

# VINTAGE RADIO

By JOHN HILL



## Cleaning up a vintage receiver

**A thorough clean-up is usually the first step in restoring a vintage radio receiver. But beware — all sorts of dangers can be hidden under the chassis. Also, you should resist the temptation to simply plug 'er and try 'er out.**

There is no reason why those with little or no knowledge of valve radio receivers can't work on them, but they should be aware of the dangers that lurk underneath the chassis. Unlike transistorised equipment, valves operate at very high voltages and, in many instances, some of the older sets have DC voltages well in excess of 300 volts which is backed up with large capacity electrolytics.

So be careful. Don't get involved unless you have some knowledge of the workings of valve receivers or without reading up on valve technology.

That said, let's now get on with the restoration work.

The vintage radio enthusiast is frequently faced with the seemingly impossible task of restoring a derelict receiver. There are many ways of going about the job but it should be approached in a methodical manner.

Perhaps the first impulse when restoring an old radio is to plug the set into a power point to determine whether or not it is working. This impulse should be resisted as some of these old sets may have been collecting dust in someone's garage for anything up to 20 years.

What's more, the reason it was banished to the garage was probably because it had stopped working or was acting up in one way or another. When this is the case, it's asking a bit much to expect the set to work. If the radio does have problems, then damage to certain parts could occur if it's switched on for any length of time.

A few of the more serious problems are listed below.

First, if a high-voltage capacitor has short-circuited, the full maximum high-tension current will flow through the HT choke (or the speaker field coil as the case may be) and may damage these components if the set is left on. A glowing red-hot anode in the rectifier valve will indicate this sort of problem.

Second, a burnt out speaker transformer has a similar effect on the output valve, except that in this instance the screen of the valve will glow red hot. As many output valves are blackened inside, a red-hot screen could easily go unnoticed.

If you do decide to ignore the above advice, the set should only be turned on for a brief period of time to test it. But check the mains wiring first and remember to watch the two previously mentioned valves while listening for sounds or arcing and harsh, horrible noises from the speaker. Also, watch for smoke from some rapidly overheating component. Still want to switch it on?

If you are lucky, sound will burst forth after about a 15-second period and you will be pleased that your latest acquisition actually works.

Looking at it realistically, there's more likelihood of the set not going



Cleaning is important if the restoration is to be neat and attractive. It also makes the chassis much easier to work on.



The knobs on this old Astor seemed to be welded on and at least four attempts were made to remove them before they finally yielded.

and, instead, you're faced with a full-scale investigation to locate the cause(s) of the trouble. This, as far as I'm concerned, is the best part of the restoration work, for nothing gives me more satisfaction than to bring an old valve set back from the dead.

Now fixing an ancient radio is a different process to restoring it. If just fixing it, the fault would be found and that would be it. But when restoring a set, the complete unit should undergo extensive renovation in order to make the radio look and perform as though it was new, or as near new as is humanly possible to attain.

Hence, my procedure may differ

considerably to that of a serviceman doing a routine repair.

### Removing the chassis

The first step in the restoration is to remove the chassis from the cabinet. While this should only require the removal of the knobs and a few screws from underneath, the job is not always that easy. Often the knobs are rusted onto the potentiometer shafts in a rather tenacious manner.

Not all pot shafts are made of brass and many are plated steel. This is where 20 years in the garage can take its toll, for if water has found its way into the works, then many components are likely to

be rusted or corroded. As vintage knobs have steel screws and often fit steel shafts, the result can be a permanently attached knob.

There is only one thing to do in such a case and that is to apply a squirt of WD40 or some similar fluid to the offending screws and shafts, then allow sufficient time for it to penetrate and take effect before attacking the screws.

Even the WD40 treatment doesn't always work that well and a screwdriver with a correctly fitting blade will be needed to slacken those rusty screws. A block of wood wedged under the knob for support allows extra pressure to be applied to the screw without bending the pot shaft.

Well, the knobs are off, all the screws are out and the chassis is out of the cabinet. Once again, it sounds simple, but this elementary operation could put you in hospital.

### Watch out for Red Backs

I have seen so many Red Back spiders in old radios it isn't funny. They seem to like hiding underneath the chassis in a similar manner to the way they hide under sheets of corrugated iron. Fortunately, I discovered a Red Back during my first restoration and it was a good lesson to learn. I now always look for spiders and frequently find them.

