

Agilent Technologies
E8046A Interposer
for the Intel® Pentium® 4 Processor
in the 478-Pin Package

Interposer Installation Quick Start



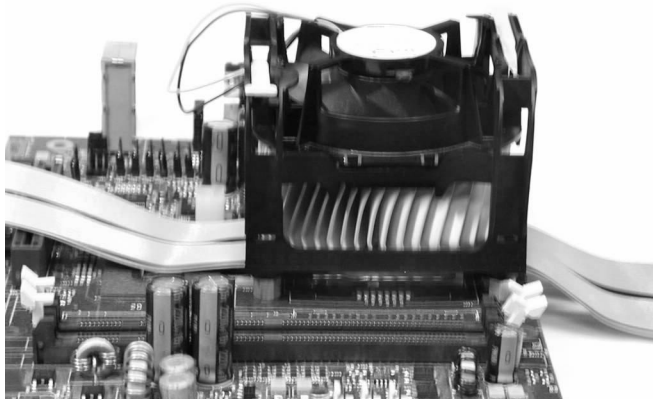
This guide shows you how to install the interposer between the microprocessor and the socket on the system board.

Installation requires access to the back of the motherboard.

This interposer can be installed using either of two general approaches, depending on the retention mechanisms. In either case, the goal is to raise the heat sink enough to allow room for the interposer.

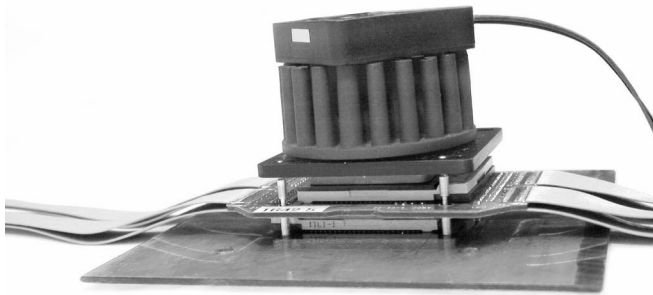
Desktop

Standoffs are added below the retention module brackets.



Mobile Chip Cooler

Longer mounting pins are installed.



Protecting the Interposer

Here is a summary of precautions to take to avoid damaging the interposer:

DO minimize the removal of the analysis probe cables, once they are connected to the interposer.

DO minimize the removal of the interposer, once it is connected to the microprocessor and target system.

DO exercise patience and care when working with the interposer.

DO use ESD precautions.

DO remove power from the target system and analysis probe before making attachments.

DO protect the pins from damage by covering them with the pin protector when the interposer is not in use.

DO NOT insert any kind of tool between the interposer and the microprocessor, except as described in this manual.

DO NOT kink the analysis probe cables.

DO NOT pull on or twist the cables which are attached to the interposer.

Installing the Interposer with a Desktop Retention Mechanism

1 Gather the required parts:

- E8046A interposer



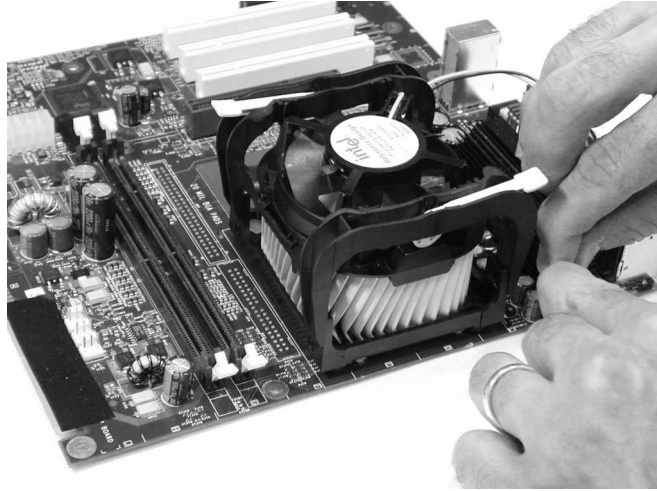
From the accessory kit supplied with the interposer:

- 4 metal standoffs
- 4 nylon washers
- 8 short metal screws
- Retention module frame
- 7/64 inch hex key

