

# VINTAGE RADIO

By JOHN HILL



## A console with a difference

**This month, we will take a close look at an unusual console style radio receiver – a 1948 model 4-valve Peter Pan. Although it is a very modest little radio, its style and construction is far from normal.**

This radio is the only console I have ever encountered that does not have a timber cabinet. As such, there is little doubt that it was aimed at the budget end of the market. Any “normal” console would have had at least five valves, a timber cabinet and maybe shortwave reception as well.

The cabinet is a mixture of materials. The main portion is sheet aluminium which is attached to a thick plywood base. The aluminium is reinforced inside with a few brackets, to

which other items are bolted. Even so, the light gauge aluminium is far from rigid and flexes quite readily.

The front of the cabinet is covered with vinyl and it has a textured surface which looks quite pleasing. There is a large speaker opening in the centre of the vinyl area and it is edged with a brown plastic trim. Instead of the usual grille cloth, there is a basket-weave wicker type material made from some natural fibre. These wicker grilles were common on early post-

war Peter Pan radios and some Astors and other makes also used them.

The top section of the cabinet consists of a large bakelite moulding which contains the dial and control knobs, while the bottom consists of a wide strip of thick sheet plastic to act as a kick board. All things considered, it is a fairly cheap outfit from top to bottom.

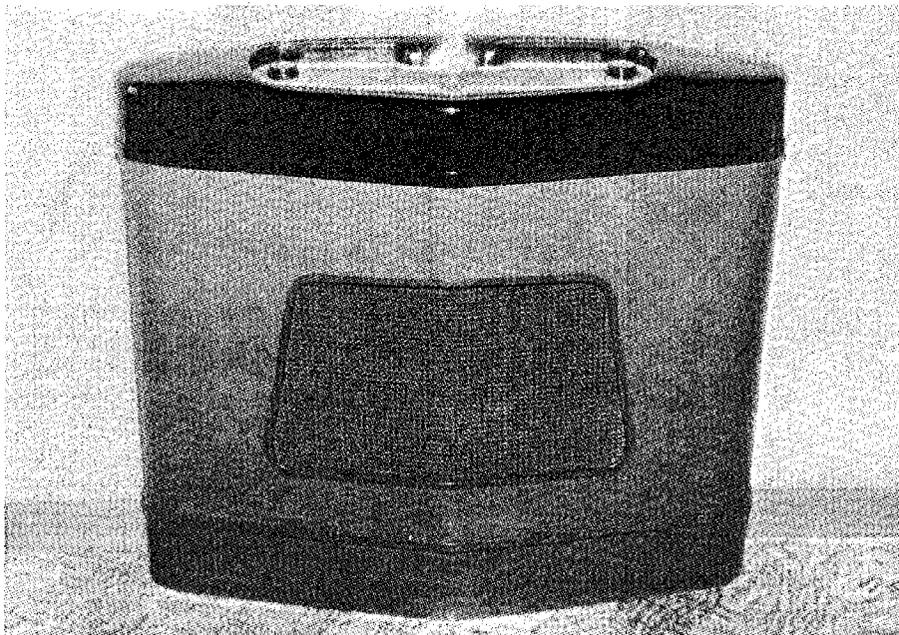
However, one should not be too critical. Here is a radio receiver which is nearly half a century old, yet it still looked neat and tidy on the outside – apart from a liberal coating of dust and grime. This is something that cannot be said for most timber cabinet receivers of similar vintage. Timber cabinets can look rather shabby after 50 years, with the lacquer becoming chipped and crazed.

