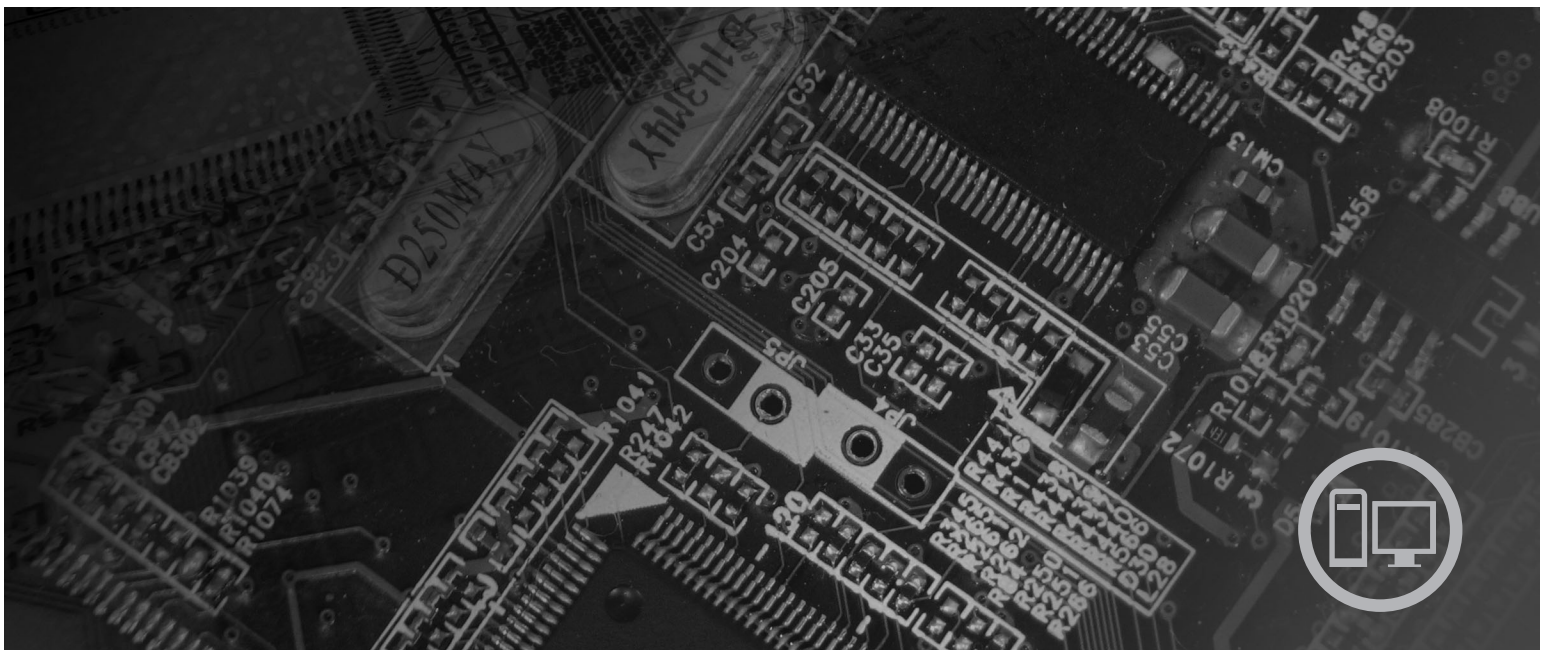




Hardware Maintenance Manual Lenovo 3000 J Series



Types 8252, 8253, 8254, 8255, 8256, 8257, 8258, 8259,
8453, 8454, 8455, 8456, 8457, 8458, 8459, 8460

lenovo

Lenovo 3000 J Series

Note: Before using this information and the product it supports, be sure to read the information under “Notices,” on page 209.

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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 Lenovo 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 after June 2006. Products on the market before June 2006 are not required to have RoHS compliant parts. So, 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.

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. 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 Lenovo 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.

Related Web URLs are:

- Lenovo information for Suppliers website:
<http://www-03.ibm.com/procurement/proweb.nsf/ContentDocsByTitle/United+States~Information+for+suppliers>
- RoHS Directive:
http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/l_037/l_03720030213en00190023.pdf
- California Senate Bills 20, 50:
<http://www.ciwmb.ca.gov/HHW/Events/AnnualConf/2004/presentation/MPaparian.pdf>

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 main 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 generators
 and 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.

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.
- 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 table 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)

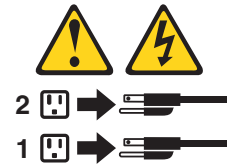
CAUTION:

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.

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.

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.



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 تقم 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 الأغشية. قد ينتج عن نزع أغشية 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)



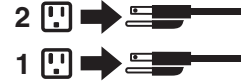
≥55 kg (121.2 lbs)



تنبيه :
يجب استخدام ممارسات آمنة عند الرفع



تنبيهه :
لا يقرم 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)

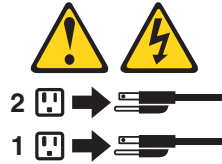
CUIDADO:

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 |
|---|---|
| <ol style="list-style-type: none">1. Mettez les unités HORS TENSION.2. Commencez par brancher tous les cordons sur les unités.3. Branchez les câbles d'interface sur des connecteurs.4. Branchez les cordons d'alimentation sur des prises.5. Mettez les unités SOUS TENSION. | <ol style="list-style-type: none">1. Mettez les unités HORS TENSION.2. Débranchez les cordons d'alimentation des prises.3. Débranchez les câbles d'interface des connecteurs.4. Débranchez tous les câbles des unités. |



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-aufwerken, 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 לנוק מבני או לנוק 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 לייזר (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 ק"ג (37 ליב')



≤ 32 ק"ג (70.5 ליב')

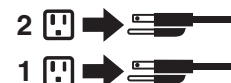


≤ 55 ק"ג (121.2 ליב')

זהירות:
השתמשו בהליכים
הנאותים בעת
הרמת הציוד.



זהירות:
לחצן ההפעלה של ההתקן ומתג ההפעלה 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,
דאו 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°C (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

Use the Lenovo Care program for general information about the use, operation, and maintenance of the computer. The Lenovo Care program also contains information to help solve problems and get repair service or other technical assistance. The Lenovo Care program is preinstalled on most Lenovo 3000 J Series products.

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.

Machine types 8252, 8253, 8254, 8255, 8256, 8257, 8258, and 8259

Dimensions

Width: 180 mm (7.09 in.)

Height: 374 mm (14.72 in.)

Depth: 458 mm (18.03 in.)

Weight

Minimum configuration as shipped: 9.1kg (20.06 lbs)

Maximum configuration: 10.2 kg (22.5 lbs)

Environment

Air temperature:

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

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

Non-operating: 10° to 43°C (50° to 110°F)

Humidity:

Operating: 10% to 80%

Non-operating: 10% to 90%

Transit: 8% to 90%

Maximum altitude: 7000 ft (2134 m)

Electrical input

Input voltage:

Low range:

Minimum: 100 V ac

Maximum: 127 V ac

Input frequency: 50-60 Hz

Voltage switch setting: 115 V ac

High range:

Minimum: 200 V ac

Maximum: 240V ac

Input frequency: 50-60 Hz

Voltage switch setting: 230 V ac

Input kilovolt-amperes (kVA) (approximate):

Minimum configuration as shipped: 0.158 kVA

Maximum configuration: 0.213 kVA

Machine types 8453, 8454, 8455, 8456, 8457, 8458, 8459, and 8460

This section lists the physical specifications for your computer.

Dimensions

Width: 325 mm (12.8 in.)

Height: 107 mm (4.21 in.)

Depth: 410 mm (16.14 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 43°C (50° to 110°F)

Humidity:

Operating: 10% to 80%

Non-operating: 10% to 90%

Transit: 8% to 90%

Maximum altitude: 7000 ft (2133.6 m)

Electrical input

Input voltage:

Low range:

Minimum: 100 V ac

Maximum: 127 V ac

Input frequency: 50/60 Hz

Voltage switch setting: 115 V ac

High range:

Minimum: 200 V ac

Maximum: 240V ac

Input frequency: 50/60 Hz

Voltage switch setting: 230 V ac

Input kilovolt-amperes (kVA) (approximate):

Minimum configuration as shipped: 0.09 kVA

Maximum configuration: 0.23 kVA

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 205.

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 75.
 - If the computer displays a POST error, go to “POST error codes” on page 76.
 - If the computer hangs and no error is displayed, continue at step 7.
7. Run the Diagnostic programs. See Chapter 5, “Diagnostics using PC-Doctor for DOS,” on page 43.
 - If you receive an error, replace the part that the diagnostic program calls out or go to “Diagnostic error codes” on page 54.
 - 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 using PC-Doctor for DOS

Diagnostics are provided by the PC-Doctor program for DOS. These include a full range of diagnostic utilities to determine the operating condition of the computer's hardware components.

You can run diagnostics using a bootable diagnostic diskette or CD-ROM. You can also run diagnostics and create diagnostic diskettes from the Rescue and Recovery program.

Note: The diagnostics that can be run from the desktop are PC-Doctor for windows. These diagnostics are not documented here.

The latest version of the diagnostics program is available from <http://www.lenovo.com/support> on the World Wide Web. Type your machine type into the **Use Quick path** field and click **Go** to find the downloadable files that are specific to the computer. See "Diagnostics program download."

Diagnostic error messages appear when a test program finds a problem with a hardware option. For the test programs to properly determine if a test *Passed*, *Failed* or *Aborted*, the test programs check the error-return code at test completion. See "Diagnostic error codes" on page 54.

If an installed device is not recognized by the diagnostics program, that device might be defective.

Starting PC-Doctor from a diagnostic diskette or CD-ROM

Note: If your computer has no internal diskette drive, an external USB diskette drive is required when using the diagnostic diskette.

1. If your computer is already on when you start this procedure, shut down the operating system and turn off the computer.
2. Insert the diskette or CD-ROM in the appropriate drive.
3. Turn on the computer.

Note: If the PC-Doctor program fails to start, make sure that the startup device sequence is configured to allow startup from the diskette or CD-ROM drive. See "Selecting a startup device" on page 51.

Diagnostics program download

If you have access to the internet, you can download a diskette image or a startable CD-ROM image (.iso file) of the diagnostics.

To download the latest diagnostics program from the WWW, do the following:

- Go to <http://www.lenovo.com/support>.
- Type the machine type in the "Use Quick Path" field and click **Go**.
- Click **Downloads and drivers** and scroll down to locate the Enhanced diagnostics.

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 diagnostics 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. See "Test selection."
- From within a test category, press **Ctrl-Enter** to automatically run only the selected tests in that category. See "Test selection."
- 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 48.

Test selection

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 54 for error code listings.

Fixed disk advanced test (FDAT)

PC-Doctor Fixed-Disk¹ Advanced Test module (FDAT) is a full-featured highly configurable fixed-disk test suite. The configurable capabilities of FDAT allow users to enable or disable specific tests, enable or disable testing features, control the test log detail, alter testing parameters, and so on. FDAT tests for and reports most commonly found errors on a fixed-disk drive and is able to test up to 128 SCSI and 4 IDE drives (up to 132 total drives).

Drive information is gathered through FDAT’s enumeration of available devices and user specific configuration parameters located in the FDAT.INI. FDAT uses information supplied by these features to indicate specifically what devices are available for test, what tests are available for the device, device properties, and so on. To change testing parameters, you modify the FDAT.INI file in PC Doctor for DOS.

FDAT consists of the following subtests and features.

Fixed-Disk Tests:

- *Seek Tests:* - checks the physical operation of the drive head.
 - Linear Seek
 - Random Seek
 - Min-Max Seek
 - Butterfly Seek
- *Verify Tests:* - checks the integrity of the data present on the media.
 - Linear Verify
 - Random Verify
- *Surface Scan Tests:* - checks the drive media for defects.
 - Surface Scan (Linear)
 - Surface Scan (Aggressive) - this is disabled for normal customer use.
 - Surface Scan (Random)
- Self-monitoring, Analysis and Reporting Technology (SMART) - checks the SMART functionality for drives that support SMART.
 - Start SMART Self-Test

1. The terms fixed disk and hard disk are used interchangeably.

Other Test Features:

- *Write-Splice Repair* - detects and corrects Error Correction Code errors during Verify tests.
- *Auto Spin Down* - a gradual spin down of the drive platters to avoid damaging the media.
- *Manufacturer Log* - an in-depth manufacturer supported log of errors on the drive.

Multitasking:

To allow simultaneous testing of multiple hard drives whenever possible, the FDAT module is written as a set of multitasking functions. Each drive under test can run the same test or run a different test at the same time. Each subtest is written to handle a single test pass and all test variables are kept track of in a structure unique for each drive.

However, when testing IDE drives, FDAT will not perform simultaneous testing of IDE drives that are attached to the same IDE cable. For example, if FDAT is testing four IDE drives on a PC, it will perform simultaneous testing on drives 1 and 3 first (master drives), then perform tests on 2 and 4 (slave drives). FDAT will also perform simultaneous testing on a master and slave that are on separate IDE cables, but will not perform simultaneous tests on a master and slave on the same IDE cable. This generally increases the amount of time needed to test multiple IDE drives.

Another limitation of FDAT'S multitasking capability is the use of Ultra DMA (UDMA). Only one drive at a time can access the UDMA channel and the UDMA channel buffer must be kept high in order to maintain a speed advantage over other data transfer modes. In order to use the UDMA channel during testing, users must disable the multitasking feature.

Destructive versus non-destructive testing:

Most of the tests found in FDAT are non-destructive. This means that PC-Doctor program will preserve any data that is present on the tested media prior to beginning any destructive operations (such as write operations). However, users can run certain tests in destructive mode (i.e. surface scan tests). Destructive tests will speed up testing because FDAT does not preserve the data on the media prior to the test beginning. Unlike non-destructive tests, any data present on the media prior to the test beginning is lost.

FDAT allows for enabling or disabling destructive tests, as well as specifying a range of destructive and non-destructive sectors on the tested drive. This is done through the configuration of the FDAT.INI. If destructive and non-destructive ranges somehow overlap, then the overlapped area is considered non-destructive. For example, if users specify both destructive and non-destructive ranges as the same, then the entire drive is tested as non-destructive.

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.

| |
|---|
| <p>Important: Make sure that all data is backed up before using the Quick or Full Erase functions.</p> |
|---|

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 stored in the electrically erasable programmable read-only memory (EEPROM) of your computer. 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/supervisor password has been set, the Setup Utility program menu is not displayed until you type your password. See “Using passwords” for more information.

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.

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

You can use passwords to provide security for your computer and data. There are two types of passwords: a user password and an administrator or supervisor password. You do not have to set a password of either type to use your computer. However, if you decide to set either one, read the following sections.

User Password

The user password feature deters unauthorized persons from gaining access to your computer.

Setting, changing, and deleting a user password

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

Note: A password can be any combination of up to eight characters (A- Z, a-z, and 0-9).

1. Start the Setup Utility program (see “Starting the Setup Utility program” on page 49).
2. From the Setup Utility program menu, select **Set User Password** and press Enter.
3. The password dialog box will be displayed. Type the new password, and press Enter.
4. When prompted to confirm the password, type the password again. If you type the password in correctly, the password will be installed.

To delete a previously set user password, do the following:

Note: When prompted for a password, you can type either your user or administrator/supervisor password.

1. From the Setup Utility program menu, select **Set User Password** and press Enter. A message will display that indicates the password has been disabled.
2. Press any key to continue.

Administrator or Supervisor Password

Setting an Administrator or Supervisor Password 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 or Supervisor Password.

After you set an Administrator or Supervisor Password, a password prompt is displayed each time you try to access the Setup Utility program. If you type the wrong password, you will see an error message. If you type the wrong password three times, you must turn the computer off and start again.

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

Setting, changing, and deleting an administrator/supervisor password

To set, change, or delete an administrator/supervisor password, do the following:

Note: A password can be any combination of up to eight characters (A- Z, a-z, and 0-9).

1. Start the Setup Utility program (see “Starting the Setup Utility program” on page 49).
2. From the Setup Utility program menu, select **Set Administrator Password** or **Set Supervisor Password** and press Enter.
3. The password dialog box will be displayed. Type the new password, and press Enter.
4. When prompted to confirm the password, type the password again. If you type the password correctly, the password will be installed.

To delete a previously set administrator/supervisor password, do the following:

Note: When prompted for a password, you must type your administrator/supervisor password.

1. From the Setup Utility program menu, select **Set Administrator Password** or **Set Supervisor Password** and press Enter. A message will display that indicates the password has been disabled.
2. Press any key to continue.

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 startable (bootable).

1. Turn off your computer.
2. Press and hold the F12 key then turn on the computer. When the Startup Device Menu (Boot 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 (Boot) menu does not permanently change the startup sequence.

Changing the startup device sequence

To view or change the primary or automatic power-on startup sequence, do the following:

1. Start the Setup Utility program (see “Starting the Setup Utility program” on page 49).
2. Select **Advanced BIOS features**.
3. Select the sequence of devices for the First Boot Device, the Second Boot Device, and the Third Boot Device.
4. Press Esc to return to the Setup Utility program menu.
5. Select **Save & Exit Setup**.

If you have changed these settings and want to return to the default settings, press (N) when the Save and Exit dialog box is displayed.

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 41. 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 79.

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 diagnostics tests” on page 44 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 205 2. 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 205 2. 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 205 2. System board |
| 000-026-XXX FLASH data error | <ol style="list-style-type: none"> 1. Flash the system. See “Flash update procedures” on page 205 2. System board |
| 000-027-XXX BIOS Configuration/Setup error | <ol style="list-style-type: none"> 1. Run Setup 2. Flash the system. See “Flash update procedures” on page 205 3. System board |
| 000-034-XXX BIOS Buffer Allocation failure | <ol style="list-style-type: none"> 1. Reboot the system 2. Flash the system. See “Flash update procedures” on page 205 3. Run memory test 4. 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 205 2. System board |
| 000-036-XXX BIOS Register error | <ol style="list-style-type: none"> 1. Flash the system. See “Flash update procedures” on page 205 2. System board |
| 000-038-XXX BIOS Extension failure | <ol style="list-style-type: none"> 1. Flash the system. See “Flash update procedures” on page 205 2. Adapter card 3. 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 205 2. 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 49 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 49 2. Flash the system and retest. See "Flash update procedures" on page 205 3. Go to "Undetermined problems" on page 79 |
| 000-199-XXX BIOS test failed, cause unknown | <ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 79 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 205 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 205 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 205 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 205 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 205 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 205 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 205 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 49 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 49 2. Flash the system and retest. See "Flash update procedures" on page 205 3. Go to "Undetermined problems" on page 79 |
| 001-199-XXX System test failed, cause unknown | <ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 79 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 205 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 205 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 49 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 49 2. Flash the system and re-test. See "Flash update procedures" on page 205 3. Go to "Undetermined problems" on page 79 |
| 005-199-XXX Video test failed, cause unknown | <ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 79 2. Flash the system and re-test. See "Flash update procedures" on page 205 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 205 3. Go to "Undetermined problems" on page 79 |
| 006-199-XXX Diskette interface test failed, cause unknown | <ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 79 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 205 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 49 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 49 2. Flash the system and re-test. See "Flash update procedures" on page 205 3. Go to "Undetermined problems" on page 79 |
| 011-199-XXX Serial port test failed, cause unknown | <ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 79 2. Flash the system and re-test. See "Flash update procedures" on page 205 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 205 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 49 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 205 3. Go to "Undetermined problems" on page 79 |
| 014-199-XXX Parallel port test failed, cause unknown | <ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 79 2. Flash the system and re-test. See "Flash update procedures" on page 205 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 205 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 205 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 205 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 49 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 49 2. Flash the system and re-test. See "Flash update procedures" on page 205 3. Go to "Undetermined problems" on page 79 |
| 015-199-XXX USB port test failed, cause unknown | <ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 79 2. Flash the system and re-test. See "Flash update procedures" on page 205 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 49 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 49 2. Flash the system and re-test. See "Flash update procedures" on page 205 3. Go to "Undetermined problems" on page 79 |
| 018-199-XXX PCI Card test failed, cause unknown | <ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 79 2. Flash the system and re-test. See "Flash update procedures" on page 205 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 49 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 49 2. Flash the system and re-test. See "Flash update procedures" on page 205 3. Go to "Undetermined problems" on page 79 |
| 020-199-XXX PCI test failed, cause unknown | <ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 79 2. Flash the system and re-test. See "Flash update procedures" on page 205 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 205 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 49 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 49 2. Flash the system and re-test. See "Flash update procedures" on page 205 3. Go to "Undetermined problems" on page 79 |
| 025-199-XXX IDE interface test failed, cause unknown | <ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 79 2. Flash the system and re-test. See "Flash update procedures" on page 205 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 205 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 49 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 49 2. Flash the system and re-test. See "Flash update procedures" on page 205 3. Go to "Undetermined problems" on page 79 |
| 030-199-XXX SCSI interface test failed, cause unknown | <ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 79 2. Flash the system and re-test. See "Flash update procedures" on page 205 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 49 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 49 2. Flash the system and re-test. See "Flash update procedures" on page 205 3. Go to "Undetermined problems" on page 79 |
| 035-199-XXX RAID interface test failed, cause unknown | <ol style="list-style-type: none"> 1. See "Undetermined problems" on page 79 2. Flash the system and re-test. See "Flash update procedures" on page 205 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 205 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 | Information only Re-start the test, if necessary |
| 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 49 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 49 2. Flash the system and re-test. See "Flash update procedures" on page 205 3. Go to "Undetermined problems" on page 79 |
| 071-199-XXX Audio port test failed, cause unknown | <ol style="list-style-type: none"> 1. See "Undetermined problems" on page 79 2. Flash the system and re-test. See "Flash update procedures" on page 205 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 | Information only Re-start the test, if necessary |

| 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 49 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 49 2. Flash the system and re-test. See "Flash update procedures" on page 205 3. Go to "Undetermined problems" on page 79 |
| 080-199-XXX Game Port interface test failed, cause unknown | <ol style="list-style-type: none"> 1. See "Undetermined problems" on page 79 2. Flash the system and re-test. See "Flash update procedures" on page 205 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 49 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 49 2. Flash the system and re-test. See "Flash update procedures" on page 205 3. Go to "Undetermined problems" on page 79 |
| 086-199-XXX Mouse Port interface test failed, cause unknown | <ol style="list-style-type: none"> 1. See "Undetermined problems" on page 79 2. Flash the system and re-test. See "Flash update procedures" on page 205 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 49 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 205 2. Go to "Undetermined problems" on page 79 |
| 089-199-XXX Microprocessor test failed, cause unknown | <ol style="list-style-type: none"> 1. See "Undetermined problems" on page 79 2. Flash the system and re-test. See "Flash update procedures" on page 205 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 | <p>Information only Re-start the test, if necessary</p> |
| 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 49 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 49 2. Flash the system and re-test. See "Flash update procedures" on page 205 3. Go to "Undetermined problems" on page 79 |
| 170-199-XXX Voltage Sensor(s) test failed, cause unknown | <ol style="list-style-type: none"> 1. See "Undetermined problems" on page 79 2. Flash the system and re-test. See "Flash update procedures" on page 205 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 | <p>Information only Re-start the test, if necessary</p> |
| 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 49 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 205 3. Go to "Undetermined problems" on page 79 |
| 175-199-XXX Thermal Sensor(s) test failed, cause unknown | <ol style="list-style-type: none"> 1. See "Undetermined problems" on page 79 2. Flash the system and re-test. See "Flash update procedures" on page 205 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 table 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 49.2. 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 206. |
| 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 49.2. Perform a Boot block recovery. See "Recovering from a POST/BIOS update failure" on page 206.3. 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 53. | <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 49) 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 53. | <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 53. |

| 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 8252, 8253, 8254, 8255, 8256, 8257, 8258, and 8259)

Important

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

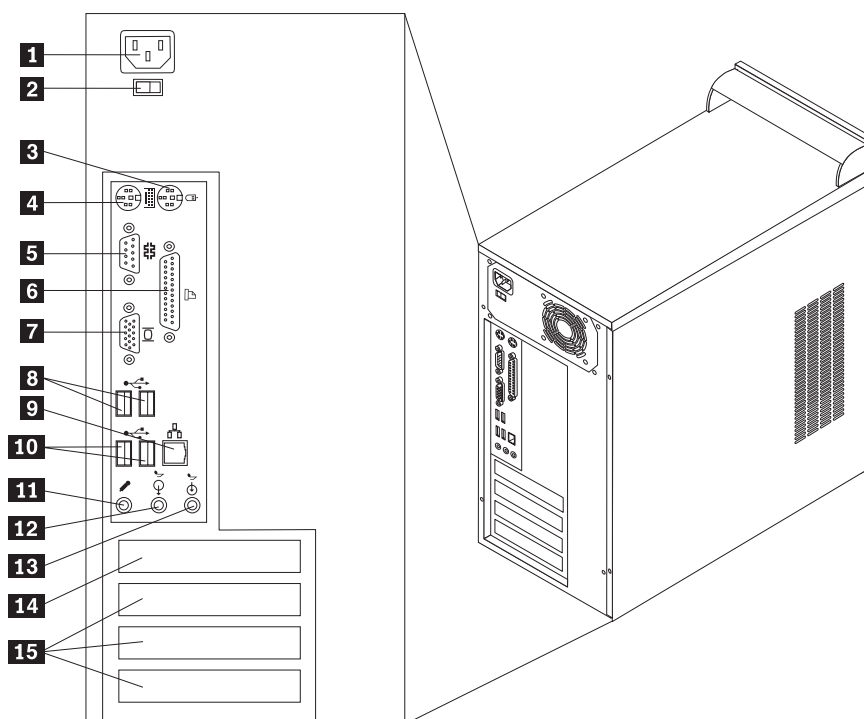
FRU replacements are to be done by trained service technicians only.

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

Note: Your computer might look slightly different than the illustrations in this chapter.

Rear connectors

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



- 1** Power connector
- 2** Voltage selection switch
- 3** Mouse connector
- 4** Keyboard connector
- 5** Serial connector
- 6** Parallel connector
- 7** VGA monitor connector
- 8** USB connectors

- 9** Ethernet connector
- 10** USB connectors
- 11** Microphone connector
- 12** Audio line out connector
- 13** Audio line in connector
- 14** AGP or PCI Express x16 graphics adapter connector (some models)
- 15** PCI adapter slots

Removing the covers

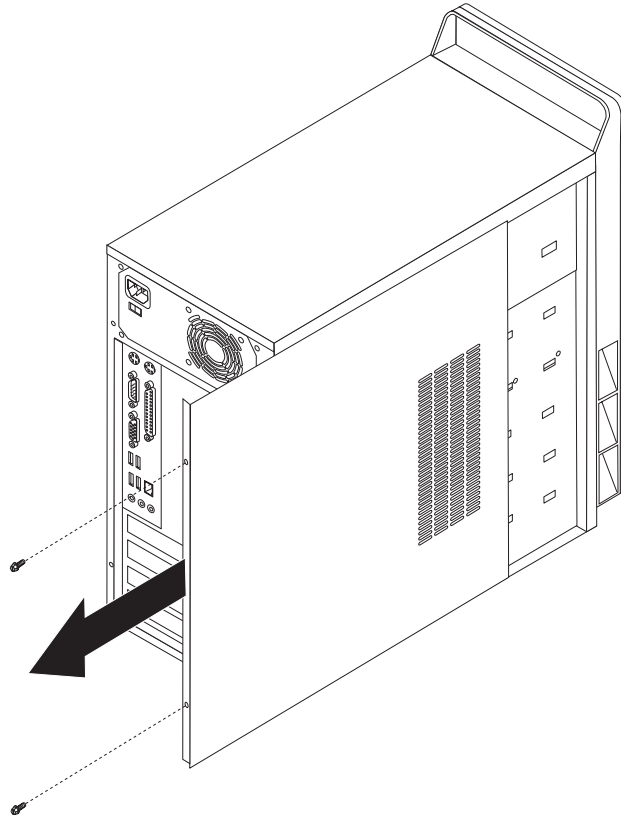
Important

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

Some FRU replacements require the removal of only the left-side cover. Others require removal of both the left-side and the right-side covers.

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.

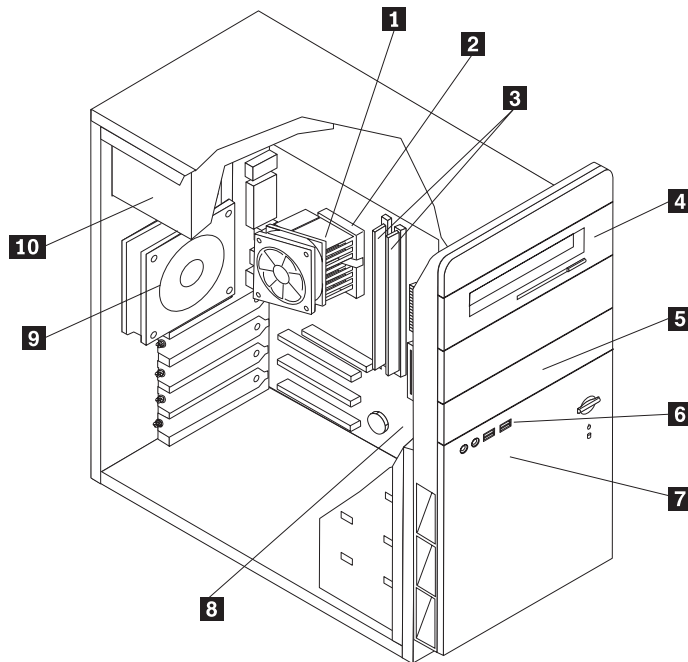
4. Remove the two thumb screws at the rear of the left-side cover and slide the cover to the rear to remove.



5. If necessary, remove the right-side cover in the same manner.

Locations

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

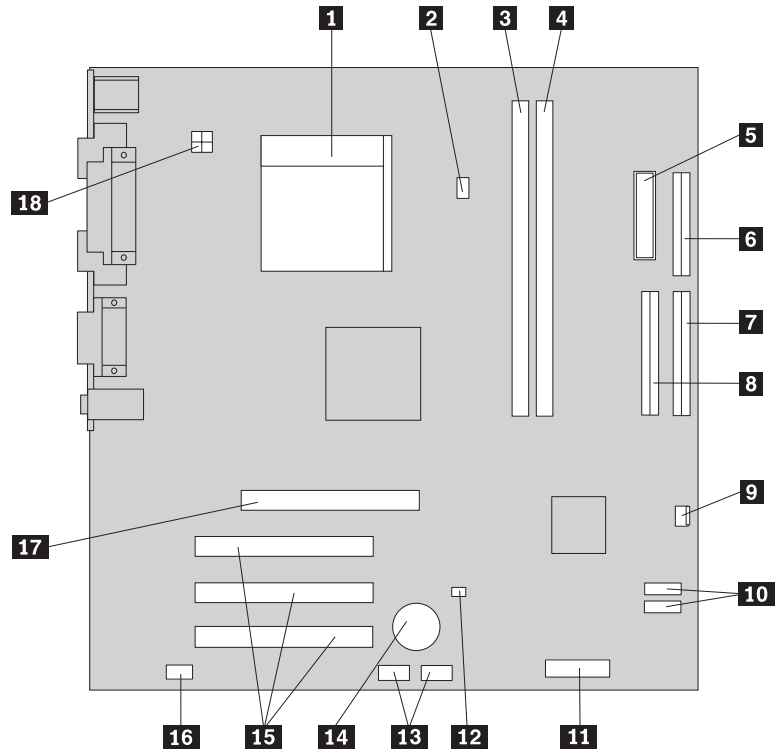


- | | |
|----------------------------|---------------------------|
| 1 Heat sink and fan | 6 Front panel card |
| 2 Microprocessor | 7 Hard disk drive |
| 3 Memory modules | 8 System board |
| 4 Optical drive | 9 System fan |
| 5 Diskette drive | 10 Power supply |

Identifying parts on the system board

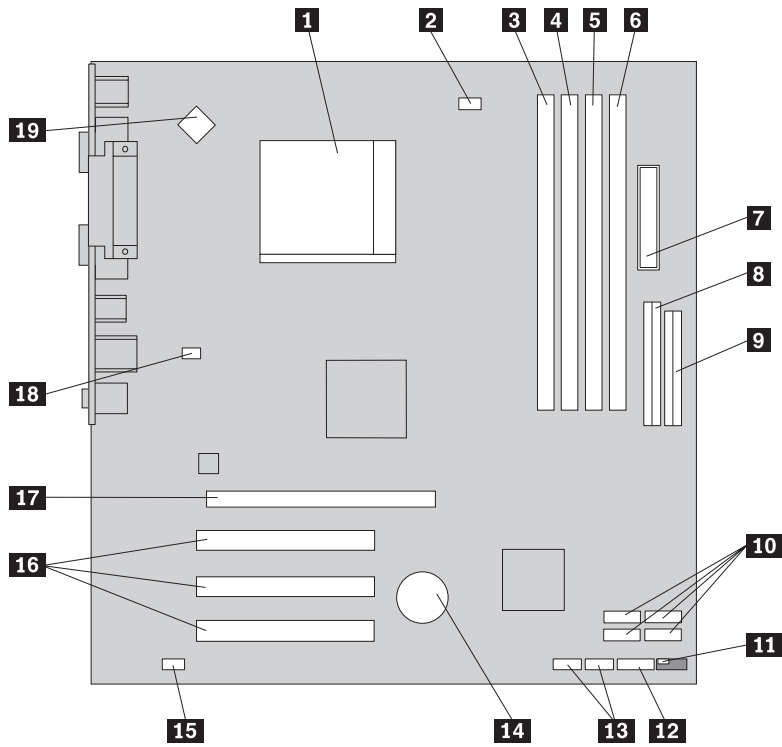
There are different system boards depending on the machine type.

Machine Types 8252, 8253, and 8254



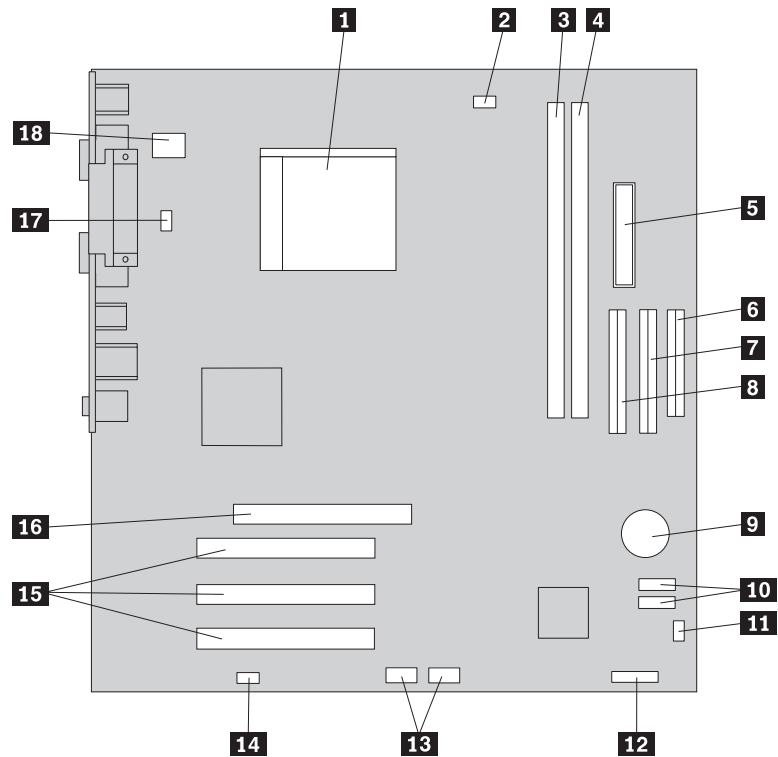
- | | |
|---------------------------------------|--------------------------------------|
| 1 Microprocessor and heat sink | 11 Power switch/LED connector |
| 2 Heat sink fan connector | 12 Clear CMOS/Recovery jumper |
| 3 Memory connector 1 | 13 Front USB connectors |
| 4 Memory connector 2 | 14 CMOS battery |
| 5 Power supply connector | 15 PCI connectors |
| 6 Diskette drive connector | 16 Front audio connector |
| 7 PATA primary IDE connector | 17 AGP adapter connector |
| 8 PATA secondary IDE connector | 18 12V power connector |
| 9 System fan connector | |
| 10 SATA IDE connectors | |

Machine Types 8255 and 8256



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

Machine Types 8257, 8258, and 8259

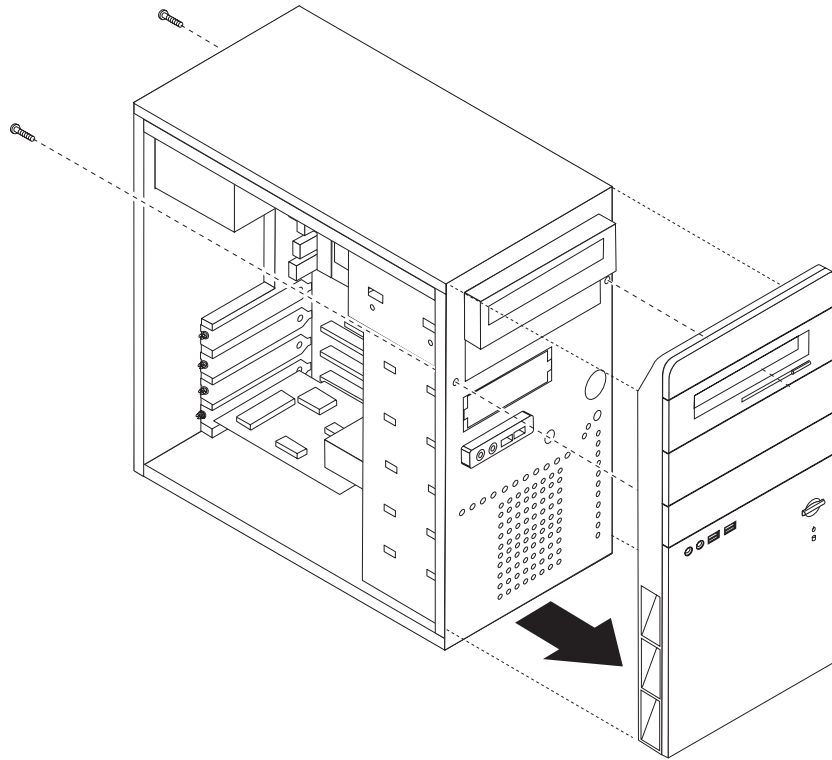


- | | |
|---------------------------------------|--------------------------------------|
| 1 Microprocessor and heat sink | 10 SATA IDE connectors |
| 2 Heat sink fan connector | 11 Clear CMOS/Recovery jumper |
| 3 Memory connector 1 | 12 Power switch/LED connector |
| 4 Memory connector 2 | 13 Front USB connectors |
| 5 Power connector | 14 Front audio connector |
| 6 Diskette drive connector | 15 PCI connectors |
| 7 PATA secondary IDE connector | 16 AGP adapter connector |
| 8 PATA primary IDE connector | 17 System fan connector |
| 9 CMOS battery | 18 12V power connector |

Removing and replacing the front bezel

The front bezel must be removed to replace some FRUs.

