The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

March 2025 Volume 31 Issue 3

The *Jersey Broadcaster* is distributed to members of the New Jersey Antique Radio Club via email as a PDF file. Back issues of many of our newsletters are available on the club's website: www.njarc.org/broadcaster/

Meeting Notice

Our March meeting will be held at InfoAge on Friday, 3/14. Our presenter at this meeting will be InfoAge Chair and Electronic Warfare Consultant John Cervini, who will talk about Israel's Iron Dome Defensive System.

We plan to livestream the meeting on YouTube at youtube.com/user/NJARC. Directions to InfoAge can be found on Google Maps at https://bit.ly/4jZe8XI.

Meeting Review

Our February meeting featured a look at vacuum tube and solid state radio demonstrators presented by Mike Littman.

Many of our meeting presentations are available on the club's YouTube channel https://bit.ly/3yZ5yoR.

Calendar of Events

February 14: NJARC monthly meeting, Princeton
February 21: HARPS monthly meeting, Suffern NY
March 10: DVHRC monthly meeting, dvhrc.com
March 14: NJARC monthly meeting, InfoAge
March 21: HARPS monthly meeting, Suffern NY
March 22: NJARC Spring Swapmeet, Parsippany
April 11: NJARC monthly meeting, Princeton
April 15: DVHRC monthly meeting, dvhrc.com
April 18: HARPS monthly meeting, Suffern NY
April 25-27: International Marconi Day, InfoAge
April 26: NJARC Spring Repair Clinic, InfoAge
May 9-10: Kutztown Radio Show, dvhrc.com
May 16: NJARC monthly meeting, InfoAge
May 23: HARPS monthly meeting, Suffern NY
June 10: DVHRC monthly meeting, dvhrc.com
June 13: NJARC monthly meeting, Princeton
June 20: HARPS monthly meeting, Suffern NY
July 8: DVHRC monthly meeting, dvhrc.com
July 11: NJARC monthly meeting, Princeton
July 15: HARPS montly meeting, Suffern NY
July 26: NJARC Summer Swapmeet, InfoAge
August 8: NJARC monthly meeting, Princeton
August 23: NJARC Summer Repair Clinic, InfoAge

From the President's Workbench

Greetings Fellow Enthusiasts!

The President's Workbench.

Have you ever driven down a familiar road and seen a sign advertising a museum? You have passed this sign many times before, but you never stopped to investigate. The usual excuses: in a rush, got to get to work, late for dinner, etcetera, etcetera. Well, I've travelled down that familiar road; it's Rt.46 in Teterboro, Bergen County. The sign I constantly passed was for *The Aviation Hall of Fame and Museum of New Jersey.*

It was finally my time to stop and investigate. Making the turn onto Fred Wehran Drive, I thought I would soon be on the tarmac of the airport, which is how close the museum is to the airstrip. The museum is located directly under the very visible control tower. Teterboro Airport is a very busy airport for all

Continued on next page.

THE JERSEY BROADCASTER is the newsletter of the New Jersey Antique Radio Club (NJARC) which is dedicated to preserving the history and enhancing the knowledge of radio and related disciplines. Dues are $25 per year and meetings are held on the second Friday of each month either at InfoAge or at Princeton University. Neither the editor nor NJARC is liable for any other use of the contents of this publication other than for information.

President's Workbench
(Continued)

those sleek corporate and private jets. Thanks to those aviation companies, their donations have enabled the AHOFNJ to thrive and expand its exhibits over the years since 1972.

Ralph Villecca, is the Museum's Executive Director, an affable fellow, who has spent much of his life involved in N.J. Aviation. His knowledgeable docents, many of whom also shared careers in aviation, working as everything from mechanical techs to pilots. As with the NJARC and nfoAge, the AHOFNJ is always looking for docents (especially younger ones!)

Pres. Rich and AHOFNJ Executive Director Ralph Villecca and WWII Army Air Corps man circa 1942

The AHOFNJ contains a comprehensive history of early flight and space travel, posting photos and gear from NASA Astronauts born and/or raised in the Garden State. The museum is inside a two-story building with many outside exhibits to access in the warmer weather. Just like our NJARC the AHOFNJ has hands-on exhibits for both young and old.

The AHOFNJ is located at 400 Fred Wehran Drive Teterboro Airport, Teterboro, N.J. 07608 and is open Wednesdays through Saturdays, 10:30 am to 4:00 pm. Senior admission is $12. You can contact them at: 201 288 6344 www.njahof.org

- *Richard Lee, Pres. NJARC*

Early 1950s Martin 202A airliner

Photos continued on next page.

