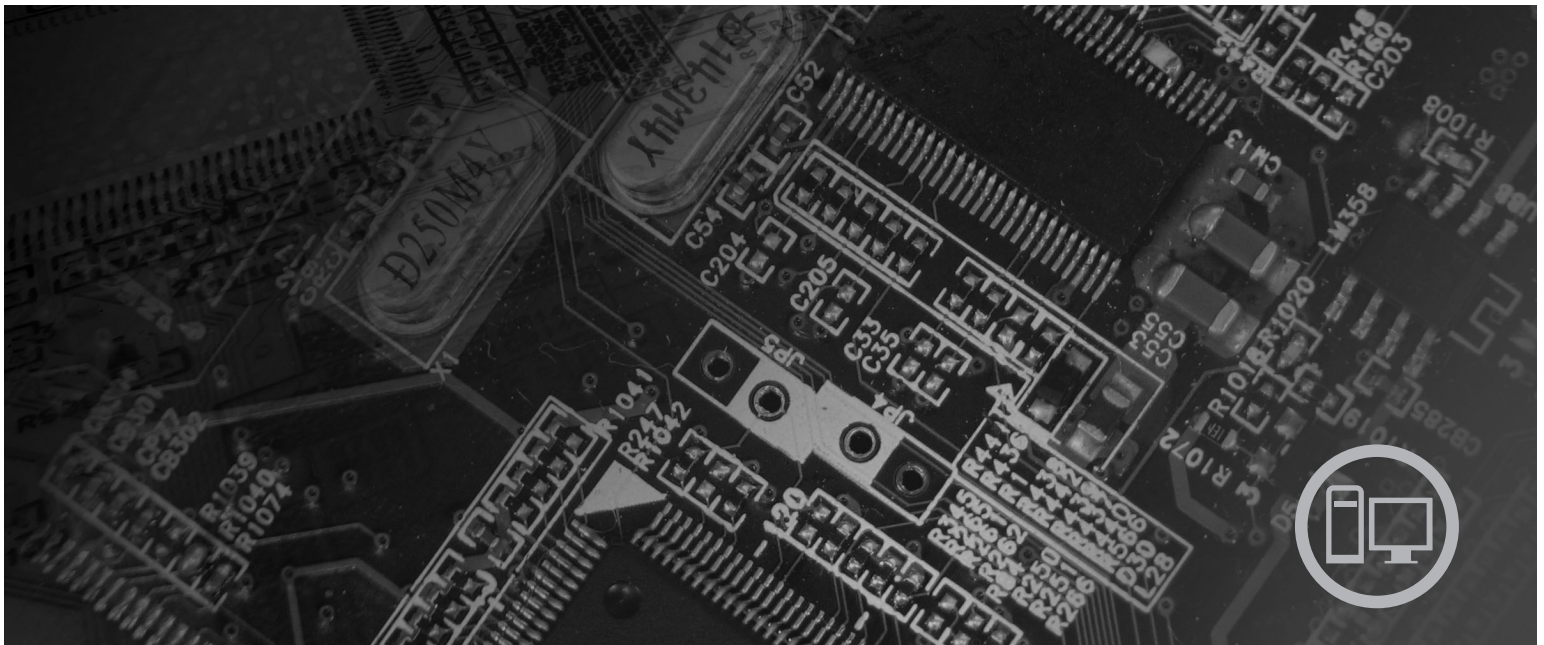




Lenovo 3000 Hardware Maintenance Manual



Machine Types 9680, 9681, 9682, 9683, 9684, 9685, 9686, 9687, 9688, 9689,
9690, 9691

lenovo

Hardware Maintenance Manual

Note: Before using this information and the product it supports, be sure to read the information under “Notices,” on page 231.

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Chapter 1. About this manual

This manual contains service and reference information for Lenovo™ computers listed on the cover. It is intended only for trained servicers who are familiar with Lenovo computer products.

Before servicing a Lenovo product, be sure to read the Safety Information. See Chapter 2, "Safety information," on page 3.

The Symptom-to-FRU Index and Additional Service Information chapters are not specific to any machine type and are applicable to all ThinkCentre® computers.

This manual includes a complete FRU part number listing for each machine type and model listed on the cover. If you have internet access, FRU part numbers are also available at:

<http://www.lenovo.com/support>

Important Safety Information

Be sure to read all caution and danger statements in this book before performing any of the instructions.

Veillez lire toutes les consignes de type DANGER et ATTENTION du présent document avant d'exécuter les instructions.

Lesen Sie unbedingt alle Hinweise vom Typ "ACHTUNG" oder "VORSICHT" in dieser Dokumentation, bevor Sie irgendwelche Vorgänge durchführen

Leggere le istruzioni introdotte da ATTENZIONE e PERICOLO presenti nel manuale prima di eseguire una qualsiasi delle istruzioni

Certifique-se de ler todas as instruções de cuidado e perigo neste manual antes de executar qualquer uma das instruções

Es importante que lea todas las declaraciones de precaución y de peligro de este manual antes de seguir las instrucciones.

تأكد من قراءة كل التحذيرات الموجودة في هذا الكتاب قبل اتباع هذه التعليمات .

执行任何说明之前，请确保已阅读本书中的所有警告和危险声明。

執行任何指示前，請確實閱讀本書中的所有警告及危險聲明。

ודאו שקראתם את כל הודעות האזהרה והסכנה במסמך זה לפני שתבצעו פעולה כלשהי.

본 사용 설명서에 기재된 내용을 실행하기 전에 모든 주의사항 및 위험사항을 숙지하십시오.

Important information about replacing RoHS compliant FRUs

RoHS, The Restriction of Hazardous Substances in Electrical and Electronic Equipment Directive (2002/95/EC) is a European Union legal requirement affecting the global electronics industry. RoHS requirements must be implemented on Lenovo products placed on the market and sold in the European Union after June 2006. Products on the market before June 2006 are not required to have RoHS compliant parts. If the parts are not compliant originally, replacement parts can also be noncompliant, but in all cases, if the parts are compliant, the replacement parts must also be compliant.

Note: RoHS and non-RoHS FRU part numbers with the same fit and function are identified with unique FRU part numbers.

Lenovo plans to transition to RoHS compliance well before the implementation date and expects its suppliers to be ready to support Lenovo's requirements and schedule in the EU. Products sold in 2005, will contain some RoHS compliant FRUs. The following statement pertains to these products and any product Lenovo produces containing RoHS compliant parts.

RoHS compliant ThinkCentre parts have unique FRU part numbers. Before or after June, 2006, failed RoHS compliant parts must always be replaced using RoHS compliant FRUs, so only the FRUs identified as compliant in the system HMM or direct substitutions for those FRUs can be used.

Products marketed before June 2006		Products marketed after June 2006	
Current or original part	Replacement FRU	Current or original part	Replacement FRU
Non-RoHS	Can be Non-RoHS	Must be RoHS	Must be RoHS
Non-RoHS	Can be RoHS		
Non-RoHS	Can sub to RoHS		
RoHS	Must be RoHS		

Note: A direct substitution is a part with a different FRU part number that is automatically shipped by the distribution center at the time of order.

Chapter 2. Safety information

This chapter contains the safety information that you need to be familiar with before servicing a computer.

General safety

Follow these rules to ensure general safety:

- Observe good housekeeping in the area of the machines during and after maintenance.
- When lifting any heavy object:
 1. Ensure you can stand safely without slipping.
 2. Distribute the weight of the object equally between your feet.
 3. Use a slow lifting force. Never move suddenly or twist when you attempt to lift.
 4. Lift by standing or by pushing up with your leg muscles; this action removes the strain from the muscles in your back. *Do not attempt to lift any objects that weigh more than 16 kg (35 lb) or objects that you think are too heavy for you.*
- Do not perform any action that causes hazards to the customer, or that makes the equipment unsafe.
- Before you start the machine, ensure that other service representatives and the customer's personnel are not in a hazardous position.
- Place removed covers and other parts in a safe place, away from all personnel, while you are servicing the machine.
- Keep your tool case away from walk areas so that other people will not trip over it.
- Do not wear loose clothing that can be trapped in the moving parts of a machine. Ensure that your sleeves are fastened or rolled up above your elbows. If your hair is long, fasten it.
- Insert the ends of your necktie or scarf inside clothing or fasten it with a nonconductive clip, approximately 8 centimeters (3 inches) from the end.
- Do not wear jewelry, chains, metal-frame eyeglasses, or metal fasteners for your clothing.
Remember: Metal objects are good electrical conductors.
- Wear safety glasses when you are: hammering, drilling soldering, cutting wire, attaching springs, using solvents, or working in any other conditions that might be hazardous to your eyes.
- After service, reinstall all safety shields, guards, labels, and ground wires. Replace any safety device that is worn or defective.
- Reinstall all covers correctly before returning the machine to the customer.

Electrical safety



CAUTION:

Electrical current from power, telephone, and communication cables can be hazardous. To avoid personal injury or equipment damage, disconnect the attached power cords, telecommunication systems, networks, and modems before you open the server/workstation covers, unless instructed otherwise in the installation and configuration procedures.

Observe the following rules when working on electrical equipment.

Important: Use only approved tools and test equipment. Some hand tools have handles covered with a soft material that does not insulate you when working with live electrical currents.

Many customers have, near their equipment, rubber floor mats that contain small conductive fibers to decrease electrostatic discharges. Do not use this type of mat to protect yourself from electrical shock.

- Find the room emergency power-off (EPO) switch, disconnecting switch, or electrical outlet. If an electrical accident occurs, you can then operate the switch or unplug the power cord quickly.
- Do not work alone under hazardous conditions or near equipment that has hazardous voltages.
- Disconnect all power before:
 - Performing a mechanical inspection
 - Working near power supplies
 - Removing or installing Field Replaceable Units
- Before you start to work on the machine, unplug the power cord. If you cannot unplug it, ask the customer to power-off the wall box that supplies power to the machine and to lock the wall box in the off position.
- If you need to work on a machine that has exposed electrical circuits, observe the following precautions:
 - Ensure that another person, familiar with the power-off controls, is near you.
Remember: Another person must be there to switch off the power, if necessary.
 - Use only one hand when working with powered-on electrical equipment; keep the other hand in your pocket or behind your back.
Remember: There must be a complete circuit to cause electrical shock. By observing the above rule, you may prevent a current from passing through your body.
 - When using testers, set the controls correctly and use the approved probe leads and accessories for that tester.
 - Stand on suitable rubber mats (obtained locally, if necessary) to insulate you from grounds such as metal floor strips and machine frames.

Observe the special safety precautions when you work with very high voltages; these instructions are in the safety sections of maintenance information. Use extreme care when measuring high voltages.

- Regularly inspect and maintain your electrical hand tools for safe operational condition.
- Do not use worn or broken tools and testers.
- *Never assume* that power has been disconnected from a circuit. First, *check* that it has been powered-off.

- Always look carefully for possible hazards in your work area. Examples of these hazards are moist floors, nongrounded power extension cables, power surges, and missing safety grounds.
- Do not touch live electrical circuits with the reflective surface of a plastic dental mirror. The surface is conductive; such touching can cause personal injury and machine damage.
- Do not service the following parts with the power on when they are removed from their normal operating places in a machine:
 - Power supply units
 - Pumps
 - Blowers and fans
 - Motor generatorsand similar units. (This practice ensures correct grounding of the units.)
- If an electrical accident occurs:
 - Use caution; do not become a victim yourself.
 - Switch off power.
 - Send another person to get medical aid.

Voltage-selection switch

Some computers are equipped with a voltage-selection switch located near the power-cord connection point on the computer. If your computer has a voltage-selection switch, ensure that you set the switch to match the voltage available at your electrical outlet. Setting the voltage-selection switch incorrectly can cause permanent damage to the computer.

If your computer does not have a voltage-selection switch, your computer is designed to operate only at the voltage provided in the country or region where the computer was originally purchased.

If you relocate your computer to another country, be aware of the following:

- If your computer does not have a voltage-selection switch, do not connect the computer to an electrical outlet until you have verified that the voltage provided is the same as it was in the country or region where the computer was originally purchased.
- If your computer has a voltage selection switch, do not connect the computer to an electrical outlet until you have verified that the voltage-selection switch is set to match the voltage provided in that country or region.

If you are not sure of the voltage provided at your electrical outlet, contact your local electric company or refer to official Web sites or other literature for travelers to the country or region where you are located.

Safety inspection guide

The intent of this inspection guide is to assist you in identifying potentially unsafe conditions on these products. Each machine, as it was designed and built, had required safety items installed to protect users and service personnel from injury. This guide addresses only those items. However, good judgment should be used to identify potential safety hazards due to attachment of features or options not covered by this inspection guide.

If any unsafe conditions are present, you must determine how serious the apparent hazard could be and whether you can continue without first correcting the problem.

Consider these conditions and the safety hazards they present:

- Electrical hazards, especially primary power (primary voltage on the frame can cause serious or fatal electrical shock).
- Explosive hazards, such as a damaged CRT face or bulging capacitor
- Mechanical hazards, such as loose or missing hardware

The guide consists of a series of steps presented in a checklist. Begin the checks with the power off, and the power cord disconnected.

Checklist:

1. Check exterior covers for damage (loose, broken, or sharp edges).
2. Power-off the computer. Disconnect the power cord.
3. Check the power cord for:
 - a. A third-wire ground connector in good condition. Use a meter to measure third-wire ground continuity for 0.1 ohm or less between the external ground pin and frame ground.
 - b. The power cord should be the appropriate type as specified in the parts listings.
 - c. Insulation must not be frayed or worn.
4. Remove the cover.
5. Check for any obvious alterations. Use good judgment as to the safety of any alterations.
6. Check inside the unit for any obvious unsafe conditions, such as metal filings, contamination, water or other liquids, or signs of fire or smoke damage.
7. Check for worn, frayed, or pinched cables.
8. Check that the power-supply cover fasteners (screws or rivets) have not been removed or tampered with.

Handling electrostatic discharge-sensitive devices

Any computer part containing transistors or integrated circuits (ICs) should be considered sensitive to electrostatic discharge (ESD). ESD damage can occur when there is a difference in charge between objects. Protect against ESD damage by equalizing the charge so that the machine, the part, the work mat, and the person handling the part are all at the same charge.

Notes:

1. Use product-specific ESD procedures when they exceed the requirements noted here.
2. Make sure that the ESD protective devices you use have been certified (ISO 9000) as fully effective.

When handling ESD-sensitive parts:

- Keep the parts in protective packages until they are inserted into the product.
- Avoid contact with other people while handling the part.
- Wear a grounded wrist strap against your skin to eliminate static on your body.

- Prevent the part from touching your clothing. Most clothing is insulative and retains a charge even when you are wearing a wrist strap.
- Use the black side of a grounded work mat to provide a static-free work surface. The mat is especially useful when handling ESD-sensitive devices.
- Select a grounding system, such as those listed below, to provide protection that meets the specific service requirement.

Note: The use of a grounding system is desirable but not required to protect against ESD damage.

- Attach the ESD ground clip to any frame ground, ground braid, or green-wire ground.
- Use an ESD common ground or reference point when working on a double-insulated or battery-operated system. You can use coax or connector-outside shells on these systems.
- Use the round ground-prong of the ac plug on ac-operated computers.

Grounding requirements

Electrical grounding of the computer is required for operator safety and correct system function. Proper grounding of the electrical outlet can be verified by a certified electrician.

Safety notices (multi-lingual translations)

The caution and danger safety notices in this section are provided in the following languages:

- English
- Arabic
- Brazilian/Portuguese
- Chinese (simplified)
- Chinese (traditional)
- French
- German
- Hebrew
- Italian
- Korean
- Spanish



DANGER

Electrical current from power, telephone and communication cables is hazardous.

To avoid a shock hazard:

- **Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.**
- **Connect all power cords to a properly wired and grounded electrical outlet.**

- **Connect to properly wired outlets any equipment that will be attached to this product.**
- **When possible, use one hand only to connect or disconnect signal cables.**
- **Never turn on any equipment when there is evidence of fire, water, or structural damage.**
- **Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.**
- **Connect and disconnect cables as described in the following tables when installing, moving, or opening covers on this product or attached devices.**

To Connect	To Disconnect
<ol style="list-style-type: none"> 1. Turn everything OFF. 2. First, attach all cables to devices. 3. Attach signal cables to connectors. 4. Attach power cords to outlet. 5. Turn device ON. 	<ol style="list-style-type: none"> 1. Turn everything OFF. 2. First, remove power cords from outlet. 3. Remove signal cables from connectors. 4. Remove all cables from devices.



CAUTION:

When replacing the lithium battery, use only Part Number 33F8354 or an equivalent type battery recommended by the manufacturer. If your system has a module containing a lithium battery, replace it only with the same module type made by the same manufacturer. The battery contains lithium and can explode if not properly used, handled, or disposed of.

Do not:

- Throw or immerse into water
- Heat to more than 100°C (212°F)
- Repair or disassemble

Dispose of the battery as required by local ordinances or regulations.



CAUTION:

When laser products (such as CD-ROMs, DVD-ROM drives, fiber optic devices, or transmitters) are installed, note the following:

- Do not remove the covers. Removing the covers of the laser product could result in exposure to hazardous laser radiation. There are no serviceable parts inside the device.
- Use of controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.



DANGER: Some laser products contain an embedded Class 3A or Class 3B laser diode. Note the following:

Laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam.



≥18 kg (37 lbs)



≥32 kg (70.5 lbs)



≥55 kg (121.2 lbs)

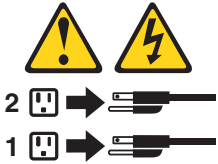
CAUTION:

Use safe practices when lifting.



CAUTION:

The power control button on the device and the power switch on the power supply do not turn off the electrical current supplied to the device. The device also might have more than one power cord. To remove all electrical current from the device, ensure that all power cords are disconnected from the power source.





خطر

التيار الكهربى الموجود بمصدر الطاقة أو أجهزة التليفون أو أسلاك الإتصالات يشكل خطورة.

لتفادي مخاطر الصدمات الكهربائية:

لا تحاول توصيل أو فصل أي أسلاك أو القيام بعمليات تركيب أو صيانة أو إعادة توصيف لهذا المنتج أثناء وجود عاصفة كهربائية.

يجب توصيل كل أسلاك الكهرباء في مخارج كهرباء ذات توصيلات أسلاك وتوصيلات أرضية صحيحة
يجب توصيل أي جهاز سيتم الحاقه بهذا المنتج في مخارج كهرباء ذات توصيلات أسلاك صحيحة.

وإن أمكن يجب استخدام يد واحدة فقط في توصيل أو فصل أسلاك الإشارة.

لا تحاول تشغيل أي جهاز إذا كان هناك أثر لحرق أو مياه أو تلف بالمكونات

يجب فصل أسلاك الكهرباء وأنظمة الاتصالات وشبكات الاتصال وأجهزة المودم الملحقة قبل فتح أغطية الجهاز، ما لم يتم طلب خلاف ذلك في التعليمات الخاصة بالتركيب والتوصيف.
قم بتوصيل وفصل الأسلاك كما هو موضح في الجدول التالي وذلك عند القيام بعمليات التركيب أو النقل أو فتح أغطية هذا المنتج أو الأجهزة الملحقة.

للفصل:

- قم بإيقاف كل شيء.
- أولاً، قم بفصل كل أسلاك الكهرباء من المخرج.
- قم بفصل أسلاك الإشارة من الموصلات.
- قم بفصل كل الأسلاك من الأجهزة.

للتوصيل:

- قم بإيقاف كل شيء.
- أولاً، قم بتوصيل كل الأسلاك بالأجهزة.
- قم بتوصيل أسلاك الإشارة في لموصلات.
- قم بتوصيل أسلاك الكهرباء في المخارج.
- قم بتشغيل الجهاز.



تنبيه :

عند استبدال البطارية الليثيوم، استخدم فقط رقم الجزء الخاص **Part Number 33F8354** أو نوع آخر يكون على نفس مستوى الكفاءة يحدده لك المصنع. إذا كان النظام الخاص يستخدم معه بطارية ليثيوم قم باستبدالها بنفس النوع الذي تم صناعته من خلال نفس المصنع. تحتوي البطارية على مادة الليثيوم ويمكن أن تنفجر في حالة عدم استخدامها أو التعامل معها بطريقة صحيحة أو عند التخلص منها بطريقة خطأ.

لا تَقم بـ:

- الفاء البطارية أو غمرها في الماء
- تسخينها أعلى من ١٠٠ درجة مئوية و(٢١٢ ° فهرنهايت)
- بتصليحها أو فكها

تخلص من البطارية طبقاً للقانون أو النظام المحلي .



تنبيه :

أثناء تركيب منتجات ليزر (مثل CD-ROMs أو وحدة تشغيل DVD أو أجهزة Fiber Optic أو وحدات الإرسال) يجب مراعاة الآتي:

لا تنزع الأغطية. قد ينتج عن نزع أغطية منتج الليزر انفجار أشعة الليزر شديدة الخطورة. لا يوجد أجزاء يمكن تغييرها داخل الجهاز. قد ينتج عن استخدام تحكيمات أو تعديلات أو عمل أي تصرفات أخرى تخالف ما هو محدد هنا إلى انفجار أشعة شديدة الخطورة.



خطر

تحتوي بعض منتجات الليزر على الفئة دايود ليزر مدمج من الفئة Class 3A أو Class 3B. يجب مراعاة الآتي .

أشعة الليزر عند الفتح. لا تحدد إلى الإشعاع و لا تنظر إليه مباشرة بواسطة أي أجهزة مرئية وتجنب التعرض المباشر للإشعاع .



≥18 kg (37 lbs)



≥32 kg (70.5 lbs)

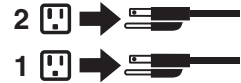


≥55 kg (121.2 lbs)

تنبيه :
يجب استخدام ممارسات آمنة عند الرفع



تنبيهه :
لا يرقم زر التحكم في التشغيل الموجود على الجهاز والمفتاح الكهربائي الموجود على لوحة التحكم بإيقاف التيار الكهربائي المار بالجهاز. قد يكون للجهاز أكثر من سلك كهربائي واحد. لايقاف التيار الكهربائي المار بالجهاز، تأكد من فصل جميع أسلاك الكهرباء من مصدر الكهرباء .





PERIGO

A corrente elétrica proveniente de cabos de alimentação, de telefone e de comunicações é perigosa.

Para evitar risco de choque elétrico:

- Não conecte nem desconecte nenhum cabo ou execute instalação, manutenção ou reconfiguração deste produto durante uma tempestade com raios.
- Conecte todos os cabos de alimentação a tomadas elétricas corretamente instaladas e aterradas.
- Todo equipamento que for conectado a este produto deve ser conectado a tomadas corretamente instaladas.
- Quando possível, utilize apenas uma das mãos para conectar ou desconectar cabos de sinal.
- Nunca ligue nenhum equipamento quando houver evidência de fogo, água ou danos estruturais.
- Antes de abrir tampas de dispositivos, desconecte cabos de alimentação, sistemas de telecomunicação, redes e modems conectados, a menos que especificado de maneira diferente nos procedimentos de instalação e configuração.
- Conecte e desconecte os cabos conforme descrito na tabela apresentada a seguir ao instalar, mover ou abrir tampas deste produto ou de dispositivos conectados.

Para Conectar:	Para Desconectar:
<ol style="list-style-type: none">1. DESLIGUE Tudo.2. Primeiramente, conecte todos os cabos aos dispositivos.3. Conecte os cabos de sinal aos conectores.4. Conecte os cabos de alimentação às tomadas.5. LIGUE os dispositivos.	<ol style="list-style-type: none">1. DESLIGUE Tudo.2. Primeiramente, remova os cabos de alimentação das tomadas.3. Remova os cabos de sinal dos conectores.4. Remova todos os cabos dos dispositivos.



CUIDADO:

Ao substituir a bateria de lítio, utilize apenas uma bateria com Número de Peça 33F8354 ou um tipo de bateria equivalente recomendado pelo Se o seu sistema possui um módulo com uma bateria de lítio, substitua-o apenas por um módulo do mesmo tipo e do mesmo fabricante. A bateria contém lítio e pode explodir se não for utilizada, manuseada ou descartada de maneira correta.

Não:

- Jogue ou coloque na água
- Aqueça a mais de 100°C (212°F)
- Conserte nem desmonte

Descarte a bateria conforme requerido pelas leis ou regulamentos locais.



PRECAUCIÓN:

Quando produtos a laser (como unidades de CD-ROMs, unidades de DVD-ROM, dispositivos de fibra ótica ou transmissores) estiverem instalados, observe o seguinte:

- Não remova as tampas. A remoção das tampas de um produto a laser pode resultar em exposição prejudicial à radiação de laser. Não existem peças que podem ser consertadas no interior do dispositivo.
- A utilização de controles ou ajustes ou a execução de procedimentos diferentes dos especificados aqui pode resultar em exposição prejudicial à radiação.

PERIGO

Alguns produtos a laser contêm diodo de laser integrado da Classe 3A ou da Classe 3B. Observe o seguinte:

Radiação a laser quando aberto. Não olhe diretamente para o feixe a olho nu ou com instrumentos ópticos e evite exposição direta ao feixe.



≥18 kg (37 lbs)



≥32 kg (70.5 lbs)



≥55 kg (121.2 lbs)

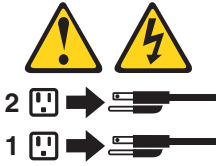
CUIDADO:

Utilize procedimentos de segurança para levantar equipamentos.



CUIDADO:

O botão de controle de alimentação do dispositivo e o botão para ligar/desligar da fonte de alimentação não desligam a corrente elétrica fornecida ao dispositivo. O dispositivo também pode ter mais de um cabo de alimentação. Para remover toda a corrente elétrica do dispositivo, assegure que todos os cabos de alimentação estejam desconectados da fonte de alimentação.





危险

电源、电话和通信电缆中的电流是危险的。

为避免电击危险：

- 请勿在雷电期间连接或断开任何电缆的连接，或者对本产品进行安装、维护或重新配置。
- 将所有电源线连接到正确连线和妥善接地的电源插座。
- 将所有要连接到该产品的设备连接到正确连线的插座。
- 如果可能，请仅使用一只手来连接或断开信号电缆的连接。
- 切勿在有火、水、结构损坏迹象的情况下开启任何设备。
- 在打开设备外盖之前请断开已连接的电源线、远程通信系统、网络和调制解调器，除非在安装和配置过程中另有说明。
- 当安装、移动或打开该产品或连接设备的外盖时，请按照下表所述来连接或断开电缆的连接。

要连接	要断开连接
<ol style="list-style-type: none">1. 切断所有电源。2. 首先将所有电缆连接到设备。3. 将信号电缆连接到接口。4. 将电源线连接到插座。5. 开启设备。	<ol style="list-style-type: none">1. 切断所有电源。2. 首先从插座上拔出电源线。3. 从接口上拔出信号电缆。4. 从设备上拔出所有电缆。



警告：

更换锂电池时，请仅使用部件号为 33F8354 的电池或制造商推荐的同类电池。如果您的系统有包含锂电池的模块，请仅使用同一制造商生产的相同模块类型来替换该模块。该电池中含有锂，如果使用、操作或处理不当，可能会发生爆炸。

切勿：

- 投入或浸入水中
- 加热到 100 °C (212 °F) 以上
- 维修或拆卸

请按照当地法令或条例的要求处理电池。



警告：
安装激光产品（例如 CD-ROM、DVD-ROM 驱动器、光纤设备或发射设备）时，
请注意以下声明：

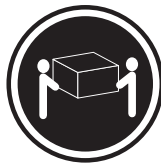
- 请勿卸下外盖。卸下激光产品的外盖可能导致遭受激光辐射的危险。该设备内没有可维修的部件。
- 如果不按照此处指定的过程进行控制、调整或操作，则有可能导致遭受辐射的危险。



危险

某些激光产品包含嵌入式 3A 类或 3B 类激光二极管。请注意以下声明：

打开后有激光辐射。请勿注视光束，请勿直接用光学仪器查看，并请避免直接暴露在光束中。



≥18 千克 (37 磅)



≥32 千克 (70.5 磅)



≥55 千克 (121.2 磅)

警告：
抬起时请采取安全措施。



警告：
设备上的电源控制按钮和电源上的电源开关不会切断供给该设备的电流。该设备还可能有多条电源线。要切断该设备的所有电流，请确保所有电源线都与电源断开连接。





危險

電源、電話及通訊纜線上的電流都具有危險性。

若要避免觸電危險：

- 請勿在雷雨期間，連接或拔除纜線、執行安裝、維護或重新配置本產品。
- 將所有電源線連接到正確配線及接地的電源插座。
- 任何與本產品連接的設備都必須連接到配線妥當的電源插座。
- 請盡可能用單手連接或拔除信號線。
- 發生火災、水災或結構損害時，絕對不要開啟任何設備。
- 除非在安裝及配置程序中另有指示，否則在開啟裝置機蓋之前，請拔掉連接的電源線、電信系統、網路及數據機。
- 安裝、移動或開啟本產品或附屬裝置的機蓋時，請遵循下列說明連接及拔掉纜線。

連線	切斷連線
<ol style="list-style-type: none"> 1. 關閉所有開關。 2. 首先，連接所有接線到裝置。 3. 連接信號線到接頭。 4. 連接電源線到插座。 5. 開啟裝置。 	<ol style="list-style-type: none"> 1. 關閉所有開關。 2. 首先，拔掉插座上的電源線。 3. 拔掉接頭上的信號線。 4. 拔掉裝置上所有接線。



警告：

更換鋰電池時，請僅使用產品編號 **33F8354** 或製造商所建議的同類型電池。
 如果您的系統中含有鋰電池模組，請僅使用同一家製造商所生產的相同模組進行更換。
 如果未以正確方式使用、處理或棄置含鋰的電池，會有爆炸的危險。

請勿：

- 沾溼或浸入水中
 - 置於 **100C (212F)** 以上的高溫環境
 - 修理或拆開
- 請按照各地區有關廢棄電池的法令和規定處理舊電池。



警告：

- 請勿移除機蓋。移除雷射產品的機蓋，可能會導致暴露在危險的雷射輻射中。裝置內部並無可自行維修的零件。
- 利用或執行非本文中所指定的控制、調整及執行程序，可能會導致危險的輻射外洩。



危險

部分雷射產品含有內嵌式 **Class 3A** 或 **Class 3B** 雷射二極體。請注意下列事項：
 在開啟光碟機時，會發生雷射輻射。請勿直視光束或用光學儀器直接檢視，並避免直接暴露在光束中。



≥ 18 公斤 (37 磅)



≥ 32 公斤 (70.5 磅)



≥ 55 公斤 (121.2 磅)

警告：
搬運時請注意安全。



警告：
裝置上的電源控制按鈕及電源供應器上的電源開關，無法關閉裝置所產生的電流。
該裝置可能有多條電源線。若要除去裝置流出的所有電流，請確認已切斷所有電源線的電源。





DANGER

Le courant électrique provenant de l'alimentation, du téléphone et des câbles de transmission peut présenter un danger.

Pour éviter tout risque de choc électrique :

- Ne manipulez aucun câble et n'effectuez aucune opération d'installation, d'entretien ou de reconfiguration de ce produit au cours d'un orage.
- Branchez tous les cordons d'alimentation sur un socle de prise de courant correctement câblé et mis à la terre.
- Branchez sur des socles de prise de courant correctement câblés tout équipement connecté à ce produit.
- Lorsque cela est possible, n'utilisez qu'une seule main pour connecter ou déconnecter les câbles d'interface.
- Ne mettez jamais un équipement sous tension en cas d'incendie ou d'inondation, ou en présence de dommages matériels.
- Avant de retirer les carters de l'unité, mettez celle-ci hors tension et déconnectez ses cordons d'alimentation, ainsi que les câbles qui la relient aux réseaux, aux systèmes de télécommunication et aux modems (sauf instruction contraire mentionnée dans les procédures d'installation et de configuration).
- Lorsque vous installez, que vous déplacez, ou que vous manipulez le présent produit ou des périphériques qui lui sont raccordés, reportez-vous aux instructions ci-dessous pour connecter et déconnecter les différents cordons.

Connexion	Déconnexion
1. Mettez les unités HORS TENSION.	1. Mettez les unités HORS TENSION.
2. Commencez par brancher tous les cordons sur les unités.	2. Débranchez les cordons d'alimentation des prises.
3. Branchez les câbles d'interface sur des connecteurs.	3. Débranchez les câbles d'interface des connecteurs.
4. Branchez les cordons d'alimentation sur des prises.	4. Débranchez tous les câbles des unités.
5. Mettez les unités SOUS TENSION.	



ATTENTION:

Remplacer la pile au lithium usagée par une pile de référence identique exclusivement, (référence 33F8354), ou suivre les instructions du fabricant qui en définit les équivalences. Si votre système est doté d'un module contenant une pile au lithium, vous devez le remplacer uniquement par un module identique, produit par le même fabricant. La pile contient du lithium et peut exploser en cas de mauvaise utilisation, de mauvaise manipulation ou de mise au rebut inappropriée.

Ne pas :

- la jeter à l'eau,
- l'exposer à des températures supérieures à 100°C,
- chercher à la réparer ou à la démonter.

Ne pas mettre la pile à la poubelle. Pour la mise au rebut, se reporter à la réglementation en vigueur.



ATTENTION:

Si des produits à laser (tels que des unités de CD-ROM, de DVD-ROM, des unités à fibres optiques, ou des émetteurs) sont installés, prenez connaissance des informations suivantes :

- Ne retirez pas le carter. En ouvrant l'unité de CD-ROM ou de DVD-ROM, vous vous exposez au rayonnement dangereux du laser. Aucune pièce de l'unité n'est réparable.
- Pour éviter tout risque d'exposition au rayon laser, respectez les consignes de réglage et d'utilisation des commandes, ainsi que les procédures décrites dans le présent manuel.



DANGER

Certains produits à laser contiennent une diode à laser intégrée de classe 3A ou 3B. Prenez connaissance des informations suivantes:

Rayonnement laser lorsque le carter est ouvert. Evitez toute exposition directe au rayon laser. Evitez de regarder fixement le faisceau ou de l'observer à l'aide d'instruments optiques.



≥18 kg (37 lbs)



≥32 kg (70.5 lbs)



≥55 kg (121.2 lbs)

ATTENTION:

Soulevez la machine avec précaution.



ATTENTION:

L'interrupteur de contrôle d'alimentation de l'unité et l'interrupteur dubloc d'alimentation ne coupent pas le courant électrique alimentant l'unité. En outre, le système peut être équipé de plusieurs cordons d'alimentation. Pour mettre l'unité hors tension, vous devez déconnecter tous les cordons de la source d'alimentation.





VORSICHT

An Netz-, Telefon- und Datenleitungen können gefährliche Spannungen anliegen.

Aus Sicherheitsgründen:

- Bei Gewitter an diesem Gerät keine Kabel anschließen oder lösen. Ferner keine Installations-, Wartungs- oder Rekonfigurationsarbeiten durchführen.
- Gerät nur an eine Schutzkontaktsteckdose mit ordnungsgemäß geerdetem Schutzkontakt anschließen.
- Alle angeschlossenen Geräte ebenfalls an Schutzkontaktsteckdosen mit ordnungsgemäß geerdetem Schutzkontakt anschließen.
- Die Signalkabel nach Möglichkeit einhändig anschließen oder lösen, um einen Stromschlag durch Berühren von Oberflächen mit unterschiedlichem elektrischem Potenzial zu vermeiden.
- Geräte niemals einschalten, wenn Hinweise auf Feuer, Wasser oder Gebäudeschäden vorliegen.
- Die Verbindung zu den angeschlossenen Netzkabeln, Telekommunikationssystemen, Netzwerken und Modems ist vor dem Öffnen des Gehäuses zu unterbrechen, sofern in den Installations- und Konfigurationsprozeduren keine anders lautenden Anweisungen enthalten sind.
- Zum Installieren, Transportieren und Öffnen der Abdeckungen des Computers oder der angeschlossenen Einheiten die Kabel gemäß der folgenden Tabelle anschließen und abziehen.

Zum Anschließen der Kabel gehen Sie wie folgt vor	Zum Abziehen der Kabel gehen Sie wie folgt vor
<ol style="list-style-type: none">1. Schalten Sie alle Einheiten AUS.2. Schließen Sie erst alle Kabel an die Einheiten an.3. Schließen Sie die Signalkabel an die Buchsen an.4. Schließen Sie die Netzkabel an die Steckdose an.5. Schalten Sie die Einheit EIN.	<ol style="list-style-type: none">1. Schalten Sie alle Einheiten AUS.2. Ziehen Sie zuerst alle Netzkabel aus den Netzsteckdosen.3. Ziehen Sie die Signalkabel aus den Buchsen.4. Ziehen Sie alle Kabel von den Einheiten ab.



CAUTION:

Eine verbrauchte Lithiumbatterie nur durch eine Batterie mit der Teilenummer 33F8354 oder eine gleichwertige, vom Hersteller empfohlene Batterie ersetzen. Enthält das System ein Modul mit einer Lithiumbatterie, dieses nur durch ein Modul desselben Typs und von demselben Hersteller ersetzen. Die Batterie enthält Lithium und kann bei unsachgemäßer Verwendung, Handhabung oder Entsorgung explodieren.

Die Batterie nicht:

- mit Wasser in Berührung bringen.
- über 100 C erhitzen.
- reparieren oder zerlegen.

Die örtlichen Bestimmungen für die Entsorgung von Sondermüll beachten.



ACHTUNG:

Bei der Installation von Lasergeräten (wie CD-ROM-Laufwerken, DVD-Laufwerken, Einheiten mit Lichtwellenleitertechnik oder Sendern) Folgendes beachten:

- Die Abdeckungen nicht entfernen. Durch Entfernen der Abdeckungen des Lasergeräts können gefährliche Laserstrahlungen freigesetzt werden. Das Gerät enthält keine zu wartenden Teile.
- Werden Steuerelemente, Einstellungen oder Durchführungen von Prozeduren anders als hier angegeben verwendet, kann gefährliche Laserstrahlung auftreten.



VORSICHT

Einige Lasergeräte enthalten eine Laserdiode der Klasse 3A oder 3B. Beachten Sie Folgendes:

Laserstrahlung bei geöffneter Verkleidung. Nicht in den Strahl blicken. Keine Lupen oder Spiegel verwenden. Strahlungsbereich meiden.



≥18 kg



≥32 kg



≥55 kg

ACHTUNG:

Arbeitsschutzrichtlinien beim Anheben der Maschine beachten.



ACHTUNG:

Mit dem Netzschalter an der Einheit und am Netzteil wird die Stromversorgung für die Einheit nicht unterbrochen. Die Einheit kann auch mit mehreren Netzkabeln ausgestattet sein. Um die Stromversorgung für die Einheit vollständig zu unterbrechen, müssen alle zum Gerät führenden Netzkabel vom Netz getrennt werden.





סכנה

זרם חשמלי המועבר בכבלי חשמל, טלפון ותקשורת הוא מסוכן.

כדי להימנע מסכנת התחשמלות:

- אל תחברו או תנתקו כבלים, ואל תבצעו פעולת התקנה, תחזוקה או שינוי תצורה במוצר זה במהלך סופת ברקים.
- חברו את כל כבלי החשמל לשקע חשמל מחווט ומוארק כהלכה.
- חברו כל ציוד שיחובר למוצר זה לשקעי חשמל מחוטים כהלכה.
- במידת האפשר, השתמשו ביד אחת בלבד לחיבור או לניתוק של כבלי אותות.
- לעולם אל תפעילו ציוד כלשהו כאשר יש עדות לנזק מבני או לנזק כתוצאה מאש או ממים.
- נתקו את כבלי החשמל, מערכות התקשורת, התקני הרשת והמודמים המחוברים לפני פתיחת כיסויי ההתקן, אלא אם הליכי ההתקנה וקביעת התצורה מורים אחרת.
- בעת התקנה, העברה או פתיחת כיסויים במוצר זה או בהתקנים המחוברים, חברו ונתקו את הכבלים כמתואר בטבלה שלהלן.

כדי לחבר	כדי לנתק
1. כבו הכל.	1. כבו הכל.
2. ראשית, חברו את כל הכבלים להתקנים.	2. ראשית, נתקו את כבלי החשמל מהשקעים.
3. חברו את כבלי האותות למחברים.	3. נתקו את כבלי האותות מהמחברים.
4. חברו את כבלי החשמל לשקעים.	4. הסירו את כל הכבלים מההתקנים.
5. הפעילו את ההתקן.	



זהירות:

בעת החלפת סוללת הליתיום, השתמשו רק בסוללה בעלת מק"ט 33F8354 או בסוג תואם שהומלץ על ידי היצרן. אם המערכת כוללת מודול המכיל סוללת ליתיום, החליפו אותו רק במודול מאותו סוג ומתוצרת אותו יצרן. הסוללה מכילה ליתיום, ועלולה להתפוצץ אם לא משתמשים ומטפלים בה או משליכים אותה כראוי.

לעולם:

- אל תטבלו במים

- אל תחממו לטמפרטורה הגבוהה מ-100°C (212°F)

- אל תתקנו או תפרקו

השליכו את הסוללה כנדרש לפי התקנות והחוקים המקומיים.



זהירות:

בעת התקנת מוצרי ליזר (כגון כונני תקליטורים ו-DVD, התקני סיב אופטי או משדרים), שימו לב לאזהרות הבאות:

- אל תסירו את הכיסויים. הסרת הכיסויים של מוצר הלייזר עלולה לגרום לחשיפה לקרינת לייזר מסוכנת. אין חלקים ברי טיפול בתוך ההתקן.

- שינויים, שימוש בבקרות או ביצוע הליכים אחרים מאלה המתוארים כאן, עלולים לגרום לחשיפה לקרינה מסוכנת.



סכנה

מוצרי לייזר מסוימים מכילים דיודת לייזר מסוג Class 3A או Class 3B. שימו לב לאזהרה הבאה:

כאשר הוא פתוח, המוצר פולט קרינת לייזר. אל תביטו ישירות בקרן, אל תביטו ישירות בעזרת ציוד אופטי, והימנעו מחשיפה לקרן.



$18 \leq$ ק"ג (37 ליב')



$32 \leq$ ק"ג (70.5 ליב')



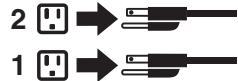
$55 \leq$ ק"ג (121.2 ליב')

זהירות:
השתמשו בהליכים
הנאותים בעת
הרמת הציוד.



זהירות:

לחצן הפעלה של ההתקן ומתג הפעלה של ספק החשמל אינם מפסיקים את זרם החשמל המסופק להתקן. בנוסף, ההתקן עשוי לכלול יותר מכבל חשמל אחד. כדי לסלק את כל הזרם החשמלי מההתקן, ודאו שכל כבלי החשמל מנותקים ממקור החשמל.





PERICOLO

La corrente elettrica proveniente dai cavi di alimentazione, del telefono e di comunicazione può essere pericolosa.

Per evitare il rischio di scosse elettriche:

- **Non collegare o scollegare qualsiasi cavo oppure effettuare l'installazione, la manutenzione o la riconfigurazione del prodotto durante un temporale.**
- **Collegare tutti i fili elettrici a una presa di alimentazione correttamente cablata e dotata di messa a terra.**
- **Collegare alle prese elettriche appropriate tutte le apparecchiature che verranno utilizzate per questo prodotto.**
- **Se possibile, utilizzare solo una mano per collegare o scollegare i cavi di segnale.**
- **Non accendere assolutamente apparecchiature in presenza di incendi, perdite d'acqua o danno strutturale.**
- **Scollegare i cavi di alimentazione, i sistemi di telecomunicazione, le reti e il modem prima di aprire i coperchi del dispositivo, salvo istruzioni contrarie relative alle procedure di installazione e configurazione.**
- **Collegare e scollegare i cavi come descritto nella seguente tabella quando vengono effettuate operazioni di installazione, spostamento o apertura dei coperchi di questo prodotto o delle unità collegate.**

Per collegarsi	Per scollegarsi
1. SPEGNERE le apparecchiature.	1. SPEGNERE le apparecchiature.
2. Innanzitutto, collegare tutti i cavi alle unità.	2. Innanzitutto, rimuovere i cavi di alimentazione dalla presa.
3. Collegare i cavi di segnale ai connettori.	3. Rimuovere i cavi di segnale dai connettori.
4. Collegare i cavi di alimentazione alla presa.	4. Rimuovere tutti i cavi dalle unità.
5. Accendere l'unità.	



ATTENZIONE:

Quando si sostituisce la batteria al litio, utilizzare solo il Numero parte 33F8354 o un tipo di batteria equivalente consigliato dal produttore. Se sul sistema è presente un modulo che contiene una batteria al litio, sostituirlo solo con un tipo di modulo dello stesso tipo della stessa casa di produzione. La batteria contiene litio e può esplodere se usata, maneggiata o smaltita in modo non corretto.

Non:

- Gettare o immergere la batteria nell'acqua
- Riscaldarla ad una temperatura superiore ai 100 gradi C (212 gradi F)
- Smontarla, ricaricarla o tentare di ripararla

Le batterie usate vanno smaltite in accordo alla normativa in vigore (DPR 915/82 e successive disposizioni e disposizioni locali).



ATTENZIONE:

Quando vengono installati prodotti laser (quali CD-ROM, unità DVD-ROM, unità a fibre ottiche o trasmettenti), tener presente quanto segue:

- Non rimuovere gli sportelli. L'apertura di un'unità laser può determinare l'esposizione a radiazioni laser pericolose. All'interno dell'unità non vi sono parti su cui effettuare l'assistenza tecnica.
- L'utilizzo di controlli, regolazioni o l'esecuzione di procedure non descritti nel presente manuale possono provocare l'esposizione a radiazioni pericolose.



PERICOLO

Alcune unità laser contengono un diodo laser di Classe 3A o Classe 3B. Tener presente quanto segue:

Aperto l'unità vengono emesse radiazioni laser. Non fissare il fascio, non guardarlo direttamente con strumenti ottici ed evitare l'esposizione al fascio.



≥18 kg



≥32 kg



≥55 kg

ATTENZIONE:

Prestare attenzione nel sollevare l'apparecchiatura.



ATTENZIONE:

Il pulsante di controllo dell'alimentazione presente sull'unità e l'interruttore dell'alimentatore non disattivano l'alimentazione corrente fornita all'unità. E' possibile che l'unità disponga di più cavi di alimentazione. Per disattivare l'alimentazione dall'unità, accertarsi che tutti i cavi di alimentazione siano scollegati dalla fonte di alimentazione.





위험

전원, 전화, 통신 케이블의 전류는 위험합니다.

감전의 위험을 피하려면 다음과 같이 하십시오.

- 번개가 치는 날에는 케이블을 연결 또는 분리하거나 본 제품을 설치, 보수, 재구성하지 마십시오.
- 모든 전원 코드는 올바르게 접지된 전기 콘센트에 연결하십시오.
- 본 제품에 연결될 장치는 올바르게 배선된 콘센트에 연결하십시오.
- 신호 케이블을 연결 또는 분리할 때 가능하면 한 손만을 사용하십시오.
- 불 또는 물로 인한 손상이나 구조적인 손상이 있을 경우 장치의 전원을 절대 켜지 마십시오.
- 설치 및 구성 과정에 별도의 지시 사항이 없는 경우, 장치의 덮개를 열기 전에 연결된 전원 코드, 원격 통신 시스템, 네트워크, 모뎀을 분리하십시오.
- 본 제품이나 연결된 장치를 설치, 이동하거나 덮개를 열 때 다음 표와 같은 순서로 케이블을 연결하거나 분리하십시오.

연결할 때:	분리할 때:
<ol style="list-style-type: none"> 1. 모든 장치의 전원을 끄십시오. 2. 먼저 모든 케이블을 장치에 연결하십시오. 3. 커넥터에 신호 케이블을 연결하십시오. 4. 콘센트에 전원 코드를 연결하십시오. 5. 장치의 전원을 켜십시오. 	<ol style="list-style-type: none"> 1. 모든 장치의 전원을 끄십시오. 2. 먼저 콘센트에서 전원 코드를 분리하십시오. 3. 커넥터에서 신호 케이블을 분리하십시오. 4. 장치에서 모든 케이블을 분리하십시오.



주의:

배터리를 교환할 때는 Part Number 33F8354 또는 제조업체에서 지정한 동일한 종류의 제품을 사용하십시오. 사용자의 시스템이 리튬 배터리를 포함하는 모듈일 경우, 동일한 제조업체에서 동일한 모듈 유형으로 생산된 제품으로 교체하십시오. 배터리에는 리튬이 함유되어 있어 잘못 사용, 취급 또는 폐기할 경우 폭발의 위험이 있습니다.

사고를 방지하려면 다음 사항을 준수하십시오.

- 배터리를 물 속에 던지거나 침수시키지 마십시오.
- 100℃(212°F) 이상 가열하지 마십시오.
- 수리하거나 분해하지 마십시오.

배터리를 폐기할 때는 법령 또는 회사의 안전 수칙에 따라 폐기하십시오.



주의:

CD-ROM, DVD-ROM 장치, 광섬유 장치 또는 송신 장치와 같은 레이저 제품을 설치할 때, 다음과 같은 취급 주의사항을 참고하십시오.

- 덮개를 열지 마십시오. 덮개를 열면 레이저 복사 에너지에 노출될 위험이 있습니다. 장치 내부에는 사용자가 조정하거나 수리할 수 있는 부품이 없습니다.
- 규정된 것 이외의 절차 수행, 제어 조정 등의 행위로 인해 해로운 레이저 복사에 노출될 수 있습니다.



위험

일부 장비에는 임베디드 클래스 3A 또는 클래스 3B 레이저 다이오드가 있습니다. 다음 주의사항에 유의하십시오.

드라이브가 열리면 레이저 복사 에너지가 방출됩니다. 광선이 눈에 직접 쏘이지 않도록 하십시오. 나안 또는 광학 기구를 착용한 상태에서 광선을 직접 바라보지 않도록 하십시오.



≥ 18 kg (37 lbs)



≥ 32 kg (70.5 lbs)



≥ 55 kg (121.2 lbs)

주의:

제품을 들어 올릴 때 안전 규제를 따르십시오.



주의:

장치의 전원 제어 버튼 및 전원 공급 장치의 전원 스위치를 사용하여 장치에 공급되는 전기를 차단하지 마십시오. 장치는 둘 이상의 코드를 가지고 있을 수 있습니다. 장치에서 모든 전원을 차단하려면 콘센트에서 코드가 모두 분리되어 있는지 확인하십시오.





PELIGRO

La corriente eléctrica procedente de cables de alimentación, teléfonos y cables de comunicación puede ser peligrosa.

Para evitar el riesgo de descarga eléctrica:

- **No conecte ni desconecte los cables ni realice ninguna tarea de instalación, mantenimiento o reconfiguración de este producto durante una tormenta eléctrica.**
- **Conecte todos los cables de alimentación a tomas de corriente debidamente cableadas y conectadas a tierra.**
- **Cualquier equipo que se conecte a este producto también debe conectarse a tomas de corriente debidamente cableadas.**
- **Siempre que sea posible, utilice una sola mano para conectar o desconectar los cables de señal.**
- **No encienda nunca un equipo cuando hay señales de fuego, agua o daños estructurales.**
- **Desconecte los cables de alimentación, los sistemas de telecomunicaciones, las redes y los módems conectados antes de abrir las cubiertas de los dispositivos, a menos que se indique lo contrario en los procedimientos de instalación y configuración.**
- **Conecte y desconecte los cables, como se describe en la tabla siguiente, cuando instale, mueva o abra las cubiertas de este producto o de los dispositivos conectados.**

Para conectar	Para desconectar
<ol style="list-style-type: none">1. APÁGUELO todo.2. En primer lugar, conecte todos los cables a los dispositivos.3. Conecte los cables de señal a los conectores.4. Enchufe los cables de alimentación a las tomas de corriente.5. Encienda el dispositivo.	<ol style="list-style-type: none">1. APÁGUELO todo.2. En primer lugar, desenchufe los cables de alimentación de las tomas de corriente.3. Desconecte los cables de señal de los conectores.4. Desconecte todos los cables de los dispositivos.



PRECAUCIÓN:

Cuando sustituya una batería de litio, utilice solamente una batería número de pieza 33F8354 u otra de tipo equivalente recomendada por el fabricante. Si su sistema dispone de un módulo que contiene una batería de litio, reemplácelo sólo con el mismo tipo de módulo, del mismo fabricante. La batería contiene litio y puede explotar si no se utiliza, manipula o desecha correctamente.

No debe:

- Arrojarla al agua o sumergirla en ella
- Exponerla a temperaturas superiores a 100°C (212°F)
- Repararla o desmontarla

Deshágase de la batería según especifiquen las leyes o normas locales.



PRECAUCIÓN:

Cuando haya productos láser (como unidades de CD-ROM, unidades de DVD, dispositivos de fibra óptica o transmisores) instalados, tenga en cuenta lo siguiente:

- No quite las cubiertas. Si quita las cubiertas del producto láser, podría quedar expuesto a radiación láser peligrosa. Dentro del dispositivo no existe ninguna pieza que requiera servicio técnico.
- Si usa controles o ajustes o realiza procedimientos que no sean los especificados aquí, podría exponerse a radiaciones peligrosas.



PELIGRO

Algunos productos láser tienen incorporado un diodo láser de clase 3A o clase 3B. Tenga en cuenta lo siguiente:

Cuando se abre, queda expuesto a radiación láser. No mire directamente al rayo láser, ni siquiera con instrumentos ópticos, y evite exponerse directamente al rayo láser.



≥18 kg



≥32 kg



≥55 kg

PRECAUCIÓN:

Adopte procedimientos seguros al levantar el equipo.



PRECAUCIÓN:

El botón de control de alimentación del dispositivo y el interruptor de alimentación de la fuente de alimentación no desconectan la corriente eléctrica suministrada al dispositivo. Además, el dispositivo podría tener más de un cable de alimentación. Para suprimir toda la corriente eléctrica del dispositivo, asegúrese de que todos los cables de alimentación estén desconectados de la toma de corriente.



Chapter 3. General information

This chapter provides general information that applies to all machine types supported by this publication.

The Lenovo Care program

The Lenovo Caresm program combines innovative tools, services, and support to help increase productivity and spend less time worrying about computer problems.