1. Remove both the left-side and right-side covers. See “Removing the covers” on page 82.
2. Disconnect the cable for the power switch/LED assembly from the system board. See “Identifying parts on the system board” on page 85 for the connector location.
3. Remove the screws that secure the bezel. There are two on each side.



4. There are three plastic tabs on each side of the bezel. While applying pressure on the top of the bezel, release each tab starting with the tabs at the top.

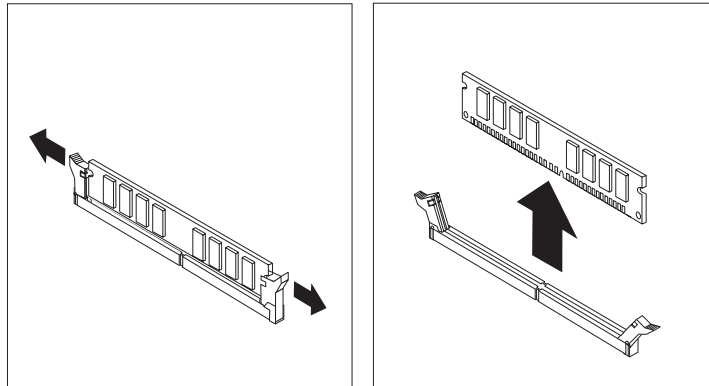
Note: The power switch/LED assembly cable is connected inside the bezel. Be careful to not damage the cable and connectors when removing the bezel from the chassis.

5. When the tabs are all released, remove the bezel from the chassis.
To replace the bezel:
6. Route the power switch/LED cable through the hole in the chassis and to the system board.
7. Align the tabs in the chassis and snap it into position. Install the two screws on each side to secure the bezel.
8. Reconnect the power switch/LED cable to the system board.

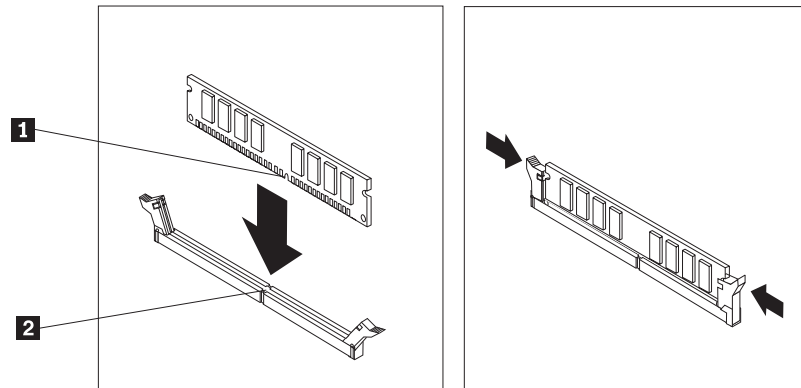
Replacing a memory module

1. Remove the left-side cover. See “Removing the covers” on page 82.

2. Locate the memory connectors. See “Identifying parts on the system board” on page 85.
3. Open the retaining clips and remove the failing memory module.



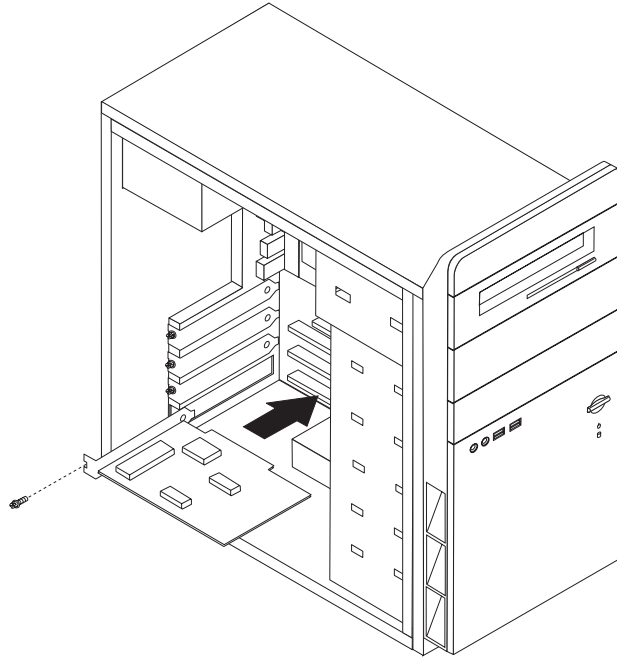
4. Make sure the notch **1** on the new memory module is aligned correctly with the connector key **2** on the socket. Insert the memory module straight down into the connector until it snaps into position and the retaining clips are closed.



5. Go to “Completing the FRU replacement.” on page 111.

Replacing a PCI adapter

1. Remove the left-side cover. See “Removing the covers” on page 82.
2. Remove the screw securing the adapter being replaced.
3. Pull the adapter straight out of the PCI connector.
4. Remove the new adapter from its static-protective package.
5. Install the new adapter into the appropriate PCI connector.



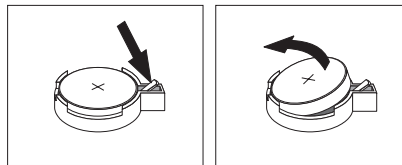
6. Install the screw to secure the new adapter.
7. Go to “Completing the FRU replacement.” on page 111.

Replacing the CMOS battery

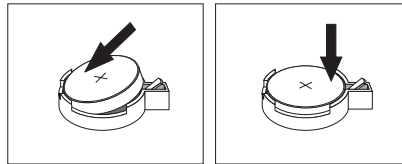
If the CMOS battery fails, the date, time, and configuration information (including passwords) are lost. An error message is displayed when you turn on the computer.

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

1. Turn off the computer and all attached devices.
2. Remove the left-side cover. See “Removing the covers” on page 82.
3. Locate the battery. See “Identifying parts on the system board” on page 85.
4. If necessary, remove any adapters that impede access to the battery. See “Replacing a PCI adapter” on page 90 for more information.
5. Remove the old battery.



6. Install the new battery.



7. Replace any adapters that were removed to gain access to the battery. See “Replacing a PCI adapter” on page 90 for instructions for replacing adapters.

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.

8. Go to “Completing the FRU replacement.” on page 111.

Replacing the power supply

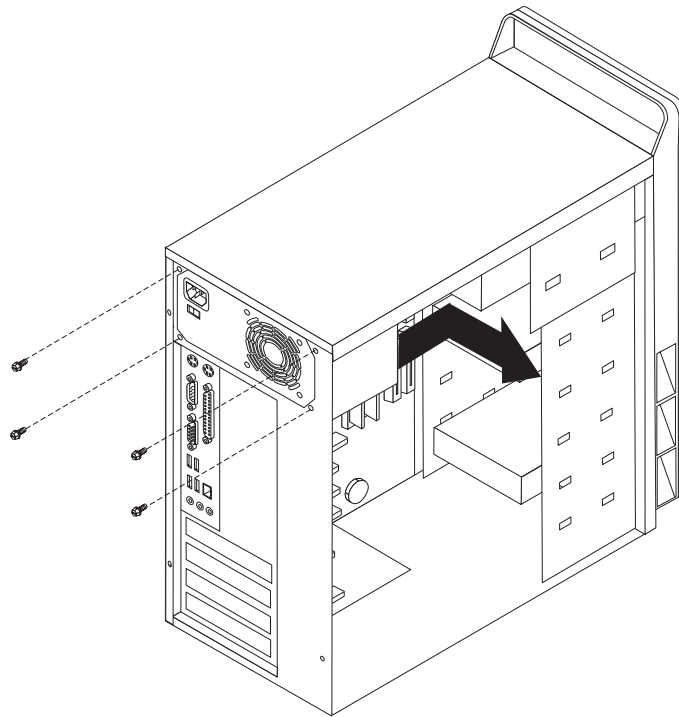
Attention

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.

1. Remove the left-side cover. See “Removing the covers” on page 82.
2. Disconnect all power supply cables from the drives.
3. Disconnect all power supply cables from the system board. See “Identifying parts on the system board” on page 85.
4. At the rear of the chassis, remove the four screws that secure the power supply.

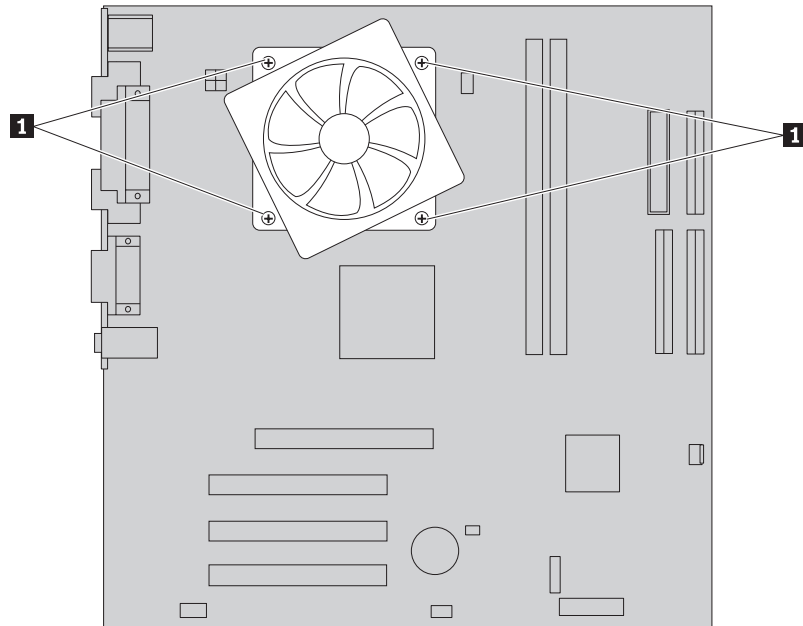


5. Lift the power supply out of the chassis.
6. Install the new power supply and insert the four screws that hold the power supply in place.
7. Reconnect all power supply cables to the system board and the drives. See “Identifying parts on the system board” on page 85. Make sure the cables are correctly routed.
8. Go to “Completing the FRU replacement.” on page 111.

Replacing the system board (Types 8252, 8253, 8254, 8255, and 8256)

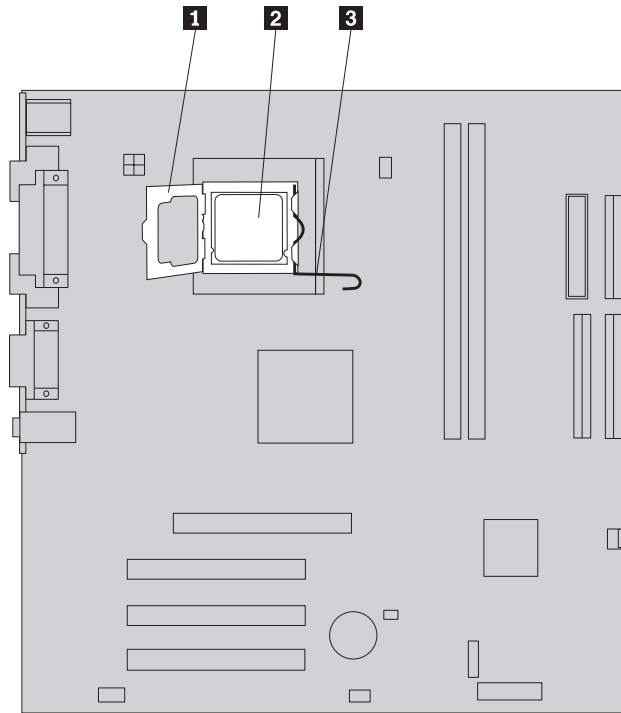
Note: When replacing the system board a new retention bracket for the microprocessor heat sink is required. Make sure you have a new retention bracket before beginning this procedure.

1. Remove both side covers. See “Removing the covers” on page 82.
2. Lay the computer on the right side to make the system board accessible.
3. Remove any adapter cards installed in the PCI connectors. See “Replacing a PCI adapter” on page 90.
4. Carefully take note of the location of all cable connections on the system board and disconnect all cables. See “Identifying parts on the system board” on page 85.
5. Remove the screws that secure the system board to the chassis.
6. Lift the system board out of the chassis.
7. Remove the memory modules from the failing system board and install them in the same location on the new system board.
8. Remove the four screws **1** securing the heat sink and fan assembly to the system board.



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

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

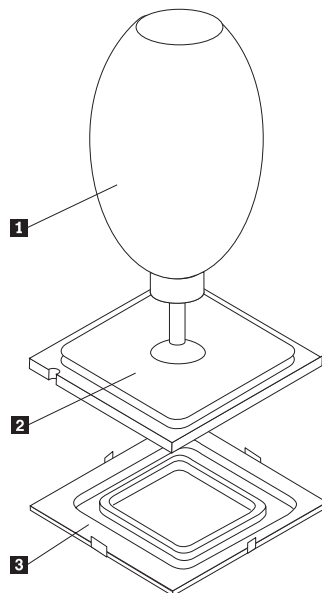


11. Using the vacuum pen **1**, remove the microprocessor **2** from the system board socket by lifting it straight up and out of the socket.

Important

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

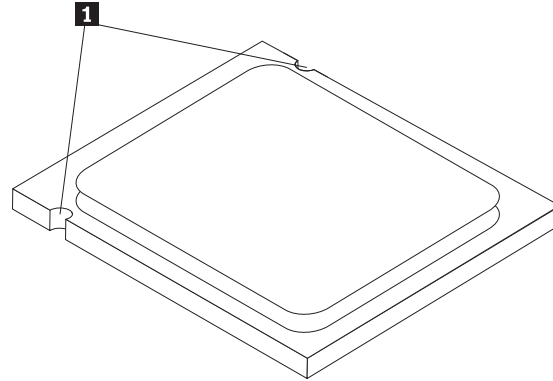
Note: The protective cover **3** is not used unless you are installing a new microprocessor.



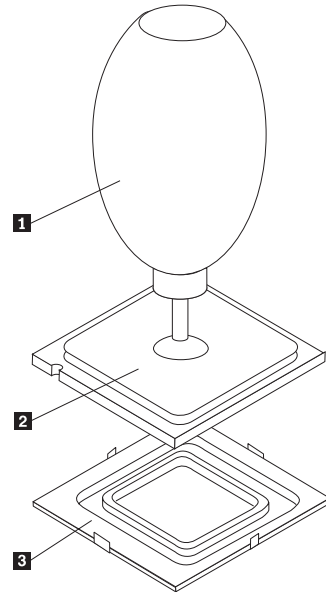
Attention:

Be careful to not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.

12. To install the microprocessor on the new system board, position the microprocessor so that the notches **1** are aligned with the corresponding tabs in the socket.



13. Make sure that the microprocessor retainer is fully open.
14. Using the vacuum pen **1** to pick up the microprocessor, lower the microprocessor straight down into the socket.



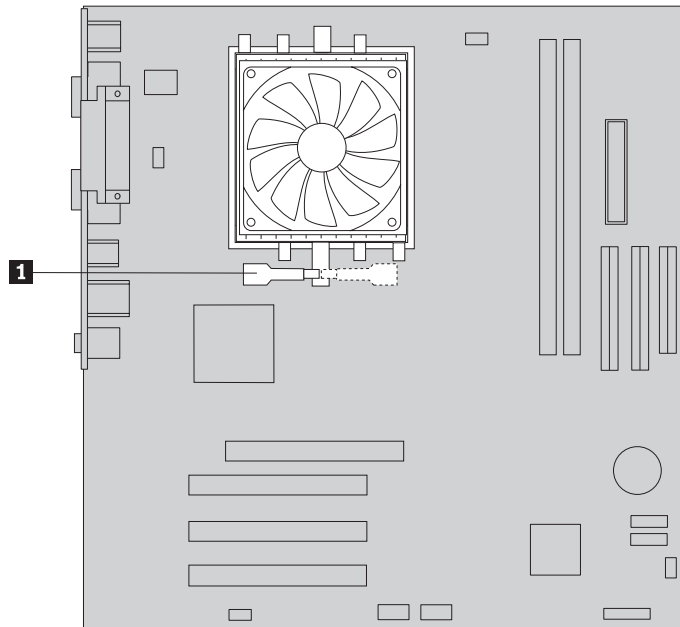
15. Lower the microprocessor retainer.
16. Lock the retainer with the small handle to secure the microprocessor in the socket.
17. The new retention bracket has plastic one-way rings on the posts that insert into the rear of the new system board. Install the new retention bracket by aligning the posts on the module with the holes in the system board and pushing the posts through the holes until the retention bracket is secure.
18. Install the heat sink and fan assembly on the new system board.
19. 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.

20. Connect all the cables to the system board. See “Identifying parts on the system board” on page 85
21. Go to “Completing the FRU replacement.” on page 111.

Replacing the system board (Types 8257, 8258, and 8259)

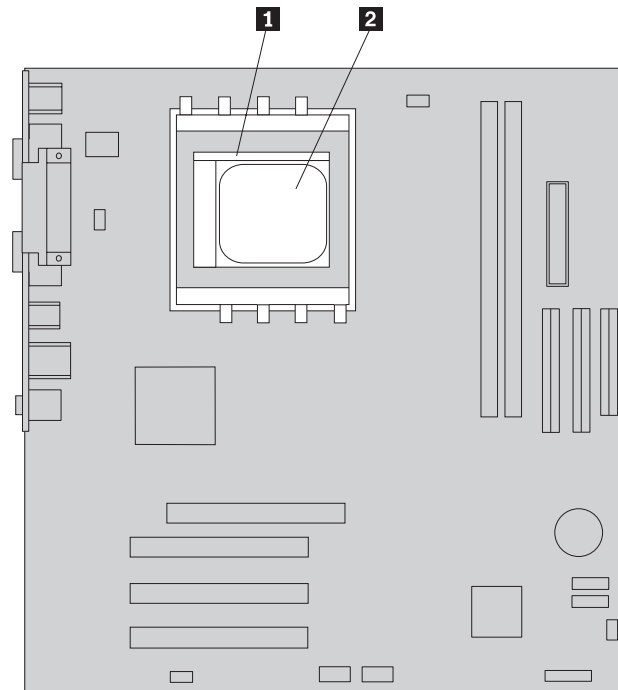
Note: When replacing the system board, a new retention bracket for the microprocessor heat sink is required. Make sure you have a new retention bracket before beginning this procedure.

1. Remove only the left-side cover. See “Removing the covers” on page 82.
2. Lay the computer on the right side to make the system board accessible.
3. Remove any adapter cards installed in the PCI connectors. See “Replacing a PCI adapter” on page 90.
4. Carefully take note of the location of all cable connections on the system board and disconnect all cables. See “Identifying parts on the system board” on page 85.
5. Remove the screws that secure the system board to the chassis.
6. Lift the system board out of the chassis.
7. Remove the memory modules from the failing system board and install them in the same location on the new system board.
8. Rotate handle **1** to release the heat sink clamp and then disengage the clamp from the plastic retention bracket.



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

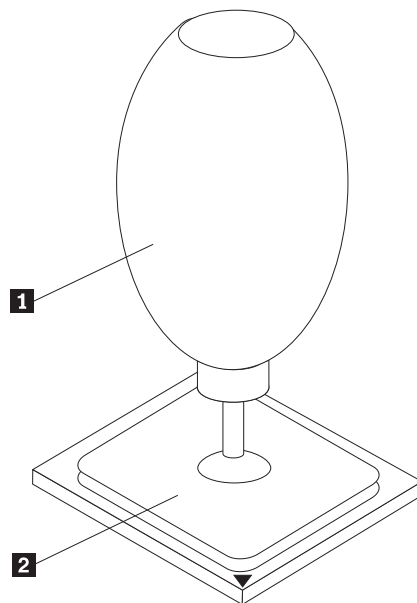
10. To remove the microprocessor **2** from the system board, lift the small handle **1**.



11. Using the vacuum pen **1**, remove the microprocessor **2** from the system board socket by lifting it straight up and out of the socket.

Important

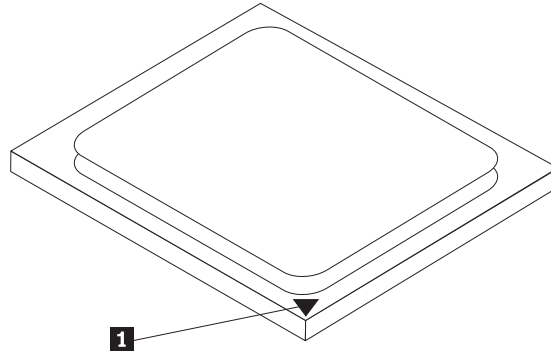
Do not touch the gold contacts on the bottom of the microprocessor. If you must touch the microprocessor, touch only the sides.



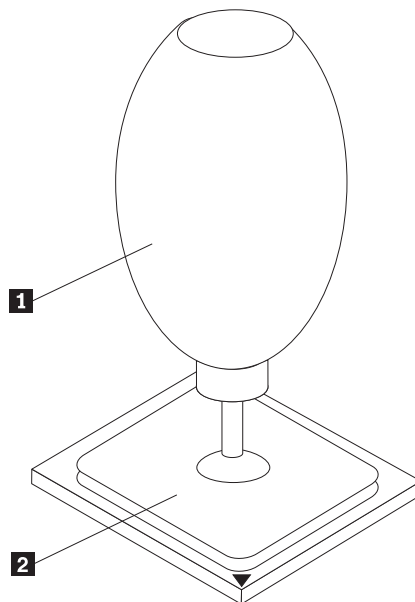
Attention:

Do not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.

12. To install the microprocessor on the new system board, position the microprocessor so that the small triangle **1** is aligned with the corresponding triangle on the socket.



13. Make sure that the small handle that secures the microprocessor is fully open.
14. Using the vacuum pen **1** to pick up the microprocessor, lower the microprocessor straight down into the socket.

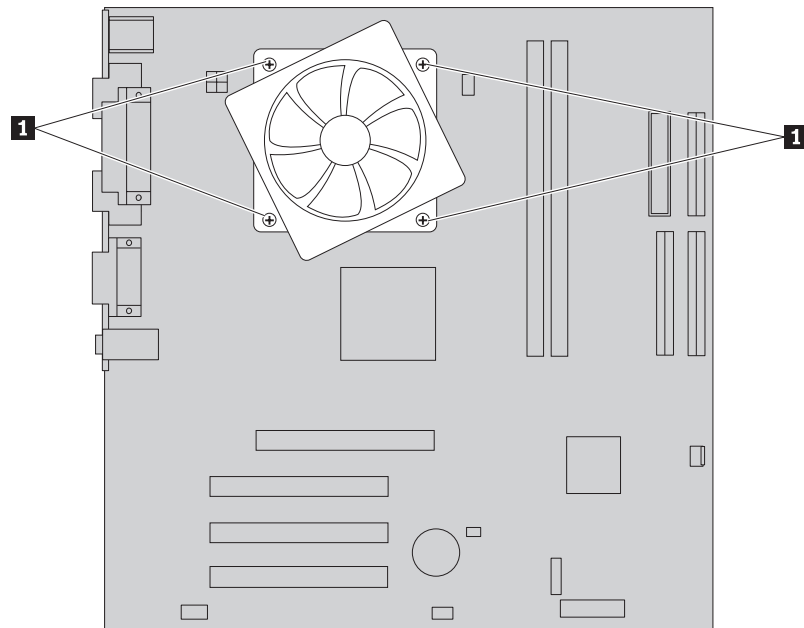


15. Lower and latch the handle to secure the microprocessor in the socket.
16. Install the heat sink and fan assembly on the system board.
17. Install the new system board into the chassis and align the screw holes with those in the chassis. Insert and tighten the screws that secure the system board.
18. Connect all the cables to the system board. See "Identifying parts on the system board" on page 85
19. Go to "Completing the FRU replacement." on page 111.

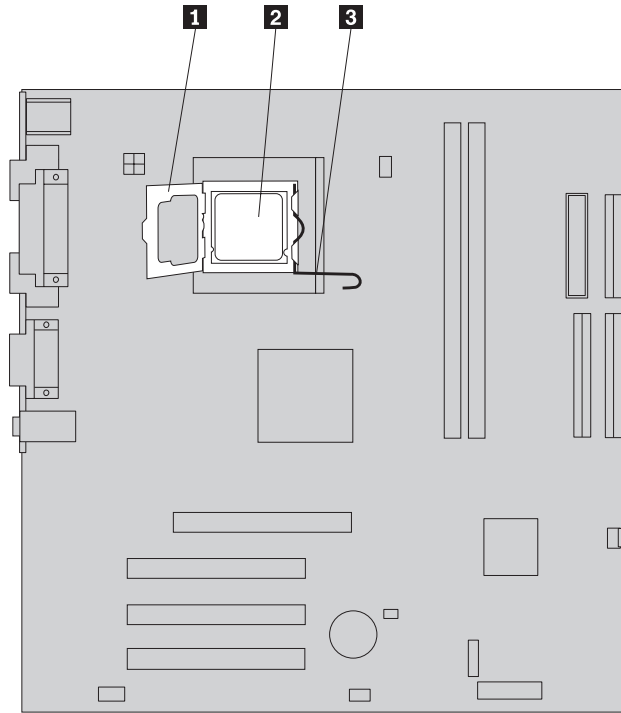
Replacing the microprocessor (Types 8252, 8253, 8254, 8255, and 8256)

Note: A thermal grease syringe is required to complete the microprocessor installation. Make sure the grease syringe is available before beginning the procedure. The FRU number for the thermal grease is 91P8835.

1. Remove the left-side cover. See “Removing the covers” on page 82.
2. Lay the computer on the right side to make the system board and microprocessor accessible.
3. Disconnect the heat sink and fan assembly cable from the system board. See “Identifying parts on the system board” on page 85.
4. Remove the four **1** screws securing the heat sink and fan assembly to the system board. Notice that there is a retention bracket on the back side of the system board.



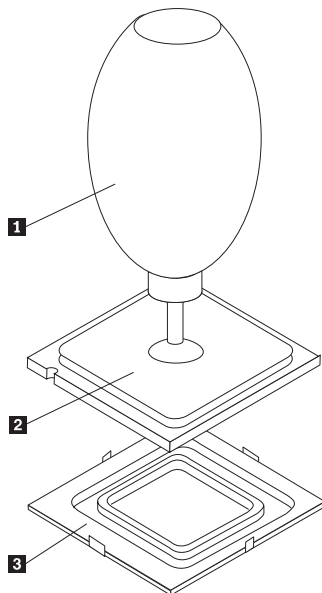
5. Lift the heat sink and fan assembly off the failing system board. Lay the heat sink on its side so that the thermal grease does not touch anything.
6. To remove the microprocessor **2** from the failing system board, lift the small handle **3** and open the retainer **1**.



7. Using the vacuum pen **1**, remove the microprocessor from the system board socket by lifting it straight up and out of the socket.

Important

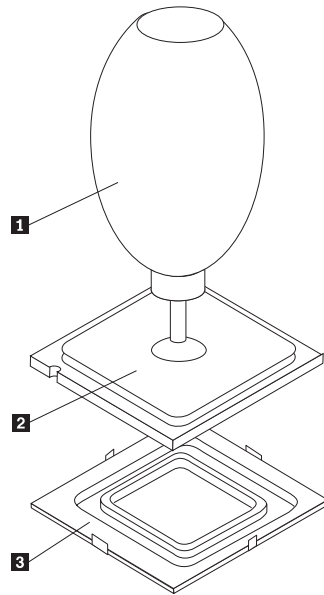
Do not touch the gold contacts on the bottom of the microprocessor. If you must touch the microprocessor, touch only the sides.



Attention:

Do not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.

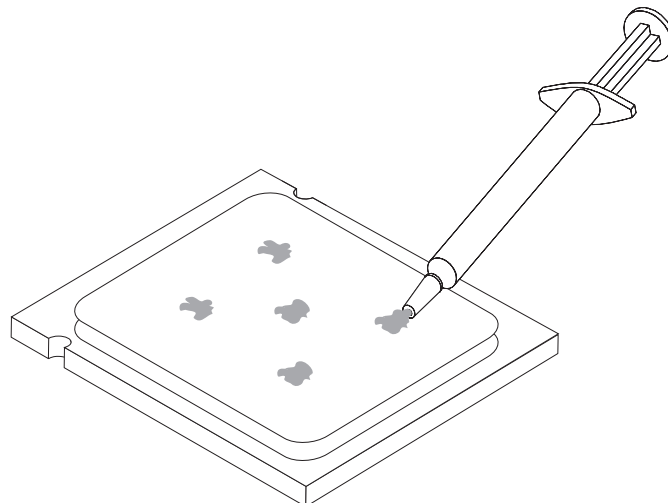
8. Make sure that the microprocessor retainer is fully open.
9. Loosen the protective cover **3** that protects the gold contacts on the new microprocessor **2** but do not remove it. Use the vacuum pen **1** to pick up the microprocessor then completely remove the cover.



10. Position the microprocessor so that the notches on the microprocessor are aligned with the tabs in the microprocessor socket.
11. Using the vacuum pen, lower the microprocessor straight down into the microprocessor socket.

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

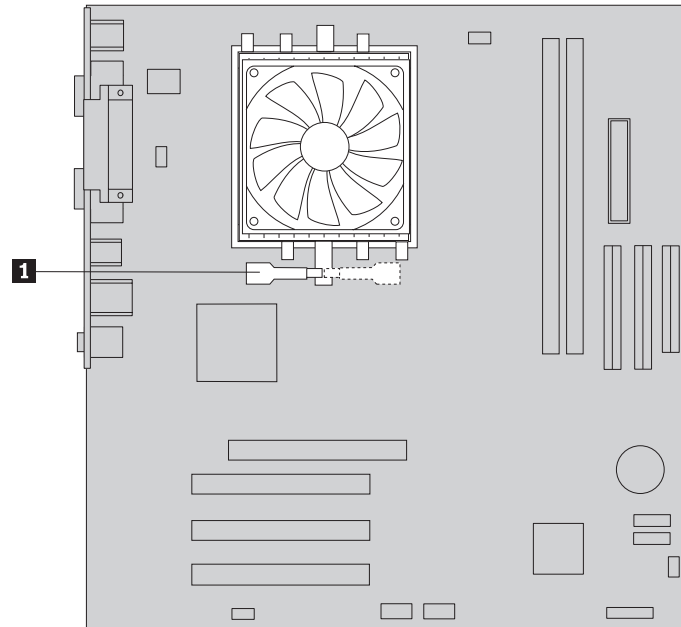
12. Lower the microprocessor retainer.
13. Lock the retainer with the small handle to secure the microprocessor in the socket.
14. Use the thermal grease syringe to place five drops of grease on the top of the microprocessor. Each drop of grease should be 0.03ml (3 tick marks on the grease syringe).



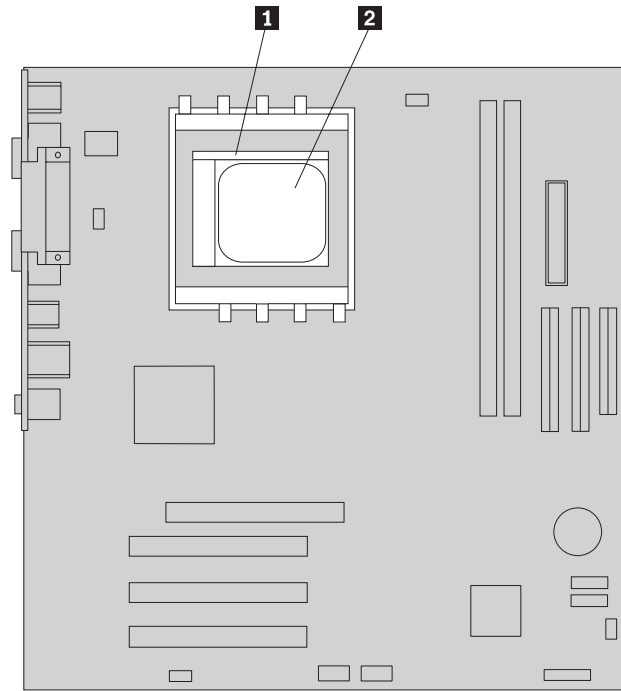
15. Install the heat sink and fan assembly on the system board.
16. Connect the heat sink and fan assembly cable to the system board. See “Identifying parts on the system board” on page 85.
17. Go to “Completing the FRU replacement.” on page 111.

Replacing the microprocessor (Types 8257, 8258, and 8259)

1. Remove the left-side cover. See “Removing the covers” on page 82.
2. Lay the computer on the right side to make the system board and microprocessor accessible.
3. Disconnect the heat sink and fan assembly cable from the system board. See “Identifying parts on the system board” on page 85.
4. Rotate handle **1** to release the heat sink clamp and then disengage the clamp from the plastic retention bracket.



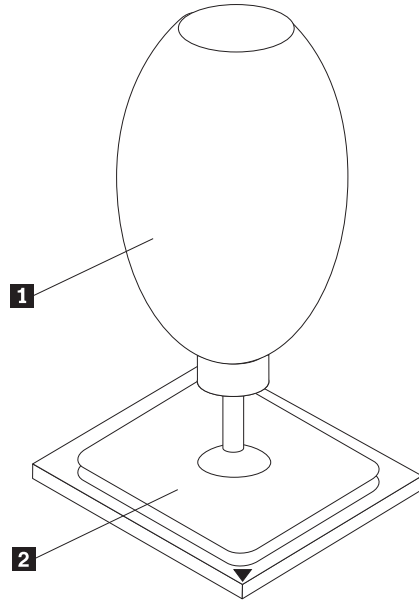
5. Lift the heat sink and fan assembly off the failing system board. Lay the heat sink on its side so that the thermal grease does not touch anything.
6. To remove the microprocessor **2** from the system board, lift the small handle **1**.



- Using the vacuum pen **1**, remove the microprocessor **2** from the system board socket by lifting it straight up and out of the socket.

Important

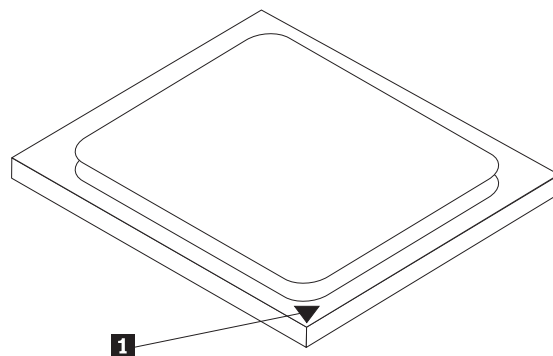
Do not touch the gold contacts on the bottom of the microprocessor. If you must touch the microprocessor, touch only the sides.



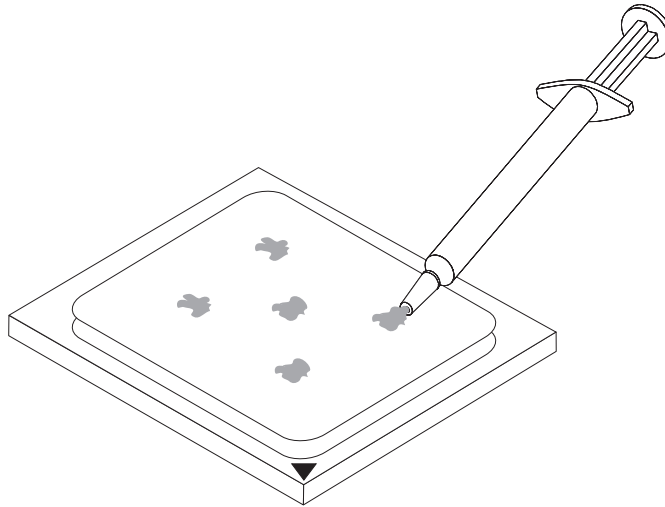
Attention:

Be careful to not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.

- Position the new microprocessor so that the small triangle on the microprocessor is aligned with the corresponding triangle **1** on the microprocessor socket.



