ARCI NEWS

www.antique-radios.org

Affiliated AWA
Antique Wireless Association

Volume 43, Issue 4
August 2023

ANTIQUE RADIO CLUB OF ILLINOIS *RADIOFEST* AUGUST 4 & 5

NATIONAL RADIO DAY AUGUST 20

ARCI CALENDAR

EVENT	LOCATION	DAY & DATE	TIME
Radiofest	Medinah Shriner Center	Friday, August 4, 2023 Saturday, August 5, 2023	see program
Virtual Forum	Your Computer	September 23, 2023	10:00 am
Swap Meet	American Legion	Sunday, October 1, 2023	7:30 am
Virtual Forum	Your Computer	Saturday, November 18, 2023	10:00 am
Swap Meet	American Legion	Sunday, December 3, 2023	7:30 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

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THE ANTIQUE RADIO CLUB OF ILLINOIS

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

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LaGrange Park, IL 60526
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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

June 2023

We were all disappointed that the June Six Meter Club Hamfest was canceled. ARCI was an invited guest of the event, consistent with our relationship pre Covid. As their guest we have no official role in the operation of the event nor the decision to cancel. We have no explanation as to why it was canceled, just that it was.

Radiofest is just around the corner, and we have much to offer as outlined in the June newsletter. Donations keep rolling in so expect a lot to choose from.

If it looks like rain on Saturday for the outdoor swap meet we can request to use the ballroom where the main auction is held Friday night. There is obviously less room in the Ballroom than the parking lot, and I am confident that with cooperation we can consolidate into that space. The plan remains as of now to have the swap meet in the parking lot.

Scheduling of swap meets for 2024 is underway. We hope to meet on Saturdays rather than Sundays in February, April, June, October and December at the American Legion Hall in Carol Stream. Send me your thoughts on start times.

June meets without the hamfest have traditionally had low attendance. Do you think we should do something different or perhaps skip June? August of course will be *Radiofest*.

Scheduling for 2024 ARCI Virtual Forums is underway as well. Input on that is also welcome. There is quite an archive of previous forums on our YouTube channel – check it out.

See you at *Radiofest*!

Tom Kleinschmidt
President
Antique Radio Club of Illinois

clubinfo@antique-radios.org
630-739-1060 – leave a message

ARCI ONLINE

By Tom Zaczek

ARCI VIRTUAL FORUM #26

SATURDAY SEPTEMBER 23rd 2023, 10AM CT

Join in on your computer, pad or phone to be a part of our
Virtual Forum Video Meetings. You don't need to be an ARCI member!

ARCI's Virtual Forum continues on! Join in to watch and interact with presentations in the areas of radio restoration, company history, and technology, just to name just a few. Also, there are short "Show and Tells" presented!

How to join in: Stay tuned to the emails from ARCI for the registration link for this meeting. 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 them on-line later! Prior Virtual Forums are available for viewing on ARCI's own YouTube channel:
https://www.youtube.com/channel/UCEyMw9QGrvcquC1vZBvHWbQ

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. 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 forum, 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, 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** If you want to offer something for sale OR see if others have what you're looking for, please use this time to discuss it.

- **OPEN SESSION**: Non-moderated chat session as time permits.

12:00 Noon – Close

Planned ARCI live Virtual Forum video meets

We have 5 Virtual Forums for 2023. 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 ARCI has an "in person" swap meet, we are not scheduling a Virtual Forum. After September, the last of 2023's Virtual Forums is November 18.

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. We can help you dry-run it on Zoom. It's easy! Share your project and passion with a 10-minute or longer presentation. Take that first step and send 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. 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) 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

ARCI UPDATES

Next SWAP MEET: *RADIOFEST* August 5th, 2023 7:00 am - 3 pm
Medinah Shriners * 550 Shriners Drive * Addison, IL 60101

SATURDAY SWAP MEET SELLERS SPACES:

ON-SITE REGISTRATIONS.....$30.

PLEASE NOTE

- NO SALES BEFORE 7AM SATURDAY.
- All activities are subject to rescheduling.
- Individuals are responsible for safeguarding their own property.
- Neither ARCI, including their individual directors, officers and/or members, assumes liability for any injury to any person, or any loss, theft or damage to any personal property.
- ARCI reserves the right to remove any item deemed inappropriate for sale at the main auction, swap meet, or donation auction.

RADIOFEST 2023 Update

by Steve Muchow, *RADIOFEST* Chair

RADIOFEST 2023
Friday August 4 - Saturday August 5
Medinah Shriners
550 N. Shriners Drive
Addison, IL 60101

Radiofest 2023 is around the corner and we expect a strong turnout as collectors are anxious to once again experience all that *Radiofest* has to offer. This month's *Radiofest* Update column will highlight the main activities and updates since last month. For a full description of *Radiofest* 2023 activities see the June 2023 issue of ARCI NEWS available on the ARCI website www.antique-radios.org.

REGISTRATION: Pre-registration is still available **on-line only** until July 28 at a reduced rate of $20 for each parking space. After July 28, registration will be available only on-site at a cost of $30 per space.

NOTE: Outdoor tables and banquet tickets are available **only** via on-line pre-registration until July 28. See the ARCI website for pre-registration details.

HOTEL: Our host hotel, the Hilton Garden Inn, should be contacted directly at (630) 691-0500 for room reservations. The special ARCI room rate cutoff date has passed, so please call the hotel directly to make reservations at their current room rate.

AUCTION: Registration for the *Radiofest* auction on Friday evening opens officially at 3pm. We strongly urge you to arrive early to avoid long lines and delays at the registration desk. This is a popular event and your patience and understanding is always appreciated. All items for the auction must come through the main entrance of the Shriners' facility. We want to avoid vehicles blocking the entrance, so please move your vehicle to the parking lot after you unload and before taking your items to the ballroom. Food and beverages will be available for purchase during the event.

SWAP MEET: Registration for the swap meet on Saturday, August 5 opens at 7am on Saturday. The swap meet is held in the West parking lot with parking spaces for registered sellers available on a first come-first served basis with no assigned space numbers. **IMPORTANT! No tent stakes are allowed in the swap meet lot!** A reminder that all sellers at *Radiofest* (even if pre-registered) must first stop by the registration booth to pick up name tags, banquet tickets and other handouts prior to participating in the event. Please … no sales before 7am on Saturday morning.

PRESENTATIONS: Two great presentations are offered inside the Shriners' facility.
8:00 am – 4:00 pm: "Old Time Radio" audio presentations all day by Paul Iverson (Lobby).
1:00 pm – 1:50 pm: "Myths and Facts in Audio and Radio Restoration" by Pete Nauseda (Music Room). Note: A raffle for a pocket digital oscilloscope will be held for Pete's presentation attendees.
These promise to be terrific programs - you will want to set aside time to participate.

DONATIONS: The usual donation auction will be held at 12:00 pm on Saturday. Keep in mind that you may purchase donated items throughout the morning until 12:00 pm without having to wait for the actual donation auction. All donation proceeds go to ARCI to assist with *Radiofest* and other club expenses.

SELLERS RAFFLE: Be sure to participate in the Sellers Raffle which will take place at 12:00 pm at the donation auction site.

BANQUET: Banquet tickets are $40 each and are only available via on-line pre-registration. NOTE: On-line pre-registration ends July 28th. See ARCI website for on-line registration details. The banquet begins at 5:30 pm on Saturday and will feature Old Time Radio Host Paul Iverson.

TRASH DISPOSAL: Trash receptacles for general refuse will be provided in the parking area. Please do not place any electrical items in these receptacles. Electronics recycling is strictly limited to unsold items from the donation sale and auction. Due to tight Illinois environmental regulations, no electronic junk will be accepted for general disposal at *Radiofest*.

RESTROOM FACILITIES: Outside restroom facilities will be conveniently located near the middle of the parking lot along the West side of the sellers' lot. Indoor restroom facilities will also be available through the front entrance to the Shriners building.