The Lenovo Care program organizes your major tasks, your most frequently used applications and support tools, and provides easy access to:

- Quick Links that are shortcuts to tools for:
 - Managing multimedia software
 - Starting a data backup
 - Launching Lenovo PC Support
 - Viewing critical system information
- Resource Center with support in one convenient place for tasks, such as:
 - One-button system recovery
 - Automatic updates
 - Performance restoration
 - Easy network connectivity and management
- Message Center with information about system and support features including:
 - Notification of new versions of tools and device drivers
 - Useful hints and tips

To access the Lenovo Care program, open the **Start** menu from the Windows[®] desktop, select **All Programs**, select **Lenovo Care**, and click **Lenovo Care**.

Additional information resources

If you have Internet access, the most up-to-date information for your computer is available from the World Wide Web.

You can find the following information:

- CRU removal and installation instructions
- Publications
- Troubleshooting information
- Parts information
- Downloads and drivers
- Links to other useful sources of information

To access this information, point your browser to <http://www.lenovo.com/support/>.

Specifications

This section lists the physical specifications for your computer.

Types 9680, 9681, 9682, 9683, 9684, and 9685

This section lists the physical specifications for your computer.

Dimensions

Width: 331 mm (13.03 in.)

Height: 105 mm (4.13 in.)

Depth: 405 mm (15.94 in.)

Weight

Minimum configuration as shipped: 8.2 kg (18 lbs)

Maximum configuration: 10.4 kg (23 lbs)

Environment

Air temperature:

Operating at 0 - 3000 ft (914.4 m): 10° to 35°C (50° to 95°F)

Operating at 3000 ft - 7000 ft (2134 m): 10° to 32°C (50° to 89.6°F)

Non-operating: 10° to 60°C (50° to 140°F)

Humidity:

Operating: 10% to 80%

Non-operating: 10% to 90%

Transit: 8% to 90%

Maximum altitude: 7000 ft (2133.6 m)

Electrical input: Some models have a switchable power supply that supports both low and high input voltage ranges. Some models do not have a switch and support only a low or high input voltage range. See “Voltage-selection switch” on page 5 for additional information.

Input voltage:

Low range:

Minimum: 100V ac

Maximum: 127V ac

Input frequency: 50/60 Hz

Voltage switch setting: 115V ac (some models)

High range:

Minimum: 200V ac

Maximum: 240V ac

Input frequency: 50/60 Hz

Voltage switch setting: 230V ac (some models)

Input kilovolt-amperes (kVA) (approximate):

Minimum configuration as shipped: 0.09 kVA

Maximum configuration: 0.27 kVA

Note: Power consumption and heat output vary depending on the number and type of optional features installed and the power-management optional features in use.

Types 9686, 9687, 9688, 9689, 9690, and 9691

This section lists the physical specifications.

Dimensions

Height: 410 mm (16.14 in.)

Width: 175 mm (6.9 in.)

Depth: 424 mm (16.7 in.)

Weight

Minimum configuration: 8.17 kg (18 lb)

Maximum configuration: 10.21 kg (22.5 lb)

Environment

Air temperature:

Operating at 0 - 3000 ft (914.4 m): 10° to 35°C (50° to 95°F)

Operating at 3000 ft - 7000 ft (2134 m): 10° to 32°C (50° to 89.6°F)

Non-operating: 10° to 60°C (50° to 140°F)

Humidity:

Operating: 10% to 80%

Non-operating: 10% to 90%

Transit: 8% to 90%

Maximum altitude: 7000 ft (2133.6 m)

Electrical input: Some models have a switchable power supply that supports both low and high input voltage ranges. Some models do not have a switch and support only a low or high input voltage range. See “Voltage-selection switch” on page 5 for additional information.

Input voltage:

Low range:

Minimum: 100V ac

Maximum: 127V ac

Input frequency: 50/60 Hz

Voltage switch setting: 115V ac (some models)

High range:

Minimum: 200V ac

Maximum: 240V ac

Input frequency: 50/60 Hz

Voltage switch setting: 230V ac (some models)

Input kilovolt-amperes (kVA) (approximate):

Minimum configuration as shipped: 0.10 kVA

Maximum configuration: 0.31 kVA

Note: Power consumption and heat output vary depending on the number and type of optional features installed and the power-management optional features in use.

Chapter 4. General Checkout

Attention

The drives in the computer you are servicing might have been rearranged or the drive startup sequence changed. Be extremely careful during write operations such as copying, saving, or formatting. Data or programs can be overwritten if you select an incorrect drive.

General error messages appear if a problem or conflict is found by an application program, the operating system, or both. For an explanation of these messages, refer to the information supplied with that software package.

Before replacing any FRUs, ensure that the latest level of BIOS is installed on the system. A down-level BIOS might cause false errors and unnecessary replacement of the system board. For more information on how to determine and obtain the latest level BIOS, see “BIOS levels” on page 227.

Use the following procedure to help determine the cause of the problem:

1. Power-off the computer and all external devices.
2. Check all cables and power cords.
3. Set all display controls to the middle position.
4. Power-on all external devices.
5. Power-on the computer.
 - Look for displayed error codes
 - Listen for beep codes
 - Look for readable instructions or a main menu on the display.If you **did not** receive the correct response, proceed to step 6.
If you **do** receive the correct response, proceed to step 7.
6. Look at the following conditions and follow the instructions:
 - If you hear beep codes during POST, go to “Beep symptoms” on page 77.
 - If the computer displays a POST error, go to “POST error codes” on page 78.
 - If the computer hangs and no error is displayed, continue at step 7.
7. Run the Diagnostic programs. See Chapter 5, “Diagnostics,” on page 45.
 - If you receive an error, replace the part that the diagnostic program calls out or go to “Diagnostic error codes” on page 56.
 - If the test stops and you cannot continue, replace the last device tested.

Problem determination tips

Due to the variety of hardware and software combinations that can be encountered, use the following information to assist you in problem determination. If possible, have this information available when requesting assistance from Service Support and Engineering functions.

- Machine type and model
- Processor or hard disk upgrades
- Failure symptom
 - Do diagnostics indicate a failure?

- What, when, where, single, or multiple systems?
- Is the failure repeatable?
- Has this configuration ever worked?
- If it has been working, what changes were made prior to it failing?
- Is this the original reported failure?
- Diagnostics version
 - Type and version level
- Hardware configuration
 - Print (print screen) configuration currently in use
 - BIOS level
- Operating system software
 - Type and version level

Note: To eliminate confusion, identical systems are considered identical only if they:

1. Are the exact machine type and models
2. Have the same BIOS level
3. Have the same adapters/attachments in the same locations
4. Have the same address jumpers/terminators/cabling
5. Have the same software versions and levels
6. Have the same Diagnostic Diskettes (version)
7. Have the same configuration options set in the system
8. Have the same setup for the operating system control files

Comparing the configuration and software set-up between “working and non-working” systems will often lead to problem resolution.

Chapter 5. Diagnostics

Diagnostic programs are used to test hardware components of your computer and report operating-system-controlled settings that can cause hardware failures. There are two diagnostic programs preinstalled on your computer to help you diagnose problems:

- PC-Doctor for Windows (used when diagnosing problems while running the Windows operating system)
- PC-Doctor for Windows PE (used when your Windows operating system will not start)

Notes:

1. You can also download the latest version of the PC-Doctor for Windows and PC-Doctor for DOS diagnostic programs from <http://www.lenovo.com/support/>.
2. If you are unable to isolate and repair the problem yourself by running the applicable version of PC-Doctor, click the Save Button in the PC-Doctor-log-file display. You will need to have all problem-related log files available when you speak to a Lenovo technical support representative.

PC-Doctor for Windows

PC-Doctor for Windows is a diagnostic program that works through the Windows operating system. The PC-Doctor for Windows diagnostic program enables you to view symptoms and solutions for computer problems, access the Lenovo troubleshooting center, update system drivers, and review system information.

To run PC-Doctor for Windows, open the Start menu from the Windows desktop, select **All Programs**, select **PC-Doctor for Windows**, and click **PC-Doctor for Windows**. Follow the instructions on the screen. For additional information about running the diagnostic program, refer to the PC-Doctor for Windows help system.

If you still suspect a problem after PC-Doctor for Windows runs successfully, run PC-Doctor for DOS or PC-Doctor for Windows PE to help you diagnose the computer problem.

PC Doctor for Windows also has problem determination aids that determine software and usage problems.

PC-Doctor for Windows PE

The PC-Doctor for Windows PE diagnostic program is part of the Rescue and Recovery™ workspace on each Lenovo computer. Use PC-Doctor for Windows PE, if you are unable to start the Windows operating system or if PC-Doctor for Windows has not been successful in isolating a possible problem.

Running diagnostics from the Rescue and Recovery workspace

You can run the PC-Doctor for Windows PE diagnostic program from the Rescue and Recovery workspace. To run diagnostics from the Rescue and Recovery workspace, use the following procedure:

1. Shut down the operating system and turn off the computer.
2. Repeatedly press and release the F11 key as you turn on the computer.
3. When you hear beeps or see a logo screen, stop pressing the F11 key. The Rescue and Recovery workspace opens.
4. From the Rescue and Recovery workspace, select **Diagnose hardware**.
5. The diagnostic program opens automatically. Select the diagnostic test you want to run. Press the F1 key for additional help.
6. Follow the instructions on the screen.

Note: Rescue media includes PC-Doctor for Windows PE. For more information about rescue media, see the *User Guide* for the computer.

PC-Doctor for DOS

Use PC-Doctor for DOS, if you are unable to start the Windows operating system or if PC-Doctor for Windows has not been successful in isolating a possible problem. You can run PC-Doctor for DOS from a diagnostic CD image or diagnostic diskettes that have been created.

Note: It is important to create a diagnostic CD image or diagnostic diskettes in case PC-Doctor for Windows PE cannot be run from the Rescue and Recovery workspace.

Creating a diagnostic CD image

To create a diagnostic CD image, download a self-starting bootable CD image (known as an .iso image) of the diagnostic program from <http://www.lenovo.com/support/>. After you download the image, you can create the CD using any CD burning software.

If the computer does not have a CD burner or you do not have Internet access, see "Creating diagnostic diskettes."

Creating diagnostic diskettes

To create diagnostic diskettes, download the PC-Doctor for DOS diagnostic program from <http://www.lenovo.com/support/> onto two blank, formatted diskettes.

If you do not have Internet access, create the diagnostic diskettes using the following procedure:

Note: You will need a diskette drive on the computer or a USB diskette drive to complete this procedure.

1. Shut down the operating system and turn off the computer.
2. If you are using a USB diskette drive, plug it into the computer.
3. Repeatedly press and release the F11 key as you turn on the computer.
4. When you hear beeps or see a logo screen, stop pressing the F11 key. The Rescue and Recovery workspace opens.

Note: For some models, press the Esc key to enter Rescue and Recovery.

5. From the Rescue and Recovery workspace, select **Create diagnostic disks**.
6. Follow the instructions on the screen.

7. When prompted, insert a blank, formatted diskette into the diskette drive and continue to follow the instructions on the screen.
8. When the operation is complete, remove the diskette and click **Quit**.
9. Insert another blank, formatted diskette into the diskette drive and continue to follow the instructions on the screen.
10. When the operation is complete, remove the diskette and click **Quit**.

Running diagnostics from the CD or diskettes

To run diagnostics from the diagnostic CD image or diagnostic diskettes that you created, use the following procedure:

1. Make sure the computer is turned off.
2. If you are running diagnostics from diskettes using a USB diskette drive, plug in the USB device.
3. Insert the CD into the optical drive or the first diagnostic diskette into the diskette drive.
4. Restart the computer.

Note: If the diagnostic program does not start, you might not have your optical drive or diskette drive set as a startable device. See “Selecting a startup device” on page 53 for instructions on how to change the startup device.

5. When the diagnostics program opens, follow the instructions on the screen.

Note: If you are running diagnostics from a diskette, when prompted, remove the first diskette and insert the second diskette.

6. When the program finishes, be sure to remove the CD or diskette from the drive.
7. Select the diagnostic test you want to run. Press the F1 key for additional help.

Navigating through the diagnostics programs

Use the cursor movement keys to navigate within the menus.

- The **Enter** key is used to select a menu item.
- The **Esc** key is used to back up to the previous menu.
- For online help select **F1**.

Running tests

There are four ways to run the diagnostic tests.

- Using the cursor movement keys, highlight **Run Normal Test** or **Run Quick Test** from the Diagnostics menu and then press **Enter**.

This automatically runs a pre-defined group of tests from each test category.

Run Normal Test runs a more extensive set of tests than does **Run Quick Test** and takes longer to complete.

- Press **F5** to automatically run all selected tests in all categories.
- From within a test category, press **Ctrl-Enter** to automatically run only the selected tests in that category.
- Using the cursor movement keys, highlight a single test within a test category, and then press **Enter**. This runs only that test.

Press **Esc** at any time to stop the testing process.

Test results (N/A, PASSED, FAILED, ABORTED) are displayed in the field beside the test description and in the test log. See “Viewing the test log” on page 49.

To select one or more tests, use the following procedure.

1. Open the corresponding test category.
2. Using the cursor movement keys, highlight the desired test.
3. Press the space bar.
A selected test is marked by >>. Pressing the space bar again de-selects a test and removes the >>.
4. Repeat steps 2 and 3 above to select all desired tests.

Test results

Diagnostics test results produce the following error code format:

Function Code	Failure Type	DeviceID	Date	ChkDigits	Text
---------------	--------------	----------	------	-----------	------

- **Function Code:**
Represents the feature or function within the PC.
- **Failure Type:**
Represents the type of error encountered.
- **DeviceID:**
Contains the component’s unit-ID which corresponds to either a fixed disk drive, removable media drive, serial or parallel port, processor, specific RIMM, or a device on the PCI bus.
- **Date:**
Contains the date when the diagnostic test was run. The date is retrieved from CMOS and displayed using the YYYYMMDD format.
- **ChkDigits:**
Contains a 2-digit check-digit value to ensure the following:
 - Diagnostics were run on the specified date.
 - Diagnostics were run on the specified computer.
 - The diagnostic error code is recorded correctly.
- **Text:**
Description of the error.

Note: See “Diagnostic error codes” on page 56 for error code listings.

Quick and Full erase - hard drive

The diagnostics program offers two hard drive format utilities:

- Quick Erase Hard Drive
- Full Erase Hard Drive

The Quick Erase Hard Drive provides a DOS utility that performs the following:

- Destroys the Master Boot Record (MBR) on the hard drive.
- Destroys all copies of the FAT Table on all partitions (both the master and backup).
- Destroys the partition table.
- Provides messages that warn the user that this is a non-recoverable process.

The Full Erase Hard Drive provides a DOS utility that performs the following:

- Performs all the steps in Quick Erase.
- Provides a DOS utility that writes random data to all sectors of the hard drive.
- Provides an estimate of time to completion along with a visual representation of completion status.
- Provides messages that warn the user about non-recoverable process.

Important: Make sure that all data is backed up before using the Quick or Full Erase functions.
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To select the Quick Erase or Full Erase Hard Drive utility, use the following procedure:

1. Select the UTILITY option on the toolbar and press **Enter**.
2. Select either the QUICK ERASE or FULL ERASE HARD DISK option and follow the instructions.

Viewing the test log

Errors reported by the diagnostic test will be displayed by the program as a failed test.

To view details of a failure or to view a list of test results, use the following procedure from any test category screen:

1. Press **F3** to activate the log file.
2. Press **F3** again to save the file to diskette or press **F2** to print the file.

Chapter 6. Using the Setup Utility

The Setup Utility program is used to view and change the configuration settings of your computer, regardless of which operating system you are using. However, the operating-system settings might override any similar settings in the Setup Utility program.

Starting the Setup Utility program

To start the Setup Utility program, do the following:

1. If your computer is already on when you start this procedure, shut down the operating system and turn off the computer.
2. Press and hold the F1 key then turn on the computer. When you hear multiple beeps, release the F1 key.

Notes:

- a. If you are using a USB keyboard and the Setup Utility program does not display using this method, repeatedly press and release the F1 key rather than leaving it pressed when turning on the computer.
- b. If a user password or an administrator password has been set, the Setup Utility program menu is not displayed until you type your password. For more information, see "Using passwords."

The Setup Utility might start automatically when POST detects that hardware has been removed or new hardware has been installed in your computer.

Viewing and changing settings

The Setup Utility program menu lists items that identify system configuration topics. To view or change settings, see "Starting the Setup Utility program."

When working with the Setup Utility program menu, you must use the keyboard. The keys used to perform various tasks are displayed at the bottom of each screen.

Using passwords

By using the Setup Utility program, you can set passwords to prevent unauthorized persons from gaining access to your computer and data. See "Starting the Setup Utility program." The following types of passwords are available:

- User Password
- Administrator Password

You do not have to set any passwords to use your computer. However, if you decide to set any passwords, read the following sections.

Password considerations

A password can be any combination of up to twelve characters (a-z and 0-9) and symbols. For security reasons, it is a good idea to use a strong password that cannot be easily compromised. Passwords should adhere to the following rules:

- Have at least eight characters in length

- Contain at least one alphabetic character, one numeric character, and one symbol
- Contain at least one of the following symbols: , . / ` ' []
- You can also use the space bar
- Setup Utility program and hard disk drive passwords are not case sensitive
- Not be your name or your user name
- Not be a common word or a common name
- Be significantly different from your previous password

User Password

When a User Password is set, the computer cannot be used until a valid password is typed from the keyboard.

Administrator Password

When an Administrator Password is set, it deters unauthorized persons from changing configuration settings. If you are responsible for maintaining the settings of several computers, you might want to set an Administrator Password.

After you set an Administrator Password, a password prompt is displayed each time you try to access the Setup Utility program.

If both the user and administrator passwords are set, you can type either password. However, to change any configuration settings, you must use your administrator password.

Setting, changing, and deleting a password

To set, change, or delete a password, do the following:

Note: A password can be any combination of up to twelve characters (A- Z, a-z, and 0-9). For more information, see “Password considerations” on page 51.

1. Start the Setup Utility program (see “Starting the Setup Utility program” on page 51).
2. From the Setup Utility program menu, select **Security**.
3. Select **Set Passwords**. Read the information displayed on the right side of the screen.

Using Security Profile by Device

Security Profile by Device is used to enable or disable user access to the following devices:

IDE controller	When this feature is set to Disable , all devices connected to the IDE controller (such as hard disk drives or the CD-ROM drive) are disabled and will not be displayed in the system configuration.
Diskette Drive Access	When this feature is set to Disable , the diskette drive cannot be accessed.

To set Security Profile by Device, do the following:

1. Start the Setup Utility program (see “Starting the Setup Utility program” on page 51).
2. From the Setup Utility program menu, select **Security**.

3. Select **Security Profile by Device**.
4. Select the desired devices and settings and press Enter.
5. Return to the Setup Utility program menu and select **Exit** and then **Save Settings** or **Save and exit the Setup Utility**.

Note: If you do not want to save the settings, select **Exit the Setup Utility without saving**.

Selecting a startup device

If your computer does not start up (boot) from a device such as the CD-ROM, diskette, or hard disk as expected, use one of the following procedures to select a startup device.

Selecting a temporary startup device

Use this procedure to startup from any boot device.

Note: Not all CDs, hard disks, and diskettes are bootable.

1. Turn off your computer.
2. Press and hold the F12 key then turn on the computer. When the Startup Device Menu appears, release the F12 key.

Note: If you are using a USB keyboard and the Startup Device Menu does not display using this method, repeatedly press and release the F12 key rather than leaving it pressed when turning on the computer.

3. Select the desired startup device from the Startup Device Menu and press Enter to begin.

Note: Selecting a startup device from the Startup Device menu does not permanently change the startup sequence.

Selecting or changing the startup device sequence

To view or permanently change the configured startup device sequence, do the following:

1. Start the Setup Utility program (see “Starting the Setup Utility program” on page 51).
2. Select **Startup**.
3. Select **Startup Sequence**. See the information displayed on the right side of the screen.
4. Select the devices for the Primary Startup Sequence, the Automatic Startup Sequence, and the Error Startup Sequence.
5. Select **Exit** from the Setup Utility menu and then **Save Settings** or **Save and exit the Setup Utility**.

If you have changed these settings and want to return to the default settings, select **Load Default Settings** on the Exit menu.

Advanced settings

On some computer models the Advanced settings menu includes a setting to Enable/Disable HyperThreading. This feature works only with HyperThreading-aware operating systems, such as Microsoft® Windows XP and Windows Vista®. The default setting for HyperThreading is Enabled. However, if you select **Set Defaults** and are using an operating system other than Windows XP or Windows Vista, your computer performance might be degraded. Therefore, you should always set HyperThreading to Disabled unless you are sure your operating system supports HyperThreading.

Exiting from the Setup Utility program

When you finish viewing or changing settings, press Esc to return to the Setup Utility program menu (you might have to press Esc several times). If you want to save the new settings, select **Save & Exit Setup** before you exit. Otherwise, your changes will not be saved.

Chapter 7. Symptom-to-FRU Index

The Symptom-to-FRU index lists error symptoms and possible causes. The most likely cause is listed first. Always begin with Chapter 4, “General Checkout,” on page 43. This index can also be used to help you decide which FRUs to have available when servicing a computer. If you are unable to correct the problem using this index, go to “Undetermined problems” on page 81.

Notes:

- If you have both an error message and an incorrect audio response, diagnose the error message first.
- If you cannot run the diagnostic tests or you get a diagnostic error code when running a test, but did receive a POST error message, diagnose the POST error message first.
- If you did not receive any error message, look for a description of your error symptoms in the first part of this index.

Hard disk drive boot error

A hard disk drive boot error (error codes 1962 and I999030X) can have the following causes.

Error	FRU/Action
The start-up drive is not in the boot sequence in configuration.	Check the configuration and ensure the start-up drive is in the boot sequence.
No operating system installed on the boot drive.	Install an operating system on the boot drive.
The boot sector on the start-up drive is corrupted.	The drive must be formatted, do the following: <ol style="list-style-type: none">1. Attempt to back-up the data on the failing hard disk drive.2. Using the operating systems programs, format the hard disk drive.
The drive is defective.	Replace the hard disk drive.

Power Supply Problems

If you suspect a power problem, use the following procedures.

Check/Verify	FRU/Action
Check the following for proper installation. <ul style="list-style-type: none">• Power Cord• On/Off Switch connector• On/Off Switch Power Supply connector• System Board Power Supply connectors• Microprocessor(s) connection	Reseat connectors
Check the power cord for continuity.	Power Cord
Check the power-on switch for continuity.	Power-on Switch

Diagnostic error codes

Refer to the following diagnostic error codes when using the diagnostic tests. See “Running tests” on page 47 for the specific type for information about the Diagnostic programs.

In the following index, X can represent any number.

Diagnostic Error Code	FRU/Action
000-000-XXX BIOS Test Passed	No action
000-002-XXX BIOS Timeout	<ol style="list-style-type: none">1. Flash the system. See “Flash update procedures” on page 2272. System board
000-024-XXX BIOS Addressing test failure	<ol style="list-style-type: none">1. Flash the system. See “Flash update procedures” on page 2272. System board
000-025-XXX BIOS Checksum Value error	<ol style="list-style-type: none">1. Flash the system. See “Flash update procedures” on page 2272. System board
000-026-XXX FLASH data error	<ol style="list-style-type: none">1. Flash the system. See “Flash update procedures” on page 2272. System board
000-027-XXX BIOS Configuration/Setup error	<ol style="list-style-type: none">1. Run Setup2. Flash the system. See “Flash update procedures” on page 2273. System board
000-034-XXX BIOS Buffer Allocation failure	<ol style="list-style-type: none">1. Reboot the system2. Flash the system. See “Flash update procedures” on page 2273. Run memory test4. System board
000-035-XXX BIOS Reset Condition detected	<ol style="list-style-type: none">1. Flash the system. See “Flash update procedures” on page 2272. System board
000-036-XXX BIOS Register error	<ol style="list-style-type: none">1. Flash the system. See “Flash update procedures” on page 2272. System board
000-038-XXX BIOS Extension failure	<ol style="list-style-type: none">1. Flash the system. See “Flash update procedures” on page 2272. Adapter card3. System board
000-039-XXX BIOS DMI data error	<ol style="list-style-type: none">1. Flash the system. See “Flash update procedures” on page 2272. System board
000-195-XXX BIOS Test aborted by user	Information only Re-start the test, if necessary

Diagnostic Error Code	FRU/Action
000-196-XXX BIOS test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file
000-197-XXX BIOS test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
000-198-XXX BIOS test aborted	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Flash the system and retest. See "Flash update procedures" on page 227 3. Go to "Undetermined problems" on page 81
000-199-XXX BIOS test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 81 2. Flash the system and re-test 3. Replace component under function test
000-250-XXX BIOS APM failure	<ol style="list-style-type: none"> 1. Flash the system. See "Flash update procedures" on page 227 2. System board
000-270-XXX BIOS ACPI failure	<ol style="list-style-type: none"> 1. Flash the system. See "Flash update procedures" on page 227 2. System board
001-000-XXX System Test Passed	No action
001-00X-XXX System Error	System board
001-01X-XXX System Error	System board
001-024-XXX System Addressing test failure	System board
001-025-XXX System Checksum Value error	<ol style="list-style-type: none"> 1. Flash the system. See "Flash update procedures" on page 227 2. System board
001-026-XXX System FLASH data error	<ol style="list-style-type: none"> 1. Flash the system. See "Flash update procedures" on page 227 2. System board
001-027-XXX System Configuration/Setup error	<ol style="list-style-type: none"> 1. Run Setup 2. Flash the system. See "Flash update procedures" on page 227 3. System board

Diagnostic Error Code	FRU/Action
001-032-XXX System Device Controller failure	System board
001-034-XXX System Device Buffer Allocation failure	<ol style="list-style-type: none"> 1. Reboot the system 2. Flash the system. See “Flash update procedures” on page 227 3. Run memory test 4. System board
001-035-XXX System Device Reset condition detected	System board
001-036-XXX System Register error	System board
001-038-XXX System Extension failure	<ol style="list-style-type: none"> 1. Adapter card 2. System board
001-039-XXX System DMI data structure error	<ol style="list-style-type: none"> 1. Flash the system. See “Flash update procedures” on page 227 2. System board
001-040-XXX System IRQ failure	<ol style="list-style-type: none"> 1. Power-off/on system and re-test 2. System board
001-041-XXX System DMA failure	<ol style="list-style-type: none"> 1. Power-off/on system and re-test 2. System board
001-195-XXX System Test aborted by user	Information only Re-start the test, if necessary
001-196-XXX System test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file
001-197-XXX System test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, “Using the Setup Utility,” on page 51 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
001-198-XXX System test aborted	<ol style="list-style-type: none"> 1. If a component is called out, make sure it is connected and/or enabled. See Chapter 6, “Using the Setup Utility,” on page 51 2. Flash the system and retest. See “Flash update procedures” on page 227 3. Go to “Undetermined problems” on page 81
001-199-XXX System test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to “Undetermined problems” on page 81 2. Flash the system and re-test 3. Replace component under function test
001-250-XXX System ECC error	System board

Diagnostic Error Code	FRU/Action
001-254-XXX 001-255-XXX 001-256-XXX 001-257-XXX System DMA error	System board
001-260-XXX 001-264-XXX System IRQ error	System board
001-268-XXX System IRQ1 failure	1. Device on IRQ1 2. System board
001-269-XXX System IRQ2 failure	1. Device on IRQ2 2. System board
001-270-XXX System IRQ3 failure	1. Device on IRQ3 2. System board
001-271-XXX System IRQ4 failure	1. Device on IRQ4 2. System board
001-272-XXX System IRQ5 failure	1. Device on IRQ5 2. System board
001-273-XXX System IRQ6 (diskette drive) failure	1. Diskette Cable 2. Diskette drive 3. System board
001-274-XXX System IRQ7 failure	1. Device on IRQ7 2. System board
001-275-XXX System IRQ8 failure	1. Device on IRQ8 2. System board
001-276-XXX System IRQ9 failure	1. Device on IRQ9 2. System board
001-277-XXX System IRQ10 failure	1. Device on IRQ10 2. System board
001-278-XXX System IRQ11 failure	1. Device on IRQ11 2. System board
001-279-XXX System IRQ12 failure	1. Device on IRQ12 2. System board
001-280-XXX System IRQ13 failure	1. Device on IRQ13 2. System board
001-281-XXX System IRQ14 (hard disk drive) failure	1. Hard disk drive cable 2. Hard disk drive 3. System board
001-282-XXX System IRQ15 failure	1. Device on IRQ15 2. System board

Diagnostic Error Code	FRU/Action
001-286-XXX 001-287-XXX 001-288-XXX System Timer failure	System board
001-292-XXX System CMOS RAM error	1. Run Setup and re-test 2. System board
001-293-XXX System CMOS Battery	1. CMOS Battery 2. System board
001-298-XXX System RTC date/time update failure	1. Flash the system. See “Flash update procedures” on page 227 2. System board
001-299-XXX System RTC periodic interrupt failure	System board
001-300-XXX System RTC Alarm failure	System board
001-301-XXX System RTC Century byte error	1. Flash the system. See “Flash update procedures” on page 227 2. System board
005-000-XXX Video Test Passed	No action
005-00X-XXX Video error	1. Video card, if installed 2. System board
005-010-XXX 005-011-XXX 005-012-XXX 005-013-XXX Video Signal failure	1. Video card, if installed 2. System board
005-016-XXX Video Simple Pattern test failure	1. Video Ram 2. Video card, if installed 3. System board
005-024-XXX Video Addressing test failure	1. Video card, if installed 2. System board
005-025-XXX Video Checksum Value error	1. Video card, if installed 2. System board
005-027-XXX Video Configuration/Setup error	1. Run Setup 2. Video drivers update 3. Video card, if installed 4. System board
005-031-XXX Video Device Cable failure	1. Video cable 2. Monitor 3. Video card, if installed 4. System board
005-032-XXX Video Device Controller failure	1. Video card, if installed 2. System board

Diagnostic Error Code	FRU/Action
005-036-XXX Video Register error	<ol style="list-style-type: none"> 1. Video card, if installed 2. System board
005-038-XXX System BIOS extension failure	<ol style="list-style-type: none"> 1. Video card, if installed 2. System board
005-040-XXX Video IRQ failure	<ol style="list-style-type: none"> 1. Video card, if installed 2. System board
005-195-XXX Video Test aborted by user	Information only Re-start the test, if necessary
005-196-XXX Video test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file
005-197-XXX Video test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Re-run test 3. Replace the component called out in warning statement 4. Replace the component under test
005-198-XXX Video test aborted	<ol style="list-style-type: none"> 1. If a component is called out, make sure it is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Go to "Undetermined problems" on page 81
005-199-XXX Video test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 81 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Replace component under function test
005-2XX-XXX 005-3XX-XXX Video subsystem error	<ol style="list-style-type: none"> 1. Video card, if installed 2. System board
006-000-XXX Diskette interface Test Passed	No action
006-0XX-XXX Diskette interface error	<ol style="list-style-type: none"> 1. Diskette drive Cable 2. Diskette drive 3. System board
006-195-XXX Diskette interface Test aborted by user	Information only Re-start the test, if necessary
006-196-XXX Diskette interface test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file

Diagnostic Error Code	FRU/Action
006-197-XXX Diskette interface test warning	<ol style="list-style-type: none"> 1. If a component is called out, make sure it is connected and/or enabled 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
006-198-XXX Diskette interface test aborted	<ol style="list-style-type: none"> 1. If a component is called out, make sure it is connected and/or enabled 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Go to "Undetermined problems" on page 81
006-199-XXX Diskette interface test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 81 2. Flash the system and re-test 3. Replace component under function test
006-25X-XXX Diskette interface Error	<ol style="list-style-type: none"> 1. Diskette drive cable 2. Diskette drive 3. System board
011-000-XXX Serial port Interface Test Passed	No action
011-001-XXX Serial port Presence	<ol style="list-style-type: none"> 1. Remove external serial device, if present 2. Run setup, enable port 3. System board
011-002-XXX 011-003-XXX Serial port Timeout/Parity error	System board
011-013-XXX 011-014-XXX Serial port Control Signal/Loopback test failure	System board
011-015-XXX Serial port External Loopback failure	<ol style="list-style-type: none"> 1. Wrap plug 2. System board
011-027-XXX Serial port Configuration/Setup error	<ol style="list-style-type: none"> 1. Run Setup, enable port 2. Flash the system. See "Flash update procedures" on page 227 3. System board
011-03X-XXX 011-04X-XXX Serial port failure	System board
011-195-XXX Serial port Test aborted by user	Information only Re-start the test, if necessary
011-196-XXX Serial port test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file

Diagnostic Error Code	FRU/Action
011-197-XXX Serial port test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
011-198-XXX Serial port test aborted	<ol style="list-style-type: none"> 1. If a component is called out, make sure it is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Go to "Undetermined problems" on page 81
011-199-XXX Serial port test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 81 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Replace component under function test
011-2XX-XXX Serial port signal failure	<ol style="list-style-type: none"> 1. External serial device 2. System board
014-000-XXX Parallel port Interface Test Passed	No action
014-001-XXX Parallel port Presence	<ol style="list-style-type: none"> 1. Remove external parallel device, if present 2. Run setup, enable port 3. System board
014-002-XXX 014-003-XXX Parallel port Timeout/Parity error	System board
014-013-XXX 014-014-XXX Parallel port Control Signal/Loopback test failure	System board
014-015-XXX Parallel port External Loopback failure	<ol style="list-style-type: none"> 1. Wrap plug 2. System board
014-027-XXX Parallel port Configuration/Setup error	<ol style="list-style-type: none"> 1. Run Setup, enable port 2. Flash the system. See "Flash update procedures" on page 227 3. System board
014-03X-XXX 014-04X-XXX Parallel port failure	System board
014-195-XXX Parallel port Test aborted by user	Information only Re-start the test, if necessary

Diagnostic Error Code	FRU/Action
014-196-XXX Parallel port test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file
014-197-XXX Parallel port test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
014-198-XXX Parallel port test aborted	<ol style="list-style-type: none"> 1. If a component is called out, make sure it is connected and/or enabled 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Go to "Undetermined problems" on page 81
014-199-XXX Parallel port test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 81 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Replace component under function test
014-2XX-XXX 014-3XX-XXX Parallel port failure	<ol style="list-style-type: none"> 1. External parallel device 2. System board
015-000-XXX USB port Interface Test Passed	No action
015-001-XXX USB port Presence	<ol style="list-style-type: none"> 1. Remove USB device(s) and re-test 2. System board
015-002-XXX USB port Timeout	<ol style="list-style-type: none"> 1. Remove USB device(s) and re-test 2. System board
015-015-XXX USB port External Loopback failure	<ol style="list-style-type: none"> 1. Remove USB device(s) and re-test 2. System board
015-027-XXX USB port Configuration/Setup error	<ol style="list-style-type: none"> 1. Flash the system. See "Flash update procedures" on page 227 2. System board
015-032-XXX USB port Device Controller failure	System board
015-034-XXX USB port buffer allocation failure	<ol style="list-style-type: none"> 1. Reboot the system 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Run memory test 4. System board
015-035-XXX USB port Reset condition detected	<ol style="list-style-type: none"> 1. Remove USB device(s) and re-test 2. System board

Diagnostic Error Code	FRU/Action
015-036-XXX USB port Register error	System board
015-040-XXX USB port IRQ failure	<ol style="list-style-type: none"> 1. Run setup and check for conflicts 2. Flash the system. See "Flash update procedures" on page 227 3. System board
015-195-XXX USB port Test aborted by user	Information only Re-start the test, if necessary
015-196-XXX USB port test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file
015-197-XXX USB port test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
015-198-XXX USB port test aborted	<ol style="list-style-type: none"> 1. If a component is called out, make sure it is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Go to "Undetermined problems" on page 81
015-199-XXX USB port test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 81 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Replace component under function test
018-000-XXX PCI Card Test Passed	No action
018-0XX-XXX PCI Card Failure	<ol style="list-style-type: none"> 1. Riser card, if installed 2. System board
018-195-XXX PCI Card Test aborted by user	<ol style="list-style-type: none"> 1. PCI card 2. Information only Re-start the test, if necessary
018-196-XXX PCI Card test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file

Diagnostic Error Code	FRU/Action
018-197-XXX PCI Card test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
018-198-XXX PCI Card test aborted	<ol style="list-style-type: none"> 1. If a component is called out, make sure it is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Go to "Undetermined problems" on page 81
018-199-XXX PCI Card test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 81 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Replace component under function test
018-250-XXX PCI Card Services error	<ol style="list-style-type: none"> 1. PCI card 2. Riser card, if installed 3. System board
020-000-XXX PCI Interface Test Passed	No action
020-0XX-XXX PCI Interface error	<ol style="list-style-type: none"> 1. PCI card 2. Riser card, if installed 3. System board
020-195-XXX PCI Test aborted by user	Information only Re-start the test, if necessary
020-196-XXX PCI test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file
020-197-XXX PCI test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test

Diagnostic Error Code	FRU/Action
020-198-XXX PCI test aborted	<ol style="list-style-type: none"> 1. If a component is called out, make sure it is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Go to "Undetermined problems" on page 81
020-199-XXX PCI test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 81 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Replace component under function test
020-262-XXX PCI system error	<ol style="list-style-type: none"> 1. PCI card 2. Riser card, if installed 3. System board
025-000-XXX IDE interface Test Passed	No action
025-00X-XXX 025-01X-XXX IDE interface failure	<ol style="list-style-type: none"> 1. IDE signal cable 2. Check power supply voltages 3. Reseat IDE signal cable 4. IDE device 5. System board
025-027-XXX IDE interface Configuration/Setup error	<ol style="list-style-type: none"> 1. IDE signal cable 2. Flash the system. See "Flash update procedures" on page 227 3. Reseat IDE signal cable 4. IDE device 5. System board
025-02X-XXX 025-03X-XXX 025-04X-XXX IDE Interface failure	<ol style="list-style-type: none"> 1. IDE signal cable 2. Check power supply 3. Reseat IDE signal cable 4. IDE device 5. System board
025-195-XXX IDE interface Test aborted by user	Information only Re-start the test, if necessary
025-196-XXX IDE interface test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file
025-197-XXX IDE interface test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test

Diagnostic Error Code	FRU/Action
025-198-XXX IDE interface test aborted	<ol style="list-style-type: none"> 1. If a component is called out, make sure it is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Go to "Undetermined problems" on page 81
025-199-XXX IDE interface test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 81 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Replace component under function test
030-000-XXX SCSI interface Test Passed	No action
030-00X-XXX 030-01X-XXX SCSI interface failure	<ol style="list-style-type: none"> 1. SCSI signal cable 2. Check power supply 3. SCSI device 4. SCSI adapter card, if installed 5. System board
030-027-XXX SCSI interface Configuration/Setup error	<ol style="list-style-type: none"> 1. SCSI signal cable 2. Flash the system. See "Flash update procedures" on page 227 3. SCSI device 4. SCSI adapter card, if installed 5. System board
030-03X-XXX 030-04X-XXX SCSI interface error	<ol style="list-style-type: none"> 1. SCSI signal cable 2. Check power supply 3. SCSI device 4. SCSI adapter card, if installed 5. System board
030-195-XXX SCSI interface Test aborted by user	Information only Re-start the test, if necessary
030-196-XXX SCSI interface test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file
030-197-XXX SCSI interface test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test

Diagnostic Error Code	FRU/Action
030-198-XXX SCSI interface test aborted	<ol style="list-style-type: none"> 1. If a component is called out, make sure it is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Go to "Undetermined problems" on page 81
030-199-XXX SCSI interface test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 81 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Replace component under function test
035-000-XXX RAID interface Test Passed	No action
035-0XX-XXX RAID interface Failure	<ol style="list-style-type: none"> 1. RAID signal cable 2. RAID device 3. RAID adapter card, if installed 4. System board
035-195-XXX RAID interface Test aborted by user	Information only Re-start the test, if necessary
035-196-XXX RAID interface test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file
035-197-XXX RAID interface test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
035-198-XXX RAID interface test aborted	<ol style="list-style-type: none"> 1. If a component is called out, make sure it is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Go to "Undetermined problems" on page 81
035-199-XXX RAID interface test failed, cause unknown	<ol style="list-style-type: none"> 1. See "Undetermined problems" on page 81 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Replace component under function test
071-000-XXX Audio port Interface Test Passed	No action

Diagnostic Error Code	FRU/Action
071-00X-XXX 071-01X-XXX 071-02X-XXX Audio port error	<ol style="list-style-type: none"> 1. Run Setup 2. Flash the system. See "Flash update procedures" on page 227 3. System board
071-03X-XXX Audio port failure	<ol style="list-style-type: none"> 1. Speakers 2. Microphone 3. Audio card, if installed 4. System board
071-04X-XXX Audio port failure	<ol style="list-style-type: none"> 1. Run Setup 2. Audio card, if installed 3. System board
071-195-XXX Audio port Test aborted by user	<p>Information only Re-start the test, if necessary</p>
071-196-XXX Audio port test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file
071-197-XXX Audio port test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
071-198-XXX Audio port test aborted	<ol style="list-style-type: none"> 1. If a component is called out, make sure it is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Go to "Undetermined problems" on page 81
071-199-XXX Audio port test failed, cause unknown	<ol style="list-style-type: none"> 1. See "Undetermined problems" on page 81 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Replace component under function test
071-25X-XXX Audio port failure	<ol style="list-style-type: none"> 1. Speakers 2. Audio card, if installed 3. System board
080-000-XXX Game Port interface Test Passed	No action
080-XXX-XXX Game Port interface Error	<ol style="list-style-type: none"> 1. Remove the game port device and re-test the system
080-195-XXX Game Port interface Test aborted by user	<p>Information only Re-start the test, if necessary</p>

Diagnostic Error Code	FRU/Action
080-196-XXX Game Port interface test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file
080-197-XXX Game Port interface test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
080-198-XXX Game Port interface test aborted	<ol style="list-style-type: none"> 1. If a component is called out, make sure it is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Go to "Undetermined problems" on page 81
080-199-XXX Game Port interface test failed, cause unknown	<ol style="list-style-type: none"> 1. See "Undetermined problems" on page 81 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Replace component under function test
086-000-XXX Mouse Port interface Test Passed	No action
086-001-XXX Mouse Port interface Presence	<ol style="list-style-type: none"> 1. Mouse 2. System board
086-032-XXX Mouse Port interface Device controller failure	<ol style="list-style-type: none"> 1. Mouse 2. System board
086-035-XXX Mouse Port interface Reset	<ol style="list-style-type: none"> 1. Mouse 2. System board
086-040-XXX Mouse Port interface IRQ failure	<ol style="list-style-type: none"> 1. Run Setup 2. Mouse 3. System board
086-195-XXX Mouse Port interface Test aborted by user	Information only Re-start the test, if necessary
086-196-XXX Mouse Port interface test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file

Diagnostic Error Code	FRU/Action
086-197-XXX Mouse Port interface test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
086-198-XXX Mouse Port interface test aborted	<ol style="list-style-type: none"> 1. If a component is called out, make sure it is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Go to "Undetermined problems" on page 81
086-199-XXX Mouse Port interface test failed, cause unknown	<ol style="list-style-type: none"> 1. See "Undetermined problems" on page 81 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Replace component under function test
089-000-XXX Microprocessor Test Passed	No action
089-XXX-XXX Microprocessor failure	<ol style="list-style-type: none"> 1. Microprocessor(s) 2. System board
089-195-XXX Microprocessor Test aborted by user	Information only Re-start the test, if necessary
089-196-XXX Microprocessor test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file
089-197-XXX Microprocessor test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
089-198-XXX Microprocessor test aborted	<ol style="list-style-type: none"> 1. Flash the system. See "Flash update procedures" on page 227 2. Go to "Undetermined problems" on page 81
089-199-XXX Microprocessor test failed, cause unknown	<ol style="list-style-type: none"> 1. See "Undetermined problems" on page 81 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Replace component under function test
170-000-XXX Voltage Sensor(s) Test Passed	No action

Diagnostic Error Code	FRU/Action
170-0XX-XXX Voltage Sensor(s) failure	<ol style="list-style-type: none"> 1. Flash system 2. System board
170-195-XXX Voltage Sensor(s) Test aborted by user	Information only Re-start the test, if necessary
170-196-XXX Voltage Sensor(s) test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file
170-197-XXX Voltage Sensor(s) test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
170-198-XXX Voltage Sensor(s) test aborted	<ol style="list-style-type: none"> 1. If a component is called out, make sure it is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Go to "Undetermined problems" on page 81
170-199-XXX Voltage Sensor(s) test failed, cause unknown	<ol style="list-style-type: none"> 1. See "Undetermined problems" on page 81 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Replace component under function test
170-250-XXX 170-251-XXX Voltage Sensor(s) Voltage limit error	<ol style="list-style-type: none"> 1. Power supply 2. System board
170-254-XXX Voltage Sensor(s) Voltage Regulator Module error	<ol style="list-style-type: none"> 1. Voltage Regulator Module (VRM) 2. Microprocessor 3. System board
175-000-XXX Thermal Sensor(s) Test Passed	No action
175-0XX-XXX Thermal Sensor(s) failure	<ol style="list-style-type: none"> 1. Flash system 2. System board
175-195-XXX Thermal Sensor(s) Test aborted by user	Information only Re-start the test, if necessary
175-196-XXX Thermal Sensor(s) test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file

Diagnostic Error Code	FRU/Action
175-197-XXX Thermal Sensor(s) test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 51 2. Re-run test 3. Replace the component that is called out in warning statement 4. Replace the component under test
175-198-XXX Thermal Sensor(s) test aborted	<ol style="list-style-type: none"> 1. If a component is called out, make sure it is connected and/or enabled 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Go to "Undetermined problems" on page 81
175-199-XXX Thermal Sensor(s) test failed, cause unknown	<ol style="list-style-type: none"> 1. See "Undetermined problems" on page 81 2. Flash the system and re-test. See "Flash update procedures" on page 227 3. Replace component under function test
175-250-XXX 175-251-XXX Thermal Sensor(s) limit error	<ol style="list-style-type: none"> 1. Check fans 2. Check Power supply voltages 3. Microprocessor 4. System board
185-000-XXX Asset Security Test Passed	No action
185-XXX-XXX Asset Security failure	<ol style="list-style-type: none"> 1. Flash system 2. System board
185-278-XXX Asset Security Chassis Intrusion	<ol style="list-style-type: none"> 1. Assure Asset Security Enabled 2. C2 Cover Switch 3. System board
201-000-XXX System Memory Test Passed	No action
201-XXX-XXX System Memory error	<ol style="list-style-type: none"> 1. Replace the memory module called out by the test 2. System board
202-000-XXX System Cache Test Passed	No action
202-XXX-XXX System Cache error	<ol style="list-style-type: none"> 1. Cache, if removable 2. System board 3. Microprocessor
206-000-XXX Diskette Drive Test Passed	No action
206-XXX-XXX Diskette Drive error	<ol style="list-style-type: none"> 1. Diskette Drive Cable 2. Check power supply voltages 3. Diskette drive 4. System board

Diagnostic Error Code	FRU/Action
215-000-XXX CD-ROM Drive Test Passed	No action
215-XXX-XXX CD-ROM Drive error	<ol style="list-style-type: none"> 1. CD-ROM Drive Cable 2. Check power supply voltages 3. CD-ROM drive 4. System board
217-000-XXX Hard Disk Drive Test Passed	No action
217-25X-XXX 217-26X-XXX Hard Disk Drive (IDE) error	<ol style="list-style-type: none"> 1. Hard Disk Drive Cable 2. Check power supply voltages 3. Reseat the hard disk drive cable 4. Hard Disk drive (IDE) 5. System board
217-28X-XXX 217-29X-XXX Hard Disk Drive (SCSI) error	<ol style="list-style-type: none"> 1. Hard Disk Drive Cable 2. Check power supply voltages 3. Reseat the hard disk drive cable 4. Hard Disk drive (SCSI) 5. SCSI adapter card 6. System board
220-000-XXX Hi-Capacity Cartridge Drive Test Passed	No action
220-XXX-XXX Hi-Capacity Cartridge Drive error	<ol style="list-style-type: none"> 1. Remove the Hi-Capacity Cartridge Drive and re-test the system
301-XXX-XXX Keyboard error	<ol style="list-style-type: none"> 1. Keyboard 2. Check and test mouse 3. System board
301-000-XXX Keyboard Test Passed	No action
302-000-XXX Mouse Test Passed	No action
302-XXX-XXX Mouse error	<ol style="list-style-type: none"> 1. Mouse 2. Check and test Keyboard 3. System board
303-000-XXX Joystick Test Passed	No action
303-XXX-XXX Joystick error	Remove the Joystick and re-test the system
305-000-XXX Monitor DDC Test Passed	No action
305-250-XXX Monitor DDC self test failure	<ol style="list-style-type: none"> 1. Run Setup to enable DDC 2. Cable 3. Monitor 4. Video card 5. System board

Diagnostic Error Code	FRU/Action
415-000-XXX Modem Test Passed	No action
415-XXX-XXX Modem error	Remove the Modem and re-test the system

Beep symptoms

Beep symptoms are tones or a series of tones separated by pauses (intervals without sound) during POST.

The following tables describes beep symptoms.

Beep Symptom	FRU/Action
2 short beeps CMOS setting error	Perform the following actions in order. <ol style="list-style-type: none">1. Start the Setup Utility program and press F10 to Save and exit. See Chapter 6, "Using the Setup Utility," on page 51.2. Start the Setup Utility program and press F7 to load defaults and then press F10 to Save and exit.3. Perform a Boot block recovery. See "Recovering from a POST/BIOS update failure" on page 228.
1 long and 2 short beeps Monitor or video adapter card error	Perform the following actions in order. <ol style="list-style-type: none">1. Make sure the monitor is properly connected to the computer.2. Replace the video adapter card (if present).3. Replace the system board.
1 long and 3 short beeps Keyboard error	Perform the following actions in order. <ol style="list-style-type: none">1. Make sure the keyboard is properly connected to the keyboard connector.2. Replace the keyboard.3. Replace the system board.
1 long and 9 short beeps BIOS ROM error	Perform the following actions in order. <ol style="list-style-type: none">1. Start the Setup Utility program and press F7 to load defaults and then press F10 to Save and exit. See Chapter 6, "Using the Setup Utility," on page 51.2. Perform a Boot block recovery. See "Recovering from a POST/BIOS update failure" on page 228.3. Replace the system board.
Continuos long beeps DRAM memory error	Perform the following actions in order. <ol style="list-style-type: none">1. Make sure the memory module(s) are properly seated in the connector(s).2. Replace the memory module(s).3. Replace the system board.

POST error codes

Each time you power-on the system, it performs a series of tests that check the operation of the system and some options. This series of tests is called the *Power-On Self-Test*, or *POST*. POST does the following operations.

- Checks some basic system-board operations
- Checks the memory operation
- Starts the video operation
- Verifies that the boot drive is working

If the POST detects a problem, an error message appears on the screen. A single problem can cause several error messages to appear. When you correct the cause of the first error message, the other error messages probably will not appear on the screen the next time you turn on the system.

POST Error Message	Description/Action
CMOS battery failed	The CMOS battery is no longer functional. Replace the battery.
CMOS checksum error - defaults loaded	Checksum of CMOS is incorrect. The computer loads the default configuration settings. This error might indicate that CMOS has become corrupt due to a weak CMOS battery.
CPU at nnnn	nnnn is the running speed of the microprocessor.
Press Esc to skip memory test	Pressing Esc skips the full memory test
HARD DISK INSTALL FAILURE	Cannot find or initialize the hard disk drive controller or the drive. Make sure the hard disk drive is correctly installed. If no hard disk drives are installed, make sure the hard disk drive selection in Setup is set to NONE.
Keyboard error or no keyboard present	Cannot initialize the keyboard. Make sure the keyboard is properly connected to the computer and that no keys are held pressed during POST. To purposely configure the computer without a keyboard, set the error halt condition in Setup to HALT ON ALL, BUT KEYBOARD. The BIOS then ignores the missing keyboard during POST.
Memory Test:	This message displays during a full memory test, counting down the memory areas being tested.
Memory test fail	If POST detects an error during memory testing, additional information appears. This information gives specifics about the type and location of the memory error.

POST Error Message	Description/Action
Press TAB to show POST screen	Pressing the TAB key permits the user to toggle between the default POST display screen and a custom POST display screen.
Error: Non-System disk or disk error Replace and press any key when ready	<p>The BIOS was unable to find a suitable boot device.</p> <p>Make sure the boot drive is properly connected to the computer.</p> <p>Make sure you have bootable media.</p>

Miscellaneous error messages

Message/Symptom	FRU/Action
Changing display colors	Display/Monitor
Computer will <i>not</i> power-off. See "Power Supply Problems" on page 55.	<ol style="list-style-type: none"> Power Switch System Board Riser card, if installed
Computer will <i>not</i> RPL from server	<ol style="list-style-type: none"> Ensure that network is in startup sequence as first device or first device after diskette Ensure that network adapter is enabled for RPL Network adapter (Advise network administrator of new MAC address)
Computer will <i>not</i> perform a Wake on LAN® (if applicable)	<ol style="list-style-type: none"> Check power supply and signal cable connections to network adapter Ensure that the operating system settings are set to enable Wake on LAN Ensure Wake On LAN feature is enabled in Setup/Configuration (see "Starting the Setup Utility program" on page 51) Ensure network administrator is using correct MAC address Ensure no interrupt or I/O address conflicts Network adapter (advise network administrator of new MAC address)
Dead computer. See "Power Supply Problems" on page 55.	<ol style="list-style-type: none"> Power Supply System Board
Diskette drive in-use light remains on or does not light when drive is active.	<ol style="list-style-type: none"> Diskette Drive System Board Diskette Drive Cable
Flashing cursor with an otherwise blank display.	<ol style="list-style-type: none"> System Board Primary Hard Disk Drive Hard Disk Drive Cable
Incorrect memory size during POST	<ol style="list-style-type: none"> Run the Memory tests Memory Module System Board
"Insert a Diskette" icon appears with a known-good diagnostics diskette in the first 3.5-inch diskette drive.	<ol style="list-style-type: none"> System Board Diskette Drive Cable Network Adapter
Intensity or color varies from left to right of characters and color bars	<ol style="list-style-type: none"> Display Video adapter (if present) System Board
No power or fan not running	<ol style="list-style-type: none"> See "Power Supply Problems" on page 55.

