

Intel Pentium® OverDrive® Processor

For Intel 486™ processor-based systems

Installation Manual



intel®

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Explanation of symbols used in this guide:



This symbol indicates a **NOTE**. Notes are items of special interest that pertain to the section or procedure you are reading. Notes typically clarify or augment the material in the text.



This symbol indicates a **CAUTION** or **WARNING**. These are operations or situations that may be harmful or dangerous to you or your equipment. All cautions and warnings should be read and observed.

Introduction

Congratulations on your purchase of a Pentium® OverDrive® processor!

The Pentium OverDrive processor for Intel486™ processor-based systems is a single chip processor upgrade for systems based on Intel486 SX, Intel486 SX2™, Intel486 DX, and Intel486 DX2™ processors, and makes all software run faster on existing systems.

Before You Begin...

This section provides instructions you should read before starting the Pentium OverDrive processor installation.

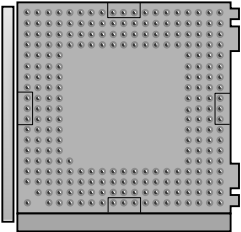
On most computers, installing the Pentium OverDrive processor is simple if you carefully follow the directions in your computer owner's manual and in this manual. Before starting the installation process, we recommend you take a few moments to:

- familiarize yourself with the appearance of your system's layout.
- read through the entire *Installation* section of this manual to fully understand the process.

Your System's Layout

If you have not previously viewed your system's layout, at this point you may wish to unplug your system, remove the cover and familiarize yourself with the appearance of your system's components before continuing. Look for:

- the general appearance of your motherboard (the large board in the bottom of your computer to which all other components are attached). Are there cards or cables near or attached to your motherboard?
- the layout of any components or empty sockets. Do the sockets have handles?
- the size of any components or empty sockets. You **must** have a socket large enough to fit the Pentium OverDrive processor. In order to install the Pentium OverDrive processor, you must have a 237 or 238 pin socket. See page 10 for details.



Your system must have a 237 or 238-pin socket

Step 1 - Install the diskette software and view the animated demo.

Intel includes a Demonstration and Diagnostics Diskette with your Pentium OverDrive processor. The diskette contains two portions:

- a *demonstration* to guide you through the Pentium OverDrive processor installation procedure.
- *diagnostics* to test your Pentium OverDrive processor for proper installation and operation.

To view the demo, your computer must be equipped with a VGA video board and monitor, and you need to install the diskette software on your system.



Installing the software program to view the demo also places the diagnostic utilities on your hard disk. Intel provides you with a utility to remove the diskette software from your hard disk once you have completed your Pentium OverDrive processor installation and diagnostics. For more information on this utility or on the diagnostic software, see the section Demonstration and Diagnostics Diskette.

Installing the Diskette Software

You can use DOS* or Windows* to install the software on the diskette. The full set of utilities takes 1.1 MB on your hard disk if you install it using DOS and 1.2 MB if you install it using Windows. If you install the software from DOS, you are asked if you wish to approve modification of the AUTOEXEC.BAT file. Intel recommends that you choose OK.

The installation program also asks you if you wish to only install the Fan Monitor portion of the diagnostic software. If you want to install the fan test software to your hard drive but do not desire the demonstration or post-install diagnostics, choose this option.

To install the software on your hard disk, insert the diskette in drive A and:

For DOS users type: `a:\install e`

For OS/2* or Windows NT* users type from a DOS prompt: `a:\install e`

For Windows users: In the Program Manager, select: **FILE** and then select: **RUN**

On the Command Line, type: `a:setup` and click **OK**

For Windows 95 users: From the task bar, select **Start**
From the Start menu, select **Run**
and at the prompt type:
`\SETUP`

To begin the demonstration after installing the software:

For DOS users: Go to the odp_util directory and type: `overdriv e`

For Windows NT users : Go to the odp_util directory and type from a full-screen DOS prompt: `overdriv e`

For Windows users: Double click the icon “**OverDrive® Processor Demo/Diagnostics**”

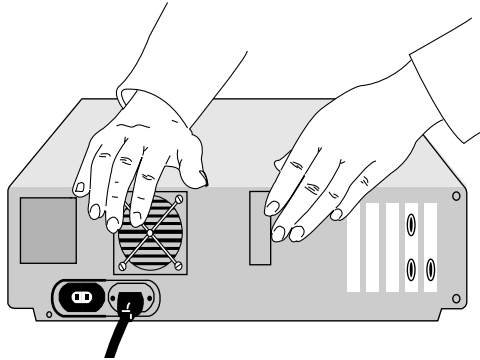
For OS/2 users: Ensure that the following line appears in your config.sys file:
`VME=NO`
Ensure that the settings for your DOS full-screen command prompt includes the following:
HW_TIMER set to **ON**
From a full-screen DOS prompt type: `overdriv e`

For Windows 95 users: Press `e` or click **OK**

When the Main Menu appears, select "Installation Demonstration." If installation sounds complicated after viewing the installation demo and after reading through the installation sections of this manual, have a qualified technician install the Pentium OverDrive processor for you.

Step 2- Ground yourself, then unplug computer and remove cover.

To prevent damage from static discharge to the Pentium OverDrive processor and to your computer, touch the metal back or side panel of your computer's system unit to ground yourself. Then, turn off the computer and any attached equipment (such as a printer), unplug the power cord, and remove the cover from the computer.



