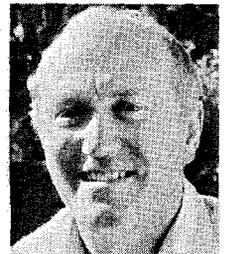


VINTAGE RADIO

By JOHN HILL



A console receiver from junk

Collecting old radios is a hobby that appeals to collectors in many different ways. For some, it's the seeking & scrounging; for others, it's the bartering & trading, or repairs & servicing, or the challenge of refurbishing old cabinets.

One does not have to be a collector for very long before the miscellaneous bits and pieces start to build up. But not all old radios come complete and are easily restored. Indeed, collectors frequently encounter empty radio cabinets and odd chassis in various states of disrepair. Some have been smashed or cannibalised and they appear to have little value.

Never overlook these discarded wrecks, however, because they are the main source of much needed spare parts. As such, they should be kept or stripped of usable spares for future use. Parts such as valves, sockets, dials, speakers, knobs, escutcheons and

transformers can all be sourced from derelict receivers.

Speaking from my own experience, I must have stripped more than a hundred incomplete radios during the past decade. As no accurate count was taken, the figure could easily be considerably more. I have taken quite a few loads of bare chassis to the tip over the years.

It may amuse readers to know that there have been occasions when some of my throw-outs have been returned to me a few days later by well-meaning people who "got onto" a few old radios for me. When the same stripped chassis comes back from the tip a

second time, it can only go to show how many of my friends are "looking out" for me.

Not all cabinets and chassis are broken or incomplete and quite sizable collections of each can soon accumulate. However, there seems to be a universal problem regarding these particular components. Almost never can similar makes and models be matched up to make a complete receiver. Invariably, the spare chassis will not fit the spare cabinets and the placement of controls and dials usually makes matching physically impossible. It's Murphy's Law at its best!

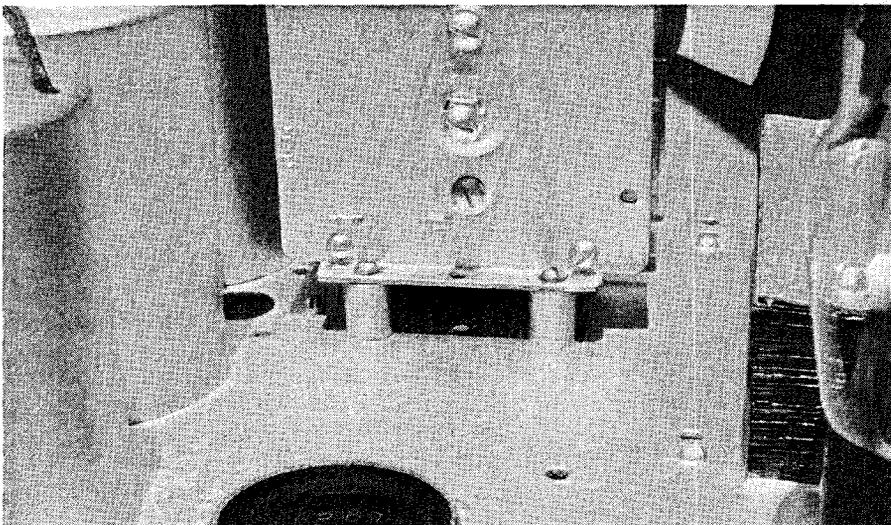
Regular readers of *Vintage Radio* may recall a past story entitled "Realism Realised". This particular article dealt with the fitting of a Precedent chassis and loudspeaker into a stylish turned-leg Precedent cabinet.

In this instance, a complete legless console radio was bought just to supply the innards for the more elegant cabinet. The cannibalised radio was exactly the same apart from cabinet style. Even after the swap over, the resulting outfit was still the correct make and model and completely Precedent throughout.

