

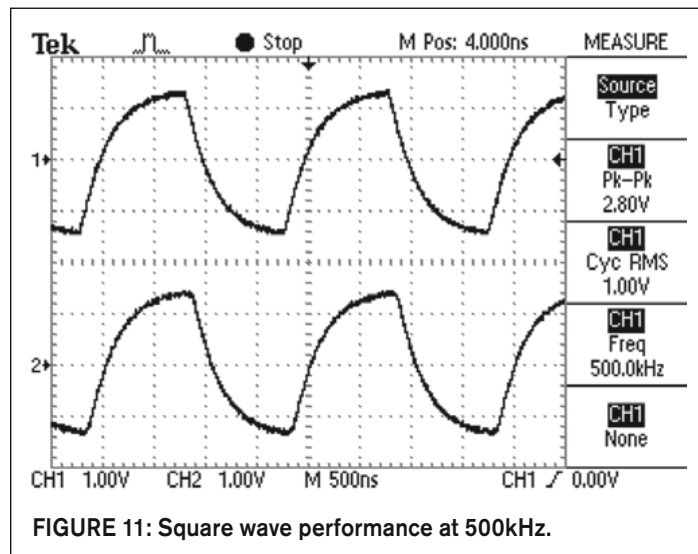
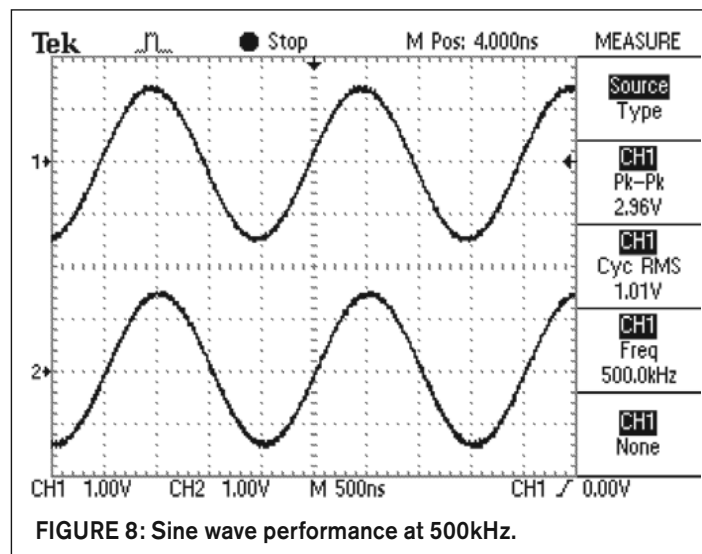
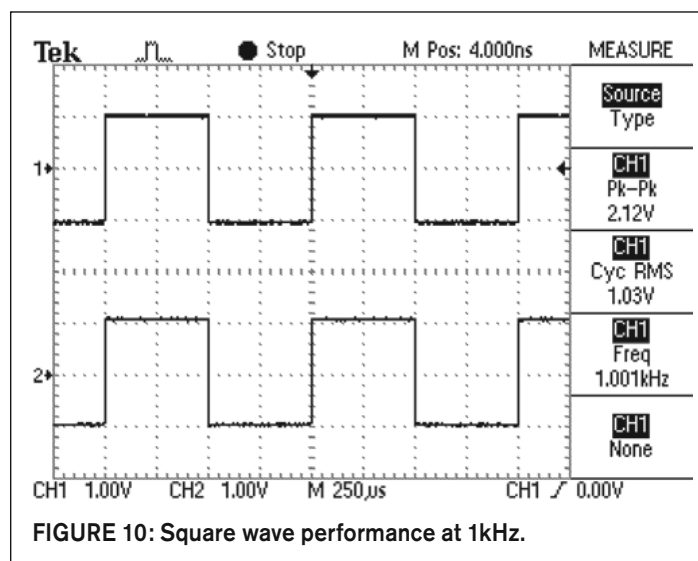
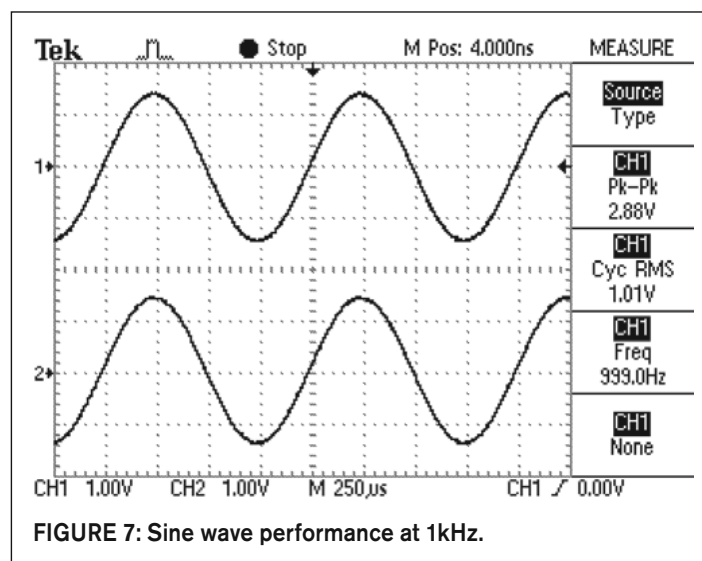
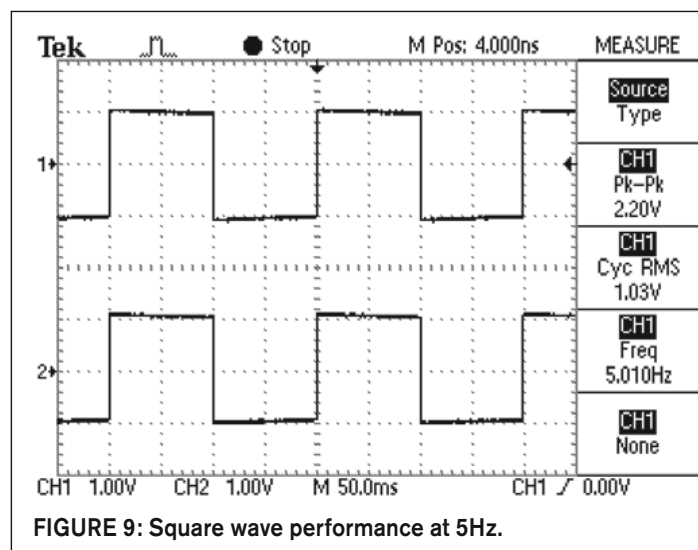
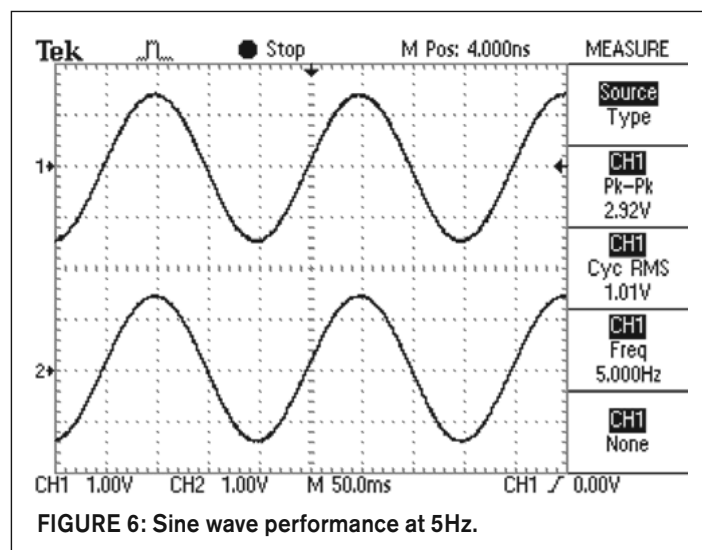
the test harder, I repeated the test using square waves at the same frequencies. **Figures 9, 10, and 11** show the results with no visible problems.