President's Workbench
(Continued)

Exhibits looking up from the balcony

Looking down from the balcony

Airline simulator

Famous New Jersey newsradio copter pilots

Continued on next page.

President's Workbench
(Continued)

NJ Aviation Hall of Fame

NASA Astronauts from New Jersey

The Great War Aviator

Restored Korean War era Com Shack

Continued on next page.

President's Workbench
(Continued)

Bendix Comm. Radio made in Little Ferry / Teterboro

Bendix radio in comm galley

Cockpit of the 202A

Front section fusilage of the Convair 880 TWA

Continued on next page.

President's Workbench
(Continued)

Curtiss-Wright radial engine

History of N.J. Airports Room

M.A.S.H Bell 47 helicopter

Hindenburgh Exhibit with airship models

Repairing Automatic Style IF Transformer Silver Mica Disease

By Joseph Divito

Many different suppliers made Intermediate Frequency Transformers (commonly abbreviated as IF transformers) over the years when the malady of "Silver Mica Disease" was a common problem. Each one is unfortunately made a little differently, and a different approach has to be taken accordingly when repairing them. In my last installment ("This Box is Without Merit"), I outlined the disassembly process for a mystery part found in the box for a supposedly New Old Stock repair part that in fact turned out to be a defective GE IF transformer. In this installment, I will document the disassembly and remediation process for a very common design in post-war radios, made by a company called Automatic Manufacturing.

This is, in my experience, one of the more commonly encountered styles of IF transformer prone to silver mica disease, and presents its own unique challenges. Automatic's transformers have some tell-tale characteristics and can be usually identified by two plastic locating tabs that stick out the top of the IF can and typically have the words "Automatic" or "Automatic Manufacturing" stamped into the top of the can. Alternatively, they may only be stamped with the number "19."

An example of this style (picture taken while the can was still in the radio) is shown at left.

The first step in disassembling the Automatic IF transformer is to flip it over and grind out the retaining rivet. This usually is made of brass, and Automatic used this rivet to hold together the mica sheet and keep the metal "shoes" that make contact with and hold the mica capacitor firmly in place. Although some have reported using a drill to carefully ream out this rivet, I find a safer approach is to use a Dremel with a grinding attachment. At right is a picture of what I use. Note that I placed my worn-out old attachment in this picture, proof I use this tool a lot!

Below is a shot of the Dremel power tool itself, taken as I prepared to do battle against that rivet. Don't forget your safety glasses!

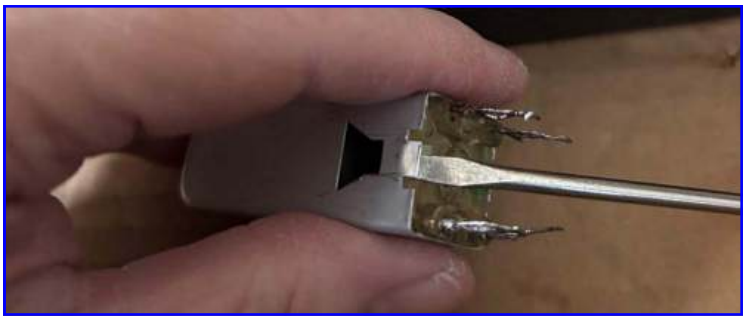
Continued on next page.

Repairing Automatic Style IF Transformer Silver Mica Disease
(Continued)

Carefully grind down the bass rivet until you've mostly ground down the bottom of the rivet—be careful to not slip and hit the plastic, or worse the transformer terminals. Remember, the hair-thin delicate wires are soldered to those terminals!

Once you've ground down the rivet enough, it should pop off using a sharp pair of cutters.

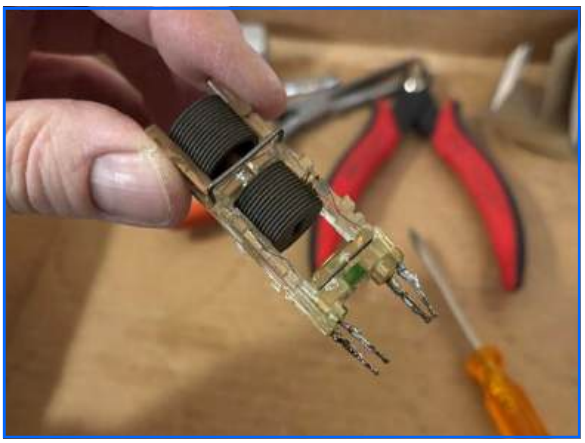
Once you've successfully removed that pesky rivet, you can start the more delicate work of removing the insides of the transformer and getting out that diseased mica sheet. The first step is to set yourself up in a comfortable spot with good lighting and pry up the two metal retaining tabs that hold the insides in place. You will need to bend those tabs back when you're done, so work them up gently. Very important: be sure to mark where pin #1 of the transformer (typically marked with a green dab of paint) corresponds to the metal can. I usually draw an arrow on the metal can to mark which way it will go back in once you are done.

