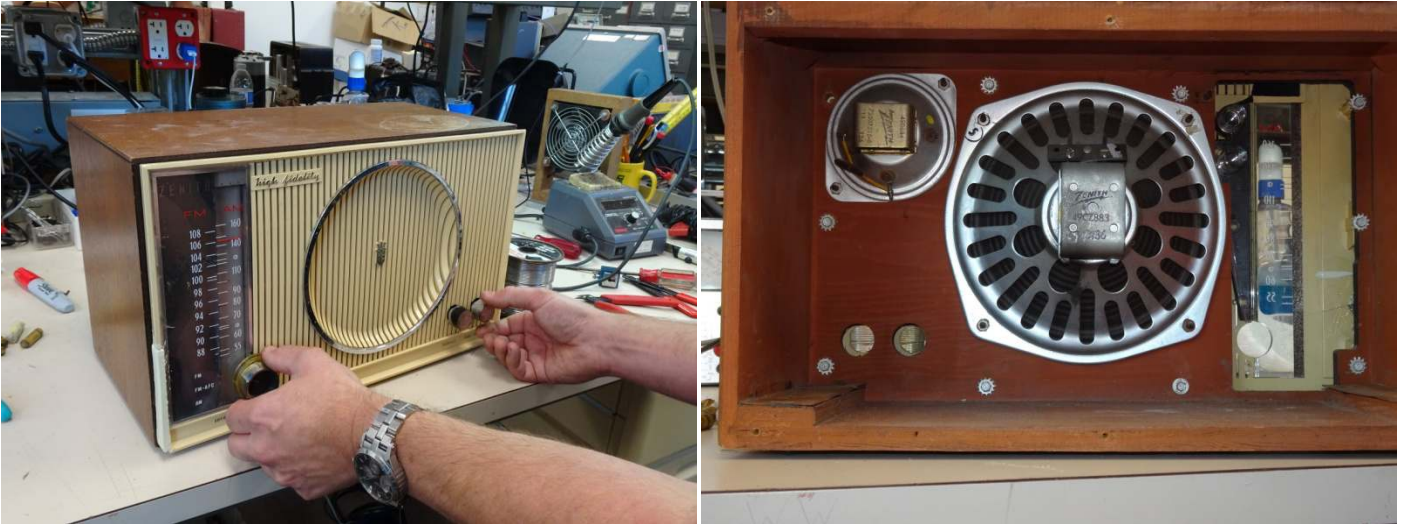


# Seth Arp Restores a Zenith H-845 AM-FM Tabletop

by Thomas Bonomo K6AD

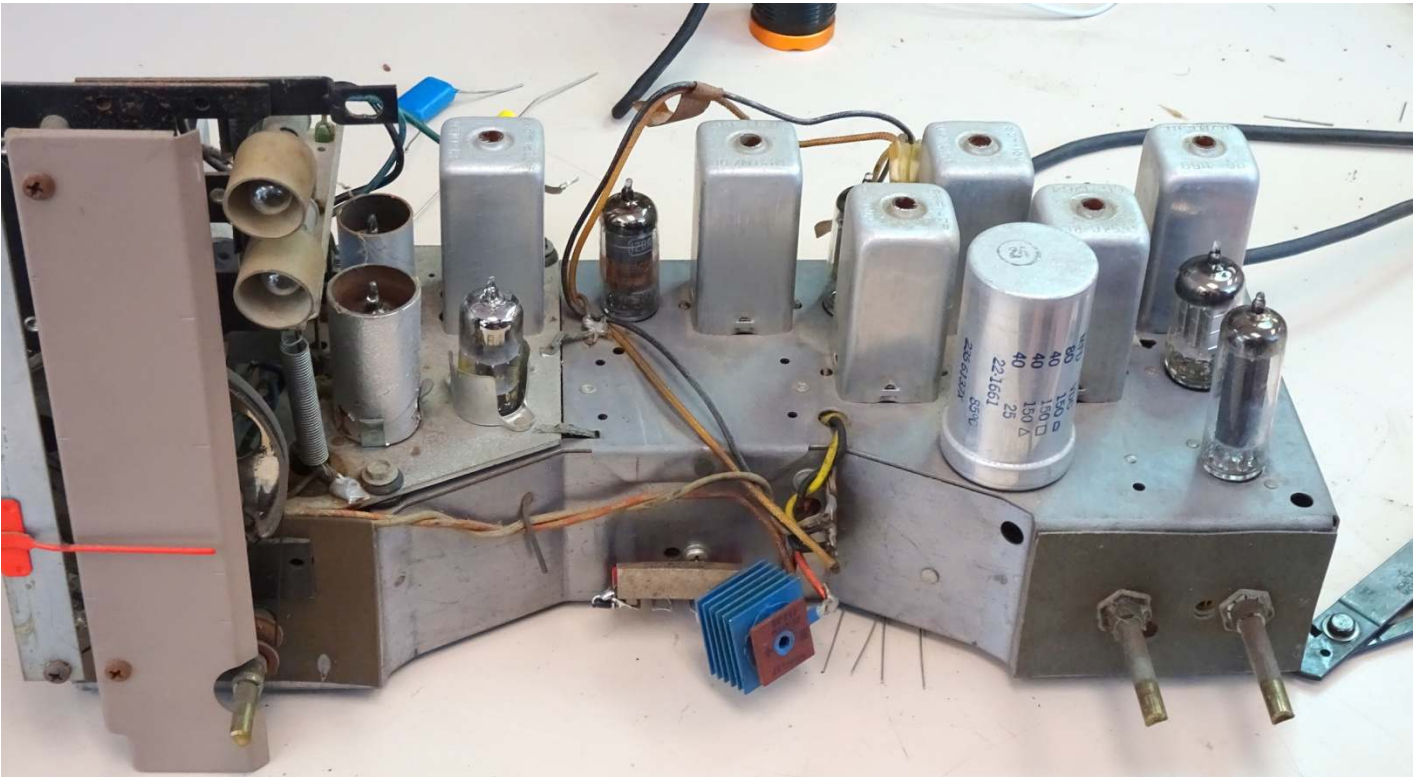
The Zenith 8-tube H-845 AM-FM radio was built in 1964, and is a popular set thanks to its “high fidelity” sound. This tabletop’s truly does provide great sound. It is well made and even features permeability tuning for some of the stages. Its unusually large speaker gives it great bass, and it is also one of the few table sets to have a tweeter for some decent treble. Unless you look inside, you can’t tell that it is equipped with a tweeter. If you are need a schematic, you can get one at [RadioMuseum.org](http://RadioMuseum.org). The chassis in this radio is designated 8H20.



CHRS’s master restorer Seth Arp performed a complete restoration of this set, and it will probably find a new home at one of the antique fairs that CHRS attends. Here is a brief summary of the steps performed:

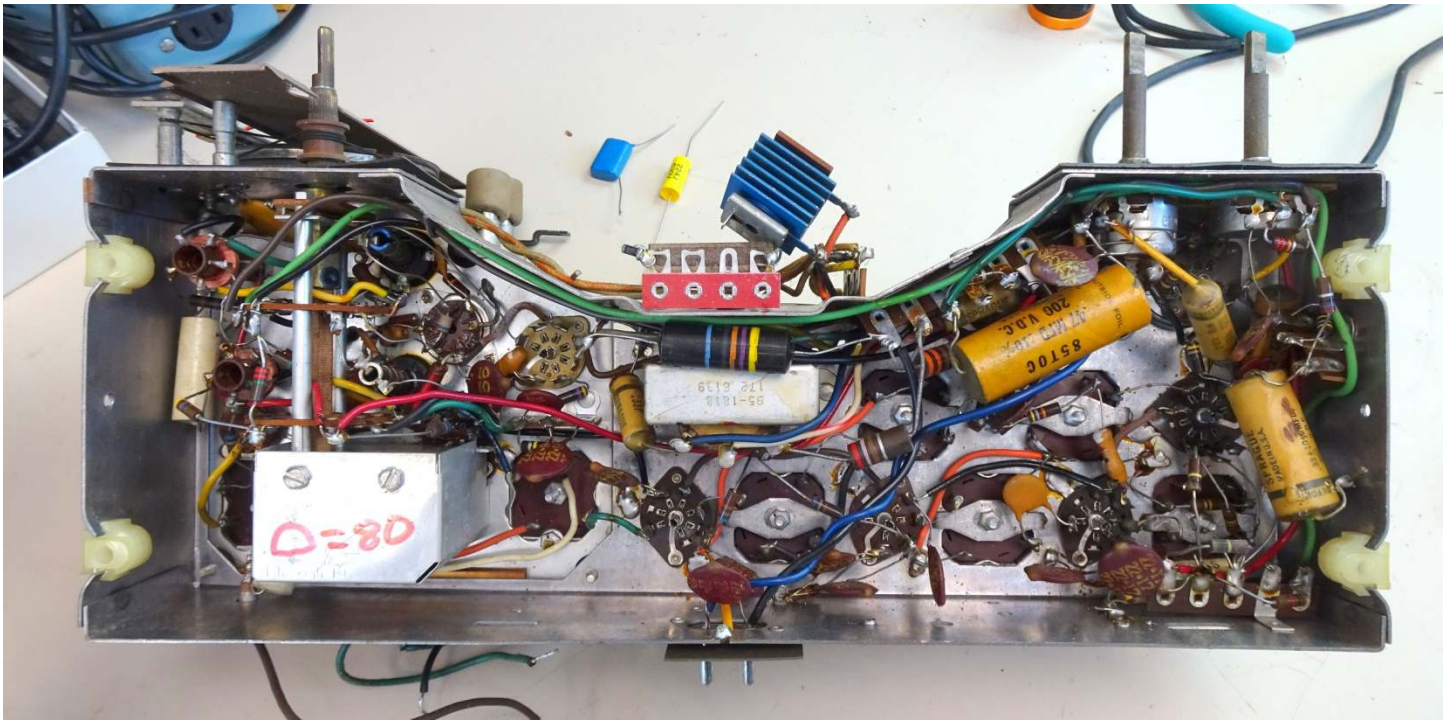
- Bring the set up slowly on a variac to assess whether it works;
- Test tubes and replace as necessary
- Replace the selenium rectifier
- Replace all electrolytic capacitors
- Replace all paper capacitors
- Replace lamps (if necessary)
- Replace dial cord (if necessary)
- Clean switches and contacts with Craig DeOxit D5
- Clean volume control with Craig CaliLube MCL (for carbon-based controls)
- Lubricate bearings of tuner and station pointer
- Test radio; troubleshoot if necessary
- Align if necessary (this is usually unnecessary)

This particular radio worked before replacing any components, so we knew that no troubleshooting would be necessary. The tuning shaft slipped a fair bit, but at least it worked, so it was a matter of increasing spring tension and lubrication. If you must align the set, be sure to follow the manufacturer’s instructions as FM alignment can be a bit tricky. For this purpose, a Sams Photofact is available for this set.