Message/Symptom	FRU/Action
Non-system disk or disk error-type message with a known-good diagnostic diskette.	<ol style="list-style-type: none"> 1. Diskette Drive 2. System Board 3. Diskette Drive Cable
Other display symptoms not listed above (including blank or illegible display)	<ol style="list-style-type: none"> 1. Display 2. System Board
Power-on indicator or hard disk drive in-use light not on, but computer works correctly	<ol style="list-style-type: none"> 1. Power switch/LED assembly 2. System Board
Printer problems	<ol style="list-style-type: none"> 1. Printer 2. System Board
Program loads from the hard disk with a known-good diagnostics diskette in the first 3.5-inch diskette drive	<ol style="list-style-type: none"> 1. Run Setup and check Startup sequence. 2. Diskette Drive 3. Diskette Drive Cable 4. System Board 5. Power Supply
RPL computer cannot access programs from its own hard disk.	<ol style="list-style-type: none"> 1. If network administrator is using LCCM Hybrid RPL, check startup sequence: <ol style="list-style-type: none"> a. First device - network b. Second device - hard disk 2. Hard disk drive
RPL computer does not RPL from server	<ol style="list-style-type: none"> 1. Check startup sequence 2. Check the network adapter LED status
Serial or parallel port device failure (system board port)	<ol style="list-style-type: none"> 1. External Device Self-Test OK? 2. External Device 3. Cable 4. System Board
Serial or parallel port device failure (adapter port)	<ol style="list-style-type: none"> 1. External Device Self-Test OK? 2. External Device 3. Cable 4. Alternate Adapter 5. System Board
Some or all keys on the keyboard do not work	<ol style="list-style-type: none"> 1. Keyboard 2. Keyboard Cable 3. System Board

Undetermined problems

If this computer has a parallel ATA hard disk drive, make sure that the hard disk drive is jumpered as a master and the optical drive is jumpered as a slave.

1. Power-off the computer.
2. Remove or disconnect the following components (if installed) one at a time.
 - a. External devices (modem, printer, or mouse)
 - b. Any adapters

- c. Memory modules
 - d. Extended video memory
 - e. External Cache
 - f. External Cache RAM
 - g. Hard disk drive
 - h. Diskette drive
3. Power-on the computer to re-test the system.
 4. Repeat steps 1 through 3 until you find the failing device or adapter.

If all devices and adapters have been removed, and the problem continues, replace the system board.

Chapter 8. Replacing FRUs (Types 9680, 9681, 9682, 9683, 9684, and 9685)

Important

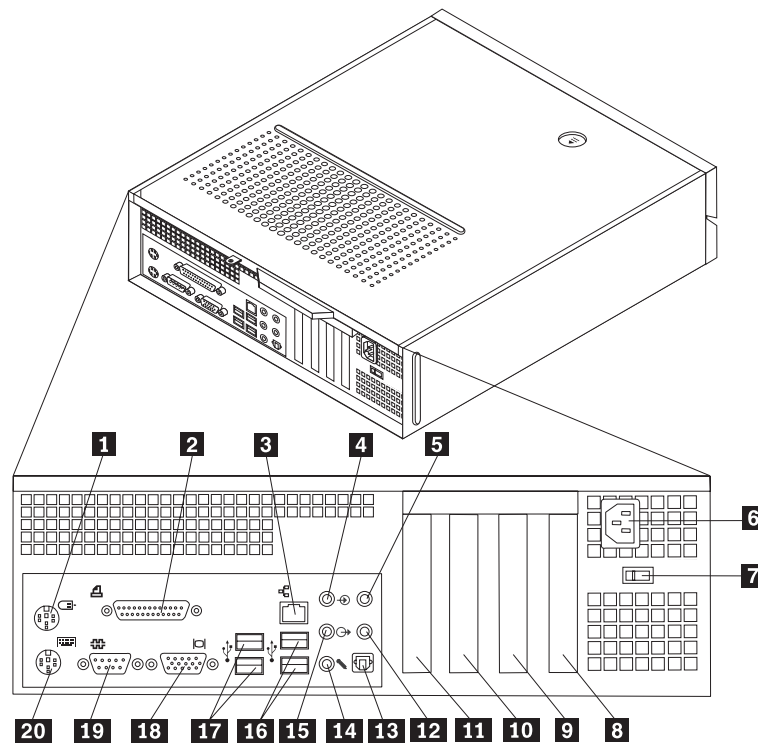
Before you replace any FRU, read Chapter 2, "Safety information," on page 3. These precautions and guidelines will help you work safely.

FRU replacements are to be done by trained service technicians only.

This chapter does not contain a remove and replace procedure for all FRUs. Only the major FRUs are documented.

Rear connectors

The following illustration shows the locations of the connectors on the rear of the computer.



- | | | | |
|-----------|--|-----------|--|
| 1 | Standard mouse connector | 11 | PCI Express 1x adapter or PCI Express x16 graphics adapter connector |
| 2 | Parallel connector | 12 | C/LFE connector (some models) |
| 3 | Ethernet connector | 13 | SPDIF connector (some models) |
| 4 | Audio line in connector | 14 | Audio line out connector |
| 5 | Back surround connector (some models) | 15 | Microphone connector |
| 6 | Power cord connector | 16 | USB connectors (2) |
| 7 | Voltage-selection switch (some models) | 17 | USB connectors (2) |
| 8 | PCI adapter connector | 18 | VGA monitor connector |
| 9 | PCI adapter or PCI Express 1x adapter connector | 19 | Serial connector |
| 10 | PCI Express 1x adapter or PCI Express x16 graphics adapter connector | 20 | Standard keyboard connector |

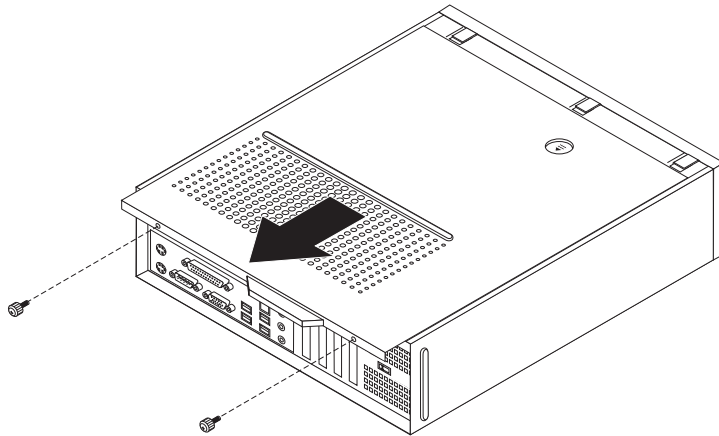
Removing the cover

Important

Read Chapter 2, “Safety information,” on page 3 and “Handling electrostatic discharge-sensitive devices” on page 6 before opening the cover.

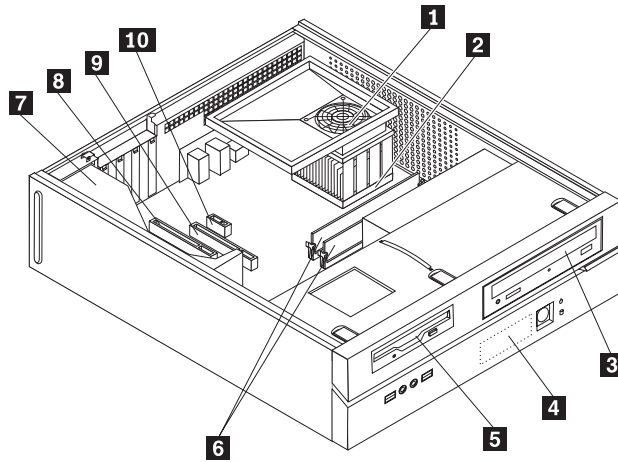
This procedure describes how to remove the cover.

1. Remove any media (diskettes, CDs, or tapes) from the drives, shut down the operating system, and turn off all attached devices.
2. Unplug all power cords from electrical outlets.
3. Disconnect all cables attached to the computer. This includes power cords, input/output (I/O) cables, and any other cables that are connected to the computer.
4. Remove any locking devices such as a padlock that secure the cover.
5. If the cover is secured with thumbscrews, remove them.
6. Press the button near the front of the computer cover and slide the cover to the rear.



Locations

The following illustration will help you locate the major FRUs in the computer.

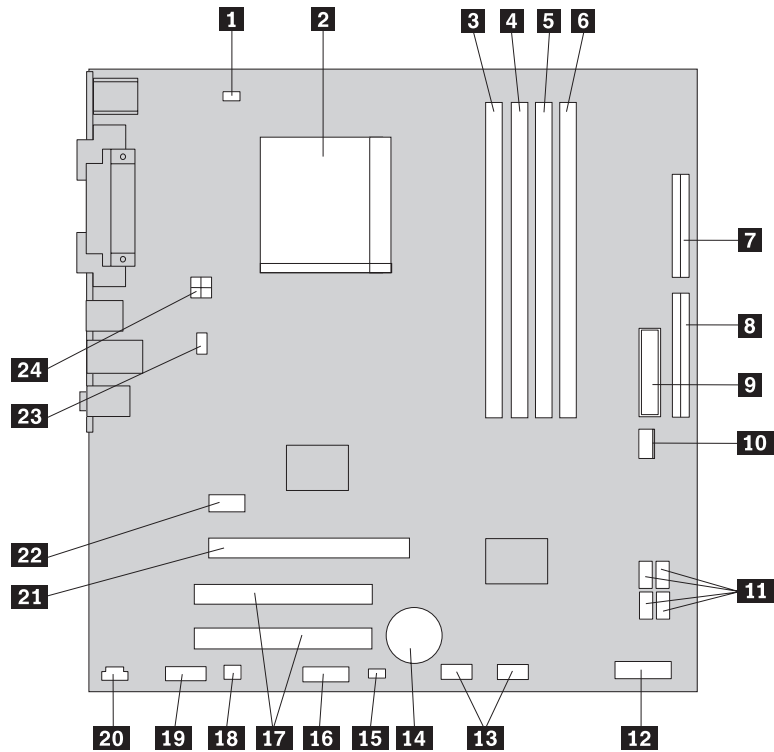


- | | | | |
|----------|--------------------------------|-----------|--|
| 1 | Fan plenum, fan, and heat sink | 6 | Memory modules |
| 2 | Microprocessor | 7 | Power supply |
| 3 | Optical drive | 8 | PCI adapter or PCI Express x1 adapter connector |
| 4 | Hard disk drive | 9 | PCI Express x16 graphics adapter or PCI Express x1 adapter connector |
| 5 | Diskette drive | 10 | PCI Express x1 adapter or PCI Express x16 graphics adapter connector |

Locating parts on the system board

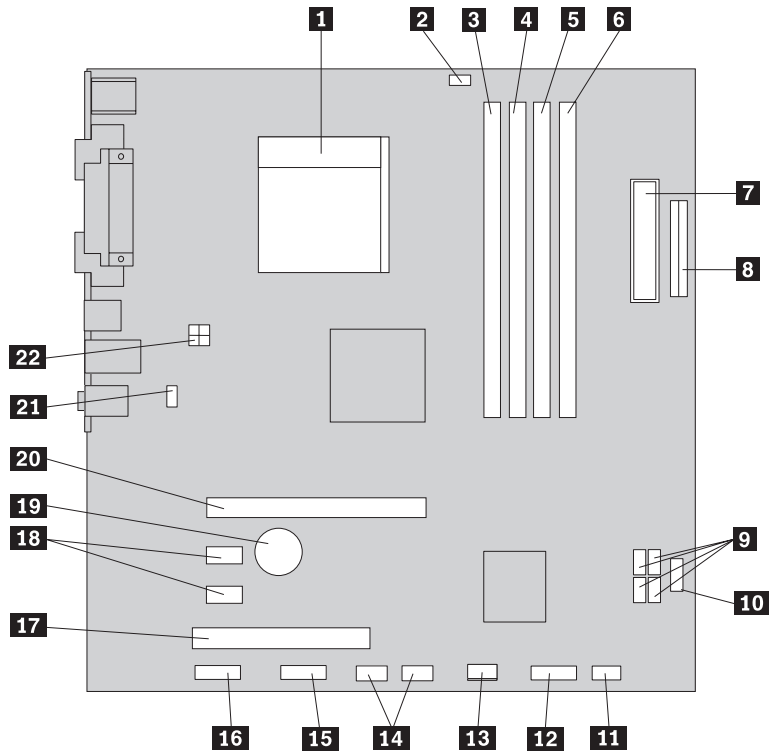
The machine types supported by this maintenance manual include several different system boards. Locate the appropriate machine type in one of the following sections.

Machine types 9680 and 9681



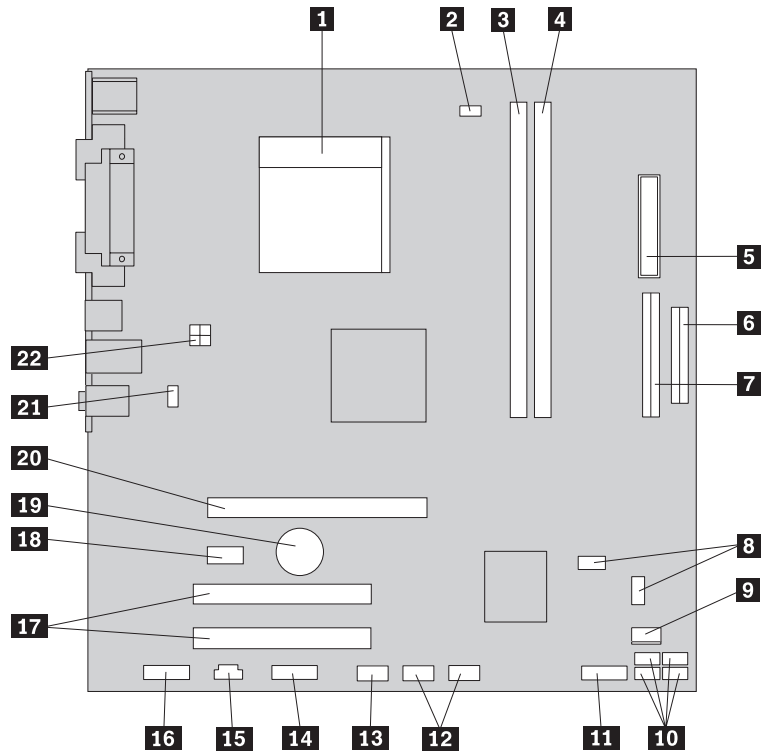
- | | | | |
|-----------|------------------------------|-----------|--|
| 1 | Microprocessor fan connector | 13 | Front USB connectors (2) |
| 2 | Microprocessor and heat sink | 14 | Battery |
| 3 | Memory connector 1 | 15 | Clear CMOS/Recovery jumper |
| 4 | Memory connector 2 | 16 | Serial (COM) connector |
| 5 | Memory connector 3 | 17 | PCI adapter connectors (2) |
| 6 | Memory connector 4 | 18 | Mono (speaker) connector |
| 7 | Diskette drive connector | 19 | Front audio connector |
| 8 | IDE connector | 20 | CD-IN connector |
| 9 | Power connector | 21 | PCI Express x16 graphics adapter connector |
| 10 | Power fan connector | 22 | PCI Express x1 adapter connector |
| 11 | SATA IDE connectors (4) | 23 | System fan connector |
| 12 | Front panel connector | 24 | 12v power connector |

Machine types 9682 and 9683



- | | | | |
|-----------|------------------------------|-----------|--|
| 1 | Microprocessor and heat sink | 12 | Front panel connector |
| 2 | Microprocessor fan connector | 13 | Power fan connector |
| 3 | Memory connector 1 | 14 | Front USB connectors (2) |
| 4 | Memory connector 2 | 15 | Serial (COM) connector |
| 5 | Memory connector 3 | 16 | Front audio connector |
| 6 | Memory connector 4 | 17 | PCI adapter connector |
| 7 | Power connector | 18 | PCI Express x1 adapter connectors (2) |
| 8 | Diskette drive connector | 19 | Battery |
| 9 | SATA IDE connectors (4) | 20 | PCI Express x16 graphics adapter connector |
| 10 | Front USB connector | 21 | System fan connector |
| 11 | Clear CMOS/Recovery jumper | 22 | 12v power connector |

Machine types 9684 and 9685



- | | | | |
|-----------|---------------------------------|-----------|--|
| 1 | Microprocessor and heat sink | 12 | Front USB connectors (2) |
| 2 | Microprocessor fan connector | 13 | Serial (COM) connector |
| 3 | Memory connector 1 | 14 | Leo connector |
| 4 | Memory connector 2 | 15 | CD-IN connector |
| 5 | Power connector | 16 | Front audio connector |
| 6 | Diskette drive connector | 17 | PCI adapter connectors (2) |
| 7 | IDE connector | 18 | PCI Express x1 adapter connector |
| 8 | Clear CMOS/Recovery jumpers (2) | 19 | Battery |
| 9 | Power fan connector | 20 | PCI Express x16 graphics adapter connector |
| 10 | SATA IDE connectors (4) | 21 | System fan connector |
| 11 | Front panel connector | 22 | 12v power connector |

Accessing system board components and drives

You might need to remove the drive bay assembly to access system board components such as memory, the battery, and CMOS.

To access system board components and the drives:

1. Remove the computer cover. See “Removing the cover” on page 85.
2. Remove the front bezel by releasing the three tabs and pivoting the bezel forward to remove completely.

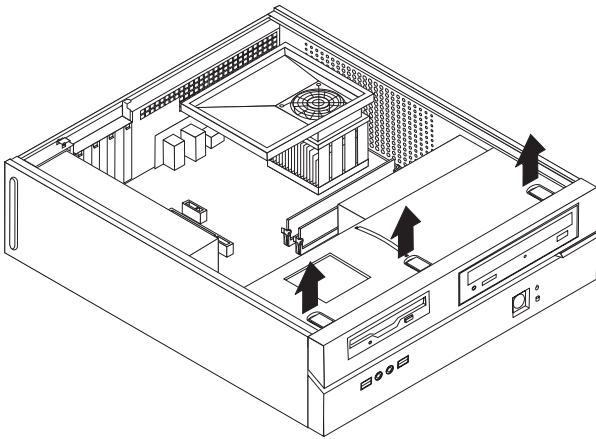


Figure 1. Removing the bezel

3. You might have to remove any PCI adapters in order to gain access to certain components.

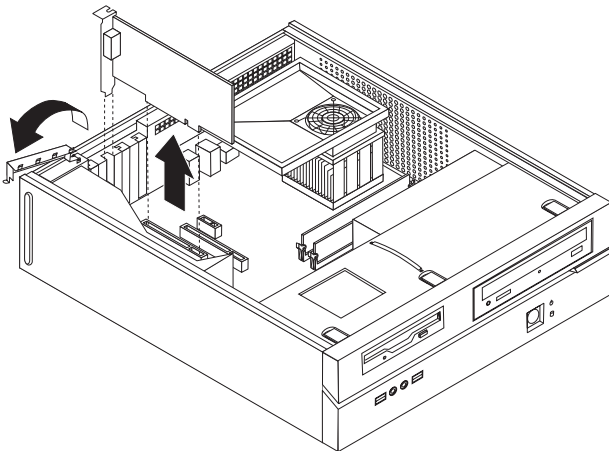


Figure 2. Removing the PCI adapter

- Using the blue handle **1**, lift and slide the drive bay assembly forward until the locating studs in the drive bay assembly are aligned with the slots on the sides of the chassis. Pull upward on the handle to remove the drive bay assembly completely from the chassis. Depending on what component of the computer you want to remove, you can either disconnect the cables from the rear of the drives or leave them connected.

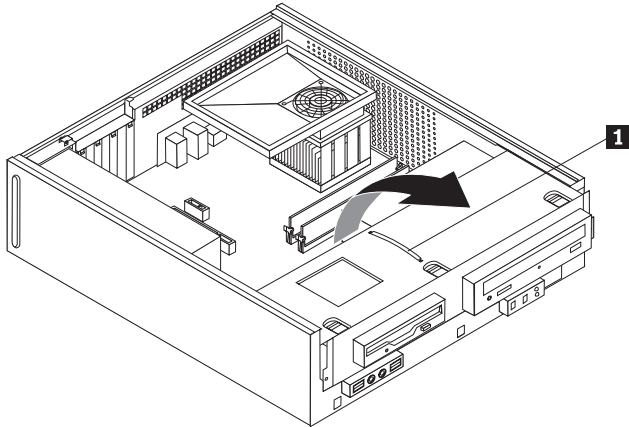


Figure 3. Removing the drive bay assembly

- Reverse this procedure to reinstall the drive bay assembly.

Replacing a memory module

This procedure describes how to remove and replace a memory module.

Installing memory

This computer either has two or four connectors for installing double data rate 2 dual inline memory modules (DDR2 DIMMs). System boards with two connectors can accommodate a maximum of 2.0 GB of system memory. System boards with four connectors can accommodate a maximum of 4.0 GB of system memory.

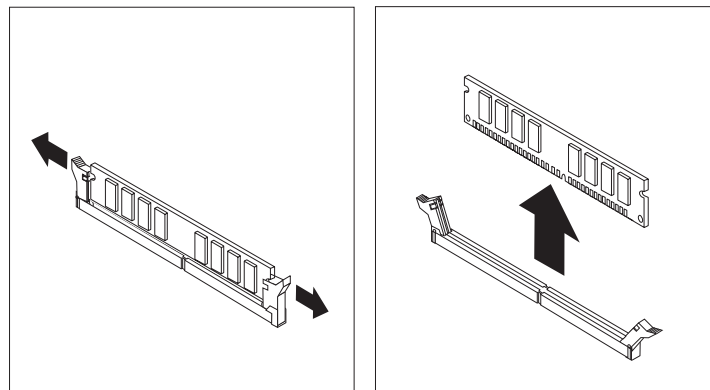
When installing memory modules, the following rules apply:

- If you are replacing a memory module on a system board with four memory connectors, at least one memory module must be installed in the first memory channel (in either memory connector 1 or memory connector 2). See “Locating parts on the system board” on page 87 for more information.
- Use 1.8 V, 240-pin, double data rate 2 synchronous dynamic random access memory (DDR2 SDRAM).
- Use 256 MB, 512 MB, or 1 GB memory modules in any combination.

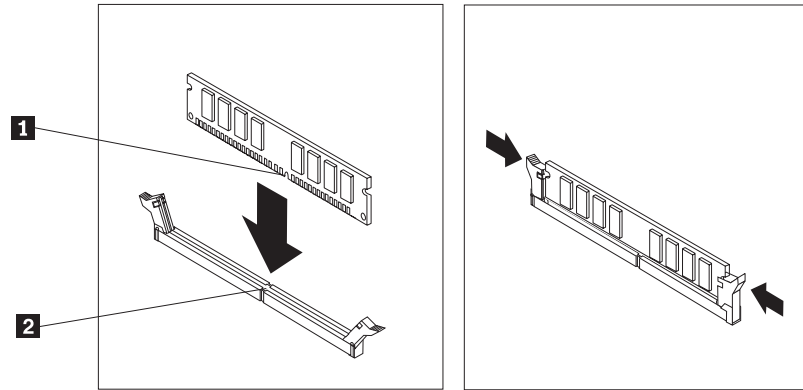
Note: Only DDR2 SDRAM DIMMs can be used.

See “Identifying parts on the system board” on page 8 for more information. .
Note: Only DDR2 SDRAM DIMMs can be used.

1. Remove the cover. See “Removing the cover” on page 85.
2. You might have to remove the drive bay assembly to access the memory connectors. See “Accessing system board components and drives” on page 90.
3. Remove the memory module being replaced by opening the retaining clips as shown.



4. Position the replacement memory module over the memory connector. Make sure that the notch **1** on the memory module aligns correctly with the connector key **2** on the system board. Push the memory module straight down into the memory connector until the retaining clips close.



5. Slide the drive bay assembly towards the rear of the chassis until it snaps into position.
6. Reinstall the front bezel.
7. Go to “Completing the FRU replacement” on page 120.

Replacing the CMOS battery

If the CMOS battery fails, the date, time, and configuration information (including passwords) are lost. An error message is displayed when you turn on the computer.

Important

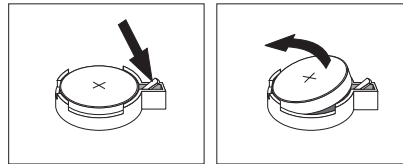
Refer to “Safety notices (multi-lingual translations)” on page 7 for information about replacing and disposing of the battery.

CAUTION:

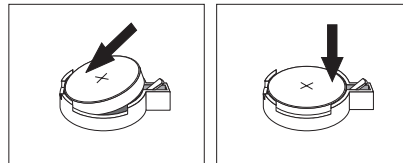
When replacing the lithium battery, use only Part Number 33F8354 or an equivalent type battery recommended by the manufacturer.

This procedure describes how to remove and replace the CMOS battery.

1. Remove the cover. See “Removing the cover” on page 85.
2. Locate the battery. See the system board illustration for your machine type at “Locating parts on the system board” on page 87.
3. You might have to remove any PCI adapters that impede access to the battery.
4. Remove the old battery.



5. Install the new battery.



6. Replace any PCI adapters that were removed.

Note: When the computer is turned on for the first time after battery replacement, an error message might be displayed. This is normal after replacing the battery.

7. Go to “Completing the FRU replacement” on page 120.

Replacing the power supply

Attention

Never remove the cover on a power supply or any part that has the following label attached.



Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no servicable parts inside these components.

This procedure describes how to remove and replace the power supply.

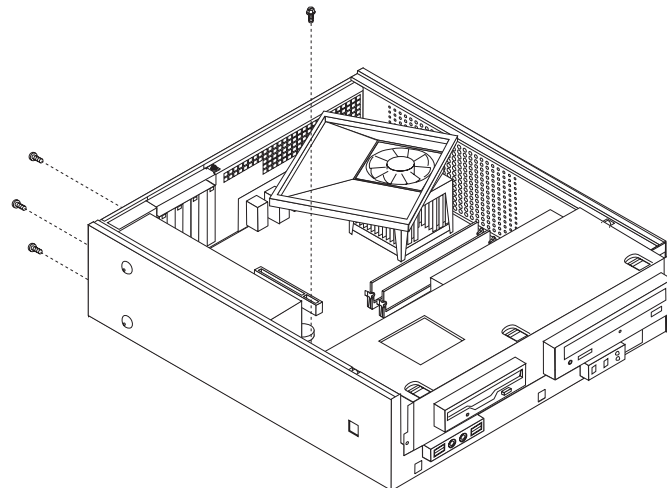
1. Remove the cover. See “Removing the cover” on page 85.
2. Remove the drive bay assembly. See “Accessing system board components and drives” on page 90.
3. Disconnect all power supply cables from the system board. See the system board illustration for your machine type at “Locating parts on the system board” on page 87.
4. Remove the hard disk drive. See “Replacing the hard disk drive” on page 112.

Note: Observe the power supply cable routing underneath the hard disk drive.

5. The system board must be moved out of the way to remove the power supply. Remove the screws that secure the system board to the chassis and slide the system board away from the power supply.

Note: You do not have to remove the system board from the chassis to remove the power supply.

6. At the rear of the chassis, remove the three screws that secure the power supply. Also remove the screw that secures the power supply at the front.



7. Lift the power supply out of the chassis.
8. If the power supply has a voltage-selection switch, ensure that it is set to match the voltage available at the electrical outlet.
 - If the voltage supply range in your local country or region is 100-127 V ac, set the switch to 115 V.
 - If the voltage supply range in your local country or region is 200-240 V ac, set the switch to 230 V.
9. Install the new power supply and install the three screws that secure the power supply at the rear of the chassis and install the screw that secures the power supply at the front.
10. Position the system board so that the screws holes are properly aligned and install the system board screws.
11. Route the power supply cable through the cable clamps underneath the hard disk drive and reconnect all power supply cables to the system board.
12. Install the hard disk drive. See “Replacing the hard disk drive” on page 112.
13. Align the drive bay assembly studs with the two slots on the sides of the chassis and place it into position. Reconnect any diskette drive and optical drive cables that were disconnected.
14. Using the blue handle, slide the drive bay assembly towards the rear of the chassis until it snaps into position.
15. Reinstall the front bezel.
16. Go to “Completing the FRU replacement” on page 120.

Replacing the system board

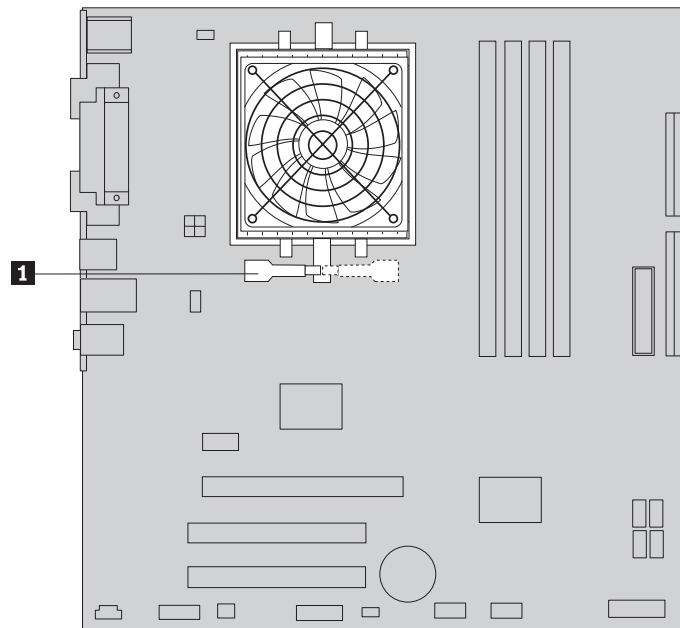
This procedure describes how to remove and replace a memory module. The procedure varies depending upon the machine type.

Types 9680 and 9681

Important

The heat sink and microprocessor might be very hot. Make sure these components are cool enough to safely handle before continuing this procedure.

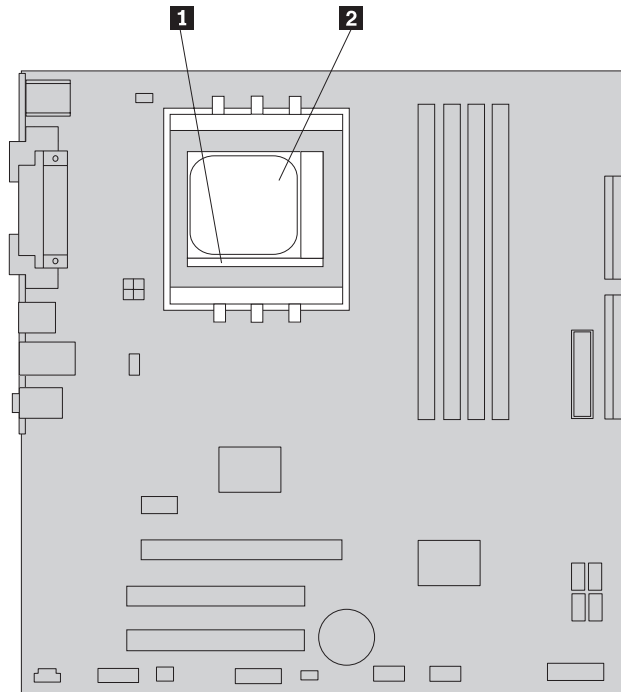
1. Remove the cover. See “Removing the cover” on page 85.
2. Lift the fan duct off the heat sink fan.
3. Remove any adapter cards installed in the PCI connectors.
4. You might have to remove the drive bay assembly to access the system board. See “Accessing system board components and drives” on page 90.
5. Take note of the location of all cable connections on the system board and disconnect all cables. See the system board illustration for your machine type at “Locating parts on the system board” on page 87.
6. Remove the hard disk drive. See “Replacing the hard disk drive” on page 112.
7. Remove the screws that secure the system board to the chassis.
8. Lift the system board out of the chassis.
9. Remove the memory modules from the failing system board and install them in the same location on the new system board.
10. Disconnect the heat sink and fan assembly cable from the system board. See the system board illustration for your machine type at “Locating parts on the system board” on page 87.
11. Rotate handle **1** to release the heat sink clamp and then disengage the clamp from the plastic retention bracket.



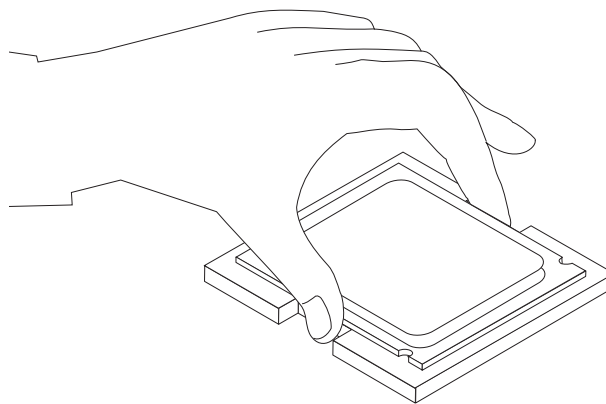
12. Lift the heat sink and fan assembly off the failing system board. Place the heat sink on its side so that the thermal grease does not come in contact with anything.

Note: You might have to gently twist the heat sink to free it from the microprocessor.

13. Remove the retention module from the rear of the failing system board and install it in the same position on the new system board.
14. To remove the microprocessor **2** from the system board, lift the small handle **1**.



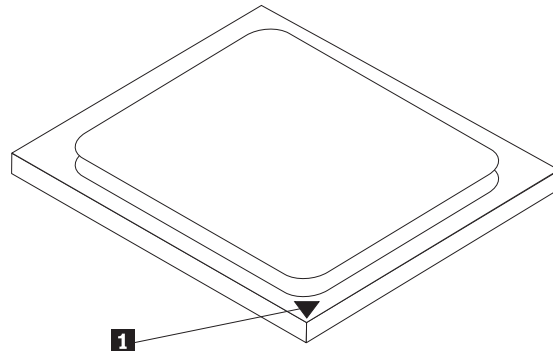
15. Lift the microprocessor straight up and out of the socket.



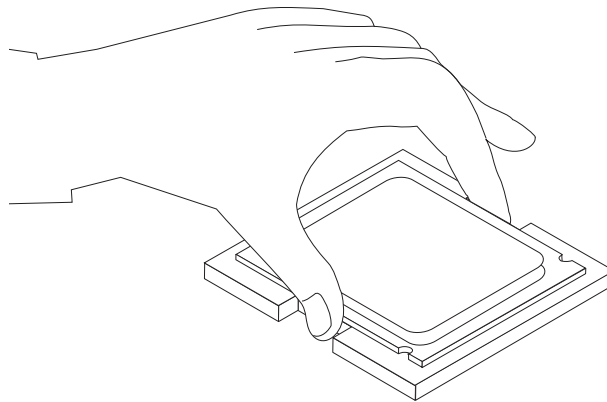
Notes:

- a. Your microprocessor and socket might look different than the one illustrated.
- b. Note the orientation of the microprocessor in the socket. Look for the small triangle on one corner of the microprocessor. This is important when reinstalling the microprocessor on the new system board.

- c. Do not drop anything onto the microprocessor socket while it is exposed.
The socket pins must be kept as clean as possible.
16. Holding the microprocessor with your fingers, position the microprocessor so that the small triangle **1** is aligned with the corresponding triangle on the socket in the new system board.



17. Lower the microprocessor straight down into the socket.



18. To secure the microprocessor in the socket, close the microprocessor retainer and lock it into position with the small handle.
19. Install the heat sink and fan assembly on the new system board.
20. Reconnect the heat sink and fan assembly cable to the system board. See the system board illustration for your machine type at "Locating parts on the system board" on page 87.
21. Install the new system board into the chassis and align the screw holes with those in the chassis. Insert and tighten the screws that were removed previously.
22. Reconnect all disconnected cables to the system board.
23. Reinstall the hard disk drive. See "Replacing the hard disk drive" on page 112.
24. Align the drive bay assembly with the two slots and rails on the sides of the chassis, reconnect the drive cables on the system board, and then slide the drive bay assembly towards the rear of the chassis until it snaps into position.
25. Reinstall the front bezel.
26. Reinstall any PCI adapter cards that were removed.
27. Position the fan duct on the heat sink fan.
28. Go to "Completing the FRU replacement" on page 120.

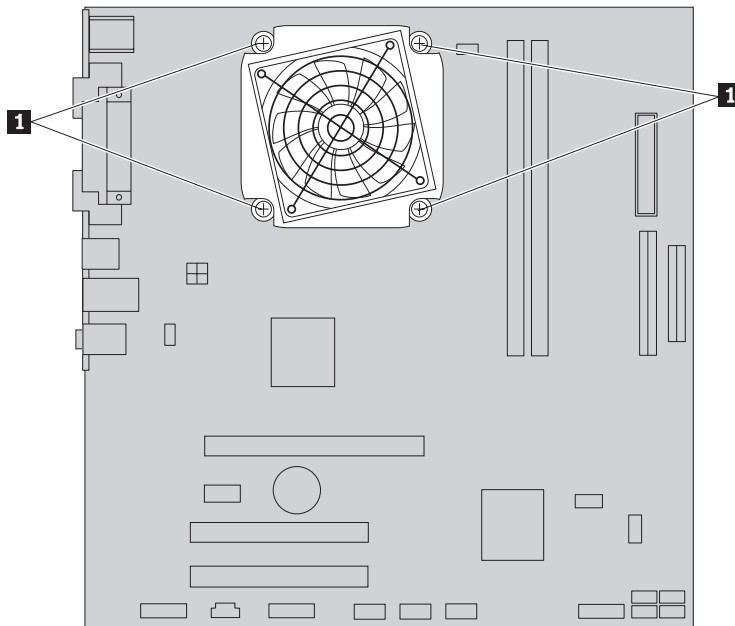
Types 9682, 9683, 9684, and 9685

Important

The heat sink and microprocessor might be very hot. Make sure these components are cool enough to safely handle before continuing this procedure.

Note: When replacing the system board you must also order a new retention module for the new system board. Make sure you have a retention module for the new system board before continuing with this procedure.

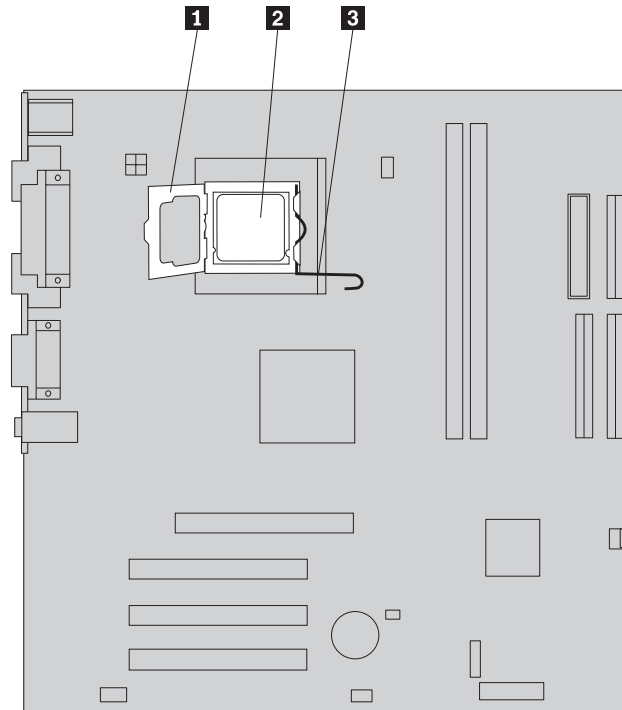
1. Remove the cover. See "Removing the cover" on page 85.
2. Lift the fan duct off the heat sink fan.
3. Remove any adapter cards installed in the PCI connectors.
4. You might have to remove the drive bay assembly to access the system board. See "Accessing system board components and drives" on page 90.
5. Take note of the location of all cable connections on the system board and disconnect all cables. See the system board illustration for your machine type at "Locating parts on the system board" on page 87.
6. Remove the hard disk drive. See "Replacing the hard disk drive" on page 112.
7. Remove the screws that secure the system board to the chassis.
8. Lift the system board out of the chassis.
9. Remove the memory modules from the failing system board and install them in the same location on the new system board.
10. Disconnect the heat sink and fan assembly cable from the system board. See the system board illustration for your machine type at "Locating parts on the system board" on page 87.
11. Remove the four screws **1** securing the heat sink and fan assembly to the system board.



12. Lift the heat sink and fan assembly off the failing system board. Place the heat sink on its side so that the thermal grease does not come in contact with anything.

Note: You might have to gently twist the heat sink to free it from the microprocessor.

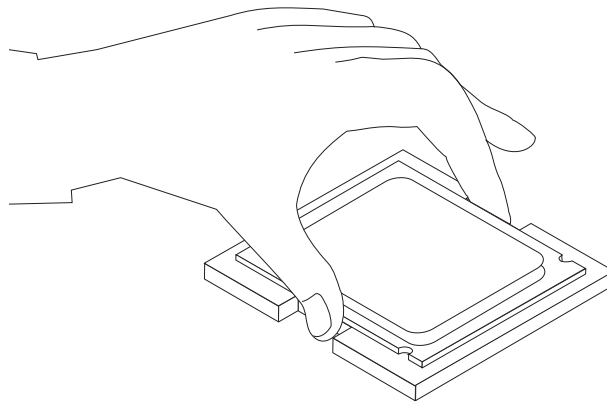
13. To remove the microprocessor **2** from the system board, lift the small handle **3** and open the retainer **1**.



Important

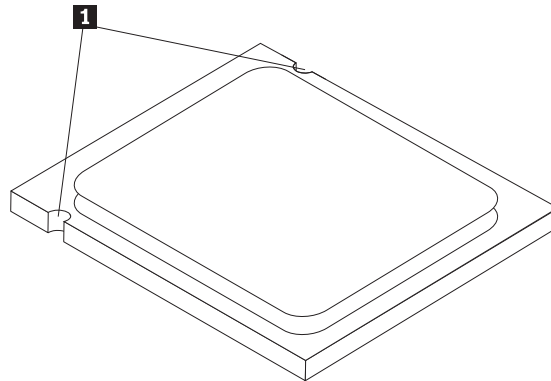
Touch only the sides of the microprocessor. Do not touch the gold contacts on the bottom.

14. Lift the microprocessor straight up and out of the socket.



Notes:

- a. Notice the orientation of the notches **1** on the microprocessor. This is important when reinstalling the microprocessor on the new system board.



- b. Do not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.
15. On the new system board, release the lever securing the microprocessor retainer and then pivot the retainer until it is fully open.

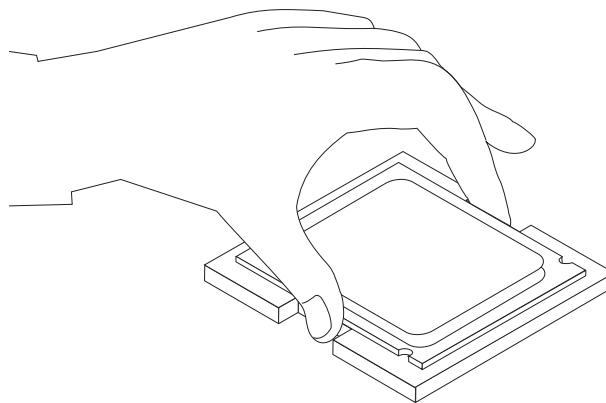
Note: There will be a black plastic cover on the microprocessor retainer to protect the socket on the new system board. Remove the black plastic cover and place it on the microprocessor socket of the failing system board when you complete this procedure.

16. Holding the microprocessor with your fingers, position the microprocessor so that the notches on the microprocessor are aligned with the tabs in the microprocessor socket on the new system board.

Important

To avoid damaging the microprocessor contacts, do not tilt the microprocessor when installing it into the socket.

17. Lower the microprocessor straight down into the system board socket of the new system board.



18. To secure the microprocessor in the socket, close the microprocessor retainer and lock it into position with the small handle.
19. Install the retention module for the heat sink and fan assembly on the system board.
20. Install the heat sink and fan assembly on the new system board.

21. Reconnect the heat sink and fan assembly cable to the system board. See the system board illustration for your machine type at “Locating parts on the system board” on page 87.
22. Install the new system board into the chassis and align the screw holes with those in the chassis. Insert and tighten the screws that secure the system board.
23. Reconnect all cables that were disconnected from the system board.
24. Reinstall the hard disk drive. See “Replacing the hard disk drive” on page 112.
25. Align the drive bay assembly with the two slots and rails on the sides of the chassis, reconnect the drive cables on the system board, and then slide the drive bay assembly towards the rear of the chassis until it snaps into position.
26. Reinstall the front bezel.
27. Reinstall any PCI adapter cards that were removed.
28. Position the fan duct on the heat sink fan.
29. Go to “Completing the FRU replacement” on page 120.

Replacing the microprocessor

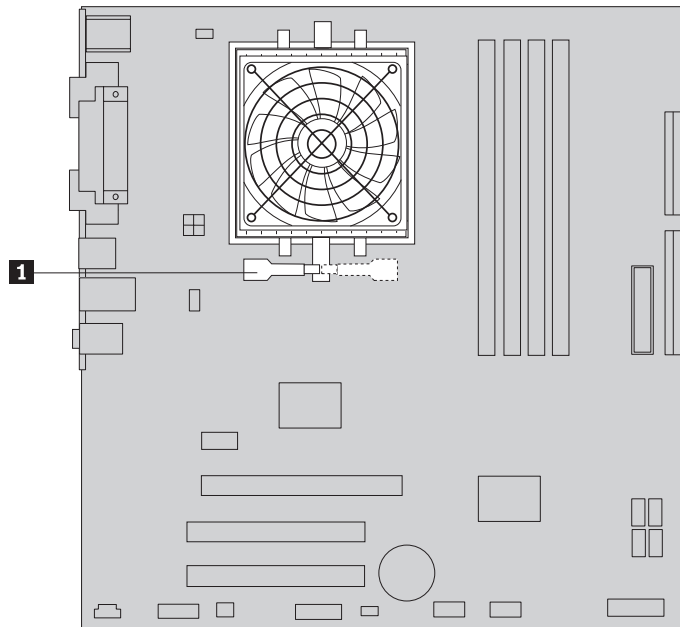
This procedure describes how to remove and replace the power supply. The procedure varies depending upon the machine type.

Types 9680 and 9681

Important

The heat sink and microprocessor might be very hot. Make sure these components are cool enough to safely handle before continuing this procedure.

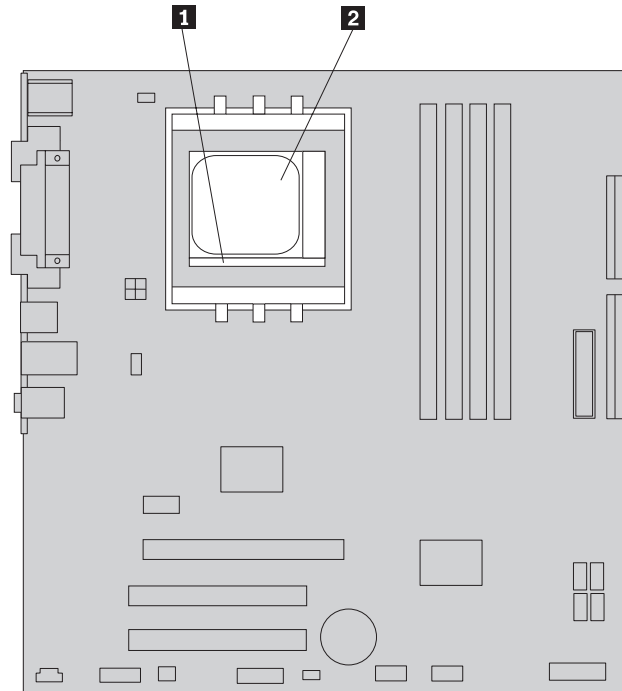
1. Remove the cover. See "Removing the cover" on page 85.
2. Lift the fan duct off the heat sink fan.
3. Disconnect the heat sink and fan assembly cable from the system board. See the system board illustration for your machine type at "Locating parts on the system board" on page 87.
4. Rotate handle **1** to release the heat sink clamp and then disengage the clamp from the plastic retention bracket.



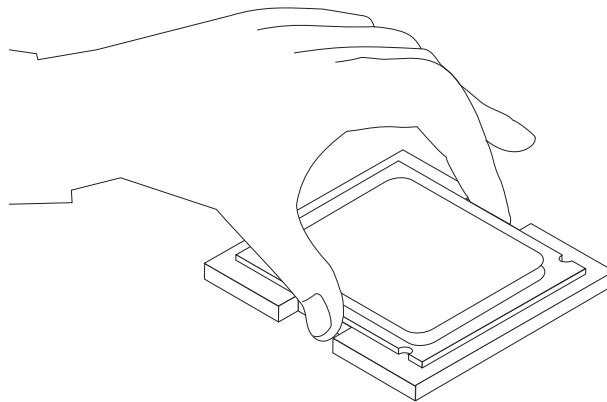
5. Lift the heat sink and fan assembly off the system board. Place the heat sink on its side so that the thermal grease does not come in contact with anything.

Note: You might have to gently twist the heat sink to free it from the microprocessor.

6. To remove the microprocessor **2** from the system board, lift the small handle **1**.

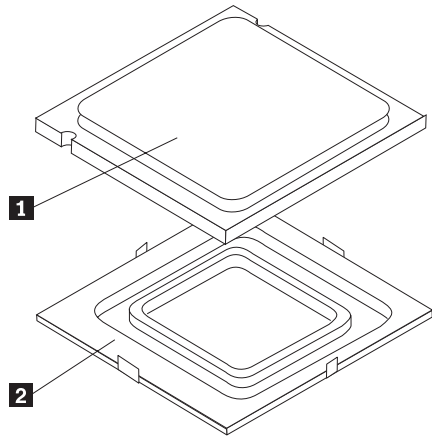


7. Lift the microprocessor straight up and out of the socket.

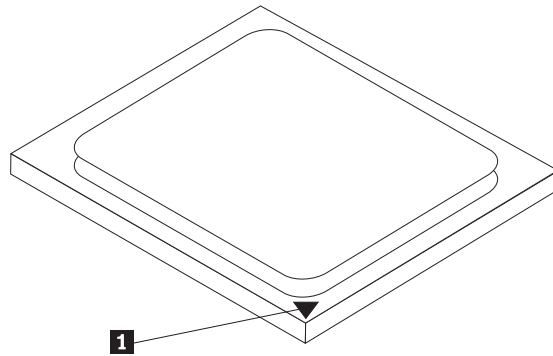


Notes:

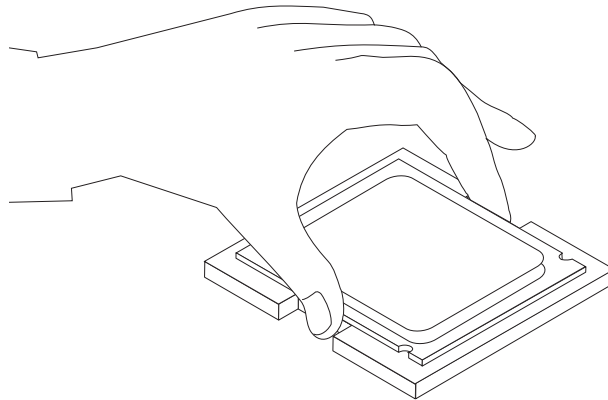
- a. Your microprocessor and socket might look different than the one illustrated.
 - b. Note the orientation of the microprocessor in the socket. Look for the small triangle on one corner of the microprocessor. This is important when reinstalling the microprocessor on the system board.
 - c. Do not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.
8. Make sure that the microprocessor retainer is fully open.
 9. Holding the microprocessor with your fingers, remove the protective cover **2** that protects the gold contacts on the new microprocessor **1**.



10. Holding the microprocessor with your fingers, position the microprocessor so that the triangle **1** is aligned with the corresponding triangle on the socket.



11. Lower the microprocessor straight down into the socket.



Note: Install the black protective cover that was removed from the new microprocessor onto the defective microprocessor after the installation is complete.

12. To secure the microprocessor in the socket, close the microprocessor retainer and lock it into position with the small handle.
13. Install the heat sink and fan assembly on the system board.
14. Connect the heat sink and fan assembly cable to the system board. See the system board illustration for your machine type at “Locating parts on the system board” on page 87.
15. Position the fan duct on the heat sink fan.

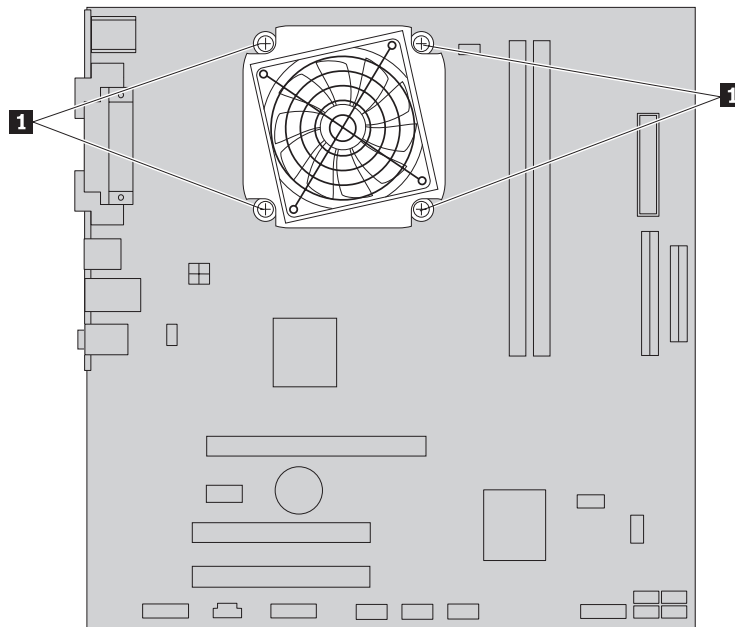
16. Go to “Completing the FRU replacement” on page 120.

Types 9682, 9683, 9684, and 9685

Important

The heat sink and microprocessor might be very hot. Make sure these components are cool enough to safely handle before continuing this procedure.

