Receivers That I Have Lived With.

Brian G0IOE, anecdotal escapades, Civil and Military.

My first, a medium wave, receiver was made whist I was at school in 1940. There were eight boarding houses in the school; each divided into parts A and B!
The one that I was in had a senior Housemaster who did not believe we should have wireless in the House, not even if one was given to a boy by his Parents1

I gave the matter much thought, my friends and I could not have afforded the high-tension battery and the 2-volt accumulator. So, as a result of my learning Physics it was not long before I found out that the School was on it's own Direct Current mains. My engineering mind caused me to visit the 'Dynamo House' in which the machines were driven by steam which in turn was used to heat the School and do the cooking. To do this the steam engine had a number of cylinders of varying diameters, small for the high pressure steam and larger for the lower pressure, (possibly a 'compound' engine, Ed), with possibly more than one set of boiler tubes to reheat the water after it's circuit of the school.

When the day was over the generators were shut down and a bank of accumulators provided the School lighting power. This bank of accumulators provided a supply of about 180 volts, which was more than enough for the HT in my proposed radio! The two valves that I had to use were purchased with 'Pocket Money' which amounted to one shilling a week (about 5p for you newer chaps), this was in the1939-40's when my father's pay was about sixty shillings a week. (£3).

The valves were a PM1HF and a PM1LF for use as a leaky grid detector and an audio amplifier for a pair of headphones; this was better than using a single stage. This arrangement was known as an O-V-1, no HF amplification and one stage of audio amplification, a 'straight' set, not a superhet. The aerial was a long vertical wire, secured at the top and hanging down the Emergency Staircase and the earth was a nearby hot water pipe.

The headphones were of the high impedance type with the HT passing through the series earpieces to the anode of the output valve. For some safety, there being no isolation from the DC mains the circuit was modified and the phones connected between the anode and earth via a 2 Mfd metal cased and paper insulated condenser with an iron cored choke in the anode lead.
To keep the RF sensitivity high a reaction circuit was used, this provide positive RF feedback from the detector anode to it's grid circuit using a small coupling coil and a series variable condenser. An intervalve transformer coupled the HF to the AF, the primary winding being the anode load of the first stage detector.

The valve filaments were wired in series with a 25 watt 220 volt lamp and connected across the mains! The negative bias for the output stage was developed across a 6-volt 0.15 amp lamp removed from a rear bicycle lamp, possibly that of the Housemaster! (I doubt if he knew it wasn't on).

This little set was made up on a wooden baseboard with a plywood front panel and the reaction spindle was eventually slotted and connected to it's knob with a piece of wooden dowel. We had experienced the hand capacity effect with the receiver whistling away everytime we tried to retune it, our earthy hands upsetting the RF feedback!

Only a small charge was made for friends who wanted to listen and later we were introduced to an S. G. Brown terminal unit which allowed three pairs of phones to be connected in parallel. In the Tuck Shop I was the 'Big Spender' but the story doesn't end there.

The Housemaster was very annoyed to have his listening to the Cricket scores during the Horsham Cricket week interrupted by the whistling from our regenerative detector as we were listening to the same station. The reaction spindle extension was not the complete answer! I can tell you that a well-aimed slipper onto a pyjama-clad bottom does hurt but not as much as the confiscation of our radio.

Having DC mains was an advantage in those days, after the generators were shut down, we used to couple our Mk3 Field telephones to the mains using suitable condensers as DC blockers and exchange homework answers with other pupils in the other Houses. At some time I was in charge of the sound and lighting for the Annual House Plays and around that time I was in the Local Defence Volunteers, being too young for the Home Guard, but being in the Signals Section I was able to 'borrow'

equipment, but that is another story!

Our House Reunion is due in May, our Housemaster is no longer with us, God Bless Him, so we will have plenty to talk about.