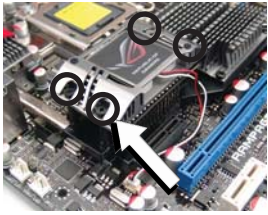


# 1 KOOLANCE MB-ASR2E, MB-PLTASR2E Install Guide v 1.0

NOTE: The MB-ASR2E and MB-PLTASR2E are designed for the ASUS Rampage II Extreme motherboard. The motherboard should be removed from the chassis in order to install this cooling device.

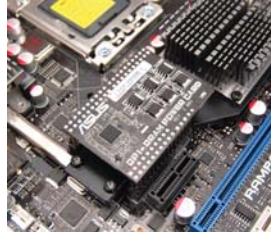
**CAUTION:** Removal of the original heat sink may void your manufacturer's hardware warranty. Please consult the manufacturer if unsure, and keep all original parts in case of a return/RMA.



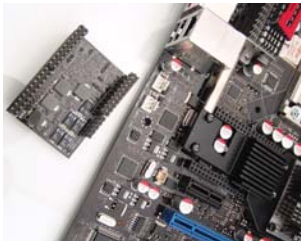
Begin removal of the original heat pipe assembly by unscrewing the small DRAM Power Card heat sink (there are 4 screws). Unplug the heat sink wire.

This will expose the DRAM Power Card, which also needs to be removed.

Carefully pull the DRAM Power Card straight up from the motherboard until the connection pins are freed.



The DRAM Power Card and heat sink will need to be reinstalled later.

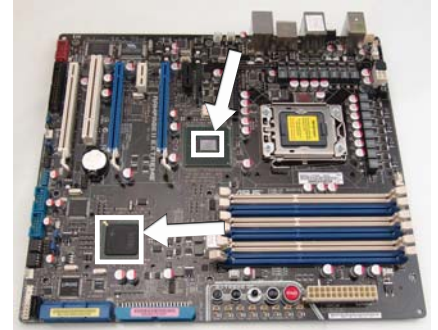


Remove all 10 spring-screws from the bottom side of the motherboard.

The top heat pipe assembly can now be **carefully** removed to expose the motherboard.

Original thermal paste may present additional resistance while removing the heat pipe assembly. After removal, wipe any residual thermal material from the main chipsets.

Thermal paste is only required on the northbridge and southbridge chipsets (indicated to the right).



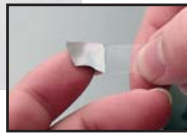
Thermal Paste Areas



Spread thermal compound on the chipsets thinly and evenly using the included paste packet, or a piece of thick paper (such as a business card). Thermal paste should not be placed on any smaller surrounding surface-soldered components.



The bottom side of the Koolance MB-ASR2E and MB-PLTASR2E have 2 areas that require the application of thermal pads (included).



Thermal pads have plastic film on one side that must be removed before application.



The MB-PLTASR2E heat transfer plate requires the attachment of a water block to the northbridge area. Possibilities include the Koolance CHC-120, CHC-122, CHC-125, or MVR-40 (not included).

There are various holes provided for installation. Some of the original water block's hardware will likely be needed to mount to the heat plate.

Before assembly, be sure to apply thermal compound in between the water block and MB-PLTASR2E heat transfer plate.



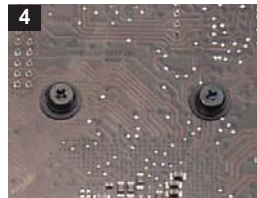
MB-PLTASR2E with Koolance CHC-122



MB-PLTASR2E with Koolance MVR-40



Place the Koolance MB-ASR2E or MB-PLTASR2E over the motherboard and replace all spring-screws on the reverse side of the board.

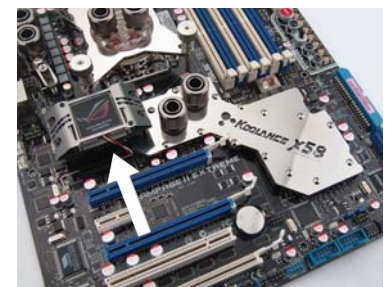


The original spring-screws can be utilized. Alternatively, use the included Koolance mounting screws and insulating washers.

Replace the DRAM Power Card and heat sink. The original 4 screws are used to secure it to the MB-PLTASR2E or MB-ASR2E. Plug the heat sink wire back into the motherboard.



Final installation of the MB-PLTASR2E



Final installation of the MB-ASR2E



**CAUTION:** The MB-PLTASR2E and MB-ASR2E cool the northbridge, southbridge, and nearby components. Removing the stock heat pipe assembly also exposes two voltage regulator areas (which must be cooled). In conjunction with this product, Koolance recommends the following for the ASUS Rampage II Extreme:

- 2 x Koolance MVR-40 water blocks
- 1 x Koolance MVR-PLTAS72 heat transfer plate
- 1 x Koolance MVR-PLT76 heat transfer plate