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book review

The Artful Solderer

Reviewed By Gary Galo, Regular Contributor

The Artful Solderer. By Lee Tingler. T.I Press, 5540 Amber Cove Way, Flowery Branch, GA 30542; 770-476-5337; 770-965-2661 (FAX); Email: order@solderbuddy.com; Web: www.solderbuddy.com. 39pp. \$19.95.

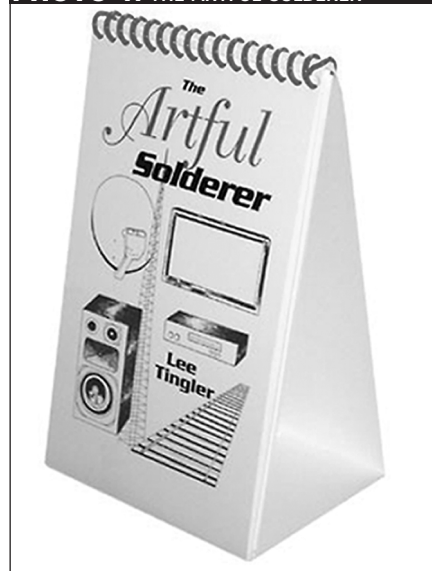
Lee Tingler has been involved in electronics for about 30 years, and claims to have made over 200,000 connections, mostly soldered. In *The Artful Solderer*, Tingler offers a concise guide to soldering technique, based on his years of work in the field. At 39 pages, *The Artful Solderer* is more of a pamphlet than a book, but it contains a great deal of useful information, especially for the novice.

Tingler begins with a few comments on the importance of craftsmanship. A page is devoted to safety considerations, including wearing eye protection, avoiding burns, and so on. Two pages are devoted to the basic requirements for an electronics toolbox. Tingler devotes quite a bit of space to selecting soldering tools, explaining the differences between soldering guns, irons, and the various types of tips that are available for irons. Like myself, he finds the $\frac{1}{16}$ " chisel point tip the most useful.

He then takes you through a step-by-step procedure for making a good solder joint, from tinning, applying heat, applying the solder, and letting the joint cool. He includes photos to illustrate good and bad solder joints, and offers suggestions for cleaning up bad ones. He also emphasizes the need to properly tin new solder tips and to keep them clean, to improve performance and extend tip life.

Tingler offers a number of suggestions for preparing various types of wire for soldering, including speaker cable, microphone cable, and hookup wire, including how much insulation to remove. Soldering printed circuit boards is discussed, including surface-

PHOTO 1: THE ARTFUL SOLDERER



mount components, and the author provides tips on how to avoid damage to the board. He also covers spicing wires, dealing with oxidized wires, and emergency repair techniques.

Solder removal is a problem that all of us face. Tingler shares my view in favor of solder suckers rather than wick, unless space prevents you from using a solder sucker. I have never liked solder wick and never use it. He doesn't mention the type of solder sucker that integrates the syringe with a soldering iron. My favorite is Radio Shack's veteran model 64-2060, still a bargain at \$10.49.

For holding wires and other components in place for soldering, Tingler recommends the Solder Buddy, which he also sells. An American wire gauge chart is also included, giving diameter and resistance for AWG 2 through 82.

There are a few things missing from Tingler's book. In his discussion of various types of electronic solder, he mentions 60/40 and 63/37 tin/lead ratios, preferring the latter due to lower melting temperature and superior strength. He doesn't mention silver-content solders, such as SN62, which I use for

most electronics work. He also doesn't discuss tip materials and coatings. I always use the plated copper tips with my Weller/Ungar modular irons because they last much longer than bare copper. Tingler also left out flux removers (my favorite is Caig Laboratories' CaiKleen TRP).

The Artful Solderer is generously illustrated with photos and sketches. It is small enough to throw in a toolbox, and is printed on Yupo, a waterproof, tear-resistant synthetic paper for "tough on the road use." The information contained in the booklet is all pretty basic, and will be most useful to the electronics novice.

If you must look up any of the procedures while doing a field repair, you probably are not yet ready to go out into the field. If you are getting started in the electronics hobby, *The Artful Solderer* should be quite helpful. I also modestly suggest my article "Soldering" in *Audio Amateur* 3/94, pp. 30-35 (available from Old Colony Sound Lab, PO Box 876, Peterborough, NH 03458, 888-924-9465, 603-924-9467 (Fax), custserv@audioXpress.com). aX

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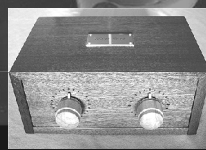
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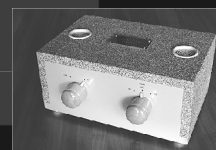
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