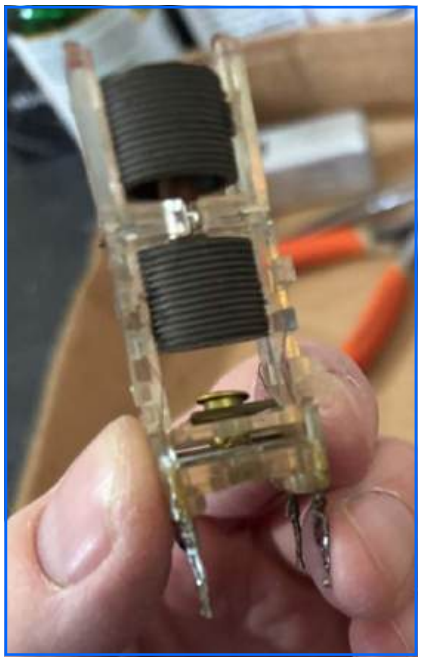


Continued on next page.

Repairing Automatic Style IF Transformer Silver Mica Disease
(Continued)

Once you slide out the insides, you will see how it all goes together. Automatic was a better-quality manufacturer and used a robust and easy-to-handle assembly to rigidly hold both the coil, the ferrite slugs (which are threaded cups that screw in/out of the coil form), and route and protect the delicate wires to their proper terminals. It makes it less likely (but not impossible) to snag or break a wire lead than it is in other designs which left the wires out in the open. Here's what you will see when you slide the transformer out of the metal can:



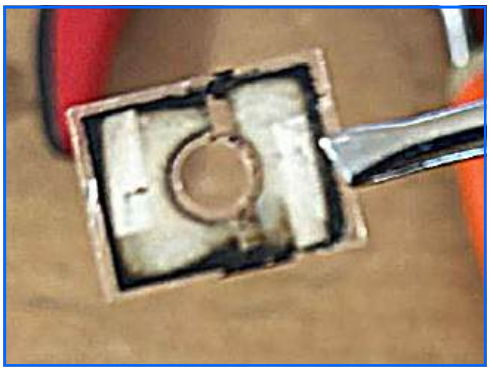


As you can see, the other end of the rivet holds down a removable plastic cover. You will use your small screwdriver to gently pry up on that plastic cover enough to give yourself enough clearance to get a pair of tweezers in there to remove the rivet and top cover. Although Automatic does a better job protecting the delicate coil wires than other designs do, you still have to be careful to not snag the wires as you remove the cover and rivet. Work carefully and take your time!

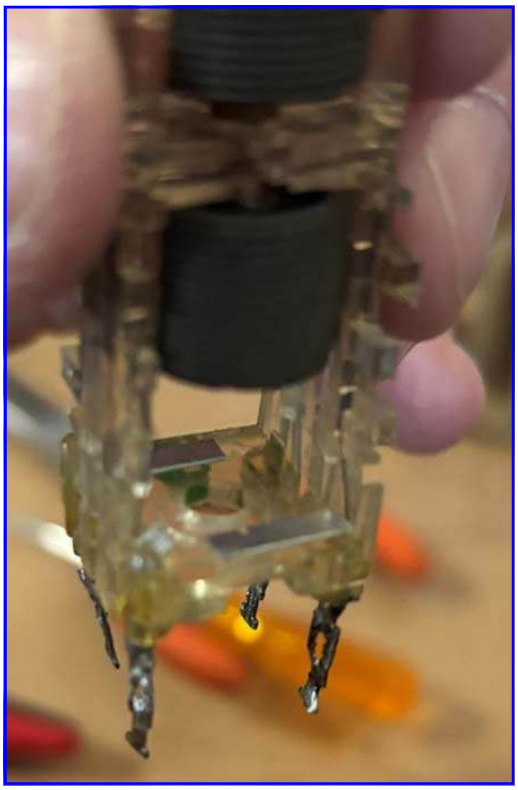
Once the rivet and plastic top cover are out, pull out that rivet and set aside the plastic cover. You will want to reuse that later. There are pairs of contacts on each side of the mica sheet which make electrical contact between each terminal and the top/bottom of each side of the mica sheet. This is how they made the capacitor, the mica is the insulator, and the silver laid down on the sheet make the conductor. Here we see the naked exposed mica sheet ready to come out:

Continued on next page.