Warning: Danger to Equipment! The Pentium OverDrive processor can be damaged by static discharge. Be sure to ground yourself before handling the Pentium OverDrive processor by touching the metal on your computer. Limiting your movements during installation reduces static electricity.



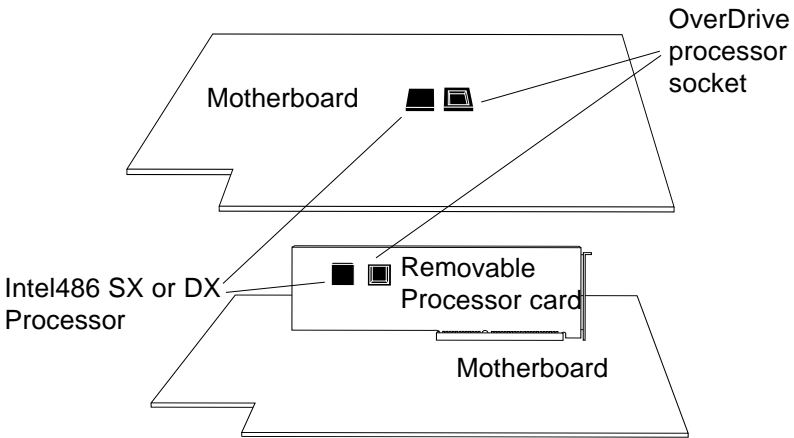
If installation sounds risky, have a qualified technician install the Pentium OverDrive processor. If you make a mistake, you could damage the Pentium OverDrive processor, damage your computer, or injure yourself. If you install it yourself, follow these instructions exactly.

Step 3 - Find the socket in which you will install the Pentium OverDrive processor.

The socket in which you install your Pentium OverDrive processor may be on your motherboard or removable processor card, and is near the Intel486 processor. If there is no specific Pentium OverDrive processor socket, you must remove the original processor and install the Pentium OverDrive processor in that socket.



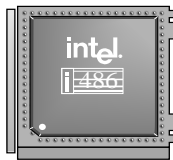
If your system contains an Intel487™ SX math coprocessor, you must remove that component and install the Pentium OverDrive processor in that socket.



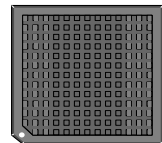
The processor can appear in various forms. Your computer may have a surface-mounted processor or a socketed processor, and the processor may have a heat sink attached. However, the dimensions of the original processor are similar to those of the Pentium OverDrive processor. Your computer owner's manual may contain location information for the processor. If you cannot locate the processor, contact your dealer or your computer manufacturer for assistance.



Surface-mounted Processor



Socketed Processor



Processor with heat sink attached

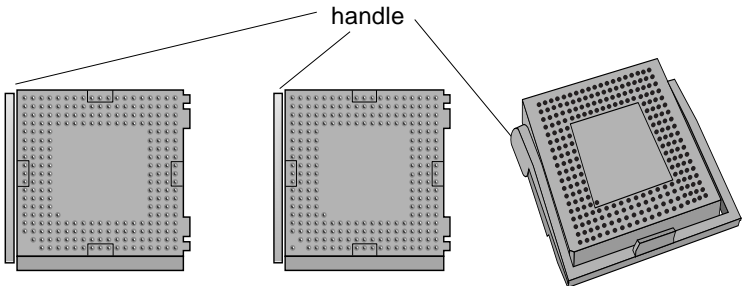
Once you locate the processor, look in the immediate area to determine whether or not your system has an empty socket specifically dedicated for the Pentium OverDrive processor.

A Quick Word About Socket Types

There are several types of Pentium OverDrive processor sockets. You must determine which socket type you have in order to successfully insert your Pentium OverDrive processor.

Two common variations are the Zero Insertion Force (ZIF) socket and Low Insertion Force (LIF) socket.

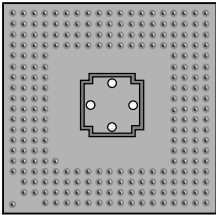
As the illustration shows, you can identify a ZIF socket type by the handle which locks/unlocks to allow placement of the Pentium OverDrive processor.



Typical Sockets With Handle (ZIF Sockets)

Note variations in pin hole layout

LIF sockets do not have a handle, as shown.

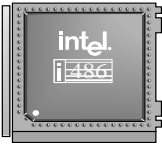


Typical Socket Without Handle (LIF Socket)

Match your computer's socket layout to one shown in the chart, then proceed to the indicated step in this manual.

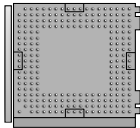
Possible System Layouts

No empty Pentium OverDrive processor socket—go to Step 4.



Remove the Intel486 processor and install the Pentium OverDrive processor in the Intel486 processor socket. **If the Intel486 processor is not surrounded by an empty row of pins, you cannot install the Pentium OverDrive processor.**

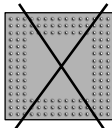
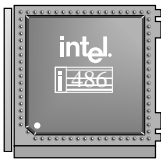
Empty socket beside Intel486 processor—go to Step 5.



19 pinholes
per side

If the empty socket does not contain 237 or 238 pinholes (19 pinholes per side), you cannot install the Pentium OverDrive processor.

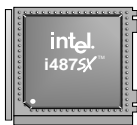
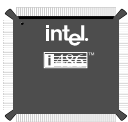
Empty Weitek socket beside Intel486 processor—go to Step 4.



