

# VINTAGE RADIO

By JOHN HILL



## A pair of Astor valve radios

**Occasionally, I get to repair vintage radios for other people and that's what this month's column is all about. It concerns a couple of interesting old Astors.**

Noel, a new collector of my acquaintance, phoned me recently with a problem. He had found a couple of receivers in a local antique shop and wanted my advice before buying them. As both were priced at \$75, I conjured up a mental picture of a couple of cracked Little Nippers with missing knobs or something equally undesirable. \$75 doesn't buy much from an antique dealer!

To my surprise, the radios were by

no means cracked Little Nippers but a genuine 1940 Astor "Mickey Mouse" and an early post war Baby Astor. The latter is known to collectors as an Astor Football. Both are very collectible items!

My first thought was one of annoyance that I had missed out on two good radios, neither of which was in my collection. But, on second thoughts, I considered it better for Noel to have them because I would

still get the job of repairing them and, with a bit of luck, a Vintage Radio story as well. That would keep us both happy.

After a bit of bartering, the Baby Astor was dropped to \$50 and I took both receivers home to see if Noel had bought himself a good deal.

### Fixing Mickey

The "Mickey Mouse" was the first to be repaired. It was quite dead and gave no response whatsoever, although the valves lit up, which always gives a little hope.

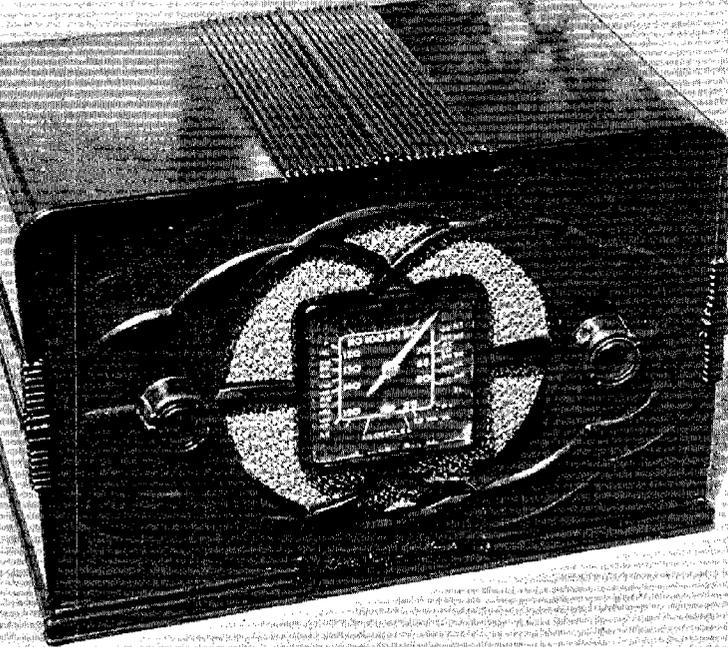
A closer inspection revealed that the output transformer was open circuit and that someone had previously disconnected the electrodynamic loudspeaker and then mixed up the leads when reconnecting it. The original 6Q7 detector/first audio valve had also been replaced with a 6SQ7 which is just about the same valve except that it is a single-ended type and lacks a top cap connection.

Unfortunately, those characteristic "Mickey Mouse" control knobs were missing. Apart from that, the rest of the set looked fairly original.

Now while these so-called collectible radios are eagerly sought after, those who repair them often see them in a different light. This particular "Mickey" is not what one would describe as easily worked on and it has a few undesirable features.

In its original form, the bulk of paper capacitors underneath the chassis makes it impossible to gain access to the valve sockets, to check voltages, etc. This situation improves greatly once the old capacitors have been replaced with smaller, modern types.

Removal of the loudspeaker requires the dial, dial cord and the dial light to be either removed or disconnected, as



**A 1940 BP model Astor "Mickey Mouse". Although a very collectible item, it is a fairly awkward receiver to work on and has no really outstanding features apart from being very compact. No, the knobs are not the originals!**



If it wasn't for the "Mickey Mouse" aspect of these radios they would be just another old radio. Astor used the Disney name without permission and later dropped the "Mouse" bit. The Astor "Mickey" was a very popular post-war receiver.

is appropriate. And finally, fitting a new speaker grille cloth is fairly tricky due to the fact that the dial is in the centre of the speaker opening.

