

## Basic Wood Radio Cabinet Refinishing – Part One

By Eric Stenberg

A great thing about a hobby involving antique radios is the many aspects that can hold your interest. To people on the “outside” we may be just another bunch of wacko collectors. But to those of us in the know, there are an amazing number of specialties within it. Some enjoy the history, others the electronics, or pure collecting, a particular era, or preservation of equipment. A facet of the hobby that has brought me a lot of satisfaction is wood cabinet restoration. This is a topic of interest to the many collectors who have picked up such a set in less than perfect shape. I have written this to describe the process as I have been practicing it. It is more geared this toward the beginner. That’s a warning to you more experienced folk out there. Also, I won’t go into every possible aspect. Even so this turned into a bigger writing project than expected. There are a lot of small details to consider. What started out as a little article turned into a two part monster. This first part will go into preparation and stripping of the cabinet. Part two will handle coloring and applying the new finish.

But first a little philosophizing. Refinishing any old wooden item is a subject of great controversy within the antiques’ community. Some people hold the “original finish” as practically sacred. It seems that some within the vintage radio community have picked up on his notion as well. Maybe they think it’s chic. I am not one of these original finish die-hards. For one thing, in the realm of true antiques, radios aren’t all that old. I prefer that my sets look good and display well. If the finish looks bad then I want to do something about it. Obviously, if you have found a gem with good original finish then you should enjoy it as is. I am talking about radios where the finish is badly deteriorated, and often gone in large part or in whole. There is a good reason these are usually referred to as “project sets”. It means they need to be refinished to be preserved.

I admit to being one of the masochists who look for sets such as this. I kid myself that I am getting a bargain since these radios command smaller prices. (At least they should, one of my pet peeves are the vendors who call sets “restorable” and price them as if they already are. I suspect they have never actually tried to restore a radio). It is unlikely you will monetarily recoup the effort it takes to bring these back to health, unless you charge quite a bit. Consider it a labor of love.

There are basically three things you can do for the finish on an old radio. “Nothing”, restoration, or refinishing. I put “nothing” in quotes because you will probably want to clean it at least. This is all you might have to do with one of those gems I mentioned that still has finish. How bad the finish needs to be before you go beyond just cleaning is a matter of personal preference. A thorough cleaning involves dismantling the set (discussed later) as you would for refinishing and then giving it a rub down with a mildly abrasive cleaner. A hand cleaner such as the original ‘GO-JO’ brand and very fine steel wool (0000 grade) is good because you can avoid water. You may need to wipe the cabinet down with turpentine or mineral spirits first to dissolve any wax. A “finish restorative” can also be used, such as ‘Kramer’s Best Antique Improver’, which has been demonstrated at MAARC meetings. Products like this can sometimes work wonders with an intact but tired finish.

Restoration is a hopeful term for a number of techniques that can fix or augment an existing finish without resorting to total refinishing. Restoration is more of an art and since this article is about refinishing I’m only going to scratch the surface (sorry, bad pun) of this subject. Re-amalgamation is probably the most popular technique. It is used to remove scratches and thin spots in lacquer. You soak a cloth in lacquer thinner and rub the area to re-dissolve the finish surrounding the problem and re-flow over it. (Heed the precautions about using lacquer thinner mentioned later in his article).

If you are dealing with shellac, use alcohol instead. Re-amalgamation is heavily dependent on there being enough finish on the surface to allow this redistribution. I have never had much luck with this technique, probably because I deal with radios where the finish is too far gone. If your finish is merely thin, you can spray some additional clear coat (lacquer or shellac) over it. If you have bare spots or scratches down to the wood, which is a common problem on corners and edge trim, you can use color-matched stains or tinted lacquer first, then the clear coat. Color matching is truly an art form and I do not know an easy way to do it. I prefer tinted lacquers for this since they are most likely what the manufacturer originally used. Once you go that far, it might be debatable whether you can still call the finish completely “original”. By the way, the techniques mentioned really only work with lacquer or shellac. Varnish and polyurethane do not re-dissolve, but hopefully you are not dealing with them.