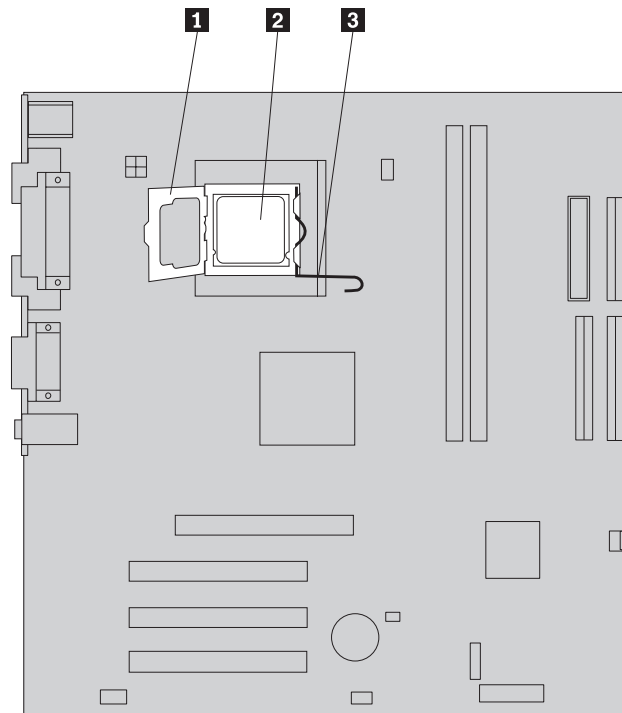
1. Remove the cover. See “Removing the cover” on page 85.
2. Lift the fan duct off the heat sink fan.
3. Disconnect the heat sink and fan assembly cable from the system board. See the system board illustration for your machine type at “Locating parts on the system board” on page 87.
4. Remove the four screws **1** securing the heat sink and fan assembly to the system board.



5. Lift the heat sink and fan assembly off the system board. Place the heat sink on its side so that the thermal grease does not come in contact with anything.

Note: You might have to gently twist the heat sink to free it from the microprocessor.

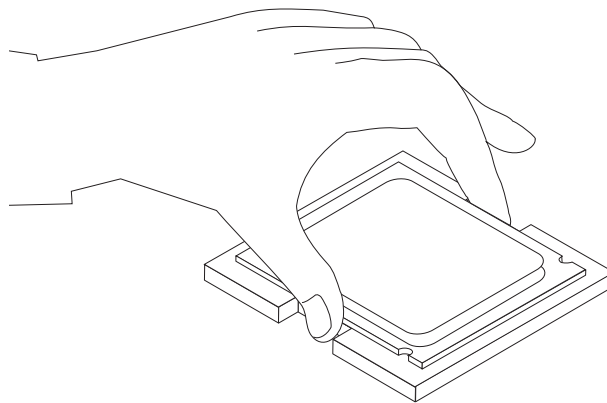
- To remove the microprocessor **2** from the system board, lift the small handle **3** and open the retainer **1**.



Important

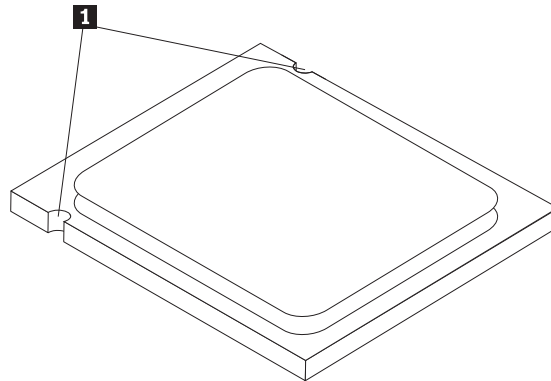
Touch only the sides of the microprocessor. Do not touch the gold contacts on the bottom.

- Lift the microprocessor straight up and out of the socket.

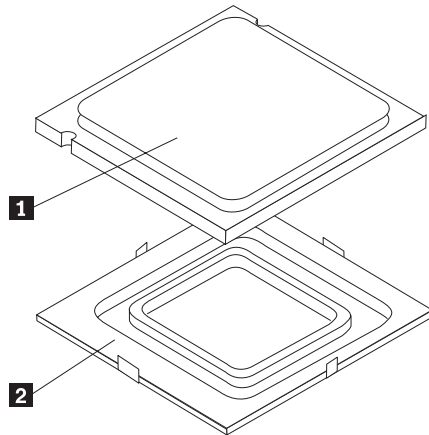


Notes:

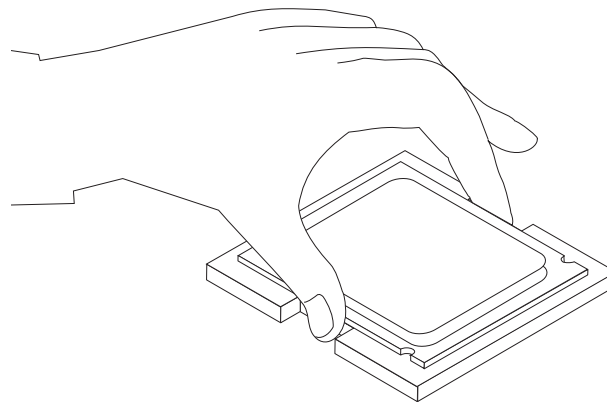
- a. Note the orientation of the notches **1** on the microprocessor. This is important when reinstalling the microprocessor on the system board.



- b. Do not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.
8. Make sure that the microprocessor retainer is fully open.
9. Holding the microprocessor with your fingers, remove the protective cover **2** that protects the gold contacts on the new microprocessor **1**.



10. Holding the microprocessor with your fingers, align the notches on the microprocessor with the tabs in the microprocessor socket
11. Lower the microprocessor straight down into the socket.



12. To secure the microprocessor in the socket, close the microprocessor retainer and lock it into position with the small handle.

13. Install the heat sink and fan assembly on the system board.
14. Connect the heat sink and fan assembly cable to the system board. See the system board illustration for your machine type at “Locating parts on the system board” on page 87.
15. Position the fan duct on the heat sink fan.
16. Go to “Completing the FRU replacement” on page 120.

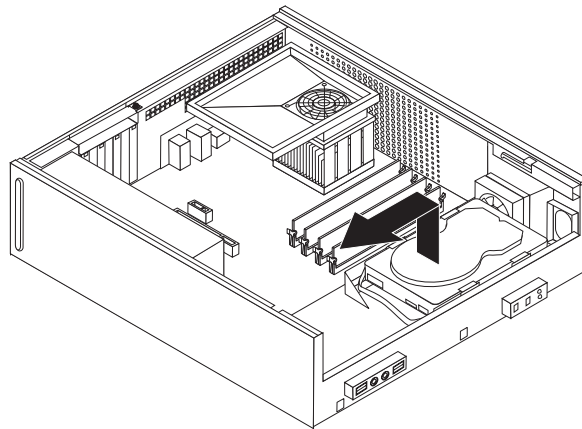
Replacing the hard disk drive

Important

When a new hard disk drive is installed, a set of *Product Recovery* discs might be required. The set of *Product Recovery* discs enable the contents of the hard disk to be restored to the same state as when the computer was originally shipped from the factory. For more information on recovering factory-installed software, refer to "Recovering Software" in the *User Guide*.

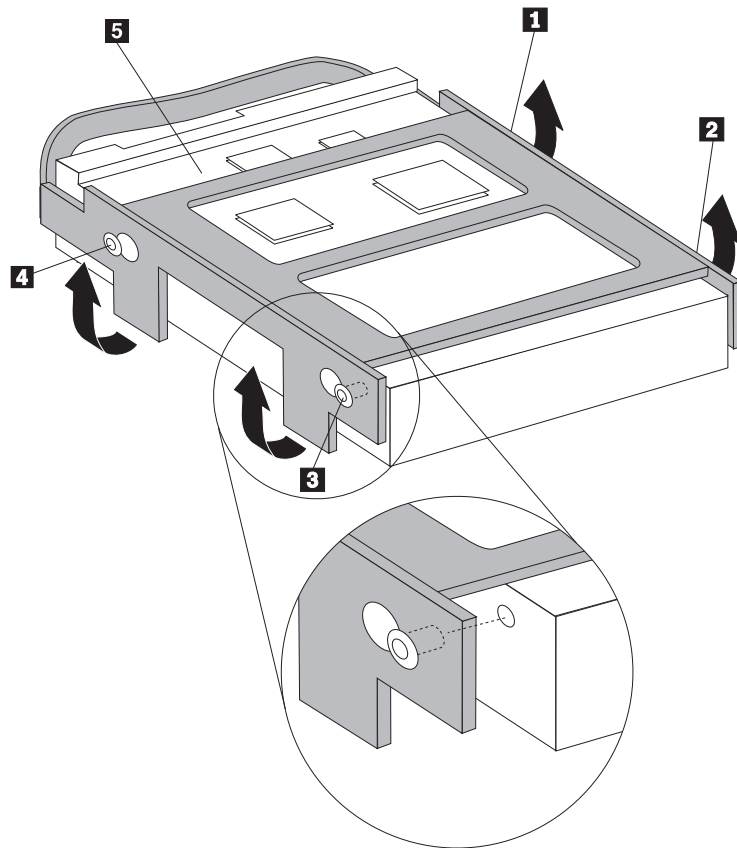
This procedure describes how to remove and replace the hard disk drive.

1. Remove the cover. See "Removing the cover" on page 85.
2. Remove the drive bay assembly. See "Accessing system board components and drives" on page 90.
3. Use the blue handle to pivot the hard disk drive and bracket upward, slide the hard drive to the left until it is free of the retaining clips in the bottom of the chassis, and then completely remove it from the chassis.



4. Disconnect the signal and power cables from the rear of the hard disk drive.
5. Remove the blue bracket from the failing hard disk drive by flexing the bracket.

6. Install the new drive into the blue bracket, flex the bracket, and align the pins **1** through **4** on the bracket with the holes in the hard disk drive. Do not touch the circuit board **5** on the bottom of the hard disk drive.

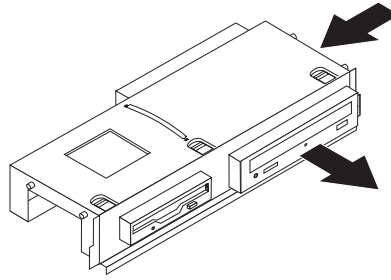


7. Connect the signal and power cables to the rear of the hard disk drive.
8. Position the hard disk drive and bracket so that it engages the retaining clips in the bottom of the chassis when you slide the bracket to the right.
9. Slide the hard disk drive and bracket to the right until it snaps into position.
10. Align the drive bay assembly studs with the two slots on each side of the chassis and reconnect the diskette drive and optical drive cables (if disconnected).
11. Slide the drive bay assembly towards the rear of the chassis until it snaps into position.
12. Reinstall the front bezel.
13. Go to "Completing the FRU replacement" on page 120.

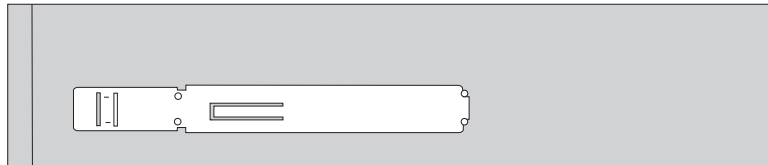
Replacing an optical drive

This procedure describes how to remove and replace an optical drive.

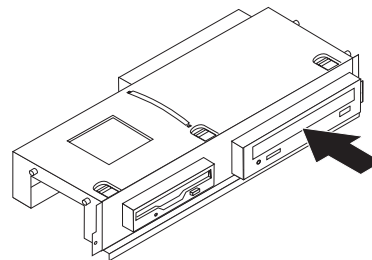
1. Remove the cover. See “Removing the cover” on page 85.
2. Remove the drive bay assembly. See “Accessing system board components and drives” on page 90.
3. Release the optical drive from the drive bay assembly by pressing inward on the blue retainer at the side of the drive.
4. Slide the optical drive being replaced out the front of the drive bay assembly.



5. Remove the retainer bracket from the failing drive and install it on the new drive.



6. Install the new optical drive into the bay until it snaps into position.

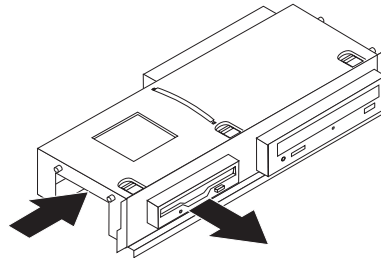


7. Reconnect the signal and power cables to the rear of the optical drive.
8. Align the drive bay assembly with the two slots and rails on the sides of the chassis and slide the drive bay assembly towards the rear of the chassis until it snaps into position.
9. Reinstall the front bezel.
10. Go to “Completing the FRU replacement” on page 120.

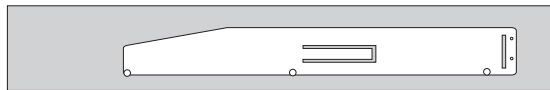
Replacing the diskette drive

This procedure describes how to remove and replace a diskette drive.

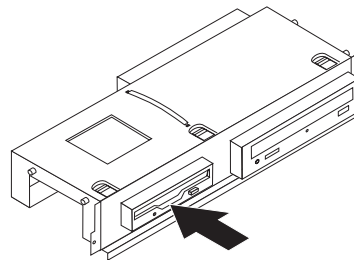
1. Remove the cover. See “Removing the cover” on page 85.
2. Remove the drive bay assembly. See “Accessing system board components and drives” on page 90.
3. Release the diskette drive by pressing inward on the blue retainer at the side of the drive.
4. Remove the failing diskette drive by sliding it out the front of the drive bay assembly.



5. Remove the retainer bracket from the failing drive and install it on the new drive.



6. Install the new diskette drive into the drive bay from the front until it snaps into position.

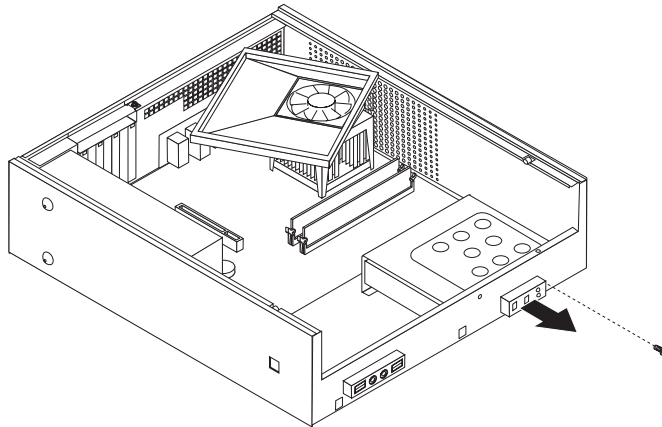


7. Reconnect the signal and power cables to the rear of the diskette drive.
8. Align the drive bay assembly with the two slots and rails on the sides of the chassis and slide the drive bay assembly towards the rear of the chassis until it snaps into position.
9. Reinstall the front bezel.
10. Go to “Completing the FRU replacement” on page 120.

Replacing the power switch/LED assembly

This procedure describes how to remove and replace the power switch/LED assembly.

1. Remove cover. See “Removing the cover” on page 85.
2. Remove the drive bay assembly. See “Accessing system board components and drives” on page 90.
3. Remove the hard disk drive. See “Replacing the hard disk drive” on page 112.
4. Disconnect the power switch/LED assembly cable from the system board. See the system board illustration for your machine type at “Locating parts on the system board” on page 87.
5. Remove the screw that secures the power switch/LED assembly to the chassis.

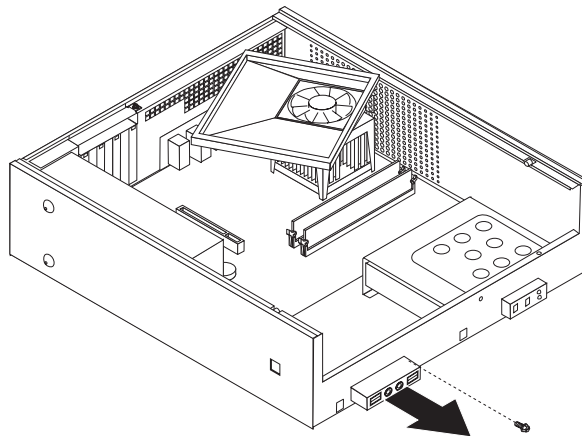


6. Note the power switch/LED assembly cable routing and remove the assembly from the chassis.
7. Route the cable for the new power switch/LED assembly through the hole in the chassis and to the system board.
8. Install the power switch/LED assembly into the chassis and secure the assembly with the screw.
9. Connect the power switch/LED cable to the system board.
10. Reinstall the hard disk drive. See “Replacing the hard disk drive” on page 112.
11. Align the drive bay assembly with the two slots and rails on the sides of the chassis slide the drive bay assembly towards the rear of the chassis until it snaps into position.
12. Reinstall the front bezel.
13. Go to “Completing the FRU replacement” on page 120.

Replacing the front panel card

This procedure describes how to remove and replace the front panel card.

1. Remove cover. See “Removing the cover” on page 85.
2. Remove the drive bay assembly. See “Accessing system board components and drives” on page 90.
3. Disconnect the front panel assembly cables from the system board. See the system board illustration for your machine type at “Locating parts on the system board” on page 87.
4. Remove the screw that secures the front panel card assembly to the chassis.



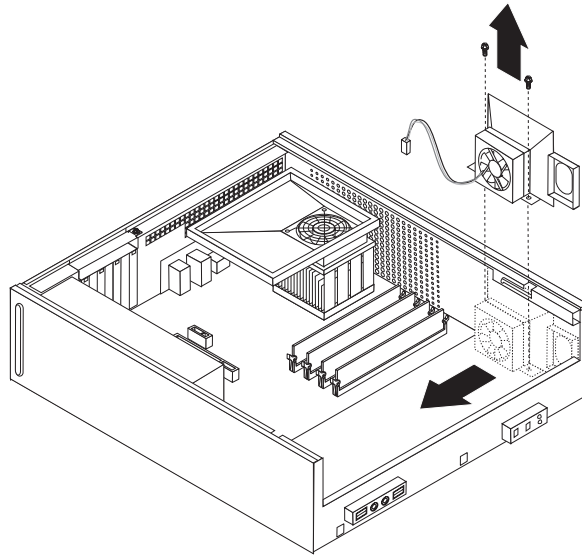
5. Note the front panel assembly cable routing and remove the assembly from the chassis.
6. Route the cable for the new front panel card assembly through the hole in the chassis and to the system board.
7. Install the front panel card assembly into the chassis and secure it with the screw.
8. Connect the front panel assembly cables to the system board.
9. Align the drive bay assembly with the two slots and rails on the sides of the chassis and slide the drive bay assembly towards the rear of the chassis until it snaps into position.
10. Reinstall the front bezel.
11. Go to “Completing the FRU replacement” on page 120.

Replacing the system fan assembly

This procedure describes how to remove and replace the system fan assembly.

1. Remove cover. See “Removing the cover” on page 85.
2. Remove the drive bay assembly. See “Accessing system board components and drives” on page 90.
3. Remove the hard disk drive. See “Replacing the hard disk drive” on page 112.
4. Disconnect the system fan cable from the system board. See “Locating parts on the system board” on page 87.
5. Remove the two screws securing the system fan assembly.

6. Remove the system fan assembly by pulling the bracket outward and lifting it up from the system board to remove completely.

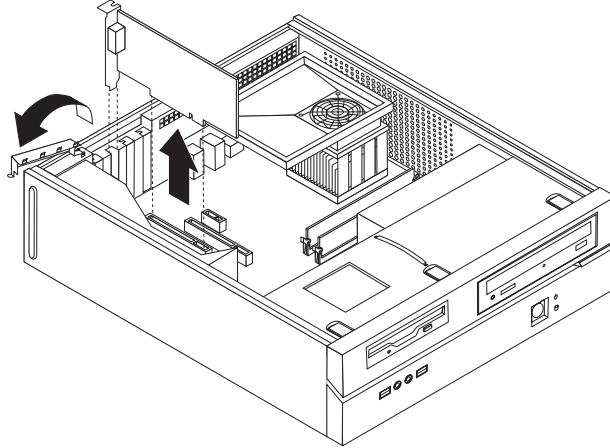


7. Install the new system fan assembly and install the two screws that secure the fan assembly.
8. Connect the system fan cable to the system fan connector on the system board.
9. Reinstall the hard disk drive. See “Replacing the hard disk drive” on page 112.
10. Align the drive bay assembly with the two slots and rails on the sides of the chassis and slide the drive bay assembly towards the rear of the chassis until it snaps into position.
11. Reinstall the front bezel.
12. Go to “Completing the FRU replacement” on page 120.

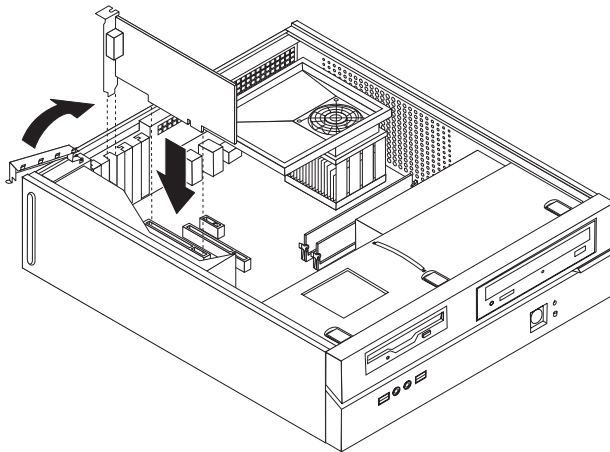
Replacing a PCI adapter

This procedure describes how to remove and replace a PCI adapter.

1. Remove cover. See “Removing the cover” on page 85.
2. Open the adapter latch and remove the failing adapter.



3. Remove the new adapter from its static-protective package.
4. Install the new adapter into the appropriate connector on the system and close the adapter latch.



5. Go to “Completing the FRU replacement” on page 120.

Completing the FRU replacement

After replacing FRUs, you need to install any removed parts, replace the cover, and reconnect any cables, including telephone lines and power cords. Also, depending on the FRU that is replaced, you might need to confirm the updated information in the Setup Utility program.

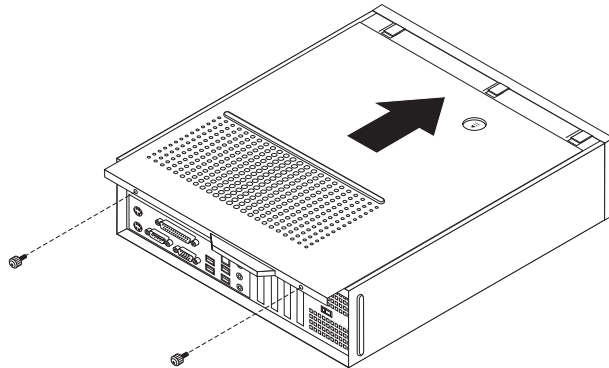
Note: When the power cord is first plugged in, the computer might appear to turn on for a few seconds and then turn off. This is a normal sequence to enable the computer to initialize.

1. Ensure that all components have been reassembled correctly and that no tools or loose screws are left inside your computer.
2. Reposition any cables that might impede the replacement of the computer cover.

Important

Correctly route all power supply cables to avoid interference with the drive bay assembly. Keep cables clear of the hinges and sides of the computer chassis.

3. Position the computer cover on the chassis so that the rail guides on the sides of the cover engage the rails and push the cover to the closed position until it snaps into position.



4. If the cover is secured with thumbscrews, install them.
5. Reconnect the external cables and power cords to the computer. See “Rear connectors” on page 84.
6. If you have replaced the system board, you must update (flash) the BIOS. See “Flash update procedures” on page 227.
7. Some FRU replacements require the configuration to be updated. See Chapter 6, “Using the Setup Utility,” on page 51.

Chapter 9. Replacing FRUs (Types 9686, 9687, 9688, 9689, 9690, and 9691)

Important

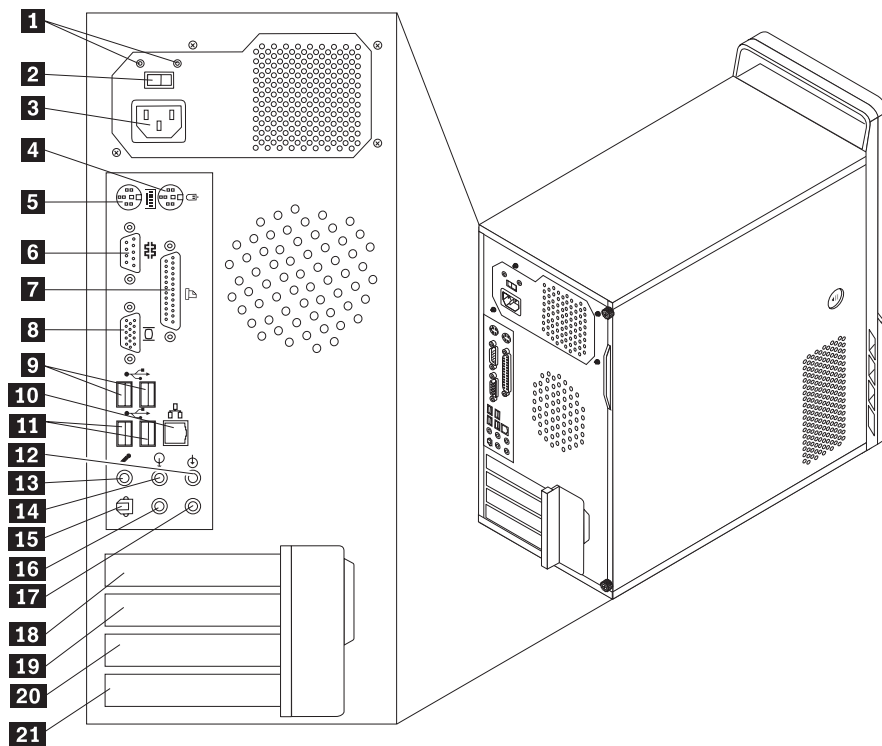
Before you replace any FRU, read Chapter 2, "Safety information," on page 3. These precautions and guidelines will help you work safely.

FRU replacements are to be done by trained service technicians only.

This chapter does not contain a remove and replace procedure for all FRUs. Only the major FRUs are documented.

Rear connectors

The following illustration shows the locations of the connectors on the rear of the computer.



- | | |
|---|---|
| 1 Power supply diagnostic LEDs | 12 Microphone connector |
| 2 Voltage selection switch (some models) | 13 Audio line out connector |
| 3 Power connector | 14 Audio line in connector |
| 4 Mouse connector | 15 SPDIF connector (some models) |
| 5 Keyboard connector | 16 C/LFE connector (some models) |
| 6 Serial connector | 17 Back surround connector (some models) |
| 7 Parallel connector | 18 PCI and PCI Express adapter slots (type of adapter depends on system board) |
| 8 VGA monitor connector | 19 PCI and PCI Express adapter slots (type of adapter depends on system board) |
| 9 USB connectors | 20 PCI and PCI Express adapter slots (type of adapter depends on system board) |
| 10 Ethernet connector | 21 PCI a adapter slot |
| 11 USB connectors | |

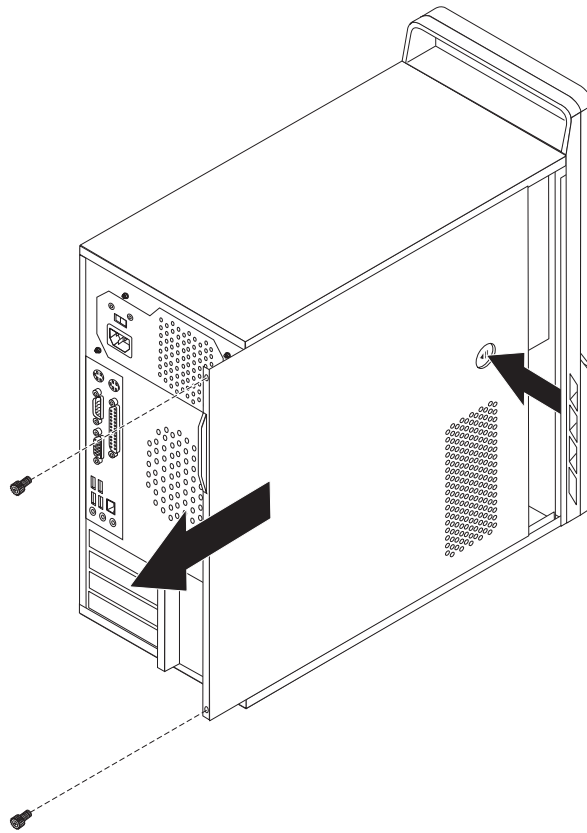
Removing the cover

Important

Read Chapter 2, “Safety information,” on page 3 and “Handling electrostatic discharge-sensitive devices” on page 6 before opening the cover.

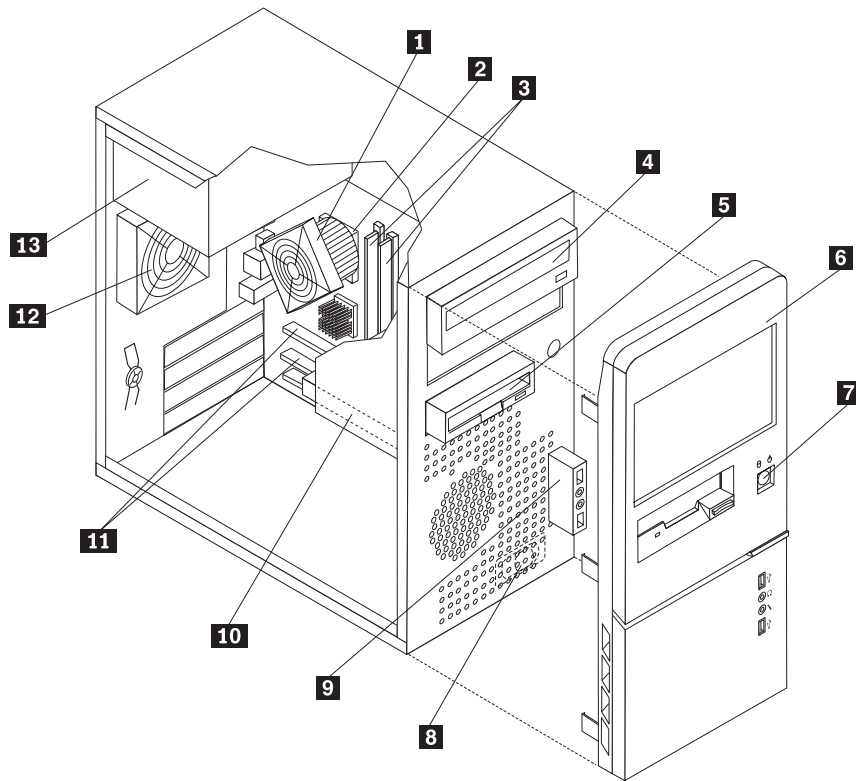
This procedure describes how to remove the cover.

1. Shut down the operating system, remove any media (DVDs, CDs, or tapes) from the drives, and turn off all attached devices.
2. Unplug all power cords from electrical outlets.
3. Disconnect all cables attached to the computer. This includes power cords, input/output (I/O) cables, and any other cables that are connected to the computer.
4. If there are thumb screws securing the cover, remove them.
5. Press the button on the left-side cover and slide the cover to the rear to remove.



Locations

The following illustration will help you locate the major FRUs in the computer.



1 Heat sink and fan assembly

2 Microprocessor

3 Memory modules

4 Optical drive

5 Diskette drive

6 Bezel

7 Power switch/LED assembly

8 Internal speaker

9 Front audio/USB assembly

10 Hard disk drive

11 System board

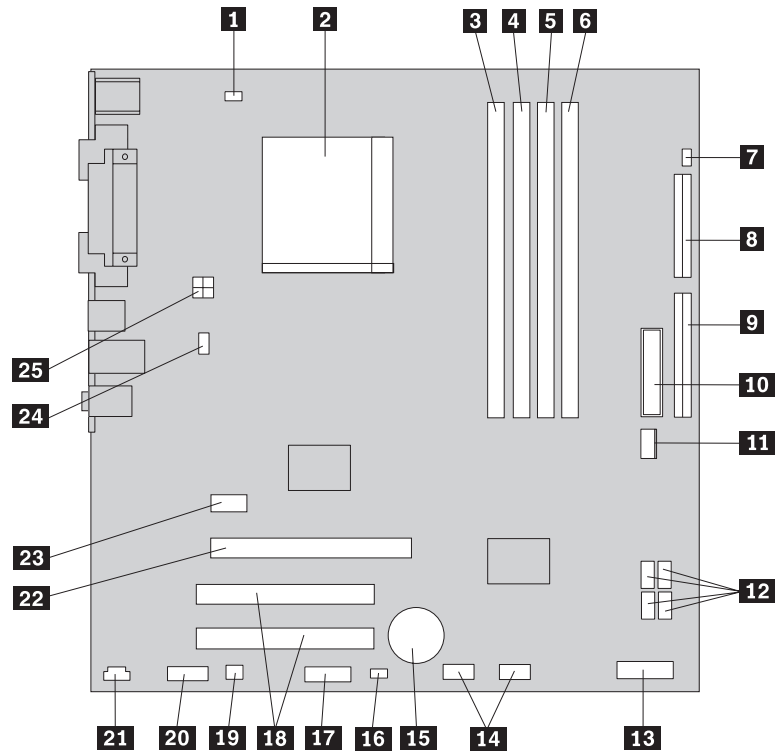
12 System fan

13 Power supply

Locating parts on the system board

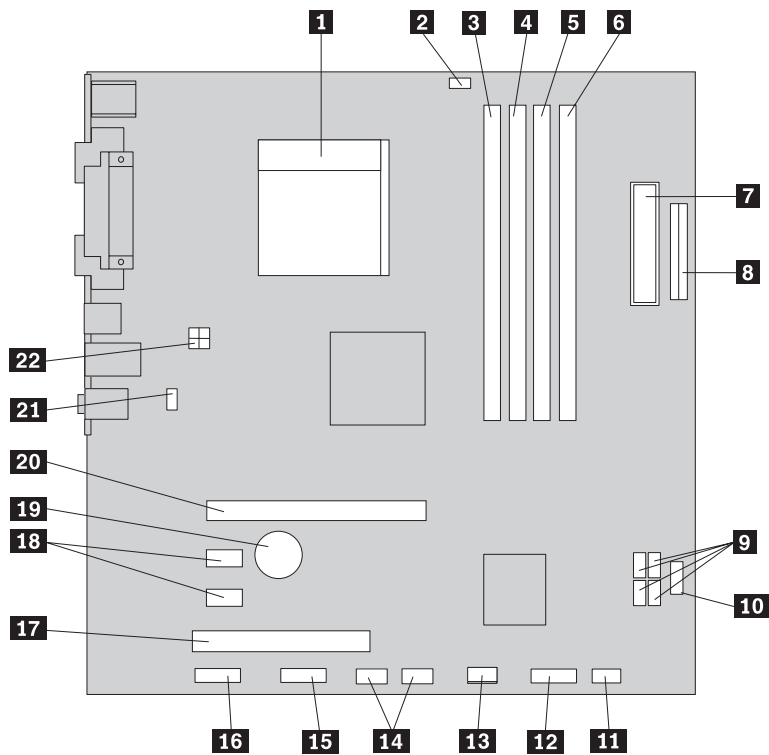
The machine types supported by this maintenance manual include several different system boards. Locate the appropriate machine type in one of the following sections.

Machine types 9686 and 9687



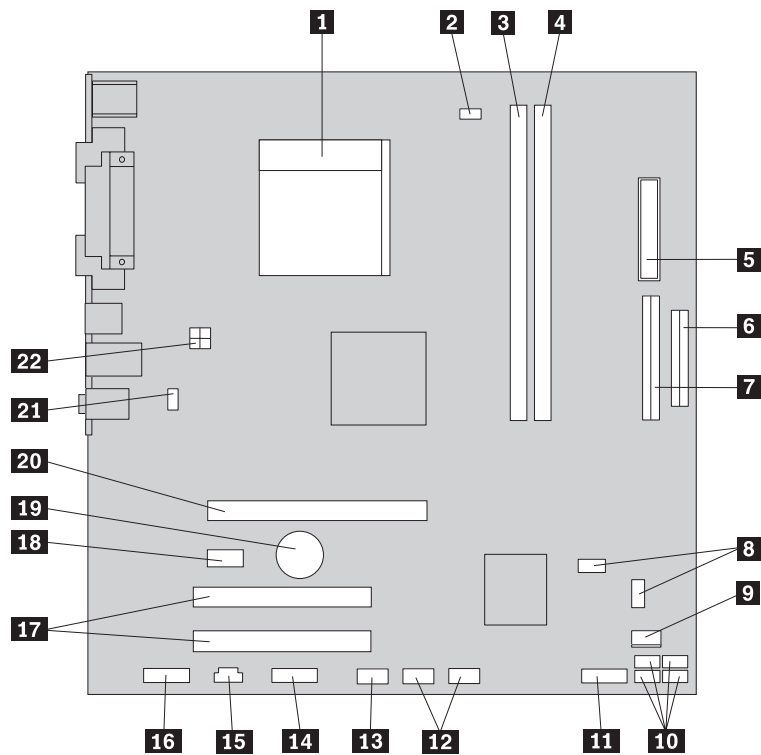
- | | | | |
|-----------|---------------------------------|-----------|--|
| 1 | Microprocessor fan connector | 14 | Front USB connectors (2) |
| 2 | Microprocessor and heat sink | 15 | Battery |
| 3 | Memory connector 1 | 16 | Clear CMOS/Recovery jumper |
| 4 | Memory connector 2 | 17 | Serial (COM) connector |
| 5 | Memory connector 3 | 18 | PCI adapter connectors |
| 6 | Memory connector 4 | 19 | Mono (speaker) connector |
| 7 | Cover presence switch connector | 20 | Front audio connector |
| 8 | Diskette drive connector | 21 | CD-IN connector |
| 9 | IDE connector | 22 | PCI Express x16 graphics adapter connector |
| 10 | Power connector | 23 | PCI Express x1 adapter connector |
| 11 | Front system fan connector | 24 | System fan connector |
| 12 | SATA IDE connectors (4) | 25 | 12v power connector |
| 13 | Front panel connector | | |

Machine types 9688 and 9689



- | | | | |
|-----------|------------------------------|-----------|--|
| 1 | Microprocessor and heat sink | 12 | Front panel connector |
| 2 | Microprocessor fan connector | 13 | Front USB connectors (2) |
| 3 | Memory connector 1 | 14 | Serial (COM) connector |
| 4 | Memory connector 2 | 15 | Front audio connector |
| 5 | Memory connector 3 | 16 | PCI adapter connector |
| 6 | Memory connector 4 | 17 | PCI Express x1 adapter connectors (2) |
| 7 | Power connector | 18 | Battery |
| 8 | Diskette drive connector | 19 | PCI Express x16 graphics adapter connector |
| 9 | SATA IDE connectors (4) | 20 | System fan connector |
| 10 | Front USB connector | 21 | 12v power connector |
| 11 | Clear CMOS/Recovery jumper | | |

Machine types 9690 and 9691

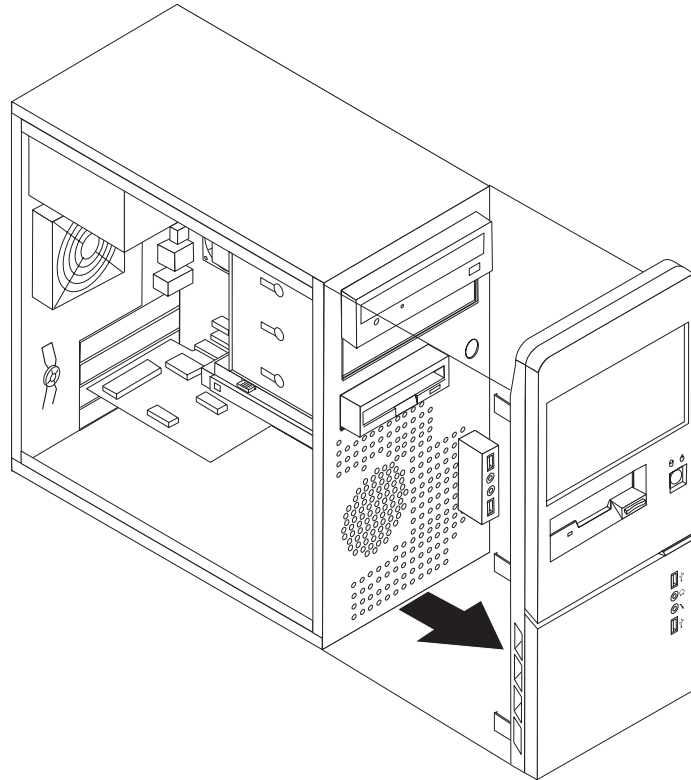


- | | | | |
|-----------|---------------------------------|-----------|--|
| 1 | Microprocessor and heat sink | 12 | Serial (COM) connector |
| 2 | Microprocessor fan connector | 13 | Leo connector |
| 3 | Memory connector 1 | 14 | CD-IN connector |
| 4 | Memory connector 2 | 15 | Front audio connector |
| 5 | Power connector | 16 | PCI adapter connectors (2) |
| 6 | Diskette drive connector | 17 | PCI Express x1 adapter connector |
| 7 | IDE connector | 18 | Battery |
| 8 | Clear CMOS/Recovery jumpers (2) | 19 | PCI Express x16 graphics adapter connector |
| 9 | SATA IDE connectors (4) | 20 | System fan connector |
| 10 | Front panel connector | 21 | 12v power connector |
| 11 | Front USB connectors (2) | | |

Removing and replacing the front bezel

This procedure describes how to remove and replace the front bezel.

1. Remove the computer cover. See “Removing the cover” on page 123.
2. Remove the front bezel by releasing the three plastic tabs inside the chassis and pivoting the bezel outward. Carefully set the bezel to the side without disconnecting the power switch/LED assembly cable.



3. To reinstall the bezel, align the plastic tabs on the right side of the bezel with the corresponding holes in the chassis, then pivot it inward until it snaps into position on the left side.

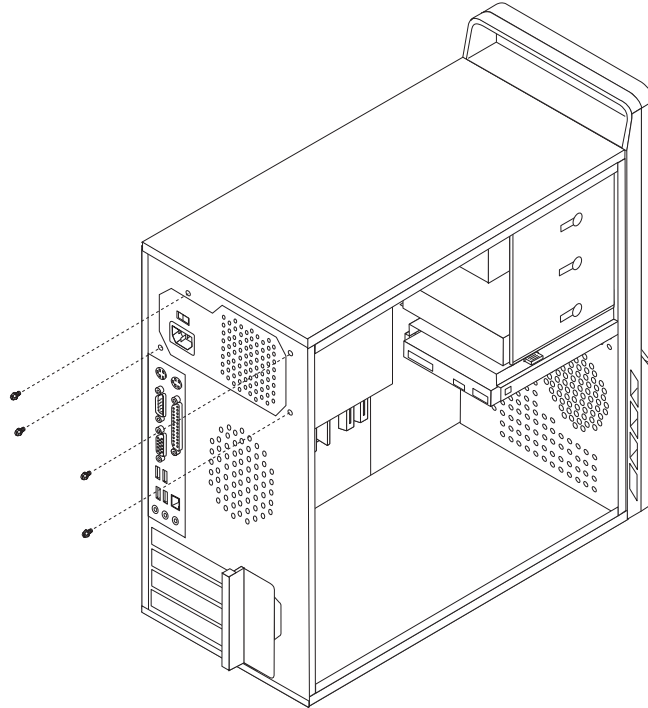
Replacing the power supply

This procedure describes how to remove and replace the power supply.

1. Remove the computer cover. See “Removing the cover” on page 123.

Note: For this procedure, it helps to lay the computer on its side.

2. Disconnect the power supply cables from the system board and from all drives.
3. Remove the four screws that secure the power supply at the rear of the chassis.



4. Lift the power supply out of the chassis.
5. If the power supply has a voltage-selection switch, ensure that it is set to match the voltage available at the electrical outlet.
 - If the voltage supply range in your local country or region is 100-127 V ac, set the switch to 115 V.
 - If the voltage supply range in your local country or region is 200-240 V ac, set the switch to 230 V.
6. Install the new power supply into the chassis so that the screw holes in the power supply align with those in the chassis.
7. Install the four screws to secure the power supply.

Note: Use only the screws provided by Lenovo.

8. Reconnect the power supply connectors to the system board. See “Locating parts on the system board” on page 125.
9. Reconnect a power supply connector to each of the drives.
10. Go to “Completing the FRU replacement” on page 161.

Replacing the system board

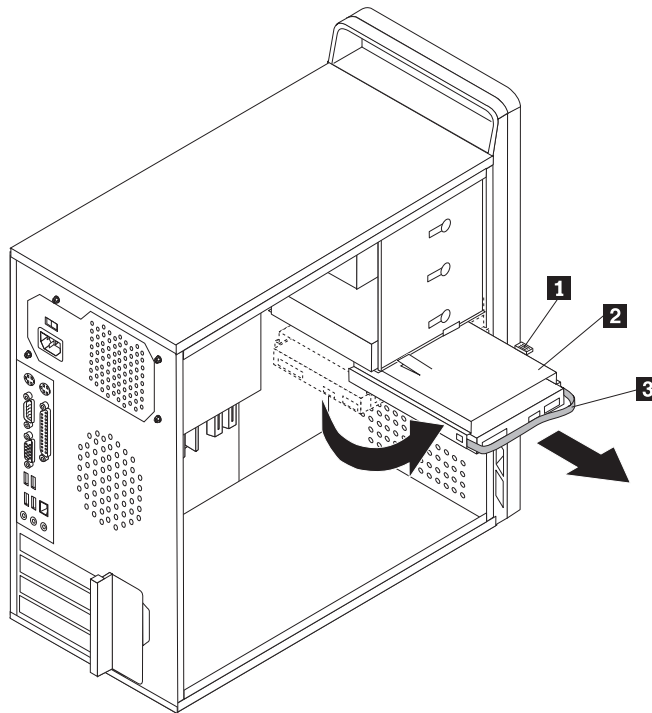
This procedure describes how to remove and replace the system board. The procedure varies depending upon the machine type.

Types 9686 and 9687

Important

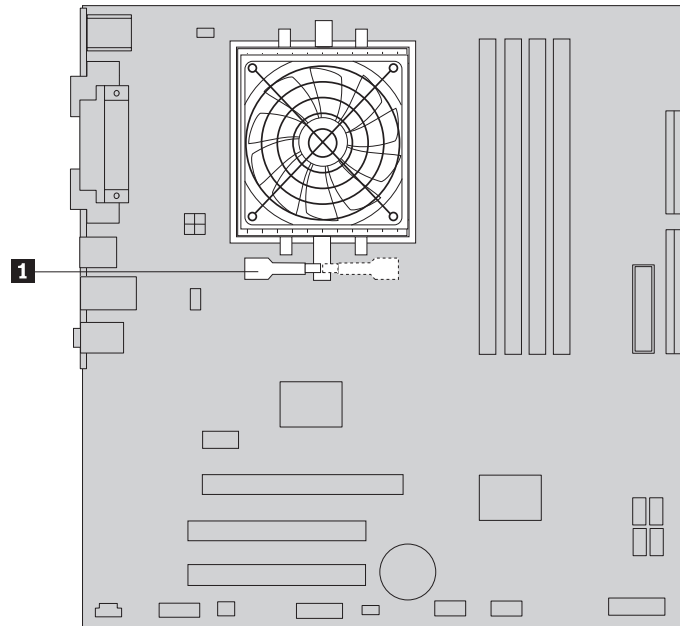
The heat sink and microprocessor might be very hot. Make sure these components are cool enough to safely handle before continuing this procedure.

1. Remove the side cover. See "Removing the cover" on page 123.
2. Place the computer on its right side to help make the system board more accessible.
3. Remove any adapter cards installed in the PCI connectors.
4. Disconnect the signal and power cables from the hard disk drive.
5. Press the release tab **1** down, slide the hard drive cage **2** back, and pivot the hard disk drive outward as shown.

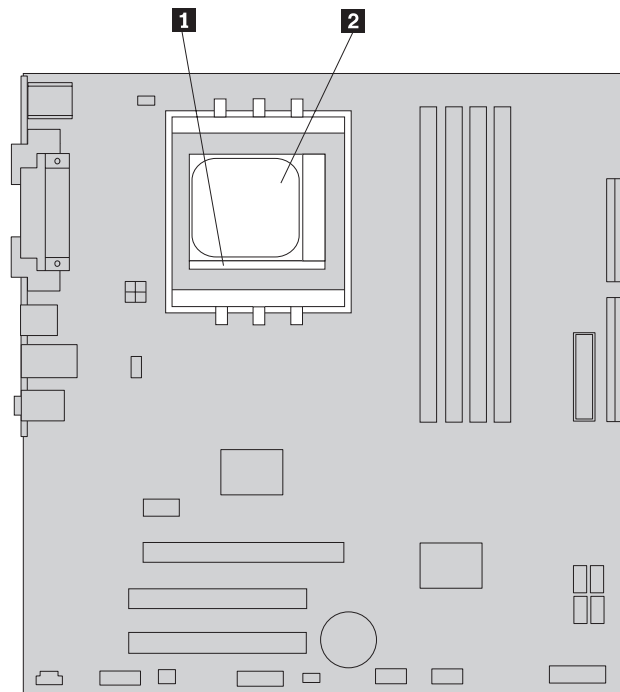


6. Carefully take note of the location of all cable connections on the system board and disconnect all cables. See the system board illustration for your machine type at "Locating parts on the system board" on page 125.
7. Remove the screws that secure the system board to the chassis.
8. Lift the system board out of the chassis.
9. Remove the memory modules from the failing system board and install them in the same location on the new system board.
10. Disconnect the heat sink and fan assembly cable from the system board. See the system board illustration for your machine type at "Locating parts on the system board" on page 125.

11. Rotate handle **1** to release the heat sink clamp and then disengage the clamp from the plastic retention bracket.



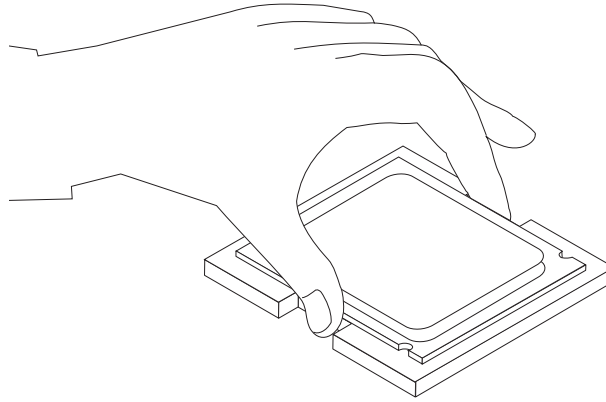
12. Lift the heat sink and fan assembly off the failing system board. Place the heat sink on its side so that the thermal grease does not come in contact with anything.
13. Remove the retention module from the rear of the failing system board and install it in the same position on the new system board.
14. To release the microprocessor **2** from the system board socket, lift the small handle **1**.



Important

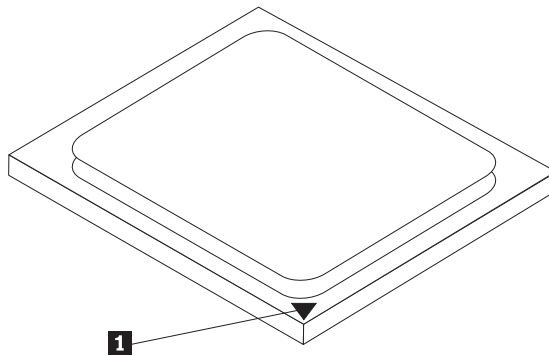
Touch only the sides of the microprocessor. Do not touch the gold contacts on the bottom.

15. Lift the microprocessor straight up and out of the socket.



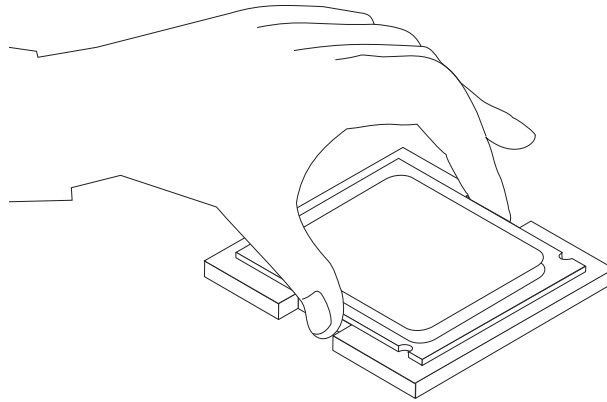
Notes:

- a. Your microprocessor and socket might look different than the one illustrated.
 - b. Note the orientation of the microprocessor in the socket. Look for the small triangle on one corner of the microprocessor. This is important when reinstalling the microprocessor on the new system board.
 - c. Do not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.
16. Holding the microprocessor with your fingers, position the microprocessor so that the small triangle **1** on one corner is aligned with the corresponding triangle on the socket on the new system board.



17. Make sure that the small handle is in the raised position.

18. Lower the microprocessor straight down into the system board socket of the new system board.



19. Lower the small handle to secure the microprocessor in the socket.
20. Connect the heat sink and fan assembly cable to the system board. See the system board illustration for your machine type at “Locating parts on the system board” on page 125.
21. Install the new system board into the chassis and align the screw holes with those in the chassis. Insert and tighten the screws that secure the system board.
22. Pivot the hard disk drive back into position.
23. Connect the power and signal cables to the hard disk drive.
24. Connect all cables to the system board. See the system board illustration for your machine type at “Locating parts on the system board” on page 125.
25. Go to “Completing the FRU replacement” on page 161.