For an even more difficult test, I increased the signal level to 3V RMS and

expanded the trace of the 500kHz square wave to determine whether there were any differences, even though they would be far outside the audible band. **Figure 12** shows the leading edge of the square wave with a time-base setting of 100ns/

division.

You can see a rise-time lag of about 100ns, with a very slight overshoot lasting about 100ns. This is certainly not audible and indicates the excellent performance of both devices.



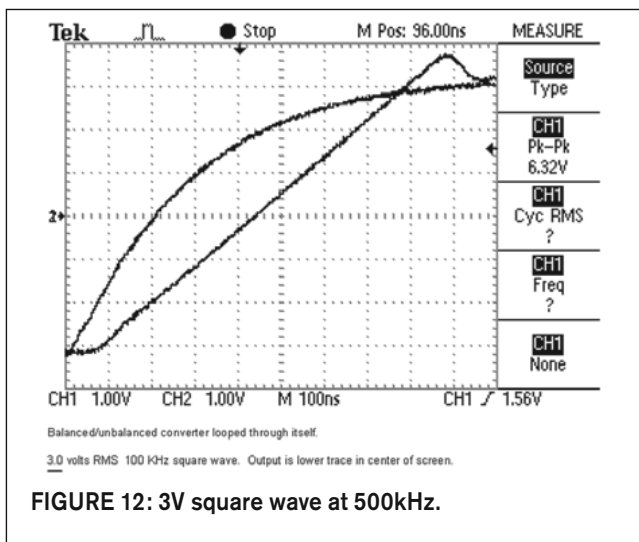


FIGURE 12: 3V square wave at 500kHz.



I wanted a live test in a recording venue, and contacted my friend Michael Morgan,⁸ who makes fine professional recordings for NPR and others. Although most of his equipment uses balanced interconnections, he set up a test using unbalanced and balanced connections. The project worked with no problems.

Finally, I connected it in my LP-to-CD conversion setup where it worked as hoped with no audible added noise or distortion. **Photo 20** shows that setup, along with my Dual turntable with Shure Ultra 500 cartridge, my home-built RIAA phono preamp based on OP27 op amps, the balanced-to-unbalanced converter, a Behringer DEQ2496 equal-

izer, a Headroom headphone amp, a pair of Etymotic ER4S earphones, and the output to my PC.

I have only had time to burn a few CDs, using Audacity™ as the recording software, but the results have been great.

CONCLUSIONS

The addition of the THAT Corporation balanced-to-unbalanced circuits has eliminated many of the problems inherent in those types of conversions without the expense and frequency response limitations of many available transformers. High-quality transformers still hold the top spot for ultimate CMRR at higher frequencies, and are mandatory where

significant and possibly dangerous voltage offsets exist. However, for most situations, these THAT ICs will provide excellent performance that is certainly far beyond using adapter cables. Kudos to Bill Whitlock and the folks at THAT Corporation. *ax*

REFERENCE

8. Michael Morgan, Isle of Skye Audio Productions, www.RecordClassical.com.



PHOTO 20: Converter in the system.



In The 21st Century

Analog playback should be
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