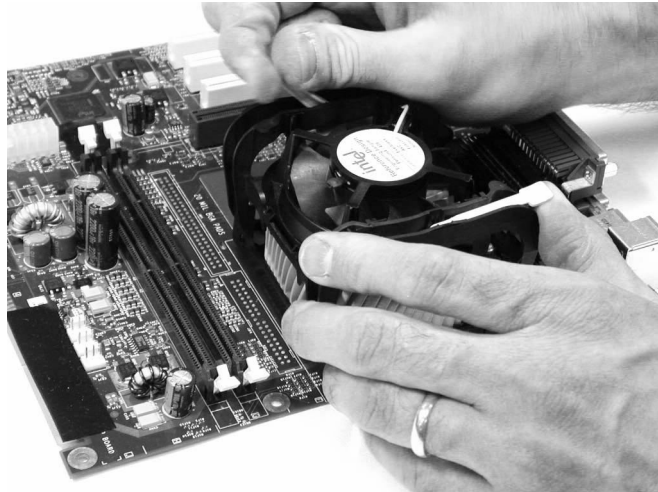


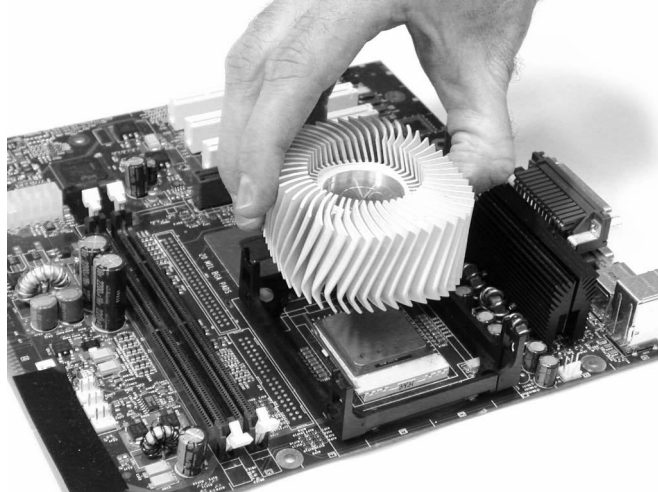
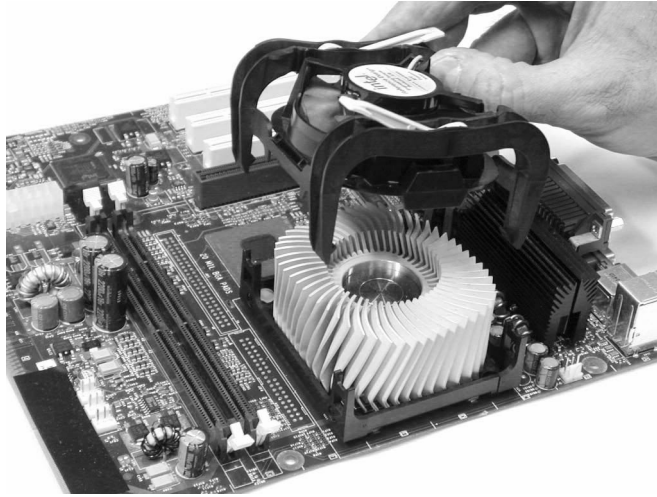
- Small flat blade screwdriver (you need to supply this)

