

Southeastern Antique Radio Society

Newsletter
www.sarsradio.com

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Caution: Performing repairs on radios can be dangerous. SARS assumes no responsibility for accidents resulting from any information contained in its website or newsletters.

Presidents Message

JIM POWEL

The Thrill of the Hunt

Our "Spring Swap Meet" at the Golden Corral was an enjoyable event for all. Many of us found treasures to add to our collections while others took this opportunity to "thin the herd".

Summer is here and our fall meet is still several months away, so now what? Some of us may travel to the swap meets up north, I understand there are great pickins up there. I seldom get more than 1 or 2 states away, I usually check out the antique stores and yard sales I run across, it's amazing what I see in those places. They can be a good source for old radios and radio related items.

So wherever your travels take you this summer, happy hunting!



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Join SARS Now:

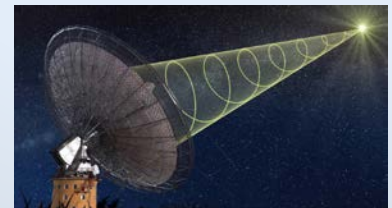


Go to our Website at www.sarsradio.com for complete information on how to:

- Become a member
- Have fun at monthly dinner meeting
- Attend biannual swap meets for great deals – buy, sell, trade

In This Newsletter

- Blast from the Past – Refinishing Wood Cabinets Part 2 by Mark Palquist
- Earliest Measurement of Sound Frequency by Jim DelPrincipe



Sound frequency to radio frequency and beyond!

Blast from the Past

MARK PALQUIST

Refinishing Wood Cabinets – Part 2 of 3 starting on page 2, don't miss it!

Refinishing Wood Radio Cabinets - Part 2 of 3 Repairing Damage

Mark Palmquist

In the last issue, we talked about types of wood finishes: (evaporative = lacquer) and (reactive = varnish). We also discussed methods of removing the old finish, with a preference toward chemical methods over sanding, to preserve the fine details and edges of veneers. In this installment, we will discuss methods of repairing damage like dents, cracks, gouges, stains, missing veneer and separated veneer.

Repairing Dents

Wood is composed of tubular (vascular) cells whose job in the forest was to move water and nutrients from the roots to the leaves and back to the outer, growing layers of the tree. When the tree is cut and the wood is dried, these cells are mostly hollow but have strong cell walls that give wood its structure and strength.

If you strike wood with a dull object as might happen if you smack the Electrolux into the base of your Zenith Stratosphere, the high local pressure will compress some cells, leaving a dent. If you strike wood with a sharper object such as a knife or nail, the cells are severed, resulting in a scratch. A very deep cut or scratch that removes layers of cells is a "gouge".

A dent can be reversed in many cases by "steaming", to force some water into the collapsed cells and help them regain their shape. Simply dampen a cotton cloth and place it on the dent and touch the tip of a steam iron over the dented area. The iron will boil the water in the cloth and force it into the dented wood, restoring it to its former shape. You might want to try this on some scraps of wood before going to work on your radio. This technique works a lot better if the finish is removed, since a layer of lacquer or varnish will slow down the water penetration. In many cases, the dent will disappear completely ala the "Dent Wizard" M.

Removing Scratches in the Surface Finish

A scratch that is in the film finish and does not go into the wood itself is easier to repair than one that goes into the wood and severs the cells. Flexner [1] cites several ways to repair this type of damage:

1. Apply a coat of paste wax or oil/varnish mix (such as Watco) to the surface and wipe off the excess. Remember that paste wax is not permanent and will be removed by solvents used in furniture polish. The oil/varnish mix will be more permanent.
2. Use 0000 steel wool or 600+ grit sandpaper to gently cut through the top layer of the film finish and cut it down to the unaffected finish below. The finish may be only a few thousandths of an inch thick, so proceed very slowly. If you

get down to the bare wood, you might as well remove it all and start over with bare wood.

3. Apply another coat of the original finish. This works especially well with evaporative finishes such as lacquer, where the new finish dissolves and mixes with the film of the original finish. A special type of lacquer called "padding lacquer" is often used to touch up existing lacquer finishes often found on radios. If the old finish is polyurethane, be sure to rough up the surface a bit with 320 grit sandpaper to give the new coat some extra surface area to improve the bond. Clean the surface with naphtha or mineral spirits to remove any oils or furniture polish that will prevent proper bonding to the old finish.
4. The most elegant way to restore an original finish on a valuable radio such as a Zenith Walton's is "French Polishing". This is a relatively time-consuming and expensive process and is best used to gently restore an original finish without removing the fine cracks and patina of age found in priceless antiques. David McDonald of Tara School House Antiques in Georgia has used this method to restore several radios for SARS members. We hope to invite him to a future monthly meeting to explain the process and perhaps show off one or two of his restoration projects. A detailed description of French Polishing can be found in *Understanding Wood Finishing* by Flexner, available at Highland Hardware (www.highlandhardware.com) or on line at Barnes and Noble (www.bn.com) or Amazon (www.amazon.com).

One use for basket case radio cabinets is to use them as "target practice" to try out your repairing and refinishing skills.

