Letters to the editor

Cyril Bateman writes:

Dear Editor,

The article by Ed Simon in Vol 1, "Resistor non-linearity – there's more to Ω than meets the eye", set me pondering about how better one might measure resistor distortions.

One starting point would be to select a known good resistor to use as reference, but which and how to choose. Clearly with modern updated film resistors, this non-linearity distortion would be small, needing measurements well below -120dB.

In my "Capacitor Sounds" article series (published as 12 articles in Electronics World during 2002 and 2003 – *ed*.) I drew attention to the Ericsson papers from the 1960's when harmonic testing of resistors was a hot topic, mostly using the Ericsson designed CLT1 Component Linearity Tester, but these were already old when in 2000 I first started to explore such topics for the Electronics World articles. In 2011, I thought I would have binned many if not all CLT1 papers, when EW, as we knew it, died.

A few days ago I decided to dig out my oldest files and began a search.

I found the attached papers which may interest some readers. While the CLT1 equipment has been discontinued, I find that many used instruments like the successor CLT10 are available and still in use by resistor makers.

I append copies of these very old papers, which predate internet, so they may otherwise not easily be available. Many more modern papers on the subject can be found simply by searching for "resistor distortion".

Cyril Bateman,
Norwich,
United Kingdom

1 – "Harmonic testing pinpoints passive component flaws", Vilhelm Peterson and Per-Olof Harris, L.M. Ericsson Telephone Co., Stockholm; Electronics, July 1966, all rights reserved.

2 – "CLTI Component Linearity Test Equipment", company literature and letter to Mr. Bateman.

3 – "The Non-linearity of Fixed Resistors", P. L. Kirby; Electronic Engineering, November 1965, all rights reserved.

Ed Simon replies:

I wish to thank Mr. Bateman for retrieving these articles. I was aware of the existence of them but had not found them. Fortunately while doing these tests Demian Martin sent me some samples that he had tested using the Radiometer Copenhagen test set so it was possible to see that both techniques had similar results. But being able to study the original papers is quite worthwhile and so again my thanks.