FOOD ITEMS FOR PURCHASE: The Shriners plan on providing a variety of food items for purchase at reasonable prices on Saturday. The hotel will also serve food throughout most of the course of the event. However, it can get hot outside, so you may want to pack drinks and snacks to bring them with you to the swap meet.

Watch the ARCI website and e-mails for any updates prior to the event.

I hope to see you at *Radiofest* 2023!

Steve Muchow,
RADIOFEST Chair

THE ANTIQUE RADIO CLUB OF ILLINOIS

www.antique–radios.org

630-739-1060

Presents:

RADIOFEST 2023

August 4 & 5
Friday & Saturday

****** LOCATION ******

RADIOFEST	**HOTEL**
Medinah Shriners	**Hilton Garden Inn Addison**
550 Shriners Drive	551 N Swift Road
Addison, IL 60101	Addison, IL 60101
(630)-458-0200	(630) 691-0500

GPS: Lat 41.936921 & Long -88.040649

20 miles from O'Hare & 26 miles from Midway.
I-355 between I-290 and I-55 at Army Trail Road.

FRIDAY AUGUST 4

INDOOR MAIN AUCTION

(CRESCENT BALLROOM)

REGISTRATION 3:00pm – 5:30pm
AUCTION 6:00 pm

Seller's Fee: Members $ 7 per item
Non-members $10 per item
LIMIT OF 8 LOTS PER SELLER

Bidder's Fee: Members $ 3 per card
Non-Members $ 5 per card
10% Buyer's Premium

ALL ITEMS MUST BE REMOVED AT END OF AUCTION. ITEMS NOT REMOVED WILL BECOME PROPERTY OF ARCI

SATURDAY AUGUST 5

7am **REGISTRATION OPEN**

7am - 3pm **OPEN-AIR SWAP MEET**

8am - 4pm **OLD TIME RADIO** (lobby)

1pm - **RESTORATION MYTHS AND FACTS**
(Music Room)

9am - noon **DONATION SALE**

12:00 pm **DONATION AUCTION** *(for items not sold during the Donation Sale - in parking lot)*

12 noon **SELLERS RAFFLE**
(at Donation Auction area)

5:30 - 9 pm **Carl & Carolyn Knipfel BANQUET**
(Crescent Ballroom)
Cash Bar - 5:30 pm / Dinner 6:30 pm
Tickets $40 each

Banquet Tickets pre-registration only-
See *www.antique-radios.org* for
on-line OR paper registration form


ARCI Radiofest 2023
Legend
550 Shriners Dr
Hilton Garden Inn Addison
Route 355
Shriners Facility
Swift Rd
Seller Spaces Only
Public Parking
Hilton Garden Hotel
Hilton Avenue
Google Earth
N

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Tom Zaczek: Vice President
Jay Stewart: Secretary
Rudy Hecker: Treasurer

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Maureen Blevins: Editor of *ARCI News*
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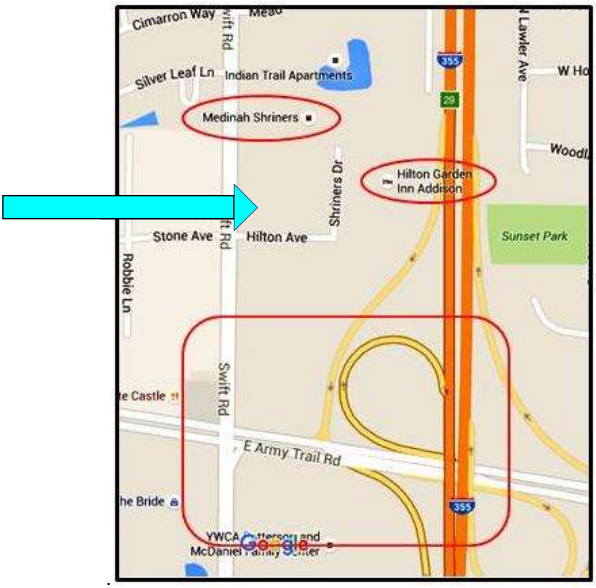
Jim Rajkovac: ARCI Webmaster
Tom Kleinschmidt & Gary Bernstein: Publicity
On-Line Events: Matt Pollack

RADIOFEST STAFF

John Stone: Auction Coordinator/AV Manager
Elaine Hecker & Mary Johnson: Registration
Steve Muchow: Radiofest 2023 Chair
Jim Sargent: Radiofest Auctioneer
Nicholas Tillich: Radiofest Auction Logistics
Rudy Hecker: Signage & Prizes
Karl Johnson & Peter Nauseda: Information/Parking
Tom Kleinschmidt & Bill Cohn: Donation Auction
Steve Muchow & Pete Nauseda: Speaker program

With Special Thanks:
To All The Volunteers and Contributors
Who Make Radiofest Possible



A Few From the Schoo Collection

By Daniel Schoo

I took photos of a dozen things that collect dust around my house and wrote a little segment on each one.

1. Airline model 04BR-511A, 1941. Uses inductive tuning to eliminate the bulky tuning capacitor and reduce the size of the set. This was my mother's radio which she received as a Christmas gift in 1941. She kept it in our kitchen and every morning when I got up to go to school she would have the radio on as she prepared my breakfast. The local station would be running the farm report with Bob Brown. Every morning I would hear the program begin with Sousa's "Washington Post" march.

2. Emerson model FC-400 (I think) 1941. There is no identification on the radio, the back is missing and no label remains on the bottom but the chassis wiring matches the schematic diagram. This one was a cheap garage sale acquisition.

3. Zenith model 6D029 “Consol-Tone”. This set uses an Octal/Loctal mix of six tubes; The usual AA5 functions plus an RF amp which makes it a good performer. My uncle and aunt received this radio as a wedding gift in 1946.

4. Crosley model 63TA, “Victory Model” 1941. This set is a pre-war with broadcast and shortwave. It also has 6 tubes with the extra one being a detector/AVC separate from the usual 6SQ7 detector/first audio. A friend found the set in a garbage can in Chicago in 1964. He kept it until he gave it to me in 1997. It had a number of problems including a shorted power transformer. I could not find a replacement so I rewound the original transformer with modern wire and insulation materials. It has two grill cloths but only one speaker on the left side.
I used the Crosley in my office for 20 years. It went on first thing in the morning and played all day every day until I went home.

5. General Electric model RC1673A 1964 “Wall Console”. It was meant to be mounted on the wall and came with a full size paper template showing where the mounting holes go. You could put it on a table or you could buy an optional leg kit to use it as a high-boy floor console. It is AM/FM stereo with a stereo record changer. The two speakers swing out from the front and the electrical connections are made through the hinges.

The door on the right is a storage space for LP records. Another option was the “Porta-Fi” adapter. The Porta-Fi was a 100KHz carrier current transmitter/receiver pair. The transmitter mounted in a special location in the back of the set and plugged into jacks provided for it on the main unit. The transmitter coupled a monaural 100KHz FM modulated carrier onto the power line. The receiver could be plugged into any AC outlet in the house and receive the 100KHz signal from the power line. Any programming on the main unit was heard on the built-in speaker in the receiver. It actually worked pretty well although it was unreliable if you got too far from the transmitter, or the receiver was plugged into the opposite 120VAC line phase.

My uncle Bill had one when I was growing up. As a kid I thought it was wonderful. This particular set was not his. I found this one abandoned in a vacated office and I adopted it, with permission of the previous owner. It did not have the Porta-Fi adapter installed. I found an adapter a few years later at a garage sale and I recognized it as the Porta-Fi. I bought the transmitter along with the matching receiver. What are the chances of that happening? I restored the set and I gave it to my father as a gift. He used it for several years with the set on the back porch and the Porta-Fi receiver in the living room. I took it back after he passed away.