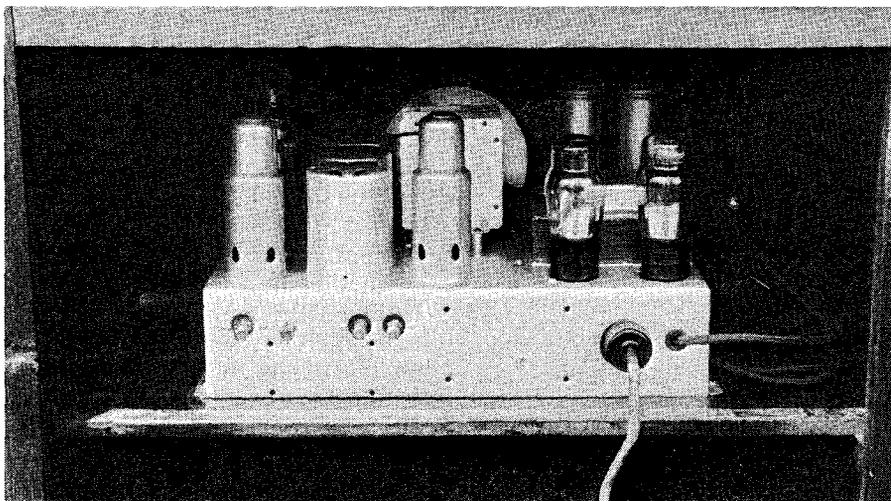
A real bitzer

Although the Precedent turned out to be a perfect match, this month's story is about a similar transformation using odd bits and pieces of unknown origins. This time, I have taken an early 1930s console cabinet and mated it with an early 1930s 5-valve superhet chassis and a mid-1930s Rola electro-dynamic loudspeaker.

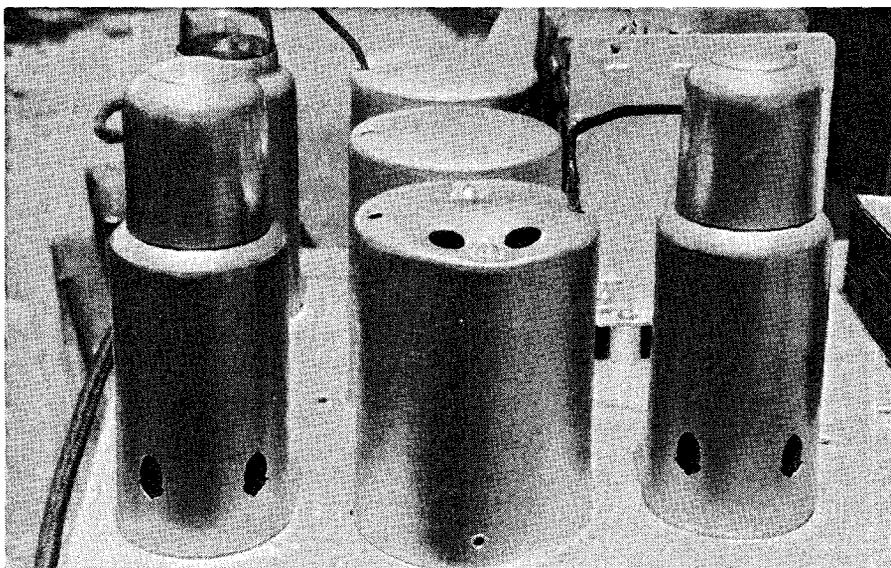
Coming up with a name for this creation of mine is rather difficult, as its parentage is decidedly suspicious to say the least. With a blank name space on the dial escutcheon and a



The tuning capacitor had to be raised by about 10mm so that the dial would line up with the dial escutcheon.



The substitute chassis is considerably smaller than the original which took up nearly the full width of the cabinet.



The chassis has the typical appearance of an early 1930s superhet, although the spun aluminium valve shields with their "acorn" shaped air vents are unusual.

chassis that could have been made by anyone, it seems like a lost soul amongst the rest of my collection. I think I will call it "Claude", just to identify it.

The cabinet did have a chassis when I first acquired it but it had been extensively stripped of most of its parts with the exception of the tuner and dial. If I remember correctly, it was originally a battery set and the loudspeaker was also missing.

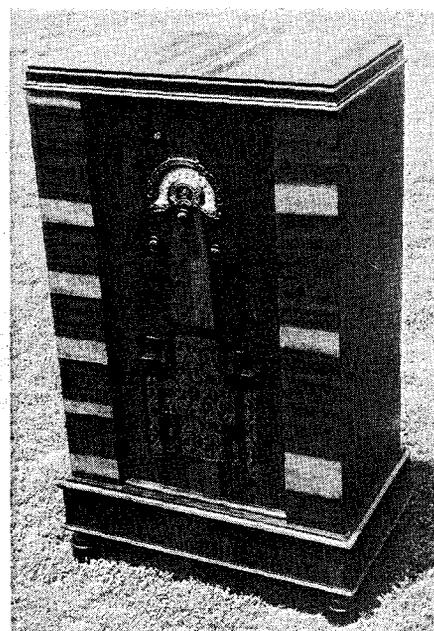
What else can one do with such an incomplete receiver other than store it in a disused corner of the shed, hoping that, one day, something would come along and give it a new lease of life.