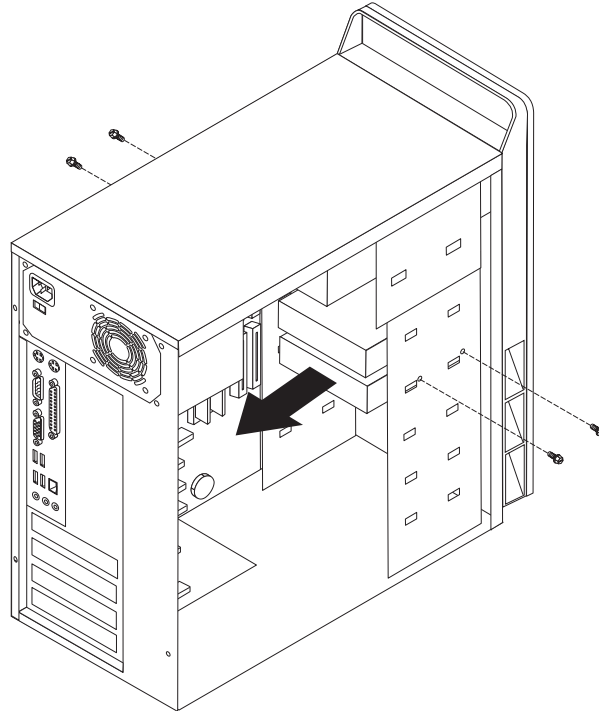
- Using the vacuum pen, lower the microprocessor straight down into the microprocessor socket.
- Lower the small handle to secure the microprocessor in the socket.
- Use the thermal grease syringe to place five drops of grease on the top of the microprocessor. Each drop of grease should be 0.03ml (3 tick marks on the grease syringe).



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 “Identifying parts on the system board” on page 85.
14. Go to “Completing the FRU replacement.” on page 111.

Replacing the primary hard disk drive

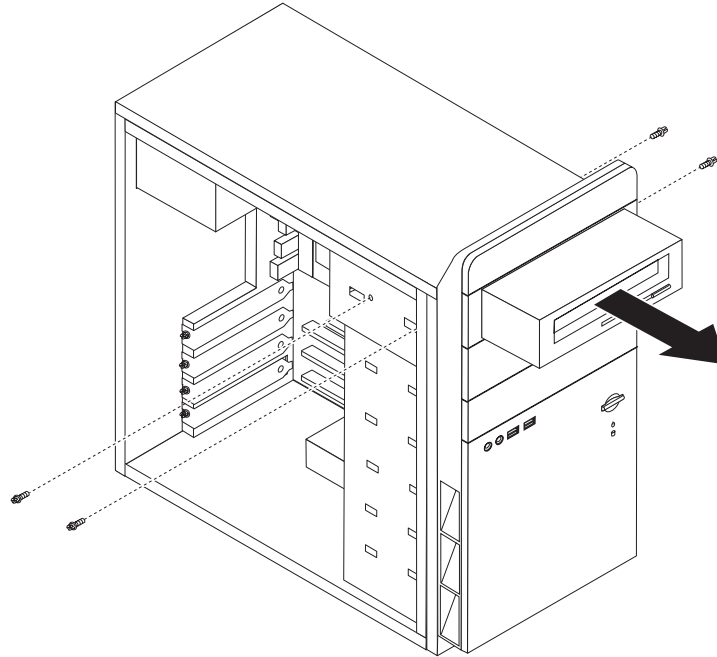
1. Remove the left-side and right-side covers. See “Removing the covers” on page 82.
2. Disconnect the signal and power cables from the rear of the hard disk drive.
3. Remove the two screws that secure the drive on each side.



4. Slide the drive toward the rear of the chassis until it can be removed.
5. If the drive you are replacing has jumpers on the rear, make sure the jumpers on the new drive are in the same exact position as the drive being replaced.
6. Slide the new drive into the bay until the screws holes on each side are aligned and install two screws in each side of the drive.
7. Reconnect the signal and power cables to the rear of the hard disk drive.
8. Go to “Completing the FRU replacement.” on page 111.

Replacing an optical drive

1. Remove the left-side and right-side covers. See “Removing the covers” on page 82.
2. Disconnect the power cable and signal cable from the optical drive.
3. Remove the two screws that secure the drive on each side.



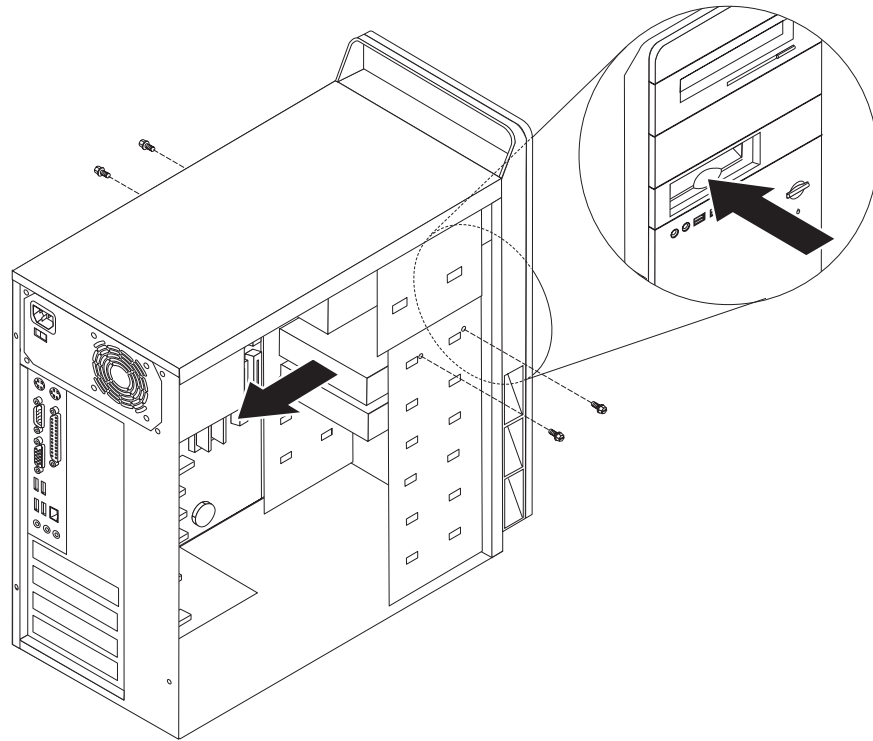
4. Slide the drive being replaced out the front of the computer.
5. If the drive you are replacing has jumpers on the rear, make sure the jumpers on the new drive are in the same exact position as the drive being replaced.
6. Slide the new drive into the bay until the screws holes on each side are aligned and install two screws in each side of the drive.
7. Reconnect the power cable and signal cable to the new optical drive.
8. Go to “Completing the FRU replacement.” on page 111.

Replacing the diskette drive

1. Remove the left-side and right-side covers. See “Removing the covers” on page 82.
2. Disconnect the signal and power cables from the rear of the hard disk drive.

Note: You will probably have to disconnect cables that are connected to the system board and other drives to allow the diskette drive to be removed from inside the chassis.

3. Remove the two screws that secure the drive on each side.



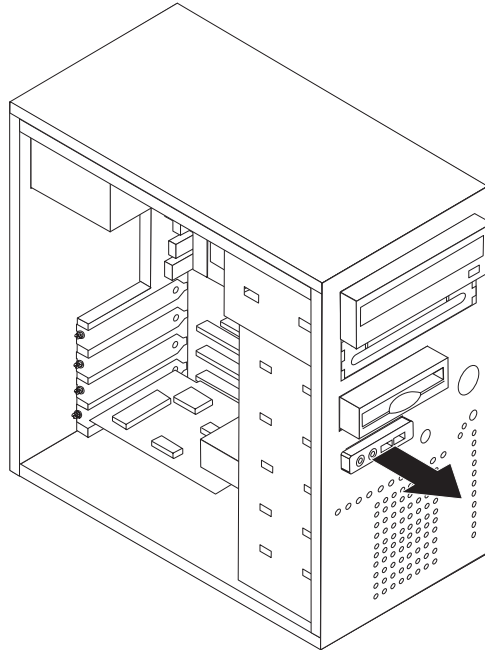
4. Slide the drive toward the rear of the chassis until it can be removed.
5. Slide the new drive into the bay until the screws holes on each side are aligned and install two screws in each side of the drive.
6. Reconnect all signal and power cables that were disconnected. See “Identifying parts on the system board” on page 85.
7. Go to “Completing the FRU replacement.” on page 111.

Replacing the power switch/ LED assembly

1. Remove the front bezel. See “Removing and replacing the front bezel” on page 88.
2. Disconnect the power switch/LED assembly cable from the system board. See “Identifying parts on the system board” on page 85.
3. Remove the power switch/LED assembly by disconnecting it from the inside of the bezel.
4. Install the new power switch/LED assembly into the bezel.
5. Route the cable for the new power switch/LED assembly through the hole in the chassis and to the system board.
6. Reinstall the bezel. See “Removing and replacing the front bezel” on page 88.
7. Reconnect the power switch/LED cable to the system board.
8. Go to “Completing the FRU replacement.” on page 111.

Replacing the front panel card assembly

1. Remove the left-side and right-side covers. See “Removing the covers” on page 82.
2. Remove the front bezel. See “Removing and replacing the front bezel” on page 88.
3. Disconnect the front USB cable and the front audio cable from the system board. See “Identifying parts on the system board” on page 85.
4. Remove the screw on the front of the chassis that secures the front panel assembly.



5. Route the new front panel cable through the front of the chassis and install the screw that secures the front panel assembly.
6. Reinstall the bezel. See “Removing and replacing the front bezel” on page 88.
7. Connect the front USB cable and the front audio cable to the system board. See “Identifying parts on the system board” on page 85.
8. 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 covers that were removed and secure them with the thumb screws.
3. Reconnect the external cables and power cords to the computer. See “Rear connectors” on page 82.

4. If you have replaced the system board, you must update (flash) the BIOS. See “Flash update procedures” on page 205.
5. Some FRU replacements require the configuration to be updated. See Chapter 6, “Using the Setup Utility,” on page 49.

Chapter 9. Replacing FRUs (Types 8453, 8454, 8455, 8456, 8457, 8458, 8459, and 8460)

Important

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

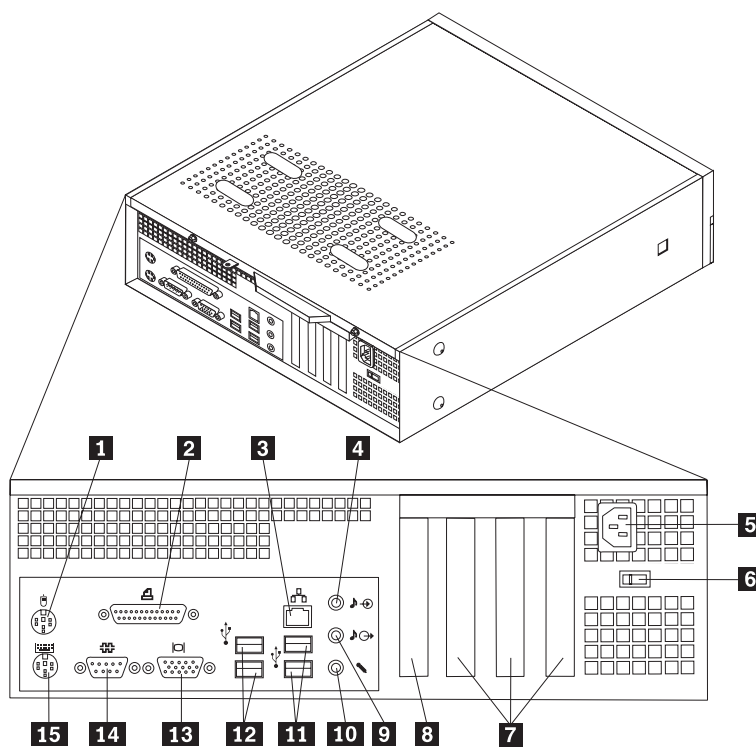
FRU replacements are to be done by trained service technicians only.

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

Note: Your computer might look slightly different than the illustrations in this chapter.

Rear connectors

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



- | | | | |
|----------|---|-----------|-----------------------------|
| 1 | Standard mouse connector | 9 | Audio line out connector |
| 2 | Parallel connector | 10 | Microphone connector |
| 3 | Ethernet connector | 11 | USB connectors |
| 4 | Audio line in connector | 12 | USB connectors |
| 5 | Power cord connector | 13 | VGA monitor connector |
| 6 | Voltage selection switch | 14 | Serial connector |
| 7 | PCI adapter connectors | 15 | Standard keyboard connector |
| 8 | AGP or PCI Express x16 graphics adapter connector (some models) | | |

Removing the cover

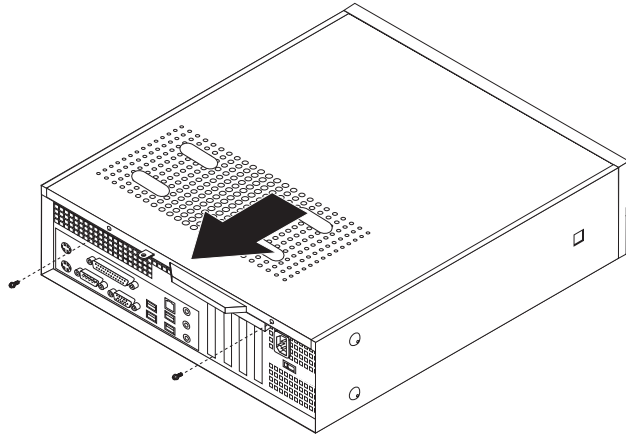
Important

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

To remove the computer cover:

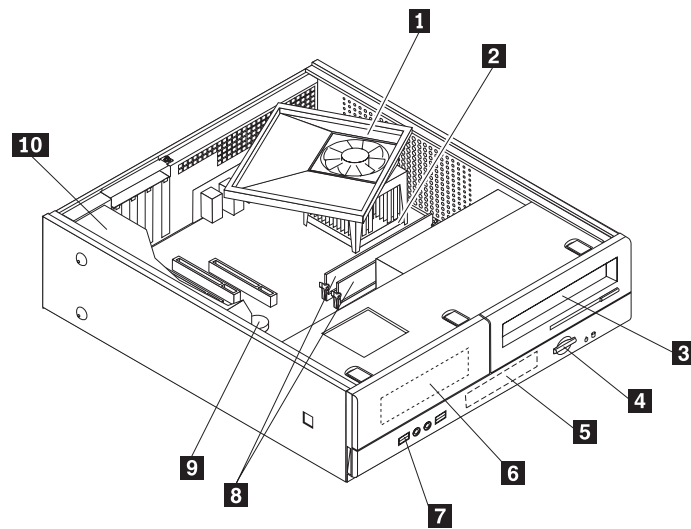
1. Remove any media (diskettes, CDs, or tapes) from the drives, shut down the operating system, and turn off all attached devices.
2. Unplug all power cords from electrical outlets.
3. Disconnect all cables attached to the computer. This includes power cords, input/output (I/O) cables, and any other cables that are connected to the computer.
4. Remove any locking devices such as a padlock that secure the cover.

- Remove the two screws at the rear 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.

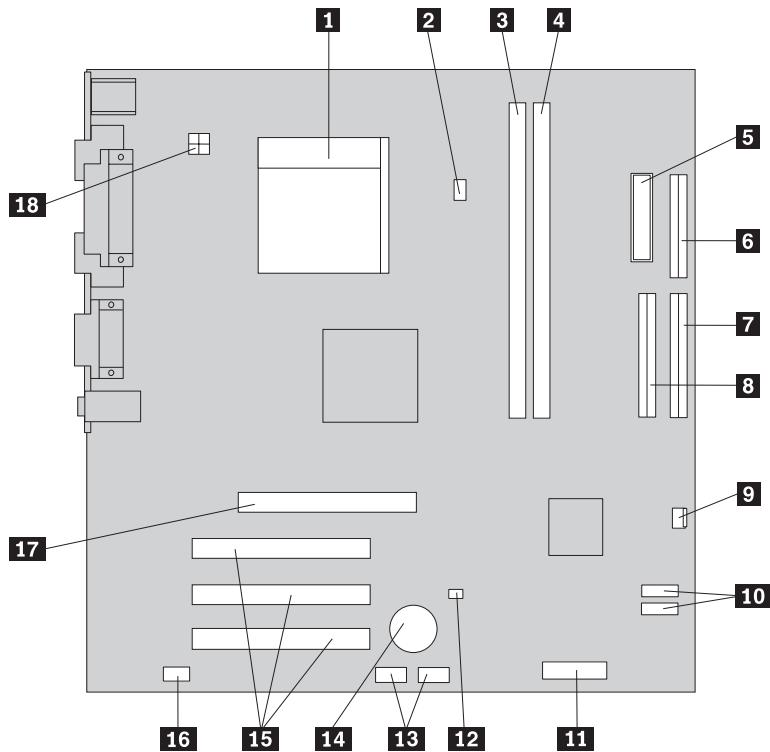


- | | |
|---|---------------------------|
| 1 Fan plenum, fan, and heat sink | 6 Diskette drive |
| 2 Microprocessor | 7 Front panel card |
| 3 Optical drive | 8 Memory modules |
| 4 Power switch/LED assembly | 9 System board |
| 5 Hard disk drive | 10 Power supply |

Identifying parts on the system board

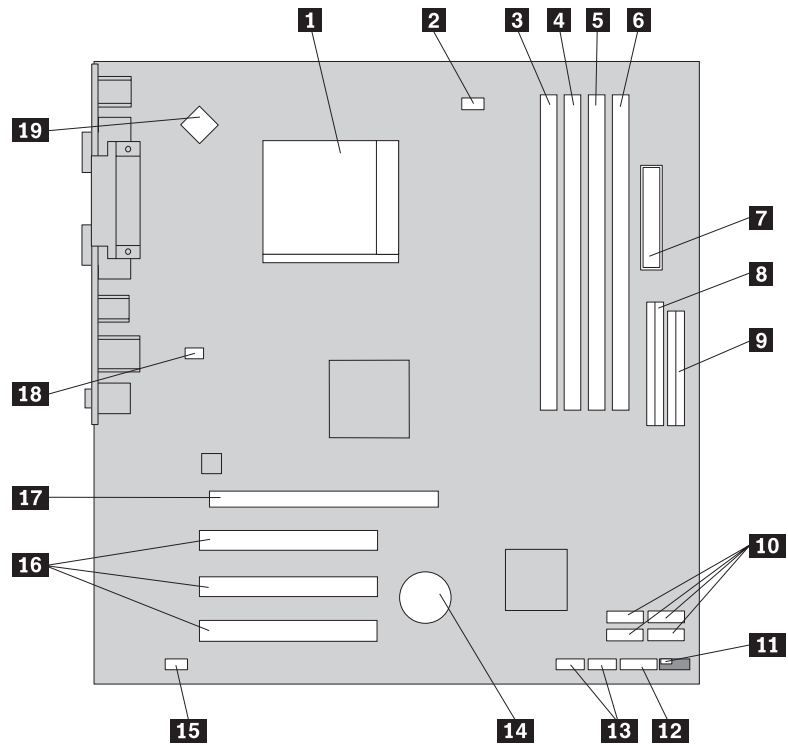
System board locations are different depending on the machine type.

Machine Types 8453, 8454, and 8455



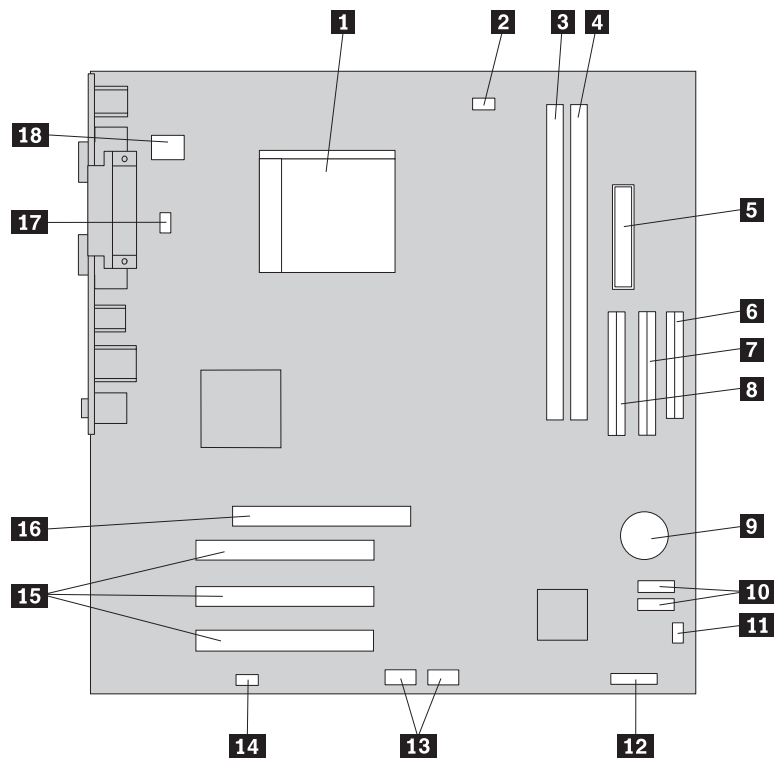
- | | |
|---------------------------------------|--------------------------------------|
| 1 Microprocessor and heat sink | 11 Power switch/LED connector |
| 2 Heat sink fan connector | 12 Clear CMOS/Recovery jumper |
| 3 Memory connector 1 | 13 Front USB connectors |
| 4 Memory connector 2 | 14 CMOS battery |
| 5 Power supply connector | 15 PCI connectors |
| 6 Diskette drive connector | 16 Front audio connector |
| 7 PATA primary IDE connector | 17 AGP adapter connector |
| 8 PATA secondary IDE connector | 18 12V power connector |
| 9 System fan connector | |
| 10 SATA IDE connectors | |

Machine Types 8456 and 8457



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

Machine Types 8458, 8459, and 8460

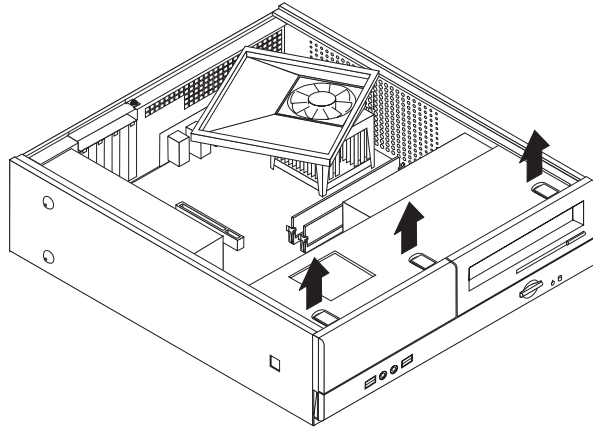


- | | |
|---------------------------------------|--------------------------------------|
| 1 Microprocessor and heat sink | 10 Front panel connector |
| 2 Heat sink fan connector | 11 Power switch/LED connector |
| 3 Memory connector 1 | 12 Clear CMOS/Recovery jumper |
| 4 Memory connector 2 | 13 Front USB connector |
| 5 Power connector | 14 CMOS Battery |
| 6 Diskette drive connector | 15 PCI connectors |
| 7 Primary IDE connector | 16 Front audio connector |
| 8 Secondary IDE connector | 17 AGP connector |
| 9 Fan connector | 18 12V power connector |

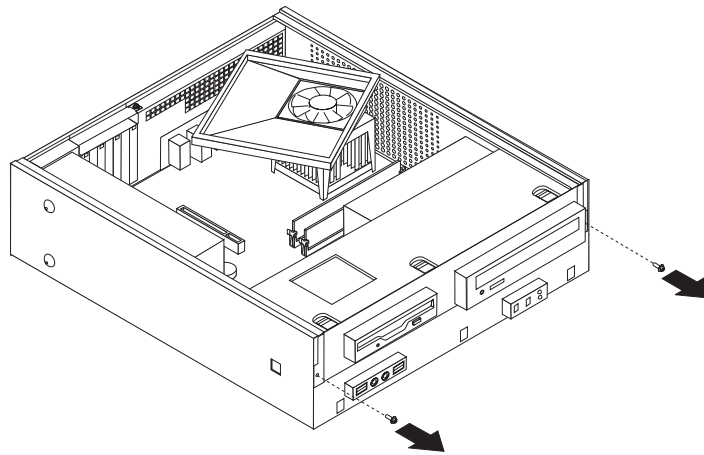
Removing and replacing the drive bay assembly

You will need to remove the drive bay assembly to access some FRUs.

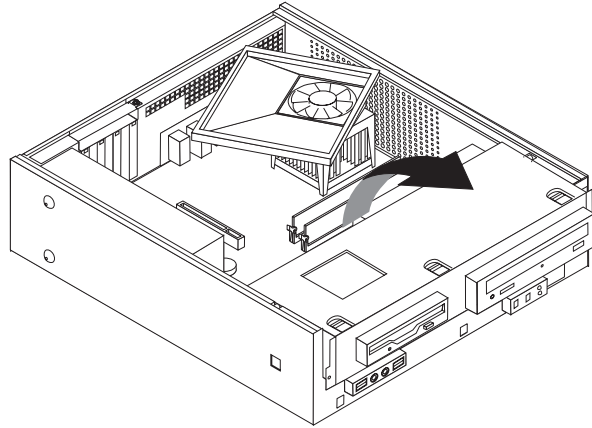
1. Remove the computer cover. See “Removing the cover” on page 114.
2. Remove the front bezel by releasing the three tabs and pivoting the top of the bezel outward.



3. Remove the two screws at the front of the chassis securing the drive bay assembly.



4. Slide the drive bay assembly forward until it stops. Disconnect the power supply and signal cables from the drives. Pivot the rear of the drive bay assembly upward to remove it completely from the computer.

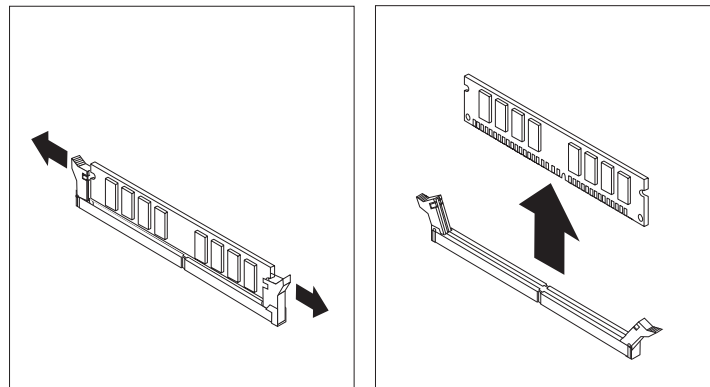


Note: To allow easier access to the cables, lift the fan plenum off the heat sink. See “Locations” on page 115.

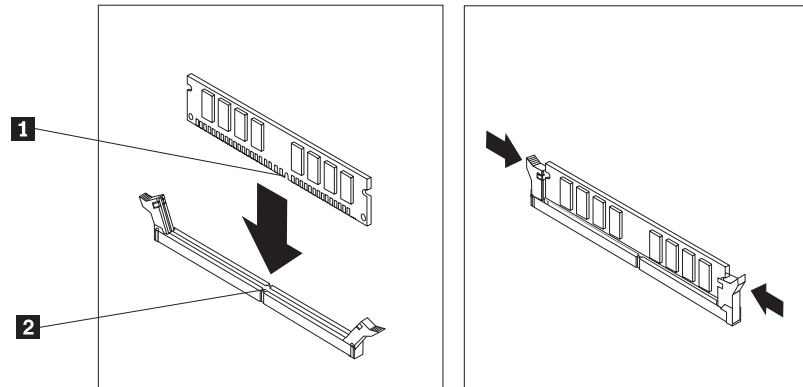
5. Reverse this procedure to replace the drive bay assembly and bezel.

Replacing a memory module

1. Remove the cover. See “Removing the cover” on page 114.
2. Remove the drive bay assembly. See “Removing and replacing the drive bay assembly” on page 119.
3. Locate the memory connectors. See “Identifying parts on the system board” on page 116.
4. Open the retaining clips and remove the failing memory module.



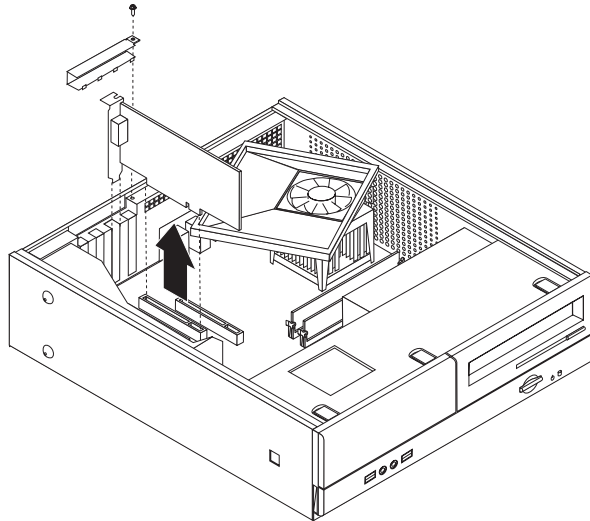
5. Make sure the notch **1** on the new memory module is aligned correctly with the connector key **2** on the socket. Insert the memory module straight down into the connector until it snaps into position and the retaining clips are closed.



6. Replace the drive bay assembly. See “Removing and replacing the drive bay assembly” on page 119.
7. Go to “Completing the FRU replacement.” on page 143.

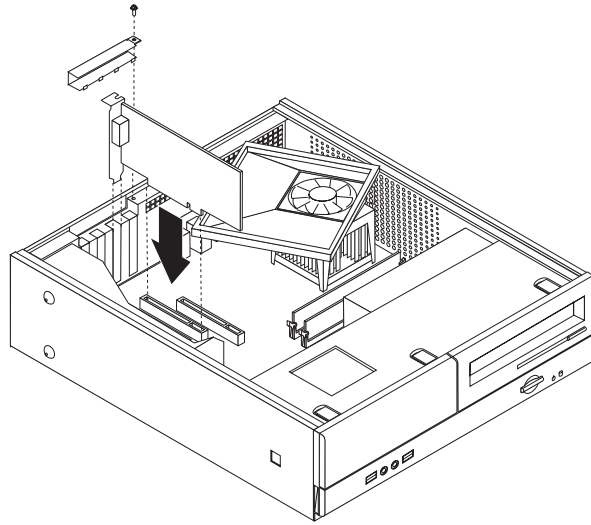
Replacing a PCI adapter

1. Remove the computer cover. See “Removing the cover” on page 114.
2. Remove the screw that secures the adapter retainer and remove the retainer.



3. Remove the failing adapter.
4. Remove the new adapter from its static-protective package.

5. Install the new adapter into the appropriate connector on the system board.



6. Reinstall the adapter retainer and screw that secures the retainer.
7. Go to "Completing the FRU replacement." on page 143.

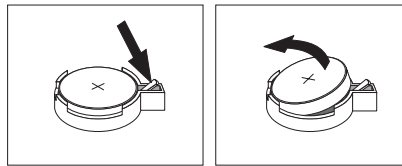
Replacing the CMOS battery

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.

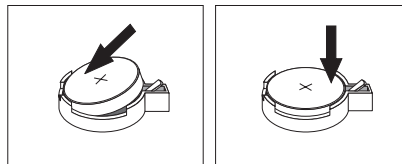
Important

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

1. Remove the cover. See “Removing the cover” on page 114.
2. Locate the battery. See “Identifying parts on the system board” on page 116.
3. Depending on the location of the CMOS battery in your computer, you might have to remove the drive bay assembly to access the battery. If necessary, see “Removing and replacing the drive bay assembly” on page 119.
4. If necessary, remove any adapters that impede access to the battery. See “Replacing a PCI adapter” on page 121 for more information.
5. Remove the old battery.



6. Install the new battery.



7. Replace the drive bay assembly if it was removed. See “Removing and replacing the drive bay assembly” on page 119.
8. Replace any adapters that were removed to gain access to the battery. See “Replacing a PCI adapter” on page 121 for more information.

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.

9. Go to “Completing the FRU replacement.” on page 143.

Replacing the power supply

Attention

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

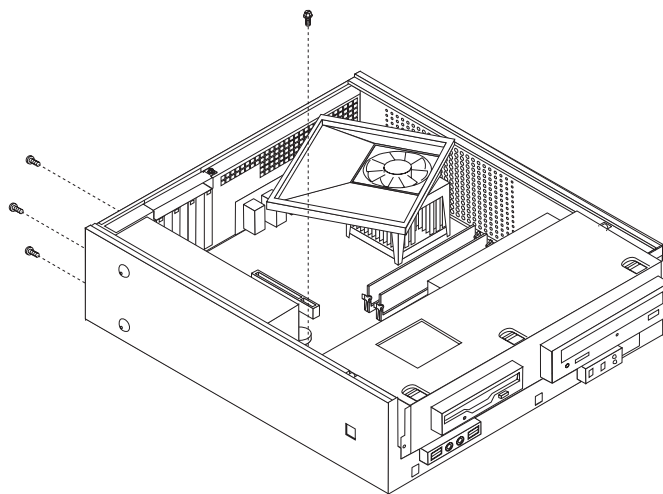


Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no servicable parts inside these components.

1. Remove the cover. See “Removing the cover” on page 114.
2. Remove the drive bay assembly. See “Removing and replacing the drive bay assembly” on page 119.
3. Disconnect all power supply cables from the drives.
4. Disconnect all power supply cables from the system board. See “Identifying parts on the system board” on page 116.
5. Remove the hard disk drive. See “Replacing the hard disk drive” on page 139.
6. 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.

7. 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.



8. Lift the power supply out of the chassis.
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.

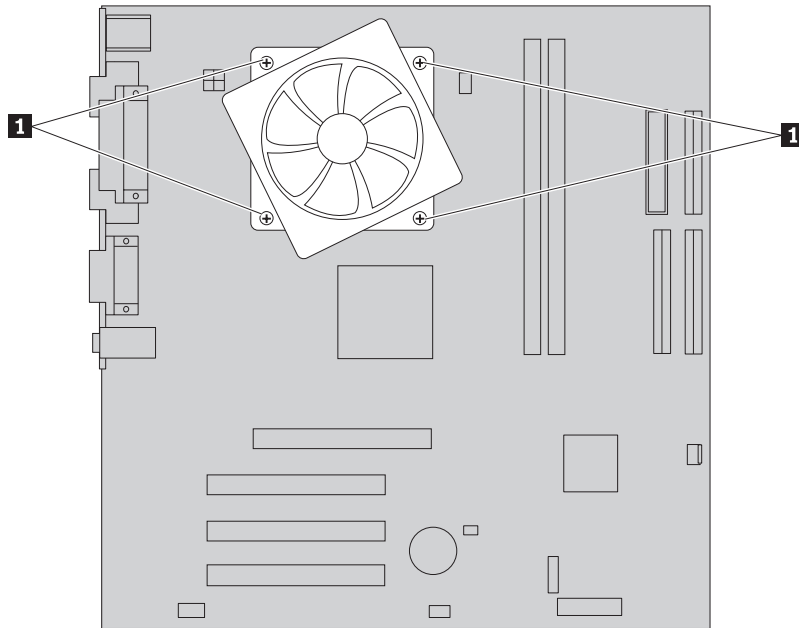
10. Position the system board so that the screws holes are aligned and install the system board screws.
11. Install the hard disk drive. Make sure to route the power supply cable for the system board underneath the hard disk drive. See “Replacing the hard disk drive” on page 139.
12. Reconnect all other power supply cables to the system board and the drives. See “Identifying parts on the system board” on page 116. Make sure the cables are correctly routed.
13. Replace the drive bay assembly. See “Removing and replacing the drive bay assembly” on page 119.
14. Go to “Completing the FRU replacement.” on page 143.

Replacing the system board (Types 8453, 8454, 8455, 8456, and 8457)

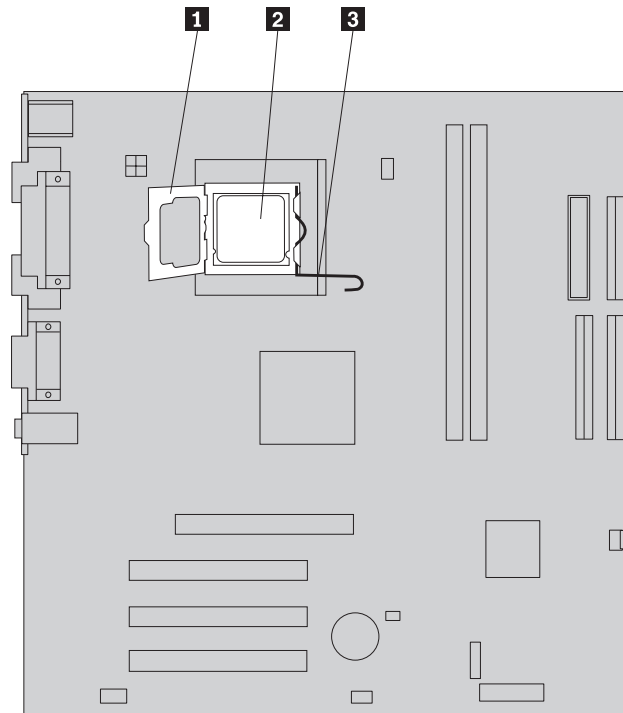
Note: When replacing the system board, a new retention bracket for the microprocessor heat sink is required. Make sure you have a new retention bracket before beginning this procedure.

1. Remove the cover. See “Removing the cover” on page 114
2. Lift the fan duct off the heat sink fan.
3. Remove any adapter cards installed in the PCI connectors. See “Replacing a PCI adapter” on page 121.
4. Remove the drive bay assembly. See “Removing and replacing the drive bay assembly” on page 119.
5. Take note of the location of all cable connections on the system board and disconnect all cables. See “Identifying parts on the system board” on page 116.
6. Remove the hard disk drive. See “Replacing the hard disk drive” on page 139.
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 “Identifying parts on the system board” on page 116.

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. Lay 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**.

