ANTIQUE RADIO COLLECTORS & HISTORIANS (ARCH) OF GREATER ST. LOUIS

ARCH CLUB NEWSLETTER

FEBRUARY 2025

Special points of interest:

Join us for our next meeting:

March 11th, 2025 at 6:30 PM

Maryland Heights Community Center
300 McKelvey Road,
Maryland Heights, MO 63043

Meetings are temporally being held at in Maryland Heights Community Center while the Kirkwood Community Center is being re-finished.

Meeting Notes:

15 Club Members were at the ARCH February meeting.

A visitor was also present for the meeting. Mr. Mike Mueller found us on the internet. He introduced himself by stating, "he has so many projects that he needs help... and came to the ARCH meeting to get good advice." Started in grade school with repairing radios. Enjoys the sound of tubes and vinyl records.

Old & New Business

Upcoming Hamfest….

Lewis and Clark Radio Club Hamfest

March 15th, 2025 | 7:00 AM till 12:00 PM
"The Commons" at Lewis & Clark Community College
5800 Godfrey Road
Godfrey, IL 62035

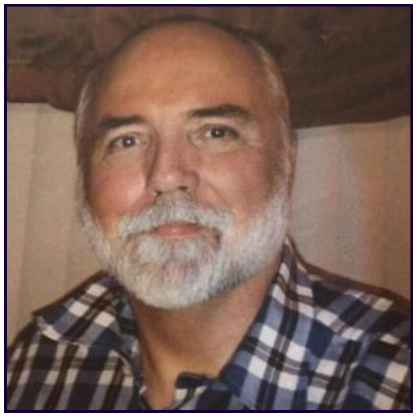
River Hills Hamfest

April 12th, 2025
Fraternal Order of Eagles Perryville
2746 W. St. Joseph St.
Perryville, MO 63775

Club dues for calendar year 2025 is again $20.00 dollars. Please support the club and become a paying member. Dues go toward the Christmas party, room rental, and club picnic events.

Passing of Chuck Ridenhour (September 22, 1950—February 5th, 2025)

The club was notified long time club Member Chuck Ridenhour passed away. Chuck was 74 years old at the time of his death. His obituary states, "Chuck had a deep appreciation for history and nostalgia. His curiosity and love of learning shaped his life, leading him to explore a variety of interests. He was an avid collector, particularly drawn to antique radios, nostalgic toys and technology."



Chuck's family stated that his radio collection was large. Chuck family will be looking to part with his radio collection in the future. His daughter Megan expressed her gratitude that the ARCH radio club was a positive part of his life.

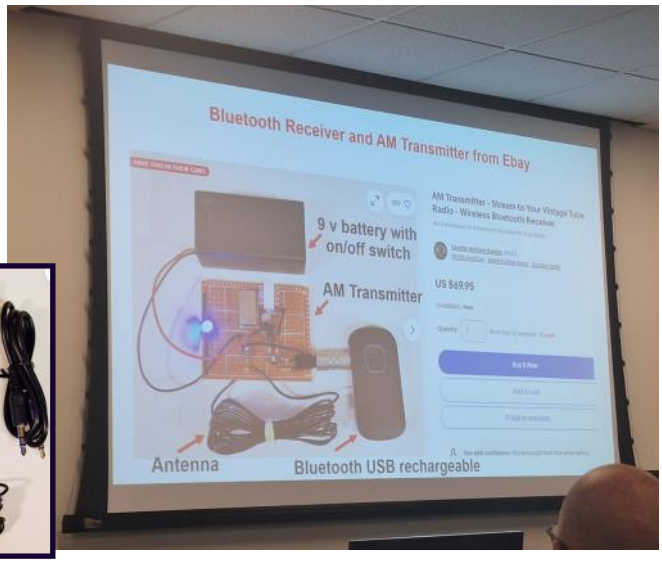
Link to Chuck's obituary:
Charles Ridenour Obituary (1950 - 2025) - Legacy Remembers

Or search for "Chuck Ridenhour obituary 2025".

Show and Tell —February Meeting

Ken Nieman — Adding Bluetooth reception capability to a AM radio with no modification.

Demonstrated a simple AM Radio transmitter built from different readily available parts and procurement via E-Bay. The transmitter, is very simple in its construction. The transmitter uses a crystal oscillator at 1-Mghz coupled to an audio transformer. Ken added a Bluetooth receiver and a USB battery-based power supply. The AM transmitter, the circuit board in the picture, was bought on E-Bay. The additional procurement of the Bluetooth receiver, 9-volt battery holder, and wire for the antenna permits portable operation. The AM signal is very low power. The AM transmitter must be placed next to the AM receiver. Audio quality is good and was demonstrated to the club.



