

Bush DAC90a Restoration

This wasn't my first attempted restoration of a valve radio but it was the first successful one.

One Monday afternoon last year I received a rather mysterious signal from a friend. It said to make sure that I was at home on the Wednesday morning as I'd be having a delivery. This had me puzzled as I couldn't think what it could be, especially as it was obviously something that wouldn't go through the letter-box.

Perhaps it was anticipation but I slept badly on the Tuesday night and was awoken at quarter to nine by the postman with a huge box.

When I got into this the first thing I saw was a copy of the Trader sheet for the DAC90a.

Under a load of polystyrene chippings was a second box and this did indeed contain one of Bush's finest.

Frankly I was not only delighted by this but somewhat shaken as well; not being properly 'warmed-up' myself probably didn't help.

As it happened I'd got a load of things to pack-up that I'd sold on e-Bay so couldn't do much with the radio but I didn't mind as I was getting great pleasure from just looking at it. Besides which the packing material it had come in was proving very useful.

After tea I could have a proper look at it. When I'd acknowledged receipt and expressed sincere thanks I'd been told that it worked after a fashion so I made a lead up for it and plugged it in.

At first I thought something was very wrong as nothing seemed to happen. I looked through the ventilation slots and could see glowing and eventually it started to make a noise. Worryingly it wouldn't actually tune to anything.

I thought something had probably come loose in transit so got the chassis out, vacced the thickest of the muck out and gave the valves a wiggle and then got signals.

It proved to be in ideal condition as it worked but there was plenty of scope for improvement.

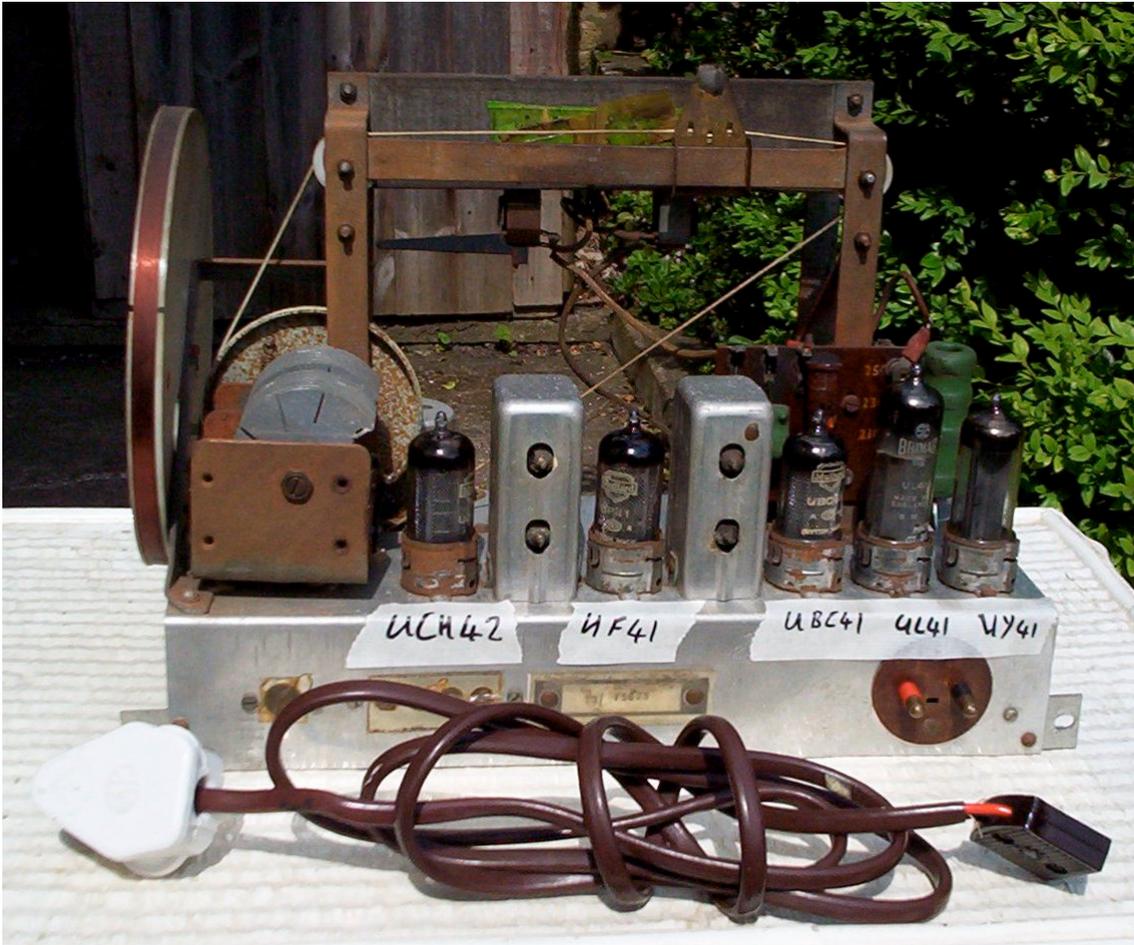
It had appeared dead at first because one dial lamp was o/c; the other was the wrong type so perhaps that had been responsible for its mate's demise.