2 Disconnect power from the fan.

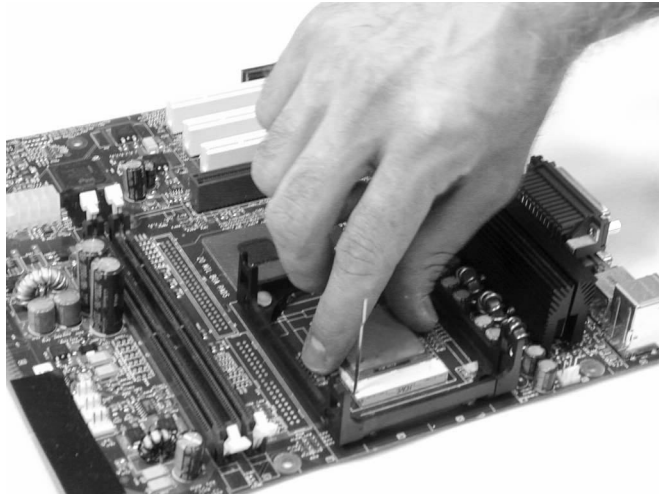


3 Remove the heatsink and fan from the microprocessor.

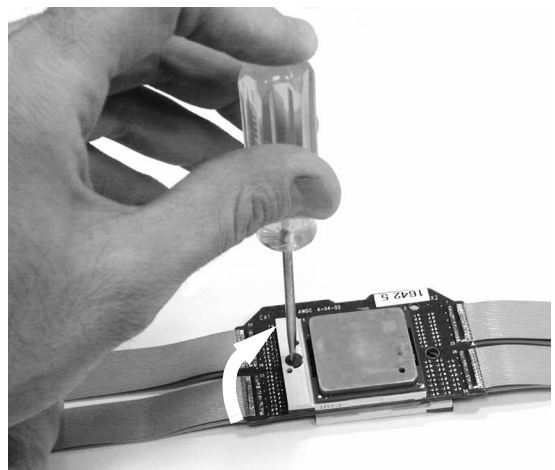
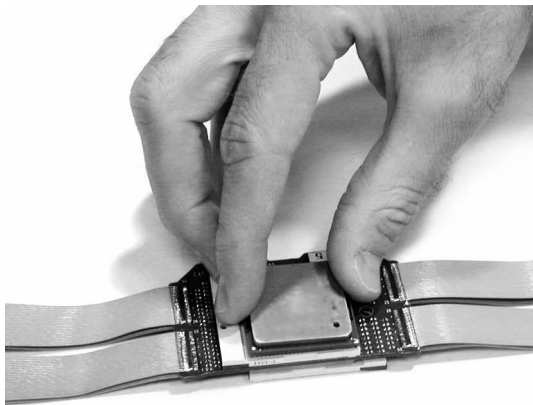




- 4 Check that the socket on the interposer is open.
- 5 Remove the microprocessor from the motherboard.



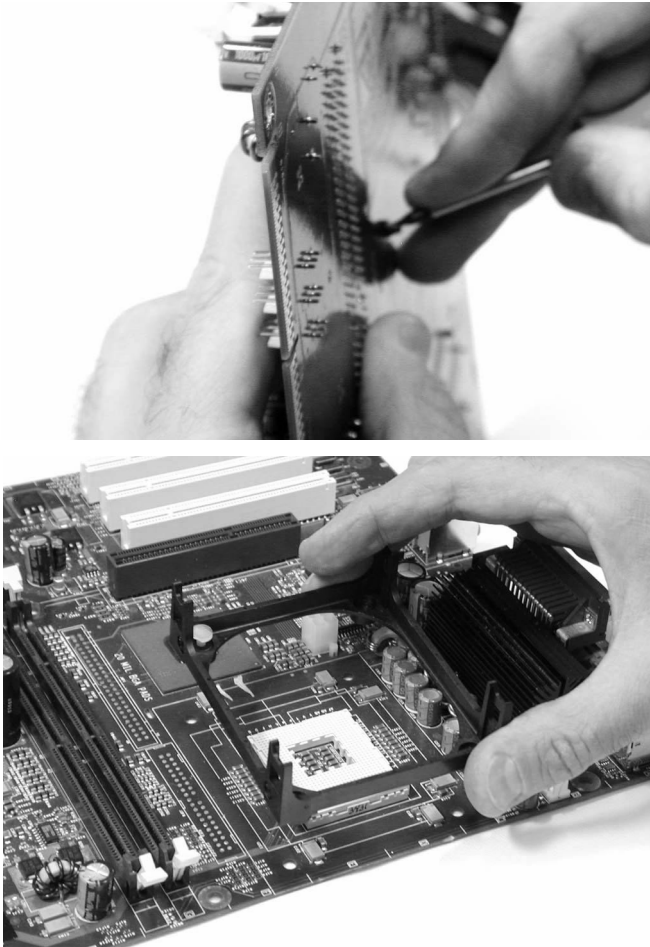
- 6 Align the processor over the socket on the interposer. Gently align the the processor with the socket until you feel the pins fall into the holes. Visually check that the bottom of the processor is flush with the top of the socket on the interposer, then close the socket.



CAUTION

Note that the orientation of the processor with respect to the interposer socket is opposite from the target system. A dot on the interposer indicates the position of pin A1.

- 7 Remove the retention module frame from the motherboard.



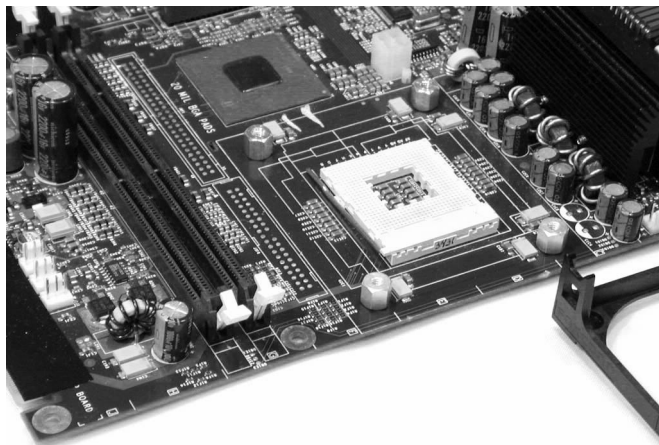
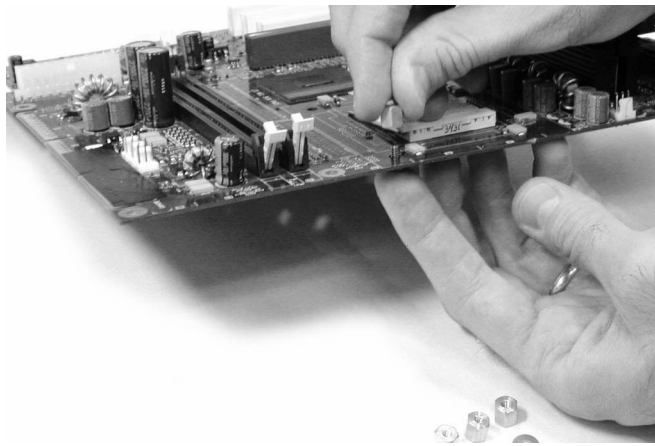
To remove the retention module and install the standoffs, you need to have access to the back side of the motherboard.