Most of these restoration techniques involve using the same chemicals used in refinishing. I am going to say more about these various potions later. Up front I advise that you get familiar with them before attempting an important project. I recommend totally refinishing a couple of radios first before refinishing a valuable set and definitely before attempting a restoration. Get a couple of cheap, small, common table sets and practice by refinishing them.

Okay, let’s finally get into this refinishing stuff. The example subject for this make over is a Fairbanks Morse model 58-T-1 that I picked up at the MAARC October meet. It is shown in it’s former non-glory in figure 1. Note the missing color on the trim, edges, and corners. There are also large areas of bare wood on the top of the cabinet. A nice candidate for a refinish job



**Figure 1: Before shot.**

The first step is to make a quick drawing of the cabinet to record what color goes where. Use the existing finish to tell what areas are dark, medium, or light brown. Label these on the drawing. Be more specific about shades and colors if you know them. A color photograph is even better. A good photograph of a well preserved example of the same

radio is the best. The idea is to later try and restore the colors close to what they were. At least get the color scheme right. I may not be a stickler about the original finish but I do believe the original look of the set should be restored as much as possible. If your set has a decal, measure exactly where it is on the cabinet and put this on the drawing as well. You might also need to make a note of what size it is as some manufacturers, such as Emerson, used different sizes of their emblem. Refinishing will destroy the decal but at least you will know where to replace it.

One suggestion I’ve heard regarding color matching is to take all of the stains and tinted lacquers on your shelf, applying a dab or squirt of each to a piece of wood, labeling each color. Once they are dry you can compare this color chart to the original colors on the radio and determine which are closest to the original. It works best if the color chart is on the same type of wood as the radio part to be colored as the substrate wood does affect the final results when the grain is meant to show.

The next process step is dismantling. I show the dismantled set in figure 2. You want to take everything off that isn’t wood. Obviously, the chassis and speaker come out. You also want to take out the grill cloth. Carefully, if it looks reusable. If it is glued to a cardboard frame and stapled in, gently pull the staples to get the cardboard out. You want to save the cardboard piece even if the cloth is no good. You can make a new one if

need be but why do so if you don't have to? If the cloth is glued to the wood on the inside of the cabinet you will probably have to resort to a putty knife to scrape it off. It will be difficult to save such a piece for re-use, so I usually do not try.

Escutcheons are all different. For this set it is held on with small brass wood screws, which makes removal easy. Sometimes small nails are used. Try not to damage the wood or scratch the escutcheon when prying these out. I use a small thin blade screwdriver, or sometimes a knife blade, and go slow. Occasionally these nails protrude through the front panel and can be started back out from inside the cabinet with a nail punch. Once started they can be pulled out with a pair of needle-nose pliers.



**Figure 2: Dismantled Radio.**

Avoid scratching the nail heads also if you can as you want to save them for re-use. On many small sets there is no escutcheon and the dial cover is fastened to the inside of the cabinet, hopefully with staples. If they are glued in, they are a pain. Fortunately old glue is often brittle and no longer holding well. If not, you can try softening it with alcohol, but this is a difficult area to soak. Probably you are in for a slow pry job with a putty knife and crossing your fingers that nothing goes 'snap'.

I take all the small hardware, escutcheon nails or screws, speaker screws, chassis bolts, and stick them on a short piece of masking tape so I do not lose them. A small container would work also. I then like to take everything except the cabinet and put it all together in one box for safekeeping. Throw in the diagram you made in the first step so you can find it later.

Paper labels on a cabinet are a special case. If they are still there they can be difficult to remove without damaging them so I rarely attempt this. If the label is starting to come off I prefer to glue it back down. This is tricky as they are also usually brittle. I have been using a spray adhesive since they work fast. I spray a thick spot of it out on a piece of scrap paper and use a cotton swab or toothpick to pick up a glob to spread behind the lifting part of the label. I use another toothpick or some other probe device to carefully lift up the loose corner or side of the label to get the glue behind it. Be very gentle as it is difficult to avoid breaking off small pieces of the brittle label. Smooth it down gently with your finger. The spray adhesive glue will be ready to take hold immediately at this point.