### Cleaning it up

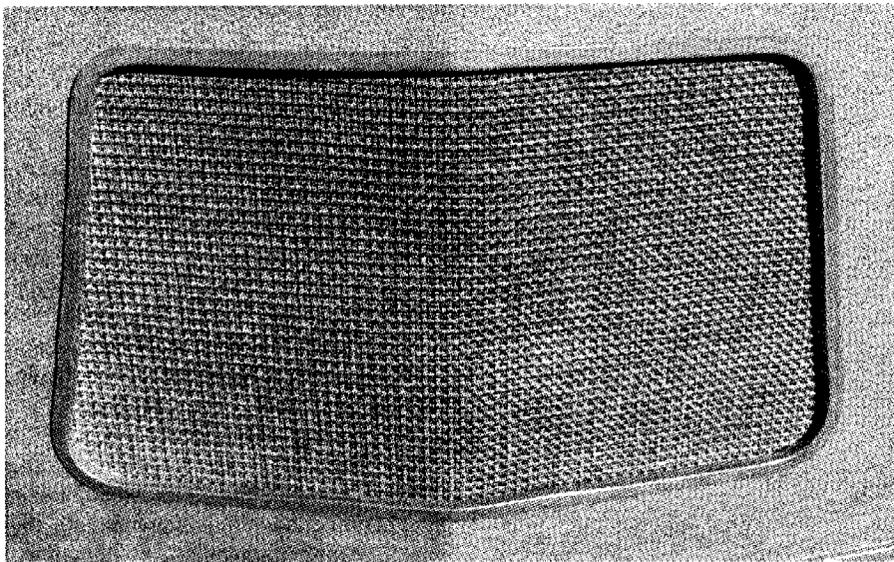
As found, the little Peter Pan was decidedly grubby. Apart from the expected dust and grime, it had also taken several drink spills down its front. Fortunately, vinyl is a very durable material and it allowed all this muck to be scrubbed off. In fact, the exterior of the cabinet cleaned up really well, to near new condition.

The final comment about the Peter Pan's unusual cabinet relates to its peculiar shape. In plan view, it is triangular (obtuse isosceles), with the long side being the back of the receiver. The cabinet is very narrow and although the chassis is mounted low, the set has very poor stability and could be easily knocked over. When cleaning the empty cabinet, care had to be taken to ensure that the wind did not blow it over and damage the bakelite top.

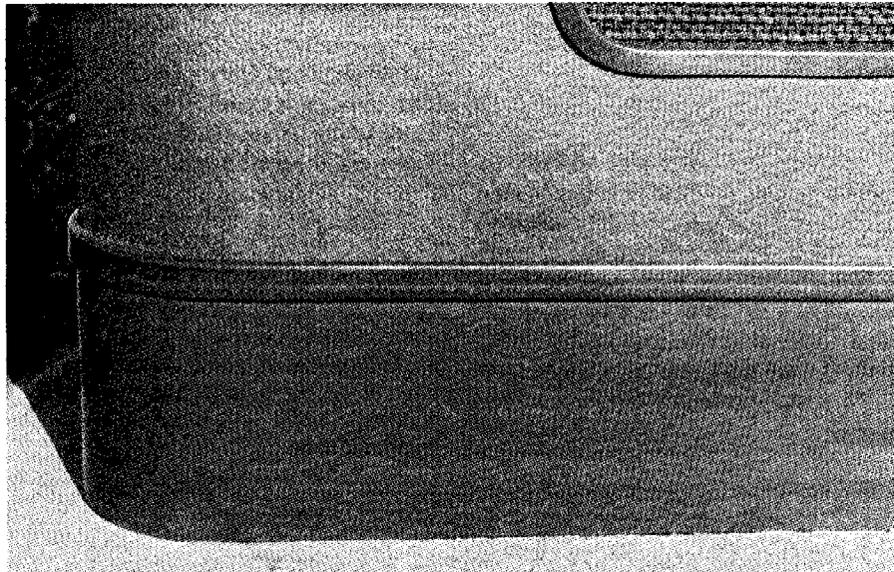
On the credit side, however, the little Peter Pan doesn't take up much space for a console radio and it would



**A full front-on view of the Peter Pan 4-valve console receiver. This particular cabinet is unusual in that it is not made of timber. The only wood used in its construction is the thick plywood base.**



This close-up view shows the wicker speaker grille. The basket weave speaker grille was popular during the late 1940s and was used by a number of manufacturers. The speaker opening is much larger than the speaker used.



The bottom edge of cabinet consists of a wide plastic strip which serves as a kick board and carpet sweeper deflector. Note the textured surface of the vinyl covering.

fit into a room just about anywhere. When flat against a wall, the front of the receiver protrudes into the room no more than about 18cm. Although the mini-console really is a weird shape, it is nevertheless a practical one as far as space saving goes.

