



It Can't Be that Easy!

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It is rare that we witness a product that is truly revolutionary. My background is in electrical engineering, and I've held various manufacturing/test engineering jobs at Westinghouse and Racal-Milgo. I have been in capital equipment sales for 23 years and use my engineering skills to be a technical resource to my customers and to offer total solutions.

My personal experiences have shown that millions of dollars worth of capital equipment and synergistic products have been procured and turned into "white elephants" on factory floors. Chalk this up to actual requirements, evaluation processes, products being oversold, or overall understanding and training of the actual product.

I have a story to share, however, of a product line from KIC that I have represented for nearly six years now. KIC manufactures a line of thermal profiling instruments for the electronics assembly process. Ads, Web sites and product brochures do not do the product justice, so I am telling my story here.

KIC listened to their customers and actually went to a temp agency with a new product development — the KIC2000. Their objective was to train a "non-skilled" person on the KIC software interface and product in 10 minutes and have that person be able to train someone else. The question begs: why wouldn't all vendors use this same approach? Seems logical doesn't it?

Although it seems much longer, the KIC2000 was developed in 1999 when the market was thriving and million dollar+ SMT lines were being operated by people that were working at a fast-food restaurant the day before. Features like the GUI interface with four options, built-in solder paste menu/tech data sheets and the most advanced prediction utilities make the product simple to use. Actually, I recall one of my major customers' comments once they converted to the KIC units saying, "We allow four hours of profile development time for any new product... We won't tell our management that we can do the same task in minutes and that we will have more time available for other tasks." Again, my personal experiences have shown that engineers tend to make equipment decisions and have long wish lists. Vendors often listen and yet develop features that have no real value in the electronics manufacturing process. The techs, operators and most end users of equipment typically have little involvement in equipment procurements; yet ironically, these are the people we should be listening to most.

Since the inception of the KIC2000, KIC engineers have done a solid job of staying the course with a product that is both powerful and simple to use. Why does a profile have to take four hours to develop in the first place? The answer is simple: complexity, ease of use, actual starting point and useful prediction data are some main culprits. Having to continually run processes, searching for paste datasheets that provide data that is actually useful for a thermal profiling tool and prediction utilities that really do not understand your reflow oven's limitations are some major time wasters.

But KIC did not stop with the development of a wireless profiler that was simple to use and offers outstanding prediction capabilities. Every aspect of the system is simple: self-triggering so users do not have to switch a button to start a process, automatic feedback on device communication and battery output, and aluminum tape to attach thermocouples in seconds as opposed to soldering with high-temperature solders. Even though they had a good profiler, they developed a new feature called "Auto Focus." This utility builds an applications library that is both intuitive and gets smarter over time. Because it knows your solder paste and understands your reflow oven,

you simply enter loaded board dimensions and weight, and the KIC2000 will tell you where to start. By a single prediction from this starting point, users are guaranteed to be well within their process windows.

I can go on for hours in specific product detail and lead-free applications, but I won't. I'll simply put it this way: shame on you if you don't contact your local representative and get a product demonstration. I already told you it won't take much time, and if anything, you'll end up with a better thermal process than you currently have. What do you have to lose?

On a final note regarding lead-free applications:

- Throughput — all research will show that “faster is better” because of the higher melting points and potential thermal damage to components and materials. Note: when running your “Navigate” prediction utility, simply click on the button that allows you to change temperature setpoints only, not the conveyor speed.
- Materials evaluation — Once your oven has been characterized with the KIC2000, you can simply use the library function and overlay various solder pastes to see what your results will be. Think of the time savings here.

I had three objectives when I decided to write this article:

1. Have readers like yourself take the time to evaluate this widget. If you are using a competitive or older KIC product, you will be nothing short of impressed.
2. Have KIC senior management and research engineers read this article as well. Sure would be nice to characterize various vendor reflow ovens and pull these from a library as well. But then again, they are probably already working on it. No worries, the system is so simple it will learn your machine in no time.
3. Have other equipment suppliers take note of KIC's approach to product development and user interface. There are some lessons to be learned (trust me, I've used the SlimKIC II and see how KIC has learned their own lessons!).