VINTAGE RADIO

By JOHN HILL

Realism Realized – the Precedent console receiver

A great deal of patience is sometimes needed if one is to restore an old radio to its former glory. My 1932 Precedent console was just one such set.

This story started about five years ago in a junk shop in Castlemaine, Victoria. There it was in all its faded glory – a rather sad looking "Precedent" console radio cabinet with turned legs. The dial escutcheon bore the motto "Realism Realized".

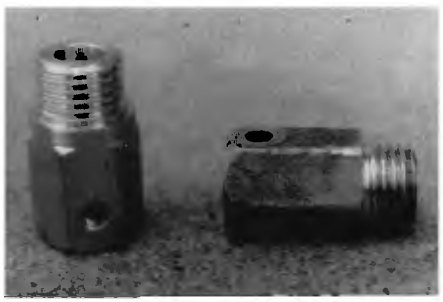
Unfortunately, that's all there was – it was just an empty cabinet and it was not in very good condition either. It had been wet many times and was quite shabby looking in appearance.

However, those of us who collect old radios can picture in our mind's eye what these wrecks looked like when they were new and, more importantly, what they can look like again when restored. As the old cabinet had fair prospects, I offered half the asking price and it was mine.

No innards

From that time on, the cabinet took up residence in my shed and nothing was done to it for the simple reason that there were no innards to put in it. I also realised that, because of its poor condition, the woodwork would require more professional refurbishing than I was able to give it.

The Precedent's dial escutcheon bears the motto "Realism Realized". It is a typical half-moon dial from the early 1930s.



This home-made bearing (left) solved a troublesome dial problem. It was turned up on a metal-cutting lathe in the author's workshop.

Let's face it: we can't be good at everything and restoring dilapidated old radio cabinets is not my strongest point.

To cut a long story short, I was able to locate a complete Precedent (a legless console) with the same dial and control positions. It took a few months to talk the owner into selling it but eventually I became the proud owner. Naturally, my intention was to fit the innards of the legless console into the old turned leg cabinet. I also hoped that I would be able to sort out the mess under the chassis for there appeared to be many modifications to the original circuit.

Incidentally, dates pencilled onto the underside of the chassis indicate that the set was made in October 1932. So we are talking about a 60-year old radio: one of those classics from the early 1930s.

The background

We are going to do a bit of side tracking now but it is all part of the Precedent story.

A friend by the name of Peter Hutton visits me occasionally and as Peter is a fellow radio collector, we have some rather lengthy conversations when he calls. Peter is more than a vintage

radio enthusiast; he also runs a TV and video repair service and is a co-owner, with his brother David, of the Melbourne Wireless and Sound Museum at Peninsula Boulevard, Seaford, Victoria.

One of the reasons Peter visits me is to see if I have anything interesting for sale and it's not often that he goes away empty handed. He also offers a reasonable price for anything he wants – not like some collectors I know!

On his last visit, I decided that it must be about time the money flowed the other way for a change, so I let him take away the old Precedent cabinet for restoration. Peter does refurbishing work and that old weather-beaten cabinet needed his professional touch. Among other things, the top of the cabinet required re-veneering, a rather specialised job to say the least.

Apart from cabinet restoration work, The Wireless and Sound Museum offers a wide range of services to the vintage radio enthusiast, all of which are carried out on the premises. I will go into that aspect some other time.

When the Precedent cabinet was returned, I was very pleased with the job. Looking closely, one can see that the original surface was a bit rough and weathered but the overall refurbishing is as good as could have been done considering the condition of the woodwork. It really did require the magic wand treatment and the old cabinet has responded well to many hours of diligent work.

The "U" section chassis of the old Precedent was fitted with timber ends. Although the resulting set-up was not very rigid, such construction techniques helped keep production costs down – an important consideration in 1932!

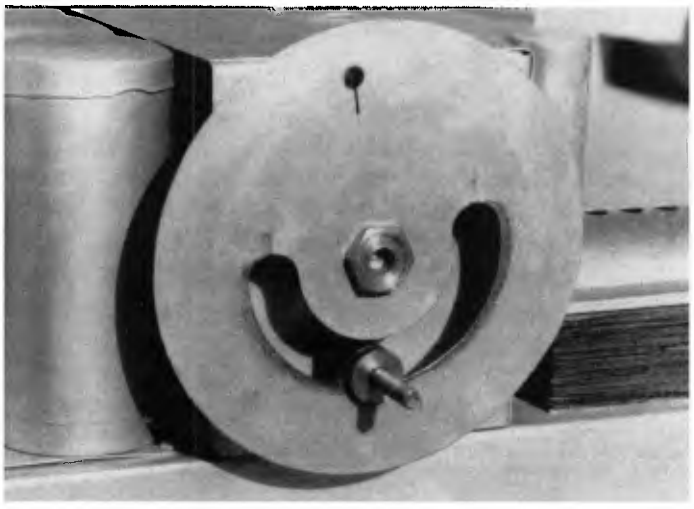
The restoration of the receiver itself was also far from simple and it needed considerably more time than is usually required.