That new lease of life became a reality when I was given a 5-valve

chassis. And although this chassis was smaller and lacked the width of the original, the control positions at the front were fairly close to what was required. With just a little rearranging, they would fit the existing holes in the cabinet.

To be more specific, the tuning control needed lifting about 10mm, while the two lower controls had to be moved up and slightly to the right.

To align the two lower controls, the holes in the chassis were elongated with a round file until the control shafts lined up with the holes in the cabinet. In fact, these controls needed shifting a little further than I originally thought and a much neater job would have resulted by simply drilling new holes. Oh well, no one sees



Even unmatched left-overs were used when building the cabinet, judging by the two side panels at the front. Despite the "bits & pieces" approach, the old outfit has turned out fairly well. Note the small turned feet fitted to the bottom of the cabinet.

the job when the chassis is in place!

Relocating the tuning shaft involved using spacers to lift the tuning capacitor above the chassis. This also realigned the dial with the escutcheon. The dial, by the way, was taken from the original chassis and it fitted in behind the escutcheon just like it always did.

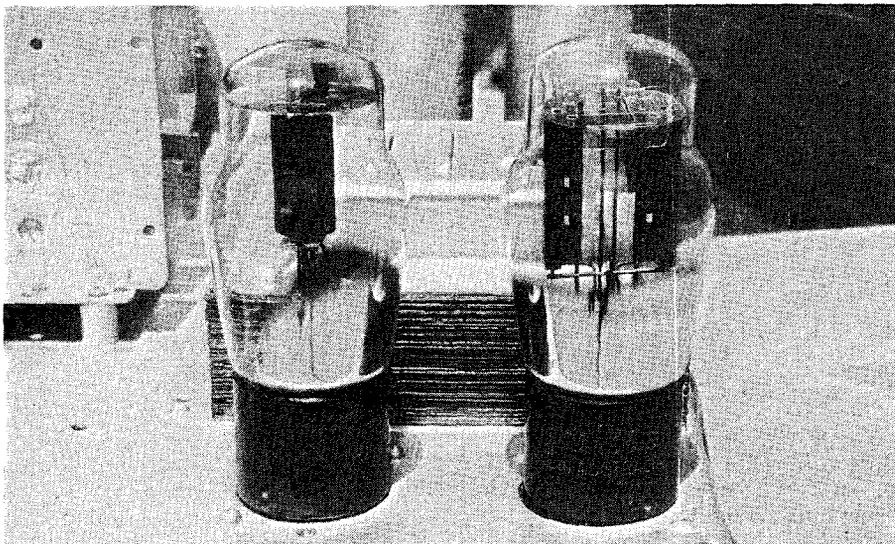
1930s superhets

This particular 5-valve chassis is a little better than most receivers of that vintage. Nearly all early 1930s superhets were built to the unofficial standard of their day – autodyne mixer, 175kHz IF (intermediate frequency), an anode bend detector and a single output stage. My 5-valver has two significant differences to this set up.

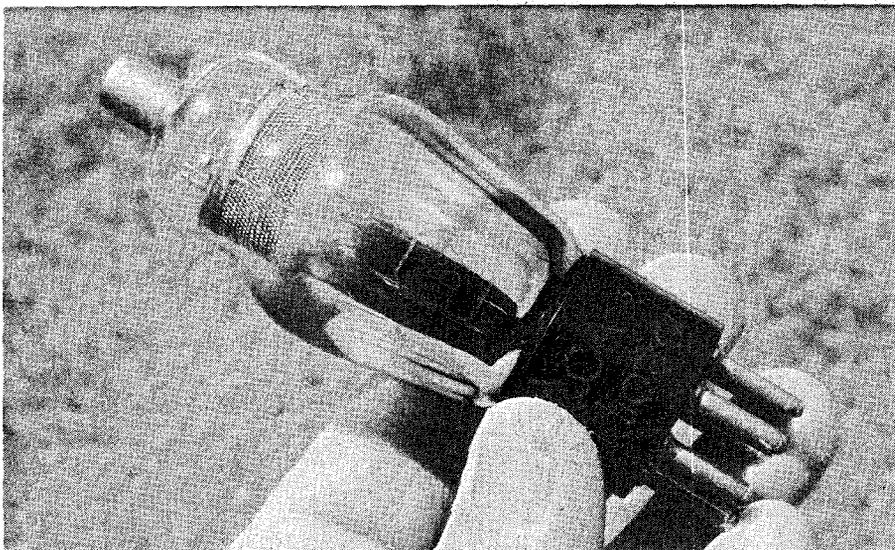
First, it uses a diode detector instead of the anode bend arrangement that is usually the case. Diode detection produces a cleaner sound with considerably less distortion. By the mid-1930s, nearly all superhets had diode detection.