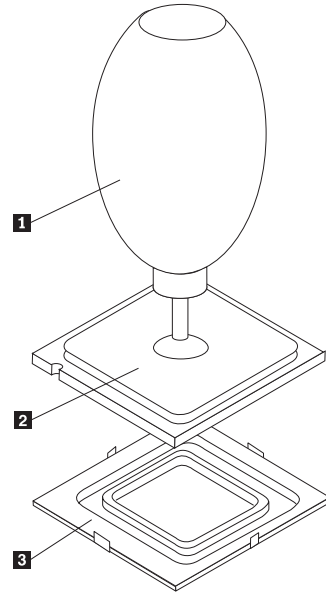


- Using the vacuum pen **1**, remove the microprocessor from the system board socket by lifting it straight up and out of the socket.

Important

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

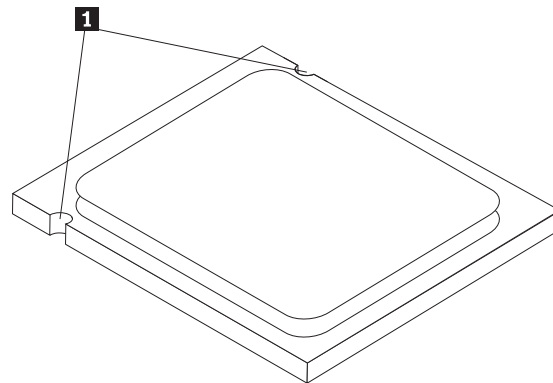
Note: Since you are not installing a new microprocessor, the protective cover **3** is not used.



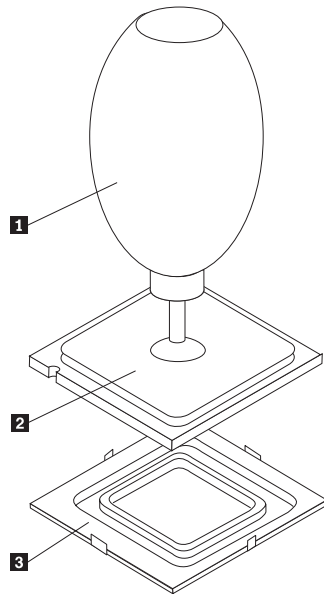
Attention:

Be careful to not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.

- Position the microprocessor so that the notches **1** are aligned with the corresponding tabs in the socket.



16. Using the vacuum pen **1** to pick up the microprocessor, lower the microprocessor straight down into the socket.

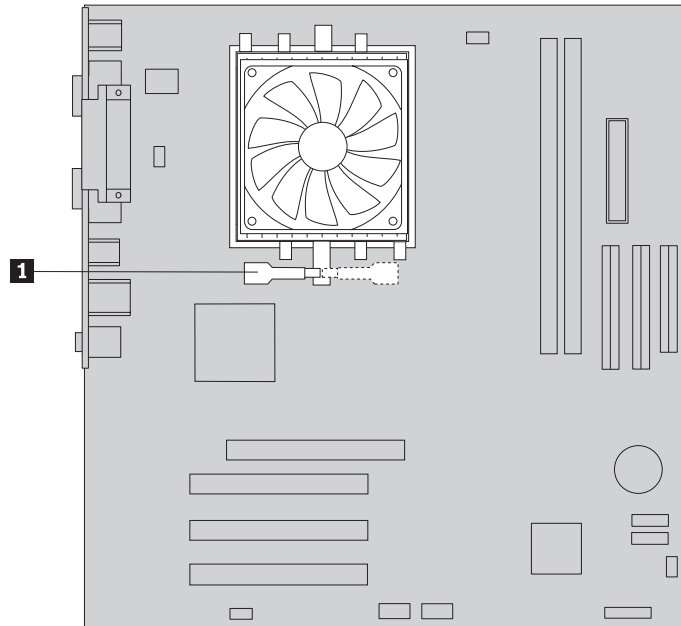


17. Lower the microprocessor retainer.
18. Lock the retainer with the small handle to secure the microprocessor in the socket.
19. The new retention bracket has an adhesive surface to attach it to the new system board. The adhesive surface is protected by a peel-off film. To install the new retention bracket, peel off the film, push the posts through the holes in the system board until secure against the board.
20. Install the heat sink and fan assembly on the new system board.
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. Connect all cables to the system board. See "Identifying parts on the system board" on page 116
23. Replace the hard disk drive. See "Replacing the hard disk drive" on page 139.
24. Install the drive bay assembly and connect the power and signal cables to the drives.
25. Reinstall any PCI adapter cards that were removed. See "Replacing a PCI adapter" on page 121.
26. Position the fan duct on the heat sink fan.
27. Go to "Completing the FRU replacement." on page 143.

Replacing the system board (Types 8458, 8459, and 8460)

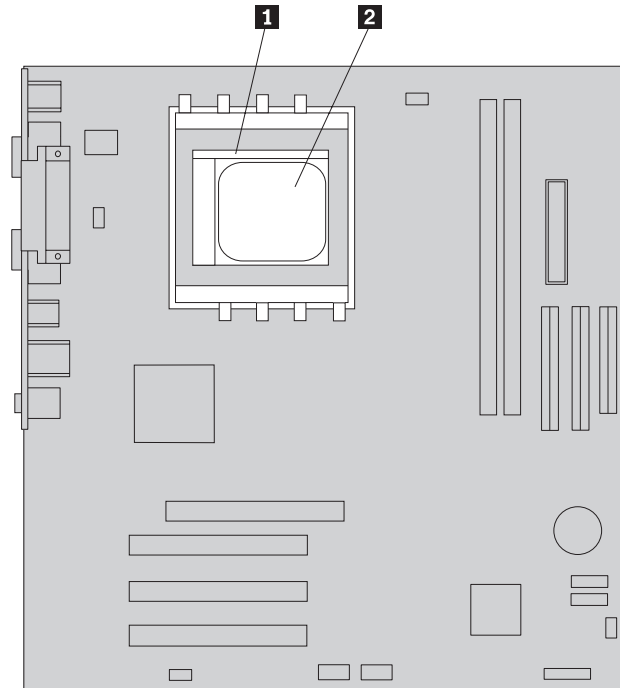
Note: When replacing the system board, a new retention bracket for the microprocessor heat sink is required. Make sure you have a new retention bracket before beginning this procedure.

1. Remove the cover. See “Removing the cover” on page 114.
2. Lift the fan duct off the heat sink fan.
3. Remove any adapter cards installed in the PCI connectors. See “Replacing a PCI adapter” on page 121.
4. Remove the drive bay assembly. See “Removing and replacing the drive bay assembly” on page 119.
5. Take note of the location of all cable connections on the system board and disconnect all cables. See “Identifying parts on the system board” on page 116.
6. Remove the hard disk drive. See “Replacing the hard disk drive” on page 139.
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 “Identifying parts on the system board” on page 116.
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.

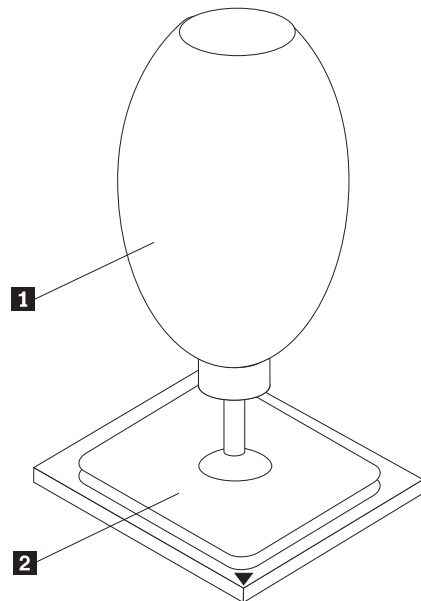
13. To remove the microprocessor **2** from the system board, lift the small handle **1**.



14. Using the vacuum pen **1**, remove the microprocessor from the system board socket by lifting it straight up and out of the socket.

Important

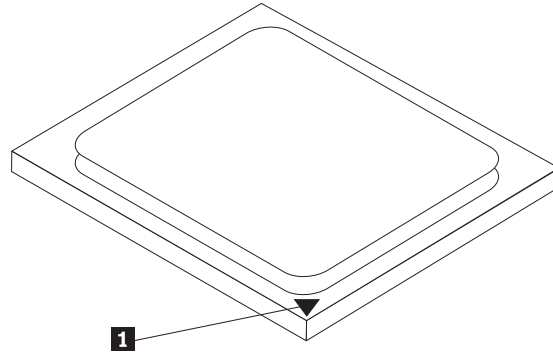
Do not touch the gold contacts on the bottom of the microprocessor. If you must touch the microprocessor, touch only the sides.



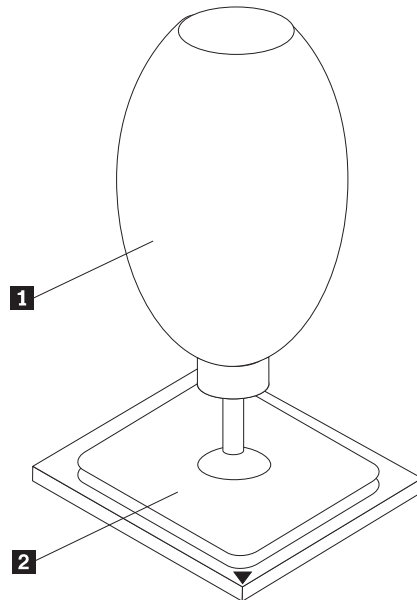
Attention:

Be careful to not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.

15. Position the microprocessor so that the small triangle **1** on the microprocessor is aligned with the corresponding triangle on the socket.



16. Using the vacuum pen **1** to pick up the microprocessor, lower the microprocessor straight down into the socket.



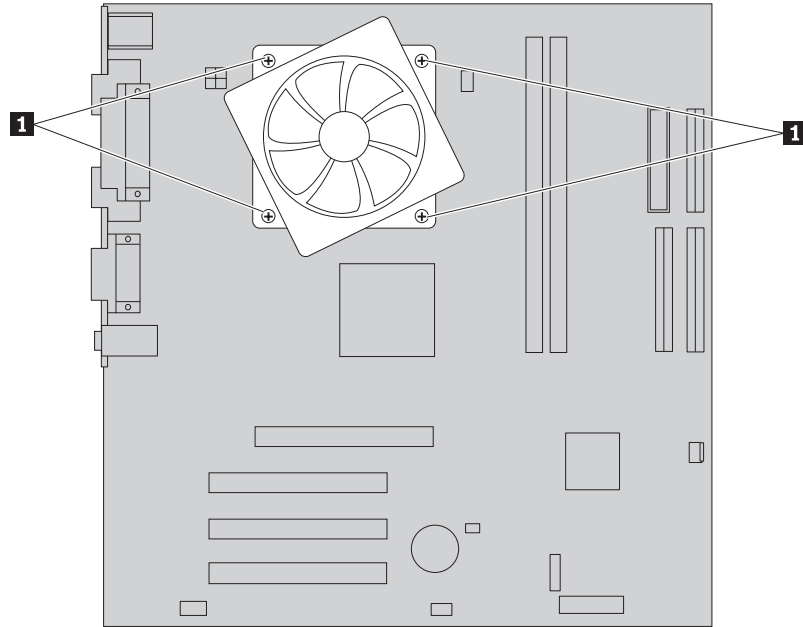
17. Lower and latch the handle to secure the microprocessor in the socket.
18. Install the heat sink and fan assembly on the new system board.
19. Install the new system board into the chassis and align the screw holes with those in the chassis. Insert and tighten the screws that secure the system board.
20. Connect all cables to the system board. See “Identifying parts on the system board” on page 116.
21. Replace the hard disk drive. See “Replacing the hard disk drive” on page 139.
22. Install the drive bay assembly and connect the power and signal cables to the drives.
23. Reinstall any PCI adapter cards that were removed. See “Replacing a PCI adapter” on page 121.
24. Position the fan duct on the heat sink fan.
25. Go to “Completing the FRU replacement.” on page 143.

Replacing the microprocessor (Types 8453, 8454, 8455, 8456, and 8457)

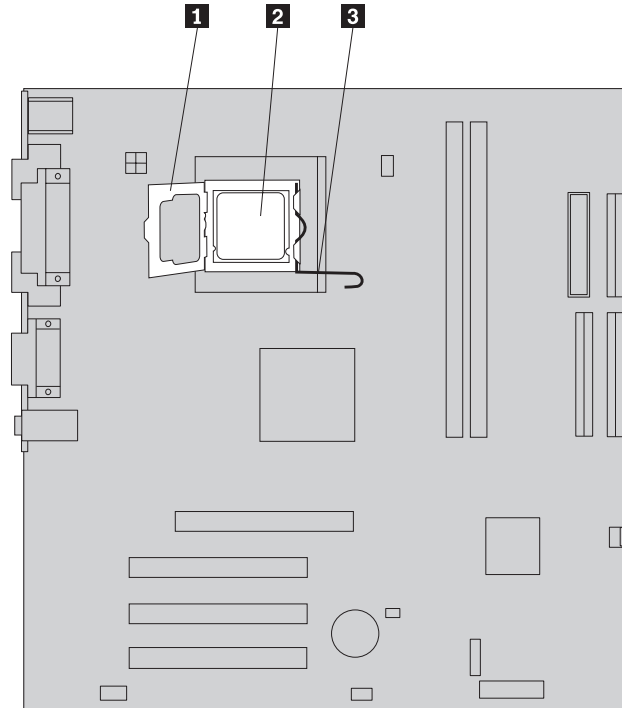
Note: A thermal grease syringe is required to complete the microprocessor installation. Make sure the grease syringe is available before beginning the procedure. The FRU number for the thermal grease is 91P8835.

1. Remove the cover. See “Removing the cover” on page 114.
2. Lay the computer on the right side to make the system board and microprocessor accessible.
3. Disconnect the heat sink and fan assembly cable from the system board. See “Identifying parts on the system board” on page 85.

4. Remove the four screws securing the heat sink and fan assembly to the system board. Notice that there is a retention bracket on the back side of the system board.



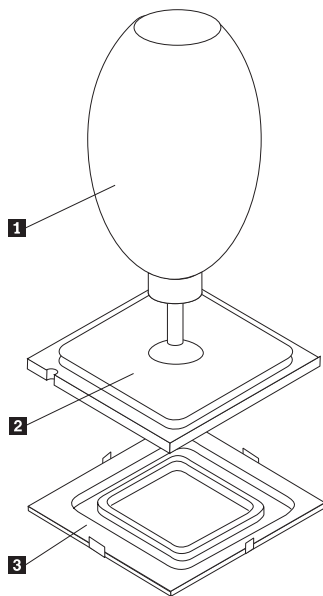
5. Lift the heat sink and fan assembly off the failing system board.
6. To remove the microprocessor **2** from the failing system board, lift the small handle **3** and open the retainer **1**.



7. Using the vacuum pen **1**, remove the microprocessor from the system board socket by lifting it straight up and out of the socket.

Important

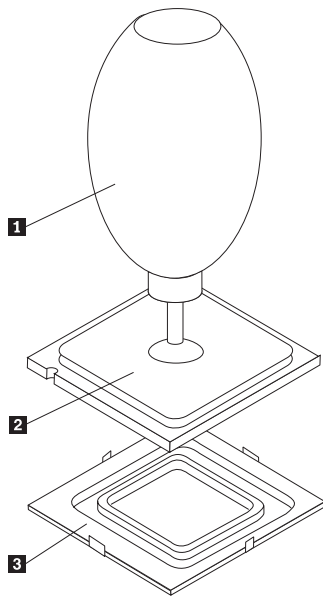
Do not touch the gold contacts on the bottom of the microprocessor. If you must touch the microprocessor, touch only the sides.



Attention:

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. Loosen the protective cover **3** that protects the gold contacts on the new microprocessor **2** but do not remove it. Use the vacuum pen **1** to pick up the microprocessor then completely remove the cover.

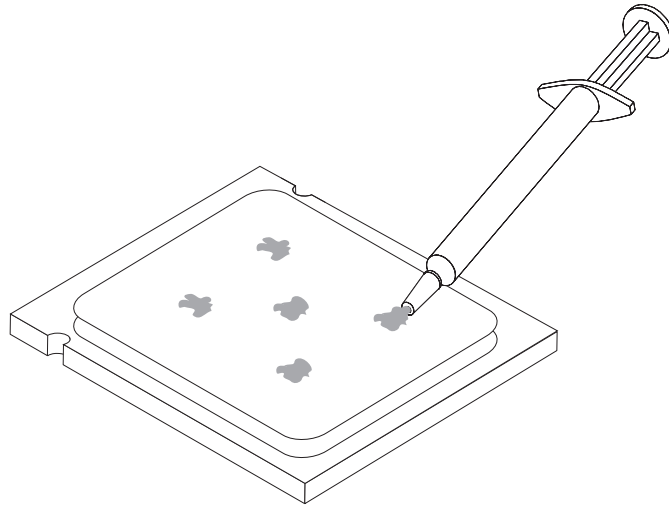


10. Position the microprocessor so that the notches on the microprocessor are aligned with the tabs in the microprocessor socket.

- Using the vacuum pen, lower the microprocessor straight down into the microprocessor socket.

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

- Lower the microprocessor retainer.
- Lock the retainer with the small handle to secure the microprocessor in the socket.
- Use the thermal grease syringe to place five drops of grease on the top of the microprocessor. Each drop of grease should be 0.03ml (3 tick marks on the grease syringe).

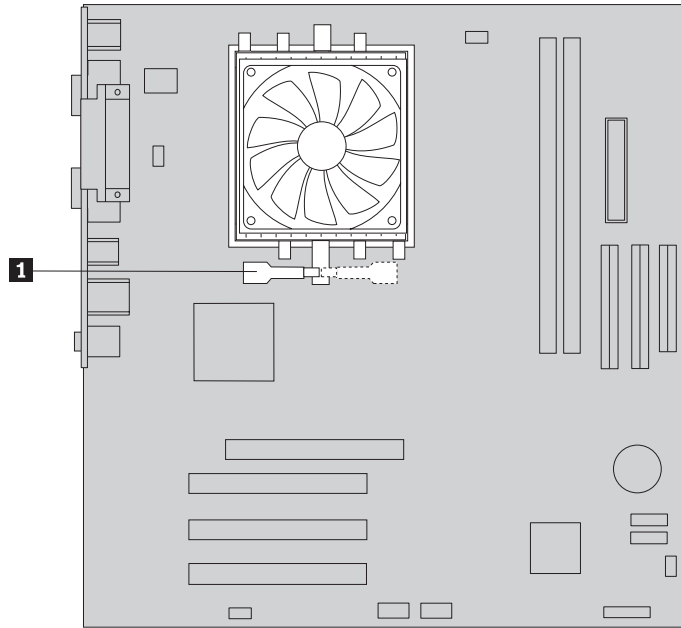


- Install the heat sink and fan assembly on the system board.
- Connect the heat sink and fan assembly cable to the system board. See “Identifying parts on the system board” on page 85.
- Go to “Completing the FRU replacement.” on page 111.

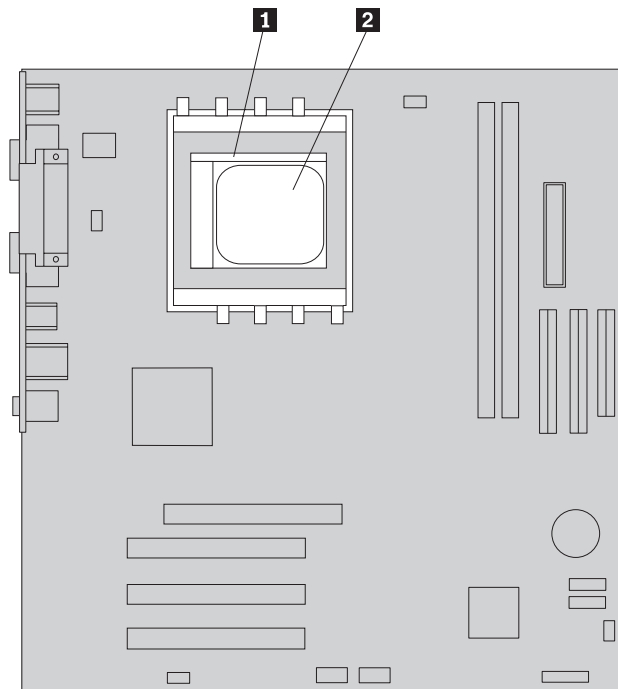
Replacing the microprocessor (Types 8458, 8459, and 8460)

Note: A thermal grease syringe is required to complete the microprocessor installation. Make sure the grease syringe is available before beginning the procedure. The FRU number for the thermal grease is 91P8835.

- Remove the cover. See “Removing the cover” on page 114.
- Lift the fan duct off the heat sink fan.
- Disconnect the heat sink and fan assembly cable from the system board. See “Identifying parts on the system board” on page 116.
- Rotate handle **1** to release the heat sink clamp and then disengage the clamp from the plastic retention bracket.



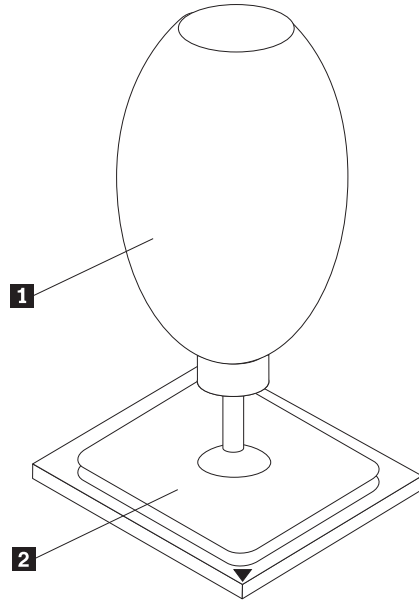
5. Lift the heat sink and fan assembly off the system board.
6. To remove the microprocessor **2** from the system board, lift the small handle **1**.



- Using the vacuum pen **1**, remove the microprocessor from the system board socket by lifting it straight up and out of the socket.

Important

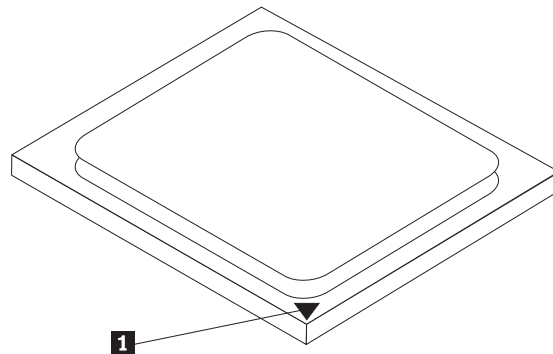
Do not touch the gold contacts on the bottom of the microprocessor. If you must touch the microprocessor, touch only the sides.



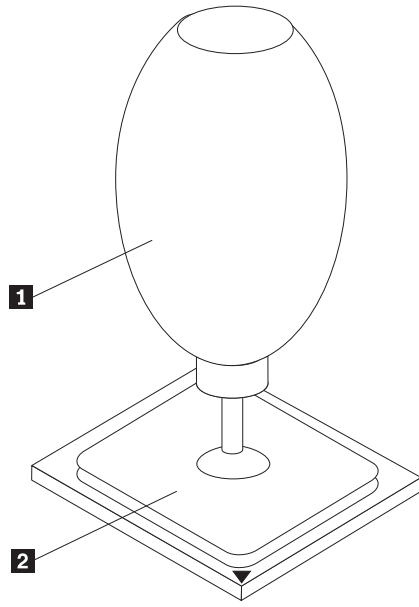
Attention:

Be careful to not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.

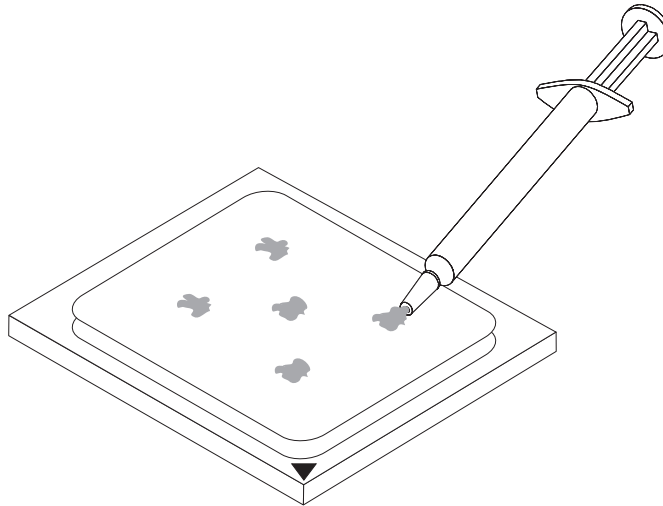
- Position the microprocessor so that the small triangle **1** on the microprocessor is aligned with the corresponding triangle on the socket.



- Using the vacuum pen **1** to pick up the microprocessor, lower the microprocessor straight down into the socket.



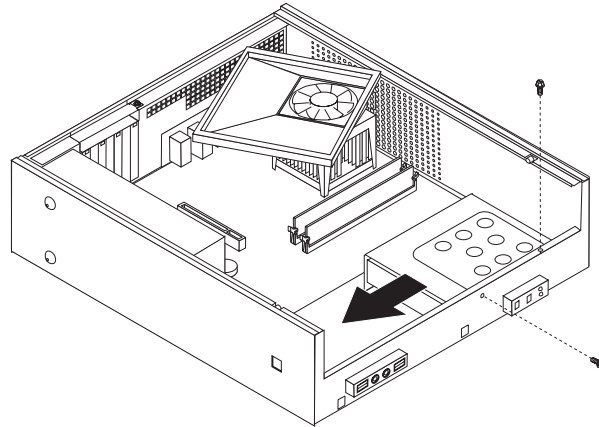
10. Lower and latch the handle to secure the microprocessor in the socket.
11. Use the thermal grease syringe to place five drops of grease on the top of the microprocessor. Each drop of grease should be 0.03ml (3 tick marks on the grease syringe).



12. Install the heat sink and fan assembly on the system board.
13. Connect the heat sink and fan assembly to the system board. See "Identifying parts on the system board" on page 85.
14. Position the fan duct on the heat sink fan.
15. Go to "Completing the FRU replacement." on page 143.

Replacing the hard disk drive

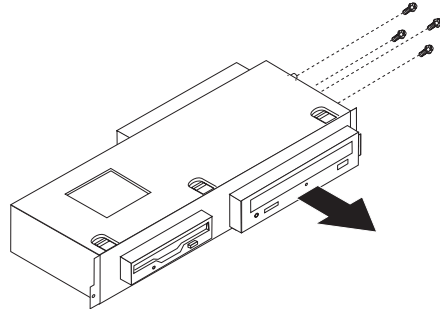
1. Remove the cover. See “Removing the cover” on page 114.
2. Remove the drive bay assembly. See “Removing and replacing the drive bay assembly” on page 119.
3. Remove the two screws that secure the hard disk drive bracket.



4. From the front of the chassis, slide the drive bracket to the left until it is free of the retaining clips in the bottom of the chassis. It can now be removed from the chassis.
5. Disconnect the signal and power cables from the rear of the hard disk drive.
6. Remove the four screws that secure the hard disk drive to the bracket and remove the drive from the bracket.
7. Position the new drive into the hard disk drive bracket so that the screw holes on each side are aligned and install two screws into each side of the drive.
8. Reconnect the signal and power cables to the rear of the hard disk drive.
9. Position the hard disk drive bracket so that it engages the retaining clips in the bottom of the chassis when you slide the bracket to the right.
10. Slide the hard disk drive bracket to the right until the screw holes are aligned and install the screws.
11. Reinstall the drive bay assembly and connect the power and signal cables to the drives.
12. Go to “Completing the FRU replacement.” on page 143.

Replacing an optical drive

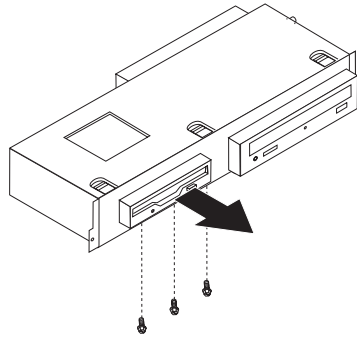
1. Remove the cover. See “Removing the cover” on page 114.
2. Remove the drive bay assembly. See “Removing and replacing the drive bay assembly” on page 119.
3. Remove the screws that secure the drive in the drive bay assembly.



4. Slide the drive being replaced out the front of the drive bay assembly.
5. Slide the new drive into the bay until the screws holes on each side are aligned and install the screws that secure the drive to the drive bay assembly.
6. Reinstall the drive bay assembly. See “Removing and replacing the drive bay assembly” on page 119.
7. Go to “Completing the FRU replacement.” on page 143.

Replacing the diskette drive

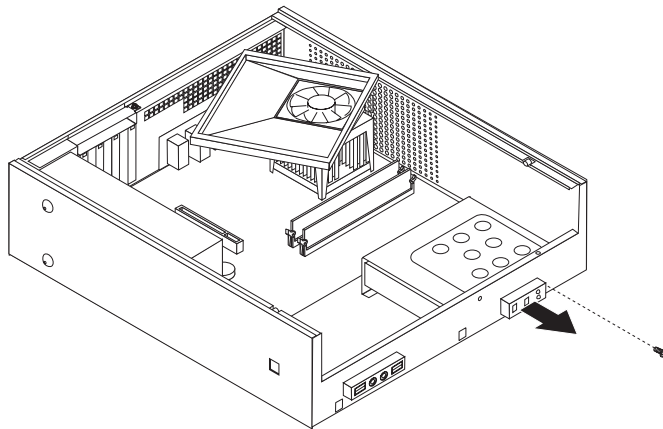
1. Remove the cover. See “Removing the cover” on page 114.
2. Remove the drive bay assembly. See “Removing and replacing the drive bay assembly” on page 119.
3. Remove the screws at the bottom of the diskette drive that secure the drive to the drive bay assembly.



4. Slide the diskette drive out of the drive bay assembly.
5. Slide the new drive into the bay until the screws holes at the bottom of the drive are aligned and install the screws that secure the drive to the drive bay assembly.
6. Reinstall the drive bay assembly. See “Removing and replacing the drive bay assembly” on page 119.
7. Go to “Completing the FRU replacement.” on page 143.

Replacing the power switch/ LED assembly

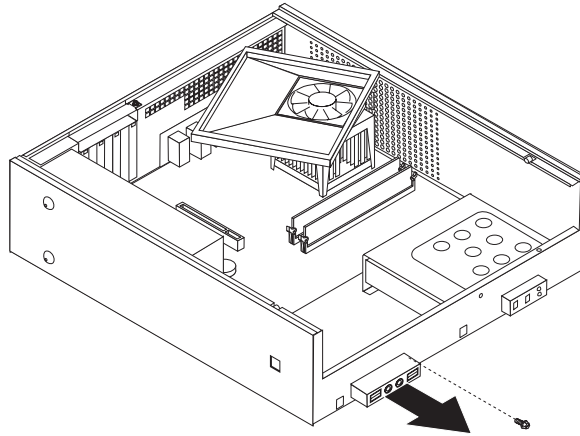
1. Remove cover. See “Removing the cover” on page 114.
2. Remove the drive bay assembly. See “Removing and replacing the drive bay assembly” on page 119.
3. Remove the hard disk drive. See “Replacing the hard disk drive” on page 139.
4. Disconnect the power switch/LED assembly cable from the system board. See “Identifying parts on the system board” on page 116.
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 139.
11. Reinstall the drive bay assembly. See “Removing and replacing the drive bay assembly” on page 119.
12. Go to “Completing the FRU replacement.” on page 143.

Replacing the front panel card

1. Remove cover. See “Removing the cover” on page 114.
2. Remove the drive bay assembly. See “Removing and replacing the drive bay assembly” on page 119.
3. Disconnect the front panel assembly cables from the system board. See “Identifying parts on the system board” on page 116.
4. Remove the screw that secures the front panel card assembly to the chassis.



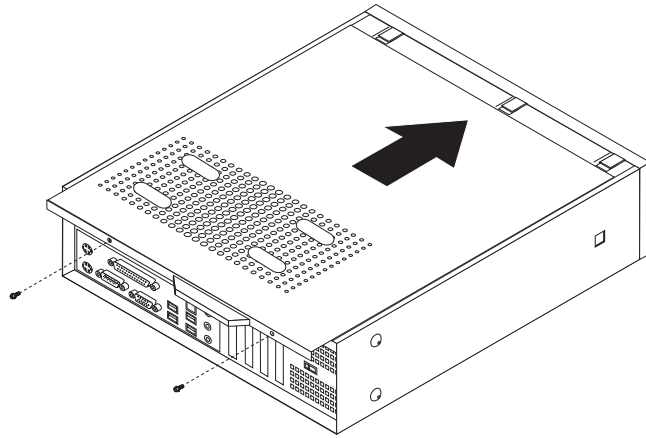
5. Note the front panel assembly cable routing and remove the assembly from the chassis.
6. Route the cable for the new front panel card assembly through the hole in the chassis and to the system board.
7. Install the front panel card assembly into the chassis and secure it with the screw.
8. Connect the front panel assembly cables to the system board.
9. Reinstall the drive bay assembly. See “Removing and replacing the drive bay assembly” on page 119.
10. 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 and secure it with two screws.



3. Reconnect the external cables and power cords to the computer. See “Rear connectors” on page 114.
4. If you have replaced the system board, you must update (flash) the BIOS. See “Flash update procedures” on page 205.
5. Some FRU replacements require the configuration to be updated. See Chapter 6, “Using the Setup Utility,” on page 49.

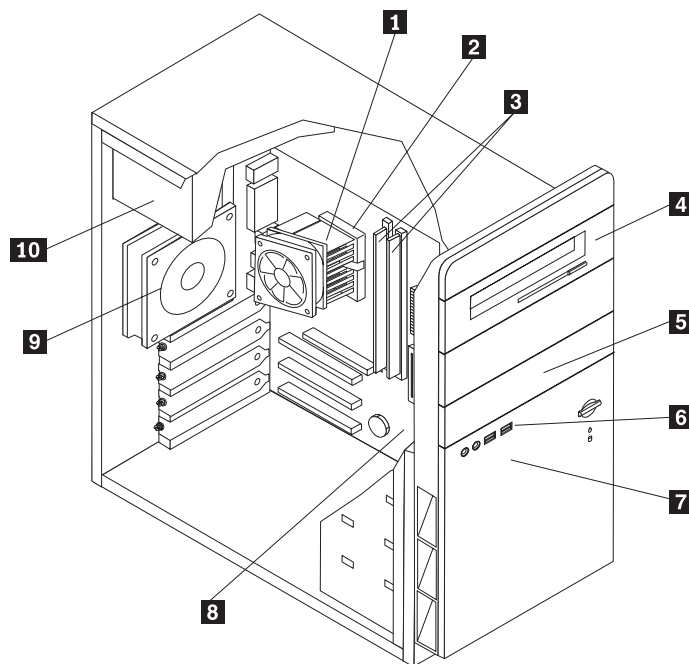
Chapter 10. FRU lists

Attention: FRU numbers for machine types 8252, 8257, 8453, 8458, and 8460 were not specified at the time this document was released.

Notes:

1. In the following tables, A CRU (Customer Replaceable Unit) is identified by either a 1, 2, or N in the CRU Tier column. A "1" means that the part is a Tier 1 CRU, A "2" means that the part is a Tier 2 CRU, and an "N" means that the part is not a CRU.
2. For some machine types, there is a column with a heading of **RoHS?**. This column contains a "Y" if the FRU is RoHS compliant or an "N" if the FRU is not RoHS compliant. Please read "Important information about replacing RoHS compliant FRUs" on page 2 before replacing any FRUs.