6. Realistic model 12-165 “Weatheradio”. There was a series of these that Radio Shack sold with variations. They received the local NOAA weather broadcasts. On this model, tuning and volume were adjusted by knobs located on the bottom of the radio. A cheap hamfest find.

7. Realistic model 12-159A “Timekube”. This was the companion of the Weatheradio for the NIST time broadcasts from station WWV on 5, 10, and 15 megahertz. The radio was turned on and

the frequency selected by pushing the appropriate button on the top. 10 and 15 MHz were crystal controlled and 5 was not. Another hamfest bargain that needed some work.

8. Realistic model 12-149A, “Weatheradio/ Timekube. This one was the all-in-one version of the cube radios. Either weather or time could be selected by pushing the appropriate button. The weather and time frequencies were selected by slide switches on the bottom of the radio. I bought this new. It was inexpensive but it has impressive performance on both the weather and the time functions. Like the individual cubes, there were different versions. A later version used tactile switches with electronic switching for the pushbuttons instead of the mechanical multipole switches.

9. Atwater Kent 20C, 1925 battery set. This set was given to me by a friend who was cleaning out a basement. It had several problems but nothing serious. I replaced several bad wirewound resistors with salvaged factory originals. I was very lucky that the audio coupling transformers were still good and the set plays.

10. Zenith T2542, 1959 AM/FM. It uses a conventional magnetic speaker and an electrostatic tweeter for a better than usual table radio sound quality. The cabinet is styled like Zenith's TV set line for that year. This is the set that I learned how to rebuild IF transformers on. It was given to me by a friend who ran a TV/radio repair shop. Somebody brought it in to his shop and abandoned it. He gave it to me and told me the IFs were bad. I taught myself how to repair them and got it working. You might notice something unusual about this radio. It has a left hand tuning knob. Most radios have the tuning knob on the right so that when you tune the station with your right hand you don't obstruct your view of the dial.

11. Westinghouse (RCA) 1921 Aeriola Senior regenerative radio using the WD-11 1.1 volt (nominal) filament dry battery tube. Beside it is the matching two stage audio amplifier using two WD-11 tubes. WD-11 tubes were made for just a couple of years and are very scarce. The General Electric UV199/UX199 replaced it for portable dry battery radios. The 199 has a 3 – 3.3 volt (nominal) filament, otherwise the electrical characteristics are identical. The basing for the two types are different but with an adapter the 199 can be used in place of a WD-11 at the higher filament voltage. This pair is one of my retirement projects I plan to do.

12. Sony FD-42A, 1987 BW Television. This set used a unique flat screen CRT with the electron beam sourced from the top and scanned down across the curved front surface of the screen instead of from the rear as in conventional CRTs. It was given to me by a friend who found it on the “free table”. It works, at least it did before digital TV.

I started collecting radios in 1964 when some relatives gave me a 1927 Freshman Equaphase, one of the first AC sets using type 26 and 27 tubes. I got the tubes and the separate power supply with it but without the cabinet and speaker. To a thirteen year old boy it was a marvel.

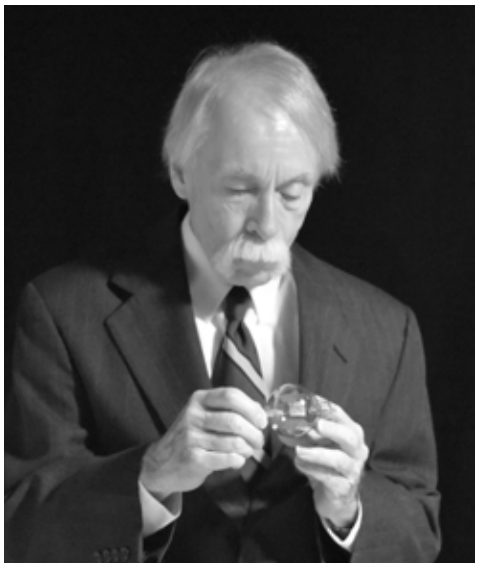
The power supply was bad but I managed to get the radio working "on the bench" with a collection of lab power supplies while I was in high school in the late 1960's. After that I put it away and never really did anything more with it. Years later I stumbled on another power supply at a flea market. I found it in a trash barrel no less, and I knew what it was. I never found the courage to power it up and see if it worked. I still have the Freshman.

The cousins also gave me a 1933 Zenith model 705 wood table radio, one of the early AC operated compact superheterodyne sets. It sat in my parent's basement for about 15 years before I did anything with it. That was good because I had a lot more electronic experience and common sense by then. That was the first radio that I actually did a restoration on. Twenty five years later I went through it again, this time with full knowledge of what I was doing. I still have it.

The Zenith 705 and the Crosley Victory Model are probably my two favorites. I have about 30 radios from various eras from 1922 to the 1990's. I did not exactly collect all of them. Some of them sort of fell into my hands from well meaning friends. The three consoles collecting dust in the basement will attest to that.

"I just happen to have one of those spherical Audion tubes like the one Dr. Lee deForest is holding in that famous photo of him. I've always wanted to do that photo of myself. It isn't easy taking a photo of yourself. It isn't perfect, but I hope you will see the humor in it."

- Daniel



Daniel 'deSchoo'

Men Who Made Radio

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

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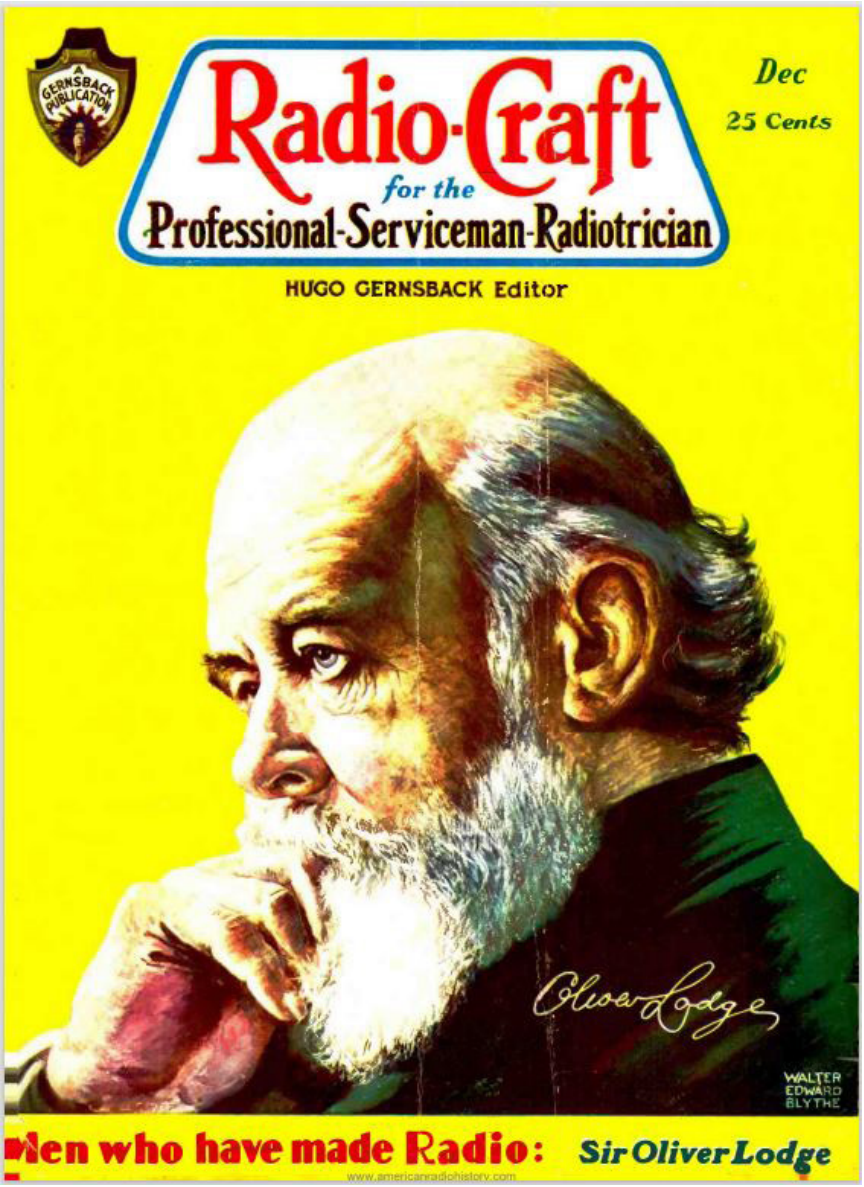

