

# COLDHEAT®

## Cordless Soldering Pen



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**Welcome!** Thank you for purchasing the ColdHeat® Soldering Pen. The tool's patented technology creates the heat you need to solder within seconds, and its cordless design lets you operate it anywhere for light-duty soldering projects. Plus (you'll see): it makes soldering fun again!

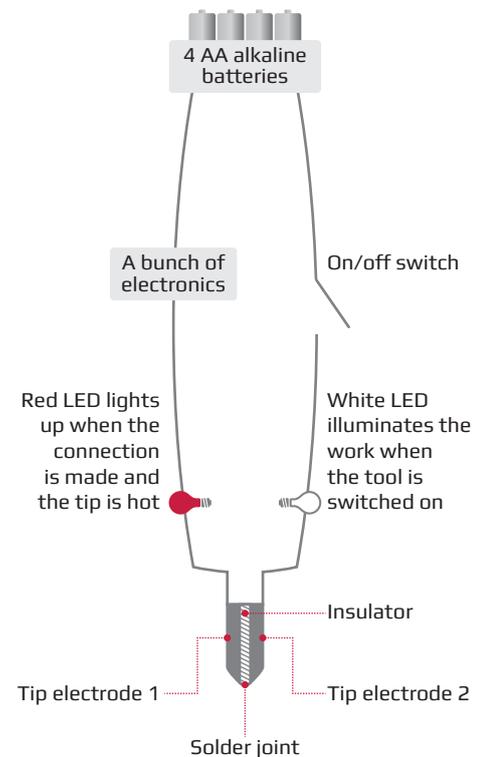
The patented Ceramic Tip has unique material properties that allow it to create substantial amounts of heat when very little electricity is passed through it. The tip is designed as two ceramic electrodes that form part of an internal electrical circuit but are electrically insulated from each other. When the tip's two electrodes make simultaneous contact with whatever you are soldering, this circuit is completed and the ceramic electrodes generate instantaneous heat at the point of contact, helping you make a soldering joint super-fast. This also reduces the heat dissipated and thus the energy required. The ColdHeat Ceramic Tip utilizes 98% and loses only 2% of the generated heat, which is 20 times more efficient than the typical soldering tool!

The ColdHeat concept creates a lot of heat from little energy, but it is not trying to break the rules of physics; it makes just enough heat in just the right place to get the job done. This is not high technology - it's good technology.

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We would like to thank our childhood physics teachers for their dedication to their craft and remind children to stay in school and learn their science, because it's good stuff.

No, really.



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**Getting the Batteries Ready.** The Cold Heat Soldering Pen uses four replaceable AA alkaline batteries (not included). A battery polarity diagram (+/-) is located to the left of the battery compartment; please get it right, or else you will overheat the batteries and trouble will ensue.

This is important: use replaceable AA alkaline batteries. Rechargeable batteries will not work because their lower voltage messes with the circuit.

Here is how you should insert or change the batteries:

1. Loosen the two screws located on the battery compartment cover (the bottom grey section) of the Soldering Pen.
2. Remove the battery compartment cover by grasping it and gently moving it away from the rest of the unit.
3. Insert or replace the batteries according to the polarity diagram (+/-) on the Soldering Pen.
4. Put the battery compartment cover back on and tighten the screws prior to use.

These bits are also important:

1. Do not mix old and new batteries.
2. Remove batteries if not using the tool for an extended period of time.

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3. Dispose of the batteries promptly and properly.
4. Did we mention? Use alkaline batteries only and preferably good ones, not the cheap stuff.

**Getting the Ceramic Tip Ready.** When you first open the Soldering Pen's case, the Ceramic Tip lies in a separate compartment in the black foam base; remove it from there, gently. A translucent cap protects the front end of the tool; remove this protective cap, and insert the tip by pushing it into the tool. You're set to go soldering now.

**Soldering Operation.** You've made it this far already, so by now you have understood that this is not an old-fashioned soldering tool. Let's agree right now that you will not try to operate it as such, because otherwise you will only become frustrated. So let's try this instead:

1. Slide the ON/OFF switch to the top of the tool to ON. The white light illuminates and although the tip is still cool, your tool is now ready to solder.
2. To heat the tip, gently place it against your work piece (wire, electrical or electronic part, etc.) so that both of the Ceramic Tip's electrodes make solid contact with the work piece; then add solder.

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If the tip is placed correctly, the red light will illuminate and the tip will create heat almost instantly, allowing for clean solder flow onto the work piece and the formation of a smooth joint.

3. When the joint is complete, remove the tip from the work piece. The tip should cool off to touch-safe temperatures within a few seconds to a few minutes, depending on the length of your soldering process.

**Caution:** DO NOT PRESS HARD. Ceramics are brittle! Excessive pressure does not improve performance and may break the Ceramic Tip. If the tool is not supplying the required heat, the tip electrodes are not properly making contact with electrically-conductive material. Reposition the tool for better contact until the red light turns on. Light-handed operation will serve you best!

The first time you try this, it may not be all dreamy. But with a few minutes of practice, you can become an expert. Let's work on your technique:

1. If you are having trouble establishing electrical contact between the Ceramic Tip electrodes and the work piece, tilt the tip so that it touches the work piece at an angle. You may also pull the tip out, turn

it 180°, and re-insert it. The red light will then turn on when the tip makes correct contact with the work piece. Look for the red light to confirm good contact!