### Rola loudspeaker

1948 was a time of change in radio manufacturing and a new receiver at that time could have had either an electrodynamic loudspeaker or a permag loudspeaker. Electrodynamic speakers were used by some manufacturers up until 1950. The Peter Pan

was fitted with a smallish 6-inch (150mm) Rola permag loudspeaker, although it is not the usual Rola loudspeaker of that era.

This particular Rola has a larger housing at the back than most (maybe a bigger magnet?) and it has a larger than usual output transformer fitted to it. The five wires connecting the speaker to the receiver are for the output transformer primary, negative feedback from the secondary, and what seems to be a fairly unnecessary earth lead.

When combined with the excellent baffling of the cabinet, the overall vol-

ume and tonal performance is somewhat better than one would normally expect from a 6-inch speaker. The speaker also produces quite good bass for its size.

### Chassis details

The unusual construction of this mini-console receiver continues throughout the set and that includes the chassis, which can only be described as an upside down installation. The chassis is positioned at the bottom of the cabinet so as to lower the set's centre of gravity and is mounted valves down and circuit wiring up.

It is not as though the chassis has been simply inverted, however – the folded sides of the chassis go towards the valves. Why this is so is a bit of a mystery. The chassis set up could have easily been arranged in a conventional manner, whereby the circuit wiring and the valve sockets would not be subjected to dust accumulation.

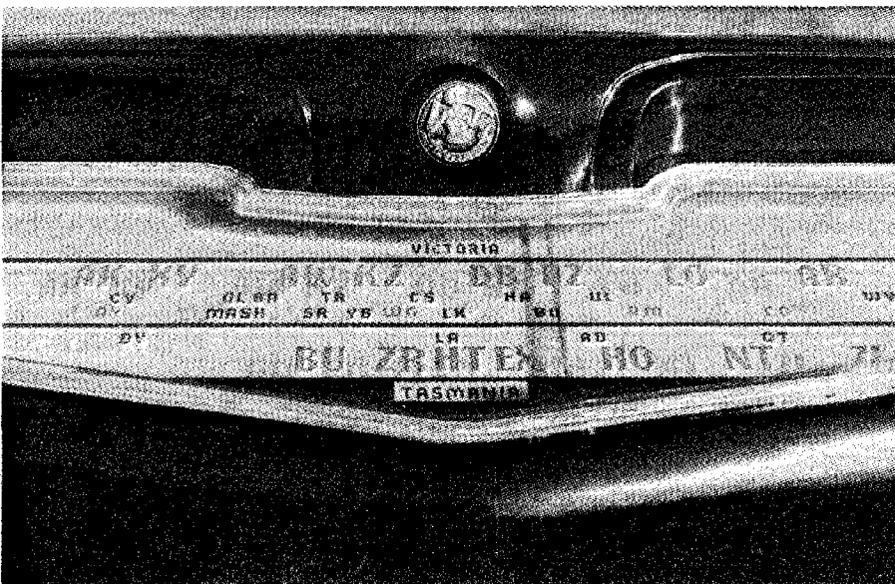
Because the chassis wiring is all exposed on top, there are no servicing conveniences like a speaker plug and socket, dial light wiring plugs and sockets, or even an aerial terminal. These wires are all soldered straight into the circuit and must be disconnected if the chassis is to be removed.

Of course, all these wires (eight in all) should be carefully marked before disconnecting them. It is unwise to rely on memory when so many connections are involved. Swapping some of the speaker connections could produce positive feedback and a loud howl in the speaker, for example.

Other disconnections include the remote mechanical linkages from the control knobs on top of the cabinet to the tuning capacitor and volume control potentiometer on the chassis below. All things considered, it is not the most convenient of sets to service, although most repairs can be done without having to remove the chassis once the dust has been removed from the wiring.

### Flexible drive

As a matter of interest, the volume control knob is coupled to the potentiometer by a long brass rod. So too is the tuning control, except that in this case, the control knob is not positioned directly above its counterpart below. To overcome this problem, a flexible drive is used to iron out the



The moulded bakelite top houses the dial and control knobs. Note that the dial is marked mainly for Victorian and Tasmanian stations, although 2AY, 2WG, 2CO and 5RM also get a mention.

misalignment – a simple yet effective method of overcoming an awkward arrangement.