Machine Type 8253



| Item # | 8253 FRUs | FRU# | CRU Tier | RoHS? |
|--------|---|---------|----------|-------|
| 1 | Heat sink and fan assembly (models E4G F1U F1F ABS ABY B5M B6M B7G B8G 3FU 3FF 3GU 3GF 3HU 3HF 3JM 3MM 3MA 3MT 3PM 3PA 3PT 3QM 3RP 3RY 61G DBM DEM DFM DGM E5G ACV 3SA 3ST 3TV 3UQ 3VQ ADS ADY AFS AFY BAG BBG BCS BCY BDB BHB BFB BGH 2DQ 4BG 4CG 4DG 4GG 4HU 4HF 4JU 4JS 4JY 4KS 4KY 4LU 4LF 4MU 4MF 4NU 4NF 4PB 4QH 4RB 4SS 4SH 4TB 4UH 3WY 5AU 5AF 5AS 5AY 5BU 5BF 5BS 5BY 5CU 5CF) | 41D3552 | N | Y |
| 2 | Microprocessor, Celeron D, 2.8 GHz, 533FSB, 256KB L2 (models ABS ABY ACV ADS ADY AFS AFY) | 41T1695 | N | Y |
| 2 | Microprocessor, Celeron D, 293 GHz, 533FSB, 256KB L2 (models B5M) | 41T1696 | N | Y |

| Item # | 8253 FRUs | FRU# | CRU Tier | RoHS? |
|--------|---|---------|----------|-------|
| 2 | Microprocessor, Celeron D, 3.06 GHz, 533FSB, 256KB L2 (models B6M BAG BBG BCS BCY BDB BHB BFB BGH) | 41T1697 | N | Y |
| 2 | Microprocessor, Celeron D, 3.2 GHz, 533FSB, 256KB L2 (models B6M B6A B6T) | 41T1698 | N | Y |
| 2 | Microprocessor, Pentium 4, 2.66 GHz, 533FSB, 1MB L2 (models 2DQ) | 41T1706 | N | Y |
| 2 | Microprocessor, Pentium 4, 2.8 GHz, 800FSB, 1MB L2 (models 3FU 3FF 3GU 3GF 3HU 3HF 3JM 3MM 3MA 3MT 3PM 3PA 3PT 3QM 3RP 3RY 3SA 3ST 3TV) | 41T1700 | N | Y |
| 2 | Microprocessor, Pentium 4, 2.8 GHz, 800FSB, 2MB L2 (models 61G) | 41X2412 | N | Y |
| 2 | Microprocessor, Pentium 4, 2.8 GHz 800 FSB 1MB L2 (models 4BG 4CG 4DG 4GG 4HU 4HF 4JU 4JS 4JY 4KS 4KY 4LU 4LF 4MU 4MF 4NU 4NF 4PB 4QH 4RB 4SS 4SH 4TB 4UH) | 41T4104 | N | Y |
| 2 | Microprocessor, Pentium 4, 3.0 GHz 800 FSB 1MB L2 (models 3VQ 3WY) | 41T1701 | N | Y |
| 2 | Microprocessor, Pentium 4, 3.2 GHz 800 FSB 1MB L2 (models 5AU 5AF 5AS 5AY 5BU 5BF 5BS 5BY 5CU 5CF) | 41T1702 | N | Y |
| 2 | Microprocessor, Pentium 4, 2.8 GHz 800 FSB 2MB L2 (models 61G) | 41X2412 | N | Y |
| 2 | Microprocessor, Pentium 4, 3.0 GHz, 800FSB, 2MB L2 (models DBM DEM DFM DGM) | 41T1709 | N | Y |
| 2 | Microprocessor, Pentium 4, 3.2 GHz, 800FSB, 2MB L2 (models E4G E5G) | 41T1710 | N | Y |
| 2 | Microprocessor, Intel 820 - A0 Smithfield, (models F1U F1F) | 41T1704 | N | Y |
| 3 | Memory module, 256MB, DDR2 SDRAM, NP, PC3200 (models ABS ABY B6M 3FU 3FF ACV 3SA 3ST 3TV 3UQ 3VQ ADS ADY BCS BCY BDB BHB BFB BGH 2DQ 4HU 4HF 4JU 4JS 4JY 4KS 4KY 4PB 4QH 4RB 4SS 4SH 3WY) | 73P2683 | 2 | Y |
| 3 | Memory module, 512MB, DDR2 SDRAM, NP, PC3200 (models E4G F1U F1F B5M B7G B8G 3GU 3GF 3HU 3HF 3JM 3MM 3MA 3MT 3PM 3PA 3PT 3QM 3RP 3RY 61G DBM DEM DFM DGM E5G AFS AFY BAG BBG 4BG 4CG 4DG 4GG 4LU 4LF 4MU 4MF 4NU 4NF 4TB 4UH 5AU 5AF 5AS 5AY 5BU 5BF 5BS 5BY 5CU 5CF) | 73P2684 | 2 | Y |
| 4 | CD-ROM Drive 48X - Black w/o jack & vol (models ABS ABY 3FU 3FF 3GU 3GF 3UQ 3VQ BHB BFB BGH 4HU 4HF 4JU 4JS 4JY 4PB 4QH 4RB 4SS 4SH) | 40Y8929 | N | Y |
| 4 | CD-ROM Drive 48X - Black w/o jack & vol (models ABS ABY 3FU 3FF 3GU 3GF 3UQ 3VQ BHB BFB BGH 4HU 4HF 4JU 4JS 4JY 4PB 4QH 4RB 4SS 4SH) | 41X3540 | N | Y |
| 4 | CD-ROM Drive 48X - Black w/o jack & vol (models ABS ABY 3FU 3FF 3GU 3GF 3UQ 3VQ BHB BFB BGH 4HU 4HF 4JU 4JS 4JY 4PB 4QH 4RB 4SS 4SH) | 40Y8807 | N | Y |
| 4 | CD-ROM Drive 48X - Black w/o jack & vol (models ABS ABY 3FU 3FF 3GU 3GF 3UQ 3VQ BHB BFB BGH 4HU 4HF 4JU 4JS 4JY 4PB 4QH 4RB 4SS 4SH) | 40Y8955 | N | Y |
| 4 | CD-ROM Drive 48X - Black w/o jack & vol (models ABS ABY 3FU 3FF 3GU 3GF 3UQ 3VQ BHB BFB BGH 4HU 4HF 4JU 4JS 4JY 4PB 4QH 4RB 4SS 4SH) | 40Y8953 | N | Y |
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models B6M B7G 3HU 3HF 3MM 3MA 3MT 3PM 3PA 3PT 3RP 3RY DBM DEM ADS ADY AFS AFY BAG BCS BCY 4DG 4GG 4KS 4KY 4LU 4LF 4MU 4MF 4TB 4UH 3WY 5AU 5AF 5AS 5AY) | 40Y8919 | N | Y |

| Item # | 8253 FRUs | FRU# | CRU Tier | RoHS? |
|--------|--|---------|----------|-------|
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models B6M B7G 3HU 3HF 3MM 3MA 3MT 3PM 3PA 3PT 3RP 3RY DBM DEM ADS ADY AFS AFY BAG BCS BCY 4DG 4GG 4KS 4KY 4LU 4LF 4MU 4MF 4TB 4UH 3WY 5AU 5AF 5AS 5AY) | 40Y8941 | N | Y |
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models B6M B7G 3HU 3HF 3MM 3MA 3MT 3PM 3PA 3PT 3RP 3RY DBM DEM ADS ADY AFS AFY BAG BCS BCY 4DG 4GG 4KS 4KY 4LU 4LF 4MU 4MF 4TB 4UH 3WY 5AU 5AF 5AS 5AY) | 40Y8943 | N | Y |
| 4 | Multi-Burner Plus (models E4G F1U F1F B5M B8G 3JM 3QM 61G DFM DGM E5G BBG 4BG 4CG 4NU 4NF 5BU 5BF 5BS 5BY 5CU 5CF) | 41N3343 | N | Y |
| 5 | Diskette drive, w/bezel (models E4G ABS ABY 3FU E5G ACV BCS BCY 4HU 4HF 4JU 4JS 4JY 4PB 4QH 4RB 4SS 4SH 4TB 4UH 3WY) | 40Y9105 | N | Y |
| 5 | Diskette drive, w/bezel (models E4G ABS ABY 3FU E5G ACV BCS BCY 4HU 4HF 4JU 4JS 4JY 4PB 4QH 4RB 4SS 4SH 4TB 4UH 3WY) | 40Y9107 | N | Y |
| 5 | Diskette drive, w/bezel (models E4G ABS ABY 3FU E5G ACV BCS BCY 4HU 4HF 4JU 4JS 4JY 4PB 4QH 4RB 4SS 4SH 4TB 4UH 3WY) | 40Y9113 | N | Y |
| 6 | Cable Assembly, Front Panel Audio/USB (all models) | 41N5330 | N | Y |
| 7 | Hard disk drive, 40GB, 7200rpm, serial ATA (models A5P A5Y) | 40Y9033 | N | Y |
| 7 | Hard disk drive, 40GB, 7200rpm, serial ATA (models A5P A5Y) | 40Y8760 | N | Y |
| 7 | Hard disk drive, 80GB, 7200rpm, serial ATA (models ABS ABY B5M B6M B7G 3FU 3FF 3GU 3GF 3HU 3HF 3JM 3MM 3MA 3MT 3PM 3PA 3PT 3QM 3RP 3RY ACV 3SA 3ST 3TV 3UQ 3VQ ADS ADY AFS AFY BAG BCS BCY BDB BHB BFB BGH 2DQ 4DG 4GG 4HU 4HF 4JU 4JS 4JY 4KS 4KY 4LU 4LF 4NF 4PB 4QH 4RB 4SS 4SH 4TB 4UH 3WY 5AU 5AF 5AS 5AY) | 40Y9034 | N | Y |
| 7 | Hard disk drive, 80GB, 7200rpm, serial ATA (models ABS ABY B5M B6M B7G 3FU 3FF 3GU 3GF 3HU 3HF 3JM 3MM 3MA 3MT 3PM 3PA 3PT 3QM 3RP 3RY ACV 3SA 3ST 3TV 3UQ 3VQ ADS ADY AFS AFY BAG BCS BCY BDB BHB BFB BGH 2DQ 4DG 4GG 4HU 4HF 4JU 4JS 4JY 4KS 4KY 4LU 4LF 4NF 4PB 4QH 4RB 4SS 4SH 4TB 4UH 3WY 5AU 5AF 5AS 5AY) | 40Y8761 | N | Y |
| 7 | Hard disk drive, 160GB, 7200rpm, serial ATA (models E4G F1U F1F B8G 61G DBM DEM DFM DGM E5G BBG 4BG 4CG 4MU 4MF 4NU 4NF 5BU 5BF 5BS 5BY 5CU 5CF) | 40Y9035 | N | Y |
| 7 | Hard disk drive, 160GB, 7200rpm, serial ATA (models E4G F1U F1F B8G 61G DBM DEM DFM DGM E5G BBG 4BG 4CG 4MU 4MF 4NU 4NF 5BU 5BF 5BS 5BY 5CU 5CF) | 40Y8762 | N | Y |
| 8 | System board, 661FX (models 5AU 5AF 5AS 5AY 5BU 5BF 5BS 5BY 5CU 5CF E4G F1U F1F ABS ABY B5M B6M B7G B8G 3FU 3FF 3GU 3GF 3HU 3HF 3JM 3MM 3MA 3MT 3PM 3PA 3PT 3QM 3RP 3RY 61G DBM DEM DFM DGM E5G ACV 3SA 3ST 3TV E4G F1U F1F ABS ABY B5M B6M B7G B8G 2CQ 3EQ 3FU 3FF 3GU 3GF 3HU 3HF 3JM 3MM 3MA 3MT 3PM 3PA 3PT 3QM 3RP 3RY 61G DBM DEM DFM DGM E5G F2G F3G F4G F5U F5F ACV B9V 3SA 3ST 3TV DHV 3UQ 3VQ ADS ADY AFS AFY BAG BBG BCS BCY BDB BHB BFB BGH 2DQ 4BG 4CG 4DG 4GG 4HU 4HF 4JU 4JS 4JY 4KS 4KY 4LU 4LF 4MU 4MF 4NU 4NF 4PB 4QH 4RB 4SS 4SH 4TB 4UH 3WY) Note: When you order a new system board you must also order a new retention bracket kit for the heat sink and fan assembly. | 41X0137 | N | Y |
| 9 | System Fan, rear w/grill (all models) | 41N5339 | N | Y |

| Item # | 8253 FRUs | FRU# | CRU Tier | RoHS? |
|--------|--|---------|----------|-------|
| 10 | Power supply, 250W (RoHS) (models E4G F1U F1F ABS ABY 3FU 3FF 3GU 3GF 3HU 3HF 3RP 3RY B5M B6M B7G B8G 3JM 3MM 3MA 3MT 3PM 3PA 3PT 3QM 61G DBM DEM DFM DGM E5G 3UQ 3VQ ADS ADY AFS AFY BCS BCY 4HU 4HF 4JU 4JS 4JY 4KS 4KY 4LU 4LF 4MU 4MF 4NU 4NF 4SS 3WY 5AU 5AF 5AS 5AY 5BU 5BF 5BS 5BY 5CU 5CF BAG BBG BDB BHB BFB BGH 2DQ 4BG 4CG 4DG 4GG 4PB 4QH 4RB 4SH 4TB 4UH) | 41N3127 | Y | Y |

The FRUs listed in the following table are not illustrated.

| 8253 FRUs | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| Cable, SATA 250mm (all models) | 41A7145 | 2 | Y |
| Cable, diskette drive (RoHs) (all models) | 41A7130 | 2 | Y |
| Mechanical kit, side cover (all models) | 41N5333 | 2 | Y |
| Mechanical kit (all models) | 41N5331 | N | Y |
| Main bezel kit (all models) | 41N5283 | 2 | N |
| Power switch/LED assembly (all models) | 41N5284 | N | N |
| Shield, system board (all models) | 41N5329 | N | Y |
| Miscellaneous hardware kit (all models) | 41N5334 | N | Y |
| Miscellaneous hardware kit (all models) | 41A7138 | N | N |
| Retention bracket kit, heat sink and fan (all models) | 41A7139 | N | N |
| Cable, hard disk drive and optical drive signal (2-drop) (all models) | 41A7875 | N | N |
| Interposer cables (all models) | 41A7161 | N | N |
| Interposer cables (all models) | 41N5307 | N | N |
| Card Reader Bezel (all models) | 41N5340 | N | N |

| 8253 Keyboards (Preferred Pro fullsize, Black) | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| US English (models F1U B5M 3FU 3GU 3HU 3JM 3MM 3MA 3QM DBM DFM DGM 3UQ 3VQ BGH 2DQ 4HU 4JU 4LU 4MU 4NU 4QH 4SH 4UH 5AU 5BU 5CU) | 41A5039 | 1 | Y |
| Chinese/US (models ACV 3TV BDB BHB BFB 4PB 4RB 4TB) | 41A5046 | 1 | Y |
| French Canadian 445 (models F1F 3FF 3GF 3HF 4HF 4LF 4MF 4NF 5AF 5BF 5CF) | 41A5051 | 1 | Y |
| French Canadian 58 (models F1F 3FF 3GF 3HF 4HF 4LF 4MF 4NF 5AF 5BF 5CF) | 41A5052 | 1 | Y |
| LA Spanish (models ABS ABY 3RY ADS ADY AFS AFY BCS BCY 4JS 4JY 4KS 4KY 4SS 3WY 5AS 5AY 5BS 5BY) | 41A5061 | 1 | Y |
| Thailand (models 3MT) | 41A5072 | 1 | Y |
| Brazil/Portuguese (models 3RP) | 41A5044 | 1 | Y |

| 8253 Keyboards (USB Enhanced Performance) | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| US English (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4961 | 1 | Y |

| 8253 Keyboards (USB Enhanced Performance) | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| Arabic (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4962 | 1 | Y |
| Arabic/French (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4963 | 1 | Y |
| Belgian/French (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4964 | 1 | Y |
| Belgian/UK (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4965 | 1 | Y |
| Bulgarian (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4967 | 1 | Y |
| Czech (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4969 | 1 | Y |
| Danish (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4970 | 1 | Y |
| Dutch (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4971 | 1 | Y |
| French (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4972 | 1 | Y |
| German (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4975 | 1 | Y |
| Greek (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4976 | 1 | Y |
| Hebrew (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4977 | 1 | Y |
| Hungarian (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4978 | 1 | Y |
| Iceland (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4979 | 1 | Y |
| Italian (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4980 | 1 | Y |
| Norwegian (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4984 | 1 | Y |
| Polish (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4985 | 1 | Y |
| Portuguese (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4986 | 1 | Y |
| Romanian (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4987 | 1 | Y |
| Russian/Cy (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4988 | 1 | Y |
| Serbian/Cyrillic (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4989 | 1 | Y |
| Slovak (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4990 | 1 | Y |
| Spanish (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4991 | 1 | Y |

| 8253 Keyboards (USB Enhanced Performance) | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| Swedish/Finn (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4992 | 1 | Y |
| Swiss F/G (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4993 | 1 | Y |
| Thailand (models 3PT 3ST) | 41A4994 | 1 | Y |
| Turkish 440 (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4995 | 1 | Y |
| Turkish 179 (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4996 | 1 | Y |
| UK English (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4997 | 1 | Y |
| US Euro (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4998 | 1 | Y |
| Slovenian (models E4G B6M B7G B8G 3PM 3PA 61G DEM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 41A4999 | 1 | Y |

| 8253 mice | FRU# | CRU Tier | RoHS? |
|---------------------------------------|-------------|-----------------|--------------|
| Mouse, USB Optical Wheel (all models) | 41A5085 | 1 | Y |

| 8253 Adapters and miscellaneous FRUs | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| PCI Modem Card (Soft) (models ABS ABY B5M B6M B7G B8G 3JM 3MM 3MA 3MT 3PM 3PA 3PT 3RP 3RY 61G DBM DEM DFM E5G ACV ADS ADY AFS AFY 4BG 4HU 4HF 4KS 4KY 4MU 4MF 4NU 4NF 5BU 5BF 5BS 5BY) | 29R9729 | 1 | Y |
| L1 IEEE 1394 PCI Adapter (models E4G B5M 3JM DFM E5G ACV 4CG 4GG) | 41D2781 | 1 | Y |
| Internal USB Memory Card Reader (models F1U F1F B5M B6M B7G B8G 3JM 3MM 3MA 3MT 3PM 3PA 3PT 61G DBM DEM DFM 3TV) | 41X2089 | 1 | Y |
| Speakers (2-piece) (models F1U F1F ABS ABY B5M B6M 3JM 3MM 3MA 3MT 3PM 3PA 3PT DBM DEM DFM 3SA 3ST 3TV AFS AFY BDB BHB BFB BGH 4HU 4HF 4MU 4MF 4NU 4NF 4PB 4QH 4RB 4SS 4SH 4TB 4UH 5BU 5BF 5BS 5BY) | 89P8589 | 1 | Y |
| Speakers (2-piece) (models F1U F1F ABS ABY B5M B6M 3JM 3MM 3MA 3MT 3PM 3PA 3PT DBM DEM DFM 3SA 3ST 3TV AFS AFY BDB BHB BFB BGH 4HU 4HF 4MU 4MF 4NU 4NF 4PB 4QH 4RB 4SS 4SH 4TB 4UH 5BU 5BF 5BS 5BY) | 41A5331 | 1 | Y |
| Speaker Power brick - US, Canada, LA low voltage, ASEAN (models F1U F1F ABS ABY 3MT 3PT 3ST AFS AFY 4HU 4HF 4MU 4MF 4NU 4NF 4SS 5BU 5BF 5BS 5BY) | 89P8571 | 1 | Y |
| Speaker Power brick - China, Thailand (models BDB BHB BFB BGH 4PB 4QH 4RB 4SH 4TB 4UH) | 89P8581 | 1 | Y |
| Speaker Power brick - Argentina (models ABS ABY AFS AFY 4SS 5BS 5BY) | 41A4901 | 1 | Y |
| Speaker Power brick - ANZ (models B5M B6M 3JM 3MM 3MA 3PM 3PA DBM DEM DFM 3SA) | 89P8579 | 1 | Y |
| Speaker Power brick - Hong Kong, EMEA (models BDB BHB BFB BGH 4PB 4QH 4RB 4SH 4TB 4UH) | 89P8573 | 1 | Y |
| Speaker Brick - Taiwan (models 3TV) | 41A4905 | 1 | Y |

| 8253 Power Cords | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| Power Cord (US) (models F1U F1F ABS 3FU 3FF 3GU 3GF 3HU 3HF 3MA 3MT 3PA 3PT 3SA 3ST ADS AFS BCS 4HU 4HF 4JU 4JS 4KS 4LU 4LF 4MU 4MF 4NU 4NF 4SS 5AU 5AF 5AS 5BU 5BF 5BS 5CU 5CF) | 39M5080 | 1 | Y |
| Power Cord (Brazil) (models 3RP) | 39M5232 | 1 | Y |
| Power Cord (LA), (High Volt) (APU) (models ABY 3RY ADY AFY BCY 4JY 4KY 3WY 5AY 5BY) | 39M5067 | 1 | Y |
| Power Cord (Australia, New Zealand) (models B5M B6M 3JM 3MM 3PM 3QM DBM DEM DFM DGM) | 39M5102 | 1 | Y |
| Power Cord (Hong Kong) (models BDB BHB BFB BGH 4PB 4QH 4RB 4SH 4TB 4UH) | 39M5151 | 1 | Y |
| Power Cord (UK, Ireland, Singapore, Malaysia, Brunei) (models E4G B7G B8G 3MA 3PA 61G E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 39M5150 | 1 | Y |
| Power Cord (Taiwan) (models ACV 3TV) | 39M5246 | 1 | Y |
| Power Cord (Italy) (models E4G ABS ABY B7G B8G 3RY 61G E5G ADS ADY AFS AFY BAG BBG BCS BCY 4BG 4CG 4DG 4GG 4JS 4JY 4KS 4KY 4SS 3WY 5AS 5AY 5BS 5BY) | 39M5164 | 1 | Y |
| Power Cord (G models) (models E4G B7G B8G 3MA 3PA 61G E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 39M5122 | 1 | Y |
| Power Cord (Denmark) (models E4G B7G B8G 3MA 3PA 61G E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 39M5129 | 1 | Y |
| Power Cord (Switzerland) (models E4G B7G B8G 3MA 3PA 61G E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 39M5157 | 1 | Y |
| Power Cord (Israel) (models E4G B7G B8G 3MA 3PA 61G E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 39M5171 | 1 | Y |
| Power Cord (South Africa) (models E4G B5M B6M B7G B8G 3JM 3MM 3MA 3PM 3PA 3QM 61G DBM DEM DFM DGM E5G 3SA BAG BBG 4BG 4CG 4DG 4GG) | 39M5143 | 1 | Y |
| Power Cord (India) (models 3UQ 3VQ 2DQ) | 39M5004 | 1 | Y |

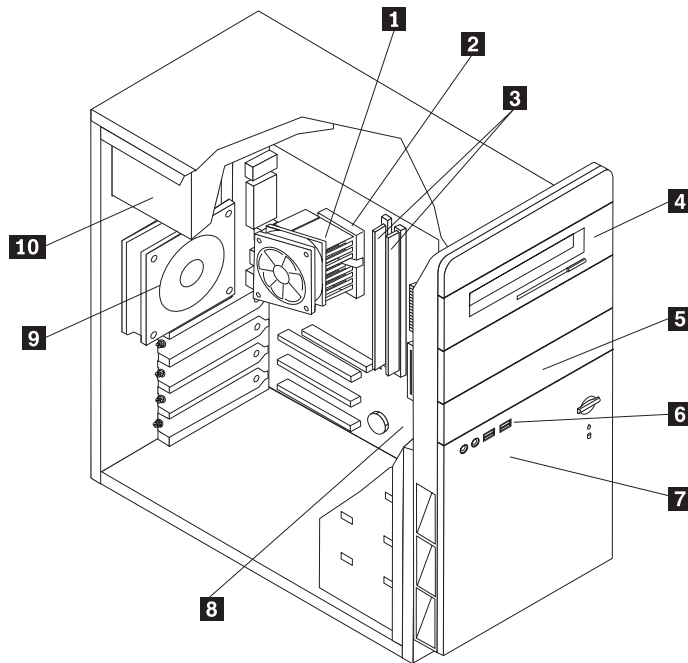
| 8253 Windows XP Home Recovery CDs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| US/UK/AP/TH (models E4G F1U B5M B6M B7G 3JM 3MM 3MA 3MT 3PM 3PA 3PT 61G DBM DEM DFM BAG 4BG 4CG 4HU 4MU 4NU 4QH 5BU) | 41X0607 | 1 | Y |
| FR/CF (models E4G F1F B7G 61G BAG 4BG 4CG 4HF 4MF 4NF 5BF) | 41X0610 | 1 | Y |
| GR (models E4G B7G 61G BAG 4BG 4CG) | 41X0612 | 1 | Y |
| IT (models E4G B7G 61G BAG 4BG 4CG) | 41X0615 | 1 | Y |
| BR (models 3RP) | 41X0616 | 1 | Y |
| SP/LA (models E4G ABS ABY B7G 3RY 61G AFS AFY BAG 4BG 4CG 5BS 5BY) | 41X0613 | 1 | Y |
| DK (models E4G B7G 61G BAG 4BG 4CG) | 41X0619 | 1 | Y |
| NL (models E4G B7G 61G BAG 4BG 4CG) | 41X0622 | 1 | Y |
| AE (models E4G B7G 61G BAG 4BG 4CG) | 41X0626 | 1 | Y |
| SV (models E4G B7G 61G BAG 4BG 4CG) | 41X0618 | 1 | Y |
| HE (models E4G B7G 61G BAG 4BG 4CG) | 41X0623 | 1 | Y |
| FI (models E4G B7G 61G BAG 4BG 4CG) | 41X0620 | 1 | Y |
| NO (models E4G B7G 61G BAG 4BG 4CG) | 41X0621 | 1 | Y |
| PL (models E4G B7G 61G BAG 4BG 4CG) | 41X0624 | 1 | Y |

| 8253 Windows XP Home Recovery CDs | FRU# | CRU Tier | RoHS? |
|-------------------------------------|---------|----------|-------|
| PO (models E4G B7G 61G BAG 4BG 4CG) | 41X0630 | 1 | Y |
| RU (models E4G B7G 61G BAG 4BG 4CG) | 41X0627 | 1 | Y |
| RE (models E4G B7G 61G BAG 4BG 4CG) | 41X0609 | 1 | Y |
| HU (models E4G B7G 61G BAG 4BG 4CG) | 41X0629 | 1 | Y |
| CZ (models E4G B7G 61G BAG 4BG 4CG) | 41X0625 | 1 | Y |
| TR (models E4G B7G 61G BAG 4BG 4CG) | 41X0628 | 1 | Y |
| GK (models E4G B7G 61G BAG 4BG 4CG) | 41X0631 | 1 | Y |
| Hong Kong - TC(models BHB 4PB) | 41W3281 | 1 | Y |

| 8253 Windows XP Pro Recovery CDs | FRU# | CRU Tier | RoHS? |
|--|---------|----------|-------|
| US/UK/AP/TH (models B8G 3FU 3GU 3HU 3QM DGM 3SA 3ST E5G BBG BGH 4DG 4JU 4LU 4SH 4UH 5AU 5CU) | 41X0439 | 1 | Y |
| FR/CF (models B8G 3FF 3GF 3HF E5G BBG 4DG 4LF 5AF 5CF) | 41X0442 | 1 | Y |
| GR (models B8G E5G BBG 4DG) | 41X0444 | 1 | Y |
| IT (models B8G E5G BBG 4DG) | 41X0447 | 1 | Y |
| SP/LA (models B8G E5G BBG BCS BCY 4DG 4JS 4JY 4SS 3WY 5AS 5AY) | 41X0445 | 1 | Y |
| DK (models B8G E5G BBG 4DG) | 41X0451 | 1 | Y |
| NL (models B8G E5G BBG 4DG) | 41X0454 | 1 | Y |
| AE (models B8G E5G BBG 4DG) | 41X0458 | 1 | Y |
| SV (models B8G E5G BBG 4DG) | 41X0450 | 1 | Y |
| HE (models B8G E5G BBG 4DG) | 41X0455 | 1 | Y |
| FI (models B8G E5G BBG 4DG) | 41X0452 | 1 | Y |
| NO (models B8G E5G BBG 4DG) | 41X0453 | 1 | Y |
| PL (models B8G E5G BBG 4DG) | 41X0456 | 1 | Y |
| PO (models B8G E5G BBG 4DG) | 41X0462 | 1 | Y |
| RU (models B8G E5G BBG 4DG) | 41X0459 | 1 | Y |
| RE (models B8G E5G BBG 4DG) | 41X0441 | 1 | Y |
| HU (models B8G E5G BBG 4DG) | 41X0461 | 1 | Y |
| CZ (models B8G E5G BBG 4DG) | 41X0457 | 1 | Y |
| TR (models B8G E5G BBG 4DG) | 41X0460 | 1 | Y |
| GK (models B8G E5G BBG 4DG) | 41X0463 | 1 | Y |
| SL (models B8G E5G BBG 4DG) | 41X0464 | 1 | Y |
| Taiwan - TC (models ACV 3TV) | 41W2933 | 1 | Y |
| Hong Kong - TC (models BFB 4RB 4TB) | 41W2941 | 1 | Y |
| Multilingual 1 (models B8G E5G BBG 4DG) | 41X0757 | 1 | Y |
| Multilingual 2 (models B8G E5G BBG 4DG) | 41X0758 | 1 | Y |

| 8253 Corel Education CDs | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| US (models B5M B6M 3FU 3GU 3HU 3JM 3MM 3MA 3MT 3PM 3PA 3PT 3QM DBM DEM DFM DGM 3SA 3ST BGH 4HU 4JU 4LU 4MU 4NU 4QH 4SH 4UH 5AU 5BU 5CU) | 41X0440 | 1 | Y |
| CF (models 3FF 3GF 3HF 4HF 4LF 4MF 4NF 5AF 5BF 5CF) | 41X0443 | 1 | Y |
| LA (models ABS ABY 3RY AFS AFY BCS BCY 4JS 4JY 4SS 3WY 5AS 5AY 5BS 5BY) | 41X0446 | 1 | Y |
| BR (models 3RP) | 41X0449 | 1 | Y |

Machine Type 8254



| Item # | 8254 FRUs | FRU# | CRU Tier | RoHS? |
|--------|---|---------|----------|-------|
| 1 | Heat sink and fan assembly (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41D3552 | N | Y |
| 2 | Microprocessor, Celeron D, 3.06 GHz, 533FSB, 256KB L2 (models B5G B6G FAG FBG) | 41T1697 | N | Y |
| 2 | Microprocessor, Celeron D, 3.2 GHz, 533FSB, 256KB L2 (models B9G BAG) | 41T1698 | N | Y |
| 2 | Microprocessor, Pentium 4, 2.8 GHz, 800FSB, 1MB L2 (models FCG FDG FGG FHG) | 41T4104 | N | Y |
| 2 | Microprocessor, Pentium 4, 2.8 GHz, 800FSB, 2MB L2 (models 61G) | 41X2412 | N | Y |
| 2 | Microprocessor, Pentium 4, 3.2 GHz, 800FSB, 2MB L2 (models E4G) | 41T1710 | N | Y |
| 3 | Memory module, 512MB, DDR1 SDRAM, NP, PC3200 (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 73P2684 | 2 | Y |
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models B5G B6G B9G FAG FHG) | 40Y8919 | N | Y |
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models B5G B6G B9G FAG FHG) | 40Y8941 | N | Y |
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models B5G B6G B9G FAG FHG) | 40Y8943 | N | Y |
| 4 | Multi-Burner Plus (models E4G BAG 61G FBG FCG FDG FGG) | 41N3343 | N | Y |
| 5 | Diskette drive, w/bezel (models B5G B6G E4G) | 40Y9105 | N | Y |
| 5 | Diskette drive, w/bezel (models B5G B6G E4G) | 40Y9107 | N | Y |
| 5 | Diskette drive, w/bezel (models B5G B6G E4G) | 40Y9113 | N | Y |
| 6 | Cable Asm, Front Panel Audio/USB (all models) | 41N5330 | N | Y |
| 7 | Hard disk drive, 80GB, 7200rpm, serial ATA (models B5G B6G B9G FAG FHG) | 40Y9034 | N | Y |

| Item # | 8254 FRUs | FRU# | CRU Tier | RoHS? |
|--------|--|---------|----------|-------|
| 7 | Hard disk drive, 80GB, 7200rpm, serial ATA (models B5G B6G B9G FAG FHG) | 40Y8761 | N | Y |
| 7 | Hard disk drive, 160GB, 7200rpm, serial ATA (models E4G BAG 61G FBG FCG FDG FGG) | 40Y9035 | N | Y |
| 7 | Hard disk drive, 160GB, 7200rpm, serial ATA (models E4G BAG 61G FBG FCG FDG FGG) | 40Y8762 | N | Y |
| 8 | System board, 661FX (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) Note: When you order a new system board you must also order a new retention bracket kit for the heat sink and fan assembly. | 41X0137 | N | Y |
| 9 | System Fan, rear w/grill (RoHS) (all models) | 41N5339 | N | Y |
| 10 | Power supply, 250W RoHS (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41N3127 | Y | N |

| 8254 FRUs | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| Cable, SATA 250mm (all models) | 41A7145 | 2 | Y |
| Cable, diskette drive (RoHS) (all models) | 41A7130 | 2 | Y |
| Mechanical kit, side cover (all models) | 41N5333 | 2 | Y |
| Mechanical kit, optional to 41N5282 (all models) | 41N5331 | N | Y |
| Main bezel kit (all models) | 41N5283 | 2 | N |
| Power switch/LED assembly (all models) | 41N5284 | N | N |
| Shield, system board (all models) | 41N5329 | N | Y |
| Miscellaneous hardware kit (all models) | 41N5334 | N | Y |
| Miscellaneous hardware kit (all models) | 41A7138 | N | N |
| Retention bracket kit, heat sink and fan (all models) | 41A7139 | N | N |
| Cable, hard disk drive and optical drive signal (2-drop) (all models) | 41A7875 | N | N |
| Interposer cables (all models) | 41A7161 | N | N |
| Interposer cables (all models) | 41N5307 | N | N |
| Card Reader Bezel (all models) | 41N5340 | N | N |

The FRUs listed in the following table are not illustrated.

| 8254 Keyboards (USB Enhanced Performance) | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| US English (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4961 | 1 | Y |
| Arabic (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4962 | 1 | Y |
| Arabic/French (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4963 | 1 | Y |
| Belgian/French (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4964 | 1 | Y |
| Belgian/UK (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4965 | 1 | Y |
| Bulgarian (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4967 | 1 | Y |

| 8254 Keyboards (USB Enhanced Performance) | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| Czech (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4969 | 1 | Y |
| Danish (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4970 | 1 | Y |
| Dutch (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4971 | 1 | Y |
| French (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4972 | 1 | Y |
| German (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4975 | 1 | Y |
| Greek (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4976 | 1 | Y |
| Hebrew (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4977 | 1 | Y |
| Hungarian (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4978 | 1 | Y |
| Iceland (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4979 | 1 | Y |
| Italian (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4980 | 1 | Y |
| Norwegian (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4984 | 1 | Y |
| Polish (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4985 | 1 | Y |
| Portuguese (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4986 | 1 | Y |
| Romanian (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4987 | 1 | Y |
| Russian/Cy (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4988 | 1 | Y |
| Serbian/Cyrillic (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4989 | 1 | Y |
| Slovak (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4990 | 1 | Y |
| Spanish (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4991 | 1 | Y |
| Swedish/Finn (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4992 | 1 | Y |
| Swiss F/G (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4993 | 1 | Y |
| Turkish 440 (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4995 | 1 | Y |
| Turkish 179 (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4996 | 1 | Y |
| UK English (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4997 | 1 | Y |
| US Euro (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4998 | 1 | Y |
| Slovenian (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41A4999 | 1 | Y |

| 8254 mice | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| Mouse, USB Optical Wheel (models B5G B6G B7G B8G 22G D2G E4G E5G E6G B9G BAG 61G F1G F2G F3G) | 41A5085 | 1 | Y |

| 8254 Adapters and miscellaneous FRUs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| PCI Modem Card (Soft) (models 61G) | 29R9729 | 1 | Y |
| L1 IEEE 1394 PCI Adapter (models FDG FHG) | 41D2781 | 1 | Y |
| Internal USB Memory Card Reader (models B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 41X2089 | 1 | Y |