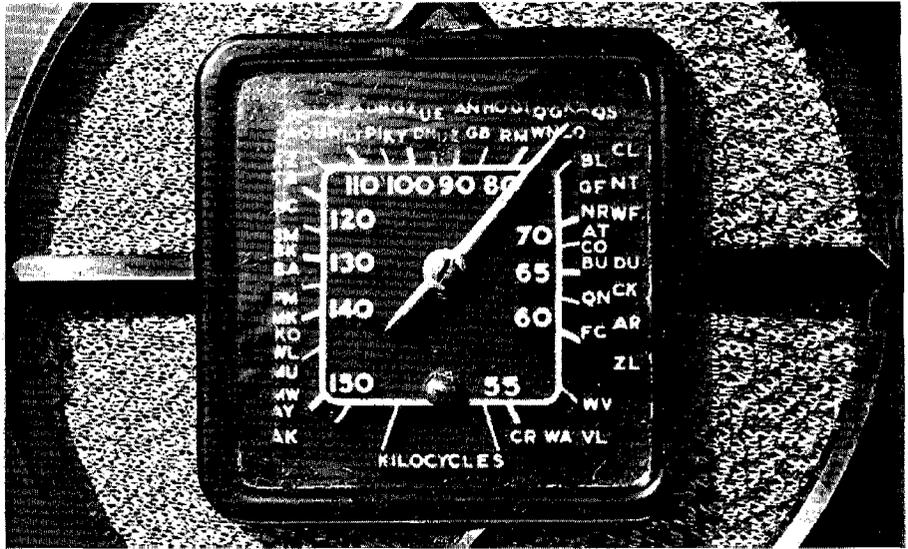
All things considered, the Astor "Mickey Mouse" is not the most convenient valve receiver to work on – especially when doing a full restoration, as there are so many things that need attention.

Apart from being a very small radio (hence the name, "Mickey Mouse") there is nothing really outstanding about this particular model at all. The court wrangle with Disney over the unauthorised use of the name is what makes the set collectible. As far as the receiver is concerned – it's only average!

After doing everything that needed doing, it was tryout time. The set burst into life and there was that feeling of relief knowing that all the checking, replacing, and repairing had finally produced a positive result. But that feeling of relief was short-lived because, 30 seconds later, the sound had faded to nothing.

So many restorations have some strange little quirk to them that hasn't been encountered before. In this case, none of the parts overheated and there were no crackles or hum. In fact, there was nothing obvious at all – just a volume fade off to nothing.

Although the valves tested OK, I have learnt not to rely completely on any valve simply on the basis of an



This close-up shows the dial and speaker opening. Having the dial in the centre of the loudspeaker makes a new grille cloth rather difficult to fit. Note the hole in the dial (at 12 o'clock) where the dial lamp has "burnt" through the celluloid.



The Astor "Mickey" required several component replacements before it worked satisfactorily. Some of the old resistors had tripled in value.

emission test. This test does not check a valve for all working functions and other faults can be overlooked. A replacement 6A8 sorted out this particular problem but it took a while to locate.

(Never overlook the limitations of an emission tester. It does just that; it tests a valve's emission – nothing more. Since the emission eventually fails in any valve, it is a most logical test to make. But that's to say that this is the only manner in which a valve can fail; there are a whole range of possibilities other than that of emission failure. Ed.)

Noel was pleased that the tattered

grille cloth was replaced with a piece of original material obtained from an old console cabinet. There were a couple of good corners in this piece of cloth and having the right fabric in a collectible receiver such as a "Mickey Mouse" really sets it apart.

From a performance point of view, the 5-valve "Mickey Mouse" was only average and any of Astor's post-war 5-valve receivers would outperform it by a fair margin.

### One man & a baby

The second set, the model GR Baby Astor was next and as this little receiver was in "working order" the job



**The 1948 GR model Baby Astor was known to collectors as the Astor "Football". It is a 3-valve reflexed TRF receiver of fairly limited performance.**

was started knowing that it should be fairly straightforward. Even so, the Astor required quite a few hours of work to complete the restoration.

On removing the chassis from the cabinet it was surprising to see that it was not a superhet but a simple 3-valve TRF (tuned radio frequency) receiver. The valves used are: 6G8G, 6V6GT and a 5Y3 rectifier.

There is some trick circuitry in-

volved in the little Astor, which is a reflexed TRF receiver. In a reflexed receiver, one particular valve performs a dual function, being used to amplify both radio frequency and audio frequency signals simultaneously. In the case of the Baby Astor, the 6G8G valve does these two operations and it detects the signal as well, using one of its twin diodes.

The volume is controlled by vary-

ing the grid bias on the variable Mu control grid of the 6G8G. So the 6G8G performs quite a few functions.