15 pinholes
per side

Not an OverDrive processor socket! For Weitek coprocessors only! Remove the Intel486 processor and install the Pentium OverDrive processor in the Intel486 processor socket. If the Intel486 processor is not surrounded by an empty row of pins, you cannot install the Pentium OverDrive processor.

Pentium OverDrive processor socket with Intel487 SX math coprocessor installed—go to Step 4. (Intel486 SX processor systems only)



Remove the Intel487 SX math coprocessor and install the Pentium OverDrive processor in the Intel487 processor socket. **If the math coprocessor is not surrounded by an empty row of pins, you cannot install the Pentium OverDrive processor.**

Surface-mounted processor only—not compatible!

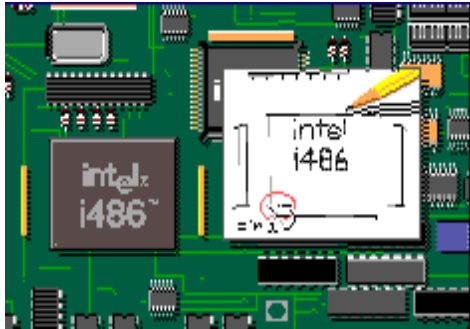


If your processor is soldered to the motherboard in a surface mount, and you do not have a separate 237 or 238 pinhole Pentium OverDrive socket, **you cannot install the Pentium OverDrive processor. Do not attempt to remove the original processor!**

Step 4- For computers without an empty Pentium OverDrive processor socket only. Remove the existing processor from the socket.

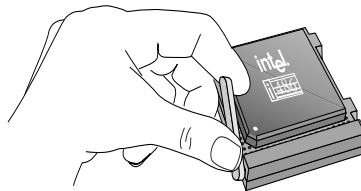
Before removing the processor, make note of how its notched corner is oriented in the socket (make a sketch, if necessary). You need to install the Pentium OverDrive processor with exactly the same orientation.

Make a sketch to help recall how the original processor is oriented.



Removing the processor from a socket with a handle

If the processor is in a socket with a handle, open the socket by moving the handle completely to a 90° upright position. Be sure the socket is completely open.



Be sure the socket handle is completely open.

Very little force is required to open the socket handle. **Do not use excessive force.** Your computer's motherboard should not bend while opening the socket. Once the socket is open, remove the processor.

Removing the processor from a socket with no handle

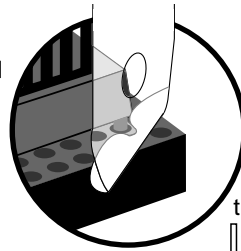
Find the chip removal tool in the Pentium OverDrive processor package. The tool resembles a tiny garden rake with a notch in the end of the handle.



Removal tool

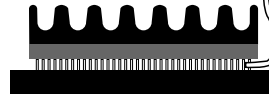
Place the notch at a corner of the processor and insert between the processor and socket. Rock the handle from side to side to lift the corner slightly. Once a small gap appears between the chip and socket, move to the next corner.

1. Loosen each corner of the processor by carefully inserting the notched handle of the removal tool between the bottom side of the processor and its socket as shown. Rock the handle from side to side to loosen the processor.

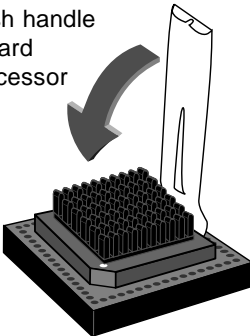


Fit the rake tines between processor pins

Heatsink _____
Processor (gray layer) _____
Socket (white, black or blue) _____



Push handle toward processor



2. Continue until all the corners are loose and you can insert the rake part of the tool along the side of the processor, between processor and socket. Be sure to push the handle toward the processor. Do not push the handle away from the processor.

Push inward on the processor removal tool's handle to gently ease the processor from its socket. **Gradually loosen one side at a time. Loosen all four sides evenly** and remove the processor. Be sure to push the handle towards the chip as shown.

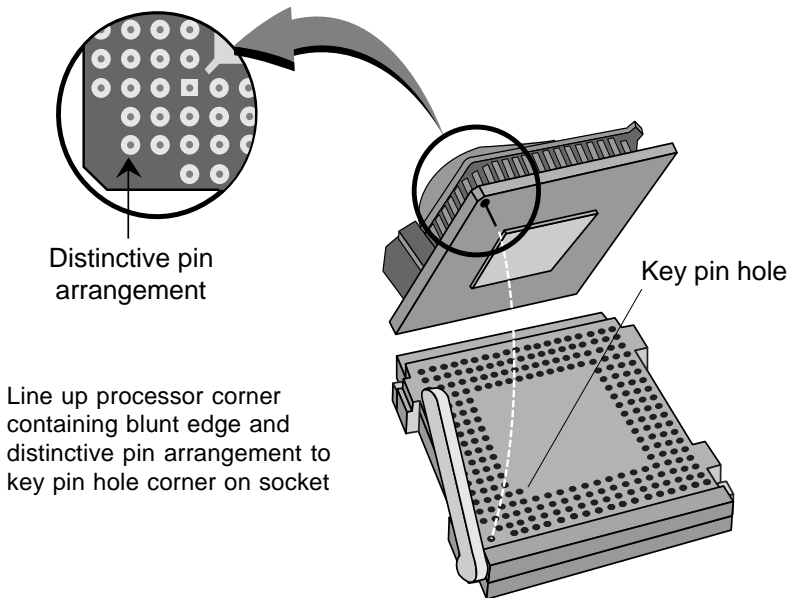
Now proceed to Step 5.