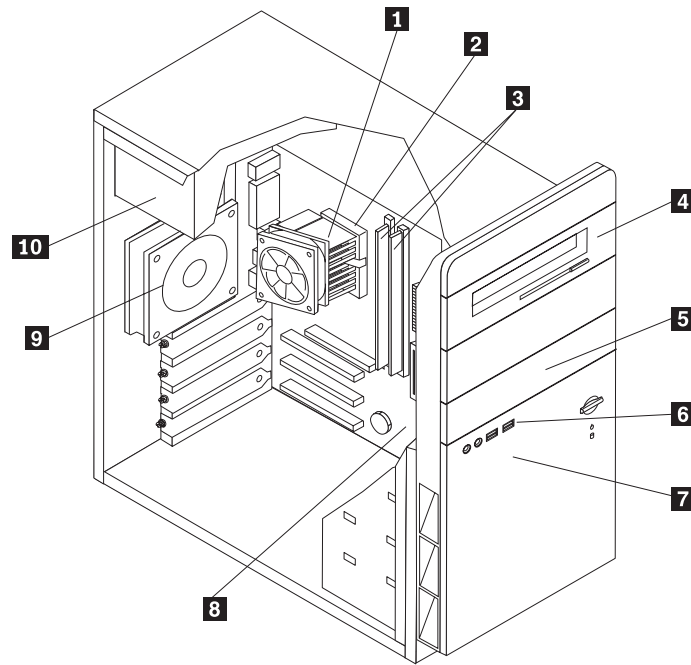
| 8254 Power Cords | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| Power Cord (UK, Ireland, Singapore, Malaysia, Brunei) (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 39M5150 | 1 | Y |
| Power Cord (Italy) (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 39M5164 | 1 | Y |
| Power Cord (G models) (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 39M5122 | 1 | Y |
| Power Cord (Denmark) (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 39M5129 | 1 | Y |
| Power Cord (Switzerland) (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 39M5157 | 1 | Y |
| Power Cord (Israel) (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 39M5171 | 1 | Y |
| Power Cord (South Africa) (models B5G B6G E4G B9G BAG 61G FAG FBG FCG FDG FGG FHG) | 39M5143 | 1 | Y |

| 8254 Windows XP Home Recovery CDs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| US/UK/AP/TH (models B5G B9G 61G FAG FCG FDG) | 41X0607 | 1 | Y |
| FR/CF (models B5G B9G 61G FAG FCG FDG) | 41X0610 | 1 | Y |
| GR (models B5G B9G 61G FAG FCG FDG) | 41X0612 | 1 | Y |
| IT (models B5G B9G 61G FAG FCG FDG) | 41X0615 | 1 | Y |
| SP/LA (models B5G B9G 61G FAG FCG FDG) | 41X0613 | 1 | Y |
| DK (models B5G B9G 61G FAG FCG FDG) | 41X0619 | 1 | Y |
| NL (models B5G B9G 61G FAG FCG FDG) | 41X0622 | 1 | Y |
| AE (models B5G B9G 61G FAG FCG FDG) | 41X0626 | 1 | Y |
| SV (models B5G B9G 61G FAG FCG FDG) | 41X0618 | 1 | Y |
| HE (models B5G B9G 61G FAG FCG FDG) | 41X0623 | 1 | Y |
| FI (models B5G B9G 61G FAG FCG FDG) | 41X0620 | 1 | Y |
| NO (models B5G B9G 61G FAG FCG FDG) | 41X0621 | 1 | Y |
| PL (models B5G B9G 61G FAG FCG FDG) | 41X0624 | 1 | Y |
| PO (models B5G B9G 61G FAG FCG FDG) | 41X0630 | 1 | Y |
| RU (models B5G B9G 61G FAG FCG FDG) | 41X0627 | 1 | Y |
| RE (models B5G B9G 61G FAG FCG FDG) | 41X0609 | 1 | Y |
| HU (models B5G B9G 61G FAG FCG FDG) | 41X0629 | 1 | Y |
| CZ (models B5G B9G 61G FAG FCG FDG) | 41X0625 | 1 | Y |
| TR (models B5G B9G 61G FAG FCG FDG) | 41X0628 | 1 | Y |
| GK (models B5G B9G 61G FAG FCG FDG) | 41X0631 | 1 | Y |

| 8254 Windows XP Pro Recovery CDs | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| US/UK/AP/TH (models B6G BAG FBG FGG) | 41X0439 | 1 | Y |
| FR/CF (models B6G BAG FBG FGG) | 41X0442 | 1 | Y |
| GR (models B6G BAG FBG FGG) | 41X0444 | 1 | Y |

| 8254 Windows XP Pro Recovery CDs | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| IT (models B6G BAG FBG FGG) | 41X0447 | 1 | Y |
| SP/LA (models B6G BAG FBG FGG) | 41X0445 | 1 | Y |
| DK (models B6G BAG FBG FGG) | 41X0451 | 1 | Y |
| NL (models B6G BAG FBG FGG) | 41X0454 | 1 | Y |
| AE (models B6G BAG FBG FGG) | 41X0458 | 1 | Y |
| SV (models B6G BAG FBG FGG) | 41X0450 | 1 | Y |
| HE (models B6G BAG FBG FGG) | 41X0455 | 1 | Y |
| FI (models B6G BAG FBG FGG) | 41X0452 | 1 | Y |
| NO (models B6G BAG FBG FGG) | 41X0453 | 1 | Y |
| PL (models B6G BAG FBG FGG) | 41X0456 | 1 | Y |
| PO (models B6G BAG FBG FGG) | 41X0462 | 1 | Y |
| RU (models B6G BAG FBG FGG) | 41X0459 | 1 | Y |
| RE (models B6G BAG FBG FGG) | 41X0441 | 1 | Y |
| HU (models B6G BAG FBG FGG) | 41X0461 | 1 | Y |
| CZ (models B6G BAG FBG FGG) | 41X0457 | 1 | Y |
| TR (models B6G BAG FBG FGG) | 41X0460 | 1 | Y |
| GK (models B6G BAG FBG FGG) | 41X0463 | 1 | Y |
| SL (models B6G BAG FBG FGG) | 41X0464 | 1 | Y |
| Multilingual 1 (models B6G BAG FBG FGG) | 41X0757 | 1 | Y |
| Multilingual 2 (models B6G BAG FBG FGG) | 41X0758 | 1 | Y |

Machine Type 8255



| Item # | 8255 FRUs | FRU# | CRU Tier | RoHS? |
|--------|---|---------|----------|-------|
| 1 | Heat sink and fan assembly (models 23G E1M E1V F1G 41Q 29Q D7Q D9M E2A E2T F2M F3A F3T F4A F4T F5A F5T F6G G1A G1T G2V G3A G3T G4A G4T DCV DBV F7A F7T F8Q F9Q FAU FBU FBF FBS FCU FCF 61V 62Q 63Q 64M F3V FAU FBU FBF FBS FBY FCU FCF FDM FNQ FFM FGM FHV FMM FJG FKG G5Q) | 41D3552 | N | Y |
| 2 | Microprocessor, Celeron D, 3.06 GHz, 533FSB, 256KB L2 (models G5Q) | 41T1697 | N | Y |
| 2 | Microprocessor, Pentium 4, 2.8 GHz, 800FSB, 1MB L2 (models 23G 29Q) | 41T1700 | N | Y |
| 2 | Microprocessor, Pentium 4, 3.0 GHz, 800FSB, 1MB L2 (models 41Q) | 41T1701 | N | Y |
| 2 | Microprocessor, Pentium 4, 3.0 GHz, 800FSB, 2MB L2 (models D7Q D9M DCV) | 41T1709 | N | Y |
| 2 | Microprocessor, Pentium 4, 2.8 GHz, 800FSB, 1MB L2 (models 61V 62Q 63Q 64M F3V FAU FBU FBF FBS FBY FCU FCF FDM FNQ FFM FGM FHV FMM FJG FKG) | 41T4104 | N | Y |
| 2 | Microprocessor, Intel 631 Proc Cedar Mill (models DBV) | 41T1712 | N | Y |
| 2 | Microprocessor, Pentium 4, 3.2 GHz, 800FSB, 2MB L2 (models E2A E2T) | 41T1710 | N | Y |
| 2 | Microprocessor, Intel 641 Proc Cedar Mill (models E1M E1V) | 41T1713 | N | Y |
| 2 | Microprocessor, Intel 930 (models F1G G1A G1T G2V G3A G3T G4A G4T) | 41T1717 | N | Y |
| 3 | Memory module, 256MB DDR2 SDRAM NP (PC 4200) (models 41Q DBV 61V 63Q G5Q) | 30R5120 | 2 | Y |
| 3 | Memory module, 512MB DDR2 SDRAM NP (PC 4200) (models 23G E1M E1V F1G 29Q D7Q D9M E2A E2T F3A F3T F4A F4T F5A F5T F6G DCV F7A F7T F9Q FAU FBU FBF FBS FCU FCF 62Q 64M F3V FAU FBU FBF FBS FBY FCU FCF FDM FNQ FGM FHV FJG FKG) | 30R5121 | 2 | Y |
| 3 | Memory module, 1024MB DDR2 SDRAM NP (PC 3200) (models F1G F2M G1A G1T G2V G3A G3T G4A G4T F8Q FFM FMM) | 30R5122 | 2 | Y |

| Item # | 8255 FRUs | FRU# | CRU Tier | RoHS? |
|--------|--|---------|----------|-------|
| 4 | CD-ROM Drive 48X - Black w/o jack & vol (models F8Q F9Q FAU 62Q 63Q FAU FNQ) | 40Y8929 | N | Y |
| 4 | CD-ROM Drive 48X - Black w/o jack & vol (models F8Q F9Q FAU 62Q 63Q FAU FNQ) | 41X3540 | N | Y |
| 4 | CD-ROM Drive 48X - Black w/o jack & vol (models F8Q F9Q FAU 62Q 63Q FAU FNQ) | 40Y8807 | N | Y |
| 4 | CD-ROM Drive 48X - Black w/o jack & vol (models F8Q F9Q FAU 62Q 63Q FAU FNQ) | 40Y8955 | N | Y |
| 4 | CD-ROM Drive 48X - Black w/o jack & vol (models F8Q F9Q FAU 62Q 63Q FAU FNQ) | 40Y8953 | N | Y |
| 4 | DVD-ROM 16x -48x (models 61V) | 40Y8931 | N | Y |
| 4 | DVD-ROM 16x -48x (models 61V) | 40Y8935 | N | Y |
| 4 | DVD-ROM 16x -48x (models 61V) | 40Y8957 | N | Y |
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models 41Q 29Q D7Q E2A E2T DCV DBV F7A F7T FBF FBS FBU FBF FBS FBY) | 40Y8919 | N | Y |
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models 41Q 29Q D7Q E2A E2T DCV DBV F7A F7T FBF FBS FBU FBF FBS FBY) | 40Y8941 | N | Y |
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models 41Q 29Q D7Q E2A E2T DCV DBV F7A F7T FBF FBS FBU FBF FBS FBY) | 40Y8943 | N | Y |
| 4 | Multi-Burner Plus (models 23G E1M E1V F1G D9M F2M F3A F3T F4A F4T F5A F5T F6G G1A G1T G2V G3A G3T G4A G4T FCU FCF 64M F3V FCU FCF FDM FFM FGM FHV FMM FJG FKG) | 40N3343 | N | Y |
| 5 | Diskette drive, w/bezel (models 41Q FAU 61V FAU) | 40Y9105 | N | Y |
| 5 | Diskette drive, w/bezel (models 41Q FAU 61V FAU) | 40Y9107 | N | Y |
| 5 | Diskette drive, w/bezel (models 41Q FAU 61V FAU) | 40Y9113 | N | Y |
| 6 | Front panel card assembly (all models) | 41N5330 | N | Y |
| 7 | Hard disk drive, 40GB, 7200rpm, serial ATA (models G5Q) | 40Y9033 | N | Y |
| 7 | Hard disk drive, 40GB, 7200rpm, serial ATA (models G5Q) | 40Y8760 | N | Y |
| 7 | Hard disk drive, 80GB, 7200rpm, serial ATA (models 41Q 29Q E2A E2T DBV F7A F7T F8Q F9Q FAU FBU 61V 62Q 63Q 64M FAU FNQ) | 40Y9034 | N | Y |
| 7 | Hard disk drive, 80GB, 7200rpm, serial ATA (models 41Q 29Q E2A E2T DBV F7A F7T F8Q F9Q FAU FBU 61V 62Q 63Q 64M FAU FNQ) | 40Y8761 | N | Y |
| 7 | Hard disk drive, 160GB, 7200rpm, serial ATA (models 23G E1M E1V D7Q F3A F3T F4A F4T F5A F5T G1A G1T G2V G3A G3T G4A G4T DCV FBF FBS FCU FCF F3V FBU FBF FBS FBY FCU FCF FDM FGM FHV FJG FKG) | 40Y9035 | N | Y |
| 7 | Hard disk drive, 160GB, 7200rpm, serial ATA (models 23G E1M E1V D7Q F3A F3T F4A F4T F5A F5T G1A G1T G2V G3A G3T G4A G4T DCV FBF FBS FCU FCF F3V FBU FBF FBS FBY FCU FCF FDM FGM FHV FJG FKG) | 40Y8762 | N | Y |
| 7 | Hard disk drive, 250GB, 7200rpm, serial ATA (models D9M F2M F1G F6G FFM FMM) | 40Y9036 | N | Y |
| 7 | Hard disk drive, 250GB, 7200rpm, serial ATA (models D9M F2M F1G F6G FFM FMM) | 40Y8763 | N | Y |

| Item # | 8255 FRUs | FRU# | CRU Tier | RoHS? |
|--------|---|---------|----------|-------|
| 8 | System board, Intel 945G (models 23G E1M E1V F1G 41Q 29Q D7Q D9M E2A E2T F2M F3A F3T F4A F4T F5A F5T F6G G1A G1T G2V G3A G3T G4A G4T DCV DBV F7A F7T 62Q 63Q 64M F3V FDM FNQ FFM FGM FHV FMM FJG FKG G5Q) Note: When you order a new system board you must also order a new retention bracket kit for the heat sink and fan assembly. | 41T1609 | N | Y |
| 8 | System board, Intel 945GZ (models F8Q F9Q FAU FBU FBF FBS FCU FCF 61V FAU FBU FBF FBS FBY FCU FCF) Note: When you order a new system board you must also order a new retention bracket kit for the heat sink and fan assembly. | 41T1608 | N | Y |
| 9 | System Fan, rear w/grill (all models) | 41N5339 | N | Y |
| 10 | Power supply, 250W, RoHS (models 23G E1M E1V F1G 41Q 29Q D7Q D9M E2A E2T F2M F3A F3T F4A F4T F5A F5T F6G G1A G1T G2V G3A G3T G4A G4T DCV DBV F7A F7T FAU FBU FBF FBS FCU FCF F8Q F9Q FAU FBU FBF FBS FBY FCU FCF 61V 62Q 63Q 64M F3V FDM FNQ FFM FGM FHV FMM FJG FKG G5Q) | 41N3127 | Y | N |

The FRUs listed in the following table are not illustrated.

| 8255 FRUs | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| Cable, SATA 250mm (all models) | 41A7145 | 2 | Y |
| Cable, diskette drive (RoHs) (all models) | 41A7130 | 2 | Y |
| Mechanical kit, side cover (all models) | 41N5333 | 2 | Y |
| Mechanical kit (all models) | 41N5331 | N | Y |
| Main bezel kit (all models) | 41N5283 | 2 | N |
| Power switch/LED assembly (all models) | 41N5284 | N | N |
| Shield, system board (all models) | 41N5329 | N | Y |
| Miscellaneous hardware kit (all models) | 41N5334 | N | Y |
| Miscellaneous hardware kit (all models) | 41A7138 | N | N |
| Retention bracket kit, heat sink (all models) | 41A7139 | N | N |
| Cable, hard disk drive and optical drive signal (2-drop) (all models) | 41A7875 | N | N |
| Interposer cables (all models) | 41A7161 | N | N |
| Interposer cables (all models) | 41N5307 | N | N |
| Card Reader Bezel (all models) | 41N5340 | 2 | N |

| 8255 Keyboards (Preferred Pro fullsize, PS/2, Black) | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| US English (models E1M 41Q 23G 29Q D7Q D9M E2A F2M F1G F3A F4A F5A F6G G1A G3A G4A DCV F7A F8Q F9Q FAU FBU FCU 62Q 63Q 64M FAU FBU FCU FDM FNQ FFM FGM FMM FJG FKG G5Q) | 41A5039 | 1 | Y |
| Arabic (models 23G F1G F6G FJG FKG) | 41A5040 | 1 | Y |
| Arabic/French (models 23G F1G F6G FJG FKG) | 41A5041 | 1 | Y |
| Belgian/French (models 23G F1G F6G FJG FKG) | 41A5042 | 1 | Y |
| Belgian/UK (models 23G F1G F6G FJG FKG) | 41A5043 | 1 | Y |

| 8255 Keyboards (Preferred Pro fullsize, PS/2, Black) | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| Bulgarian (models 23G F1G F6G FJG FKG) | 41A5045 | 1 | Y |
| Hong Kong/Taiwan (models E1V G2V DBV 61V F3V FHV) | 41A5046 | 1 | Y |
| Czech (models 23G F1G F6G FJG FKG) | 41A5047 | 1 | Y |
| Danish (models 23G F1G F6G FJG FKG) | 41A5048 | 1 | Y |
| Dutch (models 23G F1G F6G FJG FKG) | 41A5049 | 1 | Y |
| French (models 23G F1G F6G FJG FKG) | 41A5050 | 1 | Y |
| French Canadian 445 (models FBF FCF FBF FCF) | 41A5051 | 1 | Y |
| French Canadian 58 (models FBF FCF FBF FCF) | 41A5052 | 1 | Y |
| German (models 23G F1G F6G FJG FKG) | 41A5053 | 1 | Y |
| Greek (models 23G F1G F6G FJG FKG) | 41A5054 | 1 | Y |
| Hebrew (models 23G F1G F6G FJG FKG) | 41A5055 | 1 | Y |
| Hungarian (models 23G F1G F6G FJG FKG) | 41A5056 | 1 | Y |
| Iceland (models 23G F1G F6G FJG FKG) | 41A5057 | 1 | Y |
| Italian (models 23G F1G F6G FJG FKG) | 41A5058 | 1 | Y |
| LA Spanish (models FBS FBS FBY) | 41A5061 | 1 | Y |
| Norwegian (models 23G F1G F6G FJG FKG) | 41A5062 | 1 | Y |
| Polish (models 23G F1G F6G FJG FKG) | 41A5063 | 1 | Y |
| Portuguese (models 23G F1G F6G FJG FKG) | 41A5064 | 1 | Y |
| Romanian (models 23G F1G F6G FJG FKG) | 41A5065 | 1 | Y |
| Russian/Cyrillic (models 23G F1G F6G FJG FKG) | 41A5066 | 1 | Y |
| Serbian/Cyrillic (models 23G F1G F6G FJG FKG) | 41A5067 | 1 | Y |
| Slovak (models 23G F1G F6G FJG FKG) | 41A5068 | 1 | Y |
| Spanish (models 23G F1G F6G FJG FKG) | 41A5069 | 1 | Y |
| Swedish/Finn (models 23G F1G F6G FJG FKG) | 41A5070 | 1 | Y |
| Swiss (models 23G F1G F6G FJG FKG) | 41A5071 | 1 | Y |
| Thailand (models E2T F3T F4T F5T G1T G3T G4T F7T) | 41A5072 | 1 | Y |
| Turkish 440 (models 23G F1G F6G FJG FKG) | 41A5073 | 1 | Y |
| Turkish 179 (models 23G F1G F6G FJG FKG) | 41A5074 | 1 | Y |
| UK English (models 23G F1G F6G FJG FKG) | 41A5075 | 1 | Y |
| US Euro (models 23G F1G F6G FJG FKG) | 41A5076 | 1 | Y |
| Slovenian (models 23G F1G F6G FJG FKG) | 41A5077 | 1 | Y |

| 8255 mice | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| Mouse, USB Optical Wheel (models 23G E1M E1V F1G 41Q 29Q D7Q D9M E2A E2T F2M F3A F3T F4A F4T F5A F5T F6G G1A G1T G2V G3A G3T G4A G4T DCV DBV F7A F7T F8Q F9Q FAU FBU FBF FBS FCU FCF 61V 62Q 63Q 64M F3V FAU FBU FBF FBS FBY FCU FCF FDM FNQ FFM FGM FHV FMM FJG FKG G5Q) | 41A5085 | 1 | Y |

| 8255 Adapters and miscellaneous FRUs | FRU# | CRU Tier | RoHS? |
|--|---------|----------|-------|
| PCI Modem Card (Soft) (models E1M E1V F1G 29Q D7Q D9M E2A E2T F2M F3A F3T F4A F4T F5A F5T G1A G1T G2V G3A G3T G4A G4T FCU FCF 64M F3V FCU FCF FDM FFM) | 29R9729 | 1 | Y |
| L1 IEEE 1394 PCI Adapter (models E1M E1V D7Q D9M E2A E2T F2M F3A F3T F4A F4T F5A F5T F6G G1A G1T G2V G3A G3T G4A G4T FCU FCF 61V 64M F3V FCU FCF FDM FFM FGM FHV FMM) | 41D2781 | 1 | Y |
| ATI X300SE 128MB (models E1M E1V 23G D9M E2A E2T FDM FFM FGM FMM FJG) | 39J9635 | 1 | Y |
| ATI X700 PRO 128MB (models F2M F1G) | 39J6203 | 1 | Y |
| Internal USB Memory Card Reader (models 23G E1M E1V F1G D9M E2A E2T F2M F3A F3T F4A F4T F5A F5T F6G G1A G1T G2V G3A G3T G4A G4T DCV DBV FCU FCF 62Q 64M F3V FCU FCF FDM FNQ FFM FGM FHV FMM FJG FKG) | 41X2089 | 1 | Y |
| Speakers (2-piece) (models E1M E1V 29Q D7Q D9M E2A E2T F2M F3A F3T F4A F4T F5A F5T G1A G1T G2V G3A G3T G4A G4T DCV DBV F7A F7T FCU FCF 64M F3V FCU FCF FDM FFM FHV) | 89P8589 | 1 | Y |
| Speakers (2-piece) (Lenovo logo) (models E1M E1V 29Q D7Q D9M E2A E2T F2M F3A F3T F4A F4T F5A F5T G1A G1T G2V G3A G3T G4A G4T DCV DBV F7A F7T FCU FCF 64M F3V FCU FCF FDM FFM FHV) | 41A5331 | 1 | Y |
| Speaker Power brick - US, Canada, LA low voltage, ASEAN (models E1V E2T F3T F4T F5T G1T G3T G4T F7T FCU FCF FCU FCF) | 89P8571 | 1 | Y |
| Speaker Power brick - ANZ (models E1M D9M E2A F2M F3A F4A F5A G1A G3A G4A F7A 64M FDM FFM) | 89P8579 | 1 | Y |
| Speaker Power brick - Taiwan (models G2V DCV DBV F3V FHV) | 41A4905 | 1 | Y |
| Speaker Power brick - India, South Africa (models 29Q D7Q) | 89P8585 | 1 | Y |

| 8255 Power Cords | FRU# | CRU Tier | RoHS? |
|--|---------|----------|-------|
| Power Cord (US) (models E2A E2T F3A F3T F4A F4T F5A F5T G1A G1T G3A G3T G4A G4T F7A F7T FAU FBU FBF FBS FCU FCF FAU FBU FBF FBS FCU FCF) | 39M5080 | 1 | Y |
| Power Cord (LA High Volt (APU) (models FBY) | 39M5067 | 1 | Y |
| Power Cord (Australia, New Zealand) (models E1M D9M F2M 64M FDM FFM FGM FMM) | 39M5102 | 1 | Y |
| Power Cord (UK, Ireland, Singapore, Malaysia, Brunei) (models 23G F1G E2A F3A F4A F5A F6G G1A G3A G4A F7A FJG FKG) | 39M5150 | 1 | Y |
| Power Cord (Taiwan) (models E1V G2V DCV DBV 61V F3V FHV) | 39M5246 | 1 | Y |
| Power Cord (Italy) (models 23G F1G F6G FBS FBS FBY FJG FKG) | 39M5164 | 1 | Y |
| Power Cord (G models) (models 23G F1G E2A F3A F4A F5A F6G G1A G3A G4A F7A FJG FKG) | 39M5122 | 1 | Y |
| Power Cord (Denmark) (models 23G F1G F6G FJG FKG) | 39M5129 | 1 | Y |
| Power Cord (Switzerland) (models 23G F1G F6G FJG FKG) | 39M5157 | 1 | Y |
| Power Cord (Israel) (models 23G F1G F6G FJG FKG) | 39M5171 | 1 | Y |
| Power Cord (South Africa) (models 23G E1M F1G D9M E2A F2M F3A F4A F5A F6G G1A G3A G4A F7A 64M FDM FFM FGM FMM FJG FKG) | 39M5143 | 1 | Y |
| Power Cord (India) (models 29Q D7Q F8Q F9Q 62Q 63Q FNQ G5Q) | 39M5004 | 1 | Y |

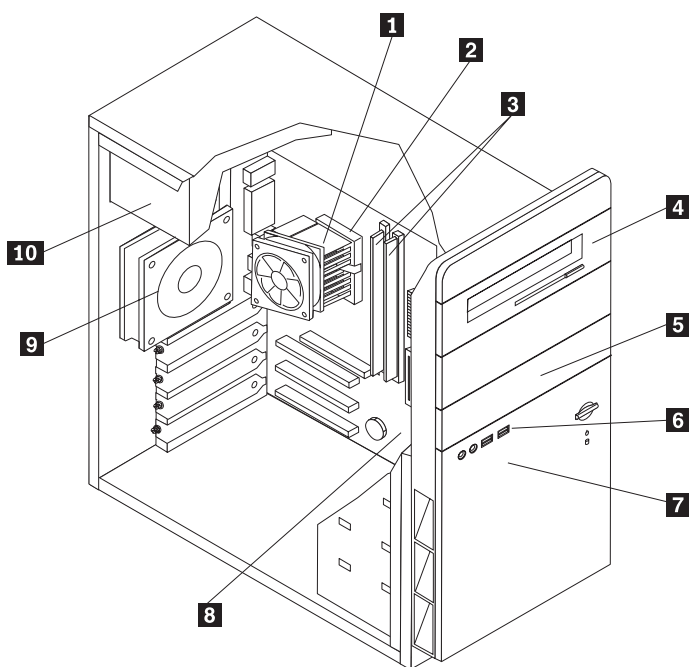
| 8255 Windows XP Home Recovery CDs | FRU# | CRU Tier | RoHS? |
|--|---------|----------|-------|
| US/UK/AP/TH (models 23G E1M 29Q D7Q D9M E2A E2T F2M F3A F3T F6G G1A G1T F8Q F9Q FAU FBU FCU 64M FCU FDM FFM FJG) | 41X0607 | 1 | Y |
| FR/CF (models 23G F6G FBF FCF FCF FJG) | 41X0610 | 1 | Y |
| GR (models 23G F6G FJG) | 41X0612 | 1 | Y |
| IT (models 23G F6G FJG) | 41X0615 | 1 | Y |
| SP/LA (models 23G F6G FJG FBS) | 41X0613 | 1 | Y |
| DK (models 23G F6G FJG) | 41X0619 | 1 | Y |
| NL (models 23G F6G FJG) | 41X0622 | 1 | Y |
| AE (models 23G F6G FJG) | 41X0626 | 1 | Y |
| SV (models 23G F6G FJG) | 41X0618 | 1 | Y |
| HE (models 23G F6G FJG) | 41X0623 | 1 | Y |
| FI (models 23G F6G FJG) | 41X0620 | 1 | Y |
| NO (models 23G F6G FJG) | 41X0621 | 1 | Y |
| PL (models 23G F6G FJG) | 41X0624 | 1 | Y |
| PO (models 23G F6G FJG) | 41X0630 | 1 | Y |
| RU (models 23G F6G FJG) | 41X0627 | 1 | Y |
| RE (models 23G F6G FJG) | 41X0609 | 1 | Y |
| HU (models 23G F6G FJG) | 41X0629 | 1 | Y |
| CZ (models 23G F6G FJG) | 41X0625 | 1 | Y |
| TR (models 23G F6G FJG) | 41X0628 | 1 | Y |
| GK (models 23G F6G FJG) | 41X0631 | 1 | Y |
| Taiwan -TC (models E1V G2V DCV DBV F3V FHV) | 41W3273 | 1 | Y |

| 8255 Windows XP Pro Recovery CDs | FRU# | CRU Tier | RoHS? |
|--|---------|----------|-------|
| US/UK/AP/TH (models F1G 41Q F5A F5T G4A G4T F7A F7T 62Q FAU FBU FGM FMM FKG) | 41X0439 | 1 | Y |
| FR/CF (models F1G FBF FKG) | 41X0442 | 1 | Y |
| GR (models F1G FKG) | 41X0444 | 1 | Y |
| IT (models F1G FKG) | 41X0447 | 1 | Y |
| SP/LA (models F1G FBS FBY FKG) | 41X0445 | 1 | Y |
| DK (models F1G FKG) | 41X0451 | 1 | Y |
| NL (models F1G FKG) | 41X0454 | 1 | Y |
| AE (models F1G FKG) | 41X0458 | 1 | Y |
| SV (models F1G FKG) | 41X0450 | 1 | Y |
| HE (models F1G FKG) | 41X0455 | 1 | Y |
| FI (models F1G FKG) | 41X0452 | 1 | Y |
| NO (models F1G FKG) | 41X0453 | 1 | Y |
| PL (models F1G FKG) | 41X0456 | 1 | Y |
| PO (models F1G FKG) | 41X0462 | 1 | Y |
| RU (models F1G FKG) | 41X0459 | 1 | Y |

| 8255 Windows XP Pro Recovery CDs | FRU# | CRU Tier | RoHS? |
|----------------------------------|---------|----------|-------|
| RE (models F1G FKG) | 41X0441 | 1 | Y |
| HU (models F1G FKG) | 41X0461 | 1 | Y |
| CZ (models F1G FKG) | 41X0457 | 1 | Y |
| TR (models F1G FKG) | 41X0460 | 1 | Y |
| GK (models F1G FKG) | 41X0463 | 1 | Y |
| SL (models F1G FKG) | 41X0464 | 1 | Y |
| Taiwan - TC (models 61V) | 41W2933 | 1 | Y |
| Multilingual 1 (models F1G FKG) | 41X0757 | 1 | Y |
| Multilingual 2 (models F1G FKG) | 41X0758 | 1 | Y |

| 8255 Corel Education CDs | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| US (models E1M 41Q 29Q D7Q D9M E2A E2T F2M F3A F5A G1A G1T G4A G4T F7A F7T FAU FBU FCU 62Q 64M FAU FBU FCU FDM FFM FGM FMM F3T) | 41X0440 | 1 | Y |
| CF (models FBF FCF FBF FCF) | 41X0443 | 1 | Y |
| LA (models FBS FBS FBY) | 41X0446 | 1 | Y |

Machine Type 8256



| Item # | 8256 FRUs | FRU# | CRU Tier | RoHS? |
|--------|---|---------|----------|-------|
| 1 | Heat sink and fan assembly (models D1G D2G D3G D4G B1G 25G G1G G2G G3G G4G) | 41D3552 | N | Y |
| 2 | Microprocessor, Pentium 4, 2.8 GHz, 800FSB, 1MB L2 (models D1G D2G 23G 24G 25G) | 41T1700 | N | Y |
| 2 | Microprocessor, Pentium 4, 3.0 GHz, 800FSB, 2MB L2 (models D3G D4G) | 41T1709 | N | Y |
| 2 | Microprocessor, Intel 820 - A0 Smithfield (models G1G G2G G3G G4G) | 41T1704 | N | Y |
| 3 | Memory module, 512MB DDR2 SDRAM NP (PC 4200) (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 30R5121 | 2 | Y |
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models D1G D2G 23G) | 40Y8919 | N | Y |
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models D1G D2G 23G) | 40Y8941 | N | Y |
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models D1G D2G 23G) | 40Y8943 | N | Y |
| 4 | Multi-Burner Plus (models D3G D4G B1G 24G 25G G1G G2G G3G G4G) | 41N3343 | N | Y |
| 5 | Diskette drive, w/bezel (models none) | 40Y9105 | N | Y |
| 6 | Front panel card assembly (all models) | 41N5330 | N | Y |
| 7 | Hard disk drive, 80GB, 7200rpm, serial ATA (models D1G D2G 23G) | 40Y9034 | N | Y |
| 7 | Hard disk drive, 80GB, 7200rpm, serial ATA (models D1G D2G 23G) | 40Y8761 | N | Y |
| 7 | Hard disk drive, 160GB, 7200rpm, serial ATA (models B1G 24G 25G G3G G4G) | 40Y9035 | N | Y |
| 7 | Hard disk drive, 160GB, 7200rpm, serial ATA (models B1G 24G 25G G3G G4G) | 40Y8762 | N | Y |
| 7 | Hard disk drive, 250GB, 7200rpm, serial ATA (models D3G D4G G1G G2G) | 40Y9036 | N | Y |
| 7 | Hard disk drive, 250GB, 7200rpm, serial ATA (models D3G D4G G1G G2G) | 40Y8763 | N | Y |

| Item # | 8256 FRUs | FRU# | CRU Tier | RoHS? |
|--------|---|---------|----------|-------|
| 8 | System board, Intel 945G (models D1G D2G D3G D4G 23G 24G 25G G1G G2G G3G G4G) Note: When you order a new system board you must also order a new retention bracket kit for the heat sink and fan assembly. | 41T1609 | N | Y |
| 8 | System board, Intel 945GZ (models B1G) Note: When you order a new system board you must also order a new retention bracket kit for the heat sink and fan assembly. | 41T1608 | N | Y |
| 9 | System Fan, rear w/grill (all models) | 41N5339 | N | Y |
| 10 | Power supply, 250W, RoHS (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41N3127 | N | Y |

The FRUs listed in the following table are not illustrated.

| 8256 FRUs | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| Cable, SATA 250mm (all models) | 41A7145 | 2 | Y |
| Cable, diskette drive (RoHs) (all models) | 41A7130 | 2 | Y |
| Mechanical kit, side cover (all models) | 41N5333 | 2 | Y |
| Mechanical kit (all models) | 41N5331 | N | Y |
| Main bezel kit (all models) | 41N5283 | 2 | N |
| Power switch/LED assembly (all models) | 41N5284 | N | N |
| Shield, system board (all models) | 41N5329 | N | Y |
| Miscellaneous hardware kit (all models) | 41N5334 | N | Y |
| Miscellaneous hardware kit (all models) | 41A7138 | N | N |
| Retention bracket kit, heat sink (all models) | 41A7139 | N | N |
| Cable, hard disk drive and optical drive signal (2-drop) (all models) | 41A7875 | N | N |
| Interposer cables (all models) | 41A7161 | N | N |
| Interposer cables (all models) | 41N5307 | N | N |
| Card Reader Bezel (all models) | 41N5340 | 2 | N |

| 8256 Keyboards (Preferred Pro fullsize, PS/2, Black) | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| US English (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5039 | 1 | Y |
| Arabic (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5040 | 1 | Y |
| Arabic/French (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5041 | 1 | Y |
| Belgian/French (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5042 | 1 | Y |
| Belgian/UK (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5043 | 1 | Y |
| Bulgarian (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5045 | 1 | Y |
| Czech (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5047 | 1 | Y |
| Danish (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5048 | 1 | Y |
| Dutch (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5049 | 1 | Y |
| French (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5050 | 1 | Y |

| 8256 Keyboards (Preferred Pro fullsize, PS/2, Black) | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| German (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5053 | 1 | Y |
| Greek (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5054 | 1 | Y |
| Hebrew (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5055 | 1 | Y |
| Hungarian (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5056 | 1 | Y |
| Iceland (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5057 | 1 | Y |
| Italian (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5058 | 1 | Y |
| Norwegian (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5062 | 1 | Y |
| Polish (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5063 | 1 | Y |
| Portuguese (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5064 | 1 | Y |
| Romanian (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5065 | 1 | Y |
| Russian/Cyrillic (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5066 | 1 | Y |
| Serbian/Cyrillic (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5067 | 1 | Y |
| Slovak (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5068 | 1 | Y |
| Spanish (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5069 | 1 | Y |
| Swedish/Finn (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5070 | 1 | Y |
| Swiss (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5071 | 1 | Y |
| Turkish 440 (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5073 | 1 | Y |
| Turkish 179 (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5074 | 1 | Y |
| UK English (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5075 | 1 | Y |
| US Euro (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5076 | 1 | Y |
| Slovenian (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5077 | 1 | Y |

| 8256 mice | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| Mouse, USB Optical Wheel (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 41A5085 | 1 | Y |

| 8256 Adapters and miscellaneous FRUs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| PCI Modem Card (Soft) (models D1G D2G 23G) | 29R9729 | 1 | Y |
| L1 IEEE 1394 PCI Adapter (models D3G D4G) | 41D2781 | 1 | Y |
| ATI X300SE 128MB (models 24G G3G) | 39J9635 | 1 | Y |
| ATI X700 PRO 128MB (models D3G D4G) | 39J6203 | 1 | Y |
| Internal USB Memory Card Reader (all models) | 41X2089 | 1 | Y |

| 8256 Power Cords | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| Power Cord (UK, Ireland, Singapore, Malaysia, Brunei) (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 39M5150 | 1 | Y |