Repairing Automatic Style IF Transformer Silver Mica Disease
(Continued)



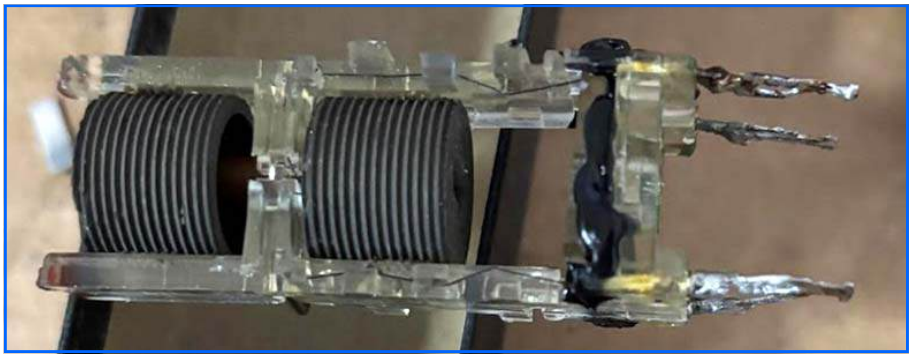
At last: Victory! Here you can see the "sheet of shame," and this is exactly what silver mica disease looks like. All that black gunk is tarnished silver dragged away from the silver conductor after many hours of operation in the radio. When enough is dragged away, it shorts out the silver sections and causes the hallmark static crackles and loss of reception we know and despise in this disease.



You will now face a problem: without the mica sheet, the metal contacts that press onto the now missing mica sheet will need to be either insulated with something else or cut back, so they don't short out. I've experimented with different options over the years. I've tried just bending them up, sometimes I've just cut them back. Unfortunately, the terminals relied on the pressure of that rivet and top cover to keep them from moving around. To keep them from sliding around (and breaking the delicate wires that thread through the base to them), I've found it best to cut back the two upper ones on each side just enough to ensure they can't accidentally come in touch with the bottom contacts, and glue back that plastic cover. I've found liquid electric tape works well and does not produce fumes that can damage the wires or plastic. A dental pick, or other small tool like a toothpick or jeweler's screwdriver if you don't have access to dental pick, works well. Apply just a dab. You don't want too much, as you will need to keep that hole open once you glue back the plastic cover. In case you haven't deduced from the pictures so far, this design requires the bottom ferrite slug be accessed from underneath for adjustment.

Here you see how I have cut back just enough of the contacts so when they lay flat, they don't contact their counterpart.

Here we have the plastic cover (you did remember to save it, righ?) glued back in place. Once left overnight, the liquid tape will hold everything well so you can handle the transformer for reinstallation.



Continued on next page.

Repairing Automatic Style IF Transformer Silver Mica Disease
(Continued)

Once everything is cured you can slide the assembly back inside the metal can and bend the can's metal retaining tabs back in place. At this point, you will need to determine what value modern capacitors will be needed to substitute for the mica sheet capacitor you have removed. If you are lucky, your schematic may provide it, but most didn't since most radio manufacturers assumed defective IF transformers would be replaced in whole with a new part. I provided detailed instructions on a method I found useful in my article "Repairing IF Transformers with Silver Mica Disease" from earlier in 2024. In my method, you will be measuring the inductance of each coil section and using an inductance calculator app to determine the needed capacitor value to make each section resonate at the radio's intermediate frequency. Typically for AC/DC tube radios made in the 1950s, which is the era pone to silver mica disease, this frequency was 455 KHz. Some automobile radios used a different frequency, so it is best to consult with the radio's service literature to know what intermediate frequency was used.

In case you don't have access to my article, I use an inductance meter such as the LC200A. It is accurate enough to produce good results. An online inductance resonance calculator app I use can be found at https://goodcalculators.com/resonant-frequency-calculator/.