Put the fasteners and retention module aside in a safe place.

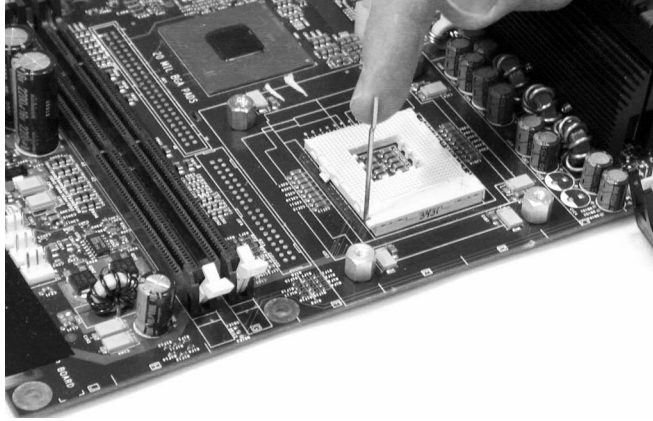
8 Install the standoffs on the motherboard.

- For desktop sockets, use the metal standoffs.
- For mobile sockets, use the nylon standoffs.

Use the supplied short metal screws and nylon washers, from the bottom side of the motherboard, to attach the standoffs.



9 Check that the socket on the motherboard is open.



10 Remove the pin protector from the interposer.

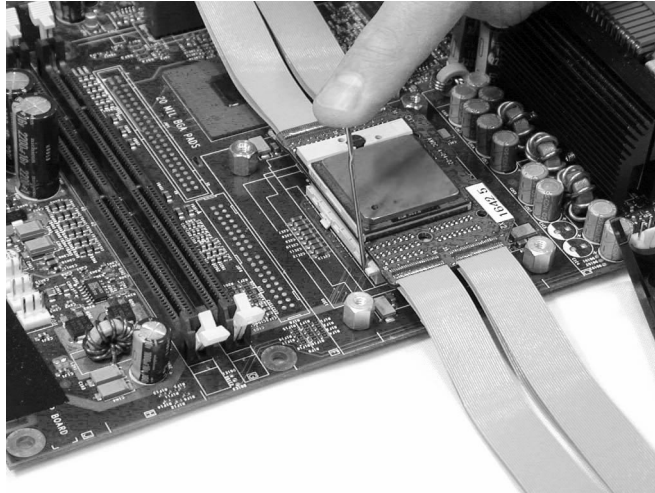
Keep the pin protector. You will need it to prevent damage to the interposer whenever the interposer is not plugged into the target system. The pin protector is an "off the shelf" mPGA478B socket.

11 Align the interposer over the socket on the target system.

Note how the socket on the interposer is rotated 180° relative to the socket on the target system.

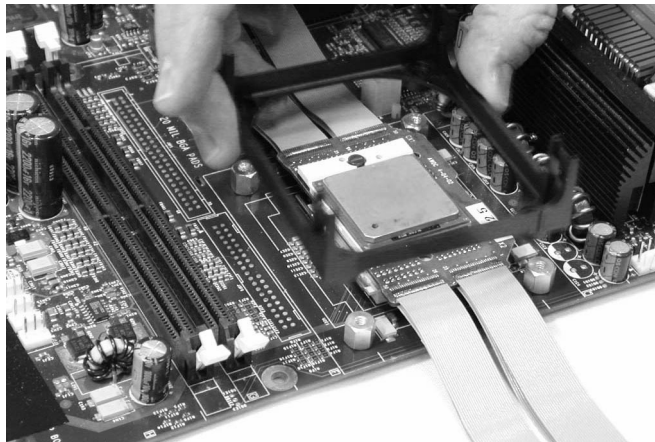
Gently align the assembly until you feel the pins fall into the holes of the socket.