With the creepy crawlies evicted, the restoration work can



Knobs for vintage radio receivers are scarce so care should be taken not to damage them. Sets that are not worth restoring should be stripped for parts.



Compressed air is a handy aid when cleaning old radio chassis. This home-made outfit was put together for just a few dollars.



A good selection of brushes helps greatly at clean-up time.

begin and there is no better way to start than with a thorough clean up of all the chassis components. A variety of brushes can be used to scrub off the dirt and grime and a blast of compressed air often helps a lot. The chassis clean-up is made easier if the valves are removed first, but be careful to note their positions beforehand.

The amount of cleaning up to be done will depend on where the set has spent its life. If a radio has been in a lounge room or a bedroom, then it will be full of easily removed fluff.

On the other hand, if the radio has been in a kitchen, then the chassis and most of the components will be smothered in a smeary film

of cooking grime that has accumulated over a period of many years. Some kitchen radios are truly revolting inside and the grime is so thick it can be scraped off with a knife.

Then again, if a set has spent time in an outdoor shed, there is a good possibility that the cabinet will be well-stocked with the droppings of many generations of mice. These same little critters can also get under the chassis and nibble into many vital components.

The work of a vintage radio enthusiast is not always pleasant!

It is quite amazing what one finds inside old radios, apart from the odd Red Back that is. Several of mine have had large wasp nests in

them. Others have had small bones, chewed up pumpkin seeds and peanut shells, presumably brought there by resident rodents. Other miscellaneous bits and pieces include a door key, a penny and a rubber suction cap off a toy pistol.

### Cleaning up

Considerable time is needed to clean up a dirty, rusty chassis and one often has to resort to coarse wire brushes and even emery cloth to smooth over some of the rough areas. A kerosene-soaked rag is handy when it comes to shifting kitchen grime, and a few small brushes, such as a suede shoe brush or a hard-bristle toothbrush, can also be of use. As most chassis require repainting, the better the clean-up, the better the finished job will look.

More work is needed to clean up the valves which are usually just as grimy as the rest of the set. A number of precautions should be observed here and the first one to consider is the valve's identification number. You can either scratch the number into the base with a scribe point or attach a sticker. Either way, be sure to record the number before it gets wiped off with the cleaning rag.

Valves can also be damaged by cleaning them apart from the obvious damage caused by dropping them.

Octal and pre-octal valves frequently have a top cap connection that is loose. These caps can easily



All manner of strange things can be found inside old radios, including wasp nests. You should also watch out for Red Back spiders.



A spray with WD40 or similar penetrating fluid often helps loosen stubborn control knobs. The knobs can then be cleaned with a stiff brush and detergent.

be broken off with over-enthusiastic cleaning. The valve bases can also be loose and too much wagging back and forth while cleaning could disturb some of the base pin connections.

The base pins themselves are often very grotty, or even corroded a nice shade of green. They should also receive close attention regarding cleanliness. The average 5-valve set can have about 30 valve base connections, none of which are soldered. They are all dry connections just waiting to give trouble and are suspect when it comes to making proper contact with the valve socket pins.

Naturally, the valve sockets should also be thoroughly cleaned. The use of a pipe cleaner and compressed air helps greatly. The pipe cleaner can also be dipped in a suitable cleaning fluid (metho or WD40) if the sockets are particularly dirty.

### **Tuning capacitor**

Another component that requires fastidious cleaning is the tuning capacitor which is often completely fouled with fluff, dirt and grime. A 25mm-wide paint brush does a reasonable job of reaching between the closely spaced plates and, again, a blast of compressed air is of great assistance.

One must be fairly careful when cleaning underneath the chassis as there may be some quite delicate wiring (the short wave coils for example) that could easily be broken. It's not the place to go poking around with a hard-bristle brush. Clean carefully on the underside of the chassis.

In all seriousness, this preliminary clean up before the restoration work commences is really quite important. It makes all the difference when working on the set for it is much more pleasant if everything is clean and tidy.

The simple act of cleaning the valve pins and sockets alone has brought many a valve radio back to life again. Failure to clean these dry connections can give rise to many difficult to locate faults, so it pays to do the job well.

Next month, we'll look at checking out the valves. 