

# Letters to the Editor

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## Using Time Domain Reflectometry for Transmission Line Impedance Measurement (Jul/Aug 2013)

Hi Larry,

Phil Gaudet, K1IRK, noticed that I made some mistakes in my calculations in the explanation to Figure 5 that begins on page 27 under the heading “Classic TDR Use.” The mistakes are in the times given for the various lengths of line at the top of page 28. The first bump is at 152 ns rather than the second one as I said in the text. The second bump is at about 225 ns, which matches with my results of 74 ns (more or less) for the RG-8X. The total length is 256 ns as shown by the cursors on the oscilloscope trace. That puts the LMR400 at 63 feet, the RG-8X at 29 feet, and LMR-400 Ultraflex at 13 feet for a total of 105 feet. I have no clue how I messed up the numbers in my explanation. My apologies for the confusion.

Of course, I got a really great email on the same day I received my copy of *QEX*. IXYS Colorado has just announced a high speed FET drive IC that would be perfect for a TDR. The IXRFD631 is a Schmidt trigger gate followed by a complementary symmetry pair of FETs. The data sheet lists 4 ns rise and fall times while driving a 1000 pF load. When driving an almost purely resistive load, it should be capable of producing sub 1 ns edges. This part is meant to drive Class D and E power amplifiers in medical service at 13 MHz, as well as other HF power amplifier applications up to 45 MHz. The part should be available through distribution soon, but is also available direct at [www.ixyscolorado.com](http://www.ixyscolorado.com).

— 73, Ray Mack, W5IFS, 17060 Conway Springs, Austin, TX 78717; [w5ifs@arrrl.net](mailto:w5ifs@arrrl.net)

## An Automated Method for Measuring Quartz Crystals (Nov/Dec 2013)

Dear Readers,

An unfortunate error occurred in this article by Richard Harris, G3TOK. The graph from Figure 6 of Richard’s Jan/Feb 2013 *QEX* article, “The Drive Level Sensitivity of Quartz Crystals” was placed in the Measuring Quartz Crystals article instead of the correct graph for Figure 6.

This is the sample *QEX* article that appears on the “This Month in *QEX*” section of the ARRL website. The correct Figure 6 is included in the article posted there. ([www.arrrl.org/files/file/QEX\\_Next\\_Issue/Nov-Dec\\_2013/Harris\\_QEX\\_11\\_13.pdf](http://www.arrrl.org/files/file/QEX_Next_Issue/Nov-Dec_2013/Harris_QEX_11_13.pdf).) In addition, we have printed the correct Figure 6 here for your reference.

— 73, Larry Wolfgang, WR1B, *QEX* Editor; [lwolfgang@arrrl.org](mailto:lwolfgang@arrrl.org)

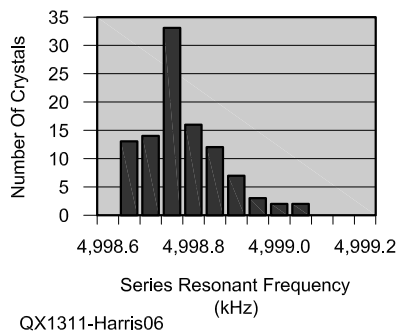


Figure 6 — This graph shows the spread of series resonant frequencies,  $f_s$ , for the same 100 crystals.