12 Close the socket on the motherboard.

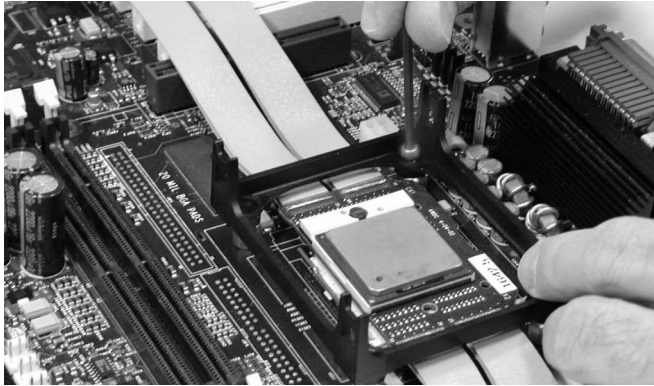


If necessary, use one hand to hold the interposer flat against the socket.

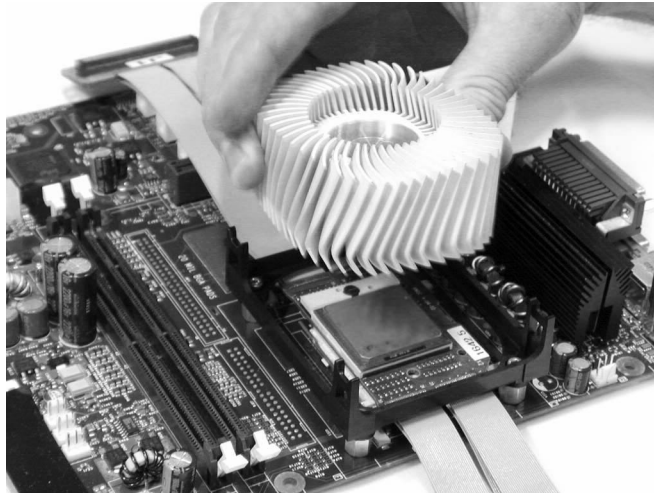
13 Install the supplied retention module, using the supplied short screws to secure it to the top of the standoffs.



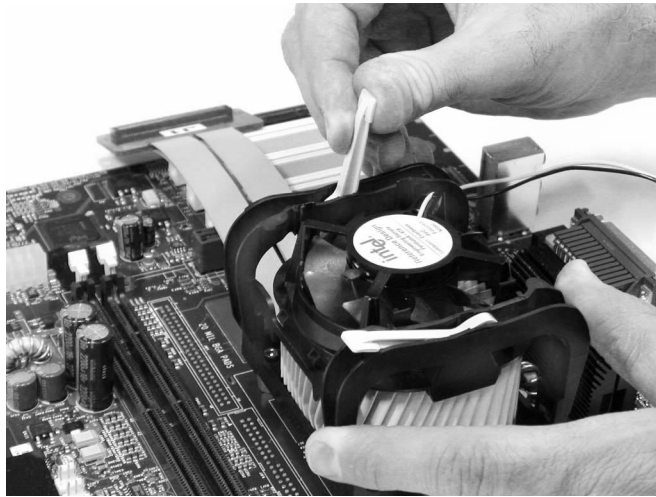
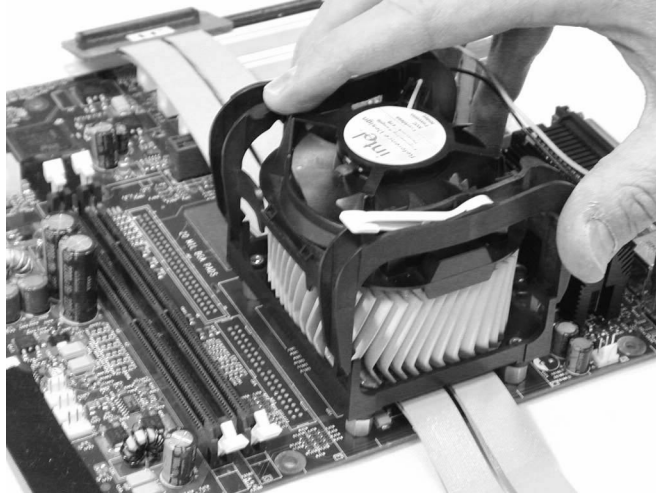
The interposer cables should pass under the retention module.



14 Reinstall the heatsink.



15 Reinstall the fan.



16 Reconnect power to the fan.



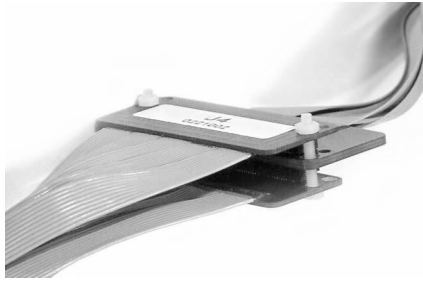
17 Connect the analysis probe cables to the interposer.