And second, the intermediate frequency is a much higher 460kHz.

The detection circuit makes use of a 2B7 valve, a semi-remote cutoff pentode with a pair of diodes. There is no AGC (automatic gain control) incor-



This end of the chassis accommodates the 2A5 output valve (left) & the 80 rectifier (right).



The 2B7 valve is one of the few early valves with built in diodes. Diodes are essential for low-distortion detection & automatic gain control (AGC).

porated into the circuit but this feature could easily be added if desired and used in conjunction with the IF amplifier valve. Such an AGC setup works reasonably well, although not as effectively as when the frequency converter valve is also controlled.

The 2.5V 2B7 valve was one of those "landmark" valves. It went on to become the 6B7, the 6B7S (remote cut-off) and the 6B8 (which is a 6B7S in octal form).

Other valves in the line-up are also 2.5V types and include a 57 as an autodyne mixer and a 58 IF amplifier. The output is handled by a 2A5. Once again, these are all landmark valves, with some going on in other forms for many years after their conception.

The volume is controlled by a wirewound potentiometer in the cathode circuit of the IF amplifier valve. As usual, the volume control needed replacing and a 5k Ω 3W potentiometer of modern manufacture was used as a substitute.

Restoration

Restoration of the chassis was relatively straightforward, involving the usual replacement of all paper and electrolytic capacitors, plus a couple of valves and a wirewound resistor. All coils and transformers were serviceable and the general wiring was clean and corrosion free. And, as a bonus, there was no perished rubber covered wiring, as all the underchassis

hook-up wire was fabric covered.

This receiver has no tone control, as was often the case in that era. Instead, the third control knob is for an on/off switch and this also needed replacing. The original switch had an undesirable internal resistance which would have caused trouble if it had been put back into service.

Another electrical contact problem involved the tappings on the high-tension dropping resistor. This is not an uncommon fault to encounter and a thorough clean and re-tighten usually restores continuity. In this instance, however, the taps did not really need cleaning. Insufficient tension was the cause of the poor connections, as there was little or no pressure on the contact points. They had never been tightened properly in the first place!

The chassis itself was a rather rusty looking mess on top, with some of the rust pits being quite deep. A bit of anti-rust treatment followed by a couple of coats of aluminium paint did much to improve its general appearance. A bit of experimenting (using various 20W wirewound resistors as field coil substitutes) indicated that a field resistance of 2k Ω would be a good choice. A spare 8-inch (200mm) Rola electrodynamic loudspeaker with a 2.2k Ω field coil was found in the spare parts department and it fitted the baffle board screw holes perfectly.