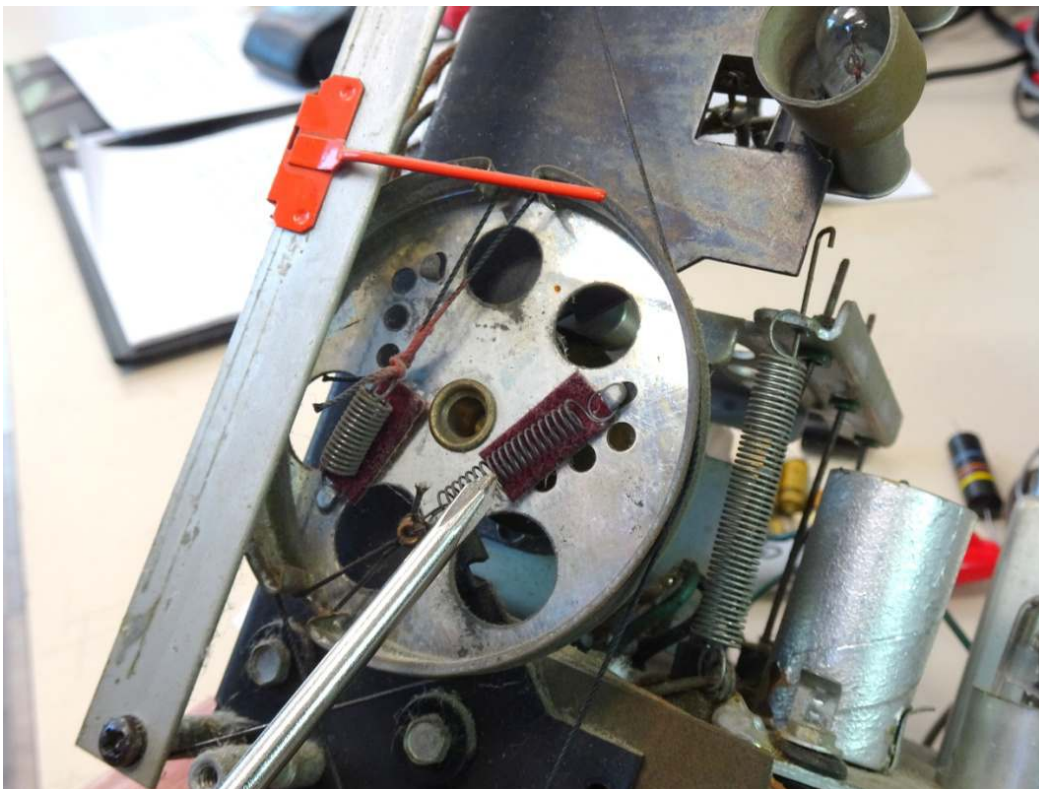


Replace the selenium rectifier (the blue finned device shown above) with a silicon diode such as a 1N4003, as the old selenium rectifiers are prone to failure. The smoke from these diodes is toxic. Silicon diodes have less internal resistance, so to prevent the B+ voltage from rising too high, insert a series resistance of about 100 ohms (10W) in series with the replacement diode. Make sure to fit the components close to the chassis so they don't interfere with the back of the speaker when you put the chassis back into the cabinet.





Before you begin recapping the radio, it is a good idea to take a photo of the dial string arrangement. If it breaks during the restoration process, you'll be glad you have photos. This might be a good time to see if the variable capacitor and dial pointer move smoothly when turning the knob. If there is slippage, tighten the tension by lifting the end of the



the spring from main pulley and reattaching it further up the coil spring (see photo at right). Decades ago, some restorers used cloth line to replace broken dial string cords, and these usually deteriorate with time and break. Make sure to use nylon line for long life.

You will want to replace both the electrolytic and the paper capacitors. Recapping is fairly straightforward. When you replace the 3 electrolytic sections in the main filter capacitor, make sure to mark the 80uF section. The other two sections are 40uF, and it is easy to later get them confused. If you replace the cap sections with single component capacitors (which

is much cheaper than replacing the entire capacitor can), use 100uF for the 80uF section, and use 47uF for the 40uF sections.



The paper capacitors are easy to identify, and fortunately there are only a handful in this chassis. Notice that the “black beauty” capacitor is color coded like a resistor, but should not be confused with one. The value of the black beauty shown here is .047uF.



Once you’ve finished recapping, give the radio a test. If everything works and you don’t have any troubleshooting to do, give the controls a shot of moving contact lubricant such as Calilube MCL. Use DeoxIT D5 on switches. A very small amount of oil on some of the shafts will also help.