There was a problem with the two mounting brackets that hold the chassis in place. These brackets had been fitted too close together on the baseboard and their bolt holes would not line up with those in the chassis. This misfit had been solved at the factory by forcing the brackets to line up, thereby severely loosening the wood screws which held the brackets to the baseboard. Completely repositioning

the brackets fixed that particular problem.

### Chassis repairs

The receiver itself was an easy repair, as it was in working order to start with. It appeared to be fairly original, with the exception of two  $8\mu\text{F}$  electrolytic capacitors. These had replaced one of the original chassis-mounted  $16\mu\text{F}$  units at some time in the not so distant past. As these capacitors were quite serviceable, they were left in place.

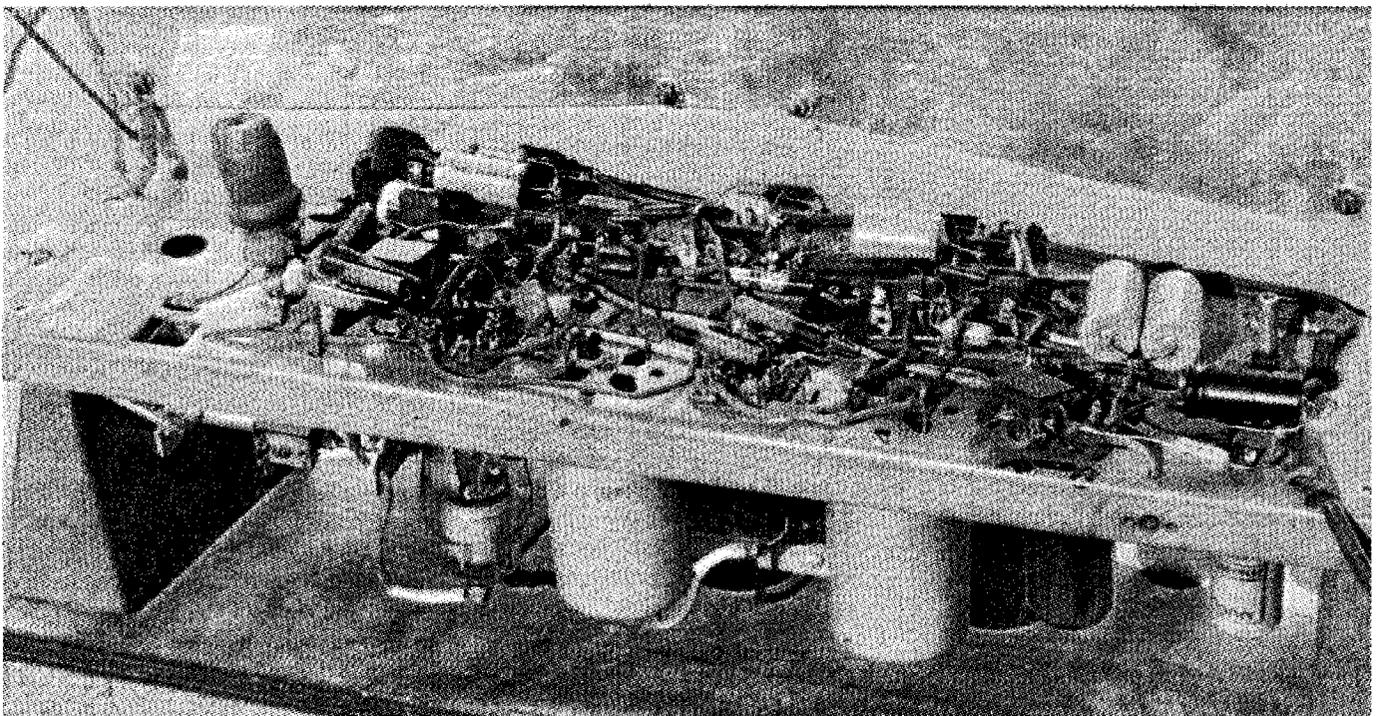
The same could not be said for the other electrolytics, however. These were all originals and, as they all had leakage problems, were replaced with modern equivalents.