Editor's Note:
One can build this transmitter by following the tutorial at: https://leap.tardate.com/radio/am/simplecrystaltransmitter/

Dave Kunkle —Discussion about a Philco 630 restoration

Dave had decided earlier he would start to downsize his radio collection. After attending a radio swap meet in Michigan, he elected to simply not downsize his collection, but upgrade his collection. *Get rid of the old… but collect better radios….* Has a desires to own a nice models of the five major brands., Zenith, RCA's Stratoworld, Silvertone, Hallicrafters, and Stromberg Carlson.

The Michigan Antique Radio Club holds yearly radio swap meets affectionally called "Extravaganza" but now known as "Vintage Electronic Expo". Dave was near Michigan working and decided he would attend the Michigan Club's yearly Winter Swap meet. Dave is a Member of the Michigan club and advised everyone to join. Joining the club for $25.00 a year will provide any member a great information filled quarterly newsletter. The largest event put on by Michigan's club consist of over 50 vendors and 1,500+ attendants. A future swap meet in Kalamazoo, Michigan would be closest for any STL ARCH member.

Dave also spoke shortly about ripleyauctions.com. This auction site has a 3rd radio auction occurring for one individual's collection. It was stated this individual's estate was so large, additional auctions would be occurring.

Dave brought a few notable radio's to the meeting he procured while in Michigan. From Left to Right.

1.) 1956 Silvertone 57K 7022 - Model 20 in turquoise. AM alarm clock radio.

2.) 1946 Ultradyne Radio Regal L-46 — AM radio in wooden box.

3.) 1952 thru 1956— Hallicrafters TW-1000.

4.) 1963 Channel Master 6520. A D-cell radio built by Sanyo originally. Dave was impressed with how cosmetically clean the radio was. Sadly the radio does not work currently, but will be fixed.

Joe Tauser — 1941 Zenith 6G601-M Transformation

At the January 2025 meating, Joe brought in a Zenith 6G601. This radio had the typical sailboat design on the front. This radio was easy to repair. After repair, it was discovered the needle dragged across the warped clear plastic dial cover. Procurement of a remanufactured dial cover occurred. Cleaning of the radio cabinet with a Mr. Clean Magic Eraser and some Dawn detergent revealed amazing results.

The replacement of the sailboat speaker cover with a Bomber speaker cover occurred. Zenith did make a radio with this dial cover.

From online resources, "For the 6G601, Zenith made 22,350 Sailboat models in 1942. The last batch of 5,000 were produced with a Bomber radio. The cover of the radio came in five different flavors." This cover for Joe's radio was the most common. Zenith states model "M" is made of brown airplane luggage fabric with stripes.

Joe procured a luggage handle for $12.00 from Brettuns Village LLC. Visited Michaels and procured leather dye. He is very happy with the result of his work. The radio can safely be carried now. To get the handle replaced, Joe had to remove the rivets. It was discovered split rivets were used… To get the rivets off, a Dremel tool was used to flatten the top of the riven. After flattening, a punch was used. Increasing diameter drill bits were used until the rivet was removed.

Multiple club members discussed the use of 1L6 and 1LA6 tubes. These tubes were made specifically for Zenith Transoceanic radios. The 1LA6 is the better tube as it offered better tunning reception on the lower bands. Many club members discussed the newer solid state version of the 1L6, readily available today, is a great replacement. This replacement tube is even packaged in a glass envelope!

Joe tested the capacitors replaced in this radio and discovered, many of them were good. Most capacitors fail due to deterioration due to moisture corroding the internal metal foil or insulating paper.

Canio Vaccaro— 1927 RCA Radiola 17

Canio, as always did an amazing presentation regarding his restoration of an Radiola 17.

This was RCA's first "light socket" powered radio. What does this mean? There were no electrical outlets at the time in many homes. Homes had electric for only illumination purposes. This radio, with an adapter, could be plugged into light sockets. The radio cost $130.00 without tubes! ($2,343 in 2024 dollars.) The use of using an electrical light socket for power versus batteries resulted with this radio being popular. There were 197,917 produced in 1927. Natably, a cone speaker was used with this radio as it was becoming more common. The horn was being replaced.

The TRF consist of three separate AM circuits as a three ganged capacitor is used with there stages. This radio offers "one-knob tunning". There are a total of 7 tubes used. Four 27s, a 27 tube for the Detector, 71A for the 2nd AF, and an 80 rectifier tube.