Men Who Made Radio—Sir Oliver Lodge

THE THIRD OF A SERIES

WHILE the inventor is nowadays the most spectacular figure in the development of a great new art, such as radio, there is always in the background, behind the inventor, the man of "pure" science. The mathematician and the researcher into the by-ways of Nature prepare the way; often many years before any practical benefit is extracted from their work by the inventor who turns it into a new, everyday necessity of life. In no branch of human endeavor has this been so apparent as in the application of electricity. The scientists made thousands, and millions, of painstaking observations; the mathematicians made millions of most complicated calculations, all in the hope that, some day, mankind could profit by their labors. "What use is electricity?" demanded a practical man of Franklin, a century and a half ago. "What use is a baby?" returned old Ben.

Among the greatest of the scientists whose life work has been to contribute to the creation of radio as a separate, and most important, branch of electricity, is the man whose thoughtful face appears upon the cover of this issue of RADIO-CRAFT. He it was who brought the prophetic calculations of Maxwell and the laboratory work of Hertz to his own generation; and he has lived to see radio, which he adopted when it was - so to speak - an orphan child, become an honored member of every home. More than that, it is the annihilator of space and the unifer of nations.

Oliver Lodge is in his seventy-ninth year; for over half a century he has been a prominent figure in the scientific world. Among the countless lines of investigation

followed in that time, that of the oscillations of electricity in a conductor is the most important with respect to our subject. While Hertz was discovering radio waves in air, Lodge was determining the laws of the corresponding activity which takes place in electrical conductors. It was Lodge who demonstrated the possibility of radio communication, experimentally, as Marconi did its commercial value—just as Henry created the telegraph and Morse made it of practical utility.

The discoveries of Lodge in the matter of the properties of an electric current in a liquid, and the phenomena of "ionization," have contributed in no small degree to the building up of highly-complicated modern electric theory; with its marvelous implications as to the theory of the universe. Similarly, the researches of Lodge into the actions of light—which is, after all, merely radio of invisibly-short wavelengths—are valued steps in the history of modern science. The genius of Lodge anticipated by many years the commonplaces of popular electricity today; the moving-coil or dynamic speaker, for instance, having been described by him *more than thirty years ago*.

As one of the most distinguished scientists of the present day, his fame and honors are international. A great teacher as well as a great investigator, he is a man whose wide sympathies and zeal for the spread of science have left their mark upon every field of his activity. The Grand Old Man of Radio is still vigorous; although for some years other fields of inquiry have made his name most familiar to the public at large, it is undoubtedly upon his pioneer work in the fields of electrical oscillation and radiation that his greatest permanent fame will rest.

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This article first appeared in the December 1929 issue of *Radio-Craft* magazine, page 247. Ed Note: It is recreated here for ease of reading.
View the original at https://worldradiohistory.com/Archive-Radio-Craft/1920s/Radio-Craft-1929-12.pdf

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Ed Note: A Bit More on Lodge

Sir Oliver Joseph Lodge, (12 June 1851 – 22 August 1940) was a British physicist and writer involved in the development of, and holder of key patents for, radio. He identified electromagnetic radiation independent of Hertz's proof and at his 1894 Royal Institution lectures ("The Work of Hertz and Some of His Successors"), Lodge demonstrated an early radio wave detector he named the "coherer". In 1898 he was awarded the "syntonic" (or tuning) patent by the United States Patent Office.

Lodge was also noted for his Spiritualist beliefs and pseudoscientifc research into life after death, a topic on which he wrote many books after his son, Raymond, was killed in World War I in 1915. Scientific work on electromagnetic radiation convinced Lodge that an ether existed and that it filled the entire universe. Lodge came to believe that the spirit world existed in the ether.

National Radio Day

“In radio, you have two tools. Sound and silence.” ~ Ira Glass

Alhough we typically attribute the invention of the radio to Gugliemo Marconi, it was Nikola Tesla who reportedly first demonstrated radio in 1893. Over decades, many scientists made significant contributions to the understanding of electromagnetic induction, electric conduction, and radio waves, each component developed through invention and discovery, to eventually bring the radio to life. In the 1880s Heinrich Rudolph Hertz discovered radio waves, which helped prove a theory of electromagnetism put forth by James Clerk Maxwell in 1873, and proved electricity could be transmitted wirelessly. Tesla patented multiple inventions, a number of them involving alternating current. However, when it comes to the first commercially available wireless, it is definitely Guglielmo Marconi who deserves the honor for the first commercially available wireless.

It took quite a bit of time after the discovery of the radio for the technology to be used as communication - both because the inventors hadn’t yet realized the practical and life-changing applications of their development and because many more components were still needed to transmit and detect electrical waves.

Public radio broadcasting has its own inventor in Lee de Forest, who transmitted the first public radio broadcast, featuring voices of opera stars, in 1910. De Forest’s Radio Telephone Company went on to manufacture the first commercial radios which could pick up a signal from miles away.

Radio was huge for music and changed the landscape of the industry. In the early 20th century, radio began to be used for broadcasting sports, aiding telephone services, and even navigating by airplane. News took to the radio and announcers could hop on air to deliver the happenings of the day to massive audiences. The first radio news program was broadcast on August 31, 1920, out of Detroit — at a station that survives today as WWJ. FM radio first made its appearance in 1939.

With the digital revolution and the wireless era, radio has changed and adapted. Although radio is still used,. With television and the internet, it’s hard for radio to compete - it no longer holds the top slot in entertainment and news media - but people still love it, and it doesn’t look like radio will be going away anytime soon.

National Radio Day recognizes the great invention of the radio. But The United States isn’t the only country that celebrates a National Radio Day. Similar holidays are celebrated on February 25 in Thailand, on September 11 in Indonesia, and on May 7 in some former Soviet republics. A World Radio Day was established by the United Nations in 2012 and is celebrated on February 13 to commemorate the launch of UN Radio in 1946.

https://nationaldaycalendar.com/national-radio-day-august-20/

How The Eiffel Tower was Saved by Radio

The Eiffel Tower, built for the 1889 Paris Exposition Universelle, was intended to be a temporary structure that would be demolished after 20 years, as Gustave Eiffel had only been given a 20-year permit to use the land, after which time the Tower had to be returned to the city of Paris.

The tower opened to the public in May of 1889, a few days after the opening of the Exposition. Its elevators however, would not be in service until the end of the month, so visitors had to use the stairs to reach the top. Given the monument's unusual and controversial design, plus its spectacular vantage point, 30,000 people made the climb of 1,710 steps!

Hoping to save his creation, Eiffel suggested the tower be used as a radiotelegraph station. Fascinated by the scientific progress of his era, he had the names of 72 men of science carved into the edge of the first floor to honor them.

The Tower's height lent itself to certain experiments. One of Eiffel's first initiatives was to install a weather station at the summit. The results of daily temperature readings, atmospheric pressure, humidity, rainfall and windspeed were published by Gustave Eiffel at his own cost, contributing to the advancement of this young science by demonstrating the value of collecting data over long periods of time.