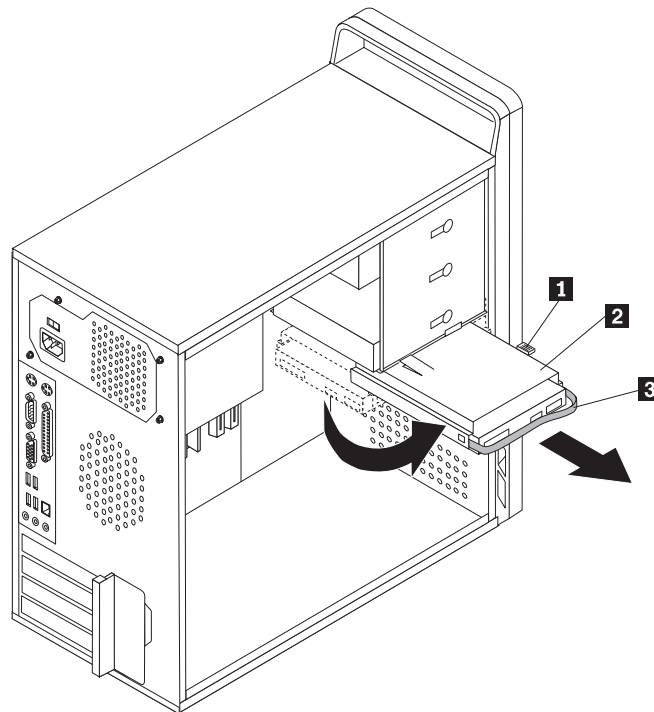
Types 9688, 9689, 9690, and 9691

Important

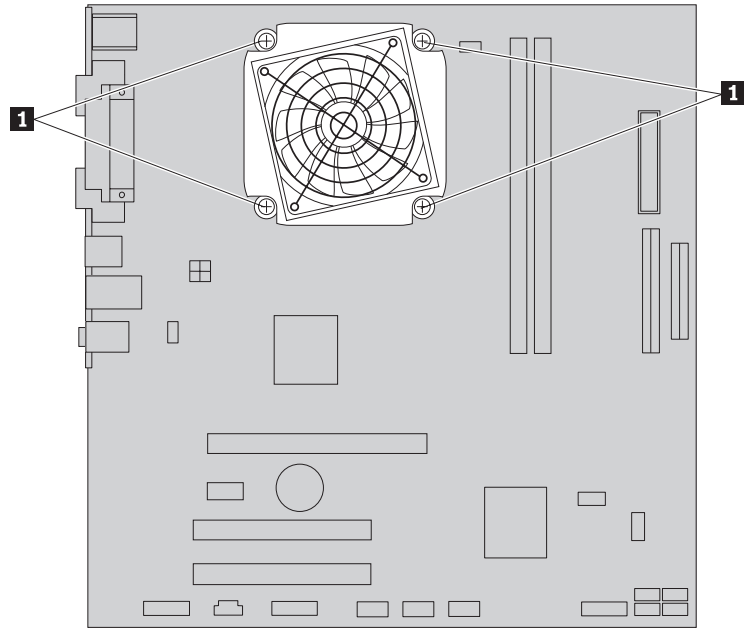
The heat sink and microprocessor might be very hot. Make sure these components are cool enough to safely handle before continuing this procedure.

Note: When replacing the system board you must also order a new retention module for the new system board. Make sure you have a retention module for the new system board before continuing with this procedure.

1. Remove the cover. See “Removing the cover” on page 123.
2. Place the computer on its right side to help make the system board more accessible.
3. Remove any adapter cards installed in the PCI connectors.
4. Disconnect the signal and power cables from the hard disk drive.
5. Press the release tab **1** down, slide the hard drive cage **2** back, and pivot the hard disk drive outward as shown.

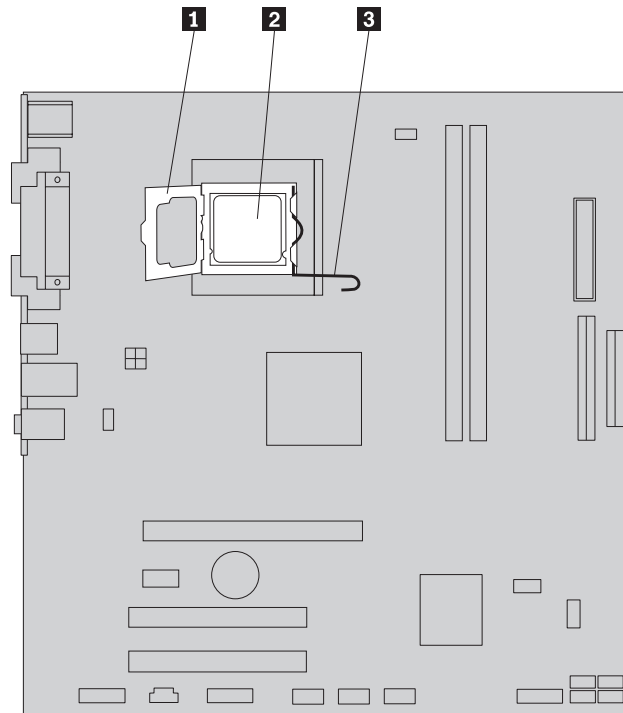


6. Carefully take note of the location of all cable connections on the system board and disconnect all cables. See the system board illustration for your machine type at “Locating parts on the system board” on page 125.
7. Remove the screws that secure the system board to the chassis.
8. Lift the system board out of the chassis.
9. Remove the memory modules from the failing system board and install them in the same location on the new system board.
10. Disconnect the heat sink and fan assembly cable from the system board. See the system board illustration for your machine type at “Locating parts on the system board” on page 125.
11. Remove the four screws **1** securing the heat sink and fan assembly to the system board.



12. Lift the heat sink and fan assembly off the failing system board. Place the heat sink on its side so that the thermal grease does not come in contact with anything.

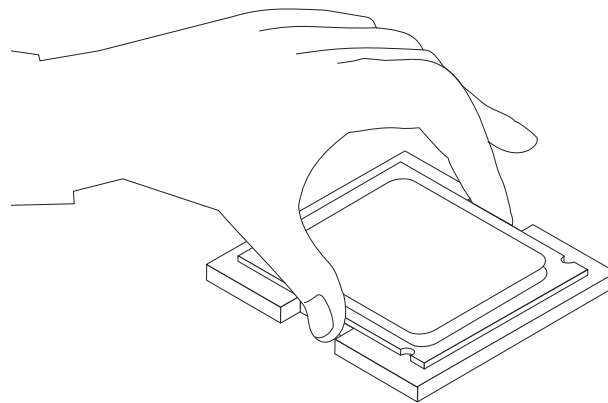
13. To remove the microprocessor **2** from the system board, lift the small handle **3** and open the retainer **1**.



Important

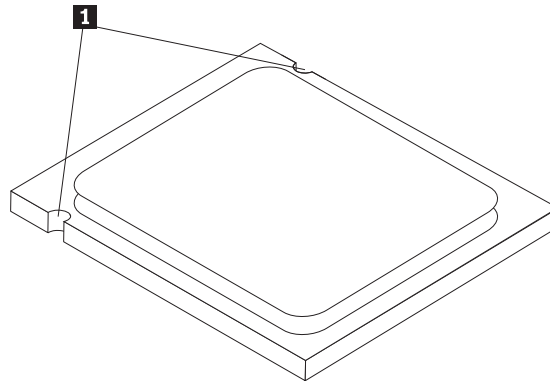
Touch only the sides of the microprocessor. Do not touch the gold contacts on the bottom.

14. Lift the microprocessor straight up and out of the socket.



Notes:

- a. Note the orientation of the notches **1** on the microprocessor. This is important when reinstalling the microprocessor on the new system board.



- b. Do not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.
15. On the new system board, release the lever securing the microprocessor retainer and then pivot the retainer until it is fully open.

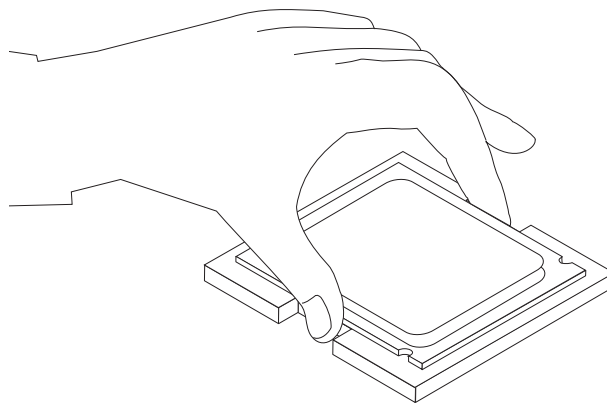
Note: There will be a black plastic cover on the microprocessor retainer to protect the socket on the new system board. Remove the black plastic cover and place it on the microprocessor socket of the failing system board.

16. Holding the microprocessor with your fingers, position the microprocessor so that the notches on the microprocessor are aligned with the tabs in the microprocessor socket.

Important

To avoid damaging the microprocessor contacts, do not tilt the microprocessor when installing it into the socket.

17. Lower the microprocessor straight down into the system board socket of the new system board.



18. To secure the microprocessor in the socket, close the microprocessor retainer and lock it into position with the small handle.
19. Install the retention module for the heat sink and fan assembly on the system board.
20. Install the heat sink and fan assembly on the system board.

21. Connect the heat sink and fan assembly cable to the new system board. See the system board illustration for your machine type at "Locating parts on the system board" on page 125.
22. Install the new system board into the chassis and align the screw holes with those in the chassis. Insert and tighten the screws that secure the system board.
23. Pivot the hard disk drive back into position.
24. Connect the power and signal cables to the hard disk drive.
25. Connect all cables to the system board. See the system board illustration for your machine type at "Locating parts on the system board" on page 125.
26. Go to "Completing the FRU replacement" on page 161.

Replacing the microprocessor

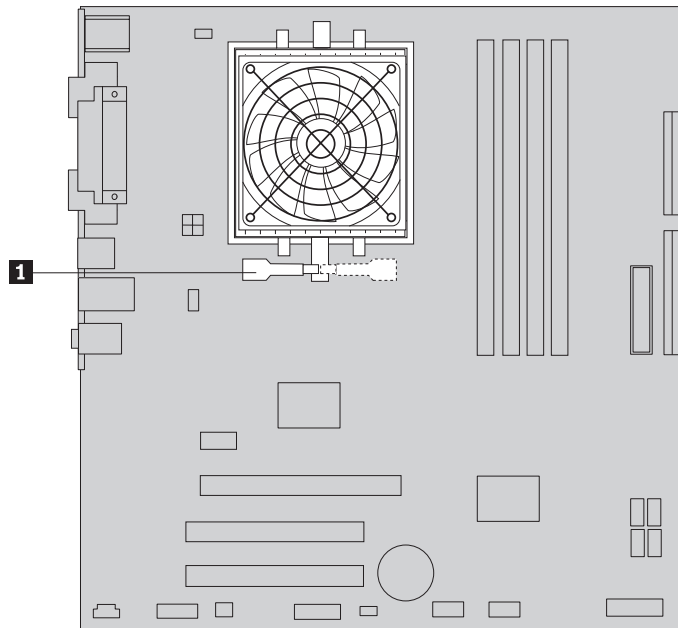
This procedure describes how to remove and replace the microprocessor. The procedure varies depending upon the machine type.

Types 9686 and 9687

Important

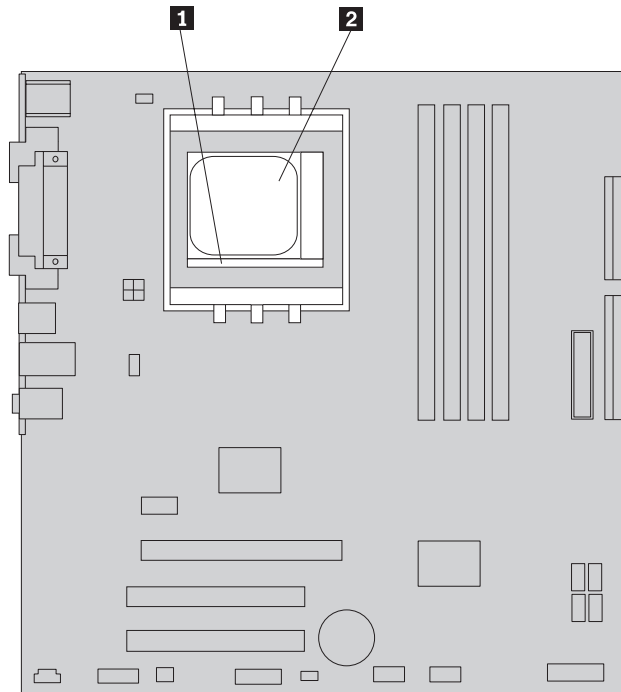
The heat sink and microprocessor might be very hot. Make sure these components are cool enough to safely handle before continuing this procedure.

1. Remove the cover. See "Removing the cover" on page 123.
2. Place the computer on its right side to help make the microprocessor more accessible.
3. Disconnect the heat sink and fan assembly cable from the system board. See the system board illustration for your machine type at "Locating parts on the system board" on page 125.
4. Rotate handle **1** to release the heat sink clamp and then disengage the clamp from the plastic retention bracket.



5. Lift the heat sink and fan assembly off the system board. Place the heat sink on its side so that the thermal grease does not come in contact with anything.

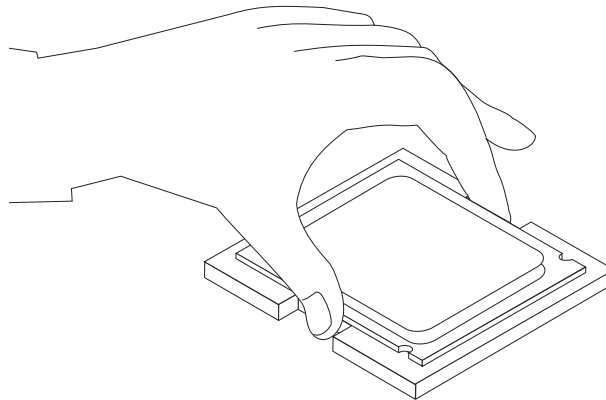
6. To release the microprocessor **2** from the system board socket, lift the small handle **1**.



Important

Do not touch the gold contacts on the bottom of the microprocessor. If you must touch the microprocessor, touch only the sides.

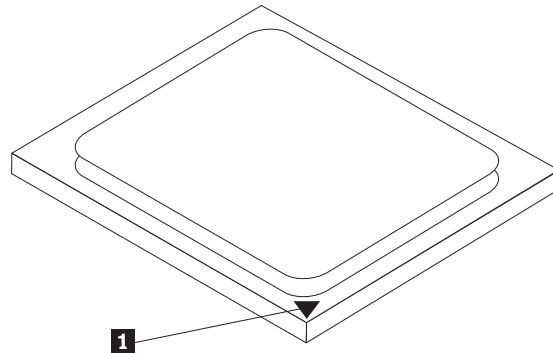
7. Lift the microprocessor straight up and out of the socket.



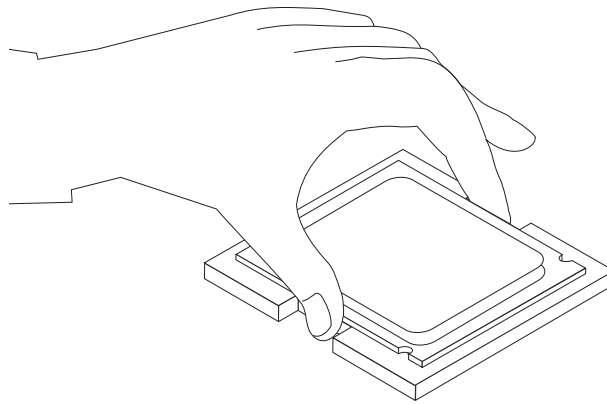
Notes:

- a. Your microprocessor and socket might look different than the one illustrated.
- b. Note the orientation of the microprocessor in the socket. Look for the small triangle on one corner of the microprocessor. This is important when reinstalling the microprocessor on the new system board.
- c. Do not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.

8. Make sure that the small handle is in the raised position.
9. Holding the microprocessor with your fingers, position the microprocessor so that the small triangle on one corner is aligned with the corresponding triangle on the microprocessor socket.



10. Lower the microprocessor straight down into the system board socket of the new system board.



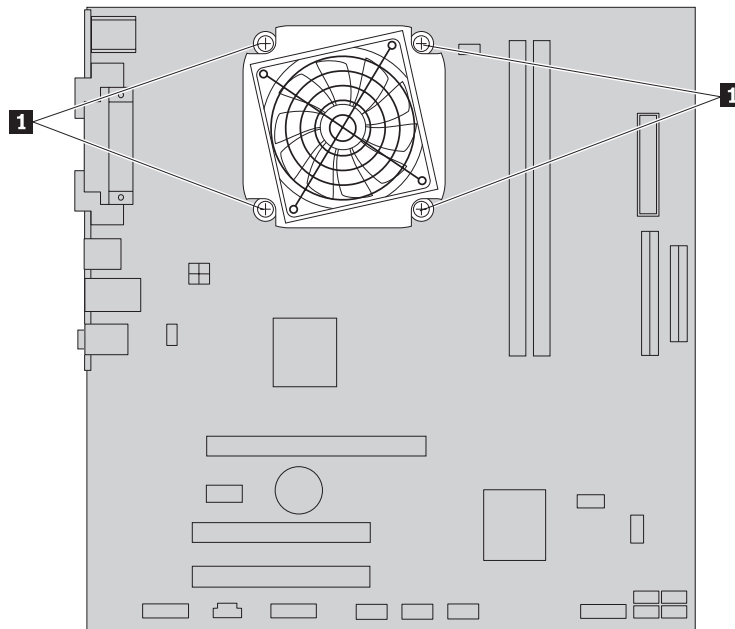
11. Lower the small handle to secure the microprocessor in the socket.
12. Install the heat sink and fan assembly on the system board.
13. Connect the heat sink and fan assembly cable to the system board. See the system board illustration for your machine type at "Locating parts on the system board" on page 125.
14. Go to "Completing the FRU replacement" on page 161.

Types 9688, 9689, 9690, and 9691

Important

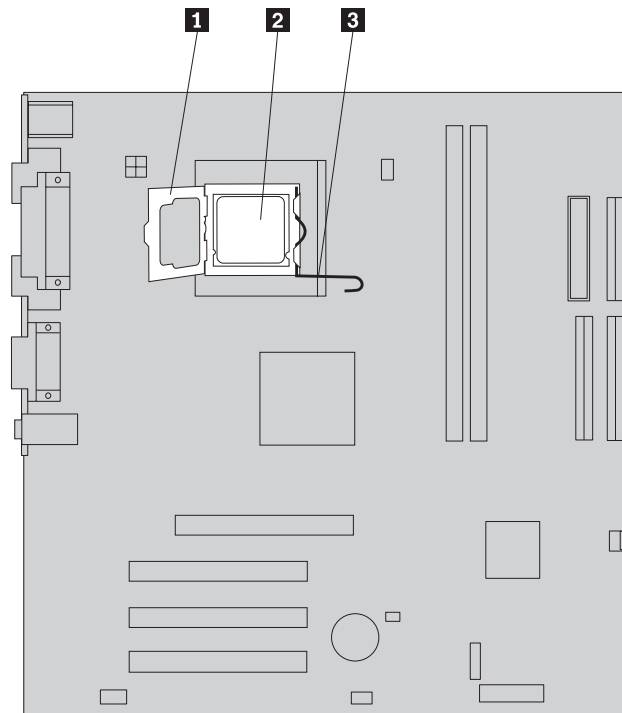
The heat sink and microprocessor might be very hot. Make sure these components are cool enough to safely handle before continuing this procedure.

1. Remove the side cover. See “Removing the cover” on page 123.
2. Place the computer on its right side to help make the microprocessor more accessible.
3. Disconnect the heat sink and fan assembly cable from the system board. See the system board illustration for your machine type at “Locating parts on the system board” on page 125.
4. Remove the four screws **1** securing the heat sink and fan assembly to the system board.



5. Lift the heat sink and fan assembly off the failing system board. Place the heat sink on its side so that the thermal grease does not come in contact with anything.

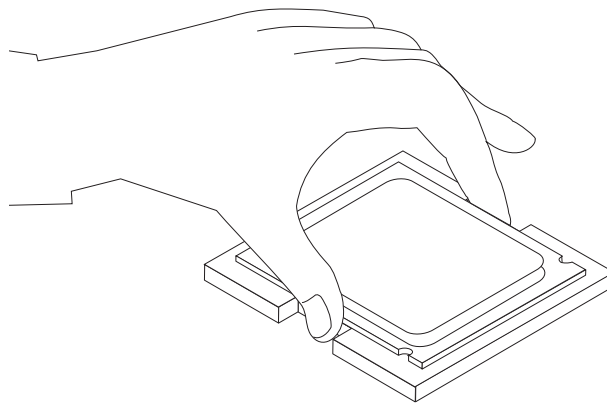
- To remove the microprocessor **2** from the system board, lift the small handle **3** and open the retainer **1**.



Important

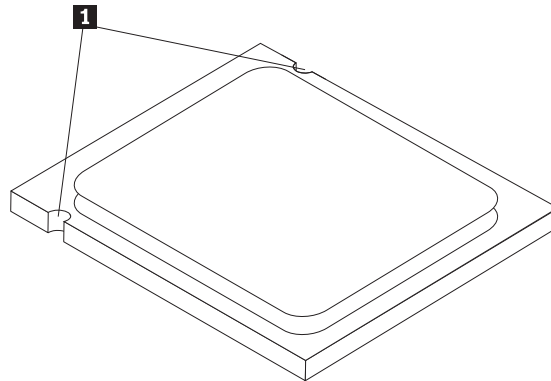
Touch only the sides of the microprocessor. Do not touch the gold contacts on the bottom.

- Lift the microprocessor straight up and out of the socket.

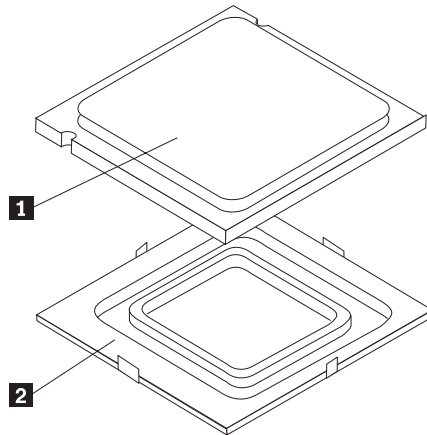


Notes:

- a. Note the orientation of the notches **1** on the microprocessor. This is important when reinstalling the microprocessor on the new system board.



- b. Do not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.
8. Make sure that the microprocessor retainer is fully open.
9. Holding the microprocessor with your fingers, remove the protective cover **2** that protects the gold contacts on the new microprocessor **1**.

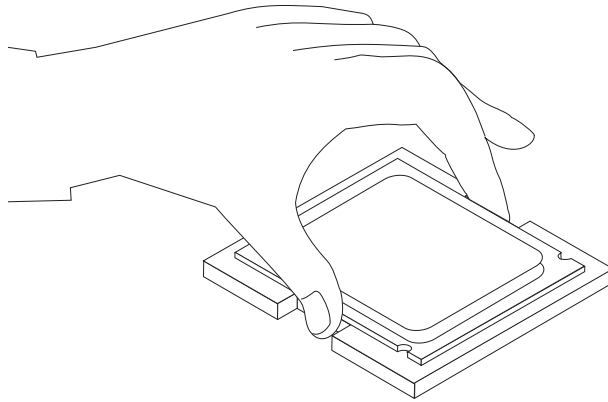


10. Holding the microprocessor with your fingers, position the microprocessor so that the notches on the microprocessor are aligned with the tabs in the microprocessor socket.

Important

To avoid damaging the microprocessor contacts, do not tilt the microprocessor when installing it into the socket.

11. Lower the microprocessor straight down into the system board socket of the system board.



12. To secure the microprocessor in the socket, close the microprocessor retainer and lock it into position with the small handle.
13. Install the heat sink and fan assembly on the system board.
14. Connect the heat sink and fan assembly cable to the system board. See the system board illustration for your machine type at “Locating parts on the system board” on page 125.
15. Go to “Completing the FRU replacement” on page 161.

Replacing a memory module

This procedure describes how to remove and replace a memory module.

Installing memory

This computer either has two or four connectors for installing double data rate 2 dual inline memory modules (DDR2 DIMMs). System boards with two connectors can accommodate a maximum of 2.0 GB of system memory. System boards with four connectors can accommodate a maximum of 4.0 GB of system memory.

When installing memory modules, the following rules apply:

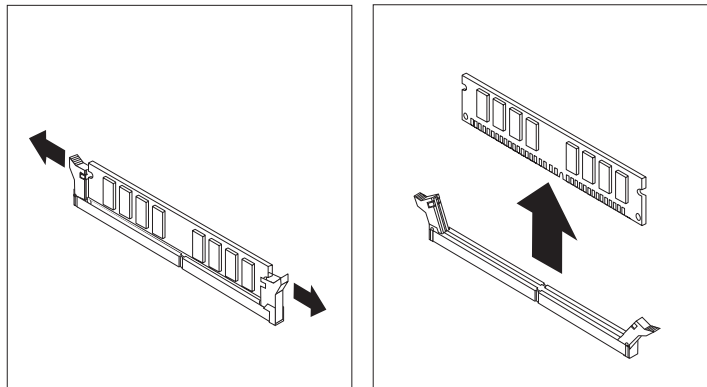
- If you are replacing a memory module on a system board with four memory connectors, at least one memory module must be installed in the first memory channel (in either memory connector 1 or memory connector 2). See “Locating parts on the system board” on page 125 for more information.
- Use 1.8 V, 240-pin, double data rate 2 synchronous dynamic random access memory (DDR2 SDRAM).
- Use 256 MB, 512 MB, or 1 GB memory modules in any combination.

Note: Only DDR2 SDRAM DIMMs can be used.

1. Remove the computer cover. See “Removing the cover” on page 123.

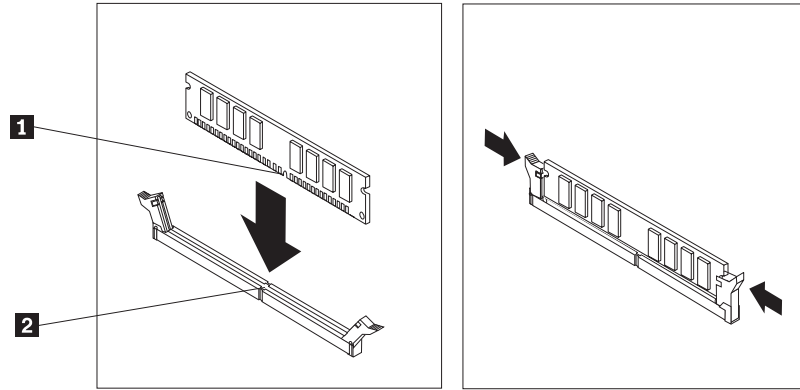
Note: For this procedure, it helps to lay the computer on its side.

2. Locate the memory module connectors. See “Locating parts on the system board” on page 125.
3. Remove the memory module being replaced by opening the retaining clips as shown.



4. Position the new memory module over the memory connector. Make sure the notch **1** on the memory aligns correctly with the connector key **2** on the system board. Push the memory module straight down into the connector until

the retaining clips close.

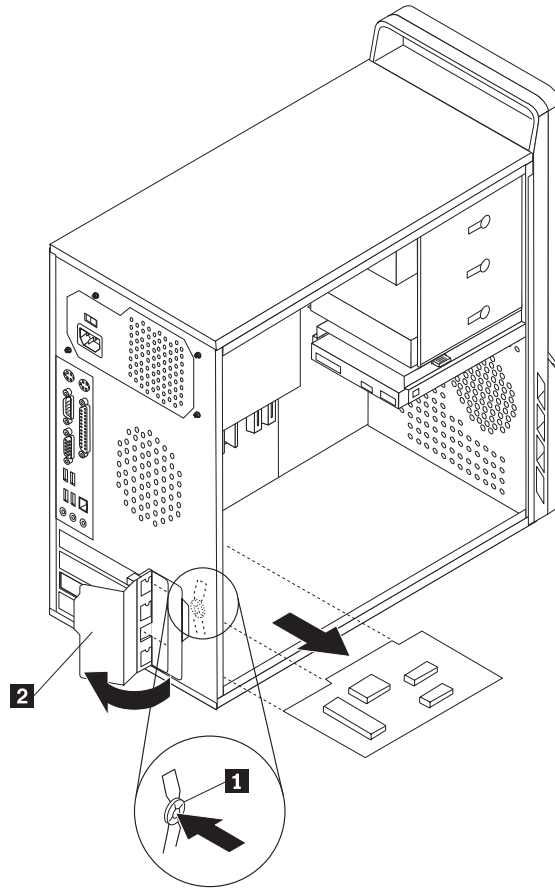


5. Go to “Completing the FRU replacement” on page 161.

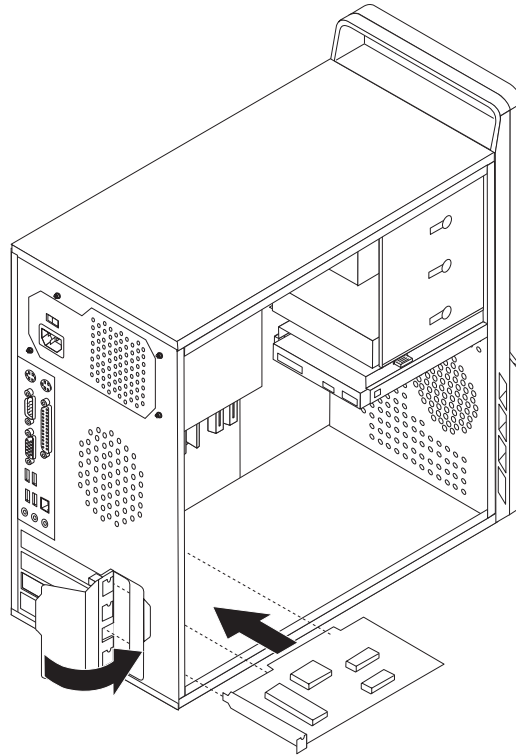
Replacing a PCI adapter

This procedure describes how to remove and replace a PCI adapter.

1. Remove the computer cover. See “Removing the cover” on page 123.
2. At the rear of the computer, press the release button **1** to open the adapter latch **2** and remove the adapter by pulling it straight out of the adapter connector.



3. Install the new adapter into the same adapter connector.



4. Ensure the adapter is fully seated into the adapter connector.
5. At the rear of the computer, pivot the adapter latch to the closed position to secure the adapter.
6. Go to “Completing the FRU replacement” on page 161.

Replacing the hard disk drive

Important

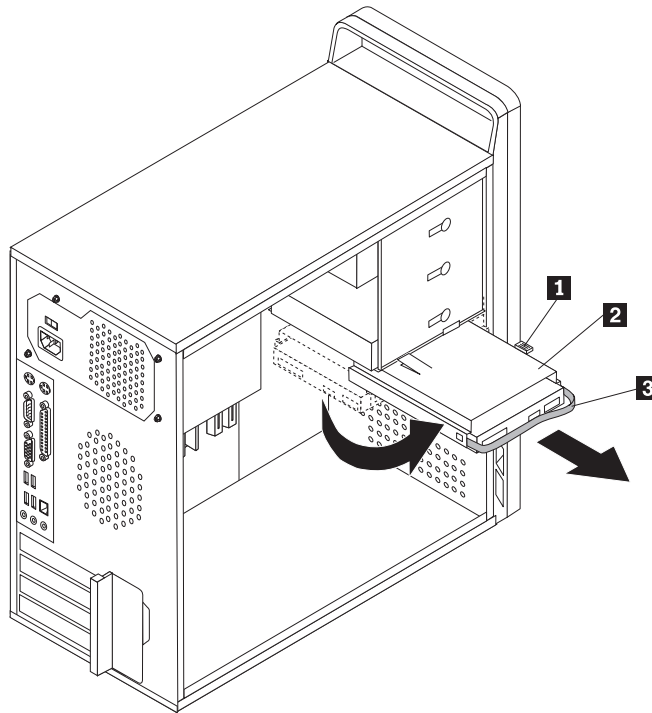
When a new hard disk drive is installed, a set of *Product Recovery* discs might be required. The set of *Product Recovery* discs enable the contents of the hard disk to be restored to the same state as when the computer was originally shipped from the factory. For more information on recovering factory-installed software, refer to "Recovering Software" in the *User Guide*.

This procedure describes how to remove and replace the hard disk drive.

1. Remove the computer cover. See "Removing the cover" on page 123.

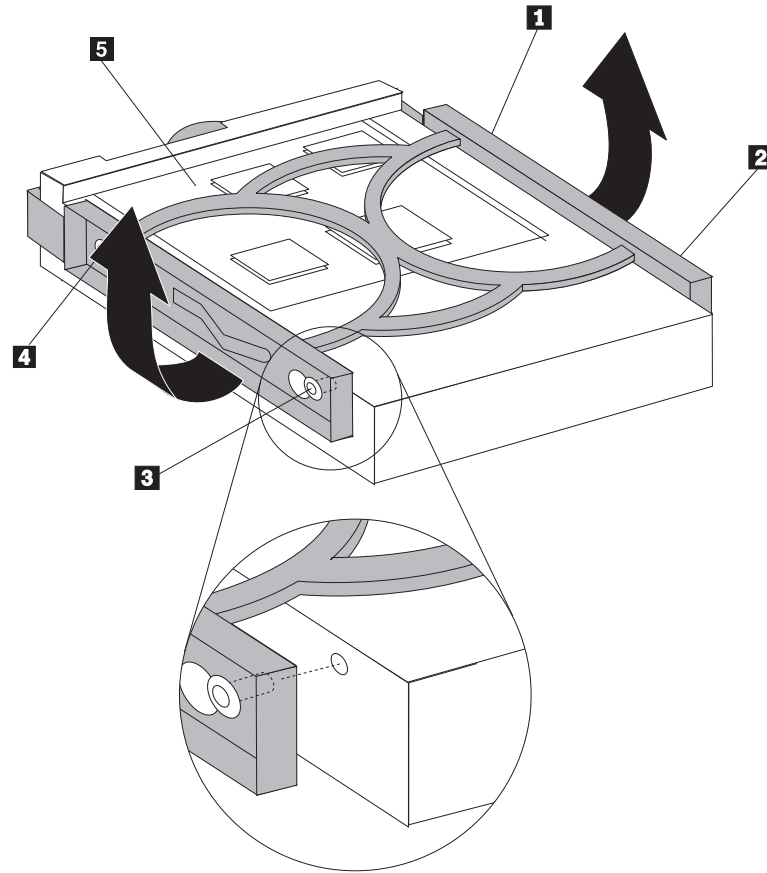
Note: For this procedure, it helps to lay the computer on its side.

2. Disconnect the signal and power cables from the hard disk drive.
3. Press the release tab **1** down, slide the hard drive cage **2** back, and pivot the hard disk drive outward as shown.



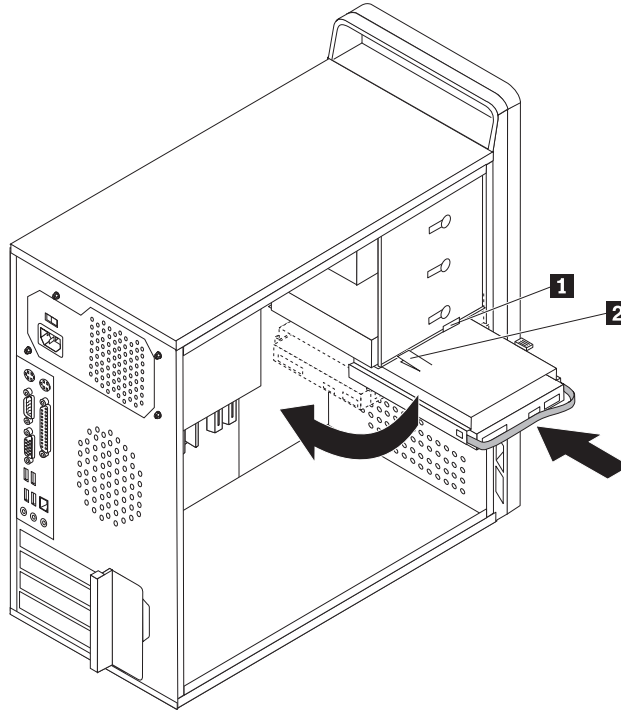
4. Remove the hard disk drive cage from the chassis by simply sliding it outward.
5. Pull on the blue handle **3** to remove hard disk drive from the drive cage.
6. Remove the failing hard disk drive from the blue plastic bracket from by flexing the sides of the bracket enough to free it from the hard disk drive.

7. To install the new drive into the blue bracket, flex the bracket, and align the pins **1** through **4** on the bracket with the holes in the hard disk drive. Do not touch the circuit board **5** on the bottom of the hard disk drive.



8. Slide the new hard disk drive into the drive cage until it snaps into position.

9. Align the drive cage pivot pin with the slot **1** in the upper drive cage and slide the hard disk drive into the chassis.



10. Press down on the metal latch **2** and pivot in the drive cage into place. Slide it forward until it snaps into position.

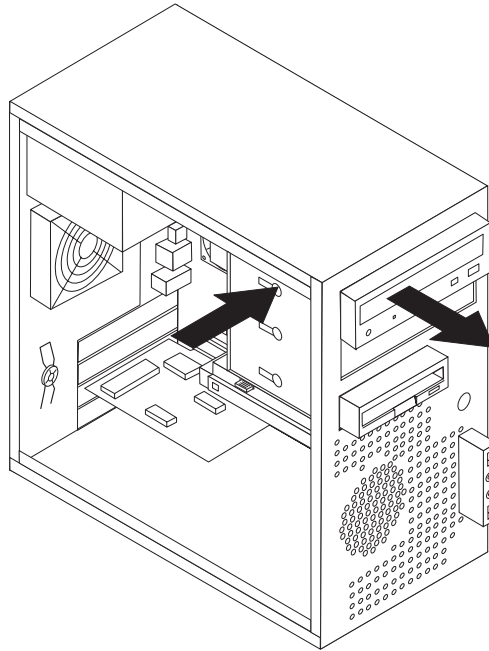
Note: There are two arrows, one on the upper drive cage and one on the hard disk drive cage, that are aligned when the hard disk drive is in the proper position.

11. Connect the power and signal cables to the hard disk drive.
12. Go to “Completing the FRU replacement” on page 161.

Replacing an optical drive

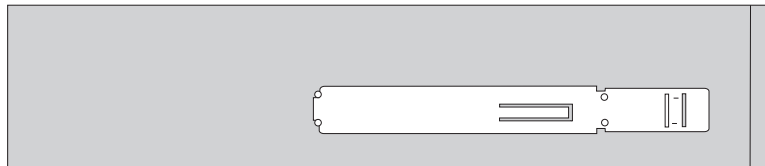
This procedure describes how to remove and replace an optical drive.

1. Remove the computer cover. See “Removing the cover” on page 123.
2. Remove the front bezel. See “Removing and replacing the front bezel” on page 128.
3. Disconnect the signal and power cables from the rear of the optical drive.
4. Press the release button and remove the optical drive out the front of the computer.



Note: Notice that there is a spare retainer bracket **1** attached to the upper drive cage.

5. Remove the retainer bracket from the drive being replaced and install it on the new drive.

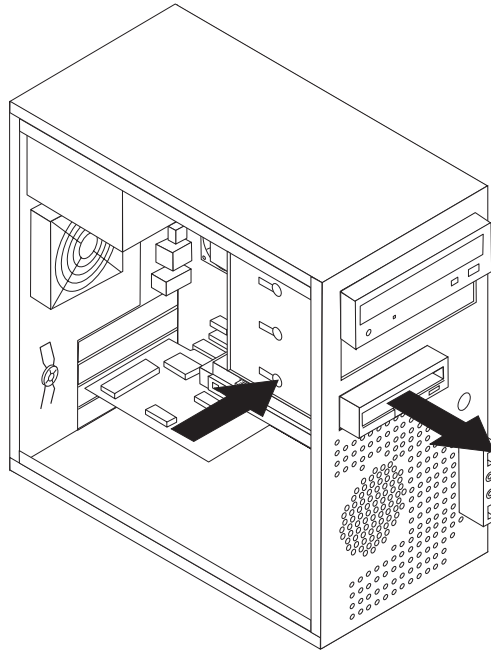


6. Slide the new optical drive into the bay from the front until it snaps into position.
7. Connect the signal and power cables to the drive.
8. Replace the front bezel. See “Removing and replacing the front bezel” on page 128.
9. Go to “Completing the FRU replacement” on page 161.

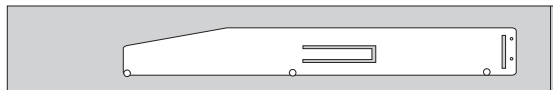
Replacing the diskette drive

This procedure describes how to remove and replace the diskette drive.

1. Remove the computer cover. See “Removing the cover” on page 123.
2. Remove the front bezel. See “Removing and replacing the front bezel” on page 128.
3. Disconnect the signal and power cables from the rear of the diskette drive.
4. Press the release button and slide the diskette drive out the front of the computer.



5. Remove the retainer bracket from the failing diskette drive and install it on the new diskette drive.

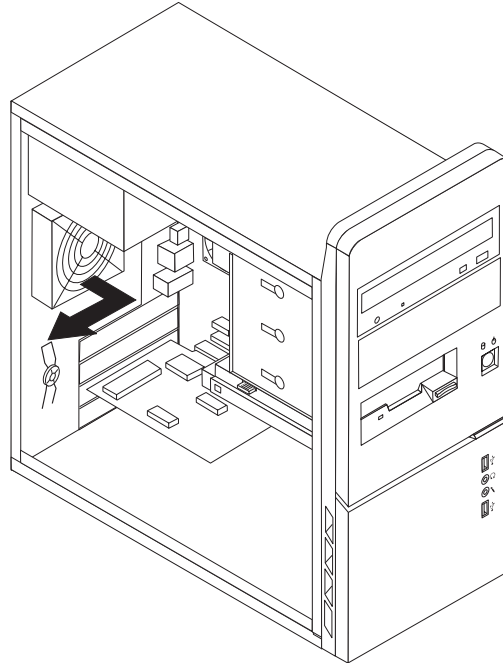


6. Slide the new diskette drive into the drive bay until it snaps into position.
7. Connect the signal and power cables to the drive.
8. Go to “Completing the FRU replacement” on page 161.

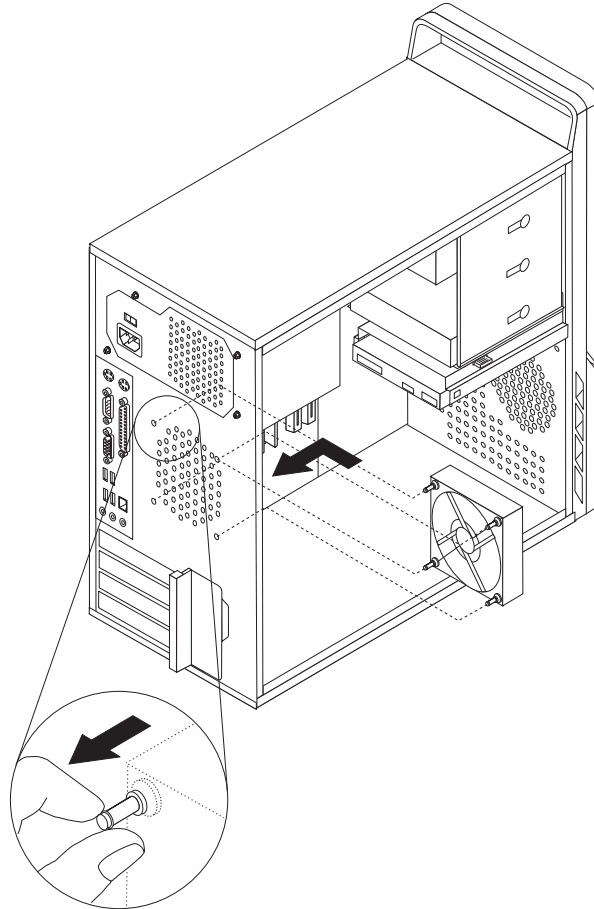
Replacing the rear fan assembly

This procedure describes how to remove and replace the system fan.

1. Remove the computer cover. See “Removing the cover” on page 123.
2. Note the routing of the rear fan cable to the system board. Disconnect the rear fan cable from the system fan connector on the system board. See “Locating parts on the system board” on page 125.
3. The fan assembly is mounted with four rubber mounts that protrude through the rear of the chassis. Remove the fan assembly by pulling the rubber mounts back through the chassis.



4. Install the new rear fan assembly by aligning the rubber mounts of the system fan assembly with the holes on the chassis and push the rubber mounts through the holes.

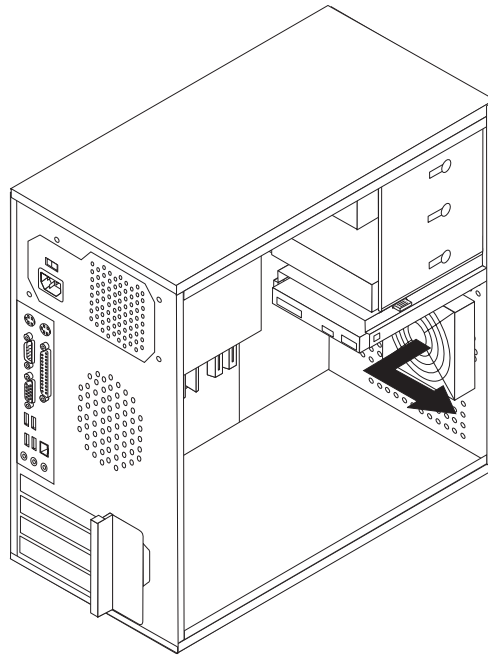


5. Pull on the tips of the rubber mounts until the fan assembly is in place.
6. Route the fan cable to the system board and connect the cable to the system board. See "Locating parts on the system board" on page 125.
7. Go to "Completing the FRU replacement" on page 161.

Replacing the front fan assembly

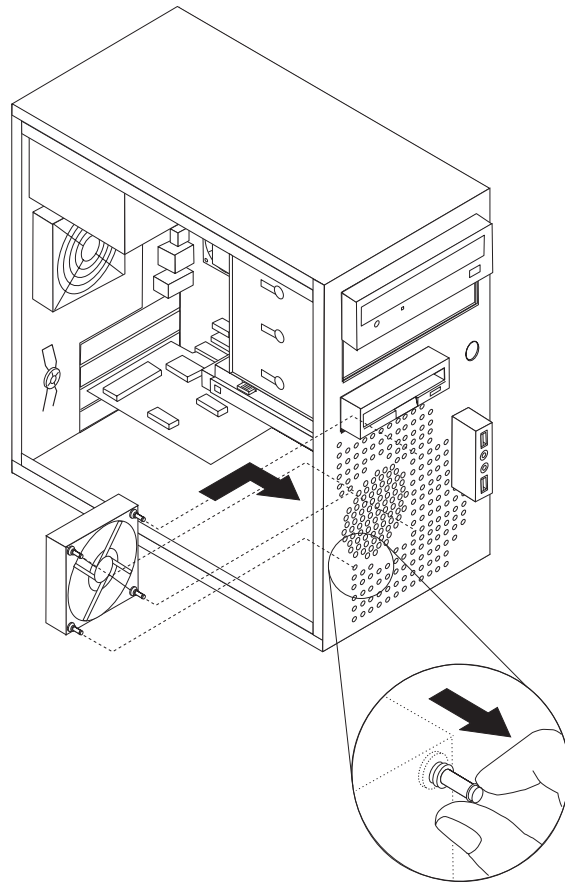
This procedure describes how to remove and replace the front fan assembly.

1. Remove the computer cover. See “Removing the cover” on page 123.
2. Remove the front bezel. See “Removing and replacing the front bezel” on page 128.
3. Note the routing of the front fan cable to the system board. Disconnect the front fan assembly cable from the system board. See “Locating parts on the system board” on page 125.
4. The fan assembly is mounted with four rubber mounts that protrude through the front of the chassis. Remove the fan assembly by pulling the rubber mounts back through the chassis.



5. Install the new front fan assembly by aligning the rubber mounts of the front fan assembly with the holes on the chassis and push the rubber mounts through the holes.

6. Pull on the tips of the rubber mounts until the fan assembly is in place.



7. Route the fan cable to the system board and connect the cable to the system board. See "Locating parts on the system board" on page 125.
8. Replace the front bezel.
9. Go to "Completing the FRU replacement" on page 120.

Replacing the front audio/USB assembly

This procedure describes how to remove and replace the front audio/USB assembly.

1. Remove the computer cover. See “Removing the cover” on page 123.
2. Remove the front bezel. See “Removing and replacing the front bezel” on page 128
3. Disconnect the front audio/USB assembly cable from the system board. See the system board illustration for your machine type at “Locating parts on the system board” on page 125.
4. Note the front audio/USB assembly cable routing and remove the screw that secures the assembly to the chassis.
5. Remove the front audio/USB assembly.
6. Route the cable for the new front audio/USB assembly through the hole in the chassis and to the system board.
7. Install the front audio/USB assembly into the chassis and secure it with the screw.
8. Connect the front audio/USB assembly cable to the system board.
9. Reinstall the front bezel.
10. Go to “Completing the FRU replacement” on page 161.

Replacing the power switch/LED assembly

This procedure describes how to remove and replace the power switch/LED assembly.

1. Remove the computer cover. See “Removing the cover” on page 123.
2. Remove the front bezel. See “Removing and replacing the front bezel” on page 128
3. Disconnect the power switch/LED assembly cable from the system board. See the system board illustration for your machine type at “Locating parts on the system board” on page 125.
4. Note the power switch/LED assembly cable routing and the position of the two LEDs.
5. Remove the switch and the LEDs from the bezel.
6. Route the cable for the new power switch/LED assembly through the hole in the chassis and to the system board.
7. Install the new power switch/LED assembly into the bezel. Make sure that the LEDs are in the correct position.
8. Connect the power switch/LED cable to the system board.
9. Reinstall the front bezel.
10. Go to “Completing the FRU replacement” on page 161.

Replacing the CMOS battery

This procedure describes how to remove and replace the CMOS battery.

If the CMOS battery fails, the date, time, and configuration information (including passwords) are lost. An error message is displayed when you turn on the computer.

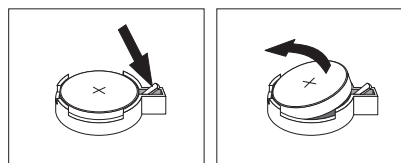
Important

Refer to “Safety notices (multi-lingual translations)” on page 7 for information about replacing and disposing of the battery.

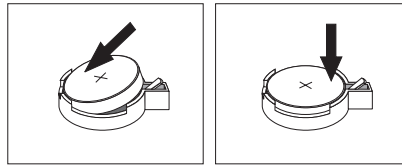
CAUTION:

When replacing the lithium battery, use only Part Number 33F8354 or an equivalent type battery recommended by the manufacturer.

1. Remove the computer cover. See “Removing the cover” on page 123.
2. Locate the battery. See the system board illustration for your machine type at “Locating parts on the system board” on page 125.
3. You might have to remove any PCI adapters that impede access to the battery.
4. Remove the old battery.



5. Install the new battery.



6. Replace any PCI adapters that were removed.

Note: When the computer is turned on for the first time after battery replacement, an error message might be displayed. This is normal after replacing the battery.

7. Go to “Completing the FRU replacement.”

Completing the FRU replacement

After replacing FRUs, you need to install any removed parts, replace the cover, and reconnect any cables, including telephone lines and power cords. Also, depending on the FRU that is replaced, you might need to confirm the updated information in the Setup Utility program.

Note: When the power cord is first plugged in, the computer might appear to turn on for a few seconds and then turn off. This is a normal sequence to enable the computer to initialize.

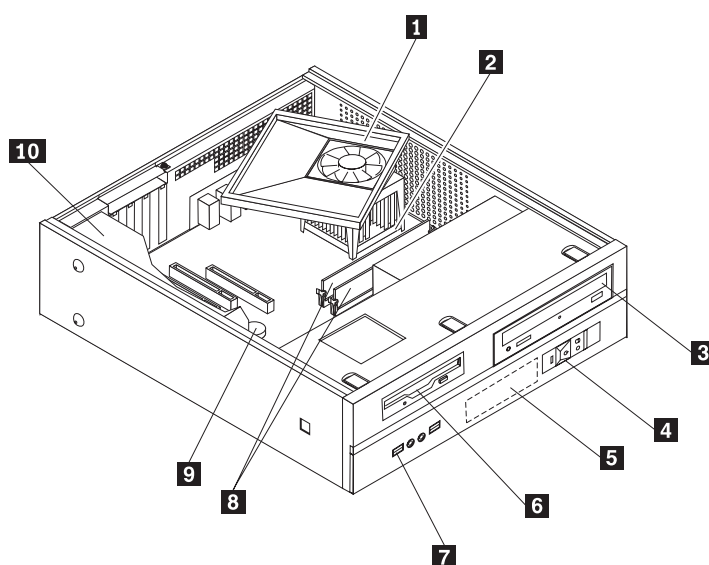
1. Ensure that all components have been reassembled correctly and that no tools or loose screws are left inside your computer.
2. Replace the cover.
3. Reconnect the external cables and power cords to the computer. See “Rear connectors” on page 122.
4. If you have replaced the system board, you must update (flash) the BIOS. See “Flash update procedures” on page 227.
5. Some FRU replacements require the configuration to be updated. See Chapter 6, “Using the Setup Utility,” on page 51.

Chapter 10. FRU lists

Attention: Read “Important information about replacing RoHS compliant FRUs” on page 2 before replacing any FRUs.

Note: In the following tables, A CRU (Customer Replaceable Unit) is identified as either 2, 1, or N in the CRU column. An “N” means that the part is not a CRU. A “1” indicates that the FRU is an external CRU and a “2” indicates that it is an internal CRU.