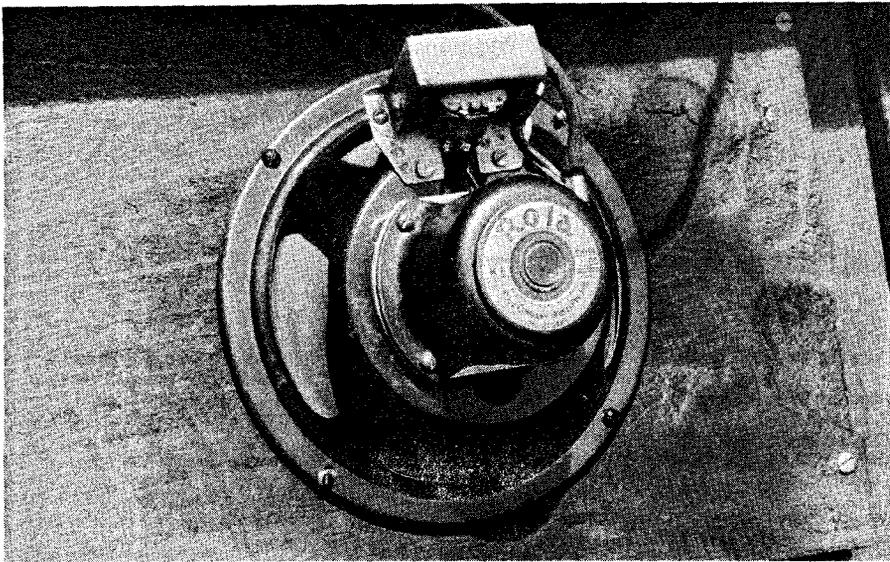
The field coil drops the high tension to 240V after everything has warmed up to operating temperature. It was noted after the set was working that it could be used for 2-3 hour periods with the field winding only becoming only moderately warm during that time. This indicates that everything is normal in the high tension department.

After the usual alignment procedure, the once derelict old chassis performed surprisingly well. It's not often that they cannot be brought back from the dead!

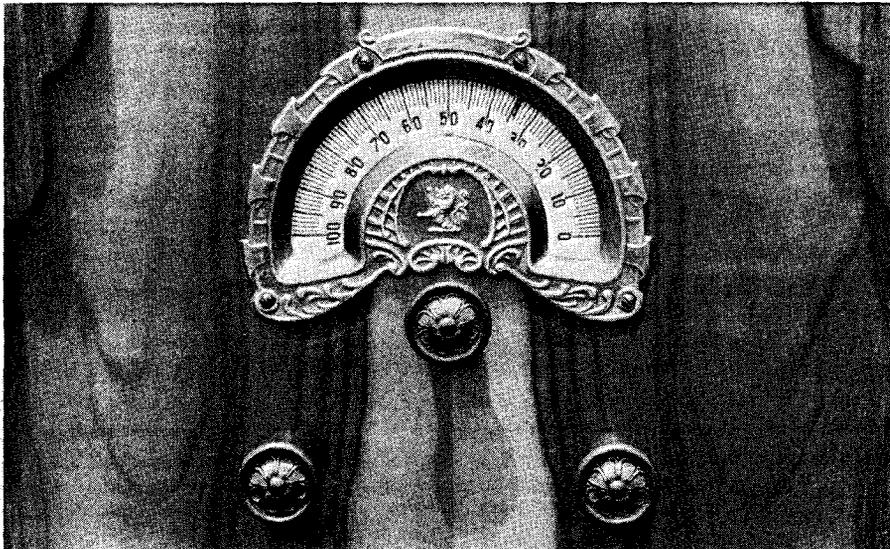
The cabinet

The cabinet is typically early 1930s – big, square and with a fretwork loudspeaker opening. It also stands on short stubby little turned feet (legs?). Well, if they're legs then they're hippopotamus legs!

Now I have always had trouble refurbishing timber radio cabinets. I have done many and most of them



This Rola K8 loudspeaker is the only brand-name component in the author's "bits & pieces" console. The cabinet & chassis are of unknown manufacture. The speaker may be a few years younger than the rest of the outfit.



This close-up view shows the controls. The new chassis lined up perfectly with the cabinet after a few minor adjustments. Note that there is no maker's name on the dial escutcheon.

look quite OK – but I find them a real humbug to do.

As luck would have it, I have discovered someone who does an excellent job of cabinet repairs for a reasonable price and he transformed this particular cabinet of mine (which was a bit knocked around) to a thing of great beauty.

It is said that "beauty is in the eye of the beholder!" Well, not everyone sees my cabinet that way and I have been told that it is big and ugly. What a nasty thing to say!

As a matter of interest, the cabinet has been sprayed with a genuine nitrocellulose lacquer – the same sort of

finishing treatment that was used in the 1930s.

Personally, I would prefer an Estopol® type polyurethane finish, as it is far more durable. One unfavourable aspect of the nitrocellulose treatment is the fact that it goes white wherever it receives a knock.

Well, there it is – a good-performing 1930s console radio that has been built up from odd parts. It looks good, sounds great and cost very little. It's ancestry, on the other hand, is definitely suspect! But while it is a far cry from a brand-name collectable, it certainly looks the part – even if it has got hippopotamus legs! **SC**