Step 5- Orient and insert the Pentium OverDrive processor.

Correctly orienting your Pentium OverDrive processor in the socket is crucial to the success of your installation. Note that failure to correctly align your Pentium OverDrive processor may result in damage to the chip or your system. Before inserting the Pentium OverDrive processor into the socket, take a moment to read through this step.

Regardless of your system layout and the socket type, there are clues to help you correctly orient your Pentium OverDrive processor in the socket. If you removed a processor in order to install the Pentium OverDrive processor, you can refer to the sketch you made in Step 4 for the correct orientation.

Some sockets contain a key pin hole, an additional hole in one corner of the inside pin hole row. The key pin hole corner serves as a landmark for you to match the corresponding corner of the Pentium OverDrive processor which contains a blunt edge and different pin arrangement as shown.

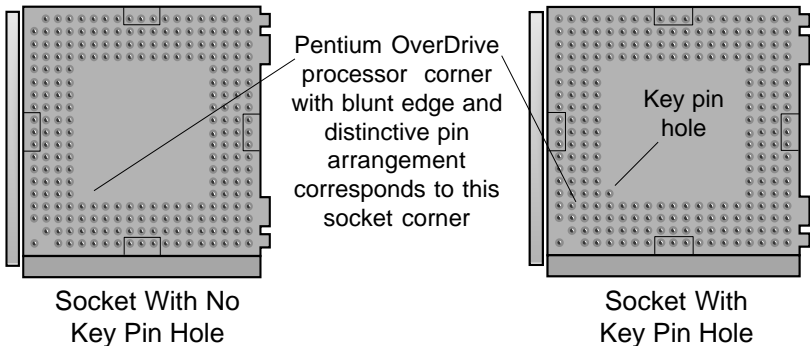


Aligning Pentium OverDrive Processor in Socket with Key Pin Hole

If your Pentium OverDrive processor socket does not have a key pin hole corner, you must look for other alignment clues. Carefully inspect the socket and the area around it. Some visual clues you may see include:

- a blunt edge on either an inside or outside corner of the socket
- a blunt edge in a silkscreened socket outline on the motherboard
- a socket corner which is a different shade or contains a mark not found on any of the other socket corners
- a mark which is silkscreened on the motherboard by one socket corner
- an extra pin hole on the outside pin hole row
- a corner with a pin hole arrangement different from the other socket corners
- a socket corner labeled “A1” or “Pin 1” on the motherboard or socket

You must match the corner of the Pentium OverDrive processor which contains the blunt edge and distinctive pin arrangement with this corner of the socket.

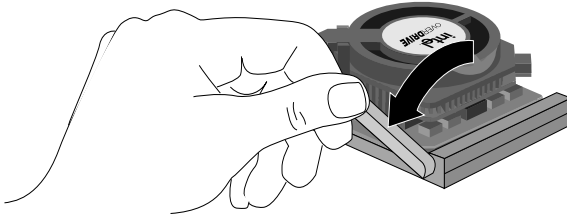


Seating Your Pentium OverDrive Processor

In a socket with a handle:

If your socket has a handle, make sure the handle is completely open by moving it up to a 90° angle. Place the Pentium OverDrive processor into the socket, making sure to match the processor corner with the blunt edge and distinctive pin arrangement to the socket corner containing the key pin hole.

If you removed a processor from the socket in a prior step, refer to the sketch you made in Step 4 for proper orientation of the Pentium OverDrive processor. No force is required for the pins to fit into the pin holes. Close the socket by moving the handle down. Very little force is required to close the socket lever. Do not use excessive force. Your computer's system board should **NOT** bend under the pressure.

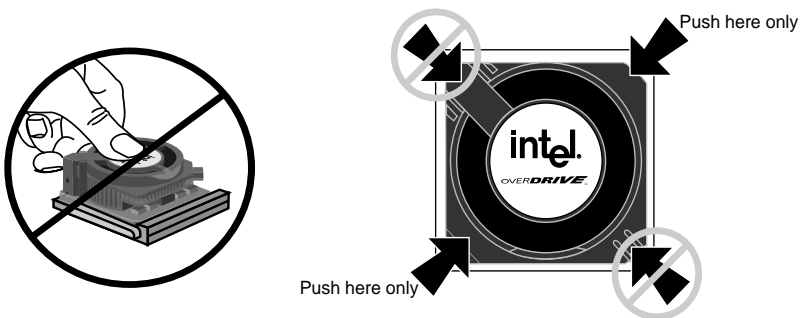


Push handle to lock

In a socket with no handle:

Place the Pentium OverDrive processor into the socket, making sure to match the corner with the blunt edge and distinctive pin arrangement to the socket corner containing the key pin hole. If your socket does not have a key pin hole corner, refer to the sketch you made in Step 4 to orient the Pentium OverDrive processor correctly.

Seat the Pentium OverDrive processor in the socket by pressing firmly and evenly on the key pin corner and the opposite corner at the same time. Be sure to avoid pressing on the center of the fan and on the corners containing the release clips and assembly connector.



DO NOT apply pressure to the center of the fan or corners containing release clips and contact pins.

Ensure that the motherboard in your system has sufficient support to allow you to apply the pressure necessary to seat your Pentium OverDrive processor. It is important that you do not bend the motherboard during the seating process. If necessary, you can place reinforcement such as a pad of paper underneath the socket area. Be sure to remove the reinforcement before turning your computer back on.