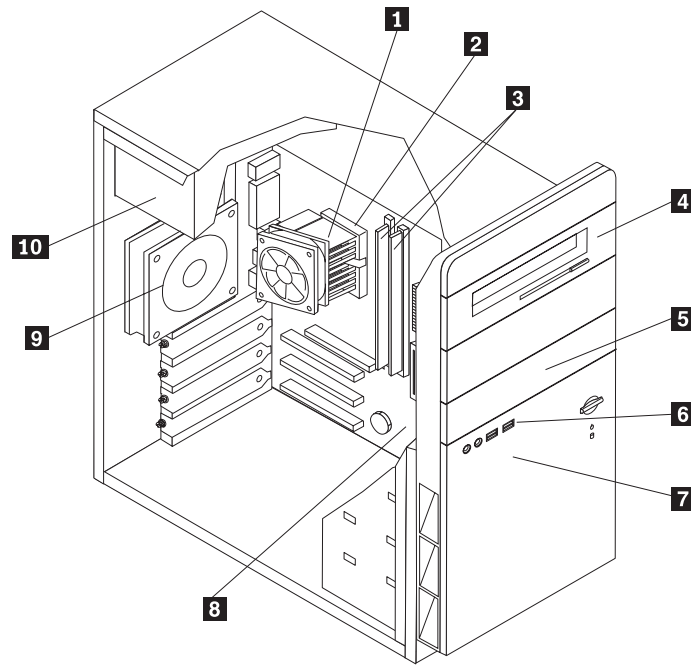
| 8256 Power Cords | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| Power Cord (Italy) (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 39M5164 | 1 | Y |
| Power Cord (G models) (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 39M5122 | 1 | Y |
| Power Cord (Denmark) (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 39M5129 | 1 | Y |
| Power Cord (Switzerland) (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 39M5157 | 1 | Y |
| Power Cord (Israel) (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 39M5171 | 1 | Y |
| Power Cord (South Africa) (models D1G D2G D3G D4G B1G 23G 24G 25G G1G G2G G3G G4G) | 39M5143 | 1 | Y |

| 8256 Windows XP Home Recovery CDs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| US/UK/AP/TH (models D1G D3G 25G G1G G3G) | 41X0607 | 1 | Y |
| FR/CF (models D1G D3G 25G G1G G3G) | 41X0610 | 1 | Y |
| GR (models D1G D3G 25G G1G G3G) | 41X0612 | 1 | Y |
| IT (models D1G D3G 25G G1G G3G) | 41X0615 | 1 | Y |
| SP/LA (models D1G D3G 25G G1G G3G) | 41X0613 | 1 | Y |
| DK (models D1G D3G 25G G1G G3G) | 41X0619 | 1 | Y |
| NL (models D1G D3G 25G G1G G3G) | 41X0622 | 1 | Y |
| AE (models D1G D3G 25G G1G G3G) | 41X0626 | 1 | Y |
| SV (models D1G D3G 25G G1G G3G) | 41X0618 | 1 | Y |
| HE (models D1G D3G 25G G1G G3G) | 41X0623 | 1 | Y |
| FI (models D1G D3G 25G G1G G3G) | 41X0620 | 1 | Y |
| NO (models D1G D3G 25G G1G G3G) | 41X0621 | 1 | Y |
| PL (models D1G D3G 25G G1G G3G) | 41X0624 | 1 | Y |
| PO (models D1G D3G 25G G1G G3G) | 41X0630 | 1 | Y |
| RU (models D1G D3G 25G G1G G3G) | 41X0627 | 1 | Y |
| RE (models D1G D3G 25G G1G G3G) | 41X0609 | 1 | Y |
| HU (models D1G D3G 25G G1G G3G) | 41X0629 | 1 | Y |
| CZ (models D1G D3G 25G G1G G3G) | 41X0625 | 1 | Y |
| TR (models D1G D3G 25G G1G G3G) | 41X0628 | 1 | Y |
| GK (models D1G D3G 25G G1G G3G) | 41X0631 | 1 | Y |

| 8256 Windows XP Pro Recovery CDs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| US/UK/AP/TH (models D2G D4G B1G 24G G2G G4G) | 41X0439 | 1 | Y |
| FR/CF (models D2G D4G B1G 24G G2G G4G) | 41X0442 | 1 | Y |
| GR (models D2G D4G B1G 24G G2G G4G) | 41X0444 | 1 | Y |
| IT (models D2G D4G B1G 24G G2G G4G) | 41X0447 | 1 | Y |

| 8256 Windows XP Pro Recovery CDs | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| SP/LA (models D2G D4G B1G 24G G2G G4G) | 41X0445 | 1 | Y |
| DK (models D2G D4G B1G 24G G2G G4G) | 41X0451 | 1 | Y |
| NL (models D2G D4G B1G 24G G2G G4G) | 41X0454 | 1 | Y |
| AE (models D2G D4G B1G 24G G2G G4G) | 41X0458 | 1 | Y |
| SV (models D2G D4G B1G 24G G2G G4G) | 41X0450 | 1 | Y |
| HE (models D2G D4G B1G 24G G2G G4G) | 41X0455 | 1 | Y |
| FI (models D2G D4G B1G 24G G2G G4G) | 41X0452 | 1 | Y |
| NO (models D2G D4G B1G 24G G2G G4G) | 41X0453 | 1 | Y |
| PL (models D2G D4G B1G 24G G2G G4G) | 41X0456 | 1 | Y |
| PO (models D2G D4G B1G 24G G2G G4G) | 41X0462 | 1 | Y |
| RU (models D2G D4G B1G 24G G2G G4G) | 41X0459 | 1 | Y |
| RE (models D2G D4G B1G 24G G2G G4G) | 41X0441 | 1 | Y |
| HU (models D2G D4G B1G 24G G2G G4G) | 41X0461 | 1 | Y |
| CZ (models D2G D4G B1G 24G G2G G4G) | 41X0457 | 1 | Y |
| TR (models D2G D4G B1G 24G G2G G4G) | 41X0460 | 1 | Y |
| GK (models D2G D4G B1G 24G G2G G4G) | 41X0463 | 1 | Y |
| SL (models D2G D4G B1G 24G G2G G4G) | 41X0464 | 1 | Y |
| Multilingual 1 (models D2G D4G B1G 24G G2G G4G) | 41X0757 | 1 | Y |
| Multilingual 2 (models D2G D4G B1G 24G G2G G4G) | 41X0758 | 1 | Y |

Machine Type 8258



| Item # | 8258 FRUs | FRU# | CRU Tier | RoHS? |
|--------|---|---------|----------|-------|
| 1 | Heat sink and fan assembly (models HGG J9U J9F HHU HHF GBM JAM JCA JCT JDV HKQ HMG HNM HNA HNT HQM HRV HTM HUA HUT HWQ B8Y B1A B1T B2A B2Q B2T B3U B3F B3S B4U B4F HHY HYQ HZS HZY) | 41A7844 | N | Y |
| 2 | Microprocessor, AMD 754 Sempron 2600+ 1.6 (models GBM) | 41T2238 | N | Y |
| 2 | Microprocessor, AMD 754 Sempron 3000+ 1.8 (models J9U J9F JAM JCA JCT JDV B8Y) | 41T1736 | N | Y |
| 2 | Microprocessor, AMD 754 Sempron 3400+ 2.0 (models JFG B1A B1T B2A B2Q B2T B3U B3F B3S B4U B4F) | 41T1740 | N | Y |
| 2 | Microprocessor, AMD 754 Athlon 3200+ 2.2 (models HGG HHU HHF HKQ HMG HNM HNA HNT HQM HRV HTM HUA HUT HWQ HHY HYQ HZS HZY) | 41T1742 | N | Y |
| 3 | Memory module, 256MB, DDR2 SDRAM, NP, PC3200 (models GBM HKQ B8Y B1A B1T B2A B2Q B2T HZS HZY) | 73P2683 | 2 | Y |
| 3 | Memory module, 512MB, DDR2 SDRAM, NP, PC3200 (models HGG J9U J9F HHU HHF JAM JCA JCT JDV JFG HNM HNA HNT HQM HRV HTM HUA HUT HWQ B3U B3F B3S B4U B4F HHY HYQ) | 73P2684 | 2 | Y |
| 3 | Memory module, 1024MB, DDR2 SDRAM, NP, PC3200 (models HMG) | 22P9274 | 2 | Y |
| 4 | CD-ROM Drive 48X - Black w/o jack & vol (models HKQ B8Y B1A B1T B2A B2Q B2T HYQ) | 40Y8929 | N | Y |
| 4 | CD-ROM Drive 48X - Black w/o jack & vol (models HKQ B8Y B1A B1T B2A B2Q B2T HYQ) | 41X3540 | N | Y |
| 4 | CD-ROM Drive 48X - Black w/o jack & vol (models HKQ B8Y B1A B1T B2A B2Q B2T HYQ) | 40Y8807 | N | Y |
| 4 | CD-ROM Drive 48X - Black w/o jack & vol (models HKQ B8Y B1A B1T B2A B2Q B2T HYQ) | 40Y8955 | N | Y |

| Item # | 8258 FRUs | FRU# | CRU Tier | RoHS? |
|--------|---|---------|----------|-------|
| 4 | CD-ROM Drive 48X - Black w/o jack & vol (models HKQ B8Y B1A B1T B2A B2Q B2T HYQ) | 40Y8953 | N | Y |
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models J9U J9F GBM JAM JCA JCT JDV HNM HNA HNT B3U B3F B3S HZS HZY) | 40Y8919 | N | Y |
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models J9U J9F GBM JAM JCA JCT JDV HNM HNA HNT B3U B3F B3S HZS HZY) | 40Y8941 | N | Y |
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models J9U J9F GBM JAM JCA JCT JDV HNM HNA HNT B3U B3F B3S HZS HZY) | 40Y8943 | N | Y |
| 4 | Multi-burner Plus (models HGG HHU HHF JFG HMG HQM HRV HTM HUA HUT B4U B4F HHY) | 41N3343 | N | Y |
| 5 | Diskette drive, w/bezel (models B8Y B3U B3F B3S) | 40Y9105 | N | Y |
| 5 | Diskette drive, w/bezel (models B8Y B3U B3F B3S) | 40Y9107 | N | Y |
| 5 | Diskette drive, w/bezel (models B8Y B3U B3F B3S) | 40Y9113 | N | Y |
| 6 | Cable Asm, Front Panel Audio/USB (all models) | 41N5330 | N | Y |
| 7 | Hard disk drive, 80GB, 7200rpm, serial ATA (models J9U J9F GBM JAM JCA JCT HKQ HNM HNA HNT HWQ B8Y B1A B1T B2A B2Q B2T B3U B3F B3S HYQ HZS HZY) | 40Y9034 | N | Y |
| 7 | Hard disk drive, 80GB, 7200rpm, serial ATA (models J9U J9F GBM JAM JCA JCT HKQ HNM HNA HNT HWQ B8Y B1A B1T B2A B2Q B2T B3U B3F B3S HYQ HZS HZY) | 40Y8761 | N | Y |
| 7 | Hard disk drive, 160GB, 7200rpm, serial ATA (models HGG HHU HHF JDV JFG HQM HRV HTM HUA HUT) | 40Y9035 | N | Y |
| 7 | Hard disk drive, 160GB, 7200rpm, serial ATA (models HGG HHU HHF JDV JFG HQM HRV HTM HUA HUT) | 40Y8762 | N | Y |
| 7 | Hard disk drive, 250GB, 7200rpm, serial ATA (models HMG) | 40Y9036 | N | Y |
| 7 | Hard disk drive, 250GB, 7200rpm, serial ATA (models HMG) | 40Y8763 | N | Y |
| 8 | System board, K8M800 (AMD based) (models HGG J9U J9F HHU HHF GBM JAM JCA JCT JDV JFG HKQ HMG HNM HNA HNT HQM HRV HTM HUA HUT HWQ B8Y B1A B1T B2A B2Q B2T B3U B3F B3S B4U B4F HHY HYQ HZS HZY) Note: When you order a new system board you must also order a new retention bracket kit for the heat sink and fan assembly. | 41X0138 | N | N |
| 9 | System Fan, rear w/grill (all models) | 41N5339 | N | Y |
| 10 | Power supply, 250W, RoHS (models HGG J9U J9F HHU HHF GBM JAM JCA JCT JDV JFG HKQ HMG HNM HNA HNT HQM HRV HTM B8Y B3U B3F B3S B4U B4F HHY HZS HZY B1A B1T B2A B2Q B2T HYQ) | 41N3127 | N | Y |

The FRUs listed in the following table are not illustrated.

| 8258 FRUs | FRU# | CRU Tier | RoHS? |
|--|---------|----------|-------|
| Cable, SATA 250mm (all models) | 41A7145 | 2 | Y |
| Cable, diskette drive (RoHs) (all models) | 41A7130 | 2 | Y |
| Mechanical kit, side cover (all models) | 41N5333 | 2 | Y |
| Mechanical kit, optional to 41N5282 (all models) | 41N5331 | N | Y |
| Main bezel kit (all models) | 41N5283 | 2 | N |

| 8258 FRUs | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| Power switch/LED assembly (all models) | 41N5284 | N | N |
| Shield, system board (all models) | 41N5329 | N | Y |
| Miscellaneous hardware kit (all models) | 41N5334 | N | Y |
| Retention bracket kit, heat sink and fan (all models) | 41A7842 | N | N |
| Cable, hard disk drive and optical drive signal (2-drop) (all models) | 41A7875 | N | N |
| Interposer cables (all models) | 41A7161 | N | N |
| Interposer cables (all models) | 41N5307 | N | N |
| Card Reader Bezel (all models) | 41N5340 | N | N |

| 8258 Keyboards (Preferred Pro fullsize, Black) | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| US English (models J9U HHU GBM HKQ HTM HWQ B1A B2A B2Q B3U B4U HYQ) | 41A5039 | 1 | Y |
| French Canadian 445 (models J9F HHF B3F B4F) | 41A5051 | 1 | Y |
| French Canadian 58 (models J9F HHF B3F B4F) | 41A5052 | 1 | Y |
| LA Spanish (models B8Y B3S HHY HZS HZY) | 41A5061 | 1 | Y |
| Thailand (models B1T B2T) | 41A5072 | 1 | Y |

| 8258 Keyboards (USB Enhanced Performance) | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| US English (models HGG JAM JCA JFG HMG HNM HNA HQM HUA) | 41A4961 | 1 | Y |
| Arabic (models HGG JFG HMG) | 41A4962 | 1 | Y |
| Arabic/French (models HGG JFG HMG) | 41A4963 | 1 | Y |
| Belgian/French (models HGG JFG HMG) | 41A4964 | 1 | Y |
| Belgian/UK (models HGG JFG HMG) | 41A4965 | 1 | Y |
| Bulgarian (models HGG JFG HMG) | 41A4967 | 1 | Y |
| Hong Kong/Taiwan (models JDV HRV) | 41A4968 | 1 | Y |
| Czech (models HGG JFG HMG) | 41A4969 | 1 | Y |
| Danish (models HGG JFG HMG) | 41A4970 | 1 | Y |
| Dutch (models HGG JFG HMG) | 41A4971 | 1 | Y |
| French (models HGG JFG HMG) | 41A4972 | 1 | Y |
| German (models HGG JFG HMG) | 41A4975 | 1 | Y |
| Greek (models HGG JFG HMG) | 41A4976 | 1 | Y |
| Hebrew (models HGG JFG HMG) | 41A4977 | 1 | Y |
| Hungarian (models HGG JFG HMG) | 41A4978 | 1 | Y |
| Iceland (models HGG JFG HMG) | 41A4979 | 1 | Y |
| Italian (models HGG JFG HMG) | 41A4980 | 1 | Y |
| Norwegian (models HGG JFG HMG) | 41A4984 | 1 | Y |
| Polish (models HGG JFG HMG) | 41A4985 | 1 | Y |
| Portuguese (models HGG JFG HMG) | 41A4986 | 1 | Y |
| Romanian (models HGG JFG HMG) | 41A4987 | 1 | Y |

| 8258 Keyboards (USB Enhanced Performance) | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| Russian/Cy (models HGG JFG HMG) | 41A4988 | 1 | Y |
| Serbian/Cyrillic (models HGG JFG HMG) | 41A4989 | 1 | Y |
| Slovak (models HGG JFG HMG) | 41A4990 | 1 | Y |
| Spanish (models HGG JFG HMG) | 41A4991 | 1 | Y |
| Swedish/Finn (models HGG JFG HMG) | 41A4992 | 1 | Y |
| Swiss F/G (models HGG JFG HMG) | 41A4993 | 1 | Y |
| Thailand (models JCT HNT HUT) | 41A4994 | 1 | Y |
| Turkish 440 (models HGG JFG HMG) | 41A4995 | 1 | Y |
| Turkish 179 (models HGG JFG HMG) | 41A4996 | 1 | Y |
| UK English (models HGG JFG HMG) | 41A4997 | 1 | Y |
| US Euro (models HGG JFG HMG) | 41A4998 | 1 | Y |
| Slovenian (models HGG JFG HMG) | 41A4999 | 1 | Y |

| 8258 mice | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| Mouse, USB Optical Wheel (models HGG J9U J9F HHU HHF GBM JAM JCA JCT JDV JFG HKQ HMG HNM HNA HNT HQM HRV HTM HUA HUT HWQ B8Y B1A B1T B2A B2Q B2T B3U B3F B3S B4U B4F HHY HYQ HZS HZY) | 41A5085 | 1 | Y |

| 8258 Adapters and miscellaneous FRUs | FRU# | CRU Tier | RoHS? |
|--|---------|----------|-------|
| PCI Modem Card (Soft) (models J9U J9F HHU HHF GBM JAM JCA JCT JDV HNM HNA HNT HQM HRV HWQ B4U B4F HHY HZS HZY) | 29R9729 | 1 | Y |
| L1 IEEE 1394 PCI Adapter (models HQM HRV HWQ) | 41D2781 | 1 | Y |
| Internal USB Memory Card Reader (models HGG J9U J9F HHU HHF GBM JAM JCA JCT JDV JFG HMG HNM HNA HNT HQM HRV) | 41X2089 | 1 | Y |
| Speakers (2-piece) (models J9U J9F HHU HHF GBM JAM JCA JCT JDV HNM HNA HNT HQM HRV HUA HUT HWQ B4U B4F HHY) | 89P8589 | 1 | Y |
| Speakers (2-piece) (models J9U J9F HHU HHF GBM JAM JCA JCT JDV HNM HNA HNT HQM HRV HUA HUT HWQ B4U B4F HHY) | 41A5331 | 1 | Y |
| Speaker Power brick - US, Canada, LA (low voltage), ASEAN (models J9U J9F HHU HHF JCT HNT HUT B4U B4F HHY) | 89P8571 | 1 | Y |
| Speaker Power brick - Argentina (models HHY) | 41A4901 | 1 | Y |
| Speaker Power brick - ANZ (models GBM JAM JCA HNM HNA HQM HUA) | 89P8579 | 1 | Y |
| Speaker Power brick - Taiwan (models JDV HRV) | 41A4905 | 1 | Y |
| Speaker Power brick - India, south Africa (models HWQ) | 89P8585 | 1 | Y |

| 8258 Power Cords | FRU# | CRU Tier | RoHS? |
|--|---------|----------|-------|
| Power Cord (US) (models J9U J9F HHU HHF JCA JCT HNA HNT HUA HUT B1A B1T B2A B2T B3U B3F B3S B4U B4F HZS) | 39M5080 | 1 | Y |
| Power Cord (LA High volt (APU) (models B8Y HHY HZY) | 39M5067 | 1 | Y |
| Power Cord (Australia, New Zealand) (models GBM JAM HNM HQM HTM) | 39M5102 | 1 | Y |

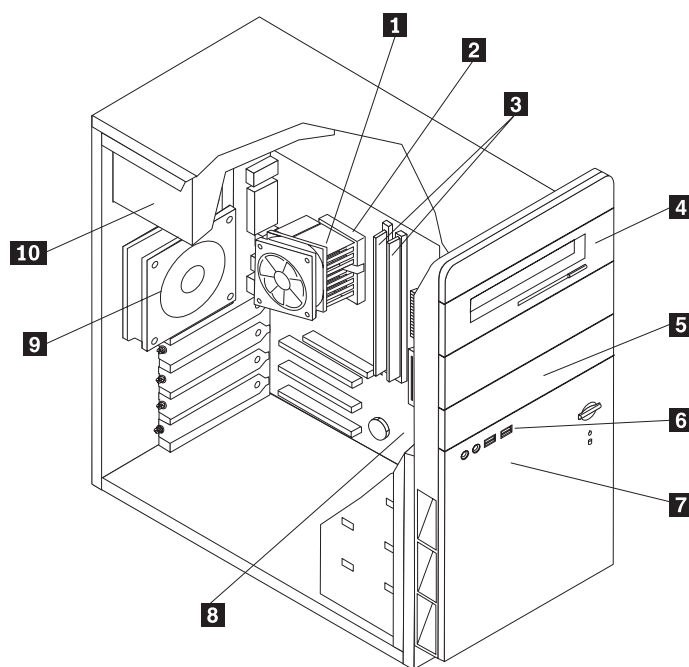
| 8258 Power Cords | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| Power Cord (UK, Ireland, Singapore, Malaysia, Brunei) (models HGG JCA JFG HMG HNA HUA B1A B2A) | 39M5150 | 1 | Y |
| Power Cord (Taiwan) (models JDV HRV) | 39M5246 | 1 | Y |
| Power Cord (Italy) (models HGG JFG HMG B8Y B3S HHY HZS HZY) | 39M5164 | 1 | Y |
| Power Cord (G models) (models HGG JCA JFG HMG HNA HUA B1A B2A) | 39M5122 | 1 | Y |
| Power Cord (Denmark) (models HGG JFG HMG) | 39M5129 | 1 | Y |
| Power Cord (Switzerland) (models HGG JFG HMG) | 39M5157 | 1 | Y |
| Power Cord (Israel) (models HGG JFG HMG) | 39M5171 | 1 | Y |
| Power Cord (South Africa) (models HGG GBM JAM JCA JFG HMG HNM HNA HQM HTM HUA B1A B2A) | 39M5143 | 1 | Y |
| Power Cord (India) (models HKQ HWQ B2Q HYQ) | 39M5004 | 1 | Y |

| 8258 Windows XP Home Recovery CDs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| US/UK/AP/TH (models HGG J9U HHU GBM JAM JFG HMG HNM HNA HNT HQM B4U) | 41X0607 | 1 | Y |
| FR/CF (models HGG J9F HHF JFG HMG B4F) | 41X0610 | 1 | Y |
| GR (models HGG JFG HMG) | 41X0612 | 1 | Y |
| IT (models HGG JFG HMG) | 41X0615 | 1 | Y |
| SP/LA (models HGG JFG HMG HHY) | 41X0613 | 1 | Y |
| DK (models HGG JFG HMG) | 41X0619 | 1 | Y |
| NL (models HGG JFG HMG) | 41X0622 | 1 | Y |
| AE (models HGG JFG HMG) | 41X0626 | 1 | Y |
| SV (models HGG JFG HMG) | 41X0618 | 1 | Y |
| HE (models HGG JFG HMG) | 41X0623 | 1 | Y |
| FI (models HGG JFG HMG) | 41X0620 | 1 | Y |
| NO (models HGG JFG HMG) | 41X0621 | 1 | Y |
| PL (models HGG JFG HMG) | 41X0624 | 1 | Y |
| PO (models HGG JFG HMG) | 41X0630 | 1 | Y |
| RU (models HGG JFG HMG) | 41X0627 | 1 | Y |
| RE (models HGG JFG HMG) | 41X0609 | 1 | Y |
| HU (models HGG JFG HMG) | 41X0629 | 1 | Y |
| CZ (models HGG JFG HMG) | 41X0625 | 1 | Y |
| TR (models HGG JFG HMG) | 41X0628 | 1 | Y |
| GK (models HGG JFG HMG) | 41X0631 | 1 | Y |
| Taiwan -TC (models JDV HRV) | 41W3273 | 1 | Y |

| 8258 Windows XP Pro Recovery CDs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| US/UK/AP/TH (models JCA JCT HTM HUA HUT B1A B1T B3U HYQ) | 41X0439 | 1 | Y |
| SP/LA (models B8Y B3S) | 41X0445 | 1 | Y |

| 8258 Corel Education CDs | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| US (models GBM JAM JCA JCT HNM HNA HNT HQM HTM HUA HUT B1A B1T B3U B4U HYQ) | 41X0440 | 1 | Y |
| CF (models B3F B4F) | 41X0443 | 1 | Y |
| LA (models B3S HHY) | 41X0446 | 1 | Y |

Machine Type 8259



| Item # | 8259 FRUs | FRU# | CRU Tier | RoHS? |
|--------|---|---------|----------|-------|
| 1 | Heat sink and fan assembly (models G4G G5G J6G H3G H7G H8G JAG G8G J7G J8G GAQ JBG JCG JDG) | 41A7844 | N | Y |
| 2 | Microprocessor, AMD 754 Sempron 2800+ 1.6 (models G4G G5G G8G GAQ) | 41T1737 | N | Y |
| 2 | Microprocessor, AMD 754 Sempron3100+ 1.8 (models J6G J7G J8G) | 41T1738 | N | Y |
| 2 | Microprocessor, AMD 754 Sempron 3300+ 2.0 (models G1G) | 41T1739 | N | Y |
| 2 | Microprocessor, AMD 754 Sempron 3400+ 2.0 (models JAG JBG JCG JDG) | 41T1740 | N | Y |
| 2 | Microprocessor, AMD 754 Sempron 3200+ 2.2 (models H3G H7G H8G) | 41T1742 | N | Y |
| 3 | Memory module, 256MB, DDR2 SDRAM, NP, PC3200 (models G4G G5G G8G GAQ JBG) | 73P2683 | 2 | Y |
| 3 | Memory module, 512MB, DDR2 SDRAM, NP, PC3200 (models J6G H3G J7G J8G JAG H7G JCG JDG) | 73P2684 | 2 | Y |
| 3 | Memory module, 1024MB, DDR2 SDRAM, NP, PC3200 (models H8G) | 22P9274 | 2 | Y |
| 4 | DVD-ROM 16X-48X (models G4G G5G) | 40Y8931 | N | Y |
| 4 | DVD-ROM 16X-48X (models G4G G5G) | 40Y8935 | N | Y |
| 4 | DVD-ROM 16X-48X (models G4G G5G) | 40Y8957 | N | Y |
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models G8G J7G J8G JBG JCG JDG) | 40Y8919 | N | Y |
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models G8G J7G J8G JBG JCG JDG) | 40Y8941 | N | Y |
| 4 | DVD - ROM - CDRW Combo 48-32-48-16 (models G8G J7G J8G JBG JCG JDG) | 40Y8943 | N | Y |
| 4 | Multi-burner Plus (models J6G H3G JAG H7G H8G) | 41N3343 | N | Y |
| 5 | Diskette drive, w/bezel (models none) | 40Y9113 | N | Y |

| Item # | 8259 FRUs | FRU# | CRU Tier | RoHS? |
|--------|---|---------|----------|-------|
| 6 | Cable Asm, Front Panel Audio/USB (all models) | 41N5330 | N | Y |
| 7 | Hard disk drive, 40GB, 7200rpm, serial ATA (models GAQ) | 40Y9033 | N | Y |
| 7 | Hard disk drive, 40GB, 7200rpm, serial ATA (models GAQ) | 40Y8760 | N | Y |
| 7 | Hard disk drive, 80GB, 7200rpm, serial ATA (models G4G G5G G8G J7G J8G JBG JCG JDG) | 40Y9034 | N | Y |
| 7 | Hard disk drive, 80GB, 7200rpm, serial ATA (models G4G G5G G8G J7G J8G JBG JCG JDG) | 40Y8761 | N | Y |
| 7 | Hard disk drive, 160GB, 7200rpm, serial ATA (models J6G H3G JAG H7G) | 40Y9035 | N | Y |
| 7 | Hard disk drive, 160GB, 7200rpm, serial ATA (models J6G H3G JAG H7G) | 40Y8762 | N | Y |
| 7 | Hard disk drive, 250GB, 7200rpm, serial ATA (models H8G) | 40Y9036 | N | Y |
| 7 | Hard disk drive, 250GB, 7200rpm, serial ATA (models H8G) | 40Y8763 | N | Y |
| 8 | System board, K8M800 (AMD based) (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G GAQ JBG JCG JDG) Note: When you order a new system board you must also order a new retention bracket kit for the heat sink and fan assembly. | 41X0138 | N | Y |
| 9 | System Fan, rear w/grill (all models) | 41N5339 | N | Y |
| 10 | Power supply, 250W, RoHS (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G GAQ JBG JCG JDG) | 41N3127 | N | Y |

The FRUs listed in the following table are not illustrated.

| 8259 FRUs | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| Cable, SATA 250mm (all models) | 41A7145 | 2 | Y |
| Cable, diskette drive (RoHs) (all models) | 41A7130 | 2 | Y |
| Mechanical kit, side cover (all models) | 41N5333 | 2 | Y |
| Mechanical kit, optional to 41N5282 (all models) | 41N5331 | N | Y |
| Main bezel kit (all models) | 41N5283 | 2 | N |
| Power switch/LED assembly (all models) | 41N5284 | N | N |
| Shield, system board (all models) | 41N5329 | N | Y |
| Miscellaneous hardware kit (all models) | 41N5334 | N | Y |
| Retention bracket kit, heat sink and fan (all models) | 41A7842 | N | N |
| Cable, hard disk drive and optical drive signal (2-drop) (all models) | 41A7875 | N | N |
| Interposer cables (all models) | 41A7161 | N | N |
| Interposer cables (all models) | 41N5307 | N | N |
| Card Reader Bezel (all models) | 41N5340 | N | N |

| 8259 Keyboards (Preferred Pro fullsize, PS/2, Black) | FRU# | CRU Tier | RoHS? |
|--|---------|----------|-------|
| US English (models GAQ) | 41A5039 | 1 | Y |

| 8259 Keyboards (USB Enhanced Performance) | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| US English (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4961 | 1 | Y |
| Arabic (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4962 | 1 | Y |
| Arabic/French (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4963 | 1 | Y |
| Belgian/French (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4964 | 1 | Y |
| Belgian/UK (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4965 | 1 | Y |
| Bulgarian (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4967 | 1 | Y |
| Czech (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4969 | 1 | Y |
| Danish (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4970 | 1 | Y |
| Dutch (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4971 | 1 | Y |
| French (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4972 | 1 | Y |
| German (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4975 | 1 | Y |
| Greek (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4976 | 1 | Y |
| Hebrew (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4977 | 1 | Y |
| Hungarian (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4978 | 1 | Y |
| Iceland (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4979 | 1 | Y |
| Italian (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4980 | 1 | Y |
| Norwegian (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4984 | 1 | Y |
| Polish (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4985 | 1 | Y |
| Portuguese (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4986 | 1 | Y |
| Romanian (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4987 | 1 | Y |
| Russian/Cy (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4988 | 1 | Y |
| Serbian/Cyrillic (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4989 | 1 | Y |
| Slovak (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4990 | 1 | Y |
| Spanish (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4991 | 1 | Y |
| Swedish/Finn (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4992 | 1 | Y |
| Swiss F/G (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4993 | 1 | Y |
| Turkish 440 (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4995 | 1 | Y |
| Turkish 179 (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4996 | 1 | Y |
| UK English (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4997 | 1 | Y |

| 8259 Keyboards (USB Enhanced Performance) | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| US Euro (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4998 | 1 | Y |
| Slovenian (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41A4999 | 1 | Y |

| 8259 mice | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| Mouse, USB Optical Wheel (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G GAQ JBG JCG JDG) | 41A5085 | 1 | Y |

| 8259 Adapters and miscellaneous FRUs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| PCI Modem Card (Soft) (models J6G) | 29R9729 | 1 | Y |
| L1 IEEE 1394 PCI Adapter (models J6G H8G) | 41D2781 | 1 | Y |
| Internal USB Memory Card Reader (models J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 41X2089 | 1 | Y |

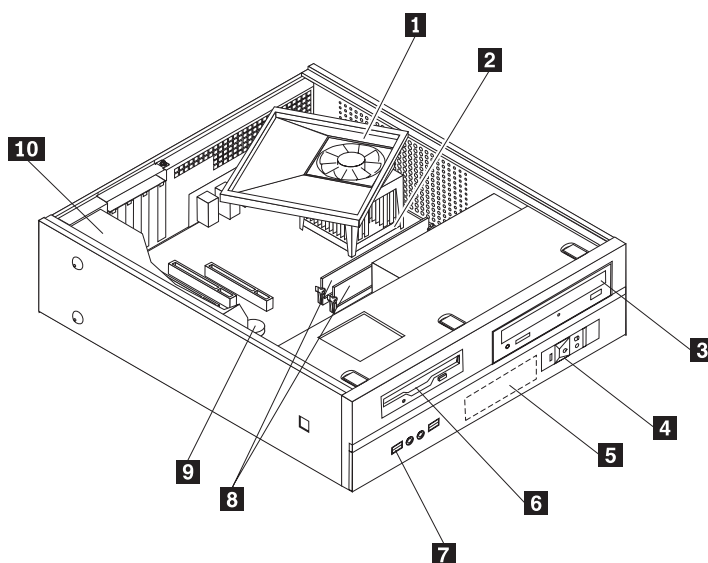
| 8259 Power Cords | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| Power Cord (UK, Ireland, Singapore, Malaysia, Brunei) (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 39M5150 | 1 | Y |
| Power Cord (Italy) (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 39M5164 | 1 | Y |
| Power Cord (G models) (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 39M5122 | 1 | Y |
| Power Cord (Denmark) (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 39M5129 | 1 | Y |
| Power Cord (Switzerland) (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 39M5157 | 1 | Y |
| Power Cord (Israel) (models G4G G5G J6G H3G G8G J7G J8G JAG H7G H8G JBG JCG JDG) | 39M5171 | 1 | Y |
| Power Cord (South Africa) (models G4G G5G J6G H3G G8G J7G J8G J9G JAG H6G H7G H8G) | 39M5143 | 1 | Y |
| Power Cord (India) (models GAQ) | 39M5004 | 1 | Y |

| 8259 Windows XP Home Recovery CDs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| US/UK/AP/TH (models J6G H3G J7G JAG H8G JCG) | 41X0607 | 1 | Y |
| FR/CF (models J6G H3G J7G JAG H8G JCG) | 41X0610 | 1 | Y |
| GR (models J6G H3G J7G JAG H8G JCG) | 41X0612 | 1 | Y |
| IT (models J6G H3G J7G JAG H8G JCG) | 41X0615 | 1 | Y |
| SP/LA (models J6G H3G J7G JAG H8G JCG) | 41X0613 | 1 | Y |
| DK (models J6G H3G J7G JAG H8G JCG) | 41X0619 | 1 | Y |
| NL (models J6G H3G J7G JAG H8G JCG) | 41X0622 | 1 | Y |
| AE (models J6G H3G J7G JAG H8G JCG) | 41X0626 | 1 | Y |

| 8259 Windows XP Home Recovery CDs | FRU# | CRU Tier | RoHS? |
|-------------------------------------|---------|----------|-------|
| SV (models J6G H3G J7G JAG H8G JCG) | 41X0618 | 1 | Y |
| HE (models J6G H3G J7G JAG H8G JCG) | 41X0623 | 1 | Y |
| FI (models J6G H3G J7G JAG H8G JCG) | 41X0620 | 1 | Y |
| NO (models J6G H3G J7G JAG H8G JCG) | 41X0621 | 1 | Y |
| PL (models J6G H3G J7G JAG H8G JCG) | 41X0624 | 1 | Y |
| PO (models J6G H3G J7G JAG H8G JCG) | 41X0630 | 1 | Y |
| RU (models J6G H3G J7G JAG H8G JCG) | 41X0627 | 1 | Y |
| RE (models J6G H3G J7G JAG H8G JCG) | 41X0609 | 1 | Y |
| HU (models J6G H3G J7G JAG H8G JCG) | 41X0629 | 1 | Y |
| CZ (models J6G H3G J7G JAG H8G JCG) | 41X0625 | 1 | Y |
| TR (models J6G H3G J7G JAG H8G JCG) | 41X0628 | 1 | Y |
| GK (models J6G H3G J7G JAG H8G JCG) | 41X0631 | 1 | Y |

| 8259 Windows XP Pro Recovery CDs | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| US/UK/AP/TH (models G5G J8G H7G JDG) | 41X0439 | 1 | Y |
| FR/CF (models G5G J8G H7G JDG) | 41X0442 | 1 | Y |
| GR (models G5G J8G H7G JDG) | 41X0444 | 1 | Y |
| IT (models G5G J8G H7G JDG) | 41X0447 | 1 | Y |
| SP/LA (models G5G J8G H7G JDG) | 41X0445 | 1 | Y |
| DK (models G5G J8G H7G JDG) | 41X0451 | 1 | Y |
| NL (models G5G J8G H7G JDG) | 41X0454 | 1 | Y |
| AE (models G5G J8G H7G JDG) | 41X0458 | 1 | Y |
| SV (models G5G J8G H7G JDG) | 41X0450 | 1 | Y |
| HE (models G5G J8G H7G JDG) | 41X0455 | 1 | Y |
| FI (models G5G J8G H7G JDG) | 41X0452 | 1 | Y |
| NO (models G5G J8G H7G JDG) | 41X0453 | 1 | Y |
| PL (models G5G J8G H7G JDG) | 41X0456 | 1 | Y |
| PO (models G5G J8G H7G JDG) | 41X0462 | 1 | Y |
| RU (models G5G J8G H7G JDG) | 41X0459 | 1 | Y |
| RE (models G5G J8G H7G JDG) | 41X0441 | 1 | Y |
| HU (models G5G J8G H7G JDG) | 41X0461 | 1 | Y |
| CZ (models G5G J8G H7G JDG) | 41X0457 | 1 | Y |
| TR (models G5G J8G H7G JDG) | 41X0460 | 1 | Y |
| GK (models G5G J8G H7G JDG) | 41X0463 | 1 | Y |
| SL (models G5G J8G H7G JDG) | 41X0464 | 1 | Y |
| Multilingual 1 (models G5G J8G H7G JDG) | 41X0757 | 1 | Y |
| Multilingual 2 (models G5G J8G H7G JDG) | 41X0758 | 1 | Y |

Machine Type 8454



| Item # | 8454 FRUs | FRU# | CRU Tier | RoHS? |
|--------|---|---------|----------|-------|
| 1 | Heat sink and fan assembly (models A5B A5H A7B A8H B4G 25G 63G DCB DDH A9M DEV B6M 4AM 4BG 4CG 4DG 4GM 4HM 4JM) | 41N5292 | N | Y |
| 2 | Microprocessor, 2.8 Ghz, Celeron D, 533FSB, 256KB L2 (models A5B A5H A7B A8H A9M) | 41T1695 | N | Y |
| 2 | Microprocessor, 3.06 Ghz, Celeron D, 533FSB, 256KB L2 (models B4G B6M) | 41T1697 | N | Y |
| 2 | Microprocessor, 2.66 Ghz, Pentium 4, 533FSB, 1MB L2 (models 25G) | 41T1706 | N | Y |
| 2 | Microprocessor, 2.8 Ghz, Pentium 4, 800FSB, 2MB L2 (models 63G) | 41X2412 | N | Y |
| 2 | Microprocessor, 3.0 Ghz, Pentium 4, 800FSB, 2MB L2 (models DCB DDH DEV) | 41T1709 | N | Y |
| 3 | DVD-ROM 16x -48x (models DEV) | 40Y8931 | N | Y |
| 3 | DVD-ROM 16x -48x (models DEV) | 40Y8935 | N | Y |
| 3 | DVD-ROM 16x -48x (models DEV) | 40Y8957 | N | Y |
| 3 | DVD - ROM - CDRW Combo 48-32-48-16 (models A5B A5H A7B A8H 25G 63G B6M 4BG 4CG 4DG) | 40Y8919 | N | Y |
| 3 | DVD - ROM - CDRW Combo 48-32-48-16 (models A5B A5H A7B A8H 25G 63G B6M 4BG 4CG 4DG) | 40Y8941 | N | Y |
| 3 | DVD - ROM - CDRW Combo 48-32-48-16 (models A5B A5H A7B A8H 25G 63G B6M 4BG 4CG 4DG) | 40Y8943 | N | Y |
| 3 | Multi-Burner Plus (models B4G DCB DDH A9M 4AM 4GM 4HM 4JM) | 41N3343 | N | Y |
| 4 | Power switch/LED assembly (all models) | 41N5269 | N | N |
| 5 | Hard disk drive, 80GB, 7200rpm Serial ATA (models A5B A5H 25G 63G A9M B6M 4AM 4BG 4CG 4DG 4GM 4JM) | 40Y9034 | N | Y |
| 5 | Hard disk drive, 80GB, 7200rpm Serial ATA (models A5B A5H 25G 63G A9M B6M 4AM 4BG 4CG 4DG 4GM 4JM) | 40Y8761 | N | Y |
| 5 | Hard disk drive, 160GB, 7200rpm Serial ATA (models A7B A8H B4G DCB DDH DEV 4HM) | 40Y9035 | N | Y |

| Item # | 8454 FRUs | FRU# | CRU Tier | RoHS? |
|--------|--|---------|----------|-------|
| 5 | Hard disk drive, 160GB, 7200rpm Serial ATA (models A7B A8H B4G DCB DDH DEV 4HM) | 40Y8762 | N | Y |
| 6 | Diskette drive, wo/bezel (models none) | 41D3724 | N | Y |
| 7 | Front I/O (USB/Audio) Cable Assembly (all models) | 41N5270 | N | N |
| 8 | Memory module, 256MB DDR2, PC3200 (models 4GM) | 73P2683 | 2 | Y |
| 8 | Memory module, 512MB DDR1, PC3200 (models A5B A5H A7B A8H B4G 25G 63G DCB DDH A9M DEV B6M 4AM 4BG 4CG 4DG 4HM 4JM) | 73P2684 | 2 | Y |
| 9 | System board, 661FX (Intel based) (models A5B A5H A7B A8H B4G 25G 63G DCB DDH A9M DEV B6M 4AM 4BG 4CG 4DG 4GM 4HM 4JM) Note: When you order a new system board you must also order a new retention bracket kit for the heat sink and fan assembly. | 41X0137 | N | Y |
| 10 | Power supply, 180W (non-smokeless) (models A5B A5H A7B A8H B4G 25G 63G DCB DDH A9M DEV B6M 4AM 4BG 4CG 4DG 4GM 4HM 4JM) | 41N3111 | N | Y |