The speaker sounded a bit rough so I then tried it connected to my external one and it sounded fine through that. Reluctantly I soon switched it off as I daren't leave it on for long as it had still got its original, no doubt leaky, capacitors.

When I got the speaker out it FELT rough, never mind sounding it. I saw that the bellows had come un-glued from the magnet so knew that was fixable but wondered if there may be more wrong besides.

I ordered new capacitors but found that only one resistor was badly out of spec and as it was a 1 meg one I'd got a spare to hand.

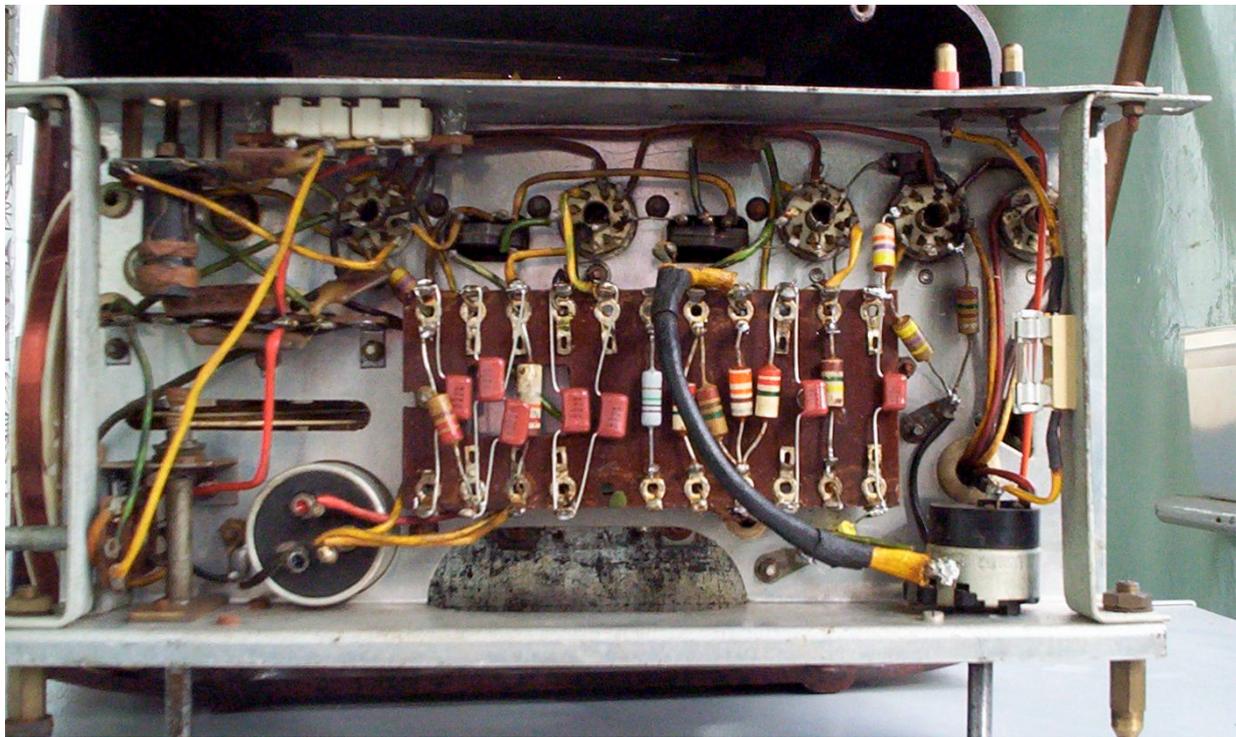
While waiting for the spares to arrive I got on with other jobs on it. Most of the wiring was fine with just the bits near the dropper having been cooked. I gave the chassis a good scrub with a toothbrush dipped in kerosene and went over the rusted steel parts with a suede brush. I didn't go mad on these as I was regarding this more as a 'repair' than 'restoration.' Besides, I've no objection to something looking like it's lived.