As you press firmly, you should be able to feel the Pentium OverDrive processor slide into place. When the Pentium OverDrive processor is fully inserted, the pins are barely visible, and there is a slight gap between the Pentium OverDrive processor and the socket. The gap should be even around each side of the Pentium OverDrive processor, and about the same thickness as the chip removal tool.

If you have difficulty in seating the Pentium OverDrive processor, you may find it necessary to remove the processor fan in order to apply pressure to the center of the chip. For information on removing and replacing the fan, refer to the section *Troubleshooting*, page 27.



Your computer's system board should not bend under the insertion pressure. If it bends more than slightly, or if you have difficulty in correctly seating the Pentium OverDrive processor, see your dealer for assistance or refer to the section Getting Help, page 28.

Proceed to Step 6.

Step 6 - Set jumpers or switches, if required.

You may need to set switches, move or install jumpers or both on your computer's motherboard or removable card to let the computer know you've added the Pentium OverDrive processor. See your computer owner's manual for more information. If your manual does not have a configuration section for the Pentium OverDrive processor, contact your computer manufacturer's technical support group.



In most cases, if you have correctly oriented the Pentium OverDrive processor, starting your computer does not damage the processor or your computer even if jumper or switch changes are required—the system simply does not function correctly.

Once you have configured your computer, proceed to Step 7.

Step 7 - Start your computer and run the computer's setup program.

Put the cover back on the system unit. Reconnect all the cables and cords, and plug the power cord into the wall outlet.

Turn on your computer. If your computer requires it, run the computer's setup or configuration program. Refer to your computer owner's manual.

If you have problems with your computer after installing the Pentium OverDrive processor, turn to *Troubleshooting*.

Now you are ready to test the Pentium OverDrive processor. Proceed to Step 8.

Step 8 - Test the Pentium OverDrive processor installation.

You can test your installation by either running a software program you use frequently and experiencing the increased performance, or by using the diagnostics on the diskette included in your Pentium OverDrive processor package. If you installed the diskette software to view the animated demo prior to this step, you do not need to reinstall the software at this time. To use the diagnostics:

For DOS users

Go to the odp_util directory and type:
overdriv e

For Windows NT users

Go to the odp_util directory and type from a full-screen DOS prompt:
overdriv e

For Windows users:

Double click the icon “**OverDrive® Processor Demo/Diagnostics**”

For OS/2, OS/2 WARP users:

Ensure that the following line appears in your config.sys file:
VME=NO

For more information, refer to *Troubleshooting* section, p. 26.

Ensure that the following line appears in your config.sys file:
VME=NO

Ensure that the settings for your DOS full-screen command prompt includes the following:
HW_TIMER set to **ON**

From a full-screen DOS prompt type:
overdriv e

For Windows 95 users:

Press **e** or click **OK**

When the Main Menu appears, select “Intel OverDrive® Processor Diagnostics.” If the diagnostic utilities program tells you the Pentium OverDrive processor is not operating correctly or if you do not obtain any performance increase, see the *Troubleshooting* section to determine possible problems. If you cannot troubleshoot the problem, contact your dealer for assistance. If you require further assistance, see the *Getting Help* section.

Your Intel Pentium OverDrive processor installation is complete.

Demonstration and Diagnostics Diskette

Intel includes a Demonstration and Diagnostics diskette with your Pentium OverDrive processor. The diskette contains two portions:

- a *demonstration* to guide you through the Pentium OverDrive processor installation procedure. In order for you to view the installation demonstration, your computer must be equipped with a VGA video board and monitor.
- *diagnostics* to test your Pentium OverDrive processor for proper installation and operation. For an overview of the diagnostics, refer to the *Troubleshooting* section, page 20.

For information on how to install the diskette software, refer to page 6.



The installation program also asks you if you wish to only install the Fan Monitor portion of the diagnostic software. If you want to install the fan test software to your hard drive but do not desire the demonstration or post-install diagnostics, choose this option.

Removing the Software Files From Your Hard Disk

Once you have installed and tested the Pentium OverDrive processor, you can delete the demonstration and post-install diagnostic software from your hard disk. To remove the software, follow these instructions:

For DOS users: Go to the ODP_UTIL directory and type:
uninstal e

For Windows users: In the Program Manager, select:
FILE
and then select:
RUN
On the Command Line type:
c:\odp_util\uninstal
and click **OK**



This removal program does not delete the Fan Monitor software. Intel strongly recommends you keep the Fan Monitor software resident on your system.

Troubleshooting

This section contains the following information:

- describes and explains the diagnostic utilities included on the diskette in your installation package
- contains a checklist to help you find solutions to problems you may encounter while installing your Pentium OverDrive processor
- provides a process for removing the Pentium OverDrive processor fan

Diagnostics Overview

The diagnostic software on the diskette allows you to test the Pentium OverDrive processor for proper operation at the time of installation. In addition, fan monitor software provides ongoing assurance that your Pentium OverDrive processor fan is functioning normally.

Testing the Installation

This list describes the diagnostics that you use to test your installation:

| | |
|----------------------------|---|
| Processor Instruction | Tests various processor functions to see if they are working properly. |
| Floating Point Conformance | Tests processor's floating point unit by comparing the value of floating point calculations with an established standard. |
| Processor Information | Compares processor speed and features "before" and "after" Pentium OverDrive processor installation. |
| Fan Status | Checks to see that the fan on your Pentium OverDrive processor is operating properly. |

Resident Diagnostics

The Fan Monitor software determines if your Pentium OverDrive processor fan is operating correctly.