Great discussions about power occurred…. Potentiometer's exist on the bottom to modify/adjust each tube's filament voltages. This was to reduce the possibility of oscillation by reducing the gain of the tube. (Electrical power was also not as stable/standard in the US as it is today.) The power pack is the most difficult thing to deal with. Canio was surprised that everything was in good shape. One issue that is common with these radios is the tapped resistance unit. This is a wire wound resistor unit inside the power supply with multiple taps. RCA must have had issues with the resistor unit as it was removed in the later Radiola 18 model. Canio simply replaced the resistor with numerous power resistors of different values. Connected to the resistor unit, are capacitors coated in tar. Unlike electrolytic capacitors made later with paper and wax, in which the capacitor's internal material would dry out or collect moisture causing failure. The capacitors in this unit were well sealed from the environment and thus, in great shape. An internal filter condenser pack was feared to be an issue. Canio spent a great deal of time tracing wires and identifying what was inside this pack. The pack's internal capacitors were identified to be in good electrical condition!

The receiver's large tunning capacitor was put into his ultrasonic cleaner. The capacitor came out very clean. The volume control simply adjust the antenna's length. Cabinet was cleaned with New Life Furniture Masques and Howard's Restore-A-Finish. The escutcheons were cleaned and polished. It is believed the brass, when made, had an antique finish. Canio likes the shinney finish… and so did many club members.

Canio Vaccaro— 1927 RCA Radiola 17 (continued)

Restored Power Unit

The Restored Power Unit These wire-wound potentiometers are used to reduce filament voltage. The wire is prone to break due to the manner the wiper "wipes" across the wires. RCA went to a better design in the following years.

Chassis

Top and Bottom of the radio chassis.

The radio portion of the chassis is on the left.

The electrical power portion chassis is on the right.

Canio Vaccaro— 1927 RCA Radiola 17 (continued)

Inside of the Radiola 17. Power Supply is on the far right. Tuner capacitor is in the middle and extends leftward. The radio is made of Mahogany all the way around. The front is a veneer with the rear being plywood.

Clubs Monthly Raffle Table

I mistakenly did not get a picture of the raffle table.

On the raffle table was a Grundig multiband radio chassis with matching Grundig speakers. The Grundig was only the radio chassis.. no cabinet.

There was an RCA AN/FM alarm clock radio with simulated wood grain. An additional alarm clock radio with LED readout was also available.

No raffle occurred as there were no tickets. Club attendants simply had an open table.

Record Players in vehicles

Ask yourself before reading… What year was the last year of a record player in a vehicle? Take a guess!

When thinking about record player's in cars…. many club members may think of Chrysler's "Highway Hi-Fi" system that was invented by Dr. Peter Goldmark. Mr. Goldmark is well known as the inventor of the 33 1/3 Long Play (LP) record. At the time, the LP record competed against RCA's 45 RPM record by providing a longer playing time.

Challenges of a playing any record within a moving car were numerous. Temperature changes could warp vinyl records. Bumps and turns could cause a record to skip multiple groves in a record. Dr. Goldmark and his team drawing on their expertise in microgroove technology, engineered a new solution—a groundbreaking "ultra-microgroove" format that allowed for even more compact records while maintaining extended playtime.

To solve the issue of size and playtime, Chrysler slowed the turntable's speed to 16 2/3 RPM—half the speed of a standard LP—allowing 7-inch records to hold as much music as a full-sized 12-inch LP. Due to the slower rotation speed, the dynamic range was limited to 3,000 Hz. (Approximate audio range of a landline telephone.)

The system underwent rigorous testing in the lab, where it deemed to achieve "excellent sound fidelity", and was later tested in Goldmark's personal Chrysler.

By designing a spring enclosure around the turntable and increasing the downward pressure on the stylus, the system was tuned to minimize skipping, even on rough roads.

The Highway Hi-Fi system was offered across multiple model lines from 1956 through 1959. This system was eventually ended due to cost of warranty work and the limited offerings of the Chrysler's Highway Hi-Fi record catalog. Chrysler was simply not a company interested in producing a record format that was not accepted as an industry standard.

In 1961, Chrysler revisited record players in cars by partnering with RCA. RCA's player played readily available 45 records upside down. A built in record changer would drop a played record into a lower collection cabinet. Once a record was ejected, a new record was loaded.

<— Chrysler's Highway "Hi-Fi" system.

<— RCA's 45 Record player for vehicles.