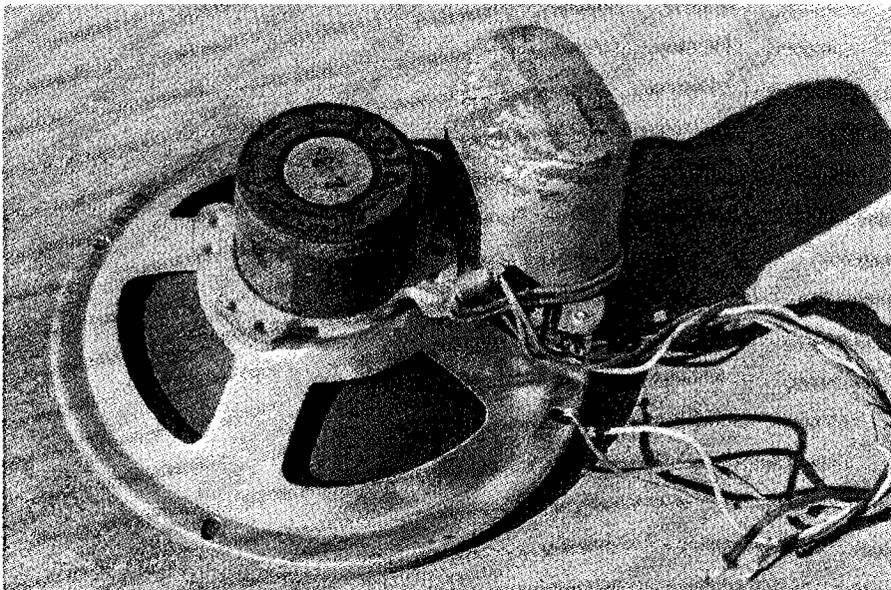
One interesting aspect of the electrolytics was the fact that all four of them were high-voltage chassis-mounted types. The  $16\mu\text{F}$  525V pair were used in the high-tension filter but the  $24\mu\text{F}$  350V pair were used for quite low voltage applications; eg. as a cathode bypass capacitor on the output valve, as shown in one of the photos.

Perhaps these high voltage units were the only ones available at the time? In 1948, the demand for radio parts could have exceeded the supply and set manufacturers may have been forced to improvise at times and use whatever components they could find that would do the job. Well, that's one explanation!

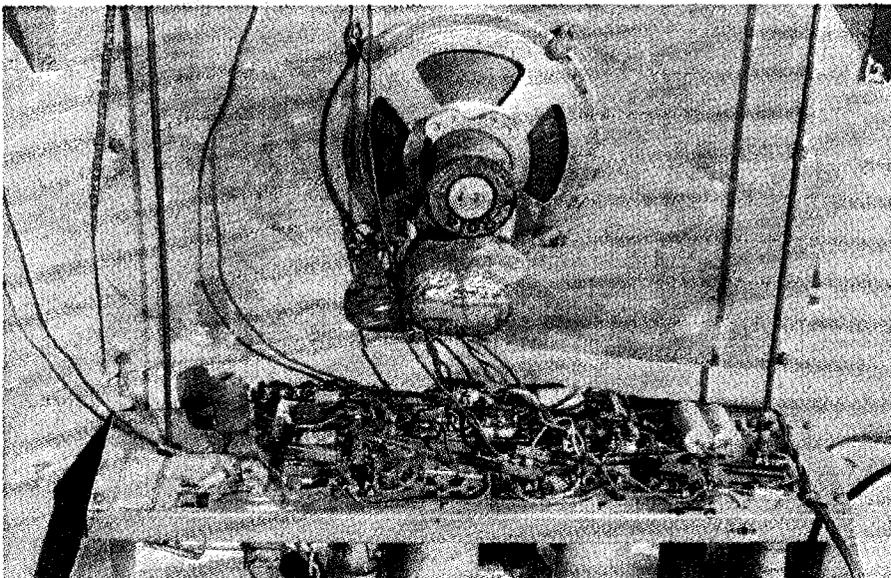
The Peter Pan's chassis used 10 paper capacitors and all of these were originals. They were all replaced without even a second thought. It was interesting to note that when checked later with an ohmmeter, more than

**Below: the chassis is mounted upside down inside the cabinet. As a result, the components were all covered in a thick blanket of dust and fluff, with only the larger components showing through. There was a resident redback too!**





This view shows the Rola permag speaker used in the set, together with its attached output transformer. Both the magnet housing and the transformer are larger than normal for a 4-valve radio and no doubt contribute to the receiver's remarkably good bass response.