**Figure 3: Label in cabinet.**



**Figure 4: Protective Paper and Tape.**

What I do to preserve the labels through the refinishing process is shown in figures 3 and 4. I take a piece of scrap paper cut larger than the label and tape it down over the label using clear plastic package sealing tape. I cover the entire piece of paper with the tape and make sure the edges are sealed down. Do not let the tape touch the label itself. The tape protects the paper and label from the chemicals to follow and the paper protects the label from the tape.

At this point I would clean out the cabinet with a vacuum and a wipe down the whole thing with mineral spirits. This gets rid of surface grime and any wax that may still be there, which is unlikely. Watch out for any loose veneer, or other loose cabinet parts or trim, and avoid breaking them. Wait for the mineral spirits to dry. You will soon find that wood cabinet restoration is an endless series of waiting for things to dry.

Speaking of loose veneer and cabinets, I have rarely encountered a radio cabinet that did not have some such problems. Besides lifting veneer, old cabinet joints may be coming loose, or old plywood panels, particularly the bottom panel, may be delaminating. The Fairbanks Morse had all of these issues. Now is the time to take care of these structural repairs. Wood glue and woodworking clamps are your best friends. White glue can also be used but the yellow wood glues are stronger. In fact, wood glue is amazingly strong stuff, but it must, I repeat must, be clamped while drying to be effective. Strictly speaking, you just need to apply pressure, so you can get by without clamps if you can arrange to stack some heavy weight on your glue joint (you just knew those Riders manuals were good for something). However, there are situations where clamps are indispensable.



**Figure 5: Glue syringe.**

Have some wet paper towels handy to wipe up the excess glue that gets squeezed out of the joints. The glue will set up in about four hours but I usually let it sit over night to be sure. Depending on the damage it may take multiple rounds of gluing and clamping. Especially if you only have a few clamps or the different repairs would interfere with each other, as occurred with this cabinet. Figure 7 shows the second go round using a bar clamp to hold the lower corner joints of the cabinet together while the glue dries. Be

careful if you find you need to clamp across the open back of a radio cabinet. This includes stacking weight on top of the cabinet. The open back has no structural support for this and you can cause damage. Cutting a brace from a piece of scrap wood to exactly fit inside the opening will prevent this tragedy. And once again you are waiting for something to dry.

Figure 5 shows use of a glue syringe to force glue underneath a loose layer of veneer. This tool is extremely handy for getting glue in loose corner joints as well. Figure 6 shows the veneer repair clamped off. Note the use of clamp blocks, which are just scrap pieces of wood, used to protect the veneer surface from marking by the clamps. They also spread the pressure over a larger area. The wax paper is used to prevent the clamp blocks from being glued to the cabinet. Because face it, that just wouldn't be a good look.



**Figure 6: Clamping Repair**



**Figure 7: Bar Clamp**

This is all I have space to say about veneer repair here. It is an important topic in cabinet restoration, as some sets have more extensive veneer damage. But it is also a rather involved topic encompassing multiple techniques for dealing with different situations, and there isn't enough space in this article. Fortunately the Fairbanks Morse did not have a lot of veneer issues.

At this point I am ready to start stripping off the old finish. But first I need to say something about finishes and stripping chemicals. If you are going to deal with old radio cabinets then you are going to be dealing with lacquer. Occasionally you may encounter shellac on some older 1920s three dialers. But lacquer was, and is, the finish of choice for cabinet manufactur-

ers. The reason is because it dries extremely fast and they can put a lot of coats on in a relatively short period of time. I'll say more about this in part two. Lacquer is best stripped with Lacquer Thinner. The principle effective ingredient being acetone. I've found that not all brands of lacquer thinner are created equally with acetone. I look for brands calling themselves epoxy and lacquer thinner. Lacquer thinner is not the most pleasant of substances. You probably want to wear rubber gloves and you must have a lot of ventilation, as it is very volatile and has a strong odor that will leave you light-headed. Trust me, you will not be stripping radios in your basement with it this winter. Also, do not smoke while using it. You may choose to leave this world in a fiery flash but I hate to think of those nice radio cabinets you would be taking with you. For shellac you can use alcohol, which is not quite as nasty but the warnings still apply.