- The Soldering Pen delivers approximately 25W of AC-equivalent power. It is intended for hobby or light professional use in electrical projects with small and medium-sized components, such as 18-24 AWG wires, small jewelry repairs, and larger printed circuit boards and components. We do not recommend it for soldering temperature-sensitive, very small electronic components, or large joints that require long, continuous soldering.
- For best results, use solder approximately 1 mm (0.040") in diameter or 18 AWG. This will fit best with the gap in the Ceramic Tip and will make contact a breeze.
- This tool is intended for short bursts of heat. Do not dwell on a single soldering joint for a long duration. This may overheat the Soldering Pen and discharge the battery.
- Users more experienced with the soldering process will recognize that the Ceramic Tip eliminates the need for wetting and cleaning the tip. The tip can also be used for desoldering with wick. If you don't understand this, it's OK, you're still awesome in your own way.

- Do not store the tool in high-temperature environments, as this can damage the batteries and electrical parts.
- Do not attempt to repair the ColdHeat Cordless Soldering Pen. This could damage the tool and will invalidate the warranty.
- Keep out of the reach of children.

**Warning:** This product, when used for soldering and similar applications, produces chemicals known to the State of California to cause cancer and birth defects (or other reproductive harm). (CA Health and Safety Code 254249.5 et seq.) Flux fumes from soldering and de-soldering can be harmful, especially when using lead-based solder. Please use with proper ventilation, use caution, common sense, and become educated about the soldering process.

**Replacement Tips.** So you wore out your tip. Or you ran over it with your car. Or you used it to pen the next great American novel. Whatever the case may be, all hope is not lost. Please head back to your retailer and look for replacement tips, sold in cute little individual packages.

- A new set of batteries will perform approximately 600 joints under normal conditions. We recommend that you replace the batteries often to maintain high performance from your tool.

OK, you're getting there. Room temperature to 700°F (400°C) in a quarter of a second? Yes, we can.

**Precautions.** There are some things we have to tell you. Please follow these safety precautions to reduce the risk of personal injury or property damage from fumes, burns, or fire.

- A slight spark may occur at the Ceramic Tip during soldering. Will this damage your electronic parts? We don't think so, but please use caution, and definitely do not operate the Soldering Pen near flammable or explosive fumes, liquids, or other materials. Kaboom = totally bad.
- Do not touch the Ceramic Tip during active operation (indicated by the red light). Make sure that the tip is cool before touching or replacing the cap. Allow sufficient time for the tip to cool before touching it. Under most circumstances, the tip will cool to the touch very quickly. However, after prolonged use (such as after applying solder to several joints or applying solder to a work piece for a long time) the tip may take longer to cool down.

**Warranty.** We warrant this product to be free from defects in material or manufacture for a period of 1 year from the date of purchase. This warranty does not cover damage through misuse, abuse, alteration, unauthorized repairs, accident, or natural disasters.

The preceding warranties are the sole express warranties made by ColdHeat. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF FITNESS AND MECHANICALITY, ARE HEREBY LIMITED IN DURATION TO A PERIOD ENDING 5 YEARS FROM THE DATE OF PURCHASE. Some states do not allow limitations on how long an implied warranty last, so the above limitation may not apply to you.

**EXCLUSIVE REMEDY FOR NONCONFORMITY:** if during the warranty period, the product does not conform to the preceding warranties, we will repair or replace the product at our option. We will use new and/or reconditioned parts in repairs or replacements. Following repair, the warranty will continue for the remaining portion of the warranty period. THIS IS THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY. To obtain warranty service, please return the product to the retailer where you purchased it.

- Do not leave the Ceramic Tip on the work piece for more than a few seconds at a time. Excess smoke may indicate that the flux in the solder is melting, which is a sign that the tip temperature is too high.
- When soldering electronic components with small pin-outs, it's easy to unintentionally bridge two or more different pins with the opposite halves of the Ceramic Tip. Not good! Doing so will cause a current discharge into the component and may damage it.
- Be sure that the Ceramic Tip is free of debris when not in use. The tip may inadvertently become hot or remain hot if a piece of metallic debris is lodged in the gap between the Ceramic Tip electrodes. If debris is lodged in the tip, shut the unit off and use a thin non-conductive material (such as a toothpick) to wedge the debris out of the tip.
- Turn the soldering tool OFF when not in use. The tool may inadvertently create heat if it is left in the ON position and conductive material becomes lodged between the Ceramic Tip electrodes. Also, extended use of the white light will diminish battery life.

**DISCLAIMER OF INCIDENTAL AND CONSEQUENTIAL DAMAGES:** IN NO EVENT SHALL COLDHEAT, ITS LICENSORS, AND/OR ITS MEMBERS, BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM NONDELIVERY OR FROM THE USE, MISUSE, OR INABILITY TO USE THE PRODUCT OR FROM DEFECTS IN THE PRODUCTS.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

With all that legal stuff out of the way, we hope that you will cheerfully enjoy your ColdHeat Cordless Soldering Pen forever and ever!