Editor's note:

Arch Club Members, while I was student in grade school, a classmate's parents had a Chrysler New Yorker sedan. This car personally fascinated me. I once rode my bike to their house, knock on their door, and ask to hear their car speak. The father obliged my request. Why was I amazed? The car would speak audibly to the occupants of the car. (I felt this car was equivalent to the black Pontiac Trans AM featured on the TV show Knight Ryder.) The Chrysler New Yorker would vocalizer reminders to fasten seatbelts and close doors. The system would alert of many other operating parameters... such as windshield wiper fluid levels. Notably, the futuristic voice notifications became an annoyance to owners quickly. Many owners would disable the speaker after months of ownership. (Dashboard lights would alert drivers of issues still.) I enjoyed writing about these systems for this newsletter.

Vehicle Audible Notifications in Vehicles

Two automotive manufactures produced cars in the 1980s with audible announcements. Each manufacture provided this "feature" in distinct different methods.

Chrysler

Chrysler called their system "*Electronic Voice Alert*" (EVA). This option was available on many of the K-based cards in the mid 1980s. This feature was specifically offered with vehicles which had an LCD based digital dashboards.

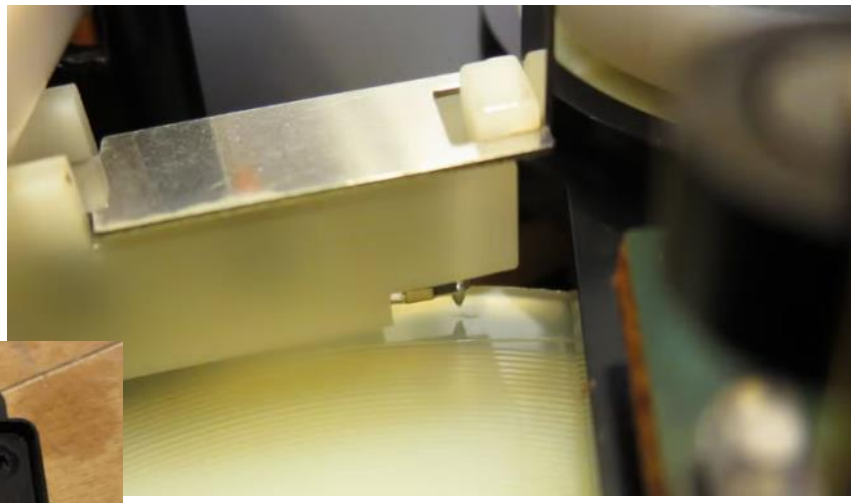
The Electronic Voice Alert would monitors 11 operating functions. Notably, the system would jabber on about them in endless fashion. ''Please fasten your seatbelts,'' said the voice in a resonant radio-announcer style. ''Thank you,'' the system would respond after an occupant complied. ''A door is ajar, a door is ajar!'' the voice stated in an alarming manner. Each vocal interrupting would mute the radio. ''Fuel is low,'' would be stated in a tone indicating that you should have been more provident. Worse, it won't leave you alone. Even when everything is fine, the system seems compelled to tell you so. Upon startup, the EVA system would inform the driver, "All monitored systems are functioning" if no issues were occurring.

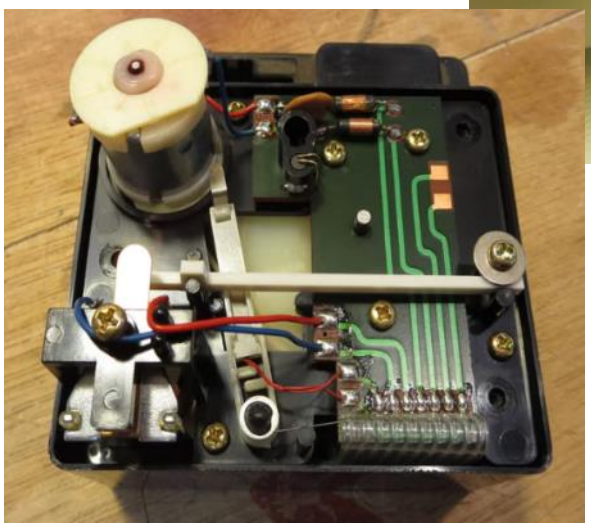
Chrysler utilized Texas Instruments LPC Speech chip for their audio announcements. These voice chips were also found within Texas Instruments (TI) Speak & Spell learning.