If you prefer to run the software from DOS, you can run the Fan Monitor diagnostic executable file by typing the following command at the DOS prompt in the directory in which the fan monitor software is located:

C\>: fanmonit e

The program then tests the fan's operation. If the fan is functioning correctly, the following messages appear on the screen:

Pentium® OverDrive® processor detected!!

The fan on your Pentium OverDrive processor is operating properly.

If you choose to run the Fan Monitor software from Windows, the software runs continuously in the background. The software checks the fan every 60 seconds and does not affect system performance. Note that after installation, no initial messages appear, but you can view any messages by double clicking on the Fan Monitor icon.

The Fan Monitor icon automatically minimizes and appears in the lower corner of your screen after startup. The Fan Monitor icon shows that the fan is operating correctly. If a problem develops, the icon changes as shown and a message box appears on your screen.



Icon indicates fan is functioning



Icon indicates fan is not functioning

If you receive a warning or notice that the fan is not functioning correctly, first check to ensure there are no obvious problems with the fan installation, for example:

- a cable or other piece of hardware is blocking the airflow
- the fan is not making good connection or fully seated
- there is visible dirt or dust inhibiting airflow

Once you determine that the fan is not working correctly, call Intel Customer Support for a possible return and/or replacement. For more information, see the *Getting Help* section, page 28.

As you troubleshoot any problems with the Pentium OverDrive processor fan, you may need to remove it in order to reseal the connection with the processor or to return or replace it. For more information on removing the fan, refer to page 27.

Troubleshooting Checklist

Read through the symptoms below. If you find one that resembles the problem you're having, try the corresponding possible solutions.

The computer doesn't power on when you turn on the switch, or the operating system prompt doesn't appear on the screen. Be sure:

- The power cord is plugged into the wall outlet.
- The cables and cords are attached correctly.
- Any boards or cards you removed are reinstalled properly.
- If you have installed the Pentium OverDrive processor in a socket with no handle, is the chip fully inserted? Use the removal tool as a measuring device to check the distance between the processor and the socket. The removal tool should barely fit. Check all four sides to ensure the processor is inserted evenly.
- The Pentium OverDrive processor and the socket are correctly aligned.

Your computer boots and runs normally. However, the Pentium OverDrive processor fails the diagnostic test.

- Did you set the jumpers or system switches correctly, as described in your computer owner's manual?
- Your computer may need an updated control program (BIOS). Contact the technical support department at your computer vendor or dealer for BIOS information.

Your application programs don't run any faster with the Pentium OverDrive processor installed.

- Did you set the jumpers or system switches correctly, as described in your computer owner's manual?
- Does your computer require you to run its setup program? Check your computer owner's manual or contact your dealer to verify.
- Is the fan for your Pentium OverDrive processor functioning? If you installed the software using Windows, check the Fan Monitor icon to ensure the fan is functioning correctly. If you chose a DOS installation for this software, invoke the Fan Monitor utility to determine if the fan is functioning. For more details on the Fan Monitor software, refer to page 21.
- If your Pentium OverDrive processor passes all the diagnostic tests, but you still don't see a speed improvement, contact Intel Customer Support.

Your computer boots up and runs normally for a few minutes, then hangs up or shuts down.

- Is the Pentium OverDrive processor socket handle fully locked?
- Recheck your installation — is the Pentium OverDrive processor fully inserted? If you have installed the Pentium OverDrive processor in a socket without handles, is the chip fully inserted? Use the removal tool as a measuring device to check the distance between the processor and the socket. The removal tool should barely fit. Check all four sides to ensure the processor is inserted evenly.
- Did you set the jumpers or system switches correctly, as described in your computer owner's manual?
- Your computer may not be providing enough airflow to adequately cool the Pentium OverDrive processor. Call Intel Customer Support for information about evaluating a possible thermal condition in your computer.

The Pentium OverDrive processor feels hot.

- It is normal for the Pentium OverDrive processor to generate heat while operating.



Caution: Many chips in your computer, including the Pentium OverDrive processor, can actually become hot enough to cause mild skin burns if handled after operating for several hours. Let the computer cool off before attempting to handle the Pentium OverDrive processor.

Your Pentium OverDrive processor and computer have been functioning normally for some time, but you notice that suddenly your computer and your application programs are running very slowly.

- Is the fan for your Pentium OverDrive processor functioning? If you installed the software using Windows, check the fan monitor icon to ensure the fan is functioning correctly. If you chose a DOS installation for this software, invoke the fan monitor utility to determine if the fan is functioning. For more details on the fan software, refer to page 21.

If the Pentium OverDrive processor fan stops functioning for any reason, an added safety feature of the Pentium OverDrive processor activates, stepping down the system speed to maintain thermal integrity. Your system continues to operate, but at a slower speed. Once the Pentium OverDrive processor fan again begins to function, turn off your system, then turn the power back on to return your system to full levels and to reset the Fan Monitor.

You open your Pentium OverDrive processor package and some of the pins are bent.

- Carefully straighten any bent pins with needlenose pliers or tweezers before attempting to insert the Pentium OverDrive processor in the socket.



Caution: Pins are thin and can be easily broken.

Your computer owner's manual does not have a Pentium OverDrive processor installation section and you installed the Pentium OverDrive processor as described in this guide. Your computer still does not operate faster or does not operate at all.

