walls and ceilings before reaching the audience.

This realization, using basic concepts of physics, formed the basis of his research. In the early 1960s, Dr. Bose invented a new type of stereo speaker based on psychoacoustics, the study of sound perception. His design incorporated multiple small speakers aimed at the surrounding walls, rather than directly at the listener, to reflect the sound and, in essence, recreate the larger sound heard in concert halls. In 1964, at the urging of his mentor and adviser at M.I.T., Dr. Y. W. Lee, he founded his company to pursue long-term research in acoustics. The Bose Corporation initially pursued military contracts, but Dr. Bose's vision was to produce a new generation of stereo speakers.

Though his first speakers fell short of expectations, Dr. Bose kept at it. In 1968, he introduced the Bose 901 Direct/Reflecting speaker system, which became a best seller for more than 25 years and firmly entrenched Bose, based in Framingham, Mass., as a leader in a highly competitive audio components marketplace. Unlike conventional loudspeakers, which radiated sound only forward, the 901s used a blend of direct and reflected sound.

Later inventions included the popular Bose Wave radio and the Bose noise-canceling headphones, which were so effective they were adopted by the military and commercial pilots.