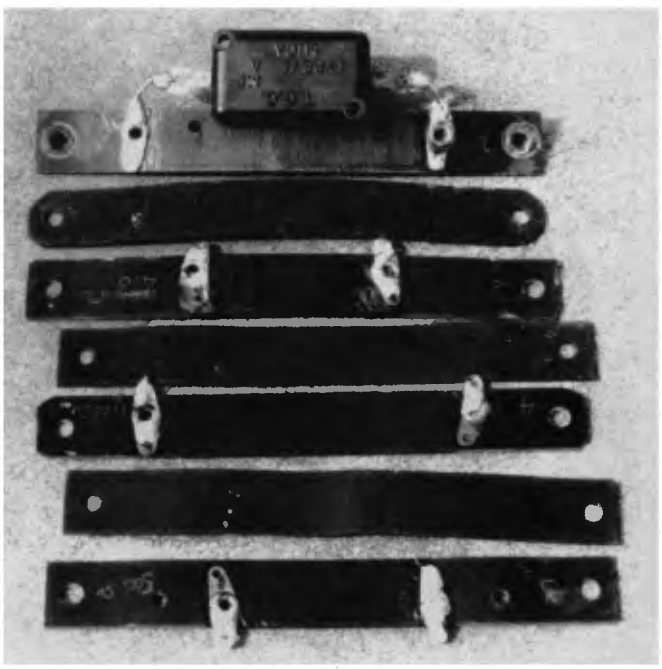
Perished rubber

One of the biggest problems was the perished natural rubber-covered wiring that was used extensively throughout the set. This insulation had broken away in many places, particularly where the wiring went through small holes in the coil cans, IF transformer cans and the chassis. All these leads had to be replaced in order to prevent short circuits and potentially dangerous situations.

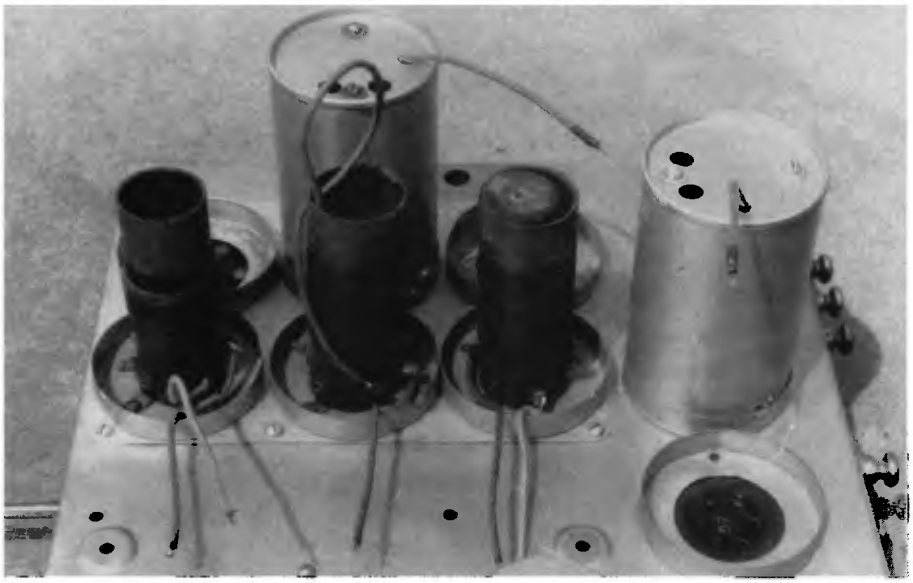
Considerable care must be taken when doing rewiring of this nature to make sure that everything goes back the way it was. Just one connection in the wrong place can cause a lot of trouble and inconvenience. Replacing one wire at a time is a good policy in this situation.

One of the IF transformers had an open winding which was easily located. Green corrosion highlighted the trouble spot in one of the fine leads and it was repaired by bridging the





Above: this close-up view shows the friction dial set-up. The small hole & its associated slit at the top of the disc allows light to shine through and illuminate the dial. At right is the dismantled resistor stack. These wirewound resistors are mounted one on top of the other, with insulating strips between them.



At least half of the original wiring had to be replaced because of perished insulation. The aerial, oscillator and bandpass coils all needed rewiring.

gap with a piece of fuse wire. These old IF transformers were wound using single-strand copper wire on wooden bobbins. Litz wire had not come into general use in 1932.

Valve line-up

The Precedent's valve complement was relatively common for that era and consisted of an 80 rectifier, 57 autodyne mixer, 58 IF amplifier, 57 detector and first audio, and a 47 output. The 47 output pentode is one of the few early AC valves that had a directly heated cathode.