To better understand the wind's effects on openwork structures such as this, measurements were carried out to evaluate the pressure the wind exerted on them, depending on its speed. Between 1903 and 1905, he had a vertical cable strung between the second floor and the ground, so objects of various shapes and sizes could slide down its length. A system of measurement was attached to the objects, which evaluated the wind resistance they encountered. https://www.toureiffel.paris/en/news/130-years/how-eiffel-tower-was-science-lab

In 1909, he had an aerodynamics lab built at the foot of the Tower so they could blow air onto fixed objects instead of letting them fall, making it easier to take measurements and vary the wind speed.

It was radio that ultmately made the Tower a key site for scientific experiments however. Soon after wireless telegraph transmission was invented, the military took special interest in the technology. The higher the antenna, the greater the distance and the wider the zone over which messages could be transmitted. Due to its height, the Tower offered an amazing opportunity for experimentation. An antenna cable was installed, and in 1898, Eugène Ducretet was able to communicate with the Pantheon 2.5 miles (4 kilometers) away. In 1903 Eiffel offered to let the Army use the Tower, and in 1904, they were able to communicate with forts in the East and even with the naval base in Algeria, thus it gained strategic military importance

and Eiffel's permit on the land was extended.

Radio stationed itself atop the Tower in 1898 but the it is also an integral part of the birth of television in France. Following a test transmitting animated images over a long distance and the creation in 1931 of the General Television Company, an emitter was installed at the in 1935. Emissions were regularly broadcast starting in 1937 and during that year's World's Fair.

In 1940, the German army took possession of the emitter and service wasn't reestablished until May 1943. A television studio was set up in close proximity, which began regular broadcasts for the occupying troops and the military hospitals. A new Telefunken emitter was installed at the top of the Tower and was directly connected by a cable to the studio. Broadcasts ceased on August 12, 1944, right before the liberation of Paris, and began again on the 1st of October with the recuperated equipment. https://www.toureiffel.paris/en/news/130-years/was-eiffel-tower-responsible-birth-television-france

When the American troops returned control of the summit in October 1945, Radiodiffusion nationale, the future ORTF, began broadcasting again.

Thanks to ever more powerful and sophisticated emitters, the Tower has always participated in the advancement of television broadcasting techniques: direct broadcasts, Eurovision, passage to 819 lines, and then all digital in the 2000's.

Today, the Eiffel Tower is the most visited paid monument in the world, attracting over 7 million annual sightseers. It remains the tallest structure in the City of Lights.

https://www.toureiffel.paris/en/news/130-years/why-was-eiffel-tower-kept#:~:text=After%20being%20built%20and%20inaugurated,antenna%20saved%20it%20from%20destruction!

A Knight 625 VTVM Refurbishment

by Bob Lang

I came across a Knight 625 VTVM during an estate sale. I know there are many articles out on the web with Mr. Carlson on YouTube providing a good overview. I want to provide you with my reconditioning of the unit. The overall outside appearance was in decent condition. The inside of the unit showed signs of battery leakage on the metal and some parts.

Above is a picture of the unit after the work was completed with a newly constructed probe.

The picture at left shows the top of the metal enclosure prior to the removal of the parts. I tested the potentiometer that was affected by the leakage. It was derfective as it would not show total resistance. I replaced it with a 10k that I had, but was a short stub type, not the bias trimmer type.

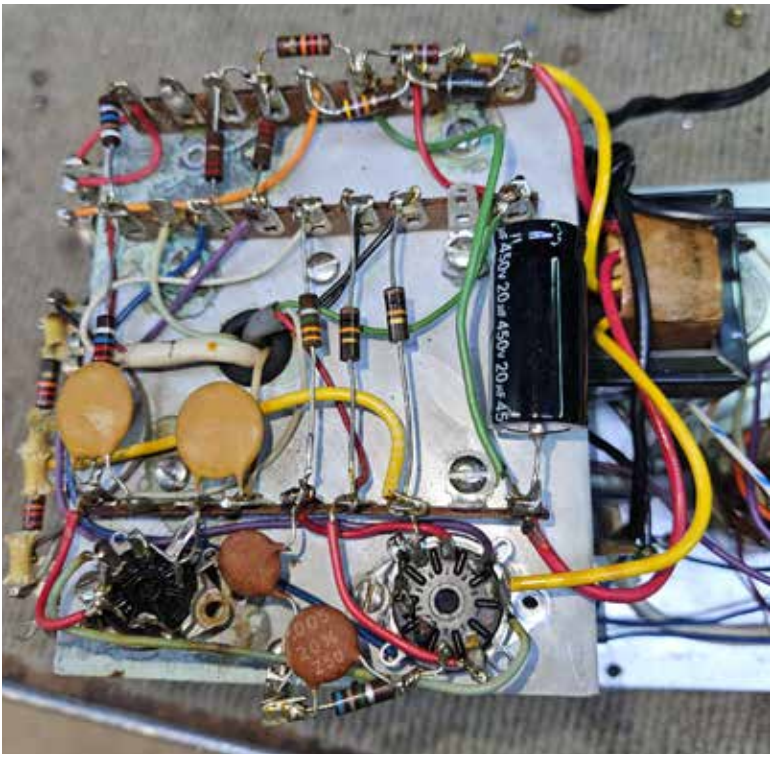
The inside of the unit showed signs of battery leakage on the metal and some parts. I removed the top metal enclosure that held the terminal strips, tube sockets and where the battery holder would be.

To the left are the adjustable potentiometers that were still attached to the metal by twistable tabs.

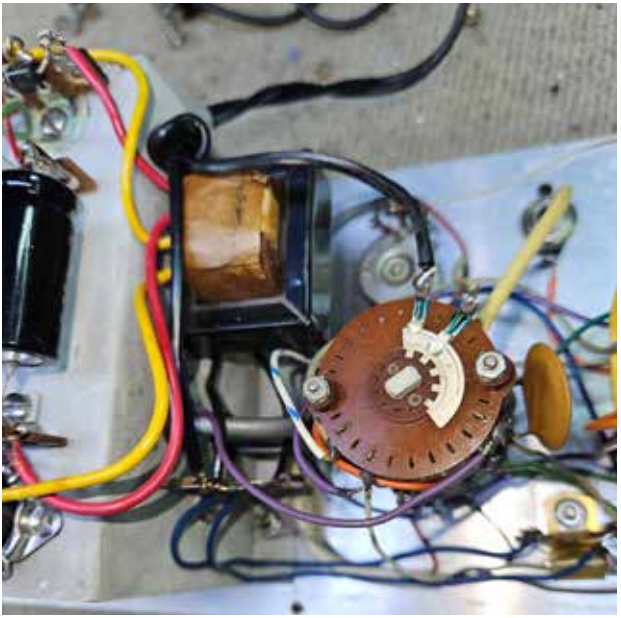
I treated the metal with Naval Jelly obtained at Home Depot and let it set for a few moments. I then washed it down and cleaned it up with water. I did use WD 40 as it was noted that it can help to temporarily deter any rust instead of priming the areas. Will update on that later if I notice any changes in the condition.

Once that was completed, I moved to reinstalling the parts to the metal. I questioned the grounding of the metal since it was an aluminum front display attached to a metal enclosure. I used a green wire from the location where the probe plugs in over to the grounding location of the terminals and tube sockets.