Conventional paint strippers work well on lacquer but they are overkill to some degree as they tend to be made of harsh chemicals that can be hard on the wood. An exception may be the newer, pleasant smelling, citrus based strippers which may actually allow you to strip cabinets in your basement this winter. However, I still prefer to work with lacquer thinner on these old cabinets.

A couple of other asides. If the lacquer thinner is having no effect it is likely that some monkey before you has refinished the cabinet with varnish, or worse, polyurethane. Talk about a lack of respect for authentic restoration! The only recourse is paint stripper. Also some of you may have noted my comments about acetone and be wondering why not use it straight? Well, you can, I've tried it. It is more aggressive and works quicker than lacquer thinner. However, everything I said about volatility and flammability goes double for pure acetone. It evaporates very fast and you will lose a lot to that process. And if your ventilation isn't very good it will knock you on your behind. It is also harsher on the wood when applied in the quantities required. But it does smell better than lacquer thinner for some reason. Despite that, stick with the lacquer thinner for the major stripping.

Okay, let's get on with it. Tools to have are plastic paint scrapers, perhaps a nylon bristle stripping brush, and an old toothbrush. Do not use metal utensils, it is too easy to damage the wood. All except the toothbrush can be found in the paint section of any home improvement emporium. Find a work surface you are not too concerned about and have paper towels and rags handy. Those Scott brand "Rags in a Box" heavy paper towels sold at the aforementioned emporium are very well suited to this job.

Pour some lacquer thinner into a small working container and reseal the can. I also like to have a second shallow container to dip the brushes in, I consider this the "dirty" container while the "clean" thinner is from the first container. Pour some thinner from the "clean" container over the surface you are going to work on letting it spread out over all of it. After several seconds it will have started to dissolve the finish. Then take the plastic scraper and scrape up the goo as seen in figure 8. Clean the goo off the scraper onto a paper towel after each stroke. When the lacquer starts resisting more and won't scrap up easily, pour on some more thinner

and wait a few seconds again. Repeat this process as many times as needed to get the bulk of the finish off the surface you are working with. And yes, this is a messy process. A warning, the lacquer thinner will slowly start to eat the plastic scraper. Fortunately they are cheap. I take a metal file and periodically re-sharpen the business end. But be careful where you lay down the wet scraper. With it's surface partly dissolved the blade will weld itself to anything. Lay the scraper across something to dry, which will take less than a minute.



**Figure 8: Scraping the softened old finish**

For trim details and corners you need to use the brushes dipped frequently in the “dirty” container to keep the thinner on the work area fresh. You will soon discover why I call it the dirty container. If I run into a real stubborn spot I will break out the straight acetone to take care of it (figure 9), .



**Figure 9: Using an old toothbrush for details**

When done with the scraper and brushes, take a clean towel or rag soaked in lacquer thinner and wipe off the residual finish, as in figure 10. There could be a fair amount and you may go through several towels. To speed things up you might want to start this step using 00 or 000 steel wool instead. Again pour some thinner on first, then wipe with the grain. But do not get so enthusiastic that you gouge the wood that may have softened some from the thinner. The steel wool will get gummy and won't be easy to rinse out. To make it



**Figure 10: getting the residual finish**

last longer I suggest unrolling the pad and tearing off small sections for this purpose rather than using the whole pad at once. That way you can toss the small pieces as you go.

After the finish is off the first surface move on to the next and repeat the drill until all sides are done. Finish up with a clean towel, soaked in cleaned lacquer thinner, and give the cabinet several wipe downs to get the last vestiges of the old finish. You will also want to wipe out the inside the cabinet where run-off from the stripping process has gone through the grill and dial openings. I often use straight acetone for the last wipe down since it leaves things very clean. Including your sinuses. Figure 11 shows the stripped cabinet, looking quite a bit different now. I leave it to air out overnight because it wouldn't be a major refinishing step if nothing was left drying at the end.

Now we are ready to put the new finish on the cabinet. Which is covered in Part Two.