Machine Type 9680



Item #	9680 FRUs	FRU#	CRU
1	89W Heatsink kit for AMD Athlon64x2 AM2 CPUs (all models)	41R4802	N
2	Microprocessor, 3400+ Sempron AM2 (1.8 GHz processor, 62W) (models 32B 32H)	41X1407	N
2	Microprocessor, 4400+ Athlon64 AM2 X2 (2.3 GHz processor, 89W) (models 23S)	43C3507	N
3	DVD-ROM/CD-RW Combo Drive - 48x/32x/48x/16x - SATA vista and XP (models 32B 32H 42A 42T)	42Y9353	N
3	DVD-RW/CD-RW Rambo 8 - SATA VISTA AND XP (models 23S 23A 23K 23J)	43C1042	N
4	Front Power/LED PC, bracket, and cable (all models)	41R6234	N
5	Hard disk drive, 160GB (7200RPM), Serial ATA (models 32B 32H 23S)	40Y9035	N
6	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models)	40Y9105	N
6	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models)	40Y9107	N
7	Front USB/Audio with bracket (all models)	41N8212	N
8	Memory module, 512 MB PC2-4200 (533MHz) DDR2 SDRAM (models 32B 32H)	41X4251	2
8	Memory module, 512 MB PC2-5300 (667MHz) DDR2 SDRAM (models 23S)	41X4255	2
9	System board, RS690 (AMD AM2 Sempron, Athlon64, Athlon64x2 ; Gb LAN) GA Level (models 32B 32H 23S)	42Y9916	N

Item #	9680 FRUs	FRU#	CRU
9	System board, RS690(AMD AM2 Sempron, Athlon64,Athlon64x2 ;Gb LAN) PCB 2.0 SDV-SIT Level (models 32B 32H 23S)	45C3281	N
10	220 Watt Power Supply - Robust (models 32B 32H 23S)	41A9689	N
10	220 Watt Power Supply - Standard (models 42A 42T 23S 23A 23K)	41A9693	N
10	220 Watt Power Supply - Japan (models 23J)	41A9697	N
10	220W TFX 80 plus PSU (models 32B 32H 23S 42A 42T 23S 23A 23K 23J)	41A9670	N

The FRUs listed in the following tables are not illustrated.

9680 FRUs	FRU#	CRU
Fan Duct (all models)	41R4808	2
Cable, Serial ATA, 250 mm (all models)	41A7145	N
Cable, diskette drive 2H325mm (all models)	41A7182	N
No Optical Bezel and Shield, Blk (all models)	41R6211	N
No Optical Bezel and Shield, Blk (Secondary) (all models)	41R6226	N
System board shield (all models)	41R6273	N
EMC shield, blank diskette drive (all models)	41R6227	N
USB Bracket ASSY (all models)	41R6425	N
Cover (all models)	41R6228	N
Mechanical shell kit (all models)	41R6210	N
Miscellaneous hardware Kit (all models)	41R6213	N
Hard disk drive bracket Asm (plastic and grommets) (all models)	41R6229	N
Speaker cable asm, 600 mm cable length (all models)	41N8217	N
Retention module (all models)	41R2507	N
Speaker holder assembly (all models)	41R6231	N
Front Power/LED PC, bracket, and cable (all models)	41R6234	N
Foot stand assembly (all models)	41R6235	N

9680 Keyboards (USB Preferred Pro)	FRU#	CRU
US English (models 32H)	41A5289	1
LA Spanish (models 23S)	41A5312	1
Taiwan (models 32B)	41A5296	1

9680 mice	FRU#	CRU
Optical Wheel Mouse (400DPI, USB) (models 32B 32H 23S)	41U3013	1
Optical Wheel Mouse (400DPI, USB) (models 32B 32H 23S)	41U3030	1

9680 Adapters and miscellaneous FRUs	FRU#	CRU
USB2.0 MEMORY CARDREADER,6X2,ROHS (models 23S)	41R3378	2
Speaker Power brick - China, Thailand (models 32B 32H)	89P8581	1
BATTERY 3V-LITHIUM (all models)	43C1566	1

9680 Adapters and miscellaneous FRUs	FRU#	CRU
Modem Phone Cable (models)	39K5120	N
Chassis Fit (DT) (models)	41N8211	N
Lenovo USB2.0 Safe key TGE YT300 1GB V1.51 (models)	45C7796	1
Lenovo USB2.0 Safe key TGE YT300 1GB new V 1.52 (models)	45C7146	1

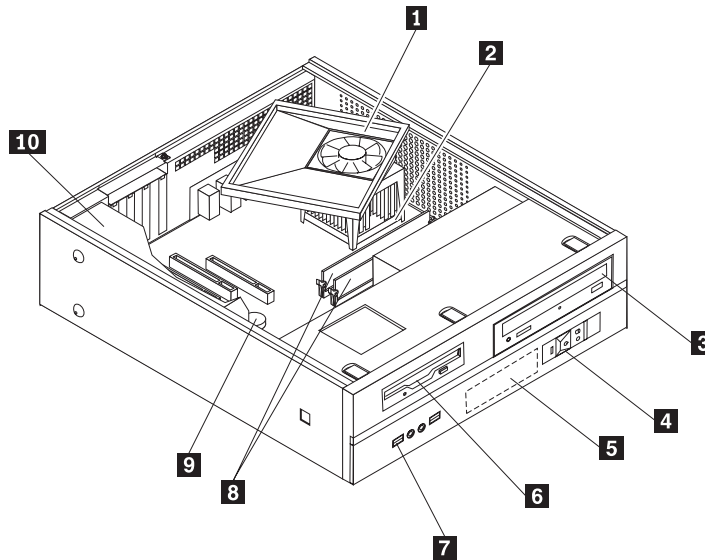
9680 Power Cords	FRU#	CRU
Power cord - US (models 23S)	39M5080	1
Power cord - Hong Kong (models 32B 32H)	39M5151	1

9680 Windows XP Pro Recovery DVDs	FRU#	CRU
SP/LA (models 23S)	45C0181	1

9680 Vista Home Basic 32 Recovery DVDs	FRU#	CRU
US/UK/AP/TH (models 32H)	43C9027	1

9680 Vista Business 32 Recovery DVDs	FRU#	CRU
SP/LA (models 23S)	43C0115	1

Machine Type 9681



Item #	9681 FRUs	FRU#	CRU
1	89W Heatsink kit for AMD Athlon64x2 AM2 CPUs (all models)	41R4802	N
2	Microprocessor, 3400+ Sempron AM2 (1.8 GHz processor, 62W) (models)	41X1407	N
2	Microprocessor, 3500+ Sempron AM2 (2.0 GHz processor, 62W) (models)	41X1409	N
2	Microprocessor, 3600+ Sempron AM2 (2.0 GHz processor, 62W) (models)	41X1411	N
2	Microprocessor, 3800+ Sempron AM2 (2.2 GHz processor, 62W) (models)	43C2454	N
2	Microprocessor, 3500+ Athlon64 AM2 (2.2 GHz processor, 62W) (models)	41X1415	N
2	Microprocessor, 3800+ Athlon64 AM2 (2.4 GHz processor, 62W) (models)	41X1417	N
2	Microprocessor, 3600+ Athlon64 AM2 (2.0 GHz processor, 62W) (models)	41X7777	N
2	Microprocessor, 3800+ Athlon64 AM2 X2 (2.0 GHz processor, 89W) (models)	41X4241	N
2	Microprocessor, 4000+ Athlon64 AM2 (2.4 GHz processor, 62W) (models)	41X1419	N
2	Microprocessor, 4200+ Athlon64 AM2 X2 (2.2 GHz processor, 89W) (models)	41X1421	N
2	Microprocessor, 4400+ Athlon64 AM2 X2 (2.3 GHz processor, 89W) (models)	43C3507	N
2	Microprocessor, 4600+ Athlon64 AM2 X2 (2.4 GHz processor, 89W) (models)	41X1423	N
2	Microprocessor, 4800+ Athlon AM2 X2 (2.4 GHz processor, 89W) (models)	41X1425	N
2	Microprocessor, 5000+ Athlon AM2 X2 (2.6 GHz processor, 89W) (models)	41X1427	N
3	DVD-ROM 16x -48x -Vista and XP (models)	41N3325	N
3	DVD-ROM/CD-RW Combo Drive - 48x/32x/48x/16x - SATA vista and XP (models)	42Y9353	N
3	DVD-RW/CD-RW Rambo 8 - SATA VISTA AND XP (models)	43C1042	N
4	Front Power/LED PC, bracket, and cable (all models)	41R6234	N
5	Hard disk drive, 80GB (7200RPM), Serial ATA (models)	40Y9034	N
5	Hard disk drive, SATA 80GB 7200RPM/3Gb/2MB) (models)	41X2500	N
5	Hard disk drive, 160GB (7200RPM), Serial ATA (models)	40Y9035	N
5	Hard disk drive, 250GB (7200RPM), Serial ATA (models)	40Y9036	N
5	Hard disk drive, SATA 320GB 7200rpm SATA/8MB (models)	TBD	N

Item #	9681 FRUs	FRU#	CRU
5	Hard disk drive, 500GB (7200RPM), Serial ATA (models)	41X5582	N
6	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models)	40Y9105	N
6	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models)	40Y9107	N
7	Front USB/Audio with bracket (all models)	41N8212	N
8	Memory module, 256 MB PC2-4200 (533MHz) DDR2 SDRAM (models)	41X4250	2
8	Memory module, 512 MB PC2-4200 (533MHz) DDR2 SDRAM (models)	41X4251	2
8	Memory module, 1 GB PC2-4200 (533MHz) DDR2 SDRAM (models)	41X4252	2
8	Memory module, 2 GB PC2-4200 (533MHz) DDR2 SDRAM (models)	41X4253	2
8	Memory module, 256 MB PC2-5300 (667MHz) DDR2 SDRAM (models)	41X4254	2
8	Memory module, 512 MB PC2-5300 (667MHz) DDR2 SDRAM (models)	41X4255	2
8	Memory module, 1 GB PC2-5300 (667MHz) DDR2 SDRAM (models)	41X4256	2
8	Memory module, 2 GB PC2-5300 (667MHz) DDR2 SDRAM (models)	41X4257	2
8	Memory module, 512 MB PC2-6400 (800MHz) DDR2 SDRAM (models)	41X1079	2
8	Memory module, 1 GB PC2-6400 (800MHz) DDR2 SDRAM (models)	41X1080	2
8	Memory module, 2 GB PC2-6400 (800MHz) DDR2 SDRAM (models)	41X1081	2
9	System board, RS690(AMD AM2 Sempron, Athlon64,Athlon64x2 ; Gb LAN) GA Level (models)	42Y9916	N
10	280W TFX 280W PS ,Active PFC (models)	41A9705	N
10	220 Watt Power Supply - Robust (models)	41A9689	N
10	220 Watt Power Supply - Standard (models)	41A9693	N
10	220 Watt Power Supply - Japan (models)	41A9697	N

The FRUs listed in the following tables are not illustrated.

9681 FRUs	FRU#	CRU
Fan Duct (all models)	41R4808	2
Cable, Serial ATA, 250 mm (all models)	41A7145	N
Cable, diskette drive 2H325mm (all models)	41A7182	N
Cable, Modem Phone (all models)	39K5120	N
No Optical Bezel and Shield, Blk (all models)	41R6211	N
No Optical Bezel and Shield, Blk (all models)	41R6226	N
System board shield (all models)	41R6273	N
EMC shield, blank diskette drive (all models)	41R6227	N
Cover (all models)	41R6228	N
Mechanical shell kit (all models)	41R6210	N
Miscellaneous hardware Kit (all models)	41R6213	N
Hard disk drive bracket Asm (plastic and grommets) (all models)	41R6229	N
Speaker cable asm, 600 mm cable length (all models)	41N8217	N
Retention module (all models)	41R2507	N
Speaker holder assembly (all models)	41R6231	N
Front Power/LED PC, bracket, and cable (all models)	41R6234	N

9681 FRUs	FRU#	CRU
Foot stand assembly (all models)	41R6235	N
USB Bracket ASSY (all models)	41R6425	N

9681 Keyboards (USB Preferred Pro)	FRU#	CRU
US English (models)	41A5289	1
French Canadian 58 (models)	41A5302	1
French Canadian 445 (models)	41A5301	1
LA Spanish (models)	41A5312	1
Brazilian (models)	41A5294	1
Thailand (models)	41A5324	1
China (models)	41A5289	1
Taiwan (models)	41A5296	1
Japanese (models)	41A5310	1
Korean (models)	41A5311	1
Danish (models)	41A5298	1
Dutch (models)	41A5299	1
French (models)	41A5300	1
German (models)	41A5303	1
Italian 141 (models)	41A5309	1
Spanish (models)	41A5321	1
Swedish/Finn (models)	41A5322	1
UK English (models)	41A5327	1
US Euro (models)	41A5328	1
Arabic (models)	41A5290	1
Arabic/French (models)	41A5291	1
Belgian/French (models)	41A5292	1
Belgian/UK (models)	41A5293	1
Bulgarian (models)	41A5295	1
Czech (models)	41A5297	1
Greek (models)	41A5304	1
Greek/US (models)	41A5305	1
Hebrew (models)	41A5306	1
Hungarian (models)	41A5307	1
Iceland (models)	41A5308	1
Norwegian (models)	41A5313	1
Polish (models)	41A5314	1
Portuguese (models)	41A5315	1
Romanian 096 (models)	41A5317	1
Russian/Cyrillic (models)	41A5318	1
Serbian/Cyrillic (models)	41A5319	1
Slovak (models)	41A5320	1

9681 Keyboards (USB Preferred Pro)	FRU#	CRU
Turkish 179 (models)	41A5326	1
Turkish 440 (models)	41A5325	1
Swiss (models)	41A5323	1
Slovenian (models)	41A5329	1

9681 mice	FRU#	CRU
Optical Wheel Mouse (400DPI, USB) (models)	41U3013	1
Optical Wheel Mouse (400DPI, USB) models)	41U3030	1

9681 Adapters and miscellaneous FRUs	FRU#	CRU
PCI Modem Card (Soft) (models)	29R9729	2
56KBPS Soft Modem -ATX (Use on P Models only- only for Brazil) (models)	41X5334	2
L1 IEEE 1394 PCI Adapter (models)	41D2781	2
ATI Radeon X1300LE 256MB 128bit ATX (models)	42Y8159	2
ATI X1300LE 256M 64bit LP / ATX with DMS59 (models)	42Y8162	2
ATI Radeon X1600PRO 256MB 128bit ATX (models)	87H4165	2
Nvidia 7300LE 128MB 64bit ATX/LP with DMS59 (models)	42Y8165	2
Dongle DMS Dule DMS-59 to single VGA and single DVI cable (models)	42Y8183	2
USB2.0 MEMORY CARDREADER,6X2,ROHS (models)	41R3378	2
Dongle Cable - DMS59 to dual VGA (included in Denver L1) (models)	42Y8181	2
Dongle DMS Dule DMS-59 to dual DVI cable (models)	41X6398	2
Nvidia GeForce 7300LE 128MB 64bit LP / ATX with DMS59 (models)	42Y8165	2
Speakers (2-piece) Lenovo Logo (models)	41A5331	2
BTL 1 speaker (models)	41A5334	2
Speaker Power brick - US, Canada, LA low voltage, ASEAN (models)	89P8571	1
Speaker Power brick - Hong Kong, Malaysia, Singapore, UK, Brunei (models)	89P8573	1
Speaker Power brick - LA high voltage (non-APU) (models)	89P8575	1
Speaker Power brick - China, Thailand (models)	89P8581	1
Speaker Power brick - Japan (models)	89P8577	1
Speaker Power brick - Brazil (models)	89P8583	1
Speaker Power brick - Argentina (models)	41A4901	1
Speaker Power brick - ANZ (models)	89P8579	1
Speaker Brick - Korea (models)	41A4903	1
Speaker Brick - Taiwan (models)	41A4905	1
Speaker Power brick - India, South Africa (models)	89P8585	1
DVI-I Connection Adapter (full)/LP (models)	39J9334	1
BATTERY 3V-LITHIUM (all models)	45C1566	1
Modem Phone Cable (models)	39K5120	N
Chassis Fit (DT) (models)	41N8211	N
Lenovo USB2.0 Safe key TGE YT300 1GB V1.51 (models)	45C7796	1
Lenovo USB2.0 Safe key TGE YT300 1GB new V 1.52 (models)	45C7146	1

9681 Power Cords	FRU#	CRU
Power cord - US (models)	39M5080	1
Power cord - China (models)	39M5205	1
Power cord - Japan (models)	24R2633	1
Power cord - Brazil (models)	39M5232	1
Power cord - LA High Volt APU (models)	39M5067	1
Power cord - Australia / New Zealand (models)	39M5102	1
Power cord - Korea (models)	39M5212	1
Power cord - Hong Kong (models)	39M5151	1
Power cord - UK, Ireland, Singapore, Malaysia, Brunei (models)	39M5150	1
Power cord - Taiwan (models)	39M5246	1
Power cord - Italy (models)	39M5164	1
Power cord - G models (models)	39M5122	1
Power cord - Denmark (models)	39M5129	1
Power cord - Switzerland (models)	39M5157	1
Power cord - Israel (models)	39M5171	1
Power cord - South Africa (models)	39M5143	1
Power cord - India (models)	41R3175	1

9681 Windows XP Pro Recovery CDs	FRU#	CRU
US/UK/AP/TH (models)		1
FR/CF (models)		1
GR (models)		1
IT (models)		1
BR (models)		1
SP/LA (models)		1
DK (models)		1
NL (models)		1
AE (models)		1
SV (models)		1
HE (models)		1
FI (models)		1
NO (models)		1
PL (models)		1
PO (models)		1
RU (models)		1
RE (models)		1
HU (models)		1
CZ (models)		1
TR (models)		1
GK (models)		1

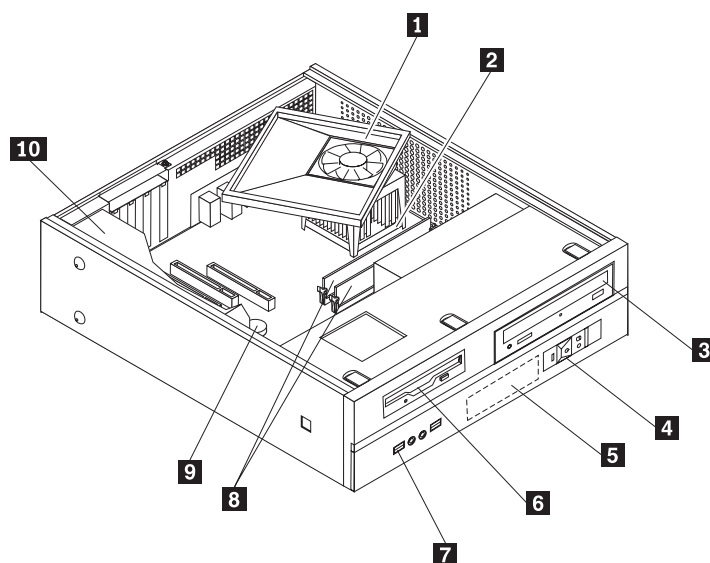
9681 Windows XP Pro Recovery CDs	FRU#	CRU
SL (models)		1
Japanese (models)		1
Simplified Chinese (models)		1
Taiwan-TC (models)		1
Hong Kong-TC (models)		1
Korea (models)		1
Multilingual 1 XP-P -- EN, NL, FR, GR, IT (models)		1
Multilingual 2 XP-P -- EN, DK, FI, NO, SV (models)		1

9681 Vista Home Basic 32 Recovery DVDs	FRU#	CRU
US/UK/AP/TH (models)		1
FR/CF (models)		1
GR (models)		1
SP/LA (models)		1
BR (models)		1
IT (models)		1
JP (models)		1
NO (models)		1
SV (models)		1
DK (models)		1
NL (models)		1
CZ (models)		1
FI (models)		1
PL (models)		1
RU (models)		1
TR (models)		1
HU (models)		1
GK (models)		1
PO (models)		1
CS (models)		1
TW (models)		1
HK (models)		1
KR (models)		1
SL (models)		1
RE (models)		1

9681 Vista Business 32 Recovery DVDs	FRU#	CRU
US/UK/AP/TH (models)		1
FR/CF (models)		1
GR (models)		1
SP/LA (models)		1

9681 Vista Business 32 Recovery DVDs	FRU#	CRU
BR (models)		1
IT (models)		1
JP (models)		1
NO (models)		1
SV (models)		1
DK (models)		1
NL (models)		1
CZ (models)		1
FI (models)		1
PL (models)		1
RU (models)		1
TR (models)		1
HU (models)		1
GK (models)		1
PO (models)		1
CS (models)		1
TW (models)		1
HK (models)		1
KR (models)		1
SL (models)		1
RE (models)		1

Machine Type 9682



Item #	9682 FRUs	FRU#	CRU
1	84W Heatsink kit for Intel® Prescott and Cedarmil and Conroe and Conroe-L CPUs (all models)	41R4803	N
2	Microprocessor, Core 2 Duo CONROE E6300 1066/1860MHZ-2M 65W B-2 (models 53B 53H)	41X2495	N
3	DVD-RW/CD-RW Rambo 8 - SATA VISTA AND XP (models 53B 53H)	43C1042	N
4	Front Power/LED PC, bracket, and cable (all models)	41R6234	N
5	Hard disk drive, 250GB (7200RPM), Serial ATA (models 53B 53H)	40Y9036	N
6	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models)	40Y9105	N
6	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models)	40Y9107	N
7	Front USB/Audio with bracket (all models)	41N8212	N
8	Memory module, 512 MB PC2-5300 (667MHz) DDR2 SDRAM (models 53B 53H)	41X4255	2
9	System board, Intel Bearlake G33 (models 53B 53H)	87H5161	N
10	220 Watt Power Supply - Robust (models 53B 53H)	41A9689	N

The FRUs listed in the following tables are not illustrated.

9682 FRUs	FRU#	CRU
Fan Duct (all models)	41R4808	2
Cable, Serial ATA, 250 mm (all models)	41A7145	N
Cable, diskette drive 2H325mm (all models)	41A7182	N
No Optical Bezel and Shield, Blk (all models)	41R6211	N
No Optical Bezel and Shield, Blk (Secondary) (all models)	41R6226	N
System board shield (all models)	41R6273	N
EMC shield, blank diskette drive (all models)	41R6227	N
Cover (all models)	41R6228	N
Mechanical shell kit (all models)	41R6210	N

9682 FRUs	FRU#	CRU
Miscellaneous hardware Kit (all models)	41R6213	N
Hard disk drive bracket Asm (plastic and grommets) (all models)	41R6229	N
Speaker cable asm, 600 mm cable length (all models)	41N8217	N
Retention module (all models)	41R2507	N
Speaker holder assembly (all models)	41R6231	N
Front Power/LED PC, bracket, and cable (all models)	41R6234	N
Foot stand assembly (all models)	41R6235	N
USB Bracket ASSY (all models)	41R6425	N

9682 Keyboards (USB Preferred Pro)	FRU#	CRU
US English (models 53H)	41A5289	1
Taiwan (models 53B)	41A5296	1

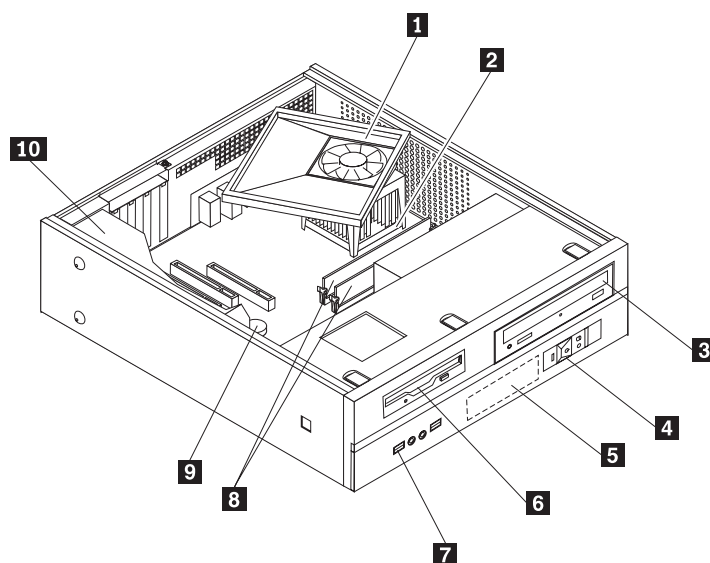
9682 mice	FRU#	CRU
Optical Wheel Mouse (400DPI, USB) (models 53B 53H)	41U3013	1
Optical Wheel Mouse (400DPI, USB) models 53B 53H)	41U3030	1

9682 Adapters and miscellaneous FRUs	FRU#	CRU
USB2.0 MEMORY CARDREADER,6X2,ROHS (models 53B 53H)	41R3378	2
Modem Phone Cable (models)	39K5120	N
Chassis Fit (DT) (models)	41N8211	N
Lenovo USB2.0 Safe key TGE YT300 1GB V1.51 (models)	45C7796	1
Lenovo USB2.0 Safe key TGE YT300 1GB new V 1.52 (models)	45C7146	1

9682 Power Cords	FRU#	CRU
Power cord - Hong Kong (models 53B 53H)	39M5151	1

9682 Vista Home Premium 32 Recovery DVDs	FRU#	CRU
US/UK/AP/TH (models 53H)	43C9031	1
HK (models 53B)	45C0103	1

Machine Type 9683



Item #	9683 FRUs	FRU#	CRU
1	84W Heatsink kit for Intel Prescott and Cedarmil and Conroe and Conroe-L CPUs (all models)	41R4803	N
2	Microprocessor, Core 2 Duo CONROE E6320 1066/1860MHZ-4M 65W B-2 (models 23G)	43C3829	N
3	DVD-RW/CD-RW Rambo 8 - SATA VISTA AND XP (models 23G)	43C1042	N
4	Front Power/LED PC, bracket, and cable (all models)	41R6234	N
5	Hard disk drive, 160GB (7200RPM), Serial ATA (models 23G)	40Y9035	N
6	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models)	40Y9105	N
6	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models)	40Y9107	N
7	Front USB/Audio with bracket (all models)	41N8212	N
8	Memory module, 512 MB PC2-5300 (667MHz) DDR2 SDRAM (models 23G)	41X4255	2
9	System board, Intel Bearlake G33 (models 23G)	87H5161	N
10	220 Watt Power Supply - Robust Standard (models 23G)	41A9689	N
10	220 Watt Power Supply - Standard (models 23G)	41A9693	N

The FRUs listed in the following tables are not illustrated.

9683 FRUs	FRU#	CRU
Fan Duct (all models)	41R4808	2
Cable, Serial ATA, 250 mm (all models)	41A7145	N
Cable, diskette drive 2H325mm (all models)	41A7182	N
No Optical Bezel and Shield, Blk (all models)	41R6211	N
No Optical Bezel and Shield, Blk (Primary) (all models)	41R6226	N
System board shield (all models)	41R6273	N
EMC shield, blank diskette drive (all models)	41R6227	N
Cover (all models)	41R6228	N

9683 FRUs	FRU#	CRU
Mechanical shell kit (all models)	41R6210	N
Miscellaneous hardware Kit (all models)	41R6213	N
Hard disk drive bracket Asm (plastic and grommets) (all models)	41R6229	N
Speaker cable asm, 600 mm cable length (all models)	41N8217	N
Retention module (all models)	41R2507	N
Speaker holder assembly (all models)	41R6231	N
Front Power/LED PC, bracket, and cable (all models)	41R6234	N
Foot stand assembly (all models)	41R6235	N
USB Bracket ASSY (all models)	41R6425	N

9683 Keyboards (USB Preferred Pro)	FRU#	CRU
US English (models 23G)	41A5289	1
French Canadian 58 (models 23G)	41A5302	1
French Canadian 445 (models 23G)	41A5301	1
Danish (models 23G)	41A5298	1
Dutch (models 23G)	41A5299	1
French (models 23G)	41A5300	1
German (models 23G)	41A5303	1
Italian 141 (models 23G)	41A5309	1
Spanish (models 23G)	41A5321	1
Swedish/Finn (models 23G)	41A5322	1
UK English (models 23G)	41A5327	1
US Euro (models 23G)	41A5328	1
Arabic (models 23G)	41A5290	1
Belgian/French (models 23G)	41A5292	1
Belgian/UK (models 23G)	41A5293	1
Bulgarian (models 23G)	41A5295	1
Czech (models 23G)	41A5297	1
Greek (models 23G)	41A5304	1
Greek/US (models 23G)	41A5305	1
Hebrew (models 23G)	41A5306	1
Hungarian (models 23G)	41A5307	1
Iceland (models 23G)	41A5308	1
Norwegian (models 23G)	41A5313	1
Polish (models 23G)	41A5314	1
Portuguese (models 23G)	41A5315	1
Romanian 096 (models 23G)	41A5317	1
Russian/Cyrillic (models 23G)	41A5318	1
Serbian/Cyrillic (models 23G)	41A5319	1
Slovak (models 23G)	41A5320	1
Turkish 179 (models 23G)	41A5326	1

9683 Keyboards (USB Preferred Pro)	FRU#	CRU
Turkish 440 (models 23G)	41A5325	1
Swiss (models 23G)	41A5323	1
Slovenian (models 23G)	41A5329	1

9683 mice	FRU#	CRU
Optical Wheel Mouse (400DPI, USB) (models 23G)	41U3013	1
Optical Wheel Mouse (400DPI, USB) models 23G)	41U3030	1

9683 Adapters and miscellaneous FRUs	FRU#	CRU
USB2.0 MEMORY CARDREADER,6X2,ROHS (models 23G)	41R3378	2
BATTERY 3V-LITHIUM (all models)	43C1566	1
Modem Phone Cable (models)	39K5120	N
Chassis Fit (DT) (models)	41N8211	N
Lenovo USB2.0 Safe key TGE YT300 1GB V1.51 (models)	45C7796	1
Lenovo USB2.0 Safe key TGE YT300 1GB new V 1.52 (models)	45C7146	1

9683 Power Cords	FRU#	CRU
Power cord - UK, Ireland, Singapore, Malaysia, Brunei (models 23G)	39M5150	1
Power cord - Italy (models 23G)	39M5164	1
Power cord - Denmark (models 23G)	39M5129	1
Power cord - Switzerland (models 23G)	39M5157	1
Power cord - Israel (models 23G)	39M5171	1
Power cord - South Africa (models 23G)	39M5143	1

9683 Windows XP Pro Recovery CDs	FRU#	CRU
US/UK/AP/TH (models 23G)	43C9043	1
FR/CF (models 23G)	45C0180	1
GR (models 23G)	45C0184	1
IT (models 23G)	45C0185	1
BR (models)	45C0182	1
SP/LA (models 23G)	45C0181	1
DK (models)	45C0189	1
NL (models 23G)	45C0192	1
AE (models 23G)	45C0186	1
SV (models 23G)	45C0188	1
HE (models 23G)	45C0194	1
FI (models 23G)	45C0190	1
NO (models 23G)	45C0191	1
PL (models 23G)	45C0195	1
PO (models 23G)	45C0198	1
RU (models 23G)	45C0187	1

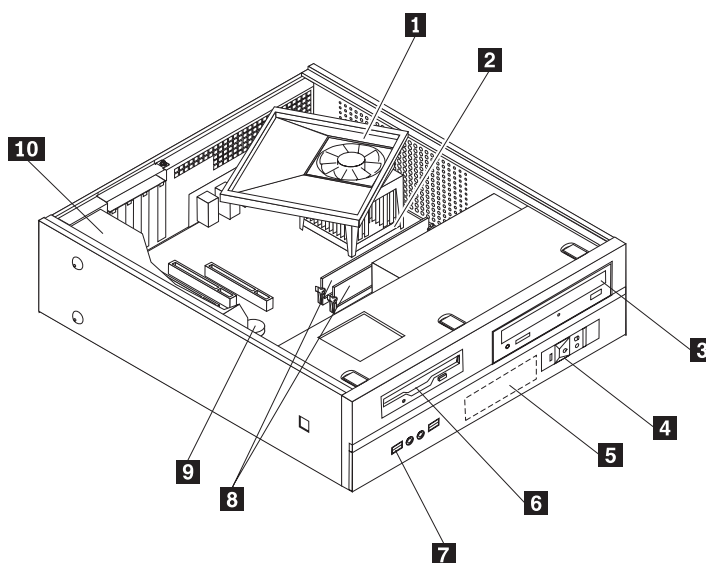
9683 Windows XP Pro Recovery CDs	FRU#	CRU
RE (models 23G)	45C0183	1
HU (models 23G)	45C0197	1
CZ (models)	45C0193	1
TR (models 23G)	45C0196	1
GK (models)	45C0199	1
SL (models)	45C0200	1
Multilingual 1 XP-P -- EN, NL, FR, GR, IT (models 23G)	45C0178	1
Multilingual 2 XP-P -- EN, DK, FI, NO, SV (models 23G)	45C0179	1

9683 Vista Business 32 Recovery DVDs	FRU#	CRU
US/UK/AP/TH (models 23G)	43C9029	1
FR/CF (models 23G)	45C0113	1
GR (models 23G)	45C0114	1
SP/LA (models 23G)	45C0115	1
IT (models 23G)	45C0117	1
NO (models 23G)	45C0118	1
SV (models 23G)	45C0119	1
DK (models 23G)	45C0120	1
NL (models 23G)	45C0121	1
CZ (models 23G)	45C0122	1
FI (models 23G)	45C0123	1
PL (models 23G)	45C0124	1
RU (models 23G)	45C0125	1
TR (models 23G)	45C0126	1
HU (models 23G)	45C0127	1
GK (models 23G)	45C0128	1
PO (models 23G)	45C0134	1
SL (models 23G)	45C0130	1
RE (models 23G)	45C0131	1

9683 Vista Home Premium 32 Recovery DVDs	FRU#	CRU
US/UK/AP/TH (models)		1
FR/CF (models)		1
GR (models)		1
SP/LA (models)		1
BR (models)		1
IT (models)		1
RE (models)		1
NO (models)		1
SV (models)		1
DK (models)		1

9683 Vista Home Premium 32 Recovery DVDs	FRU#	CRU
NL (models)		1
CZ (models)		1
FI (models)		1
PL (models)		1
RU (models)		1
TR (models)		1
HU (models)		1
GK (models)		1
PO (models)		1
HK (models)		1
KR (models)		1
SL (models)		1

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Item #	9684 FRUs	FRU#	CRU
1	84W Heatsink kit for Intel Prescott & Cedarmil & Conroe & Conroe-L CPUs (all models)	41R4803	N
1	89W Heatsink kit for AMD Athlon64x2 AM2 CPUs (all models)	41R4802	N
2	Microprocessor, Celeron-D 430 CONROE-L 800/1800MHZ-512K,LGA,EM64T (models 39B 39H)	43C1964	N
2	Microprocessor, Celeron-D 440 CONROE-L 800/1800MHZ-512K,LGA,EM64T (models 42B 42H)	43C1965	N
2	Microprocessor, E4300 CONROE 800/1800MHZ-2M, LGA, EM64T (models 23S)	42Y8009	N
2	Microprocessor, E4400 L2 CONROE 800/2000MHZ-2M, LGA, EM64T (models 72S 72D 72Y 78S 78D 78Y 79S 79D 79Y)	43C2056	N
2	Microprocessor, Pentium® Dual-core Conroe-L E2140 800/1600MHZ-1M, LGA, EM64T 65W (models 56B 56H 57S 57D 57Y 58S 58D 58Y 59S 59D 59Y 5BG 5CG 5DG)	43C1967	N
2	Microprocessor, Pentium Dual-core Conroe-L E2160 800/1.8GHZ-1M, LGA, EM64T 65W (models 62S 62D 62Y 63B 63H 65S 65D 65Y 67S 67D 67Y 68S 68D 68Y 6BG 6CG 6DG)	43C1968	N
2	Microprocessor, Core 2 Duo CONROE E4500 800/2200MHz 2M 65W M-0 (models 83S 83D 83Y)	43C6305	N
2	Microprocessor, Core 2 Duo CONROE E6320 1066/1860MHZ-4M 65W B-2 (models 92S 92D 92Y)	43C3829	N
3	DVD-ROM 16x -48x -Vista and XP (models 57S 57D 57Y 58S 58D 58Y 59S 59D 59Y 5CG 6DG)	41N3325	N
3	DVD-ROM/CD-RW Combo Drive - 48x/32x/48x/16x - SATA (models 42B 42H 23S 67S 67D 67Y 68S 68D 68Y)	42Y9353	N
3	DVD-Recordable Rambo 8 - SATA (models 62S 62D 62Y 63B 63H 72S 72D 72Y 39B 39H 56B 56H 78S 78D 78Y 79S 79D 79Y 83S 83D 83Y 92S 92D 92Y 5BG 5CG 6BG 6CG)	43C1042	N
4	Front Power/LED PC, bracket, and cable (all models)	41R6234	N

Item #	9684 FRUs	FRU#	CRU
5	Hard disk drive, 80GB 7200rpm Serial ATA (8 MB Buffer) (models 57S 57D 57Y 58S 58D 58Y 59S 59D 59Y)	40Y9034	N
5	Hard disk drive, 160GB 7200rpm Serial ATA (models 42B 42H 62S 62D 62Y 23S 72S 72D 72Y 39B 39H 78S 78D 78Y 79S 79D 79Y 83S 83D 83Y 92S 92D 92Y 5BG 5CG 6BG 6CG 6DG)	40Y9035	N
5	Hard disk drive, 250GB (7200RPM), Serial ATA (models 63B 63H 56B 56H)	40Y9036	N
6	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models)	40Y9105	N
6	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models)	40Y9107	N
7	Front USB/Audio with bracket (all models)	41N8212	N
8	Memory module, 512 MB PC2-4200 (533MHz) DDR2 SDRAM (models 42B 42H 63B 63H 23S 57S 57D 57Y 58S 58D 58Y 59S 59D 59Y)	41X4251	2
8	Memory module, 1 GB PC2-4200 (533MHz) DDR2 SDRAM (models 62S 62D 62Y 72S 72D 72Y 56B 56H 78S 78D 78Y 79S 79D 79Y)	41X4252	2
8	Memory module, 1024MB PC-5300 DDR2 SDRAM NP Memory (PC 5300) (models 6BG 6CG 6DG)	41X4256	2
9	System board, Intel 945GC (LGA775 Celeron, P4, PD, Up to 800MHz support, 100Mb LAN) GA Level (models 42B 42H 62S 62D 62Y 63B 63H 23S 72S 72D 72Y 39B 39H 56B 56H 57S 57D 57Y 58S 58D 58Y 59S 59D 59Y 78S 78D 78Y 79S 79D 79Y 65S 65D 65Y 67S 67D 67Y 68S 68D 68Y 83S 83D 83Y 92S 92D 92Y 5BG 5CG 5DG 6BG 6CG 6DG)	42Y9915	N
9	System board, Intel 945GC (LGA775 Celeron, P4, PD, Up to 800MHz support, 100Mb LAN) Update GA Level (models 42B 42H 62S 62D 62Y 63B 63H 23S 72S 72D 72Y 39B 39H 56B 56H 57S 57D 57Y 58S 58D 58Y 59S 59D 59Y 78S 78D 78Y 79S 79D 79Y 65S 65D 65Y 67S 67D 67Y 68S 68D 68Y 83S 83D 83Y 92S 92D 92Y 5BG 5CG 5DG 6BG 6CG 6DG)	45C4801	N
9	System board, Intel 945GC 667 support GA Level (models 42B 42H 62S 62D 62Y 63B 63H 23S 72S 72D 72Y 39B 39H 56B 56H 57S 57D 57Y 58S 58D 58Y 59S 59D 59Y 78S 78D 78Y 79S 79D 79Y 65S 65D 65Y 67S 67D 67Y 68S 68D 68Y 83S 83D 83Y 92S 92D 92Y 5BG 5CG 5DG 6BG 6CG 6DG)	45C4802	N
10	220W TFX Power Supply - Robust standard (models 42B 42H 63B 63H 39B 39H 56B 56H 62S 62D 62Y 23S 72S 72D 72Y 57S 57D 57Y 58S 58D 58Y 59S 59D 59Y 78S 78D 78Y 79S 79D 79Y 65S 65D 65Y 67S 67D 67Y 68S 68D 68Y 83S 83D 83Y 92S 92D 92Y 5DG 5BG 5CG 6BG 6CG 6DG)	41A9689	N
10	220W TFX Power Supply - Standard (models 42B 42H 63B 63H 39B 39H 56B 56H 62S 62D 62Y 23S 72S 72D 72Y 57S 57D 57Y 58S 58D 58Y 59S 59D 59Y 78S 78D 78Y 79S 79D 79Y 65S 65D 65Y 67S 67D 67Y 68S 68D 68Y 83S 83D 83Y 92S 92D 92Y 5DG 5BG 5CG 6BG 6CG 6DG)	41A9693	N

The FRUs listed in the following tables are not illustrated.

9684 FRUs	FRU#	CRU
Fan Duct (all models)	41R4808	2
Cable, Serial ATA (Foxconn Version), 250 mm HDD (all models)	41A7145	N
Cable, diskette drive 2H325mm (all models)	41A7182	N
No Optical Bezel and Shield, Blk (all models)	41R6211	N
EMC Shield, Blank 5.25 (all models)	41R6226	N
System board shield (all models)	41R6273	N
EMC shield, blank diskette drive (all models)	41R6227	N

9684 FRUs	FRU#	CRU
Cover (all models)	41R6228	N
Mechanical shell kit (all models)	41R6210	N
Miscellaneous hardware Kit (all models)	41R6213	N
Hard disk drive bracket Asm (plastic and grommets) (all models)	41R6229	N
Speaker cable asm, 600 mm cable length (all models)	41N8217	N
Retention module Asm, AMD (all models)	41R2507	N
Retention module Asm, Intel (all models)	41A7139	N
Speaker holder assembly (all models)	41R6231	N
Front Power/LED PC, bracket, and cable (all models)	41R6234	N
Foot stand assembly (all models)	41R6235	N
USB Bracket assembly (all models)	41R6425	N

9684 Keyboards (USB Preferred Pro)	FRU#	CRU
US English (models 42H 63H 39H 56H 5CG 5BG 5DG 6BG 6CG 6DG)	41A5289	1
LA Spanish (models 62S 62D 62Y 23S 72S 72D 72Y 57S 57D 57Y 58S 58D 58Y 59S 59D 59Y 78S 78D 78Y 79S 79D 79Y 65S 65D 65Y 67S 67D 67Y 68S 68D 68Y 83S 83D 83Y 92S 92D 92Y)	41A5312	1
Taiwan (models 42B 63B 39B 56B)	41A5296	1
Danish (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5298	1
Dutch (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5299	1
French (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5300	1
German (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5303	1
Italian (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5309	1
Spanish (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5321	1
Swedish - Finn (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5322	1
UK English (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5327	1
US Euro (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5328	1
Arabic (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5290	1
Arabic/French (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5291	1
Belgian/French (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5292	1
Belgian English (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5293	1
Bulgarian (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5295	1
Czech (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5297	1
Greek (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5304	1
Greek (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5305	1
Hebrew (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5306	1
Hungarian (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5307	1
Iceland (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5308	1
Norwegian (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5313	1
Polish (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5314	1
Portuguese (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5315	1

9684 Keyboards (USB Preferred Pro)	FRU#	CRU
Romanian (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5317	1
Russian/Cyrillic (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5318	1
Serbian/Cyrillic (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5319	1
Slovak (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5320	1
Turkish 179 (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5326	1
Turkish 440 (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5325	1
Swiss French/German (models 5CG 5BG 5DG 6BG 6CG 6DG)	41A5323	1
Yugoslav - Latin (models 5CG 5BG 5DG)	41A5329	1

9684 mice	FRU#	CRU
Optical Wheel Mouse (400DPI, USB) (models 42B 42H 62S 62D 62Y 63B 63H 23S 72S 72D 72Y 39B 39H 56B 56H 57S 57D 57Y 58S 58D 58Y 59S 59D 59Y 78S 78D 78Y 79S 79D 79Y 65S 65D 65Y 67S 67D 67Y 68S 68D 68Y 83S 83D 83Y 92S 92D 92Y 5CG 5BG 5DG 6BG 6CG 6DG)	41U3013	1
Optical Wheel Mouse (400DPI, USB) (models 42B 42H 62S 62D 62Y 63B 63H 23S 72S 72D 72Y 39B 39H 56B 56H 57S 57D 57Y 58S 58D 58Y 59S 59D 59Y 78S 78D 78Y 79S 79D 79Y 65S 65D 65Y 67S 67D 67Y 68S 68D 68Y 83S 83D 83Y 92S 92D 92Y 5CG 5BG 5DG 6BG 6CG 6DG)	41U3030	1

9684 Adapters and miscellaneous FRUs	FRU#	CRU
USB2.0 MEMORY CARDREADER,6X2,ROHS (models 42B 42H 63B 63H 23S)	41R3378	2
USB2.0 Safe key TGE YT300 1GB V1.51 (models 6CG 5CG)	45C7796	1
USB2.0 Safe key TGE YT300 1GB new V 1.52 (models)	45C7146	1
BATTERY 3V-LITHIUM (all models)	43C1566	1
Speaker Power brick - US, Canada, LA low voltage, ASEAN (models 65S 67S 68S 83S 92S)	89P8571	1
Speaker Power brick - LA high voltage (non-APU) (models 65D 67D 68D 83D 92D)	89P8575	1
Speaker Power brick - Hong Kong, EMEA (models 5CG 5BG 5DG 6BG 6CG 6DG)	89P8573	1
Modem Phone Cable (models)	39K5120	N
Chassis Fit (DT) (models)	41N8211	N

9684 Power Cords	FRU#	CRU
Power cord - US (models 62S 23S 62D 72D 57S 57D 58S 58D 59S 59D 78S 78D 79S 79D 65D 65S 67S 67D 68S 68D 83S 83D 92S 92D)	39M5080	1
Power cord - LA High Volt (APU) (models 62Y 72Y 57Y 58Y 59Y 78Y 79Y 65Y 67Y 68Y 83Y 92Y)	39M5067	1
Power cord - Denmark (models 5CG 5BG 5DG 6BG 6CG 6DG)	39M5129	1
Power cord - Line Cord - UK, Ireland, Singapore, Malaysia, Brunei (models 5CG 5BG 5DG 6BG 6CG 6DG)	39M5150	1
Power cord - G models (Denmark, South Africa, UK, Ireland, Singapore, Malaysia, Brunei, Switzerland, Italy, and Israel) (models 6BG 6CG 6DG)	39M5122	1
Power cord - Hong Kong (models 42B 42H 63B 63H 39B 39H 56B 56H)	39M5151	1
Power cord - Switzerland (models 6BG 6CG 6DG)	39M5157	1
Power cord - Italy (models 62S 23S 62Y 72Y 57S 57Y 58S 58Y 59S 59Y 78S 78Y 79S 79Y 65S 65Y 67S 67Y 68S 68Y 83S 83Y 92S 92Y 5CG 5BG 5DG)	39M5164	1

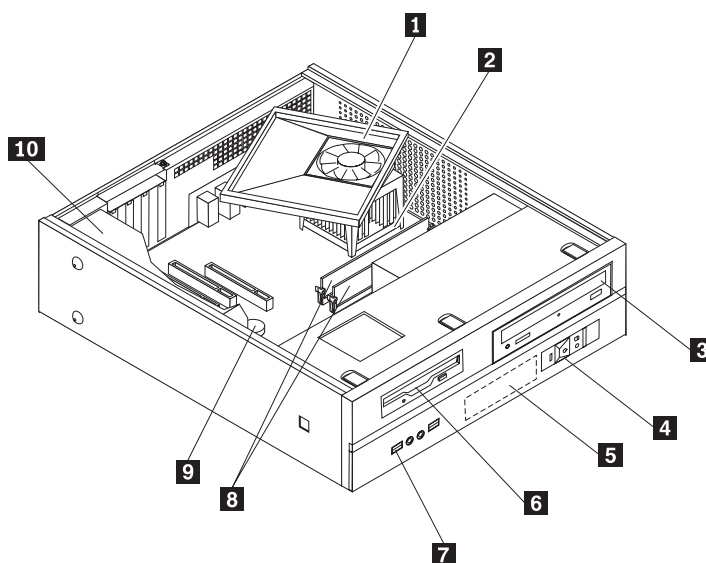
9684 Power Cords	FRU#	CRU
Power cord - Israel (models 5CG 5BG 5DG 6BG 6CG 6DG)	39M5171	1

9684 Windows XP Pro Recovery CDs	FRU#	CRU
US/UK/Asia Pacific (models 5CG 5BG 5DG 6BG 6DG)	43C9043	1
FR/CF (models 5CG 5BG 5DG 6BG 6DG)	45C0180	1
GR (models 5CG 5BG 5DG 6BG 6DG)	45C0184	1
IT (models 5CG 5BG 5DG 6BG 6DG)	45C0185	1
SP/LA (models 57S 57D 57Y 62S 62D 62Y 23S 72S 72D 72Y 58S 58D 58Y 78S 78D 78Y 79S 79D 79Y 65S 65D 65Y 67S 67D 67Y 68S 68D 68Y 83S 83D 83Y 92S 92D 92Y)	45C0181	1
DK (models 5CG 5BG 5DG 6BG 6DG)	45C0189	1
NL (models 5CG 5BG 5DG 6BG 6DG)	45C0192	1
AE (models 5CG 5BG 5DG 6BG 6DG)	45C0186	1
SV (models 5CG 5BG 5DG 6BG 6DG)	45C0188	1
HE (models 5CG 5BG 5DG 6BG 6DG)	45C0194	1
FI (models 5CG 5BG 5DG 6BG 6DG)	45C0190	1
NO (models 5CG 5BG 5DG 6BG 6DG)	45C0191	1
PL (models 5CG 5BG 5DG 6BG 6DG)	45C0195	1
PO (models 5CG 5BG 5DG 6BG 6DG)	45C0198	1
RU (models 5CG 5BG 5DG 6BG 6DG)	45C0187	1
RE (models 5CG 5BG 5DG 6BG 6DG)	45C0183	1
HU (models 5CG 5BG 5DG 6BG 6DG)	45C0197	1
CZ (models 5CG 5BG 5DG 6BG 6DG)	45C0193	1
TR (models 5CG 5BG 5DG 6BG 6DG)	45C0196	1
GK (models 5CG 5BG 5DG 6BG 6DG)	45C0199	1
SL (models 5CG 5BG 5DG 6BG 6DG)	45C0200	1
Multilingual 1 XP-P -- EN, NL, FR, GR, IT (models 5CG 5BG 5DG 6BG 6DG)	45C0178	1
Multilingual 2 XP-P -- EN, DK, FI, NO, SV (models 5CG 5BG 5DG 6BG 6DG)	45C0179	1

9684 Vista Business 32 Recovery DVDs	FRU#	CRU
English (models 5CG 6CG)	43C9029	1
French (models 5CG 6CG)	45C0113	1
German (models 5CG 6CG)	45C0114	1
SP/LA (models 62S 62D 62Y 23S 72S 72D 72Y 58S 58D 58Y 78S 78D 78Y 79S 79D 79Y 65S 65D 65Y 67S 67D 67Y 68S 68D 68Y 83S 83D 83Y 92S 92D 92Y)	45C0115	1
Italian (models 5CG 6CG)	45C0117	1
Norwegian (models 5CG 6CG)	45C0118	1
Swedish (models 5CG 6CG)	45C0119	1
Danish (models 5CG 6CG)	45C0120	1
Dutch (models 5CG 6CG)	45C0121	1
Czech (models 5CG 6CG)	45C0122	1
Finnish (models 5CG 6CG)	45C0123	1

9684 Vista Business 32 Recovery DVDs	FRU#	CRU
Polish (models 5CG 6CG)	45C0124	1
Russian (models 5CG 6CG)	45C0125	1
Turkish (models 5CG 6CG)	45C0126	1
Hungarian (models 5CG 6CG)	45C0127	1
Greek (models 5CG 6CG)	45C0128	1
Portuguese (models 5CG 6CG)	45C0134	1
Slovenian (models 5CG 6CG)	45C0130	1
Russian English (models 5CG 6CG)	45C0131	1
Russian English (models 5CG 6CG)	45C0112	1
Slovakian (models 5CG 6CG)	45C0137	1

Machine Type 9685



Item #	9685 FRUs	FRU#	CRU
1	84W Heatsink kit for Intel Prescott and Cedarmil and Conroe and Conroe-L CPUs (all models)	41R4803	N
2	Microprocessor, Intel 925 Proc [rev C1 - ?????] (models 42G)	41X2413	N
2	Microprocessor, CONROE E4300 800/1800MHz 2M B-2 (models 23G)	42Y8009	N
2	Microprocessor, Conroe-L E2140 800/1600MHZ-1M, LGA, EM64T (models 52G 53G 54G 57G)	43C1967	N
3	DVD-ROM 16x -48x -Vista & XP (models 42G 57G)	41N3325	N
3	DVD-ROM/CD-RW Combo Drive - 48x/32x/48x/16x - SATA (models 23G)	42Y9353	N
3	DVD-RW/CD-RW Rambo 8 - SATA (models 52G 53G 54G)	43C1042	N
4	Front Power/LED PC, bracket, and cable (all models)	41R6234	N
5	Hard disk drive, 80GB (7200RPM), Serial ATA (models 42G 57G)	40Y9034	N
5	Hard disk drive, 160GB (7200RPM), Serial ATA (models 23G 52G 53G 54G)	40Y9035	N
6	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models)	40Y9105	N
6	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models)	40Y9107	N
7	Front USB/Audio with bracket (all models)	41N8212	N
8	Memory module, 512 MB PC2-4200 (533MHz) DDR2 SDRAM (models 23G 42G 57G)	41X4251	2
8	Memory module, 1GB PC2-4200 (533MHz) DDR2 SDRAM (models 52G 53G 54G)	41X4252	2
9	System board, 945GC(LGA775 Celeron, P4, PD, Up to 800MHz support, 100Mb LAN) (models 23G 42G 52G 53G 54G 57G)	42Y9915	N
10	220 Watt Power Supply - Robust Standard (models 23G 42G 52G 53G 54G 57G)	41A9689	N
10	220 Watt Power Supply - Standard (models 23G 42G 52G 53G 54G 57G)	41A9693	N

The FRUs listed in the following tables are not illustrated.