Nissan / Datsun

Nissan's and Datsun vehicles with their patented Voice Warning System available from 1981 through 1984 employed a 3-inch plastic record with six parallel groves/ tracks. Simple electronics, comprised of relays and solenoids, would properly select which of the six pre-recorded audible messages were to be played. Specific individual messages were simply recorded within different groves on the record. Audio would be played through the car's speakers.

Many individuals liked this system better than Chrysler's. A real woman's voice was recorded on the record. Audible message expresses simple instructions or alerts. The way "*open"* is emphasized in "*right door is open*" is evocative. She, the voice, sounds like she's genuinely affected by the openness of the door, and she needs you to close the door. The quality of the voice is way better than the synthesized voices of that era from Chrysler; that's because it's a real voice recording, not synthesized. It's not digital, because computer memory was far too expensive for this time period, and it's not even recorded on magnetic tape. Sadly, there were indeed individuals whom became annoyed with the female voice. Car owners Would affectionally call her, "Bitching Betty".





Summary

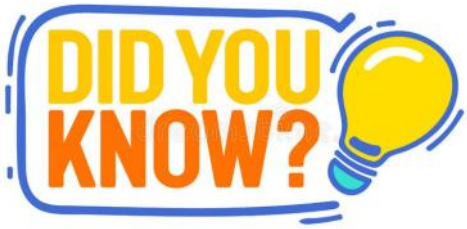
My personal review is that Chrysler employed a much more "futuristic" approach to their audible announcements. Their method of human vocal notification was expensive and not natural sounding. Many owners whom firstly found it futuristic were eventually turned off by it. (Chrysler eventually added a switch under the dash to turn off verbal announcements.)

Nissan did have a winning solution. The method not only sounded better but was also cheaper to manufacture. Many Nissan vehicles with this system are still operating today. Their use of a record was reliable. Numerous YouTube videos exist of individuals pulling working systems from junkyard cars. There seems to be hardly any of Chrysler's voice alert systems working.

Chrysler executives may have initially been impressed with the voice of Texas Instrument *Speak & Spell* toy. I have always personally wondered if Nissan had been inspired by another toy technology. In the 1950's Mattel developed a toy called "*Chatty Cathy*". The doll would verbally speak random phrases or expressions when a string was pulled. The technology of this toy later found adaption in a Mattel's *See n' Say*. The Sea n' Say permitted the user to select the audio. For example, this later toy featured an assortment of animals pictured in a circular design, similar to a clock's dial. A child would spin an arrow in the center. The arrow would be pointed to an animal's picture. Once an animal was selected, a string would be pulled. The device would make the sound of the selected animal. The action of turning the arrow simply selected different groves/tracks on an internal record. (NOTE: My parents loved this toy as no battery were required. A plastic and metal diaphragm inside an acoustic enclosure was surprisingly loud.

Nissan implementation simply electronically selects the correct track as a human would chose the track with Mattel's See n' Say. The only problem with the record implementation was that each message could not exceed a specific duration of time. I believe Nissan's implementation of a record player in a vehicle was not only the most successful, but also **the last occurrence a record was used within a vehicle.**

Mattel's See n' Say—>



The most powerful radio station was WLW in Cincinnati, Ohio. The station was licensed by the US Government for 500,000 watts of radiated power. At the time, a majority of AM stations in the US were limited to 1,000 watts of radiated power.

WLW was also known as "*The Nation's Station*". In the 1939, FCC reduced the power output to 50,000 watts. WLW eventually became to be known as, "*The Big One*".

Question: What company was formed first…. Zenith or Radio Corporation of America?

Answer:

RCA was founded in November 1919 as the Radio Corporation of America (RCA). RCA was formed by General Electric, Westinghouse, AT&T and United Fruit Company.

Zenith was founded in 1923. However, it was first known as Chicago Radio Labs in 1918 by the same founders. The name was changed to Zenith Radio company when the company moved from Armature Radio equipment to commercial radio.

In my opinion, Zenith came first. RCA was simply the result of multiple companies joining forces. Zenith simply underwent a name change when expanding their products from an amateur radio market to a commercial market. I do understand many opinions my differ from others…. This is simply how I understand it.

Question for the March Newsletter:

What engineering advancement of AM station transmitters resulted with the United States having an explosion of AM transmitters stations between 1940 and 1950? Without this engineering advancement, the number of United States radio stations would have been limited to 2,000 or less.

Quote Of The Month:

"It is (AM Commercial Broadcast Radio) critical to keeping us safe. It also continues to be the most reliable form of emergency communication during severe weather and power outages." - Texas Senator Ted Cruz

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