



The Serviceman

More on foreign set conversion

I have rather a mixed bag this month, being mainly a round-up of all those items which, for one reason or another, I have had to put aside when they first came to hand. The most recent one, on converting overseas colour sets, should be of particular interest to English migrants planning to settle in Australia.

The following letter on converting overseas colour sets to suit Australian standards was prompted by the letter in last September's notes, from Mr P. T. of, Box Hill, Victoria, but it describes a quite different and very interesting approach to the problem.

Dear Sir,

I was interested to read your column (September 1975) where Mr. P. T. described the conversion to Australian standards of a UK-standard colour TV set. I imported a Sony KV1330UB colour TV set from the UK last year, but took the precaution of first checking the costs of conversion. UK readers might be interested to learn that a small company, Portatel Conversions, in Surrey (UK) specialise in replacing front ends and retuning sound demodulators to conform to Australian, South African, or any other standards.

However a simpler, cheaper and (for a ham-fisted amateur) safer solution was to purchase a frequency converter to convert Australian VHF signals to the UHF band, and to use the set's existing UHF tuner. Such frequency converters are used in the UK in large blocks of home units, where CATV companies install a UHF antenna with a UHF/VHF converter and distribution amplifier near the masthead. From there easily-manageable VHF signals are distributed to VHF sets (rented from the CATV company), or to residents' own UHF TV sets, each equipped with the step-up converter on the antenna input. I bought this latter device—the "Teleng Superverter"—from Kindue Aerial Installations in London for about \$25; it is mains powered and draws only 1.3W, so is left operating permanently.

On arrival in Australia, the TV set (with converter) produced excellent colour pictures in the predicted positions on the UHF dial (continuously variable on this model) corresponding to the sum of the VHF channel frequency and the converter's local oscillator. (The "mirror image" of these frequencies, corresponding to the difference product, produced rather

poorer colour pictures at the other end of the dial.)

To receive the sound it was necessary only to locate and adjust the sound IF transformer, discriminator and sound trap pre-sets in the same way as described by your correspondent P.T. The Sony service department in Sydney were most helpful in providing this information. Additionally, I found that the AFC reference frequency needed a slight adjustment, possibly as a result of receiving signals with a fractionally closer frequency distribution of energy than in the UK.

Should UHF TV ever become the Australian standard, I can simply discard the converter. A word of warning to any potential duty-dodgers, however—a set must be owned and used by the intending importer for at least 12 months before shipping. Additionally, some foreign-market sets (mine included) do not use full PAL-D decoding, which means they could display irritating Hanover Blinds in problem reception areas.

Thank you for a most interesting column which provides fascinating "Whodunnits" for readers both inside and outside the repair trade.

A.M.

Hornsby, NSW

Well, so much for standards conversion. Assuming the ready availability of the UHF/VHF converter, it would seem about the least traumatic approach to the problem. Anyone with friends or relatives in England, who are contemplating moving to Australia, could perhaps do them a favour by sending them a copy of the letter.

The next letter deals with TV at a different level; a black and white valve set with an obscure fault which turned out to be a classic component failure; only the symptoms were changed to make it harder!

Dear Sir,

After a frustrating time servicing the line output stage of an AWA K86 I feel compelled to write to somebody about it. I was called to the set by the owner,

a pensioner, who claimed that the set had been serviced by a technician from another town, and that it only lasted two days. Three weeks of coaxing had not persuaded this gentleman to return!

A quick inspection revealed that he had replaced the 6AU4 (damper diode), the 6CM5 (horizontal output), and the 1B3 (EHT rectifier); the latter with a stick rectifier. He had also cleaned out the set and some components had been unsoldered at one end, presumably for testing.

I switched on and the sound came up OK but the picture was dark on the left hand side of the screen, getting brighter at the right hand side, but underscanning on the right, with a slightly wavy edge.

The 6CM5 looked distressed but not the 6AU4. The EHT transformer showed signs of melting wax. A shorted turns test on the yoke seemed to clear that component of trouble. The boost voltage was only 240 (HT255V) but adjustment of the horizontal hold control would bring the boost voltage to 550 for a few seconds. The boost capacitors were not shorted and appeared to charge normally on the ohm meter high ohms range.

Bias on the 6CM5 was -40V with the anode cap removed, but only -15V with it replaced. Another change of valves was tried, to no avail, so, fearing failure of the EHT transformer, I brought the set back to the shop, warning the owner that the repair could be costly.

Back at the shop I attacked the set with the CRO. With the 6CM5 out of its socket, the line oscillator wave forms were normal. With the 6CM5 replaced, some 100Hz interference showed up.

I removed the 6CM5 and shifted the CRO prod to the power supply, a voltage doubler circuit. The CRO showed a slight (about 8V) negative going pulse at 50Hz. When I replaced the 6CM5 it showed about 80V of 15,625Hz. Shunting the final filter capacitor with 100uF restored calm to the HT rail and full operation to the line output stage.

The hint I missed earlier was that wavy line at the edge of the picture but, to be fair, I do normally suspect filter capacitors in doubler supplies, particularly for sync faults. However, in previous supply problems I have found the sound to be degraded, and it was not in this case.

All this checking took several hours, unfortunately, and I cannot in fairness charge the owner for all the time I spent searching.

R.W.

Dunolly, Vic.

As I said, a classic component failure. But I have lost count of the ways in which a faulty power supply electrolytic can upset performance. And not only in TV sets, though they have more to be upset, but also in the humble radio.

In fact, my first experience of such a fault goes back to the days of the autodyne receiver using the 57, 58, 57 valve combination. The first 57 functioned as a self oscillating mixer, a notoriously cranky stage which would go out of

oscillation at the slightest excuse. In this case it had a first class excuse—a virtual open circuit, at RF, of the second electrolytic in the power supply. Oh yes, the set hummed, but I didn't connect the two symptoms. After several hours the penny dropped and I learned a lesson I never forgot. (Which doesn't mean to say I haven't been caught since.)