Everything back and ready to go – it's not a tidy arrangement by any means. Note the vertical rods at each end of the chassis. These connect to the tuning and volume controls on top.

half of them showed some degree of leakage. If a paper capacitor leaks under a 3V test, what is it going to do with a couple of hundred volts across it?

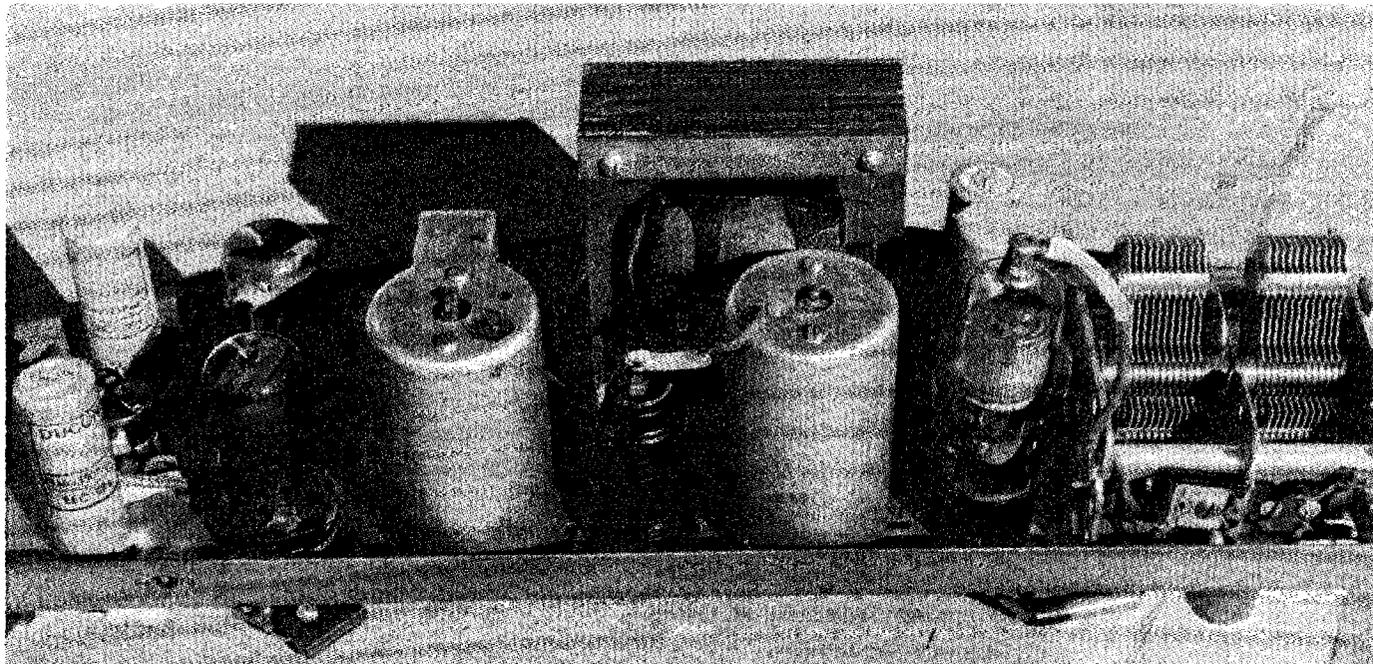
Although replacing all paper capacitors is probably unnecessary, it is worth the effort for peace of mind, if nothing else. Let's face it – old capacitors can be very troublesome!

The interesting aspect of the capacitor changeover was the noticeably better performance. Prior to work-

ing on the chassis, it was a "1-station radio", receiving only the strong local station with no aerial connected. After the capacitor job, it became a 5-station set and that was without any alignment – just the new capacitors.