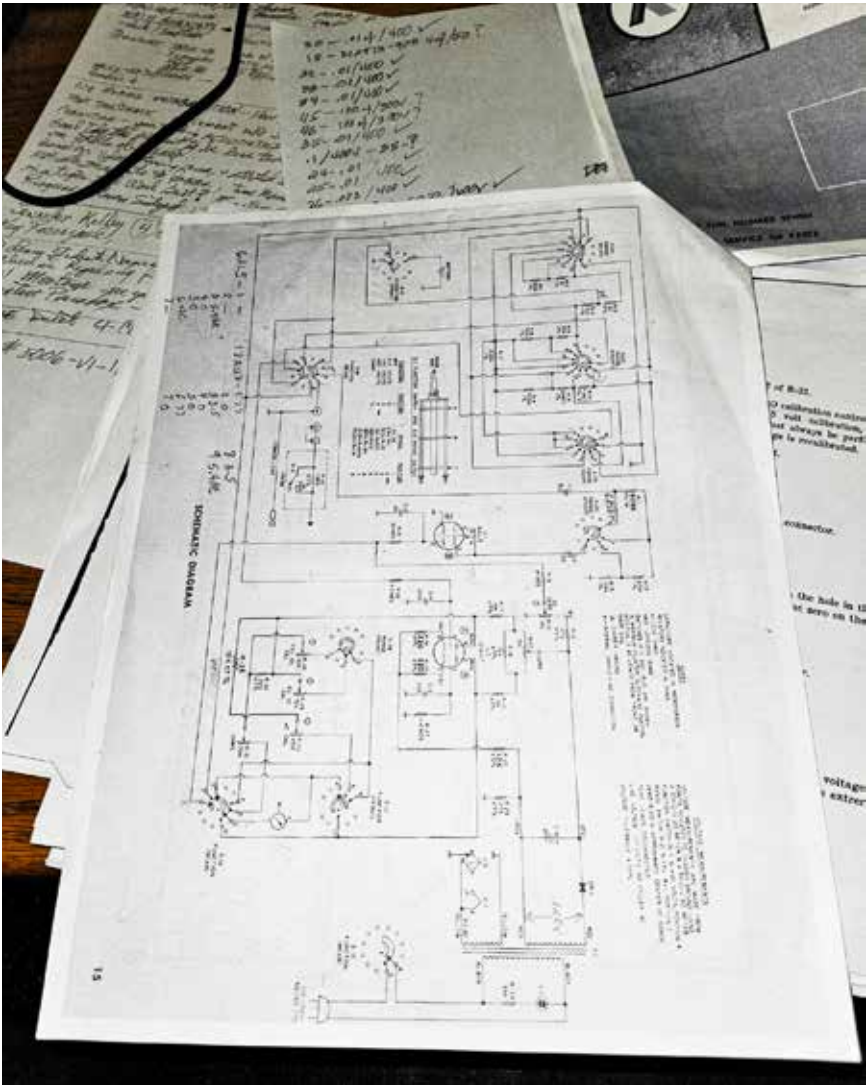
I replaced the electrolytic with a new one to just to remove any doubt on the original.



I cleaned what I could on the wafer switches and used DeoxIt on the rest.



Testing: I obtained a manual and service information from the web to reivew and adjust the unit.



I replaced R21, AC zero due to battery corrosion, referenced in the other pictures. I tested the tubes and found that the 12AU7 was questionable. I placed a new one in the unit and powered up the meter (left the battery circuit out). I found that the meter would not zero out correctly. It is very similar to a Wheatstone bridge type circuit. One section of the triode was way off, and I started by removing external circuits to narrow down the issue.

In the below picture I removed the 2 resistors that went to the wiper arm of the R29, .5 DC calibration pot. In the settings, this allowed the removal of any of the wafer resistors from the circuit. What I found was that the previous kit builder had a solder drip that found its way between the metal and R30 to one end of the potentiometer connection.

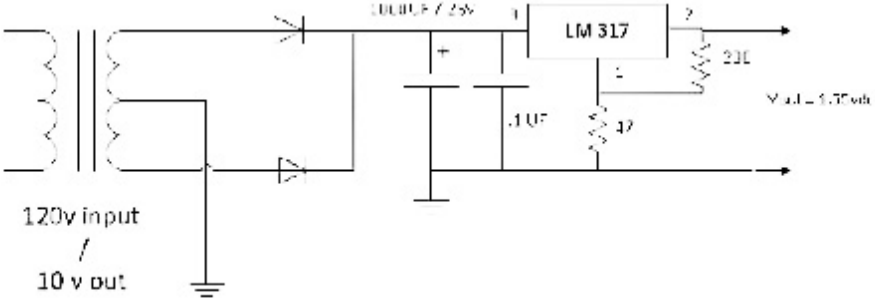
Here is a picture of the solder drip that caused the issue with calibration of the unit.

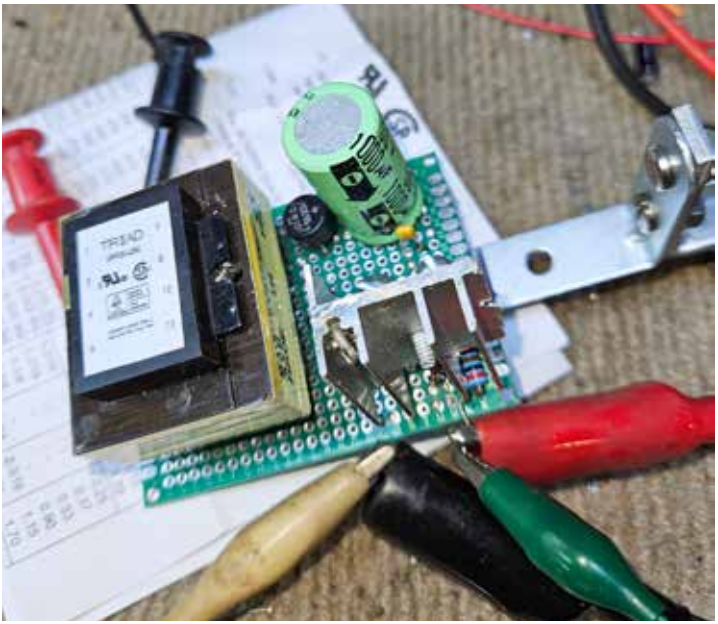
Removing this solder and reinstalling the unit corrected all the other alignments needed for this unit.

I reviewed the battery and decided not to re-install it. I wanted to reduce any additional load on the limited power transformer. I reviewed articles that referenced this and added the below circuit to the VTVM. It used a separate transformer for this.

Please note: you cannot use a full wave rectifier if you are going to use the 6.3v ac filament as you will develop a short on the existing transformer. By using a separate transformer, I eliminated the issue with the existing VTVM circuit.

Here is the circuit I used for this, but you can decide on what you want to do. There are many variations on this. I placed a heat sink on the LM 317 as it was getting warm.





I used a proto board for my hook up. There again, many are out there that have pcb patterns already made.

I made some extensions to keep this pcb positioned near the center of the wafer switches.

In the assembly manual it references the diagram for the probe. I used a discarded TV probe for this and inserted the switch.

The VTVM did not come with a base. To finalize this project, I used some scrap metal from a frequency drive housing, which provided the metal to support it. I used a harbor freight 18” metal bender to make this and added the knobs for adjustment.

Chelsea Model 110 Regenerative Receiver

A companion article to the May 2023 ARCI Virtual Forum presentation
by Tom Kleinschmidt

Developing technologies have many interesting, albeit short-lived solutions that contribute to the final mainstream product. Regeneration is one of those technologies that still exists as a niche with Superheterodyne being the overall winner for radio receivers. The forthcoming information is on Chelsea the company, Chelsea products, regeneration technology, and operating the model 110.

