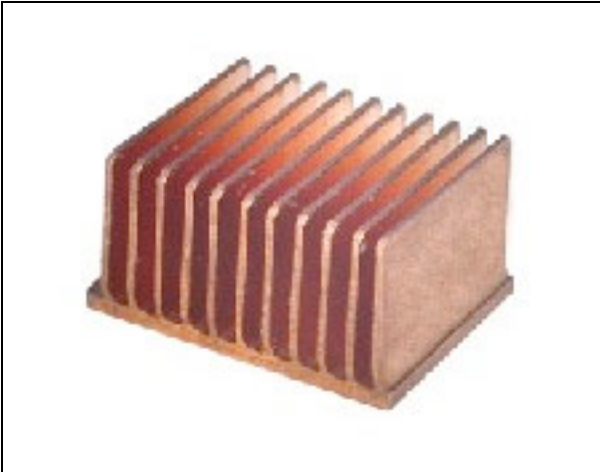


USE CASE 1: INSTALLING COPPER RAMSINKS

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(Figure 1: Copper Ramsinks for PC Computer)

Use Case 1: Successfully installing Copper Ramsinks on your computer.

Scope: Instructions for installing Ramsinks.

Level: User goal.

Preconditions: None.

Minimal Guarantee: Consumer has success if instructions are followed.

Success Guarantee: Consumer has purchased Ramsinks. The system has a log of the product selection and navigational moves, and characteristics of the consumer are noted. The consumer then is able to obtain instructions.

Primary Actor: Consumer.

Trigger: Needing instruction for installation on how to install Ramsinks.

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Main Success Scenario for End User:

1. Overview—

- a. It is easy to install Ramsinks.
- b. It takes 10 to 15 minutes for installation.
- c. It takes 24 hours for drying.
- d. Ramsinks keep your video card in your computer running cool.
- e. Follow these step-by-step instructions for an easy and successful installation of your Ramsinks (see Figure 1).

2. Warning—

- a. Any damage caused by installation of Ramsinks is at your own risk.
- b. Keep the protective package on all items until you are ready to install.
- c. Any part of the computer could be damaged by electrostatic discharge.
- d. Know where your slots are located, make sure Ramsinks are keyed properly and be sure Ramsinks match.
- e. ***Make sure Ramsinks are properly matched to your computer prior to installation.***
- f. *Do not* get adhesive on edges of Ramsinks.
- g. *Do not* coat mounting surface of Ramsinks with sealant.
- h. Thermal adhesive and compound adhesive mixture must be a 1:1 ratio, for good seal and conductivity.
- i. For easy removal of Ramsinks at a later time, see instructions online at www.pcramsinks.removal.com.

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3. Safety Precautions—

- a. **Do read** all instructions before doing installation.
- b. **Do work** in a static free environment.
- c. **Do work** in a well-ventilated area.
- d. **Do keep** the computer turned off at all times during installation.
- e. **Do keep** computer plugged in for safety for grounding.
- f. **Do wear** a 3M 2209 Disposable Wrist Strap during installation.
 - Wearing the Disposable Wrist Strap will *prevent damage* by electrostatic discharge.
- g. **Do touch** the unpainted metal part of your case, before touching any components or Ramsinks.
- h. **Do refer** to the manual when removing any parts.
- i. If you have any *questions*, call 1-(800) 444-HELP.
- j. Operators are on standby 24/7 to answer any questions.
- k. Product and installation information at www.pcramsinks.install.com.

4. Supplies and Tools in Kit Used for Installation (Included in Kit)—

- a. Video card
- b. Ramsinks (copper—see Figure 1)
- c. Nonmagnetic tip screwdriver
- d. Thermal adhesive
- e. Thermal compound
- f. Ten (10) to twenty (20) cotton swabs
- g. Five (5) pieces of 400 grit sandpaper and
- h. Five (5) pieces of 600 grit sandpaper
- i. Steel wool

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- j. Bottle of rubbing alcohol
- k. Three (3)-oz. can of Tarn Remover
- l. Spray can of sealant
- m. Masking tape (1/4-inch width)

5. Preparing Ramsinks and Surfaces—

- a. Clean copper on Ramsinks, using sandpaper or steel wool and Tarn Remover.
- b. For tin Ramsinks follow other instructions (see **Use Case 2**).
- c. Let Ramsinks dry thoroughly.
- d. Spray Ramsinks with sealant to seal, let dry.
- e. Make sure mounting surface is flat for proper fit.
- f. Use cotton swabs and apply rubbing alcohol to swab.
- g. Clean all surfaces thoroughly.
- h. Use masking tape on Ramsinks edges—do apply masking tape to edges.
- i. Mix thermal adhesive with compound adhesive at a (1:1 ratio).

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6. Installing Ramsinks—

- a. Apply a thin coat quickly of both the thermal and compound adhesive mixture to Ramsinks.
- b. Gently place Ramsinks in the slots in your computer.
- c. Let Ramsinks dry for one (1) hour, then carefully remove masking tape.
- d. Let Ramsinks dry for twenty-four (24) hours.
- e. After twenty-four (24) hours has passed, reinstall video card into your computer.
- f. The installation is now complete.
- g. Congratulations—you are finished!