9685 FRUs	FRU#	CRU
Fan Duct (all models)	41R4808	2

9685 FRUs	FRU#	CRU
Cable, Serial ATA, 250 mm (all models)	41A7145	N
Cable, diskette drive 2H325mm (all models)	41A7182	N
No Optical Bezel and Shield, Blk (all models)	41R6211	N
No Optical Bezel and Shield, Blk (Secondary) (all models)	41R6226	N
System board shield (all models)	41R6273	N
EMC shield, blank diskette drive (all models)	41R6227	N
Cover (all models)	41R6228	N
Mechanical shell kit (all models)	41R6210	N
Miscellaneous hardware Kit (all models)	41R6213	N
Hard disk drive bracket Asm (plastic and grommets) (all models)	41R6229	N
Speaker cable asm, 600 mm cable length (all models)	41N8217	N
Retention module (all models)	41R2507	N
Speaker holder assembly (all models)	41R6231	N
Front Power/LED PC, bracket, and cable (all models)	41R6234	N
Foot stand assembly (all models)	41R6235	N
USB Bracket ASSY (all models)	41R6425	N

9685 Keyboards (USB Preferred Pro)	FRU#	CRU
US English (models 23G 42G 52G 53G 54G 57G)	41A5289	1
French Canadian 58 (models 23G 42G 52G 53G 54G 57G)	41A5302	1
French Canadian 445 (models 23G 42G 52G 53G 54G 57G)	41A5301	1

Danish (models 23G 42G 52G 53G 54G 57G)	41A5298	1
Dutch (models 23G 42G 52G 53G 54G 57G)	41A5299	1
French (models 23G 42G 52G 53G 54G 57G)	41A5300	1
German (models 23G 42G 52G 53G 54G 57G)	41A5303	1
Italian 141 (models 23G 42G 52G 53G 54G 57G)	41A5309	1
Spanish (models 23G 42G 52G 53G 54G 57G)	41A5321	1
Swedish/Finn (models 23G 42G 52G 53G 54G 57G)	41A5322	1
UK English (models 23G 42G 52G 53G 54G 57G)	41A5327	1
US Euro (models 23G 42G 52G 53G 54G 57G)	41A5328	1
Arabic (models 23G 42G 52G 53G 54G 57G)	41A5290	1
Arabic/French (models 23G 42G 52G 53G 54G 57G)	41A5291	1
Belgian/UK (models 23G 42G 52G 53G 54G 57G)	41A5293	1
Bulgarian (models 23G 42G 52G 53G 54G 57G)	41A5295	1
Czech (models 23G 42G 52G 53G 54G 57G)	41A5297	1
Greek (models 23G 42G 52G 53G 54G 57G)	41A5304	1
Greek/US (models 23G 42G 52G 53G 54G 57G)	41A5305	1
Hebrew (models 23G 42G 52G 53G 54G 57G)	41A5306	1
Hungarian (models 23G 42G 52G 53G 54G 57G)	41A5307	1
Iceland (models 23G 42G 52G 53G 54G 57G)	41A5308	1

Norwegian (models 23G 42G 52G 53G 54G 57G)	41A5313	1
Polish (models 23G 42G 52G 53G 54G 57G)	41A5314	1
Portuguese (models 23G 42G 52G 53G 54G 57G)	41A5315	1
Romanian 096 (models 23G 42G 52G 53G 54G 57G)	41A5317	1
Russian/Cyrillic (models 23G 42G 52G 53G 54G 57G)	41A5318	1
Serbian/Cyrillic (models 23G 42G 52G 53G 54G 57G)	41A5319	1
Slovak (models 23G 42G 52G 53G 54G 57G)	41A5320	1
Turkish 179 (models 23G 42G 52G 53G 54G 57G)	41A5326	1
Turkish 440 (models 23G 42G 52G 53G 54G 57G)	41A5325	1
Swiss (models 23G 42G 52G 53G 54G 57G)	41A5323	1
Slovenian (models 23G 42G 52G 53G 54G 57G)	41A5329	1

9685 mice	FRU#	CRU
Optical Wheel Mouse (400DPI, USB) (models 23G 42G 52G 53G 54G 57G)	41U3013	1
Optical Wheel Mouse (400DPI, USB) models 23G 42G 52G 53G 54G 57G)	41U3030	1

9685 Adapters and miscellaneous FRUs	FRU#	CRU
USB2.0 MEMORY CARDREADER,6X2,ROHS (models 23G 42G 52G 53G 54G 57G)	41R3378	2
BATTERY 3V-LITHIUM (all models)	45C1566	1
Modem Phone Cable (models)	39K5120	N
Chassis Fit (DT) (models)	41N8211	N
Lenovo USB2.0 Safe key TGE YT300 1GB V1.51 (models 54G)	45C7796	1
Lenovo USB2.0 Safe key TGE YT300 1GB new V 1.52 (models)	45C7146	1

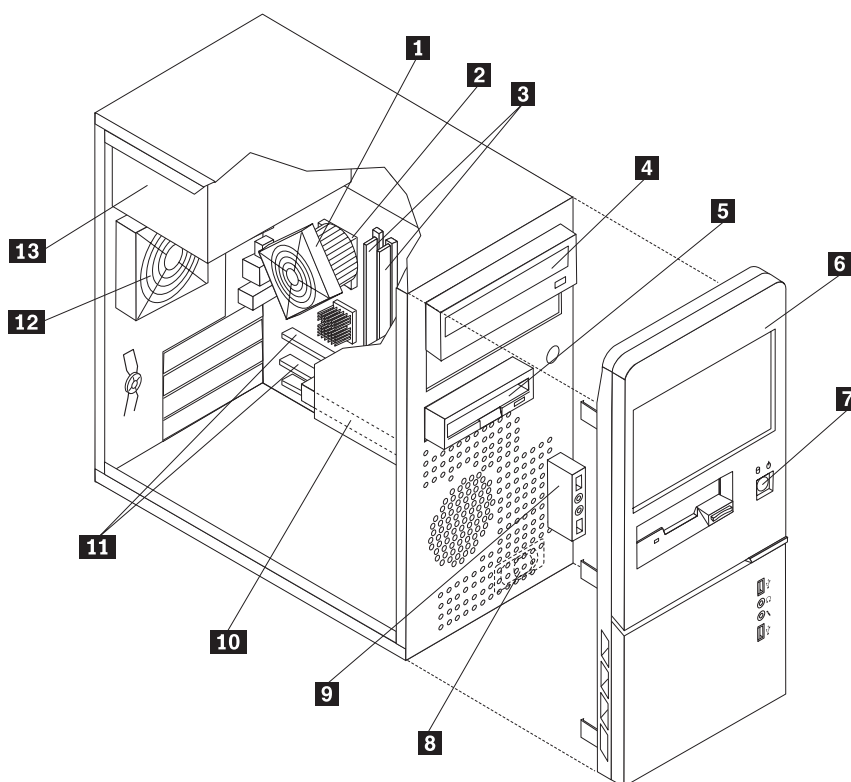
9685 Power Cords	FRU#	CRU
Power cord - UK, Ireland, Singapore, Malaysia, Brunei (models 23G 42G 52G 53G 54G 57G)	39M5150	1
Power cord - Italy (models 23G 42G 52G 53G 54G 57G)	39M5164	1
Power cord - Denmark (models 23G 42G 52G 53G 54G 57G)	39M5129	1
Power cord - Switzerland (models 23G 42G 52G 53G 54G 57G)	39M5157	1
Power cord - Israel (models 23G 42G 52G 53G 54G 57G)	39M5171	1
Power cord - South Africa (models 23G 42G 52G 53G 54G 57G)	39M5143	1

9685 Windows XP Pro Recovery CDs	FRU#	CRU
US/UK/AP/TH (models 42G 52G 57G 23G 53G 54G)	43C9043	1
FR/CF (models 42G 52G 57G 23G 53G 54G)	45C0180	1
GR (models 42G 52G 57G 23G 53G 54G)	45C0184	1
IT (models 42G 52G 57G 23G 53G 54G)	45C0185	1
BR (models)	45C0182	1
SP/LA (models)	45C0181	1
DK (models 42G 52G 57G 23G 53G 54G)	45C0189	1
NL (models 42G 52G 57G 23G 53G 54G)	45C0192	1

9685 Windows XP Pro Recovery CDs	FRU#	CRU
AE (models 42G 52G 57G 23G 53G 54G)	45C0186	1
SV (models 42G 52G 57G 23G 53G 54G)	45C0188	1
HE (models 42G 52G 57G 23G 53G 54G)	45C0194	1
FI (models 42G 52G 57G 23G 53G 54G)	45C0190	1
NO (models 42G 52G 57G 23G 53G 54G)	45C0191	1
PL (models 42G 52G 57G 23G 53G 54G)	45C0195	1
PO (models 42G 52G 57G 23G 53G 54G)	45C0198	1
RU (models 42G 52G 57G 23G 53G 54G)	45C0187	1
RE (models 42G 52G 57G 23G 53G 54G)	45C0183	1
HU (models 42G 52G 57G 23G 53G 54G)	45C0197	1
CZ (models)	45C0193	1
TR (models)	45C0196	1
GK (models 42G 52G 57G 23G 53G 54G)	45C0199	1
SL (models 42G 52G 57G 23G 53G 54G)	45C0200	1
Multilingual 1 XP-P -- EN, NL, FR, GR, IT (models 42G 52G 57G 23G 53G 54G)	45C0178	1
Multilingual 2 XP-P -- EN, DK, FI, NO, SV (models 42G 52G 57G 23G 53G 54G)	45C0179	1

9685 Vista Business 32 Recovery DVDs	FRU#	CRU
US/UK/AP/TH (models 23G 53G 54G)	43C9029	1
FR/CF (models 23G 53G 54G)	45C0113	1
IT (models 23G 53G 54G)	45C0117	1
NO (models 23G 53G 54G)	45C0118	1
SV (models 23G 53G 54G)	45C0119	1
DK (models 23G 53G 54G)	45C0120	1
NL (models 23G 53G 54G)	45C0121	1
CZ (models 23G 53G 54G)	45C0122	1
FI (models 23G 53G 54G)	45C0123	1
PL (models 23G 53G 54G)	45C0124	1
RU (models 23G 53G 54G)	45C0125	1
TR (models 23G 53G 54G)	45C0126	1
HU (models 23G 53G 54G)	45C0127	1
GK (models 23G 53G 54G)	45C0128	1
PO (models 23G 53G 54G)	45C0134	1
SL (models 23G 53G 54G)	45C0130	1
RE (models 23G 53G 54G)	45C0131	1

Machine Type 9686



Item #	9686 FRUs	FRU#	CRU
1	89W Heatsink Kit for AMD Athlon64x2 AM2 processors (all models)	41R4802	N
1	84W Heatsink Kit for Intel Prescott & Cedarmil & Conroe & Conroe-L processors (all models)	41R4803	N
2	Microprocessor, 3800+ Athlon64 AM2 (2.4 GHz processor, 62W) (models 42U)	41X1417	N
2	Microprocessor, 3800+ Athlon64 AM2 X2 (2.0 GHz processor, 89W) (models 34U 34F 35U 35F 36U 36F 37S 37D 37Y 38S 38D 38Y 67G)	41X4241	N
2	Microprocessor, 4000+ Athlon64 AM2 X2 (2.1 GHz processor, 65W) G1 (models 42U 43S 43D 43Y 45S 46S 47S 47D 47Y 48S 4AU 4BU 4CU 42F 4AF 4BF 4CF 4DS 4EU 4FS 4FD 4FY 4GG)	43C3965	N
2	Microprocessor, 4400+ Athlon64 AM2 X2 (2.3 GHz processor, 65W) (models 23H 54U 56U 57U 54F 56F 57F 58S 59U 5AS 5AD 5AY 5BG 5CG)	43C3507	N
2	Microprocessor, 4800+ Athlon AM2 X2 (2.4 GHz processor, 89W) (models 62U 63U 62F 63F 65U 63U)	43C4093	N
2	Microprocessor, Sempron LE- 1150 2.0GHz 45W G1 (models 82G)	43C6169	N
3	Memory module, 512MB DDR2 SDRAM NP Memory (PC 5300) (models 42U 47S 47D 47Y 48S 4AU 4BU 4CU 23H 57U 63U 42F 4CF 4DS 4EU 57F 59U 63U 65F 65U 34U 34F 37S 37D 37Y 38S 38D 38Y 72G 67G)	41X4255	2
3	Memory module, 1024MB DDR2 SDRAM NP Memory (PC 5300) (models 43S 43D 43Y 45S 46S 54U 56U 62U 4AF 4BF 54F 56F 58S 62F 35U 35F 36U 36F 4FS 4FD 4FY 5AS 5AD 5AY 4GG 5BG 5CG 82G)	41X4256	2
4	DVD-ROM drive - 16x/48x - XP and Vista (models 42U 42F 4EU 59U 65U 34U 34F 4FS 4FD 4FY 72G 82G)	41N3325	N

Item #	9686 FRUs	FRU#	CRU
4	DVD-ROM/CD-RW Combo Drive - 48x/32x/48x/16x - SATA (models 46S 48S 4AU 23H 54U 62U 4AF 4DS 62F 54F 35U 35F 67G)	42Y9353	N
4	DVD-RW/CD-RW Rambo 8 - SATA (models 43S 43D 43Y 45S 4BU 4CU 56U 57U 63U 4BF 4CF 56F 57F 58S 63U 63F 36U 36F 37S 37D 37Y 5AS 5AD 5AY 4GG 5BG 5CG)	43C1042	N
5	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models)	40Y9105	N
5	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models)	40Y9107	N
6	Bezel assembly (all models)	41N8077	N
7	Power switch/LED assembly (all models)	TBD	N
8	Internal Speaker Assembly - optional (all models)	39P5023	2
9	Front audio/USB assembly (all models)	41N8054	N
10	Hard disk drive, 80GB 7200rpm Serial ATA (8 MB Buffer) (models 42U 47S 47D 47Y 48S 4AU 4EU 4FS 4FD 4FY 59U 65U 34U 34F 35U 35F 37S 37D 37Y 38S 38D 38Y 42F 72G)	40Y9034	N
10	Hard disk drive, 160GB (7200RPM), Serial ATA (models 45S 46S 4BU 23H 54U 62U 4BF 4DS 23Q 54F 58S 62F 36U 36F 67G 82G)	40Y9035	N
10	Hard disk drive, 250GB (7200RPM), Serial ATA (models 43S 43D 43Y 53M 4GG 5BG 5CG)	40Y9036	N
10	Hard disk drive, SATA 320GB 7200rpm SATA/8MB (models 4CU 56U 57U 63U 4CF 56F 57F 63U 63F)	87H4891	N
11	System board, RS690 (AMD AM2 Sempron, Athlon64, Athlon64x2; Gb LAN) GA Level (models 42U 43S 43D 43Y 45S 46S 47S 47D 47Y 48S 4AU 4BU 4CU 23H 54U 56U 57U 62U 63U 42F 4AF 4BF 4CF 4DS 4EU 54F 56F 57F 58S 59U 62F 63U 63F 65U 34U 34F 35U 35F 36U 36F 37S 37D 37Y 38S 38D 38Y 4FS 4FD 4FY 5AS 5AD 5AY 4GG 72G 67G 5BG 5CG 82G)	42Y9916	N
11	System board, RS690(AMD AM2 Sempron, Athlon64,Athlon64x2 ;Gb LAN) PCB 2.0 SDV-SIT Level (models 42U 43S 43D 43Y 45S 46S 47S 47D 47Y 48S 4AU 4BU 4CU 23H 54U 56U 57U 62U 63U 42F 4AF 4BF 4CF 4DS 4EU 54F 56F 57F 58S 59U 62F 63U 63F 65U 34U 34F 35U 35F 36U 36F 37S 37D 37Y 38S 38D 38Y 4FS 4FD 4FY 5AS 5AD 5AY 4GG 72G 67G 5BG 5CG 82G)	45C3281	N
12	Rear Fan (all models)	41R2519	2
13	ATX 280W Power supply; WW (models 42U 43S 43D 43Y 45S 46S 47S 47D 47Y 48S 4AU 4BU 4CU 54U 56U 57U 62U 63U 42F 4AF 4BF 4CF 4DS 4EU 54F 56F 57F 58S 59U 62F 63U 63F 65U 34U 34F 35U 35F 36U 36F 37S 37D 37Y 38S 38D 38Y 4FS 4FD 4FY 5AS 5AD 5AY 4GG 72G 67G 5BG 5CG 82G)	41A9679	N
13	280W ATX Power Supply; Robust; WW (models 23H 32A 32T 42U 43S 43D 43Y 45S 46S 47S 47D 47Y 48S 4AU 4BU 4CU 23M 52M 53M 54U 56U 57U 62U 63U 42F 4AF 4BF 4CF 4DS 4EU 54F 56F 57F 58S 59U 62F 63U 63F 65U 34U 34F 35U 35F 36U 36F 37S 37D 37Y 38S 38D 38Y 4FS 4FD 4FY 5AS 5AD 5AY 82G)	41A9684	N

The FRUs listed in the following tables are not illustrated.

9686 FRUs	FRU#	CRU
Cable, Serial ATA (Foxconn Version), 250mm HDD (all models)	41A7145	2
Cable, Serial ATA (Foxconn Version), 457mm ODD (all models)	26K1186	2
Front Fan--Used with 2X500G HDDs only (all models)	41R4791	2
Optional HDD Bracket Asm (all models)	41R6106	N
Diskette drive EMC Shield (all models)	41N8078	N

9686 FRUs	FRU#	CRU
Rear IO Shield Assm for G33 (all models)	41R6379	2
Battery 3V-lithium (all models)	43C1566	1
Front main panel assembly (all models)	41R6206	N
Chassis assembly (all models)	41R6239	2
Cover (all models)	41R6242	2
ODD and FDD shield, Plastic (all models)	41R6207	2
No Optical Bezel and Shield, Blk (Secondary) (all models)	41N8080	N
Hard disk drive tray (all models)	41R6291	2

9686 Keyboards (USB Preferred Pro)	FRU#	CRU
US English (models 42U 4AU 4BU 4CU 54U 56U 57U 62U 63U 23H 4EU 59U 65U 63U 34U 35U 36U 4GG 72G 67G 5BG 5CG 82G)	41A5289	1
French Canadian 58 (models 42F 4AF 4BF 4CF 54F 56F 57F 62F 63F 34F 35F 36F)	41A5302	1
French Canadian 445 (models 42F 4AF 4BF 4CF 54F 56F 57F 62F 63F 34F 35F 36F)	41A5301	1
LA Spanish (models 43S 43D 43Y 45S 46S 47S 47D 47Y 48S 4DS 58S 37S 37D 37Y 38S 38D 38Y 4FS 4FD 4FY 5AS 5AD 5AY)	41A5312	1
Danish (models 4GG 72G 67G 5BG 5CG 82G)	41A5298	1
Dutch (models 4GG 72G 67G 5BG 5CG 82G)	41A5299	1
French (models 4GG 72G 67G 5BG 5CG 82G)	41A5300	1
German (models 4GG 72G 67G 5BG 5CG 82G)	41A5303	1
Italian (models 4GG 72G 67G 5BG 5CG 82G)	41A5309	1
Spanish (models 4GG 72G 67G 5BG 5CG 82G)	41A5321	1
Swedish - Finnish (models 4GG 72G 67G 5BG 5CG 82G)	41A5322	1
UK English (models 4GG 72G 67G 5BG 5CG 82G)	41A5327	1
US Euro (models 4GG 72G 67G 5BG 5CG 82G)	41A5328	1
Arabic (models 4GG 72G 67G 5BG 5CG 82G)	41A5290	1
Arabic/French (models 4GG 72G 67G 5BG 5CG 82G)	41A5291	1
Belgian/French (models 4GG 72G 67G 5BG 5CG 82G)	41A5292	1
Belgian/UK (models 4GG 72G 67G 5BG 5CG 82G)	41A5293	1
Bulgarian (models 4GG 72G 67G 5BG 5CG 82G)	41A5295	1
Czech (models 4GG 72G 67G 5BG 5CG 82G)	41A5297	1
Greek 319 (models 4GG 72G 67G 5BG 5CG 82G)	41A5304	1
Greek 459 (models 4GG 72G 67G 5BG 5CG 82G)	41A5305	1
Hebrew (models 4GG 72G 67G 5BG 5CG 82G)	41A5306	1
Hungarian (models 4GG 72G 67G 5BG 5CG 82G)	41A5307	1
Iceland (models 4GG 72G 67G 5BG 5CG 82G)	41A5308	1
Norwegian (models 4GG 72G 67G 5BG 5CG 82G)	41A5313	1
Polish (models 4GG 72G 67G 5BG 5CG 82G)	41A5314	1
Portuguese (models 4GG 72G 67G 5BG 5CG 82G)	41A5315	1
Romanian (models 4GG 72G 67G 5BG 5CG 82G)	41A5317	1
Russian/Cyrillic (models 4GG 72G 67G 5BG 5CG 82G)	41A5318	1

9686 Keyboards (USB Preferred Pro)	FRU#	CRU
Serbian/Cyrillic (models 4GG 72G 67G 5BG 5CG 82G)	41A5319	1
Slovak (models 4GG 72G 67G 5BG 5CG 82G)	41A5320	1
Swiss French/German (models 4GG 72G 67G 5BG 5CG 82G)	41A5323	1
Turkish 440 (models 4GG 72G 67G 5BG 5CG 82G)	41A5325	1
Turkish 179 (models 4GG 72G 67G 5BG 5CG 82G)	41A5326	1

9686 mice	FRU#	CRU
Optical Wheel Mouse (400DPI, USB) (models 42U 43S 43D 43Y 45S 46S 47S 47D 47Y 48S 4AU 4BU 4CU 23H 54U 56U 57U 62U 63U 34U 34F 35U 35F 36U 36F 37S 37D 37Y 38S 38D 38Y 4FS 4FD 4FY 5AS 5AD 5AY 4GG 72G 67G 5BG 5CG 82G)	41U3013	1
Optical Wheel Mouse (400DPI, USB) (models 42U 43S 43D 43Y 45S 46S 47S 47D 47Y 48S 4AU 4BU 4CU 23H 54U 56U 57U 62U 63U 34U 34F 35U 35F 36U 36F 37S 37D 37Y 38S 38D 38Y 4FS 4FD 4FY 5AS 5AD 5AY 4GG 72G 67G 5BG 5CG 82G)	41U3030	1

9686 Adapters and miscellaneous FRUs	FRU#	CRU
USB2.0 MEMORY CARDREADER, 6X2, ROHS (models 43S 43D 43Y 45S 4AU 4BU 4CU 23H 57U 63U 4GG 5BG 5CG)	41R3378	2
Speaker Power brick - US, Canada, LA low voltage, ASEAN (models 34U 35U 36U)	89P8571	1
Speaker Power brick - Hong Kong, EMEA (models 4GG 72G 67G 5BG 5CG 82G)	89P8573	1
ATI Radeon X1300LE 256MB 64bit DMS59 Dual Output (LP) (models 4GG)	42Y8162	2
Modem Phone Cable (models)	39K5120	N
Lenovo USB2.0 Safe key TGE YT300 1GB V1.51 (models 72G 5CG 82G)	45C7796	1
Lenovo USB2.0 Safe key TGE YT300 1GB new V 1.52 (models)	45C7146	1

9686 Power Cords	FRU#	CRU
Power cord - US (models 42U 43S 43D 45S 46S 47S 47D 48S 4AU 4BU 4CU 54U 56U 57U 62U 63U 42F 4AF 4BF 4CF 4DS 4EU 54F 56F 57F 58S 59U 62F 63U 63F 65U 34U 35U 36U 34F 35F 36F 37S 38S 4FS 5AS 37D 38D 4FD 5AD)	39M5080	1
Power cord - LA High Volt APU (models 43Y 47Y 37Y 38Y 4FY 5AY)	39M5067	1
Power cord - Denmark (models 4GG 72G 67G 5BG 5CG 82G)	39M5129	1
Power cord - Hong Kong (models 23H)	39M5151	1
Power cord - Switzerland (models 4GG 72G 67G 5BG 5CG 82G)	39M5157	1
Power cord - Italy (models 43S 43Y 45S 46S 47S 47Y 48S 49S 4DS 58S 37S 38S 4FS 5AS 37Y 38Y 4FY 5AY 4GG 72G 67G 5BG 5CG)	39M5164	1
Power cord - South Africa (models 23M 52M 53M 32A 4GG 72G 67G 5BG 5CG 82G)	39M5143	1
Power cord - UK, Ireland, Singapore, Malaysia, Brunei (models 4GG 72G 67G 5BG 5CG 82G)	39M5150	1
Power cord - Israel (models 4GG 72G 67G 5BG 5CG 82G)	39M5171	1

9686 Windows XP Pro Recovery CDs	FRU#	CRU
US/UK/AP/TH (models 4EU 59U 65U 34U 42U 4AU 4BU 23H 54U 56U 62U 35U 36U 67G 5BG 5CG)	43C9043	1
GR (models 67G 5BG 5CG)	45C0184	1
IT (models 67G 5BG 5CG)	45C0185	1

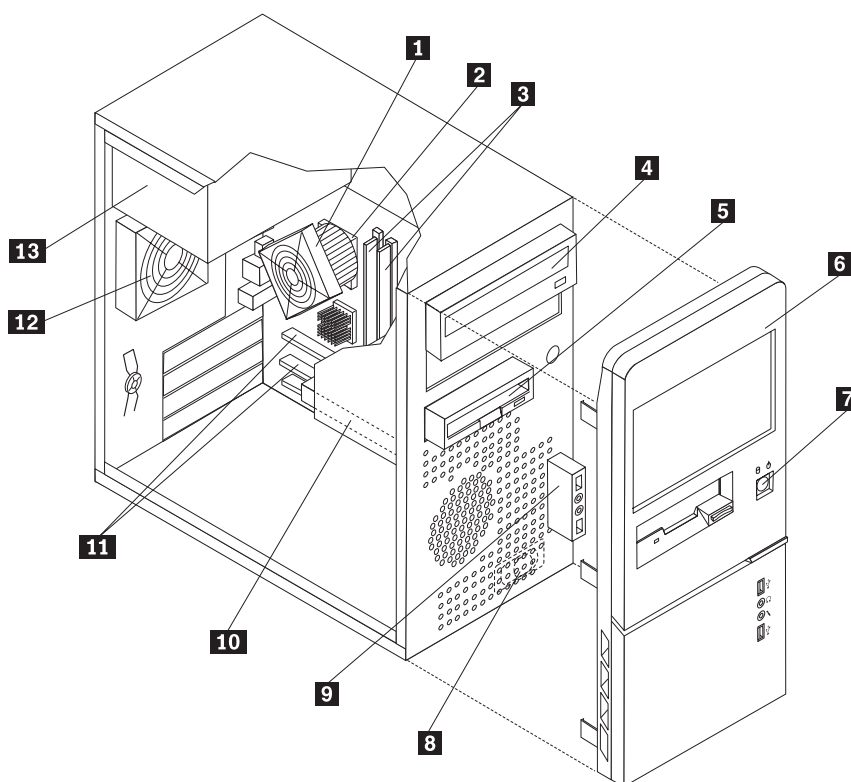
9686 Windows XP Pro Recovery CDs	FRU#	CRU
FR/CF (models 34F 35F 36F 34F 42F 4AF 4BF 54F 56F 62F 35F 36F)	45C0180	1
SP/LA (models 4DS 46S 58S 4FS 4FD 4FY)	45C0181	1
DK (models 67G 5BG 5CG)	45C0189	1
NL (models 67G 5BG 5CG)	45C0192	1
AE (models 67G 5BG 5CG)	45C0186	1
SV (models 67G 5BG 5CG)	45C0188	1
FI (models 67G 5BG 5CG)	45C0190	1
NO (models 67G 5BG 5CG)	45C0191	1
HE (models 67G 5BG 5CG)	45C0194	1
PL (models 67G 5BG 5CG)	45C0195	1
PO (models 67G 5BG 5CG)	45C0198	1
RU (models 67G 5BG 5CG)	45C0187	1
RE (models 67G 5BG 5CG)	45C0183	1
HU (models 67G 5BG 5CG)	45C0197	1
CZ (models 67G 5BG 5CG)	45C0193	1
TR (models 67G 5BG 5CG)	45C0196	1
GK (models 67G 5BG 5CG)	45C0199	1
SL (models 67G 5BG 5CG)	45C0200	1
Multilingual 1 XP-P -- EN, NL, FR, GR, IT (models 67G 5BG 5CG)	45C0178	1
Multilingual 2 XP-P -- EN, DK, FI, NO, SV (models 67G 5BG 5CG)	45C0179	1

9686 Vista Home Basic 32 Recovery DVDs	FRU#	CRU
English (models 4GG 72G 82G)	43C9027	1
German (models 4GG 72G 82G)	45C0140	1
SP/LA (models 43S 43D 43Y 45S 5AS 5AD 5AY)	45C0141	1
Italian (models 4GG 72G 82G)	45C0143	1
Norwegian (models 4GG 72G 82G)	45C0144	1
Swedish (models 4GG 72G 82G)	45C0145	1
Danish (models 4GG 72G 82G)	45C0146	1
Dutch (models 4GG 72G 82G)	45C0147	1
Czech (models 4GG 72G 82G)	45C0148	1
Finnish (models 4GG 72G 82G)	45C0149	1
Polish (models 4GG 72G 82G)	45C0150	1
Russian (models 4GG 72G 82G)	45C0151	1
Turkish (models 4GG 72G 82G)	45C0152	1
Hungarian (models 4GG 72G 82G)	45C0153	1
Greek (models 4GG 72G 82G)	45C0154	1
Portuguese (models 4GG 72G 82G)	45C0157	1
Slovenian (models 4GG 72G 82G)	45C0156	1
Russian English (models 4GG 72G 82G)	45C0138	1

9686 Vista Business 32 Recovery DVDs	FRU#	CRU
English (models 42U 4AU 4BU 23H 54U 56U 62U 35U 36U 5CG)	43C9029	1
FR/CF (models 42F 4AF 4BF 54F 56F 62F 35F 36F)	45C0113	1
German (models 5CG)	45C0114	1
SP/LA (models 46S 58S 4FS 4FD 4FY)	45C0115	1
Italian (models 5CG)	45C0117	1
Norwegian (models 5CG)	45C0118	1
Swedish (models 5CG)	45C0119	1
Danish (models 5CG)	45C0120	1
Dutch (models 5CG)	45C0121	1
Czech (models 5CG)	45C0122	1
Finnish (models 5CG)	45C0123	1
Polish (models 5CG)	45C0124	1
Russian (models 5CG)	45C0125	1
Turkish (models 5CG)	45C0126	1
Hungarian (models 5CG)	45C0127	1
Greek (models 5CG)	45C0128	1
Portuguese (models 5CG)	45C0134	1
Slovenian (models 5CG)	45C0130	1
Russian English (models 5CG)	45C0131	1
Russian English (models 5CG)	45C0112	1
Slovakian (models 5CG)	45C0137	1

9686 Vista Home Premium 32 Recovery DVDs	FRU#	CRU
US/UK/AP/TH (models 4CU 57U 63U)	43C9031	1
FR/CF (models 4CF 57F 63F)	45C0087	1

Machine Type 9687



Item #	9687 FRUs	FRU#	CRU
1	89W Heatsink Kit for AMD Athlon64x2 AM2 processors (all models)	41R4802	N
1	84W Heatsink Kit for Intel Prescott & Cedarmil & Conroe & Conroe-L processors (all models)	41R4803	N
2	Microprocessor, 3600+ Sempron AM2 (2.0 GHz processor, 62W) (models 35G 36G)	41X1411	N
2	Microprocessor, 3800+ Sempron AM2 (2.2GHz processor, 62W) F2 (models 45G)	43C2454	N
2	Microprocessor, 3800+ Athlon64 AM2 (2.4 GHz processor, 62W) (models 43G)	41X1417	N
2	Microprocessor, 4400+ Athlon64 AM2 X2 (2.3 GHz processor, 65W) (models 63G 64G 65G)	43C3507	N
2	Microprocessor, 4000+ Athlon64 AM2 X2 (2.1 GHz processor, 65W) G1 (models 52G 54G 57G)	43C3965	N
2	Microprocessor, 4800+ Athlon AM2 X2 (2.4 GHz processor, 89W) (models 23G)	43C4093	N
3	Memory module, 512MB DDR2 SDRAM NP Memory (PC 5300) (models 35G 43G 36G 45G)	41X4255	2
3	Memory module, 1024MB DDR2 SDRAM NP Memory (PC 5300) (models 23G 52G 54G 57G 63G 64G 65G)	41X4256	2
3	Memory module, 2 GB PC2-5300 (667MHz) DDR2 SDRAM (models)	41X4257	2
3	Memory module, 512 MB PC2-6400 (800MHz) DDR2 SDRAM (models)	41X1079	2
3	Memory module, 1 GB PC2-6400 (800MHz) DDR2 SDRAM (models)	41X1080	2
3	Memory module, 2 GB PC2-6400 (800MHz) DDR2 SDRAM (models)	41X1081	2
4	DVD-ROM drive - 16x/48x - XP and Vista (models 35G 36G)	41N3325	N
4	DVD-ROM/CD-RW Combo Drive - 48x/32x/48x/16x - SATA (models 43G 45G)	42Y9353	N

Item #	9687 FRUs	FRU#	CRU
4	DVD-RW/CD-RW Rambo 8 - SATA (models 52G 23G 54G 57G 63G 64G 65G)	43C1042	N
5	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models 42Q 62Q)	40Y9105	N
5	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models 42Q 62Q)	40Y9107	N
6	Bezel assembly (all models)	TBD	N
7	Power switch/LED assembly (all models)	TBD	N
8	Internal Speaker Assembly (TOWER) (models)	39P5023	N
9	Front audio/USB assembly (all models)	41N8054	N
10	Hard disk drive, 80GB (7200RPM), Serial ATA (models 35G)	40Y9034	N
10	Hard disk drive, 160GB (7200RPM), Serial ATA (models 43G 52G 54G 57G 36G 45G 65G)	40Y9035	N
10	Hard disk drive, 250GB (7200RPM), Serial ATA (models 23G 63G 64G)	40Y9036	N
11	System board, RS690 (AMD AM2 Sempron, Athlon64, Athlon64x2; Gb LAN) (models 35G 43G 52G 23G 54G 57G 36G 45G 63G 64G 65G)	42Y9916	N
11	System board, RS690 (AMD AM2 Sempron, Athlon64, Athlon64x2 ;Gb LAN) PCB 2.0 SDV-SIT Level (models 35G 43G 52G 23G 54G 57G 36G 45G 63G 64G 65G)	45C3281	N
12	Rear Fan (all models)	41R2519	2
13	ATX 280W Power supply; Standard (models 35G 43G 52G 23G 54G 57G 36G 45G 63G 64G 65G)	41A9679	N
13	280W ATX Power Supply; Robust; For China and India standard (models 35G 43G 52G 23G 54G 57G 36G 45G 63G 64G 65G)	41A9684	N

The FRUs listed in the following tables are not illustrated.

9687 FRUs	FRU#	CRU
Cable, Serial ATA (Foxconn Version), 250mm HDD (all models)	41A7145	2
Cable, Serial ATA (Foxconn Version), 457mm ODD (all models)	26K1186	2
Front Fan--Used with 2X500G HDDs only (all models)	41R4791	2
Optional HDD Bracket Asm (all models)	41R6106	N
ODD and FDD shield, Plastic (all models)	41R6207	2
No Optical Bezel and Shield, Blk (Secondary) (all models)	41N8080	N
Shield, FDD EMC (all models)	41N8078	N
Rear IO Shield Assm For G33 (all models)	41R6379	2
Battery 3V-lithium (all models)	43C1566	1
Front main panel assembly (all models)	41R6206	N
Chassis assembly (all models)	41R6239	2
Cover assembly (all models)	41R6242	2
Hard disk drive tray (all models)	41R6291	2

9687 Keyboards (USB Preferred Pro)	FRU#	CRU
US English (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5289	1
Danish (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5298	1
Dutch (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5299	1

French (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5300	1
German (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5303	1
Italian 141 (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5309	1
Spanish (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5321	1
Swedish/Finnish (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5322	1
UK English - G - Models (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5327	1
US Euro (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5328	1
Arabic (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5290	1
Belgian/French (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5292	1
Belgian/UK (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5293	1
Bulgarian (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5295	1
Czech (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5297	1
Greek 319 (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5304	1
Greek 459 (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5305	1
Hebrew (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5306	1
Hungarian (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5307	1
Iceland (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5308	1
Norwegian (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5313	1
Polish (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5314	1
Portuguese (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5315	1
Romanian (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5317	1
Russian/Cyrillic (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5318	1
Serbian/Cyrillic (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5319	1
Slovak (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5320	1
Turkish 179 (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5326	1
Turkish 440 (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5325	1
Swiss (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5323	1
Yugoslav - Latin (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41A5329	1

9687 mice	FRU#	CRU
Optical Wheel Mouse (400DPI, USB) (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41U3013	1
Optical Wheel Mouse (400DPI, USB) (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41U3030	1

9687 Adapters and miscellaneous FRUs	FRU#	CRU
USB2.0 MEMORY CARDREADER, 6X2, ROHS (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	41R3378	2
Speaker Brick - Hong Kong, EMEA (models 63G 64G 65G 36G 45G)	89P8573	1
Modem Phone Cable (models)	39K5120	N
Lenovo USB2.0 Safe key TGE YT300 1GB V1.51 (models 54G 57G)	45C7796	1
Lenovo USB2.0 Safe key TGE YT300 1GB new V 1.52 (models)	45C7146	1

9687 Power Cords	FRU#	CRU
Power cord - UK, Ireland, Singapore, Malaysia, Brunei (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	39M5150	1
Power cord - Italy (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	39M5164	1
Power cord - Denmark (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	39M5129	1
Power cord - Switzerland (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	39M5157	1
Power cord - Israel (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	39M5171	1
Power cord - South Africa (models 35G 43G 52G 23G 54G 57G 63G 64G 65G 36G 45G)	39M5143	1

9687 Windows XP Pro Recovery CDs	FRU#	CRU
US/UK/AP/TH (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	43C9043	1
FR/CF (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0180	1
GR (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0184	1
IT (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0185	1
BR (models)	45C0182	1
SP/LA (models)	45C0181	1
DK (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0189	1
NL (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0192	1
AE (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0186	1
SV (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0188	1
HE (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0194	1
FI (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0190	1
NO (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0191	1
PL (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0195	1
PO (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0198	1
RU (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0187	1
RE (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0183	1
HU (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0197	1
CZ (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0193	1
TR (models)	45C0196	1
GK (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0199	1
SL (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0200	1
Multilingual 1 XP-P -- EN, NL, FR, GR, IT (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0178	1
Multilingual 2 XP-P -- EN, DK, FI, NO, SV (models 57G 43G 52G 23G 54G 45G 63G 64G 65G)	45C0179	1

9687 Vista Home Basic 32 Recovery DVDs	FRU#	CRU
English (models 35G 36G)	43C9027	1
FR/CF (models 35G 36G)	45C0139	1
GR (models 35G 36G)	45C0140	1
SP/LA (models 35G 36G)	45C0141	1
IT (models 35G 36G)	45C0143	1

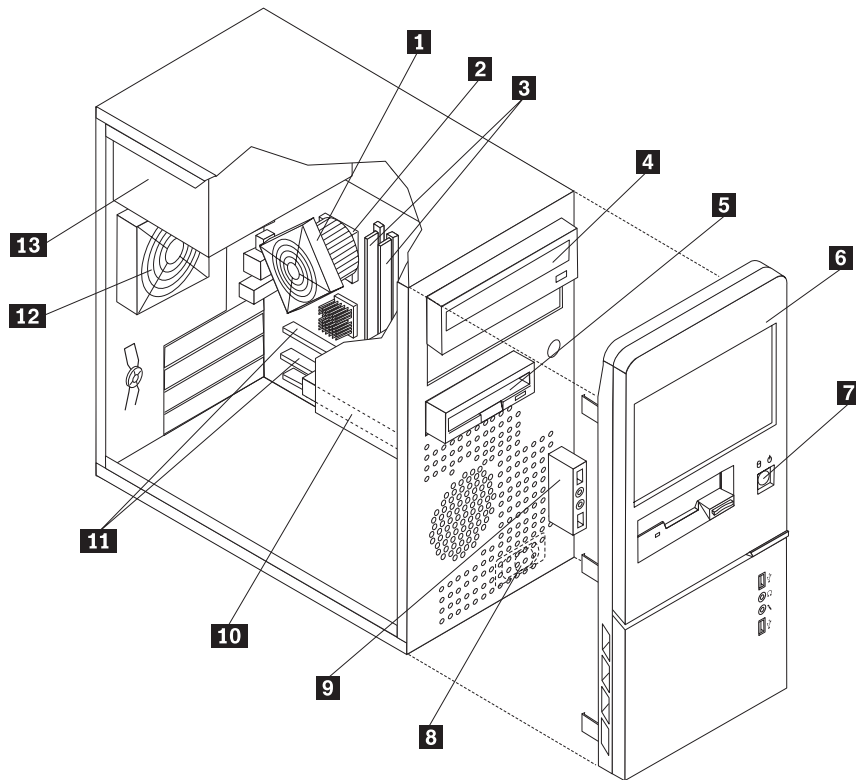
9687 Vista Home Basic 32 Recovery DVDs	FRU#	CRU
NO (models 35G 36G)	45C0144	1
SV (models 35G 36G)	45C0145	1
DK (models 35G 36G)	45C0146	1
NL (models 35G 36G)	45C0147	1
CZ (models 35G 36G)	45C0148	1
FI (models 35G 36G)	45C0149	1
PL (models 35G 36G)	45C0150	1
RU (models 35G 36G)	45C0151	1
TR (models 35G 36G)	45C0152	1
HU (models 35G 36G)	45C0153	1
GK (models 35G 36G)	45C0154	1
PO (models 35G 36G)	45C0157	1
SL (models 35G 36G)	45C0156	1
RE (models 35G 36G)	45C0138	1

9687 Vista Business 32 Recovery DVDs	FRU#	CRU
English (models 43G 52G 23G 54G 64G)	43C9029	1
FR/CF (models 43G 52G 23G 54G 64G)	45C0113	1
GR (models 43G 52G 23G 54G 64G)	45C0114	1
SP/LA (models 43G 52G 23G 54G 64G)	45C0115	1
IT (models 43G 52G 23G 54G 64G)	45C0117	1
NO (models 43G 52G 23G 54G 64G)	45C0118	1
SV (models 43G 52G 23G 54G 64G)	45C0119	1
DK (models 43G 52G 23G 54G 64G)	45C0120	1
NL (models 43G 52G 23G 54G 64G)	45C0121	1
CZ (models 43G 52G 23G 54G 64G)	45C0122	1
FI (models 43G 52G 23G 54G 64G)	45C0123	1
PL (models 43G 52G 23G 54G 64G)	45C0124	1
RU (models 43G 52G 23G 54G 64G)	45C0125	1
TR (models 43G 52G 23G 54G 64G)	45C0126	1
HU (models 43G 52G 23G 54G 64G)	45C0127	1
GK (models 43G 52G 23G 54G 64G)	45C0128	1
PO (models 43G 52G 23G 54G 64G)	45C0134	1
SL (models 43G 52G 23G 54G 64G)	45C0130	1
RE (models 43G 52G 23G 54G 64G)	45C0131	1
Russian English (models 43G 52G 23G 54G 64G)	45C0112	1
Serbian (models 43G 52G 23G 54G 64G)	45C0135	1
Slovakian (models 43G 52G 23G 54G 64G)	45C0137	1

9687 Vista Home Premium 32 Recovery DVDs	FRU#	CRU
US/UK/AP/TH (models)	43C9031	1

9687 Vista Home Premium 32 Recovery DVDs	FRU#	CRU
FR/CF (models)	45C0087	1
GR (models)	45C0088	1
SP/LA (models)	45C0089	1
IT (models)	45C0091	1
RE (models)	45C0086	1
NO (models)	45C0092	1
SV (models)	45C0093	1
DK (models)	45C0094	1
NL (models)	45C0095	1
CZ (models)	45C0096	1
FI (models)	45C0097	1
PL (models)	45C0098	1
RU (models)	45C0099	1
TR (models)	45C0100	1
HU (models)	45C0101	1
GK (models)	45C0102	1
Portuguese (models)	45C0108	1
Slovenian (models)	45C0104	1
Romanian (models)	45C0105	1
Bulgarian (models)	45C0106	1
Croatian (models)	45C0107	1
Serbian (models)	45C0109	1
Ukranian (models)	45C0110	1
Slovakian (models)	45C0111	1

Machine Type 9688



Item #	9688 FRUs	FRU#	CRU
1	89W Heatsink Kit for AMD Athlon64x2 AM2 processors (all models)	41R4802	N
1	84W Heatsink Kit for Intel Prescott & Cedarmil & Conroe & Conroe-L processors (all models)	41R4803	N
2	Microprocessor, E4400 L-2 CONROE 800/2000MHZ-2M (models 52B 52H 56G 57G)	43C2056	N
2	Microprocessor, CONROE E6320 1066/1860MHZ-4M B-2 (models 23B 25G)	43C3829	N
2	Microprocessor, Conroe-L E2160 800/1800MHZ-1M, LGA, EM64T (models 42B 42H)	43C1968	N
3	Memory module, 512MB DDR2 SDRAM NP Memory (PC 5300) (models 42B 42H 23B 52B 52H)	41X4255	2
3	Memory module, 1024MB DDR2 SDRAM NP Memory (PC 5300) (models 56G 57G 25G)	41X4256	2
4	DVD-ROM/CD-RW Combo Drive - 48x/32x/48x/16x - SATA (models 42B 42H 23B)	42Y9353	N
4	DVD-RW/CD-RW Rambo 8 - SATA (models 52B 52H 56G 57G 25G)	43C1042	N
5	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models)	40Y9105	N
5	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models)	40Y9107	N
6	Bezel assembly (all models)	TBD	N
7	Power switch/LED assembly (all models)	TBD	N
8	Internal Speaker Assembly (TOWER) (models)	39P5023	N
9	Front audio/USB assembly (all models)	41N8054	N

Item #	9688 FRUs	FRU#	CRU
10	Hard disk drive, 160GB (7200rpm), Serial ATA (models 42B 42H 23B 52B 52H)	40Y9035	N
10	Hard disk drive, 250GB (7200rpm), Serial ATA (models 56G 57G 25G)	40Y9036	N
11	System board, Intel Bearlake G33 - GA Level (models 42B 42H 23B 52B 52H 56G 57G 25G)	87H5161	N
12	Rear Fan (all models)	41R2519	2
13	ATX 280W Power supply; Standard (models 56G 57G 25G)	41A9679	N
13	280W ATX Power Supply; Robust; For China and India standard (models 56G 57G 25G)	41A9684	N

The FRUs listed in the following tables are not illustrated.

9688 FRUs	FRU#	CRU
Cable, Serial ATA (Foxconn Version), 250mm HDD (all models)	41A7145	2
Cable, Serial ATA (Foxconn Version), 457mm ODD (all models)	26K1186	2
Front Fan--Used with 2X500G HDDs only (all models)	41R4791	2
Optional HDD Bracket Asm (all models)	41R6106	N
ODD and FDD shield, Plastic (all models)	41R6207	2
No Optical Bezel and Shield, Blk (Secondary) (all models)	41N8080	N
Shield, EMC, blank diskette drive bay (all models)	41N8078	N
Rear IO Shield Assm for G33 (all models)	41R6379	2
Battery 3V-lithium (all models)	43C1566	1
Front main panel assembly (all models)	41R6206	N
Chassis assembly (all models)	41R6239	2
Cover (all models)	41R6242	2
Hard disk drive tray (all models)	41R6291	N

9688 Keyboards (USB Preferred Pro)	FRU#	CRU
US English (models 42H 52H)	41A5289	1
Brazilian (models)	41A5294	1
Taiwan (models 42B 23B 52B)	41A5296	1
Danish (models 56G 57G 25G)	41A5298	1
Dutch (models 56G 57G 25G)	41A5299	1
French (models 56G 57G 25G)	41A5300	1
German (models 56G 57G 25G)	41A5303	1
Italian 141 (models 56G 57G 25G)	41A5309	1
Spanish (models 56G 57G 25G)	41A5321	1
Swedish - Finn (models 56G 57G 25G)	41A5322	1
UK English - G - Models (models 56G 57G 25G)	41A5327	1
US Euro (models 56G 57G 25G)	41A5328	1
Arabic (models 56G 57G 25G)	41A5290	1
Arabic/French 462 (models 56G 57G 25G)	41A5291	1
Belgian - French (models 56G 57G 25G)	41A5292	1

9688 Keyboards (USB Preferred Pro)	FRU#	CRU
Belgian - UK (models 56G 57G 25G)	41A5293	1
Bulgarian (models 56G 57G 25G)	41A5295	1
Czech (models 56G 57G 25G)	41A5297	1
Greek 319 (models 56G 57G 25G)	41A5304	1
Greek 459 (models 56G 57G 25G)	41A5305	1
Hebrew (models 56G 57G 25G)	41A5306	1
Hungarian (models 56G 57G 25G)	41A5307	1
Iceland (models 56G 57G 25G)	41A5308	1
Norwegian (models 56G 57G 25G)	41A5313	1
Polish (models 56G 57G 25G)	41A5314	1
Portuguese (models 56G 57G 25G)	41A5315	1
Romanian (models 56G 57G 25G)	41A5317	1
Russian - Cyrillic (models 56G 57G 25G)	41A5318	1
Serbian - Cyrillic (models 56G 57G 25G)	41A5319	1
Slovak (models 56G 57G 25G)	41A5320	1
Swiss (models 56G 57G 25G)	41A5323	1
Turkish 440 (models 56G 57G 25G)	41A5325	1
Turkish 179 (models 56G 57G 25G)	41A5326	1

9688 mice	FRU#	CRU
Optical Wheel Mouse (400DPI, USB) (models 42B 42H 23B 52B 52H 56G 57G 25G)	41U3013	1
Optical Wheel Mouse (400DPI, USB) (models 42B 42H 23B 52B 52H 56G 57G 25G)	41U3030	1

9688 Adapters and miscellaneous FRUs	FRU#	CRU
USB2.0 MEMORY CARDREADER, 6X2, ROHS (models 42B 42H 23B 52B 52H 56G 57G 25G)	41R3378	2
Speaker Brick - Hong Kong, EMEA (models 56G 57G 25G)	89P8573	1
Modem Phone Cable (models)	39K5120	N
Lenovo USB2.0 Safe key TGE YT300 1GB V1.51 (models 57G 25G)	45C7796	1
Lenovo USB2.0 Safe key TGE YT300 1GB new V 1.52 (models)	45C7146	1

9688 Power Cords	FRU#	CRU
Power cord - Brazil (models)	39M5232	1
Power cord - Australia / New Zealand (models 53M 62M)	39M5102	1
Power cord - UK, Ireland, Singapore, Malaysia, Brunei (models 57G 25G 56G)	39M5150	1
Power cord - Hong Kong (models 42B 23B 52B 42H 52H)	39M5151	1
Power cord - Italy (models 57G 25G 56G)	39M5164	1
Power cord - Denmark (models 57G 25G 56G)	39M5129	1
Power cord - Switzerland (models 57G 25G 56G)	39M5157	1
Power cord - Israel (models 57G 25G 56G)	39M5171	1
Power cord - South Africa (models 57G 25G 56G)	39M5143	1

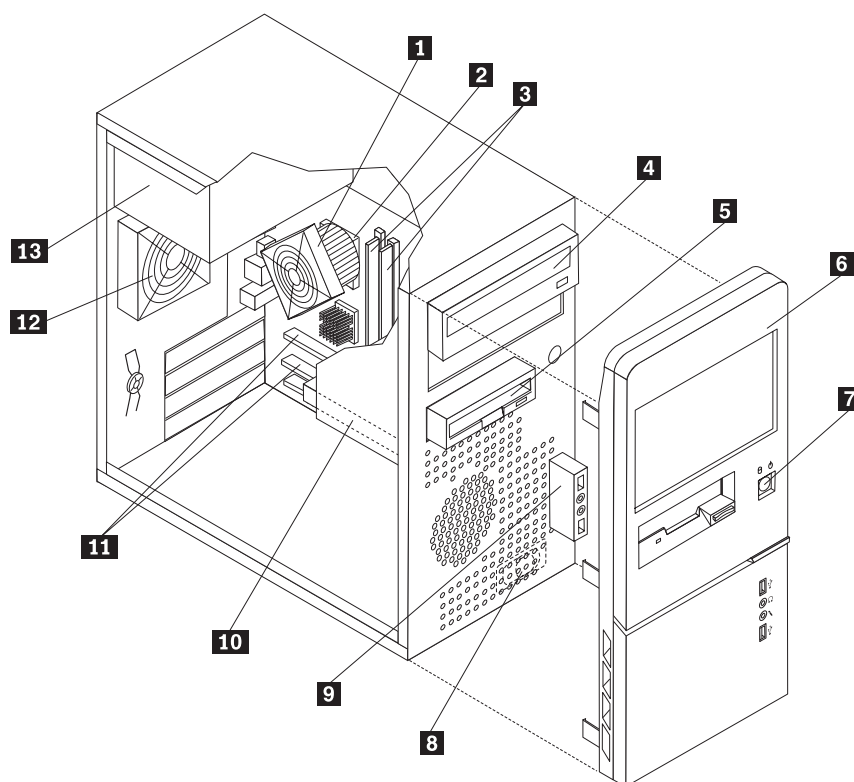
9688 Windows XP Pro Recovery CDs	FRU#	CRU
US/UK/AP/TH (models 42H 52H 57G 25G 56G)	43C9043	1
FR/CF (models 57G 25G 56G)	45C0180	1
BR (models)	45C0182	1
GR (models 57G 25G 56G)	45C0184	1
IT (models 57G 25G 56G)	45C0185	1
SP/LA (models 57G 25G 56G)	45C0181	1
DK (models 57G 25G 56G)	45C0189	1
NL (models 57G 25G 56G)	45C0192	1
AE (models 57G 25G 56G)	45C0186	1
SV (models 57G 25G 56G)	45C0188	1
HE (models 57G 25G 56G)	45C0194	1
FI (models 57G 25G 56G)	45C0190	1
NO (models 57G 25G 56G)	45C0191	1
PL (models 57G 25G 56G)	45C0195	1
PO (models 57G 25G 56G)	45C0198	1
RU (models 57G 25G 56G)	45C0187	1
RE (models 57G 25G 56G)	45C0183	1
HU (models 57G 25G 56G)	45C0197	1
CZ (models 57G 25G 56G)	45C0193	1
TR (models 57G 25G 56G)	45C0196	1
GK (models 57G 25G 56G)	45C0199	1
SL (models 57G 25G 56G)	45C0200	1
Multilingual 1 XP-P -- EN, NL, FR, GR, IT (models 57G 25G 56G)	45C0178	1
Multilingual 2 XP-P -- EN, DK, FI, NO, SV (models 57G 25G 56G)	45C0179	1

9688 Vista Business 32 Recovery DVDs	FRU#	CRU
English (models 42H 52H 57G 25G)	43C9029	1
Brazilian (models)	45C0116	1
French (models 57G 25G)	45C0113	1
German (models 57G 25G)	45C0114	1
Spanish (models 57G 25G)	45C0115	1
Italian (models 57G 25G)	45C0117	1
Norwegian (models 57G 25G)	45C0118	1
Swedish (models 57G 25G)	45C0119	1
Danish (models 57G 25G)	45C0120	1
Dutch (models 57G 25G)	45C0121	1
Czech (models 57G 25G)	45C0122	1
Finnish (models 57G 25G)	45C0123	1
Polish (models 57G 25G)	45C0124	1
Russian (models 57G 25G)	45C0125	1
Turkish (models 57G 25G)	45C0126	1

9688 Vista Business 32 Recovery DVDs	FRU#	CRU
Hungarian (models 57G 25G)	45C0127	1
Greek (models 57G 25G)	45C0128	1
Portuguese (models 57G 25G)	45C0134	1
Slovenian (models 57G 25G)	45C0130	1
Russian English (models 57G 25G)	45C0112	1
Slovakian (models 57G 25G)	45C0137	1

9688 Vista Home Premium 32 Recovery DVDs	FRU#	CRU
US/UK/AP/TH (models)		1
FR/CF (models)		1
GR (models)		1
SP/LA (models)		1
BR (models)		1
IT (models)		1
RE (models)		1
JP (models)		1
NO (models)		1
SV (models)		1
DK (models)		1
NL (models)		1
CZ (models)		1
FI (models)		1
PL (models)		1
RU (models)		1
TR (models)		1
HU (models)		1
GK (models)		1
PO (models)		1
CS (models)		1
HK (models)		1
KR (models)		1
SL (models)		1

Machine Type 9689



Item #	9689 FRUs	FRU#	CRU
1	84W Heatsink kit fo Intel Prescott & Cedarmil & Conroe & Conroe-L CPUs (all models)	41R4803	N
1	89W Heatsink kit for AMD Athlon64x2 AM2 CPUs (all models)	41R4802	N
2	Microprocessor, Core 2 Duo CONROE E4400 800/2000MHz 2M 65W L-2 (models 26G 54G 27G 29G 2AG)	43C2056	N
2	Microprocessor, Core 2 Duo CONROE E4500 800/2.2GHz 2M 65W M-0 (models 28G 56G 57G 58G 59G)	43C6305	N
2	Microprocessor, Core 2 Duo CONROE E6320 1066/1860MHZ - 4M 65W B-2 (models 23G 32G 34G 36G)	43C3829	N
2	Microprocessor, Core 2 Duo CONROE E6600 1066/2400MHZ - 4M 65W B-2 (models)	41X5743	N
2	Microprocessor, Core 2 Duo CONROE E6550 1333/2.33GHZ - 4M, LGA, EM64T 65W (models 62G 63G 64G)	43C1692	N
3	Memory module, 512 MB PC2-5300 (667MHz) DDR2 SDRAM (models 23G 26G)	41X4255	2
3	Memory module, 1024MB DDR2 SDRAM NP Memory (PC 5300) (models 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41X4256	2
4	DVD-ROM/CD-RW Combo Drive - 48x/32x/48x/16x - SATA (models 23G)	42Y9353	N
4	DVD-Recordable Rambo 8 - SATA (models 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	43C1042	N
5	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models 24P)	40Y9105	N
5	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models 24P)	40Y9107	N
6	Bezel assembly (all models)	TBD	N

Item #	9689 FRUs	FRU#	CRU
7	Power switch/LED assembly (all models)	TBD	N
8	Internal Speaker Assembly-optional (all models)	39P5023	2
9	Front audio/USB assembly (all models)	41N8054	N
10	Hard disk drive, 160GB (7200rpm), Serial ATA (models 23G 26G 32G 54G 27G 34G 28G)	40Y9035	N
10	Hard disk drive, 250GB (7200rpm) Serial ATA (models 29G 2AG 56G 57G 36G 62G 58G 59G 63G)	40Y9036	N
10	Hard disk drive, 320GB (7200rpm) SATA/8MB (models 42G 64G)	87H4891	N
11	System board, Intel Bearlake G33- GA Level (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	87H5161	N
12	Rear Fan (all models)	41R2519	2
13	ATX 280W Power supply; WW (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A9679	N
13	ATX 280W Power Supply; Robust; WW (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A9684	N

The FRUs listed in the following tables are not illustrated.