### Alignment

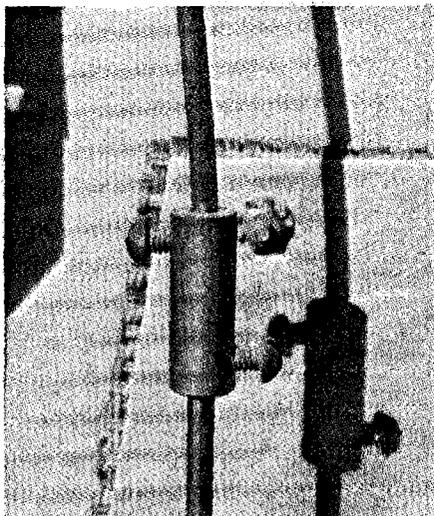
As far as alignment was concerned, there was very little to do. The IF (intermediate frequency) transformers were virtually spot on and the aerial trimmer needed only a slight tweak to



The major components (valves, IF transformers, power transformer, tuning gang, etc) are mounted on the bottom of the chassis. The valve line up is: 6J8, 6B8, 6V6 and 5Y3. The four chassis-mounted electrolytics are all high voltage types.

bring it in line. Even then, one could barely notice any difference. The little Peter Pan was a good set to work on as it had not previously been tinkered with.

It was at this alignment stage that some gremlins in the 6V6 output valve decided to do some arc welding and a series of sparks and flashes occurred from within. A replacement 6V6 removed both the gremlins and their arc welder. A valve tester had previously passed the faulty valve as being OK.



A flexible drive shaft was used to compensate for the misalignment between the tuning capacitor shaft and its matching control knob at the top of the set.

Maybe it didn't like working upside down?

The restoration was nearing completion and there were only a few jobs left to do – tighten the speaker mounts and polish the cabinet.

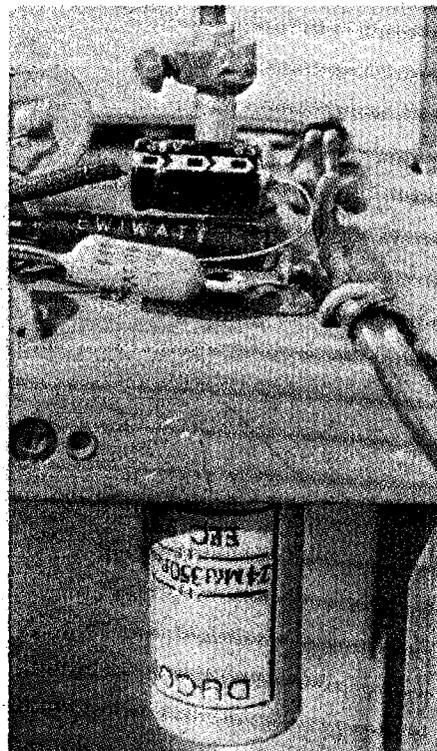
The speaker mounting involves four short pillars and all of them were loose. Unfortunately, they could only be tightened by turning the screw heads on the other side of the speaker baffle – not a big job but a bit tedious considering the number of nuts that had to be undone in order to remove the baffle. It was a classic case of spending 10 minutes in order to do what should have been a 30-second job.

### Cabinet refurbishment

The cabinet refurbishment consisted of a cut and polish for the bakelite top and the "Armorall®" treatment for the vinyl. At this stage, the set was ready to go back together.

There were no problems with the assembly and everything went back according to plan, with the chassis fitting the repositioned mounting brackets as it should have done in the first place.

A test run for a couple of hours indicated that all was OK inside and the little Peter Pan performed very well. It sounded remarkably good for a small 4-valver driving a moderately-sized speaker.



Most of the electrolytic capacitors in the set required replacement. The 63V unit shown here (top of photo) was used to replace the original 24µF 350V original below.

There is no doubt about it: Radio Corporation knew how to make top-performing 4-valve receivers. While many of their products were aimed at the bottom end of the price scale, they were always value for money and performed as good or better than other comparably priced products. SC