Refer to the labels on the interposer and on the cable paddles. Be careful to plug the cables straight in, without any rocking motion.



18 Optional: install the supplied nylon screws to keep

the paddles on the end of the analysis probe cables for additional retention.



19 Connect the analysis probe to the logic analyzer.

Connect the pod cables to the connectors on the analysis probe as shown on the back of the analysis probe.

Installing the Interposer with the Mobile Chip Cooler Retention Mechanism

1 Gather the required parts:

- E8046A interposer

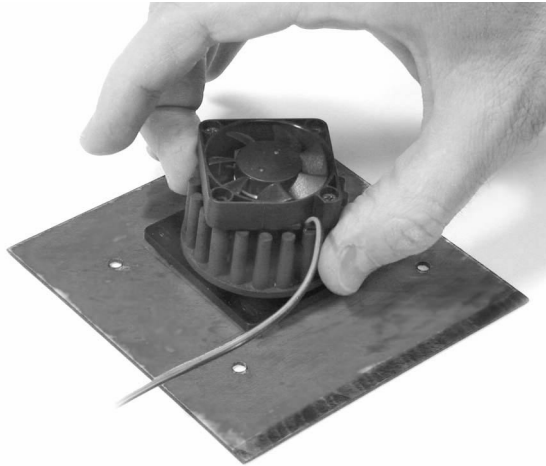


- 4 extended pins from the accessory kit supplied with the interposer



- Small flat blade screwdriver (you need to supply this)

2 Remove the heatsink and fan from the microprocessor.



3 Remove the bottom plate, with its 4 pins attached, from the back of the motherboard.

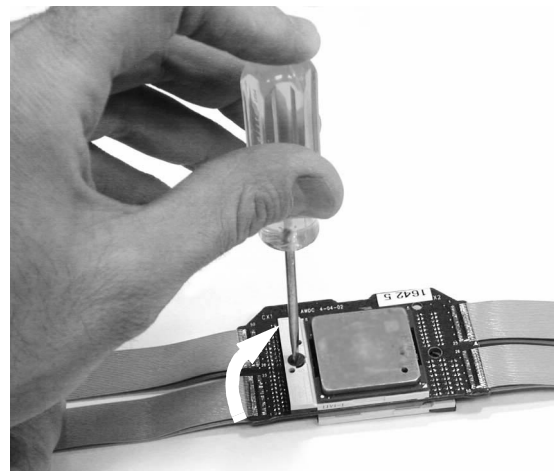
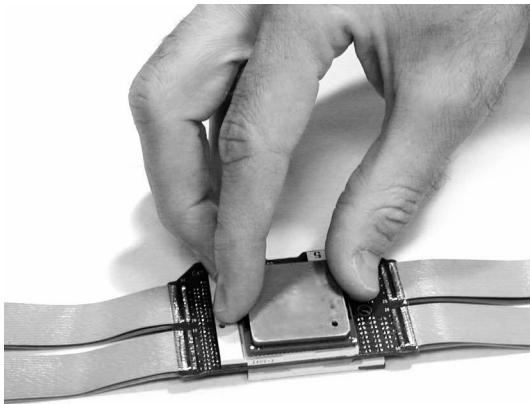
4 Remove the 4 pins from the bottom plate.

Store the original pins in a safe place. The pins supplied with the interposer may be used with or without an interposer installed.

5 Check that the socket on the interposer is open.

6 Remove the microprocessor from the motherboard.

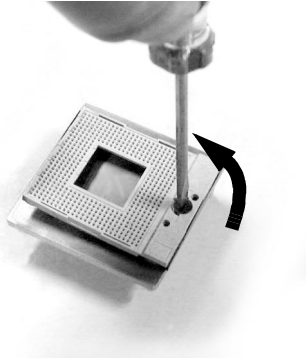
7 Align the processor over the socket on the interposer. Gently align the the processor with the socket until you feel the pins fall into the holes. Visually check that the bottom of the processor is flush with the top of the socket on the interposer, then close the socket.



CAUTION

Note that the orientation of the processor with respect to the interposer socket is opposite from the target system. A dot on the interposer indicates the position of pin A1.

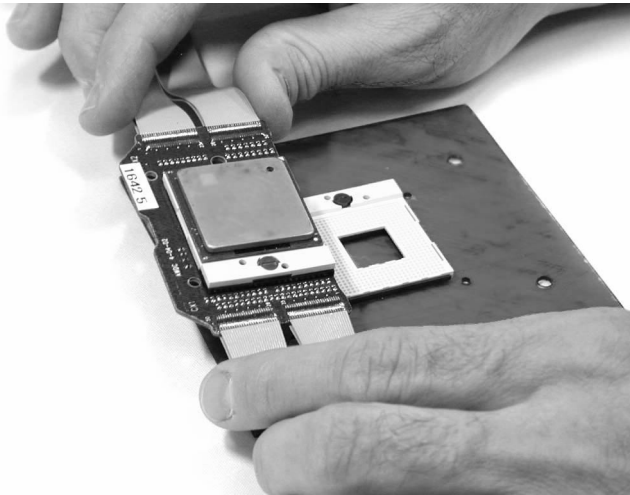
8 Check that the socket on the target system is open.