Many readers would know simply by the valves used that the old Precedent was an autodyne superhet with anode bend detection and no automatic gain control. This type of receiver was fairly standard in the early 1930s. However, the Precedent had a few oddities about it that were different to the norm. One of these peculiarities is the "resistor stack".

All the wirewound resistors in the set are wound on flat fibre formers with a solder tag at each end. These strip resistors are drilled at the ends and are mounted one on top of the other in a stack. There are four such wirewound resistors and they are separated from each other by an insulated strip. One of the photographs shows a dismantled resistor stack.

This resistor stack caused just one of the many problems encountered with the restoration, as one of them had gone open circuit. Fortunately, the break was at one end of the winding and was easily repaired by reconnecting it to the solder tag.

When restoring a receiver of this nature, it is advisable to measure and label such resistances. A known resistance is easier to replace than an unknown one should it break down at some time in the future.

Another oddity was the 2µF paper capacitor that is used as a cathode bypass on the output valve. Normally, a low voltage electrolytic type is used in this situation.

However, one must remember that this set was built way back in 1932 when "dry" electrolytics were in their infancy. Although they could have been around at the time, they may not have been reliable units – hence the large paper bypass capacitor.

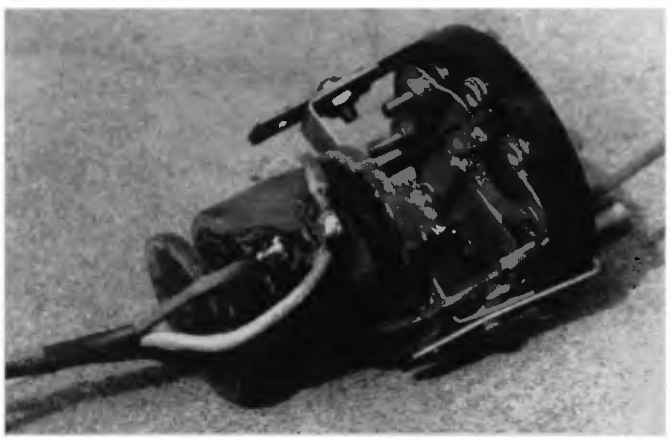
Dial problems

Another problem was the friction drive dial mechanism. Although the drive had plenty of friction, the bearing that the control shaft turned in was very worn and allowed the control shaft to lift. This movement was sufficient to let the friction drive parts come out of engagement and lock up the works.

Having a metal cutting lathe in my workshop helps to solve many worn dial problems and this occasion was no exception. A new bearing was turned up in hexagon brass (see photograph) and the dial drive now functions as it was meant to. Without the lathe, worn dial parts could present some really nasty problems that would be difficult to overcome.

All the old paper capacitors, including the 2µF unit mentioned ear-

The tuning capacitor is a plain bearing type with two collars & set screws to control end float. Plain bearing tuners often require cleaning & lubrication if they are to work smoothly.



The IF transformers required rewiring due to damaged insulation on the original wiring, particularly where this wiring passed through holes in the cans. All leads were replaced to prevent short circuits.

This view shows the 80 rectifier valve (left) & the 47 output valve. The chassis cleaned up quite well for a 60-year old receiver. The two terminals at bottom right are for a gramophone pick-up.

lier, were replaced with modern equivalents. Likewise, the original chassis-mounted high-tension filter electrolytics. These were replaced with new 10µF 450V units.

Another capacitor that needed attention was the tuning capacitor, an old 3-gang type with plain bearings. It was in really good condition for its age and only required cleaning and lubricating. The thrust bearings were also adjusted to prevent end float and to prevent the plates from touching each other.

As luck would have it, there were no problems with the old loudspeaker. The cone was OK, as were the field coil and the output transformer. It's not unusual to strike trouble here, as open circuit field coils are a common problem.

This view shows the finished receiver in its refurbished cabinet. It's quite a stylish outfit if you happen to like old console radios.

Worth the effort

Now that the Precedent is back together and working again it looks rather good and was well worth the effort and expense. In reality, however, its performance is no better or worse than any other 5-valve autodyne receiver from the early 1930s. All these sets seem to have a slight amount of distortion (due to the anode bend detection) but most people would be unaware of this minor fault. By transistor radio standards, it sounds magnificent!

Although some vintage radio collectors can boast about the beautiful original receivers in their collections, most of us have to make do by scrounging for what leftovers are still around today. Even so, by using skilful repair techniques, enlisting the services of experts and combining the best parts of several radios into one, the end result can be very pleasing. I believe my 1932 Precedent to be one such receiver.

The Precedent may not really be "Realism Realized" by today's standards but in 1932 it may well have been very close to it! **SC**