Despite the clever circuit, the Baby Astor needs a good aerial if it is to give any worthwhile performance. Even then it is basically a local station receiver and if a station is too close it can give rise to a fair amount of interference. The little Astor is not very selective.

**Parts replacement**

Replacements were confined to the usual components, mainly paper and electrolytic capacitors

One thing that could not be replaced was the strong odour of mouse urine which was nearly overpowering when ever any soldering was being done. There are few things worse to work on than a well-saturated chassis. It really turns my stomach!

There is a small bracket at the front of the chassis near the bottom of the loudspeaker. Mouse activity had been intense in this area and the bracket has obviously been a popular spot for the relieving of bladders. Unfortunately, the overflow had seeped down onto the edge of the speaker cone and had rotted out some of the cone.

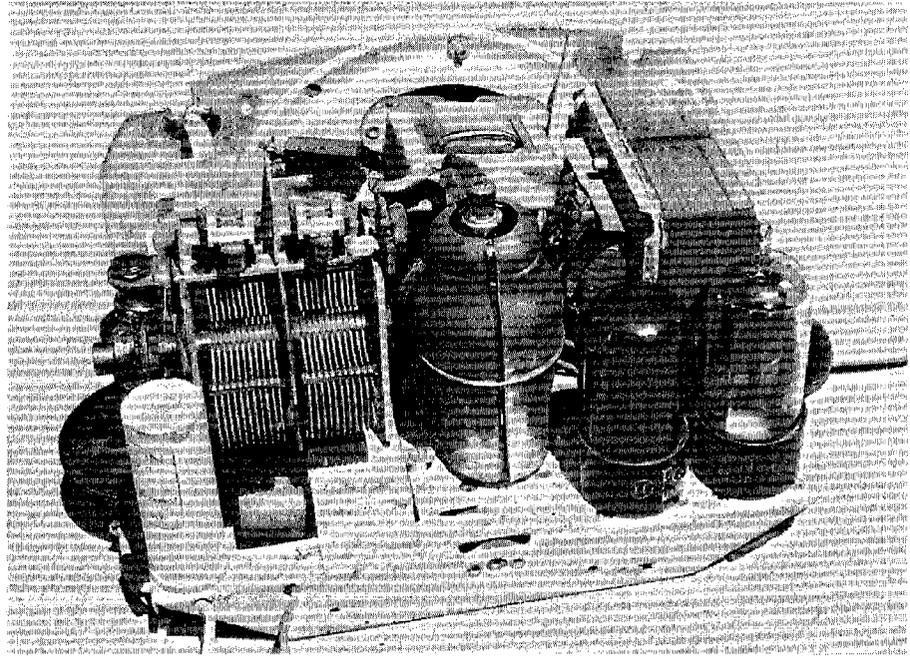
The speaker was repaired using Silastic silicone rubber compound. In fact, the whole outer rim of the cone was reinforced as the edge had become very thin and fragile.

These speaker repairs proved entirely satisfactory and the receiver could not have sounded better had a new speaker been fitted. It is amazing the cone reconstructions that can be done with a bit of perseverance. The silicon rubber treatment may not look very dainty but it is usually effective and long lasting.

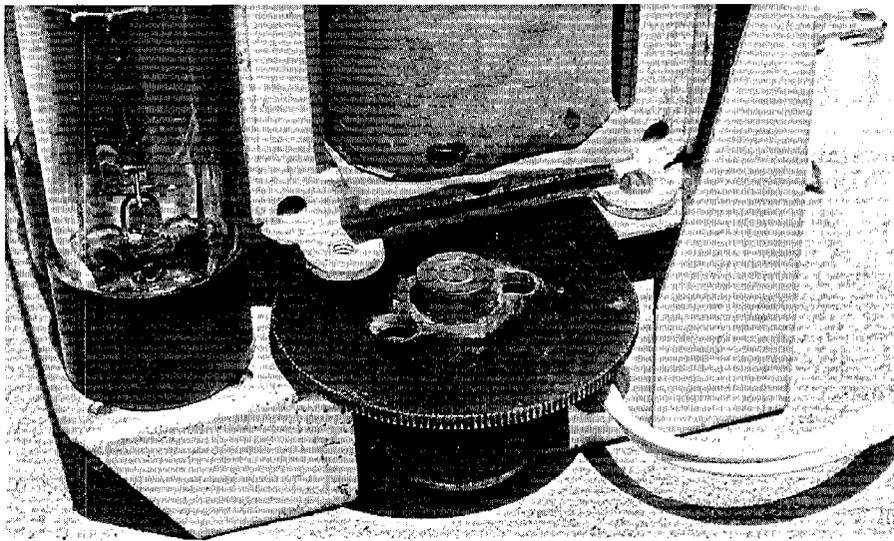
The reason for all the previously mentioned mouse infestation was the fact that the speaker grille cloth and, presumably, the cardboard baffle to which it was attached, was missing. This gave front door entry to any rodent wanting to call the little Astor home.