- If you experience problems after installing the Pentium OverDrive processor according to the instructions in this guide, your computer may have special configuration needs. For more information, refer to your computer manufacturer or dealer.

You receive a message that your Pentium OverDrive processor fan is not functioning correctly.

- Is there something blocking the airflow? Check to ensure that the fan is fully seated. If there are no apparent reasons why the fan stopped, call Intel Customer Support about a possible return and replacement.

Your system uses OS/2 Warp or OS/2 2.1 and you are having trouble loading or running the Diagnostics and Demonstration diskette.

- To successfully load the Diagnostics and Demonstration diskette, complete the following steps:

1. Modify the C:\config.sys file:

- a. Invoke the OS/2 system editor, as indicated in the OS/2 system manual.
- b. Open the config.sys file for edit.
- c. Insert the following line:
VME=NO
- d. Save the file, close the system editor and reboot your system.

2. Set the HW_TIMER to ON:

- a. Select the full-screen DOS prompt icon
- b. Click your right (second) mouse button
A pop-up menu appears.
- c. For OS/2 WARP, select "Settings" from the menu.
For OS/2 2.1, select "Open>Settings."
A dialog box appears, with several tabbed windows.
- d. Select the "Sessions" tab.
The "Sessions" edit view appears.
- e. Select the button "DOS Settings" and press ϵ .
A list of setting choices appears.
- f. Set "HW_TIMER" by clicking the ON check box.
- g. Select "Save."
- h. Close the Setting Window.

3. Run the demonstration or the diagnostics by going to the ODP_UTIL directory and typing the following from a full-screen DOS prompt:

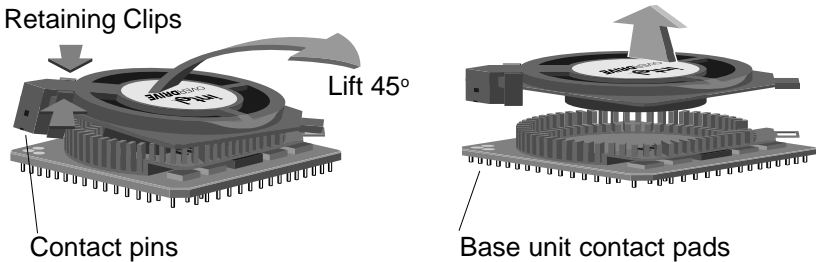
overdriv e

Removing the Pentium OverDrive Processor Fan

Note that before handling the Pentium OverDrive processor you should be careful to ground yourself by touching the metal on your computer. Limiting your movements during installation reduces static electricity, which can damage the part and your system.

To remove the Pentium OverDrive processor fan:

1. Release the corner of the fan assembly by gently squeezing together the two retaining clips.
2. While keeping the clips squeezed together, slowly lift up the corner, pivoting it against the opposite corner.
3. When the fan assembly is at an approximately 45° angle, gently lift straight up from the processor.



4. Place the fan assembly on its back, being careful not to damage the contact pins.

To replace the Pentium OverDrive processor fan:

1. Hold the fan at an approximately 45° angle, and align the fan assembly over the base unit, starting with the corner opposite to the retaining clip.

Take special care to align the contact pins on the fan assembly to the three pads on the base unit.

2. Carefully lower the fan down onto the base.
3. Secure the fan assembly to the base unit by ensuring the retaining clips have snapped into place.

Getting Help

Here are some easy ways to reach Intel Customer Support.

1. Call FaxBack, the Intel automated fax delivery service.

If you have a touch-tone phone and a fax machine or a faxmodem board, you can get a copy of anything in our customer support library — the same product and technical information we use ourselves!

In the U.S. and Canada: **1-800-525-3019**
In Europe: **+44-1793-432509**

From anywhere: **503-264-6835**

This service is available 24 hours a day, every day. For a catalog of documents related to the Intel OverDrive processor, order document # 0103. You can then order any compatibility and configuration information necessary to finish your installation. The *Intel OverDrive Processor Upgrade Guide*, available from your dealer, also contains FaxBack numbers for information regarding your specific system.

2. Use the Internet.

Information is available on the Internet for downloading by Anonymous FTP and for view or downloading on the World Wide Web:

Intel FTP Server hostname: **ftp.intel.com**
World Wide Web address (URL): **http://www.intel.com**

3. Use Your Modem.

You can use your modem to read these bulletin boards (settings are 8, N, 1, up to 14.4 Kbps):

Intel BBS:
In Europe: **+44-1793-432955**
From anywhere: **503-264-7999**

CompuServe*: **GO INTEL**
(Requires CompuServe subscription. Settings are: 7,E,1 up to 28.8 Kbps.)