Removing Water Rings

Water rings are another common occurrence, especially when Uncle Waldo decides to use your pristine Philco chairside to park his frosty mug of Bud. The cloudy appearance of water rings is caused by moisture which penetrates and condenses under the finish.

Flexner suggests three things to try:

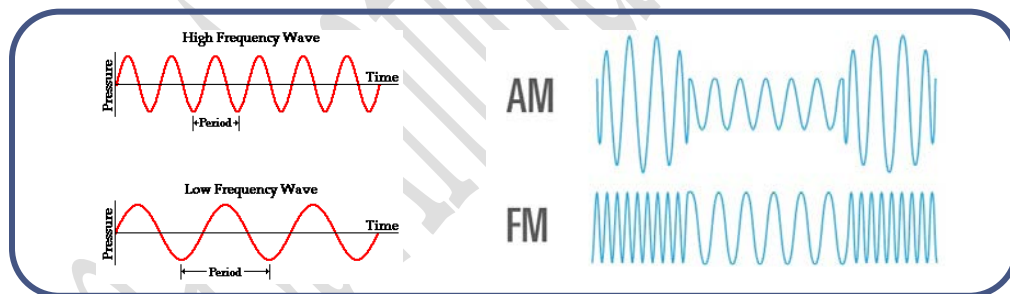
1. Try replacing the water with oil by rubbing furniture polish, Vaseline or mayonnaise [!] into the finish. This might not always work, but is easily reversed by cleaning up with mineral spirits. The chemical action is to put something in the finish that has more affinity than water to the film.
2. Wipe the stain gently with a soft cloth dampened with a small amount of denatured alcohol. Alcohol dissolves shellac and acts somewhat like a gentle refinisher. This works most of the time.
3. Cut through the finish with a very mild abrasive such as toothpaste, cigarette ashes mixed with water or oil, pumice or rottenstone. Pumice and rottenstone are

traditionally used to rub out high-end finishes on pianos or high gloss table tops. I haven't tried this myself so would want to practice the technique before trying it on a prized cabinet.

Repairing Deep Scratches and Gouges

This type of damage is most often found on radios that have traveled to 20 or more swap meets in the back of a pickup with other loose cargo such as livestock or assorted landscaping equipment. Here the wood is missing or severed, and it's necessary to add some material to get the gouge level with the surrounding area. Professional finishers use solid blocks of colored shellac or lacquer called "burn in sticks". The trick is to match the color, either by having a large kit of sticks or by mixing basic colors together to get a match. These are melted with a burn-in knife heated electrically or over a clean flame and pressing it into the void. Once it cools, it can be leveled with 320+ grit sandpaper on a very flat cork sanding block. The trick is to get the blob level without taking out the surrounding finish and making an even bigger mess. Excess burn-in material can also be removed with a clean, heated burn-in knife. Putting some Vaseline around the damaged area can prevent the stuff from sticking to and gunking up undamaged areas. The final step is to add some color and grain lines the try to make the patch invisible. Buy the book and practice!

Earliest measurements of sound frequency - Jim DelPrincipe



What were the first means to determine the frequency of sound?

It was not until Aristotle posited that higher pitches travel faster than lower pitches that anyone attempted to define sound in any meaningful way. He was, by the way, wrong about this.

Sound was, at first, thought to be impossible to measure in any way as "Seventeenth Century, natural philosophers (as early physicists were known) thought it absolutely illogical to make any attempt to quantify it or even theorize about its measurement".

What was sound? Galileo drew a knife across the serrated edge of a coin and noted the tone it produced. The faster he did this the higher the pitch noted. He concluded that

sound was a series of pulses. This is really close to reality and he was probably the first to make a correct hypothesis.

British scientist Robert Hooke constructed a toothed wheel, with a reed that could produce sound as it was rotated much the way you might have put baseball cards in the spokes of your bicycle as a child. The faster it was turned, the higher the pitch. Evenly spaced teeth produced a steady tone while uneven tooth spacing produced sound that resembled speech.

Many years later, French scientist Felix Savart, constructed large brass wheels with 720 teeth. A mechanical tachometer was connected to this and the device could be used to demonstrate tones were related to specific frequencies. A tone in the air could be compared to the tone produced by his device and when the tones matched by ear, the frequency of the unknown tone could be calculated.

Now compare this with a device we use today to determine an unknown frequency without the use of a frequency counter. You may be thinking of the BC-221 Heterodyne Oscillator. In the 1940s and later, this device could be 'zero beat' until two signals matched and the frequency of the unknown signal determined by the calibration charts of the BC-221.

What Hooke, using Savart's tachometer, had created was the first mechanical heterodyne oscillator, one hundred years (1834) before the electronic version.

So this is the origin of frequency measurement. Later devices to study and quantify sound employed connecting a diaphragm to a needle and when the needle was applied to a rotating glass cylinder that had been smoked (lamp black) showed the patterns of sound over time. Was this the first oscilloscope?

The speed of sound was the first quality to have been defined but strangely, amplitude was the single most difficult and while mechanical devices were constructed, it would not be until the vacuum tube and microphone were invented that sound amplitude could accurately be measured....but that's a story for another day.



This is a Penthouse Radio Bar radio, a unique find for sure. Warning – Don't drink and solder!