Weller WSM 1 Soldering Station — A short review

I've used my trusty ERSA TIP 260 soldering iron for the last 15 years or so, and I've never had to replace the tip. It's still as shiny as on the first day. Yes, I do treat it well.
Now I've made the step and have finally bought a more advanced piece of equipment, namely the WELLER WSM 1 soldering station. I didn't go for the one with the additional battery pack, as I don't plan to do any 'wireless' soldering in the field. Some 60 bucks well 'not-spent'. I had looked at the WD1 as well, but I didn't feel like spending close to 500 monetary units. It was bad enough that I had to wait almost two full weeks until it got delivered. I gave the shop a call and was told that 'somebody' (I curse you, do you hear me!?! One day of vastly accelerated bowel movements to you!) was on a shopping spree and emptied their stock completely.
The main impetus to get it was, and still is, the horrible trouble I have with soldering SMD RGB LEDs coming in a PLCC-6 5050 package. The plastic just melts way too easily. My TIP 260 is set to a fixed temperature of 350°C and melts the package like a hot knife cuts through butter.
The WSM 1 can be adjusted from 100°C to 400°C and packs a whoppin' 40Watt heating element into the RT 3 tip. That way I can be sure I'll be able to find the correct temperature for the job. As the heating element is in the tip itself, there's not much thermal inertia and everything should work perfectly. The WSM 1 can quickly adjust for the energy/temperature loss in the tip due to melting of solder. My old TIP 260 works with a PTC heating element and sometimes it takes a while until it reacts to a drop in tip temperature when melting a big blob of solder. This is now a thing of the past. Nevertheless I will not abandon it and keep it for odd jobs that don't require advanced soldering tools. One advantage of it is that it fits into the storage containers I use.

It comes with these parts: 12V, 50W switching power supply (no power switch), main unit (no power switch, GND plug), soldering pencil, soldering tip, soldering stand with brass cleaner. As the WSM 1 doesn't come with a power switch (the WSM 1C has it, it also comes with a battery for portable soldering but it also costs 60 bucks more), you'll want to watch standby power consumption. I've measured it with one of these 'kill-a-watt' like devices and it's about 0.5W, which is tolerable. Nevertheless I switch off all of my gear with a master switch anyway. A switch in the main units wouldn't do much good anyway, as the 0.5W standby loss is caused by the switching power supply itself. Fortunately the main unit starts up in OFF mode by default. No chance of accidental fires after a power loss.

The soldering pencil is very light and its cord is very flexible, what a joy. One of the most outstanding features of this soldering station is the extremely short heat-up and cool-down time, as well as temperature stability. It takes about 4 seconds to go from ambient temperature to 400°C!

The user interface consists of a big LC display and 2 touch sensor buttons labeled “-” and “+”. By pressing “+” or “-” shortly, you can quickly switch between two adjustable temperature set points. I use Sn60Pb40 solder and 240° for sensitive parts and 280°C for bigger ones with more copper. Pressing the buttons longer increases or decreases the temperature. With no buttons pressed the display switches back and displays actual temperature. Pressing both buttons for some time switches through the settings menu. You can adjust a standby temperature (called setback) and the associated timeout, the power off timeout, a global temperature offset and a lock code. It’s very easy to use and the manual only consists of a few pages. Standby mode and auto power off are only triggered if the soldering pencil rests in its stand. If in standby mode the iron is instantly reheated as soon as you pick it up again.

Although it cost me a lot ($365), I give it a big thumbs up. Even if you don’t want to pay as much for a soldering station and are serious about electronics as a hobby, try getting a decent soldering station yourself. Not having to use 350°C for everything is sooo nice. Less burning of flux on the tip, less thermal stress for sensitive SMD parts, less oxidation of the tip and therefore less cleaning is needed :-)

Have a great week,

Larry

Larry Doolittle
Manufacturers Representative
APEX TOOL GROUP