4. Talk to a Customer Support Technician.

| | | |
|-------------------------|------------------------|---|
| In the U.S. and Canada: | 1-800-321-4044 | M-F 7 a.m.-5 p.m., PST (Thursday 7 a.m.-3 p.m., PST) |
| In Europe - English | +44-1793-404900 | M-F 8 a.m.-12 p.m., GMT |
| In Europe - German | +44-1793-404988 | M-F 08:00-17:00, CET (Tuesday 08:00-16:00, CET) |
| In Europe - French | +44-1793-404777 | M-F 08:00-17:00, CET (Tuesday 08:00-16:00, CET) |
| In Japan | 0120-868686 | M-F 09:00-12:00 & 13:00-17:00 |
| In Australia: | +1-800-649-931 | M-F 05:00-15:00 (Singapore Local Time) |
| In Korea: | +822-767-2595 | M-F 05:00-15:00 (Singapore Local Time) |
| In Taiwan: | +886-2-718-9915 | M-F 05:00-15:00 (Singapore Local Time) |
| In Hong Kong: | +886-2-718-9915 | M-F 05:00-15:00 (Singapore Local Time) |
| From anywhere: | 503-264-7354 | |

5. Send a letter. Mail your comments about this manual to:

Worldwide:

Intel Customer Support (EUCD)
Mailstop JF3-333
5200 NE Elam Young Parkway
Hillsboro, Oregon 97124-6497

Europe:

Branded Products Support
Intel Corporation, U.K.
Pipers Way, Swindon
Wiltshire, England SN3 1RJ

Registration

Please take a few moments to fill out your OverDrive processor warranty registration card. Returning this card allows us to send you important OverDrive processor announcements and new product information.

Three Year Limited Warranty

Intel warrants that the OverDrive® processor, if properly used and installed, will be free from defects in material and workmanship and will substantially conform to Intel's publicly available specifications for a period of three (3) years after the date the OverDrive processor was purchased.

If the OverDrive processor which is the subject of this Limited Warranty fails during the warranty period for reasons covered by this Limited Warranty, Intel, at its option, will:

REPAIR the OverDrive processor by means of hardware and/or software; OR

REPLACE the OverDrive processor with another OverDrive processor; OR, if Intel is unable to repair or replace the OverDrive processor,

REFUND the then-current value of the OverDrive processor.

THIS LIMITED WARRANTY, AND ANY IMPLIED WARRANTIES THAT MAY EXIST UNDER STATE LAW, APPLY ONLY TO THE ORIGINAL PURCHASER OF THE OVERDRIVE PROCESSOR AND LAST ONLY FOR AS LONG AS SUCH PURCHASER CONTINUES TO OWN THE PROCESSOR.

Extent of Limited Warranty

Intel does not warrant that your OverDrive processor will be free from design defects or errors known as "errata." Current characterized errata for Pentium® OverDrive processors are available upon request.

This limited warranty does not cover any costs relating to removal or replacement of any OverDrive processor that is soldered or otherwise permanently affixed to your system's motherboard.

This limited warranty does not cover damages due to external causes, including accident, problems with electrical power, usage not in accordance with product instructions, misuse, neglect, alteration, repair, improper installation, or improper testing. If you do not wish to install the OverDrive processor yourself, you should have the vendor from whom you purchased the product install it.

How to Obtain Warranty Service

To obtain warranty service, you must return the OverDrive processor to the vendor from whom you purchased it, or, with proof of purchase, to Intel. Before returning the OverDrive processor to Intel, you must contact Intel's Customer Support Group at 503-264-7000 or toll free in the U.S., 1-800-321-4044.

If you obtain warranty service from Intel, upon Intel's verification that the OverDrive processor is or may be defective, you will be issued a Return Material Authorization (RMA). When you return the OverDrive processor to Intel, you must include the RMA number on the outside of the package. Intel will not accept any returned OverDrive processor that has no RMA number on the package.

If you return the OverDrive processor to Intel, you must assume the risk of damage or loss during shipping. You must use the original packaging or the equivalent, and you must pay the postage.

Intel may require you to verify that you are the original end user purchaser of the OverDrive processor. Intel may elect to replace or repair the OverDrive processor with either a new or reconditioned product. The returned product shall become Intel's property on receipt by Intel.

The replacement processor is warranted under this written warranty and is subject to the same limitations and exclusions for the remainder of the original warranty period or one (1) year, whichever is longer.

WARRANTY LIMITATIONS AND EXCLUSIONS

THESE WARRANTIES REPLACE ALL OTHER WARRANTIES, EXPRESS OR IMPLIED INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. INTEL MAKES NO EXPRESS WARRANTIES BEYOND THOSE STATED HERE. INTEL DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES SO THIS LIMITATION MAY NOT APPLY TO YOU.

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LIMITATIONS OF LIABILITY

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THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM JURISDICTION TO JURISDICTION.

Appendix A—Pentium OverDrive Processor Data Sheet

The Pentium OverDrive processor is a single chip upgrade for any 5 Volt Intel486 processor system with a Pentium OverDrive processor socket.

The Pentium OverDrive processor employs a high speed 3.3 Volt Pentium processor core and integral fan/heatsink cooling.

This list describes the features of the Pentium OverDrive processor:

| Feature | Description |
|---------------------|--|
| Processor | 3.3 Volt Pentium Processor core with: Intel486 Interface Superscalar Technology Dual Instruction Pipelines Dynamic Branch Prediction |
| Floating Point Unit | High Speed Pentium Processor Floating Point Unit |
| Bus/Core Speed | 25-MHz Bus Speed/63-MHz Internal Speed or 33-MHz Bus Speed/83-MHz Internal Speed |
| Internal Cache | 16 KB Code Cache, 16 KB Write Back Capable Data Cache** |
| Cooling Unit | Integral Fan/Heatsink cooling solution with: Detachable Fan Unit Fan slow down detection and thermal protection circuit |
| Voltage Regulation | On-Package Voltage regulation for conversion of the 5 Volt system supply to a 3.3 Volt supply for the processor |

**Support of the internal write back data cache is system-dependent. If the system does not support a write back internal cache, the cache operates in a write-through manner, similar to a standard Intel486 processor.