A replacement grille cloth baffle was made from cardboard and, once again, covered with another corner of the tattered console grille cloth so as to look as though it was the original fabric.

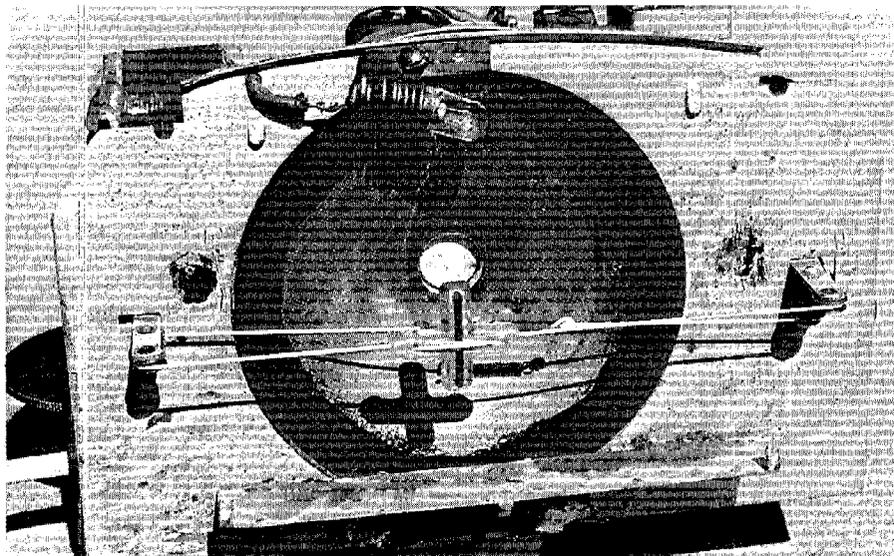
One big advantage of using old speaker grille fabrics is that such a replacement doesn't look too new and



**This photo shows the rear view of Baby Astor chassis. The three valves are: 6G8G, 6V6GT and 5Y3 rectifier.**



The Baby Astor's control knobs are chassis mounted and the edges of the knobs protrude through the sides of the cabinet.



"Silastic" silicone rubber was used to reinforce the outer rim of the speaker cone. It mightn't look too neat but it certainly makes an effective and long-lasting repair. The dial cord was difficult to re-string.

is more in keeping with the odd scratch or chip in the cabinet. A restoration that incorporates a good secondhand grille cloth has a very genuine appearance to it.

### Dial problems

The dial cord nearly always needs attention and this particular one was a bit tedious to string. It is one of those with a hole through the tuner control shaft and as the cord unreels on one side of the hole, it winds up on the other. The right number of turns needs to be on the shaft and it must also be wound in the right direction before success is possible.

Of course, the best thing to do with

tricky dial cords is to sketch the layout before unstringing the cord. But when the cord has broken or, worse still, is missing, one has to start from scratch and work it out the hard way. There are some incredibly difficult dial cord setups in old receivers, with some taking several metres of cord to make the long journey around all the pulleys, etc.

The dial was also a problem on the little Astor Football. Originally the acrylic dial strip was attached to the cabinet by a couple of split studs that just "thumb-push" into the cabinet. These had fallen out and had been replaced with countersunk screws which had been over-tightened, thus

cracking the dial at the stud holes.

As luck would have it, I had a broken cabinet with the dial and studs intact. Transferring these components to the good cabinet did much to improve the general appearance of the receiver.

### Alignment

There is not much to align when tuning up a Baby Astor. You just adjust two trimmers on the tuning capacitor and that's it! The performance is reasonable when the set is connected to a good antenna and sound quality is excellent for such a small receiver. But without an antenna it is a dismal thing, to say the least, although it would work OK in a capital city situation with an indoor aerial – and that's what it was originally designed to do.

Radio receivers such as the "Mickey Mouse" and the Astor "Baby" are very collectible items today and Noel has done well to pick up these radios. Although Noel has only four valve receivers at this stage, he is putting together an interesting collection and is off to a good start. **SC**