9689 FRUs	FRU#	CRU
Cable, Serial ATA (Foxconn Version), 250mm HDD (all models)	41A7145	2
Cable, Serial ATA (Foxconn Version), 457mm ODD (all models)	26K1186	2
Front Fan--Used with 2X500G HDDs only (all models)	41R4791	2
Optional HDD Bracket Asm (all models)	41R6106	N
ODD and FDD shield, Plastic (all models)	41R6207	2
No Optical Bezel and Shield, Blk (Secondary) (all models)	41N8080	N
Shield, FDD EMC (all models)	41N8078	N
Rear IO Shield Assm for G33 (all models)	41R6379	2
Battery 3V-lithium (all models)	43C1566	1
Front main panel assembly (all models)	41R6206	N
Chassis assembly (all models)	41R6239	2
Cover (all models)	41R6242	2
Hard disk drive tray (all models)	41R6291	2

9689 Keyboards (USB Preferred Pro)	FRU#	CRU
US English (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5289	1
French Canadian 58 (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G)	41A5302	1
Danish (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5298	1
Dutch (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5299	1
French (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5300	1

German (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5303	1
Italian (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5309	1
Spanish (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5321	1
Swedish/Finnish (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5322	1
UK English (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5327	1
US Euro (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5328	1
Arabic (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5290	1
Arabic/French (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5291	1
Belgian/French (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5292	1
Belgian English (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5293	1
Bulgarian (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5295	1
Czech (ABB) (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5297	1
Greek 319 (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5304	1
Greek 459 (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5305	1
Hebrew (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5306	1
Hungarian (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5307	1
Iceland (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5308	1
Norwegian (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5313	1
Polish (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5314	1
Portuguese (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5315	1
Romanian (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5317	1
Russian/Cyrillic (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5318	1
Serbian/Cyrillic (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5319	1
Slovak (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5320	1

Turkish 179 (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5326	1
Turkish 440 (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5325	1
Swiss French/German (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41A5323	1
Yugoslav - Latin (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G)	41A5329	1

9689 mice	FRU#	CRU
Optical Wheel Mouse (400DPI, USB) (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41U3013	1
Optical Wheel Mouse (400DPI, USB) (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	41U3030	1

9689 Adapters and miscellaneous FRUs	FRU#	CRU
USB2.0 MEMORY CARDREADER, 6X2, ROHS (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G)	41R3378	2
Speaker Brick - Hong Kong, EMEA (models 28G 29G 2AG ADD 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	89P8573	1
Modem Phone Cable (models)	39K5120	N
Lenovo USB2.0 Safe key TGE YT300 1GB V1.51 (models 27G 34G 57G 36G 62G 59G 64G)	45C7796	1
Lenovo USB2.0 Safe key TGE YT300 1GB new V 1.52 (models)	45C7146	1

9689 Power Cords	FRU#	CRU
Power cord - UK, Ireland, Singapore, Malaysia, Brunei (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	39M5150	1
Power cord - Italy (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	39M5164	1
Power cord - Denmark (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	39M5129	1
Power cord - Switzerland (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	39M5157	1
Power cord - Israel (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	39M5171	1
Power cord - South Africa (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 59G 63G 64G)	39M5143	1

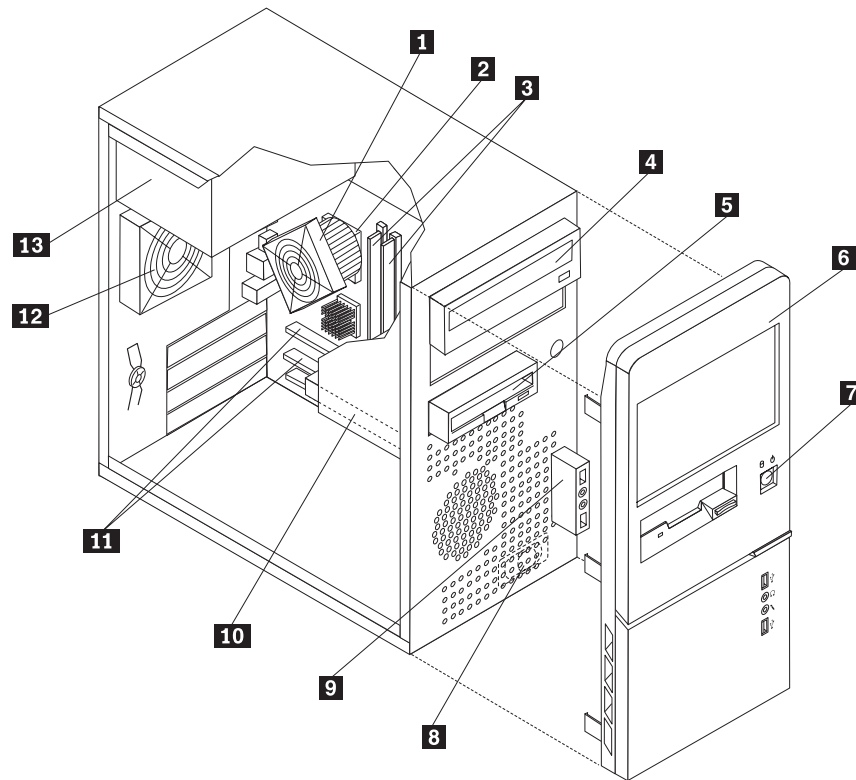
9689 Windows XP Pro Recovery CDs	FRU#	CRU
US/UK/Asia Pacific (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	43C9043	1
FR/CF (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0180	1
GR (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0184	1
IT (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0185	1
BR (models)	45C0182	1
SP/LA (models)	45C0181	1
DK (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0189	1

9689 Windows XP Pro Recovery CDs	FRU#	CRU
NL (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0192	1
AE (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0186	1
SV (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0188	1
HE (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0194	1
FI (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0190	1
NO (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0191	1
PL (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0195	1
PO (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0198	1
RU (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0187	1
RE (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0183	1
HU (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0197	1
CZ (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0193	1
TR (models)	45C0196	1
GK (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0199	1
SL (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0200	1
Multilingual 1 XP-P -- EN, NL, FR, GR, IT (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0178	1
Multilingual 2 XP-P -- EN, DK, FI, NO, SV (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 58G 63G)	45C0179	1

9689 Vista Business 32 Recovery DVDs	FRU#	CRU
English (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	43C9029	1
FR/CF (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0113	1
GR (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0114	1
SP/LA (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0115	1
BR (models 23G 26G 32G 27G 34G 2AG 56G 57G 36G 62G)	45C0116	1
IT (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0117	1
NO (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0118	1
SV (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0119	1
DK (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0120	1
NL (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0121	1
CZ (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0122	1
FI (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0123	1
PL (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0124	1
RU (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0125	1
TR (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0126	1
HU (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0127	1
GK (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0128	1
HongKong (models 23G 26G 32G 27G 34G 2AG 56G 57G 36G 62G)	45C0129	1
PO (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0134	1
SL (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0130	1

9689 Vista Business 32 Recovery DVDs	FRU#	CRU
RE (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0131	1
Russian English (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0112	1
Serbian (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0135	1
Slovakian (models 23G 26G 32G 54G 27G 34G 28G 29G 2AG 56G 57G 36G 62G 59G 64G)	45C0137	1

Machine Type 9690



Item #	9690 FRUs	FRU#	CRU
1	89W Heatsink kit for AMD Athlon64x2 AM2 CPUs (all models)	41R4802	N
1	84W Heatsink kit fo Intel Prescott & Cedarmil & Conroe & Conroe-L CPUs (all models)	41R4803	N
2	Microprocessor, Celeron-D 420 CONROE-L 800/1800MHZ-512K, LGA, EM64T (models 82S 82D 82Y 83S 83D 83Y 84U 84F 85U 85F 86P 87P 89P 8BP 8CP 8DP 8FG 8GG 8HG 8JG)	43C3835	N
2	Microprocessor, Celeron-D 430 CONROE-L 800/1800MHZ-512K,LGA,EM64T (models 34S 34D 34Y 35B 35H 34P 36B 36H)	43C1964	N
2	Microprocessor, Celeron-D 440 CONROE-L 800/1800MHZ-512K,LGA,EM64T (models 42B)	43C1965	N
2	Microprocessor, E4300 CONROE 800/1800MHZ-2M, LGA, EM64T (models 23U 23P)	42Y8009	N
2	Microprocessor, Core 2 Duo CONROE E4400 800/2000MHz 2M 65W L-2 (models 75S 76P 7BU 7BF 7CP 7DS 7ES 7FP 7GP 7HS 7KU 7KF 7MU 7MF 7NU 7PS 7PD 7PY 7QS 7QD 7QY 7KP 78P 79P 7RU 7RF)	43C2056	N
2	Microprocessor, Core 2 Duo CONROE E4500 800/2200MHz 2M 65W M-0 (models 23P 24P 25P 26P 27U 27F 28U 28F 29U 29F 2BS 2BD 2BY 2CS 2CD 2CY 24P 25P 2FP 2KG 2LG)	43C6305	N
2	Microprocessor, Core 2 Duo CONROE E6320 1066/1860MHZ-4M 65W B-2 (models BCS BCD BCY)	43C3829	N
2	Microprocessor, Pentium Dual-core Conroe-L E2140 800/1600MHZ-1M, LGA, EM64T 65W (models 52S 52D 52Y 53S 56P 57S 58U 59U 5AU 58U 58F 59U 59F 5AU 5AF 5BB 5FS 5FD 5FY 5GU 52P 56P 5CP 5DP 5EP '5HP 5JP 5KG 5LG)	43C1967	N

Item #	9690 FRUs	FRU#	CRU
2	Microprocessor, Pentium Dual-core Conroe-L E2160 800/1800MHZ-1M, LGA, EM64T 65W (models 62U 63U 65S 67S 62U 62F 63U 63F 6CP 6DS 6EU 6GG 6HG)	43C1968	N
3	Memory module, 512 MB PC2-4200 (533MHz) DDR2 SDRAM (models 34S 34D 34Y 35B 35H 42B 52S 52D 52Y 53S 56P 5AU 63U 23U 23P 34P36B 36H 5AU 5AF 5BB 5FS 5FD 5FY 5GU 62U 62F 6DS 6EU 7BU 7BF 7DS 7HS 7MU 7MF 7NU 82S 82D 82Y 83S 83D 83Y 83P 84U 84F 85U 85F 7PS 7PD 7PY 7QS 7QD 7QY 52P 56P 5CP 79P 82P 86P 87P 5HP 5JP 26P 27U 27F 89P 8BP 8CP 8DP BCS BCD 8FG 8GG 2FP)	41X4251	2
3	Memory module, 1 GB PC2-4200 (533MHz) DDR2 SDRAM (models 34S 34D 34Y 35B 35H 42B 52S 52D 52Y 53S 54P 56P 5AU 63U 23U 23P 34P36B 36H 5AU 5AF 5BB 5FS 5FD 5FY 5GU 62U 62F 6DS 6EU 7BU 7BF 7DS 7HS 7MU 7MF 7NU 82S 82D 82Y 83S 83D 83Y 83P 84U 84F 85U 85F 5DP 5EP 7KP 78P 7RF 23P 24P 25P 28U 28F 29U 29F 2BS 2BD 2BY 2CS 2CD 2CY 8CY 5KG 5LG 24P 25P)	41X4252	2
3	Memory module, 1024MB PC-5300 DDR2 SDRAM NP Memory (PC 5300) (models 6GG 6HG 2KG 2LG 8HG 8JG)	41X4256	2
4	DVD-ROM drive - 16x/48x - XP and Vista (models 35B 35H 69P 5FS 5FD 5FY 5GU 6EU 7GP 7NU 83S 83D 83Y 84U 84F 27U 27F 24P 8DP 8FG 8GG 24P 8HG 8JG)	41N3325	N
4	DVD-ROM/CD-RW Combo Drive - 48x/32x/48x/16x - SATA (models 42B 53S 57S 58U 63U 23U 23P 75S 58U 58F 63U 63F 6DS 7BU 7BF 7DS 7ES 7HS 85U 85F 7QS 7QD 7QY 28U 28F)	42Y9353	N
4	DVD-Recordable Rambo 8 - SATA (models 59U 5AU 62U 65S 67S 76P 36B 36H 59U 59F 5AU 5AF 5BB 62U 62F 7CP 7FP 7KU 7KF 7MU 7MF 7PS 7PD 7PY 5DP 7KP 7RU 7RF 23P 9U 29F 2BS 2BD 2BY 2CS 2CD 2CY BCY 5KG 5LG 6GG 6HG 2KG 2LG)	43C1042	N
5	Diskette drive, 3,5", 1.44MB (models 86P 5JP 8BP)	40Y9105	N
5	Diskette drive, 3,5", 1.44MB (models 86P 5JP 8BP)	40Y9107	N
6	Bezel assembly (all models)	TBD	N
7	Power switch/LED assembly (all models)	TBD	N
8	Internal Speaker Assembly-optional (all models)	39P5023	2
9	Front audio/USB assembly (all models)	41N8054	N
10	Hard disk drive, 80GB 7200rpm Serial ATA (8 MB Buffer) (models 34S 34D 34Y 35B 35H 52S 52D 52Y 53S 57S 58U 34P 58U 58F 5FS 5FD 5FY 5GU 6EU 7DS 7ES 7HS 7NU 82S 82D 82Y 83S 83D 83Y 84U 84F 85U 85F 7QS 7QD 7QY 79P 82P 86P 87P 5CP 52P 25P 26P 27U 27F 28U 28F 8FG 8GG 2FP)	40Y9034	N
10	Hard disk drive, 160GB 7200rpm Serial ATA (models 42B 56P 59U 63U 65S 67S 23U 23P 75S 76P 36B 36H 59U 59F 63U 63F 6CP 6DS 7BU 7BF 7CP 7FP 7GP 7KU 7KF 56P 5DP 5EP 7KP 5HP 5JP 7RU 7RF 23P 24P 29U 29F 89P 8BP 8CP 8DP 5KG 5LG 24P 25P 6GG 6HG 2KG 2LG 8HG 8JG)	40Y9035	N
10	Hard disk drive, 250GB 7200rpm Serial ATA (models 5BB 7PS 7PD 7PY 2BS 2BD 2BY 2CS 2CD 2CY BCY)	40Y9036	N
10	Hard disk drive, SATA 320GB 7200rpm SATA/8MB (models 5AU 62U 5AU 5AF 62U 62F 7MU 7MF)	87H4891	N
11	System board, 945GC (LGA775 Celeron, P4, PD, Up to 800MHz support, 100Mb LAN) GA Level (models 34S 34D 34Y 35B 35H 42B 52S 52D 52Y 53S 56P 57S 58U 59U 5AU 62U 63U 65S 67S 23U 23P 75S 76P 34P 36B 36H 58U 58F 59U 59F 5AU 5AF 5BB 5FS 5FD 5FY 5GU 62U 62F 63U 63F 6CP 6DS 6EU 7BU 7BF 7CP 7DS 7ES 7FP 7GP 7HS 7KU 7KF 7MU 7MF 7NU 82S 82D 82Y 83S 83D 83Y 84U 84F 85U 85F 7PS 7PD 7PY 7QS 7QD 7QY 52P 56P 5CP 5DP 5EP 7KP 78P 79P 82P 86P 87P 5HP 5JP 7RU 7RF 23P 24P 25P 26P 27U 27F 28U 28F 29U 29F 2BS 2BD 2BY 2CS 2CD 2CY 89P 8BP 8CP 8DP BCS BCD BCY 8FG 8GG 5KG 5LG 2DP 24P 25P 2FP)	42Y9915	N
11	System board, Intel Bearlake G33 - GA Level (models)	87H5161	N

Item #	9690 FRUs	FRU#	CRU
11	System board, Intel 945GC (LGA775 Celeron, P4, PD, Up to 800MHz support, 100Mb LAN) Update GA Level (models 34S 34D 34Y 35B 35H 42B 52S 52D 52Y 53S 56P 57S 58U 59U 5AU 62U 63U 65S 67S 23U 23P 75S 76P 34P 36B 36H 58U 58F 59U 59F 5AU 5AF 5BB 5FS 5FD 5FY 5GU 62U 62F 63U 63F 6CP 6DS 6EU 7BU 7BF 7CP 7DS 7ES 7FP 7GP 7HS 7KU 7KF 7MU 7MF 7NU 82S 82D 82Y 83S 83D 83Y 84U 84F 85U 85F 7PS 7PD 7PY 7QS 7QD 7QY 52P 56P 5CP 5DP 5EP 7KP 78P 79P 82P 86P 87P 5HP 5JP 7RU 7RF 23P 24P 25P 26P 27U 27F 28U 28F 29U 29F 2BS 2BD 2BY 2CS 2CD 2CY 89P 8BP 8CP 8DP BCS BCD BCY 8FG 6GG 6HG 2KG 2LG 8HG 8JG 8GG 5KG 5LG 2DP 24P 25P 2FP)	45C4801	N
11	System board, Intel 945GC 667 support GA Level (models 34S 34D 34Y 35B 35H 42B 52S 52D 52Y 53S 56P 57S 58U 59U 5AU 62U 63U 65S 67S 23U 23P 75S 76P 34P 36B 36H 58U 58F 59U 59F 5AU 5AF 5BB 5FS 5FD 5FY 5GU 62U 62F 63U 63F 6CP 6DS 6EU 7BU 7BF 7CP 7DS 7ES 7FP 7GP 7HS 7KU 7KF 7MU 7MF 7NU 82S 82D 82Y 83S 83D 83Y 84U 84F 85U 85F 7PS 7PD 7PY 7QS 7QD 7QY 52P 56P 5CP 5DP 5EP 7KP 78P 79P 82P 86P 87P 5HP 5JP 7RU 7RF 23P 24P 25P 26P 27U 27F 28U 28F 29U 29F 2BS 2BD 2BY 6GG 6HG 2KG 2LG 8HG 8JG 2CS 2CD 2CY 89P 8BP 8CP 8DP BCS BCD BCY 8FG 8GG 5KG 5LG 2DP 24P 25P 2FP)	45C4802	N
12	Rear Fan (all models)	41R2519	2
13	ATX 280W Power supply; WW (models 34S 34D 34Y 52S 52D 52Y 53S 56P 57S 58U 59U 5AU 62U 63U 65S 67S 68P 69P 23U 23P 75S 76P 34P 58U 58F 59U 59F 5AU 5AF 5FS 5FD 5FY 5GU 62U 62F 63U 63F 6CP 6DS 6EU 7BU 7BF 7CP 7DS 7ES 7FP 7GP 7HS 7KU 7KF 7MU 7MF 7NU 82S 82D 82Y 83S 83D 83Y 83P 84U 84F 85U 85F 7PS 7PD 7PY 7QS 7QD 7QY 52P 56P 5CP 5DP 5EP 7KP 78P 79P 82P 86P 87P 5HP 5JP 7RU 7RF 23P 24P 25P 26P 27U 27F 28U 28F 29U 29F 2BS 2BD 2BY 2CS 2CD 2CY 89P 8BP 8CP 8DP BCS BCD BCY 8FG 8GG 5KG 5LG 24P 25P 2FP 6GG 6HG 2KG 2LG 8HG 8JG)	41A9679	N
13	280W ATX Power Supply; Robust; WW (models 35B 35H 42B 5BB 36B 36H 32A 32T 34S 34D 34Y 52S 52D 52Y 53S 54P 56P 57S 58U 59U 5AU 62U 63U 65S 67S 23U 23P 23A 75S 76P 34P 58U 58F 59U 59F 5AU 5AF 5FS 5FD 5FY 5GU 62U 62F 63U 63F 6CP 6DS 6EU 7BU 7BF 7CP 7DS 7ES 7FP 7GP 7HS 7JU 7JF 7KU 7KF 7MU 7MF 7NU 82S 82D 82Y 83S 83D 83Y 83P 84U 84F 85U 85F 7PS 7PD 7PY 7QS 7QD 7QY 24P 25P 2FP 6GG 6HG 2KG 2LG 8HG 8JG)	41A9684	N

The FRUs listed in the following tables are not illustrated.

9690 FRUs	FRU#	CRU
Cable, Serial ATA (Foxconn Version), 250mm HDD (all models)	41A7145	2
Cable, Serial ATA (Foxconn Version), 457mm ODD (all models)	26K1186	2
Front Fan--Used with 2X500G HDDs only (all models)	41R4791	2
Optional HDD Bracket Asm (all models)	41R6106	N
ODD and FDD shield, Plastic (all models)	41R6207	2
No Optical Bezel and Shield, Blk (Secondary) (all models)	41N8080	N
Shield, FDD EMC (all models)	41N8078	N
Rear IO Shield Assm for G33 (all models)	41R6379	2
Battery 3V-lithium (all models)	43C1566	1
Front main panel assembly (all models)	41R6206	N
Chassis assembly (all models)	41R6239	2
Cover (all models)	41R6242	2
Hard disk drive tray (all models)	41R6291	2

9690 Keyboards (USB Preferred Pro)	FRU#	CRU
US English (models 58U 59U 5AU 62U 63U 23U 35H 58U 59U 5AU 5GU 62U 63U 6EU 7BU 7KU 7MU 7NU 84U 85U 36H 7RU 27U 28U 29U 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5289	1
French Canadian 58 (models 58F 59F 5AF 62F 63F 7BF 7JF 7MF 84F 85F 7RF 27F 28F 29F)	41A5302	1
French Canadian 445 (models 58F 59F 5AF 62F 63F 7BF 7JF 7MF 84F 85F 7RF 27F 28F 29F)	41A5301	1
LA Spanish (models 34S 34D 34Y 52S 52D 52Y 53S 57S 65S 67S 75S 5FS 6DS 7DS 7ES 7HS 82S 83S 5FD 5FY 82D 82Y 83D 83Y 7PS 7PD 7PY 7QS 7QD 7QY 2BD 2BY 2CD 2CY BCD BCY)	41A5312	1
Brazilian (models 56P 68P 69P 23P 76P 34P 6CP 7CP 7FP 7GP 52P 56P 5CP 5DP 5EP 7KP 78P 79P 82P 86P 87P 5JP 24P 25P 26P 89P 8BP 8CP 8DP 24P)	41A5294	1
Taiwan (models 35B 42B 36B 5BB)	41A5296	1
Danish (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5298	1
Dutch (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5299	1
French (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5300	1
German (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5303	1
Italian (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5309	1
Spanish (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5321	1
Swedish - Finnish (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5322	1
UK English (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5327	1
US Euro (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5328	1
Arabic (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5290	1
Arabic/French (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5291	1
Belgian/French (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5292	1
Belgian/English (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5293	1
Bulgarian (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5295	1
Czech (ABB) (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5297	1
Greek 319 (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5304	1
Greek 459 (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5305	1
Hebrew (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5306	1
Hungarian (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5307	1
Iceland (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5308	1
Norwegian (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5313	1
Polish (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5314	1
Portuguese (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5315	1
Romanian (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5317	1
Russian/Cyrillic (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5318	1
Serbian/Cyrillic (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5319	1
Slovak (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5320	1
Turkish 179 (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5326	1
Turkish 440 (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5325	1
Swiss French/German (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	41A5323	1

9690 mice	FRU#	CRU
Optical Wheel Mouse (400DPI, USB) (models 34S 34D 34Y 35B 35H 42B 52S 52D 52Y 53S 56P 57S 58U 59U 5AU 62U 63U 65S 67S 23U 23P 75S 76P 34P 36B 36H 58U 58F 59U 59F 5AU 5AF 5BB 5FS 5FD 5FY 5GU 62U 62F 63U 63F 6CP 6DS 6EU 7BU 7BF 7CP 7DS 7ES 7FP 7GP 7HS 7KU 7KF 7MU 7MF 7NU 82S 82D 82Y 83S 83D 83Y 84U 84F 85U 85F 7PS 7PD 7PY 7QS 7QD 7QY 52P 56P 5CP 5DP 5EP 7KP 78P 79P 82P 86P 87P 5HP 5JP 7RU 7RF 23P 24P 25P 26P 27U 27F 28U 28F 29U 29F 2BS 2BD 2BY 2CS 2CD 2CY 89P 8BP 8CP 8DP BCS BCD BCY 8FG 8GG 5KG 5LG 24P 25P 2FP 6GG 6HG 2KG 2LG 8HG 8JG)	41U3013	1
Optical Wheel Mouse (400DPI, USB) (models 34S 34D 34Y 35B 35H 42B 52S 52D 52Y 53S 56P 57S 58U 59U 5AU 62U 63U 65S 67S 23U 23P 75S 76P 34P 36B 36H 58U 58F 59U 59F 5AU 5AF 5BB 5FS 5FD 5FY 5GU 62U 62F 63U 63F 6CP 6DS 6EU 7BU 7BF 7CP 7DS 7ES 7FP 7GP 7HS 7KU 7KF 7MU 7MF 7NU 82S 82D 82Y 83S 83D 83Y 84U 84F 85U 85F 7PS 7PD 7PY 7QS 7QD 7QY 52P 56P 5CP 5DP 5EP 7KP 78P 79P 82P 86P 87P 5HP 5JP 7RU 7RF 23P 24P 25P 26P 27U 27F 28U 28F 29U 29F 2BS 2BD 2BY 2CS 2CD 2CY 89P 8BP 8CP 8DP BCS BCD BCY 8FG 8GG 5KG 5LG 24P 25P 2FP 6GG 6HG 2KG 2LG 8HG 8JG)	41U3030	1

9690 Adapters and miscellaneous FRUs	FRU#	CRU
USB2.0 MEMORY CARDREADER, 6X2, ROHS (models 35B 35H 42B 5AU 62U 65S 67S 68P 23U 23P 76P 36B 36H 5AU 5AF 5BB 62U 62F 6CP 7CP 85U 85F 5DP 24P 2BS 2BD 2BY BCY)	41R3378	2
Speaker Power Brick - US, Canada, LA low voltage, ASEAN (models 7RU 27U 28U 29U)	89P8571	1
Speaker Power Brick - Hong Kong, EMEA (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	89P8573	1
Modem Phone Cable (models)	39K5120	N
Lenovo USB2.0 Safe key TGE YT300 1GB V1.51 (models 8GG 5LG 6HG 2LG 8JG)	45C7796	1
Lenovo USB2.0 Safe key TGE YT300 1GB new V 1.52 (models)	45C7146	1

9690 Power Cords	FRU#	CRU
Power cord - US (models 34S 34D 52S 52D 53S 57S 58U 59U 5AU 62U 63U 65S 67S 23U 75S 58U 58F 59U 59F 5AU 5AF 5FS 5FD 5GU 62U 62F 63U 63F 6DS 6EU 7BU 7BF 7DS 7ES 7HS 7KU 7KF 7MU 7MF 7NU 82S 82D 83S 83D 84U 84F 85U 85F 7PS 7QS 7PD 7QD 7RU 27U 28U 29U 27F 28F 29F 2BS 2CS BCS 2BD 2CD BCD)	39M5080	1
Power cord - Brazil (models 56P 23P 76P 34P 6CP 7CP 7FP 7GP 52P 56P 5CP 5DP 5EP 7KP 78P 79P 82P 86P 87P 5HP 23P 24P 25P 8BP 8DP 24P 25P 2FP)	39M5232	1
Power cord - LA High Volt (APU) Argentina (models 34Y 52Y 72Y 5FY 82Y 83Y 7PY 7QY BCY 2CY 2BY)	39M5067	1
Power cord - UK, Ireland, Singapore, Malaysia, Brunei (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	39M5150	1
Power cord - Hong Kong (models 35B 35H 42B 36B 36H 5BB)	39M5151	1
Power cord - Italy (models 34S 52S 53S 57S 64S 65S 67S 24S 25S 72S 74S 75S 34Y 52Y 5FS 6DS 7DS 7ES 7HS 82S 83S 7PY 7QY 7PS 7QS 2BS 2CS 8CS 8FG 8GG 5KG 5LG)	39M5164	1
Power cord - Denmark (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	39M5129	1
Power cord - Switzerland (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	39M5157	1
Power cord - Israel (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	39M5171	1
Power cord - South Africa (models 8FG 8GG 5KG 5LG 6GG 6HG 2KG 2LG 8HG 8JG)	39M5143	1

9690 Windows XP Pro Recovery CDs	FRU#	CRU
US/UK/Asia Pacific (models 5GU 6EU 7NU 35H 58U 59U 63U 23U 36H 58U 59U 63U 7BU 7RU 27U 28U 29U 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	43C9043	1

9690 Windows XP Pro Recovery CDs	FRU#	CRU
FR/CF (models 58F 59F 63F 7BF 7KU 7KF 7RF 27F 28F 29F)	45C0180	1
BR (models 83P 56P 23P 6CP 7CP 7FP 7GP 5CP 78P 86P 56P 5CP 5DP 7KP 87P 5JP 25P 8BP 8BP 8CP 24P 25P)	45C0182	1
SP/LA (models 5FS 5FD 5FY 6DS 83S 83D 83Y 7QS 7QD 7QY 57S 65S 75S 7ES 2BS 2BD 2BY BCS BCD BCY)	45C0181	1
DK (models 8FG 8GG 5KG 5LG)	45C0189	1
NL (models 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	45C0192	1
AE (models 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	45C0186	1
SV (models 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	45C0188	1
HE (models 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	45C0194	1
FI (models 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	45C0190	1
NO (models 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	45C0191	1
PL (models 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	45C0195	1
PO (models 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	45C0198	1
RU (models 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	45C0187	1
RE (models 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	45C0183	1
HU (models 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	45C0197	1
Czech native (models 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	45C0193	1
Turkish native (models 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	45C0196	1
GK (models 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	45C0199	1
SL (models 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	45C0200	1
Multilingual 1 XP-P -- EN, NL, FR, GR, IT (models 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	45C0178	1
Multilingual 2 XP-P -- EN, DK, FI, NO, SV (models 8FG 8GG 5KG 5LG 6GG 2KG 8HG)	45C0179	1

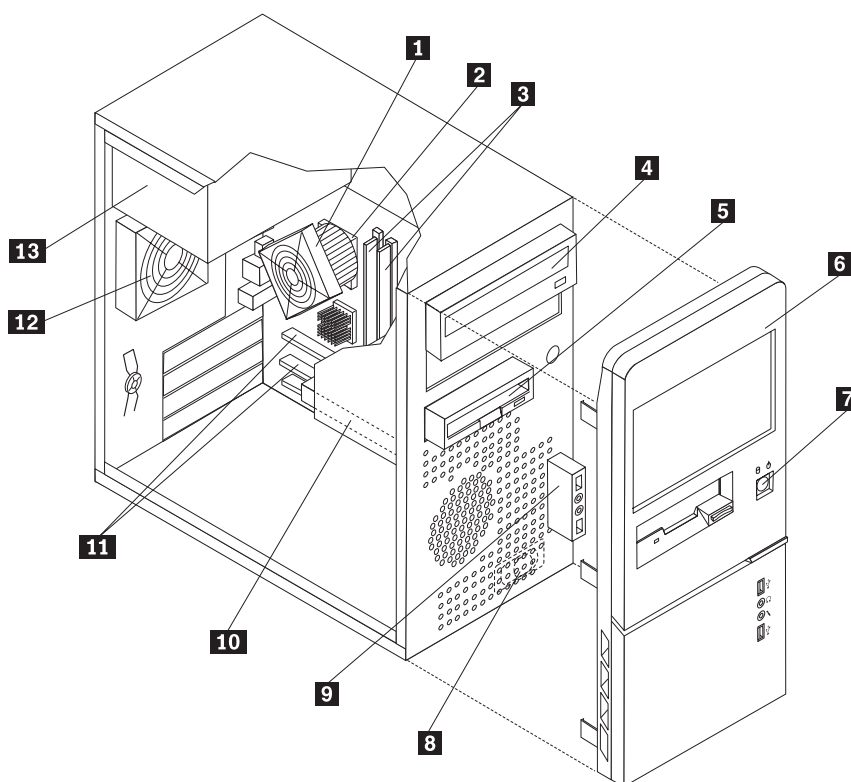
9690 Vista Home Basic 32 Recovery DVDs	FRU#	CRU
US/UK/AP/TH (models 84U 85U)	43C9027	1
FR/CF (models 84F 85F)	45C0139	1
SP/LA (models 67S 7PS 7PD 7PY 2CS 2CD 2CY)	45C0141	1
BR (models 68P 76P)	45C0142	1

9690 Vista Business 32 Recovery DVDs	FRU#	CRU
English (models 35H 58U 59U 63U 23U 36H 58U 59U 63U 7BU 7RU 8GG 5LG 6HG 2LG 8JG)	43C9029	1
FR/CF (models 58F 59F 63F 7BF 7KU 7KF 7RF)	45C0113	1
SP/LA (models 57S 65S 75S 7ES)	45C0115	1
Brazilian (models 56P 69P 23P 6CP 7CP 7FP 7GP 56P 5CP 5DP 7KP 87P 23P 24P 2BP 8CP 24P)	45C0116	1
Italian (models 8GG 5LG 6HG 2LG 8JG)	45C0117	1
Norwegian (models 8GG 5LG 6HG 2LG 8JG)	45C0118	1
Swedish (models 8GG 5LG 6HG 2LG 8JG)	45C0119	1
Danish (models 8GG 5LG 6HG 2LG 8JG)	45C0120	1
Dutch (models 8GG 5LG 6HG 2LG 8JG)	45C0121	1

9690 Vista Business 32 Recovery DVDs	FRU#	CRU
Czech (models 8GG 5LG 6HG 2LG 8JG)	45C0122	1
Finnish (models 8GG 5LG 6HG 2LG 8JG)	45C0123	1
Polish (models 8GG 5LG 6HG 2LG 8JG)	45C0124	1
Russian (models 8GG 5LG 6HG 2LG 8JG)	45C0125	1
Turkish (models 8GG 5LG 6HG 2LG 8JG)	45C0126	1
Hungarian (models 8GG 5LG 6HG 2LG 8JG)	45C0127	1
Greek (models 8GG 5LG 6HG 2LG 8JG)	45C0128	1
Portuguese (models 8GG 5LG 6HG 2LG 8JG)	45C0134	1
Slovenian (models 8GG 5LG 6HG 2LG 8JG)	45C0130	1
Russian English (models 8GG 5LG 6HG 2LG 8JG)	45C0131	1
Russian English (models 8GG 5LG 6HG 2LG 8JG)	45C0112	1
Slovakian (models 8GG 5LG 6HG 2LG 8JG)	45C0137	1

9690 Vista Home Premium 32 Recovery DVDs	FRU#	CRU
US/UK/AP/TH (models 5AU 62U 7MU)	43C9031	1
FR/CF (models 5AF 62F 7MF)	45C0087	1

Machine Type 9691



Item #	9691 FRUs	FRU#	CRU
1	89W Heatsink kit for AMD Athlon64x2 AM2 CPUs (all models)	41R4802	N
1	84W Heatsink kit fo Intel Prescott & Cedarmil & Conroe & Conroe-L CPUs (all models)	41R4803	N
2	Microprocessor, Celeron-D 420 CONROE-L 800/1800MHZ-512K, LGA, EM64T (models 52G 53G 54G)	43C3835	N
2	Microprocessor, Intel 925 Proc [rev C1 - ?????] (models 62G 63G)	41X2413	N
2	Microprocessor, Core 2 Duo CONROE E4300 800/1800MHz 2M 65W L-2 (models 23G)	42Y8009	N
2	Microprocessor, Core 2 Duo CONROE E4400 800/2000MHz 2M 65W L-2 (models 24G)	43C2056	N
2	Microprocessor, Core 2 Duo CONROE E4500 800/2200MHz 2M 65W M-0 (models 25G 26G 27G 28G)	43C6305	N
2	Microprocessor, Pentium Dual-core Conroe-L E2140 800/1600MHZ-1M, LGA, EM64T 65W (models 43G 45G 46G 48G 49G 4AG)	43C1967	N
2	Microprocessor, Pentium Dual-core Conroe-L E2160 800/1800MHZ-1M, LGA, EM64T 65W (models 34G 35G 36G)	43C1968	N
3	Memory module, 512 MB PC2-4200 (533MHz) DDR2 SDRAM (models 43G 23G 52G 53G 63G 54G 49G 4AG 25G 34G 35G)	41X4251	2
3	Memory module, 1GB PC2-4200 (533MHz) DDR2 SDRAM (models 24G 45G 46G 62G 48G 26G 27G)	41X4252	2
3	Memory module, 1024MB PC-5300 DDR2 SDRAM NP Memory (PC 5300) (models 28G 36G)	41X4256	2
4	DVD-ROM drive - 16x/48x - SATA XP and Vista (models 52G 53G 54G)	41N3325	N

Item #	9691 FRUs	FRU#	CRU
4	DVD-ROM/CD-RW Combo Drive - 48x/32x/48x/16x - SATA (models 43G 23G 24G 62G)	42Y9353	N
4	DVD-Recordable Rambo 8 - SATA (models 45G 46G 48G 63G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	43C1042	N
5	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models 32Q 42Q)	40Y9105	N
5	Diskette drive, 3,5", 1.44MB, 2-mode, (w/bezel) (models 32Q 42Q)	40Y9107	N
6	Bezel assembly (all models)	TBD	N
7	Power switch/LED assembly (all models)	TBD	N
8	Internal Speaker Assembly - optional (all models)	39P5023	2
9	Front audio/USB assembly (all models)	41N8054	N
10	Hard disk drive, 80GB 7200rpm Serial ATA (8 MB Buffer) (models 24G 52G 53G 63G 54G 49G)	40Y9034	N
10	Hard disk drive, 160GB 7200rpm, Serial ATA (models 43G 23G 45G 46G 62G 48G 4AG 25G 34G 35G 28G 36G)	40Y9035	N
10	Hard disk drive, 250GB 7200rpm Serial ATA (models 26G 27G)	40Y9036	N
11	System board, Intel 945GC (LGA775 Celeron, P4, PD, Up to 800MHz support, 100Mb LAN) GA Level (models 43G 23G 24G 45G 46G 62G 52G 53G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	42Y9915	N
11	System board, Intel 945GC (LGA775 Celeron, P4, PD, Up to 800MHz support, 100Mb LAN) Update GA Level (models 43G 23G 24G 45G 46G 62G 52G 53G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	45C4801	N
11	System board, Intel 945GC 667 support GA Level (models 43G 23G 24G 45G 46G 62G 52G 53G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	45C4802	N
12	Rear Fan (all models)	41R2519	2
13	ATX 280W Power supply; WW (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A9679	N
13	280W ATX Power Supply; Robust; WW (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A9684	N

The FRUs listed in the following tables are not illustrated.

9691 FRUs	FRU#	CRU
Cable, Serial ATA (Foxconn Version), 250mm HDD (all models)	41A7145	2
Cable, Serial ATA (Foxconn Version), 457mm ODD (all models)	26K1186	2
Front Fan--Used with 2X500G HDDs only (all models)	41R4791	2
Optional HDD Bracket Asm (all models)	41R6106	N
ODD and FDD shield, Plastic (all models)	41R6207	2
No Optical Bezel and Shield, Blk (Secondary) (all models)	41N8080	N
Shield, FDD EMC (all models)	41N8078	N
Rear IO Shield Assm for G33 (all models)	41R6379	2
Battery 3V-lithium (all models)	43C1566	1
Front main panel assembly (all models)	41R6206	N
Chassis assembly (all models)	41R6239	2
Cover (all models)	41R6242	2
Hard disk drive tray (all models)	41R6291	2

9691 Keyboards (USB Preferred Pro)	FRU#	CRU
US English (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5289	1
Danish (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5298	1
Dutch (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5299	1
French (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5300	1
German (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5303	1
Italian (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5309	1
Spanish (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5321	1
Swedish/Finnish (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5322	1
UK English (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5327	1
US Euro (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5328	1
Arabic (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5290	1
Belgian/French (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5292	1
Belgian/English (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5293	1
Bulgarian (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5295	1
Czech (ABB) (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5297	1
Greek 319 (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5304	1
Greek 459 (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5305	1
Hebrew (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5306	1
Hungarian (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5307	1
Iceland (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5308	1
Norwegian (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5313	1
Polish (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5314	1
Portuguese ((models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5315	1

Romanian (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5317	1
Russian/Cyrillic (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5318	1
Serbian/Cyrillic (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5319	1
Slovak (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5320	1
Turkish 179 (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5326	1
Turkish 440 (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5325	1
Swiss French/German (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5323	1
Yugoslav - Latin (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41A5329	1

9691 mice	FRU#	CRU
Optical Wheel Mouse (400DPI, USB) (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41U3013	1
Optical Wheel Mouse (400DPI, USB) (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	41U3030	1

9691 Adapters and miscellaneous FRUs	FRU#	CRU
USB2.0 MEMORY CARDREADER,6X2,ROHS (models 43G 23G 24G 52G 53G 45G 46G 62G 48G)	41R3378	2
Speaker Brick - Hong Kong, EMEA (models 63G 54G 49G 4AG 25G 26G 27G 34G 35G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	89P8573	1
Modem Phone Cable (models)	39K5120	N
Lenovo USB2.0 Safe key TGE YT300 1GB V1.51 (models 48G 25G 27G 36G)	45C7796	1
Lenovo USB2.0 Safe key TGE YT300 1GB new V 1.52 (models)	45C7146	1

9691 Power Cords	FRU#	CRU
Power cord - UK, Ireland, Singapore, Malaysia, Brunei (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	39M5150	1
Power cord - Italy (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	39M5164	1
Power cord - Denmark (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	39M5129	1
Power cord - Switzerland (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	39M5157	1
Power cord - Israel (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	39M5171	1
Power cord - South Africa (models 43G 23G 24G 52G 53G 45G 46G 62G 48G 63G 54G 49G 4AG 25G 26G 27G 34G 35G 28G 36G)	39M5143	1

9691Windows XP Pro Recovery CDs	FRU#	CRU
US/UK/AP/TH (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	43C9043	1
FR/CF (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0180	1
GR (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0184	1
IT (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0185	1
BR (models)	45C0182	1
SP/LA (models)	45C0181	1
DK (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0189	1
NL (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0192	1
AE (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0186	1
SV (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0188	1
HE (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0194	1
FI (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0190	1
NO (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0191	1
PL (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0195	1
PO (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0198	1
RU (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0187	1
RE (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0183	1
HU (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0197	1
CZ (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0193	1
TR (models)	45C0196	1
GK (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0199	1
SL (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0200	1
Multilingual 1 XP-P -- EN, NL, FR, GR, IT (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0178	1
Multilingual 2 XP-P -- EN, DK, FI, NO, SV (models 53G 45G 62G 43G 23G 52G 46G 48G 25G 26G 27G)	45C0179	1

9691 Vista Home Basic 32 Recovery DVDs	FRU#	CRU
English (models 35G)	43C9027	1
French (models 35G)	45C0139	1
German (models 35G)	45C0140	1
Italian (models 35G)	45C0143	1
Norwegian (models 35G)	45C0144	1
Swedish (models 35G)	45C0145	1
Danish (models 35G)	45C0146	1
Dutch (models 35G)	45C0147	1
Czech (models 35G)	45C0148	1
Finnish (models 35G)	45C0149	1
Polish (models 35G)	45C0150	1
Russian (models 35G)	45C0151	1
Turkish (models 35G)	45C0152	1

9691 Vista Home Basic 32 Recovery DVDs	FRU#	CRU
Hungarian (models 35G)	45C0153	1
Greek (models 35G)	45C0154	1
Portuguese (models 35G)	45C0157	1
Slovanian (models 35G)	45C0156	1
Russian English (models 35G)	45C0138	1

9691 Vista Business 32 Recovery DVDs	FRU#	CRU
English (models 43G 23G 52G 46G 48G 25G 27G)	43C9029	1
FR/CF (models 43G 23G 52G 46G 48G 25G 27G)	45C0113	1
GR (models 43G 23G 52G 46G 48G 25G 27G)	45C0114	1
SP/LA (models 43G 23G 52G 46G 48G 25G 27G)	45C0115	1
IT (models 43G 23G 52G 46G 48G 25G 27G)	45C0117	1
NO (models 43G 23G 52G 46G 48G 25G 27G)	45C0118	1
SV (models 43G 23G 52G 46G 48G 25G 27G)	45C0119	1
DK (models 43G 23G 52G 46G 48G 25G 27G)	45C0120	1
NL (models 43G 23G 52G 46G 48G 25G 27G)	45C0121	1
CZ (models 43G 23G 52G 46G 48G 25G 27G)	45C0122	1
FI (models 43G 23G 52G 46G 48G 25G 27G)	45C0123	1
PL (models 43G 23G 52G 46G 48G 25G 27G)	45C0124	1
RU (models 43G 23G 52G 46G 48G 25G 27G)	45C0125	1
TR (models 43G 23G 52G 46G 48G 25G 27G)	45C0126	1
HU (models 43G 23G 52G 46G 48G 25G 27G)	45C0127	1
GK (models 43G 23G 52G 46G 48G 25G 27G)	45C0128	1
PO (models 43G 23G 52G 46G 48G 25G 27G)	45C0134	1
SL (models 43G 23G 52G 46G 48G 25G 27G)	45C0130	1
RE (models 43G 23G 52G 46G 48G 25G 27G)	45C0131	1
Russian English (models 43G 23G 52G 46G 48G 25G 27G)	45C0112	1
Serbian (models 43G 23G 52G 46G 48G 25G 27G)	45C0135	1
Slovakian (models 43G 23G 52G 46G 48G 25G 27G)	45C0137	1

Chapter 11. Additional Service Information

This chapter provides additional information that the service representative might find helpful.

Security features

Security features in this section include the following:

- Passwords
- Vital Product Data
- Management Information Format (MIF)

Hardware controlled Passwords

Hardware controlled passwords are set using the Setup Utility program. For more information about passwords, see "Using passwords" on page 51.

Operating system password

An operating system password is very similar to a power-on password and denies access to the computer by an unauthorized user when the password is activated. The computer is unusable until the password is entered and recognized by the computer.

Vital product data

Each computer has a unique Vital Product Data (VPD) code stored in the nonvolatile memory on the system board. After you replace the system board, the VPD must be updated. To update the VPD, see "Flash update procedures."

BIOS levels

An incorrect level of BIOS can cause false errors and unnecessary FRU replacement. Use the following information to determine the current level of BIOS installed in the computer, the latest BIOS available for the computer, and where to obtain the latest level of BIOS.

- To determine the current Level of BIOS:
 - Start the Setup Utility.
 - Select Standard CMOS Features.
- Sources for obtaining the latest level BIOS available
 1. Lenovo support web site:
<http://www.lenovo.com/support/>
 2. Lenovo Customer Support Center
 3. Levels 1 and 2 Support

To update (flash) the BIOS, see "Flash update procedures."

Flash update procedures

This section details how to flash (update) the BIOS.

Updating (flashing) BIOS from a CD-ROM or diskette

This section describes how to update (flash) the BIOS using a diskette or CD-ROM. System program updates are available at <http://www.lenovo.com/support> on the World Wide Web.

1. To update (flash) the BIOS:
 - From a CD-ROM, make sure the computer is turned on. Insert the CD-ROM into the optical drive. The update begins.
 - From a diskette, make sure the computer is turned off and insert a system program update (flash diskette). Then turn the computer on. The update begins.
2. When you are prompted to select a language, press the number on your keyboard that corresponds to the language and then press Enter.
3. When prompted to change the serial number, press Y.
4. Type in the seven character serial number of your computer and then press Enter.
5. When prompted to change the machine type/model, press Y.
6. Type in the seven character machine type/model of your computer and then press Enter.
7. Follow the instructions on the screen to complete the update.

Recovering from a POST/BIOS update failure

Attention: If an interruption occurs during a POST/BIOS update (flash update), the computer might not restart correctly. If this occurs, perform the following procedure (also known as a Boot-block recovery).

Note: If your computer has no internal diskette drive, an optional USB diskette drive must be connected to use the BIOS flash diskette.

1. Turn the computer off and insert the BIOS flash diskette in the diskette drive.
2. Turn the computer on and immediately during startup, press the Ctrl and Home keys (Ctrl + Home) at the same time.
3. The computer will automatically begin recovering the BIOS. During this time you will see a screen indicating that Flash recovery has started. After the update session completes, the computer automatically reboots.
4. Remove the BIOS flash diskette from the diskette drive.

Power management

Power management reduces the power consumption of certain components of the computer such as the system power supply, processor, hard disk drives, and some monitors.

Automatic configuration and power interface (ACPI) BIOS

Being an ACPI BIOS system, the operating system is allowed to control the power management features of the computer and the setting for Advanced Power Management (APM) BIOS mode is ignored. Not all operating systems support ACPI BIOS mode.

Automatic Power-On features

The Automatic Power-On features within the Power Management menu allow you to enable and disable features that turn on the computer automatically.

- **Serial Port A Ring Detect:** With this feature set to **Enabled** and an external modem connected to serial port (COM1), the computer will turn on automatically when a ring is detected on the modem.
- **PCI Modem Ring Detect:** With this feature set to **Enabled**, the computer will turn on automatically when a ring is detected on the internal modem.
- **PCI Wake Up:** This feature allows PCI cards that support this capability to wake the system.
- **Wake Up on Alarm:** You can specify a date and time at which the computer will be turned on automatically. This can be either a single event or a daily event.
- **Wake on LAN:** If the computer has a properly configured token-ring or Ethernet LAN adapter card that is Wake on LAN-enabled and there is remote network management software, you can use the Wake on LAN feature. When you set Wake on LAN to **Enabled**, the computer will turn on when it receives a specific signal from another computer on the local area network (LAN).

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