9 Remove the pin protector from the interposer.

Keep the pin protector. You will need it to prevent damage to the interposer whenever the interposer is not plugged into the target system. The pin protector is an "off the shelf" mPGA478B socket.

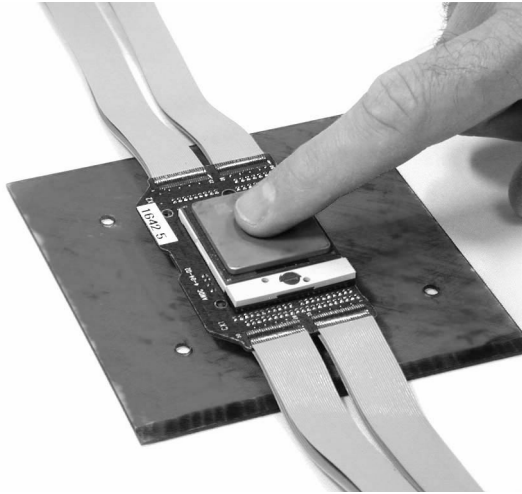
10 Align the interposer over the socket on the target system.



You may need to bend the cables of the interposer upward.

Note how the socket on the interposer is rotated 180° relative to the socket on the target system.

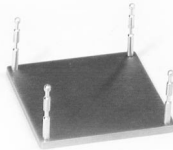
- 11** Gently align the assembly until you feel the pins fall into the holes of the socket on the motherboard.



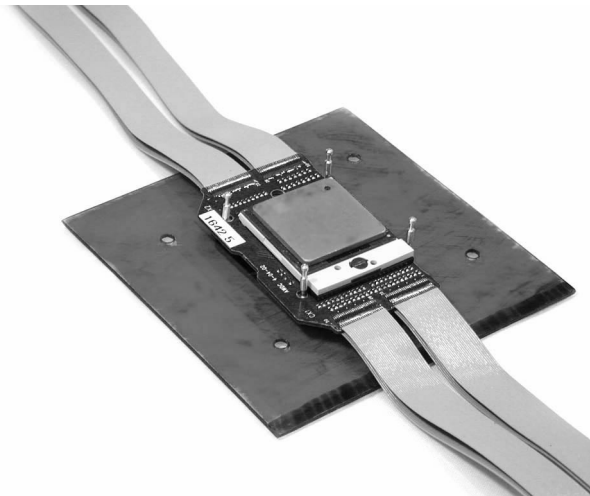
- 12** Close the the socket on the target system.

Insert a narrow, flat blade screw driver through the hole in the interposer.

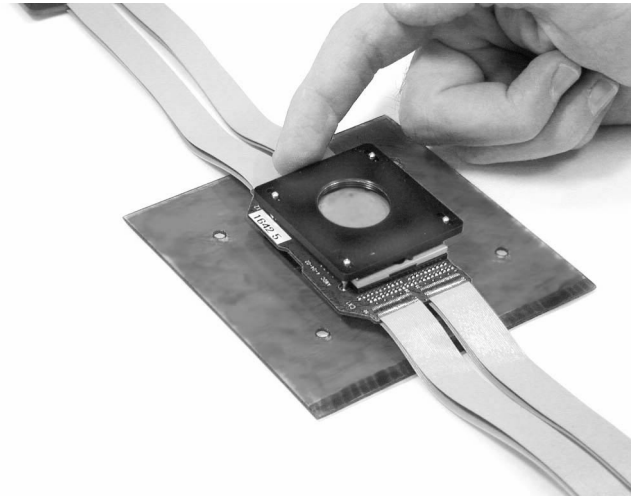
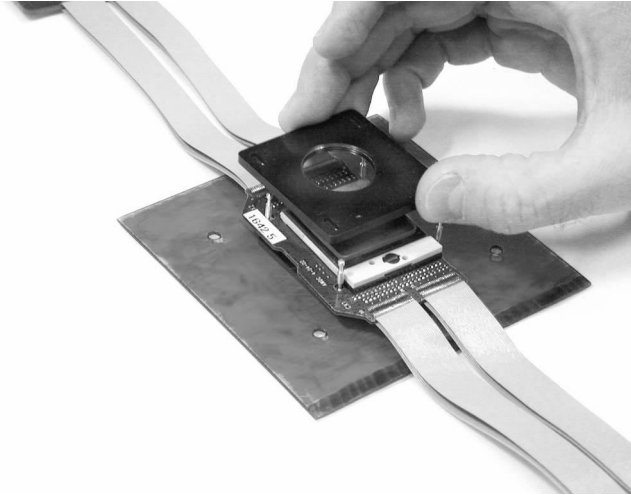
13 Install the supplied, long pins on the back plate.