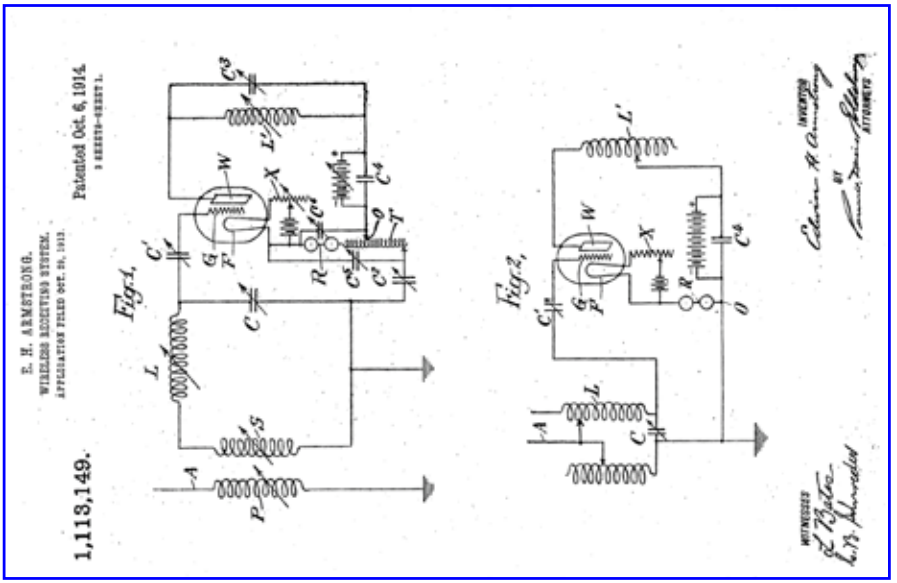
Chelsea Radio company had multiple locations and names over its life[7]. Chelsea Radio Corp., 150 Fifth Street, Chelsea, Massachusetts, National Chelsea Radio Corp., 739 Boylston St., Boston, Mass. (1924), and Chelsea Radio Company 173 Spruce Street in Chelsea, Massachusetts. (Industry listings: 1924, 1926)

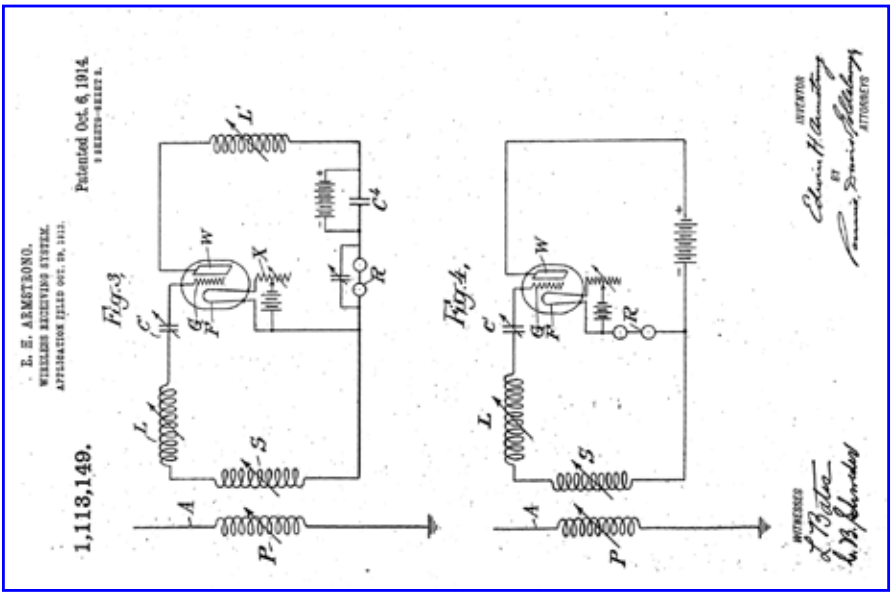
In addition to selling under the Chelsea name and model number, they also used trade names: Bearcat, Regenodyne, Truphonic[7]. Cheslea appears to have started out as a maker of components and Radios (1919-1927)[7].

Their products were sold through distributors such as: THE REYNOLDS RADIO CO., Inc. 1534 Glenarm Street, DENVER, COLORADO[8] (pg76); “CHI-RAD” Chicago Radio Apparatus, Chicago[8] (pg142); and F. D. PITTS COMPANY (Incorporated) 219 COLUMBUS AVE., BOSTON, MASS.[8] (pg159). Think of Allied and Newark as contemporary equivalents.

Chelsea licensed Armstrong’s regeneration patent[3]. Armstrong’s patent 1113149, Oct. 6, 19145 contains six variants of the regeneration circuit, which help assure him that he could license it without others finding easy workarounds. Regeneration is a technique where small radio waves get amplified many times. Known as positive feedback. There are many regenerative circuit types. The Model 110 uses

inductive feedback via spiderweb coils. Resistance feedback is also commonly used. Too much regeneration – signal coupling - puts the radio into oscillation. The regeneration technique is illustrated in the vintage diagram below[10]and physical implementation using spiderweb coils in the following photographs of the model 110.





E. H. ARMSTRONG.
WIRELESS RECEIVING SYSTEM.
APPLICATION FILED OCT. 29, 1913.

1,113,149.

Patented Oct. 6, 1914.
3 SHEETS—SHEET 3.

Fig.5.

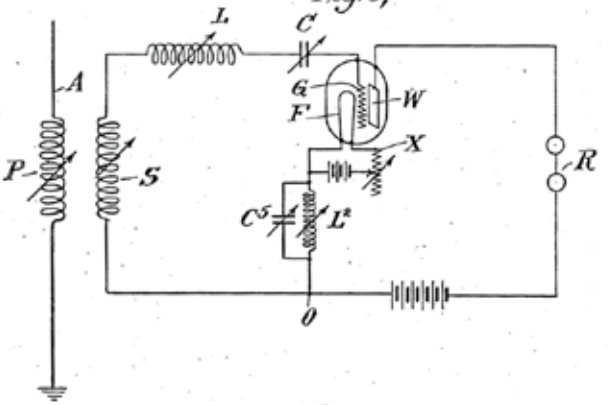
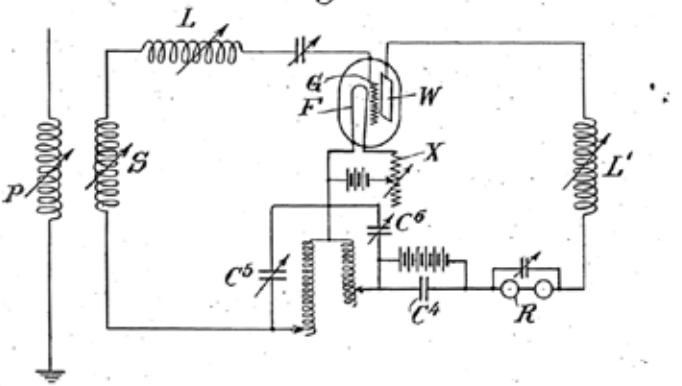
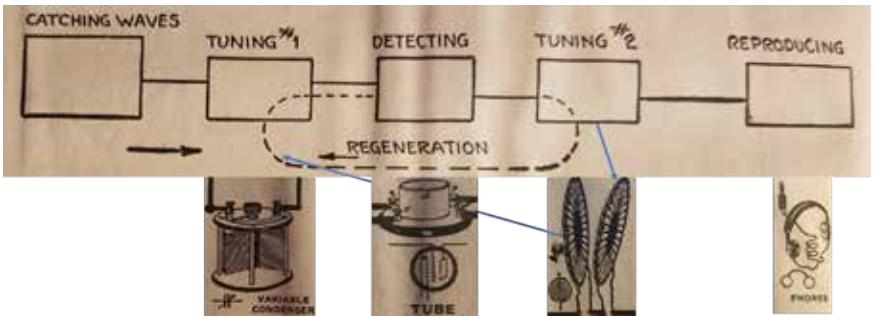


Fig.6.



WITNESSES
L. Bates
L. B. Schneider

INVENTOR
Edwin H. Armstrong
BY
Dennis Davis Goldsborough
ATTORNEYS



Left: Coil open – minimum regeneration for a strong signal

Right: Coil closed – – maximum regeneration for a weak signal

The moving coil position is adjustable between the two extermes for optimum performance.

CHELSEA

CHELSEA RADIO EQUIPMENT

THE PRINCIPAL reason for success or failure in any receiving circuit is the quality of the individual parts used. We attribute the remarkable results obtained by our complete receivers largely to the efficiency of the Chelsea parts used. We now offer the identical parts which are responsible for the success of Chelsea Receivers. These parts are listed below and when used in any circuit will add to its efficiency.