2025 Broadcast Band DX Contest Results
By Al Klase

The 2025 BCB DX contest drew 19 logs from 13 contestants

2025 NJARC BCB DX Contest - Official Results

CAT	AWARD	NAME	SCORE	RADIO	ANTENNA	Most Distant Station	MDS	LOCATION
B-Primative	1st B	Edward Suhaka	1552	LM386 Regen (homebrew)	Random Wire in Attic	1110 WBT Charlotte, NC	501	
C-20's Batter	1st C	Aaron Hunter	4017	Metrodyne Super Seven Single Dial	Al's plywood loop	750 WSB Atlanta, GA	717	
C-20's Battery		Joe Devonshire	3638	RCA Radiola IIIA	160 Meter Dipole	1190 WOWO Ft. Wayne, IN	825	Jefferson, ME
D-TRF	1st D	Joe Devonshire	7585	Atwater Kent Model 40	160 Meter Dipole	670 WSCR Chicago, IL	930	Jefferson, ME
E-Home	1st E	Aaron Hunter	7539	Zenith 8S129	Al's plywood loop	1540 KXEL Waterloo, IA	950	
E-Home		Sarah Gath	5355	Midwest K11	Mini-Whip	1540 KXEL Waterloo, IA	950	
F-Comm RX	1st F	Mark Hilliard	7714	Hallicrafters SX-62A Mark I	Tecsun AN-100 Loop	670 CMBC Arroyo Arena, Cuba	1271	
F-Comm RX		John Ruccolo	7306	RCA CR-88A	TT Loop and MLA30 loop	1540 KXEL Waterloo, IA	950	
G-Ultralight	1st G - First O/A	Frank Feczko	9567	Qodosen DX-286	Select-a-tenna	1030 WBZ Boston	1114	Leesburg, FL
H-AA4/5/6	1st H	John Ruccolo	7425	Silvertone 1002	Internal Ferrite Bar	1040 WHO Des Moines, IA	1014	
H-AA4/5/6		Richard Lee	3953	G.E. Model 425 - 6-Tube - 1951	Tenaloop	750 WSB Atlanta, GA	717	
K-Open	1st K	Bill Sloma	9087	SDRPlay Rspdx	150 foot Delta loop	1200 WOAI San Antonio, TX	1558	
K-Open	2 st K	Nevell Greenough	8909	Bendix Navigator 555	Internal rotating ferrite	570 CEMA Santa Clara, CU	1279	
K-Open		Frank Feczko	8898	Lionel 457 Radio Station	Select-a-tenna	1200 WOAI San Antonio, TX	1003	Leesburg, FL
K-Open		Mark Hilliard	8821	Potomac Inst. FIM-21 Field Strength Meter	Internal Loop in lid	820 WBAP Dallas, TX	1379	
K-Open		Mario Volpe	7857	Kenwood R-1000`	Homemade Loop	1040 WHO Des Moines, IA	1014	
K-Open		Al Klase	6248	Drake R8B	Skywaves Loop	1540 KXEL Waterloo, IA	950	
K-Open		Ed Papson	6034	ICOM 7300	65' Wire	1540 KXEL Waterloo, IA	950	
K-Open		Daniel Gervais	4011	Hallicrafters SX-28A	75 oot wire	1000 WMVP, Chicago, IL	773	St-Hubert Quebec
That's 19 logs from 14 contestants. Down consideravbly from last year. Conditions not so good.								

Continued on next page.

2025 Broadcast Band DX Contest Results

By Al Klase

Here's First-Place-Overall winner Frank Feczko with his "ultra-light" Qodosen DX-286 https://swling.com/blog/2025/01/qodosen-dx-286-first-

Aaron Hunters Metrodyne Super Seven Single-Dial TRF

Joe Devonshire working his Radiola IIIA battery set

Gary Berg's gyrating Home Brew FSL antenna

New Jersey Antique Radio Club's

Spring Ham Fest & Swap Meet

Parsippany PAL Building
33 Baldwin Road
Parsippany, NJ 07054
Just off Route 46,
Adjacent to Smith Field

Saturday March 22, 2025

Refreshments Available

(40) 8 Foot Tables

$30.00 for members

$35.00 for non-members

Reserve Additional tables $25.00

At the door $30.00

Open to the Public

8am to 12 noon

Vendor setup at 7:15am

$7.00 Entrance Fee

Club Donation

For Directions

Visit our website:www.njarc.org

or use your favorite phone app

33 Baldwin Road

Parsippany NJ 07054

Vendors Make Your Reservations Now!

Contact:

NJARC President

Richard Lee

(914)589-3751

radioricardo61@gmail.com