Making up my meagre pocket-money

As my father had had to take (very) early retirement from his post as Deputy Head of a small secondary modern school, I was only allowed about a half crown in pocket money. I desperately needed to augment this in order to finance my 100% abiding interest in amateur electronics. A paper round helped me to buy weekly magazines, but I daydreamed of a much higher income. An idea began to germinate: why not offer a mobile Radio and TV repair service? I floated the idea with a good pal and decided that I would begin with radio. I would charge 7/6 per hour or part hour and would insist that customers would pay me in advance for the spare parts which I would have already diagnosed needing replacement.

My sales pitch, track-record and low charges were so attractive that word got around and hard-up neighbours told friends. Soon I had a thriving business! One old lady had a large console radio, and as she explained what she thought was wrong with it, she calmly unscrewed the back cover and removed the valves one by one, dusting them thoroughly before replacing them and reassembling the unit! Success bred confidence, so I soon diversified into TV, for which I charged 15/- an hour or part hour. Still folks flocked to my door and I did a roaring trade. TV design in the 50's had advanced apace, so that to save the manufacturers money, they did away with wire wound transformers and all of the valves were connected with their heater filaments in series. This led to two or three valves becoming very highly stressed and I knew that it was always one of these that would have failed. So servicing was a doddle! I even used to replace refurbished cathode ray tubes. But in the early 50's TVs were nothing short of lethal. The back comprised a slot-ventilated thick cardboard cover, held in place by a few slot headed screws. These could be undone by a child with a sixpence, allowing access to the "works" – whilst live! So much for health and safety. Worse, on the bottom shelf was the power pack. This comprised two wire wound transformers: the main transformer was used to provide a 200-300 volt rectified AC supply for each of the TV's circuits to process the incoming TV signal and to break it down into sound and video.

But there was a second – and truly lethal - transformer lurking in the power supply. A cathode ray tube required a direct current accelerating voltage of around 10,000 to 15,000 volts applied to the final anode. All of the associated components were touchable, albeit covered with rudimentary insulation. Anyone touching the lead attached to the final anode would be in line for a very nasty shock indeed – literally. But I used to dismantle old televisions and kept the do-called EHT (extremely high tension) transformers to play with….. With care I could produce a spark, or indeed an arc, several inches in length between two casually placed wires! Later in the 50's this lethal arrangement was abandoned. Instead, the manufacturers used an extra winding on a special internal transformer (the line output

transformer – also happily known to fail and needing replacement!) to provide a high resistance – and therefore very much safer EHT supply. They even started to fit tamper proof screws on the back cover. However it was a long long way from today's protection, with double insulated products and international standards with which to adhere to. Fortunately today's digital colour LED screen TVs require only a low voltage DC supply, so the lethal EHT power pack is now a thing of the past.

All's well that ends well. After a few wobbles during my sixth form careere I eventually made it to university. But despite gaining an honours degree in Electronics 55 years ago; spending four or five years in research and development,, and even working at various times in my career with manufacturers of electronic Consumer goods I am now so out of date that I have no idea how our consumer electronics products are even put together.

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