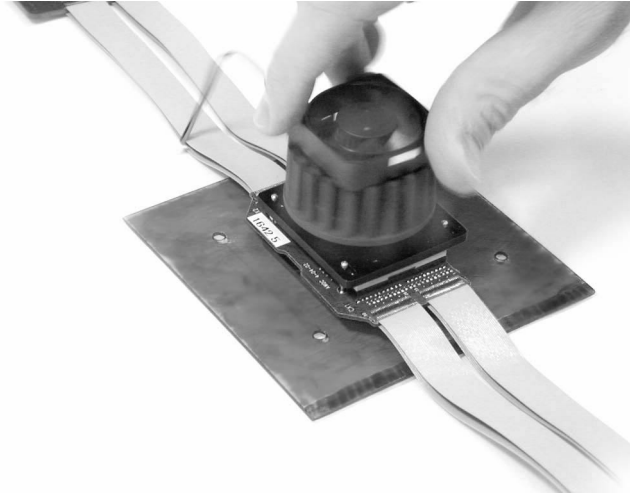
14 Install the back plate. The pins should pass through the back of the motherboard and through the interposer.



- 15** Align the top heatsink plate over the microprocessor and slide it to lock it in place.



16 Re-install the heatsink and fan.



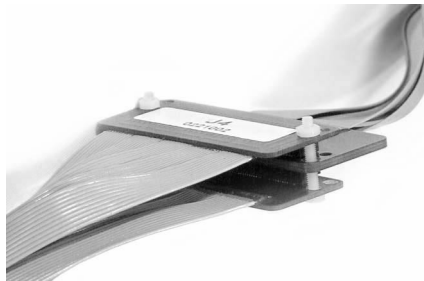
Tip: Rotate the top portion of the heatsink counterclockwise before installing it, then re-tighten the heatsink once it's on the interposer.

17 Connect the analysis probe cables to the interposer.

Refer to the labels on the interposer and on the cable paddles. Be careful to plug the cables straight in, without any rocking motion.



18 Optional: install the supplied nylon screws to keep the paddles on the end of the analysis probe cables for additional retention.



19 Connect the analysis probe to the logic analyzer.

Connect the pod cables to the connectors on the analysis probe as shown on the back of the analysis probe.

Safety Notices

This apparatus has been designed and tested in accordance with IEC Publication 1010, Safety Requirements for Measuring Apparatus, and has been supplied in a safe condition. This is a Safety Class I instrument (provided with terminal for protective earthing). Before applying power, verify that the correct safety precautions are taken (see the following warnings). In addition, note the external markings on the instrument that are described under "Safety Symbols."

Warnings

- Before turning on the instrument, you must connect the protective earth terminal of the instrument to the protective conductor of the (mains) power cord. The mains plug shall only be inserted in a socket outlet provided with a protective earth contact. You must not negate the protective action by using an extension cord (power cable) without a protective conductor (grounding). Grounding one conductor of a two-conductor outlet is not sufficient protection.
- Only fuses with the required rated current, voltage, and specified type (normal blow, time delay, etc.) should be used. Do not use repaired fuses or short-circuited fuseholders. To do so could cause a shock or fire hazard.
- If you energize this instrument by an auto transformer (for voltage reduction or mains isolation), the common terminal must be connected to the earth terminal of the power source.
- Whenever it is likely that the

ground protection is impaired, you must make the instrument inoperative and secure it against any unintended operation.

- Service instructions are for trained service personnel. To avoid dangerous electric shock, do not perform any service unless qualified to do so. Do not attempt internal service or adjustment unless another person, capable of rendering first aid and resuscitation, is present.
- Do not install substitute parts or perform any unauthorized modification to the instrument.
- Capacitors inside the instrument may retain a charge even if the instrument is disconnected from its source of supply.

- Do not operate the instrument in the presence of flammable gasses or fumes. Operation of any electrical instrument in such an environment constitutes a definite safety hazard.
- Do not use the instrument in a manner not specified by the manufacturer.

To clean the instrument

Do not attempt to clean this product.

Safety Symbols



Instruction manual symbol: the product is marked with this symbol when it is necessary for you to refer to the instruction manual in order to protect against damage to the product..



Hazardous voltage symbol.



Earth terminal symbol: Used to indicate a circuit common connected to grounded chassis.

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