There was a crack in the case along one of the bottom edges but this stuck with Araldite (or actually PoundLand epoxy) very neatly and isn't noticeable at all.

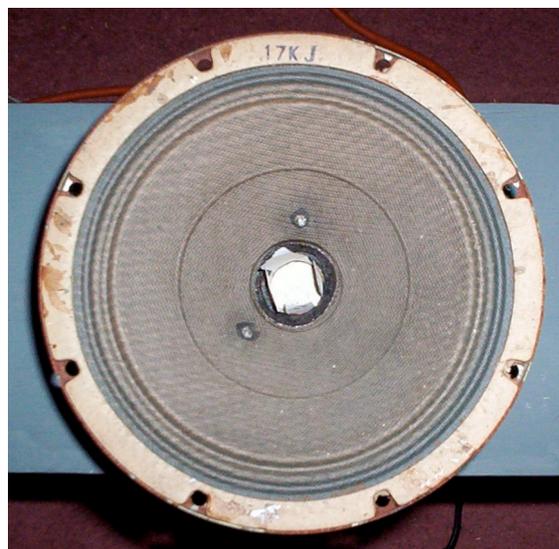


When the capacitors arrived I decided to initially just do the $0.01\mu\text{F}$ ones as this would include THAT one so I could at least play it. However, I got into the swing of it and half an hour later I'd done the lot.



I could now have a good session with it playing through my external speaker and was again impressed by how good it sounded. This just left the issue of its own speaker.

I'd kept looking at it and thought that it was feeling smoother just for being manipulated and the bellows being off meant that any really loose dirt could be blown out. I finally ran a bit of paper around between the magnet and the coil and I then found that it didn't sound bad at all if I held the bellows down so there seemed nothing to loose by gluing it up. I put bits of paper between the coil and magnet to centre it and then got the Evo-Stick 'round it.



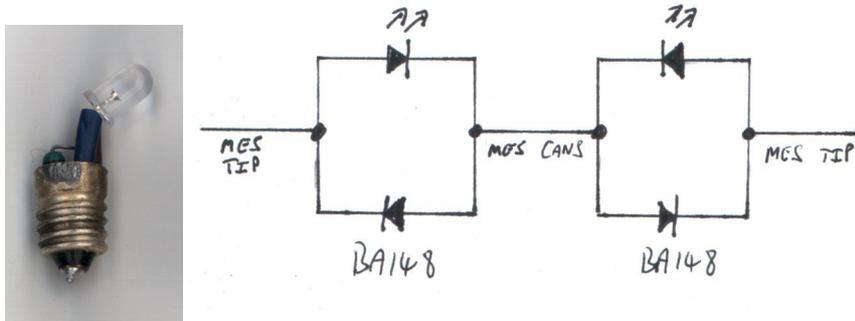
After that had had chance to set I reconnected it and the set warmed up just in time to play 'You Shook Me All Night Long' which is not only one of the best things ever committed to vinyl but AC/DC seemed very appropriate.

After that I left it alone for the glue to fully cure and got on with polishing the case which came up very nicely.

The only outstanding thing was now the dial lights. These had been a low priority as replacements seemed to be expensive and I was having no problem seeing the needle without.

When I measured the voltage available it didn't look far out for LEDs. I looked on e-Bay and found I could get ten bright white LEDs for thirty bob from a UK seller, which was a sight cheaper than the proper lamps. I tested my theory with some standard brightness ones I'd got and after confirming that they worked ordered the white ones.

These arrived next day and I soldered a couple into old MES cans along with a couple of diodes. I used BA148s as they were laying about but 1N4001s would be just as good. They worked very nicely indeed.



Despite it really being finished at that point I continued to fiddle and removed the wiring from the 'Spare' tag on the UL41's holder which has hopefully headed off any future problems with that.

