MAILBAG

Digital TV has aspect ratio problems

Being the owner of a wide-screen TV connected to a digital set top box probably puts me in the minority for the moment among TV viewers. This may be the reason why a current problem with digital TV aspect ratio is receiving no comment from the viewing public.

The problem is that some TV programs and commercials on all channels, when viewed on a wide-screen TV, are wide-screen (16:9) but are shrunk, meaning that there is a black border all the way around. It is as if you need a zoom control to zoom in on the picture so it will fill the complete screen.

After considerable contact with SBS, who have this situation more than other channels, the answer was figured out. It took some doing, as my original queries were not understood and I received a lot of information about aspect ratios but not about the problem. After photographing my analog 4:3 and digital 16:9 TV pictures when this condition existed, the problem was understood (by SBS).

TV in Australia is in transition, not just with analog to digital but also 4:3 to 16:9 and this change of aspect ratio is a difficult one when the TV stations have to try and satisfy two different consumer demands.

Only the Nine and Ten networks have full 16:9 studio capabilities, while the others have limited 16:9 studio capabilities or none. For example, some two years on, only channels Nine and Ten transmit their news in 16:9 on the digital service.

When a program is fundamentally 4:3 but with inserts of 16:9 material, there are two options: (1) crop off the sides of the 16:9 picture; or (2) show the 16:9 material in letterbox format. This means that the 4:3 analog viewer sees the studio-based picture (for example, the presenter) in 4:3, filling the screen with no missing picture.

When the 16:9 inserted material is then shown, the analog viewer sees this material in letterbox with a black bar at the top and bottom. This is because the program people want the analog viewer to see all of the 16:9 picture.

But what happens for the digital viewer? The digital viewer sees the studio-based program (the presenter) in 4:3, meaning a black bar on the left and right but not on the top and bottom. However, when the 16:9 inserted material is shown, which is now treated as letterbox, the picture remains "4 units" wide (black bar on left and right) but now has a black bar at the top and bottom as well in order to maintain a 16:9 aspect ratio (ie, it gives a small 16:9 picture).

It may be difficult to get your head around the problem, as it is a complex mix of different aspect ratios. There is a solution, other than convert the studio to 16:9, and that is an aspect ratio converter on the digital transmission feed that is switched to convert letterbox to 16:9. This however has its own problems, one of them being cost.

By the way, owners of 4:3 TV sets connected to a set-top box and set up for 16:9 viewing on the set top box and the TV experience the same problem.

So if you have wondered why you have a brand new wide-screen TV but with a shrunken picture, it is because of the difficulty of mixing 4:3 and 16:9 during this transition phase.

Will McGhie,
Lesmurdie, WA.

Uninsulated wiring a hazard for current clamp adaptor

I am assembling the current clamp adaptor for DMMs, as described in the September 2003 issue. It occurred to me that the insulation of the supplied battery clip (as used in the original project) may not be adequate when measuring current in high voltage AC/DC circuits.

As an industrial electrician, I frequently use a "clip-on" in control cabinets, etc where there is a possibility of contact with the 240VAC mains. Employer provided clamp-meters have insulated jaws. There appears to be no mention of the possibility of an electric shock or creating an arc when using this type of clip.

The toroid ring provided is also conductive. I have purchased another larger all-insulated battery clip from Jaycar that should be safe. I will shift the Hall Effect sensor to the pivot end of the clip. Can it be mounted in-line with the toroid ring? The original set-up is mounted at 90° to the toroid.

I. J. McPherson,
via email.

Comment: we should have mentioned that the clamp adaptor is not suitable for use with 240VAC mains when the wiring is uninsulated. The Hall Effect sensor detector can be rotated 90° as you suggest.

If cars were priced like VCRs . . .

Recently, I bought a $98 Dick Smith branded VCR from Tandy. I can't believe that this good-looking, feather-light 14W 4-head machine could be had for *one-sixteenth* the dollar price I paid for my first VCR over 20 years ago! And it comes with a crystal-locked 30-odd channel UHF modulator – no stupid "Video/TV" switches required.

If car pricing went the same way, we'd be able to buy a basic sedan now for around $1,000! Peeping inside, it's obviously been built by robots and as for more than basic repairs, forget it! But at that price who cares?

What I was curious about is whether you've heard if there has been some sort of relaxation of the RF standards required for the importation of TV receivers into Australia.

When just about all of Europe standardised on a video IF of 38.9MHz in the