No. 10 Variometer. Price $8.00. Designed for maximum efficiency and great range, embodying many unique features. Stator and rotor forms of moulded bakelite. Resistance at a minimum insuring sharper tuning. Designed for both panel and table mounting and sold with knob and dial and vernier.

Panel Mounting Vernier Variable Condensers. Have spiral connection to the rotor element, eliminating noises from friction contacts commonly used. Great care in the selection of material and in the design assure you of low energy losses and highest possible efficiency.

	Plates	Cut	Price
No. 1	17	.001	$3.00
No. 2	23	.0015	3.50
No. 3	31	.0025	4.00

Panel Mounting Variable Condensers. These condensers employ all of the many features incorporated in the Chelsea line of condensers and are built for panel mounting. They carry the usual Chelsea guarantee.

	Plates	Cut	Price
No. 1	17	.001	$3.25
No. 2	23	.0015	3.50
No. 3	31	.0025	3.75
No. 4	41	.0035	4.00
No. 5	7	Vernier	1.50

Panel Mounting Rheostats. Similar in construction and appearance to the table mounting rheostats except that they are built for panel mounting and are equipped with knob and dial. The base, knob and dial are of moulded bakelite.

No. 21. 10 ohms. Price.....$1.25
No. 22. 30 ohms. Price.....1.50

Chelsea Moulded Dials. Chelsea dials are moulded of genuine bakelite, beautifully finished with deep set and clearly defined characters. Chelsea dials are true and will not warp. They have a scale of 0 to 100.

	Dia.	Price
No. 6	3"	$0.50
No. 7	4"	.75
No. 8	5"	1.00
No. 9	6"	1.25
No. 10	7"	1.50

Chelsea No. 40 Bakelite Socket. Price $0.75. The base of this socket is genuine moulded bakelite and supports four readily accessible binding posts. The tube receptacle is highly polished nickel and will take any standard make of detector or amplifier tube.

No. 50 Variocoupler. Price $8.00. Designed as a companion piece for No. 10 variometer. Stator and rotor forms of moulded bakelite. Resistance being at a minimum inserting sharp tuning. Its pleasing appearance appeals to the eye and its sturdy construction insures freedom from mechanical troubles. Sold complete with knob and dial.

Table Mounting Vernier Variable Condensers. These table mounting condensers are of added value wherever a radio set is used. Genuine bakelite is the only insulating material used. It is indestructible and is one of the best known insulators in the radio field.

	Plates	Cut	Price
No. 1	17	.001	$3.25
No. 2	23	.0015	3.50
No. 3	31	.0025	3.75

Table Mounting Rheostats. Chelsea rheostats are equipped with a non-corrosive resistance element with proper carrying capacity and resistance to handle properly any tubes now in use and built are of moulded bakelite. Chelsea rheostats embody proper electrical characteristics, high-grade quality materials and mechanical and attractive appearance.

No. 23. 10 ohms. Price.....$1.00
No. 24. 30 ohms. Price.....1.50

No. 30 Audio Frequency Amplifying Transformer. Price $4.50. Chelsea No. 30 transformer is already one of the most popular in the field, it gives amplification of signals not attempted by any other. The insulation is genuine bakelite and the core of highest quality silicon steel. The coil is moisture proof and tested with 500 volts. Chelsea transformers produce no distortion, are noiseless and efficient.

Chelsea Moulded Dials. These dials like other Chelsea products are of moulded bakelite. They will not warp and are guaranteed to run true. Have a scale range of 0 to 100. Designed principally for use on panel mounting rheostats.

	Dia.	Price
No. 11	2"	$0.25
No. 12	3"	.50
No. 13	4"	.75

Chelsea No. 42 Moulded Socket. Price $0.50. This socket is similar in design to our No. 40 and is built to take the popular No. 201 tube. It is moulded of genuine bakelite and has four easily accessible binding posts. Positive connection is assured at all times by the use of four heavy phosphor bronze contact springs.

Write for Bulletin No. 31 Describing New Radio Frequency Equipment

CHELSEA RADIO COMPANY

173 SPRUCE STREET - - CHELSEA, MASSACHUSETTS

The Chelsea model 110 radio uses Chelsea components as shown in the left side of this vintage ad in the 3rd 5th and 6th positions from the top of the page[8]. The components are marked Chelsea, too.

The model 110 sold for $18 in 1924. That price is for radio set only: batteries, headphones, antenna and triode tube are additional cost. Triode tube types WX-11, WX-12 or UX-201 may be used. The major difference being the filament voltage, 1.5VDC for WX and 5VDC for UX. The model 110 is listed in the fine print of this ad[9]:

There are a number of connections required to make the set work. The terminals on the left are antenna and ground, the terminals on the right are audio out. The large knob is station tuning, the upper right knob is volume (filament voltage control) and lower right is regeneration control (signal amplification / feedback).

The back contains terminals for battery connections.

To be in the spirit of the period, a homebuilt battery box was constructed using only bits and pieces laying around the house. The “A” battery consists of one AA alkaline. The second position of the battery holder is not connected – only had a two-cell holder. The “B” battery has 16 used 9V alkaline batteries in series that are mostly pullouts from smoke detectors. They are various actual voltages that total 120VDC. It could run on lower voltage just fine, too. Three snap straps to cross connect batteries make a compact block; they were made from bad battery connectors cut in half with wires added. The case, appropriately, is a cigar box. I only had red plastic binding posts so they were incorporated too.

Here is the whole setup. The headphones must be connected as their inductive properties are part of the circuit. The computer speakers are coupled via a capacitor, as B voltage exists at the headphone terminals.

Performance: This radio was built long before the world of 50,000-Watt clear channel stations (WGN here in Chicago for instance). As a result, WGN comes in across about half the band, it is strongest in its properly tuned location.

In total, the set picks up four stations with a 15' wire antenna strung inside the house. Early radios were designed to pick up a few weak stations, so sensitivity was much more important than selectivity. Selectivity is the ability to separate one station from another. Newer radios are shielded from stray signals while older ones are not, hence strong stations can sometimes be heard in the background of the desired station.

This 100 year old radio still does what it was intended to do using its original parts with no modiifcation.

Resources

1. https://earlyradiohistory.us/1922sup.htm – In period description of regeneration
2. https://en.wikipedia.org/wiki/Edwin_Howard_Armstrong#:~:text=Beginning%20in%201913%20Armstrong%20prepared%20a%20series%20of,Patent%201%2C113%2C149%20was%20issued%20for%20his%20discovery.%20 or Edwin_Howard_Armstrong – Wikipedia: Edwin Armstrong overview
3. Book: *Radio Manufacturers of the 1920's, Vol 1*, Alan Douglas – page vi, Armstrong license
4. https://www.radiomuseum.org/r/chelsea_chelsea_1_tube_regenerat.html 110 and matching amp
5. https://patents.google.com/patent/US1113149 Regeneration Patent
6. https://www.youtube.com/@antiqueradioarcheology-wil8878 Chelsea on YouTube
7. https://www.radiomuseum.org/dsp_hersteller_detail.cfm?company_id=2147 Company background
8. Magazine: *Citizens Radio Call book* – May 1924, pg 24
9. Magazine: *Citizens Radio Call book* – Fall 1924, pg 183
10. Book: *Radio Receivers How to Make and Operate*, Radio Digest, Harry J. Marx editor, pgs 8, 40

There is an excellent set of YouTube videos on Chelsea radios by William Morris Click on the link or on the image below

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.

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!

BUSINESS CARD ADS

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!!!

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

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Home Phone:_____Application Date:_____

Email:_____

Emergency Contact Name:_____

Phone:_____

Crosley ad circa 1948

ARCI NEWS

Antique Radio Club of Illinois
PO Box 1139
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