The FRUs listed in the following table are not illustrated.

| 8454 FRUs | FRU# | CRU Tier | RoHS? |
|--|---------|----------|-------|
| Shield, EMC, 5.25in. drive bay (all models) | 41A7162 | N | N |
| Cable, Serial-ATA, (18in. RoHs) (all models) | 41A7145 | N | Y |
| Shield, EMC, diskette drive bay (all models) | 41A7146 | N | N |
| Cable, diskette drive (all models) | 41A7147 | N | Y |
| Cover (all models) | 41A7148 | 2 | N |
| Chassis Kit Assembly with bezels (all models) | 41N5251 | N | N |
| Bezel Asembly kit (all models) | 41N5268 | 2 | N |
| Fan duct assembly (all models) | 41A7151 | N | N |
| Shield, EMC, system board (all models) | 41N5286 | N | N |
| Miscellaneous hardware kit (all models) | 41A7155 | N | N |
| Cable, optical drive signal (IDE), 1 Drop (all models) | 41A7158 | N | Y |
| Interposer cables (all models) | 41A7161 | N | N |
| Fan assembly, Front (all models) | 41A7198 | N | N |
| Retention bracket kit, heat sink (all models) | 41A7139 | N | Y |
| Heat sink (all models) | 41A7847 | N | Y |
| Desktop Card Reader Bezel (all models) | 41N5337 | N | N |

| 8454 Keyboards (Preferred Pro fullsize, Black) | FRU# | CRU Tier | RoHS? |
|--|---------|----------|-------|
| US English (models A9M B6M 4AM 4GM 4HM 4JM) | 41A5039 | 1 | Y |
| Hong Kong/Taiwan (models DEV) | 41A5046 | 1 | Y |

| 8454 Keyboards (USB Enhanced Performance) | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| US English (models A5H A8H B4G 25G 63G DDH 4BG 4CG 4DG) | 41A4961 | 1 | Y |

| 8454 Keyboards (USB Enhanced Performance) | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| Arabic (models B4G 25G 63G 4BG 4CG 4DG) | 41A4962 | 1 | Y |
| Arabic/French (models B4G 25G 63G 4BG 4CG 4DG) | 41A4963 | 1 | Y |
| Belgian/French (models B4G 25G 63G 4BG 4CG 4DG) | 41A4964 | 1 | Y |
| Belgian/UK (models B4G 25G 63G 4BG 4CG 4DG) | 41A4965 | 1 | Y |
| Bulgarian (models B4G 25G 63G 4BG 4CG 4DG) | 41A4967 | 1 | Y |
| Hong Kong/Taiwan (models A5B A7B DCB) | 41A4968 | 1 | Y |
| Czech (models B4G 25G 63G 4BG 4CG 4DG) | 41A4969 | 1 | Y |
| Danish (models B4G 25G 63G 4BG 4CG 4DG) | 41A4970 | 1 | Y |
| Dutch (models B4G 25G 63G 4BG 4CG 4DG) | 41A4971 | 1 | Y |
| French (models B4G 25G 63G 4BG 4CG 4DG) | 41A4972 | 1 | Y |
| German (models B4G 25G 63G 4BG 4CG 4DG) | 41A4975 | 1 | Y |
| Greek (models B4G 25G 63G 4BG 4CG 4DG) | 41A4976 | 1 | Y |
| Hebrew (models B4G 25G 63G 4BG 4CG 4DG) | 41A4977 | 1 | Y |
| Hungarian (models B4G 25G 63G 4BG 4CG 4DG) | 41A4978 | 1 | Y |
| Iceland (models B4G 25G 63G 4BG 4CG 4DG) | 41A4979 | 1 | Y |
| Italian (models B4G 25G 63G 4BG 4CG 4DG) | 41A4980 | 1 | Y |
| Norwegian (models B4G 25G 63G 4BG 4CG 4DG) | 41A4984 | 1 | Y |
| Polish (models B4G 25G 63G 4BG 4CG 4DG) | 41A4985 | 1 | Y |
| Portuguese (models B4G 25G 63G 4BG 4CG 4DG) | 41A4986 | 1 | Y |
| Romanian (models B4G 25G 63G 4BG 4CG 4DG) | 41A4987 | 1 | Y |
| Russian/Cy (models B4G 25G 63G 4BG 4CG 4DG) | 41A4988 | 1 | Y |
| Serbian/Cyrillic (models B4G 25G 63G 4BG 4CG 4DG) | 41A4989 | 1 | Y |
| Slovak (models B4G 25G 63G 4BG 4CG 4DG) | 41A4990 | 1 | Y |
| Spanish (models B4G 25G 63G 4BG 4CG 4DG) | 41A4991 | 1 | Y |
| Swedish/Finn (models B4G 25G 63G 4BG 4CG 4DG) | 41A4992 | 1 | Y |
| Swiss F/G (models B4G 25G 63G 4BG 4CG 4DG) | 41A4993 | 1 | Y |
| Turkish 440 (models B4G 25G 63G 4BG 4CG 4DG) | 41A4995 | 1 | Y |
| Turkish 179 (models B4G 25G 63G 4BG 4CG 4DG) | 41A4996 | 1 | Y |
| UK English (models B4G 25G 63G 4BG 4CG 4DG) | 41A4997 | 1 | Y |
| US Euro (models B4G 25G 63G 4BG 4CG 4DG) | 41A4998 | 1 | Y |
| Slovenian (models B4G 25G 63G 4BG 4CG 4DG) | 41A4999 | 1 | Y |

| 8454 mice | FRU# | CRU Tier | RoHS? |
|---------------------------------------|-------------|-----------------|--------------|
| Mouse, USB optical wheel (all models) | 41A5085 | 1 | Y |

| 8454 Adapters and miscellaneous FRUs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| PCI Modem Card (Soft) (models A7B A8H DCB DDH B6M 4HM) | 29R9729 | 1 | Y |
| L1 IEEE 1394 PCI Adapter (models DCB DDH) | 41D2781 | 1 | Y |

| 8454 Adapters and miscellaneous FRUs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| Internal USB Memory Card Reader (models A7B A8H B4G 25G 63G DCB DDH DEV 4BG 4CG 4DG) | 41X2089 | 1 | Y |
| Speakers (2-piece) (models A7B A8H DCB DDH B6M 4HM) | 89P8589 | 1 | Y |
| Speakers (2-piece) (Lenovo Logo) (models A7B A8H DCB DDH B6M 4HM) | 41A5331 | 1 | Y |
| Speaker Power brick - China, Thailand (models A7B A8H DCB DDH) | 89P8581 | 1 | Y |
| Speaker Power brick - ANZ (models B6M 4HM) | 89P8579 | 1 | Y |
| Speaker Power brick - Hong Kong, EMEA (models A7B A8H DCB DDH) | 89P8573 | 1 | Y |
| Speaker Power brick - Taiwan (models 34V E3V E4V) | 41A4905 | 1 | Y |

| 8454 Power Cords | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| Power Cord (Australia, New Zealand) (models A9M B6M 4AM 4GM 4HM 4JM) | 39M5102 | 1 | Y |
| Power Cord (Hong Kong) (models A5B A5H A7B A8H DCB DDH) | 39M5151 | 1 | Y |
| Power Cord (UK, Ireland, Singapore, Malaysia, Brunei) (models B4G 25G 63G 4BG 4CG 4DG) | 39M5150 | 1 | Y |
| Power Cord (Taiwan) (models DEV) | 39M5246 | 1 | Y |
| Power Cord (Italy) (models B4G 25G 63G 4BG 4CG 4DG) | 39M5164 | 1 | Y |
| Power Cord (G models) (models B4G 25G 63G 4BG 4CG 4DG) | 39M5122 | 1 | Y |
| Power Cord (Denmark) (models B4G 25G 63G 4BG 4CG 4DG) | 39M5129 | 1 | Y |
| Power Cord (Switzerland) (models B4G 25G 63G 4BG 4CG 4DG) | 39M5157 | 1 | Y |
| Power Cord (Israel) (models B4G 25G 63G 4BG 4CG 4DG) | 39M5171 | 1 | Y |
| Power Cord (South Africa) (models B4G 25G 63G A9M B6M 4AM 4BG 4CG 4DG 4GM 4HM 4JM) | 39M5143 | 1 | Y |

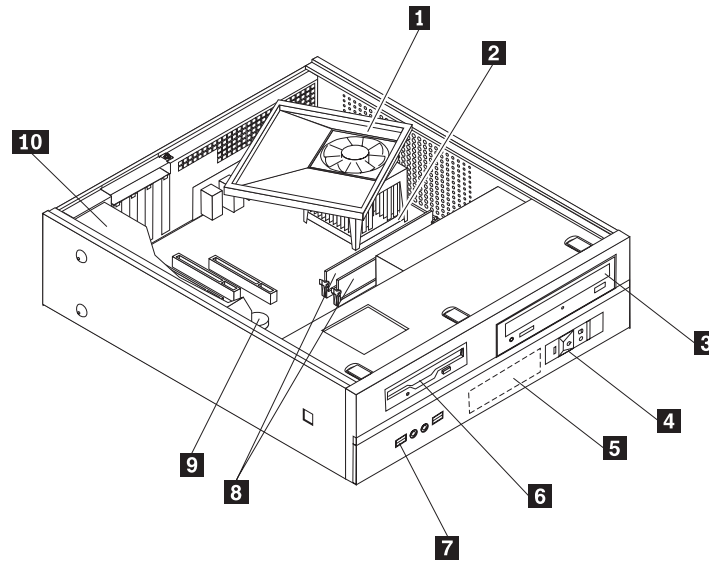
| 8454 Windows XP Home Recovery CDs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| US/UK/AP/TH (models A5H A8H 25G DDH B6M 4BG 4DG 4HM) | 41X0607 | 1 | Y |
| FR/CF (models 25G 4BG 4DG) | 41X0610 | 1 | Y |
| GR (models 25G 4BG 4DG) | 41X0612 | 1 | Y |
| IT (models 25G 4BG 4DG) | 41X0615 | 1 | Y |
| SP/LA (models 25G 4BG 4DG) | 41X0613 | 1 | Y |
| DK (models 25G 4BG 4DG) | 41X0619 | 1 | Y |
| NL (models 25G 4BG 4DG) | 41X0622 | 1 | Y |
| AE (models 25G 4BG 4DG) | 41X0626 | 1 | Y |
| SV (models 25G 4BG 4DG) | 41X0618 | 1 | Y |
| HE (models 25G 4BG 4DG) | 41X0623 | 1 | Y |
| FI (models 25G 4BG 4DG) | 41X0620 | 1 | Y |
| NO (models 25G 4BG 4DG) | 41X0621 | 1 | Y |
| PL (models 25G 4BG 4DG) | 41X0624 | 1 | Y |
| PO (models 25G 4BG 4DG) | 41X0630 | 1 | Y |
| RU (models 25G 4BG 4DG) | 41X0627 | 1 | Y |

| 8454 Windows XP Home Recovery CDs | FRU# | CRU Tier | RoHS? |
|-----------------------------------|---------|----------|-------|
| RE (models 25G 4BG 4DG) | 41X0609 | 1 | Y |
| HU (models 25G 4BG 4DG) | 41X0629 | 1 | Y |
| CZ (models 25G 4BG 4DG) | 41X0625 | 1 | Y |
| TR (models 25G 4BG 4DG) | 41X0628 | 1 | Y |
| GK (models 25G 4BG 4DG) | 41X0631 | 1 | Y |
| Hong Kong-TC (models A5B A7B DCB) | 41W3281 | 1 | Y |

| 8454 Windows XP Pro Recovery CDs | FRU# | CRU Tier | RoHS? |
|--|---------|----------|-------|
| US/UK/AP/TH (models B4G 63G A9M 4AM 4CG 4GM 4JM) | 41X0439 | 1 | Y |
| FR/CF (models B4G 63G 4CG) | 41X0442 | 1 | Y |
| GR (models B4G 63G 4CG) | 41X0444 | 1 | Y |
| IT (models B4G 63G 4CG) | 41X0447 | 1 | Y |
| SP/LA (models B4G 63G 4CG) | 41X0445 | 1 | Y |
| DK (models B4G 63G 4CG) | 41X0451 | 1 | Y |
| NL (models B4G 63G 4CG) | 41X0454 | 1 | Y |
| AE (models B4G 63G 4CG) | 41X0458 | 1 | Y |
| SV (models B4G 63G 4CG) | 41X0450 | 1 | Y |
| HE (models B4G 63G 4CG) | 41X0455 | 1 | Y |
| FI (models B4G 63G 4CG) | 41X0452 | 1 | Y |
| NO (models B4G 63G 4CG) | 41X0453 | 1 | Y |
| PL (models B4G 63G 4CG) | 41X0456 | 1 | Y |
| PO (models B4G 63G 4CG) | 41X0462 | 1 | Y |
| RU (models B4G 63G 4CG) | 41X0459 | 1 | Y |
| RE (models B4G 63G 4CG) | 41X0441 | 1 | Y |
| HU (models B4G 63G 4CG) | 41X0461 | 1 | Y |
| CZ (models B4G 63G 4CG) | 41X0457 | 1 | Y |
| TR (models B4G 63G 4CG) | 41X0460 | 1 | Y |
| GK (models B4G 63G 4CG) | 41X0463 | 1 | Y |
| SL (models B4G 63G 4CG) | 41X0464 | 1 | Y |
| Taiwan - TC (models DEV) | 41W2933 | 1 | Y |
| Multilingual 1 (models B4G 63G 4CG) | 41X0757 | 1 | Y |
| Multilingual 2 (models B4G 63G 4CG) | 41X0758 | 1 | Y |

| 8454 Corel Education CDs | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| US (models A5H A8H DDH A9M B6M 4AM 4GM 4HM 4JM) | 41X0440 | 1 | Y |

Machine Type 8455



| Item # | 8455 FRUs | FRU# | CRU Tier | RoHS? |
|--------|---|---------|----------|-------|
| 1 | Heat sink and fan assembly (models B3G 28G 34J 35J 36J 61G E1J E2J E3J E4J E5J E6J E8J E9J EAJ EDJ EHJ EGJ EKJ 2AG 2BG) | 41N5292 | N | Y |
| 2 | Microprocessor, 2.8 Ghz, Celeron D, 533FSB, 256KB L2 (models E1J E2J E3J E4J E5J E6J E8J E9J) | 41T1695 | N | Y |
| 2 | Microprocessor, 3.06 Ghz, Celeron D, 533FSB, 256KB L2 (models B3G) | 41T1697 | N | Y |
| 2 | Microprocessor, 2.66 Ghz, Celeron D, 533FSB, 1MB L2 (models 28G) | 41T1706 | N | Y |
| 2 | Microprocessor, 2.8 Ghz, Pentium 4, 800FSB, 1MB L2 (models 34J 35J 36J) | 41T1700 | N | Y |
| 2 | Microprocessor, 2.8 Ghz, Pentium 4, 800FSB, 1MB L2 (models EAJ EDJ EHJ EGJ EKJ 2AG 2BG) | 41T4104 | N | Y |
| 2 | Microprocessor, 2.8 Ghz, Pentium 4, 800FSB, 2MB L2 (models 61G) | 41X2412 | N | Y |
| 3 | CD-ROM Drive 48X - Black w/o jack & vol (models E1J E2J E3J EAJ) | 40Y8929 | N | Y |
| 3 | CD-ROM Drive 48X - Black w/o jack & vol (models E1J E2J E3J EAJ) | 41X3540 | N | Y |
| 3 | CD-ROM Drive 48X - Black w/o jack & vol (models E1J E2J E3J EAJ) | 40Y8807 | N | Y |
| 3 | CD-ROM Drive 48X - Black w/o jack & vol (models E1J E2J E3J EAJ) | 40Y8955 | N | Y |
| 3 | CD-ROM Drive 48X - Black w/o jack & vol (models E1J E2J E3J EAJ) | 40Y8953 | N | Y |
| 3 | DVD - ROM - CDRW Combo 48-32-48-16 (models 28G 61G E4J E5J EDJ 2AG 2BG) | 40Y8919 | N | Y |
| 3 | DVD - ROM - CDRW Combo 48-32-48-16 (models 28G 61G E4J E5J EDJ 2AG 2BG) | 40Y8941 | N | Y |
| 3 | DVD - ROM - CDRW Combo 48-32-48-16 (models 28G 61G E4J E5J EDJ 2AG 2BG) | 40Y8943 | N | Y |
| 3 | Multi-Burner Plus (models B3G 34J 35J 36J E6J E8J E9J EHJ EGJ EKJ) | 41N3343 | N | Y |
| 4 | Power switch/LED assembly (all models) | 41N5269 | N | N |
| 5 | Hard disk drive, 40GB, 7200rpm, serial ATA (models E1J) | 40Y9033 | N | Y |
| 5 | Hard disk drive, 40GB, 7200rpm, serial ATA (models E1J) | 40Y8760 | N | Y |

| Item # | 8455 FRUs | FRU# | CRU Tier | RoHS? |
|--------|--|---------|----------|-------|
| 5 | Hard disk drive, 80GB, 7200rpm Serial ATA (models 28G 61G E2J E3J E4J E5J EAJ EDJ 2AG 2BG) | 40Y9034 | N | Y |
| 5 | Hard disk drive, 80GB, 7200rpm Serial ATA (models 28G 61G E2J E3J E4J E5J EAJ EDJ 2AG 2BG) | 40Y8761 | N | Y |
| 5 | Hard disk drive, 160GB, 7200rpm Serial ATA (models B3G 34J 35J E6J E8J E9J EHJ EGJ EKJ) | 40Y9035 | N | Y |
| 5 | Hard disk drive, 160GB, 7200rpm Serial ATA (models B3G 34J 35J E6J E8J E9J EHJ EGJ EKJ) | 40Y8762 | N | Y |
| 5 | Hard disk drive, 250GB, 7200rpm Serial ATA (models 36J) | 40Y9036 | N | Y |
| 5 | Hard disk drive, 250GB, 7200rpm Serial ATA (models 36J) | 40Y8763 | N | Y |
| 6 | Diskette drive, w/bezel (models E1J E2J E3J E4J E5J EAJ EDJ) | 40Y9105 | N | Y |
| 6 | Diskette drive, w/bezel (models E1J E2J E3J E4J E5J EAJ EDJ) | 40Y9107 | N | Y |
| 6 | Diskette drive, w/bezel (models E1J E2J E3J E4J E5J EAJ EDJ) | 40Y9113 | N | Y |
| 7 | Front I/O (USB/Audio) Cable Assembly (all models) | 41N5270 | N | N |
| 8 | Memory module, DDR2 256MB PC3200 (models E1J) | 73P2683 | 2 | Y |
| 8 | Memory module, DDR2 512MB PC3200 (models B3G 28G 34J 35J 36J 61G E2J E3J E4J E5J E6J E8J E9J EAJ EDJ EHJ EGJ EKJ 2AG 2BG) | 73P2684 | 2 | Y |
| 9 | System board, 661FX (Intel based) (models B3G 28G 34J 35J 36J 61G E1J E2J E3J E4J E5J E6J E8J E9J EAJ EDJ EHJ EGJ EKJ 2AG 2BG) Note: When you order a new system board you must also order a new retention bracket kit for the heat sink and fan assembly. | 41X0137 | N | Y |
| 10 | Power supply, 180W (non-smokeless) (models B3G 28G 61G 2AG 2BG) | 41N3111 | N | Y |
| 10 | Power supply, 180W (smokeless) (models 34J 35J 36J E1J E2J E3J E4J E5J E6J E8J E9J EAJ EDJ EHJ EGJ EKJ) | 41N3114 | N | Y |

The FRUs listed in the following table are not illustrated.

| 8455 FRUs | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| Shield, EMC, 5.25in. drive bay (all models) | 41A7162 | N | N |
| Cable, Serial-ATA, (18in. RoHs) (all models) | 41A7145 | N | Y |
| Shield, EMC, diskette drive bay (all models) | 41A7146 | N | N |
| Cable, diskette drive (all models) | 41A7147 | N | Y |
| Cover (all models) | 41A7148 | 2 | N |
| Chassis Kit Assembly with bezels (all models) | 41N5251 | N | N |
| Bezel Asembly kit (all models) | 41N5268 | 2 | N |
| Fan duct assembly (all models) | 41A7151 | N | N |
| Shield, EMC, system board (all models) | 41N5329 | N | Y |
| Miscellaneous hardware kit (all models) | 41A7155 | N | N |
| Cable, optical drive signal (all models) | 41A7158 | N | Y |
| Interposer cables (all models) | 41A7161 | N | N |
| Fan assembly, Front (all models) | 41A7198 | N | N |
| Retention bracket kit, heat sink and fan (all models) | 41A7139 | N | N |
| Heat sink (all models) | 41A7847 | N | N |

| 8455 FRUs | FRU# | CRU Tier | RoHS? |
|--|---------|----------|-------|
| Desktop Card Reader Bezel (all models) | 41N5337 | N | N |

| 8455 Keyboards (Preferred Pro fullsize, Black) | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| Japanese (models 34J 35J 36J E1J E2J E3J E4J E5J E6J E8J E9J EAJ EDJ EHJ EGJ EKJ) | 41A5059 | 1 | Y |

| 8455 Keyboards (USB Enhanced Performance) | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| US English (models B3G 28G 61G 2AG 2BG) | 41A4961 | 1 | Y |
| Arabic (models B3G 28G 61G 2AG 2BG) | 41A4962 | 1 | Y |
| Arabic/French (models B3G 28G 61G 2AG 2BG) | 41A4963 | 1 | Y |
| Belgian/French (models B3G 28G 61G 2AG 2BG) | 41A4964 | 1 | Y |
| Belgian/UK (models B3G 28G 61G 2AG 2BG) | 41A4965 | 1 | Y |
| Bulgarian (models B3G 28G 61G 2AG 2BG) | 41A4967 | 1 | Y |
| Czech (models B3G 28G 61G 2AG 2BG) | 41A4969 | 1 | Y |
| Danish (models B3G 28G 61G 2AG 2BG) | 41A4970 | 1 | Y |
| Dutch (models B3G 28G 61G 2AG 2BG) | 41A4971 | 1 | Y |
| French (models B3G 28G 61G 2AG 2BG) | 41A4972 | 1 | Y |
| German (models B3G 28G 61G 2AG 2BG) | 41A4975 | 1 | Y |
| Greek (models B3G 28G 61G 2AG 2BG) | 41A4976 | 1 | Y |
| Hebrew (models B3G 28G 61G 2AG 2BG) | 41A4977 | 1 | Y |
| Hungarian (models B3G 28G 61G 2AG 2BG) | 41A4978 | 1 | Y |
| Iceland (models B3G 28G 61G 2AG 2BG) | 41A4979 | 1 | Y |
| Italian (models B3G 28G 61G 2AG 2BG) | 41A4980 | 1 | Y |
| Norwegian (models B3G 28G 61G 2AG 2BG) | 41A4984 | 1 | Y |
| Polish (models B3G 28G 61G 2AG 2BG) | 41A4985 | 1 | Y |
| Portuguese (models B3G 28G 61G 2AG 2BG) | 41A4986 | 1 | Y |
| Romanian (models B3G 28G 61G 2AG 2BG) | 41A4987 | 1 | Y |
| Russian/Cy (models B3G 28G 61G 2AG 2BG) | 41A4988 | 1 | Y |
| Serbian/Cyrillic (models B3G 28G 61G 2AG 2BG) | 41A4989 | 1 | Y |
| Slovak (models B3G 28G 61G 2AG 2BG) | 41A4990 | 1 | Y |
| Spanish (models B3G 28G 61G 2AG 2BG) | 41A4991 | 1 | Y |
| Swedish/Finn (models B3G 28G 61G 2AG 2BG) | 41A4992 | 1 | Y |
| Swiss F/G (models B3G 28G 61G 2AG 2BG) | 41A4993 | 1 | Y |
| Turkish 440 (models B3G 28G 61G 2AG 2BG) | 41A4995 | 1 | Y |
| Turkish 179 (models B3G 28G 61G 2AG 2BG) | 41A4996 | 1 | Y |
| UK English (models B3G 28G 61G 2AG 2BG) | 41A4997 | 1 | Y |
| US Euro (models B3G 28G 61G 2AG 2BG) | 41A4998 | 1 | Y |
| Slovenian (models B3G 28G 61G 2AG 2BG) | 41A4999 | 1 | Y |

| 8455 mice | FRU# | CRU Tier | RoHS? |
|---------------------------------------|---------|----------|-------|
| Mouse, USB optical wheel (all models) | 41A5085 | 1 | Y |

| 8455 Adapters and miscellaneous FRUs | FRU# | CRU Tier | RoHS? |
|--|---------|----------|-------|
| PCI Modem Card (Soft) (models 34J 35J 36J) | 29R9729 | 1 | Y |
| Internal USB Memory Card Reader (models B3G 28G 61G 2AG 2BG) | 41X2089 | 1 | Y |

| 8455 Power Cords | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| Power Cord (Japan) (models 34J 35J 36J E1J E2J E3J E4J E5J E6J E8J E9J EAJ EDJ EHJ EGJ EKJ) | 39M5193 | 1 | Y |
| Power Cord (UK, Ireland, Singapore, Malaysia, Brunei) (models B3G 28G 61G 2AG 2BG) | 39M5150 | 1 | Y |
| Power Cord (Italy) (models B3G 28G 61G 2AG 2BG) | 39M5164 | 1 | Y |
| Power Cord (G models A1G B1G) (models B3G 28G 61G 2AG 2BG) | 39M5122 | 1 | Y |
| Power Cord (Denmark) (models B3G 28G 61G 2AG 2BG) | 39M5129 | 1 | Y |
| Power Cord (Switzerland) (models B3G 28G 61G 2AG 2BG) | 39M5157 | 1 | Y |
| Power Cord (Israel) (models B3G 28G 61G 2AG 2BG) | 39M5171 | 1 | Y |
| Power Cord (South Africa) (models B3G 28G 61G 2AG 2BG) | 39M5143 | 1 | Y |

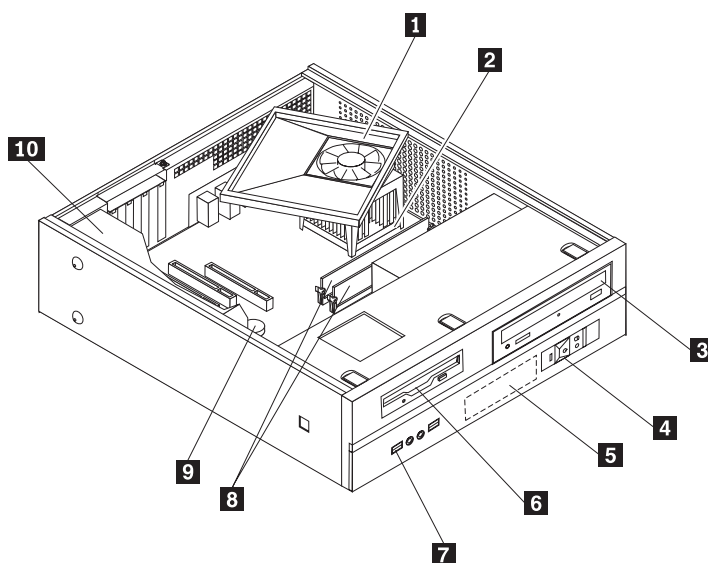
| 8455 Windows XP Home Recovery CDs | FRU# | CRU Tier | RoHS? |
|-----------------------------------|---------|----------|-------|
| US/UK/AP/TH (models 28G 2AG) | 41X0607 | 1 | Y |
| FR/CF (models 28G 2AG) | 41X0610 | 1 | Y |
| GR (models 28G 2AG) | 41X0612 | 1 | Y |
| IT (models 28G 2AG) | 41X0615 | 1 | Y |
| SP/LA (models 28G 2AG) | 41X0613 | 1 | Y |
| DK (models 28G 2AG) | 41X0619 | 1 | Y |
| NL (models 28G 2AG) | 41X0622 | 1 | Y |
| AE (models 28G 2AG) | 41X0626 | 1 | Y |
| SV (models 28G 2AG) | 41X0618 | 1 | Y |
| HE (models 28G 2AG) | 41X0623 | 1 | Y |
| FI (models 28G 2AG) | 41X0620 | 1 | Y |
| NO (models 28G 2AG) | 41X0621 | 1 | Y |
| PL (models 28G 2AG) | 41X0624 | 1 | Y |
| PO (models 28G 2AG) | 41X0630 | 1 | Y |
| RU (models 28G 2AG) | 41X0627 | 1 | Y |
| RE (models 28G 2AG) | 41X0609 | 1 | Y |
| HU (models 28G 2AG) | 41X0629 | 1 | Y |
| CZ (models 28G 2AG) | 41X0625 | 1 | Y |
| TR (models 28G 2AG) | 41X0628 | 1 | Y |

| 8455 Windows XP Home Recovery CDs | FRU# | CRU Tier | RoHS? |
|-----------------------------------|---------|----------|-------|
| GK (models 28G 2AG) | 41X0631 | 1 | Y |
| Japanese (models 36J) | 41W3297 | 1 | Y |

| 8455 Windows XP Pro Recovery CDs | FRU# | CRU Tier | RoHS? |
|-------------------------------------|---------|----------|-------|
| US/UK/AP/TH (models B3G 61G 2BG) | 41X0439 | 1 | Y |
| FR/CF (models B3G 61G 2BG) | 41X0442 | 1 | Y |
| GR (models B3G 61G 2BG) | 41X0444 | 1 | Y |
| IT (models B3G 61G 2BG) | 41X0447 | 1 | Y |
| SP/LA (models B3G 61G 2BG) | 41X0445 | 1 | Y |
| DK (models B3G 61G 2BG) | 41X0451 | 1 | Y |
| NL (models B3G 61G 2BG) | 41X0454 | 1 | Y |
| AE (models B3G 61G 2BG) | 41X0458 | 1 | Y |
| SV (models B3G 61G 2BG) | 41X0450 | 1 | Y |
| HE (models B3G 61G 2BG) | 41X0455 | 1 | Y |
| FI (models B3G 61G 2BG) | 41X0452 | 1 | Y |
| NO (models B3G 61G 2BG) | 41X0453 | 1 | Y |
| PL (models B3G 61G 2BG) | 41X0456 | 1 | Y |
| PO (models B3G 61G 2BG) | 41X0462 | 1 | Y |
| RU (models B3G 61G 2BG) | 41X0459 | 1 | Y |
| RE (models B3G 61G 2BG) | 41X0441 | 1 | Y |
| HU (models B3G 61G 2BG) | 41X0461 | 1 | Y |
| CZ (models B3G 61G 2BG) | 41X0457 | 1 | Y |
| TR (models B3G 61G 2BG) | 41X0460 | 1 | Y |
| GK (models B3G 61G 2BG) | 41X0463 | 1 | Y |
| SL (models B3G 61G 2BG) | 41X0464 | 1 | Y |
| Japanese (models 34J 35J 38J 39J) | 41W2957 | 1 | Y |
| Multilingual 1 (models B3G 61G 2BG) | 41X0757 | 1 | Y |
| Multilingual 2 (models B3G 61G 2BG) | 41X0758 | 1 | Y |

| 8455 Corel Education CDs | FRU# | CRU Tier | RoHS? |
|-------------------------------|---------|----------|-------|
| Japanese (models 34J 35J 36J) | 41X0484 | 1 | Y |

Machine Type 8456



| Item # | 8456 FRUs | FRU# | CRU Tier | RoHS? |
|--------|--|---------|----------|-------|
| 1 | Heat sink (all models) | 41D2001 | N | Y |
| 1 | Heat sink and fan assembly - Intel Prescott & Celeron (models A1M 21M D1M D5K B1A B1T) | 41N5292 | N | Y |
| 1 | Heat sink and fan assembly - Intel CedarMill & Smithfield (models F1M F2M G1A G1T G2A G2T G3A G3T G4V F6A F6T) | 41N5296 | N | Y |
| 2 | Microprocessor, 2.8 Ghz, Celeron D, 533FSB, 256KB L2 (models A1M) | 41T1695 | N | Y |
| 2 | Microprocessor, 2.8 Ghz, Pentium 4, 800FSB, 1MB L2 (models 21M 23V) | 41T1700 | N | Y |
| 2 | Microprocessor, 2.8 Ghz, Pentium 4, 800FSB, 1MB L2 (models B1A B1T F7M) | 41T4104 | N | Y |
| 2 | Microprocessor, 3.0 Ghz, Pentium 4, 800FSB, 2MB L2 (models D1M D5K) | 41T1709 | N | Y |
| 2 | Microprocessor, 3.2 Ghz, Pentium 4, 800FSB, 2MB L2 (models E3M E4A E4T) | 41T1710 | N | Y |
| 2 | Microprocessor, Intel 930 (models G1A G1T G2A G2T G3A G3T G4V) | 41T1717 | N | Y |
| 3 | DVD - ROM - CDRW Combo 48-32-48-16 (models A1M 21M 23V E4A E4T D5K F6A F6T B1A B1T) | 40Y8919 | N | Y |
| 3 | DVD - ROM - CDRW Combo 48-32-48-16 (models A1M 21M 23V E4A E4T D5K F6A F6T B1A B1T) | 40Y8941 | N | Y |
| 3 | DVD - ROM - CDRW Combo 48-32-48-16 (models A1M 21M 23V E4A E4T D5K F6A F6T B1A B1T) | 40Y8943 | N | Y |
| 3 | Multi-Burner Plus (models D1M E3M F1M F2M G1A G1T G2A G2T G3A G3T G4V F7M) | 41N3343 | N | Y |
| 4 | Power switch/LED assembly (all models) | 41N5269 | N | N |
| 5 | Hard disk drive, 80GB, 7200rpm Serial ATA (models A1M 21M 23V E4A E4T F1M D5K B1A B1T) | 40Y9034 | N | Y |
| 5 | Hard disk drive, 80GB, 7200rpm Serial ATA (models A1M 21M 23V E4A E4T F1M D5K B1A B1T) | 40Y8761 | N | Y |
| 5 | Hard disk drive, 160GB, 7200rpm Serial ATA (models D1M E3M F2M G1A G1T G2A G2T G3A G3T G4V F6A F6T F7M) | 40Y9035 | N | Y |

| Item # | 8456 FRUs | FRU# | CRU Tier | RoHS? |
|--------|---|---------|----------|-------|
| 5 | Hard disk drive, 160GB, 7200rpm Serial ATA (models D1M E3M F2M G1A G1T G2A G2T G3A G3T G4V F6A F6T F7M) | 40Y8762 | N | Y |
| 6 | Diskette drive, wo/bezel (models none) | | | |
| 7 | Front I/O (USB/Audio) Cable Assembly (all models) | 41N5270 | N | N |
| 8 | Memory module, DDR2 256MB PC4200 (models A1M 21M 23V) | 30R5120 | 2 | Y |
| 8 | Memory module, DDR2 512MB PC4200 (models D1M E3M E4A E4T F1M F2M D5K F6A F6T B1A B1T F7M) | 30R5121 | 2 | Y |
| 8 | Memory module, DDR2 1024MB PC3200 (models G1A G1T G2A G2T G3A G3T G4V) | 30R5122 | 2 | Y |
| 9 | System board, 945G - Intel based (models A1M 21M D1M 23V E3M E4A E4T G1A G1T G2A G2T G3A G3T G4V D5K F6A F6T B1A B1T) Note: When you order a new system board you must also order a new retention bracket kit for the heat sink and fan assembly. | 41T1609 | N | Y |
| 9 | System board, 945GZ - Intel based (models F1M F2M F7M) Note: When you order a new system board you must also order a new retention bracket kit for the heat sink and fan assembly. | 41T1608 | N | Y |
| 10 | Power supply, 180W (non-smokeless) (models A1M 21M D1M 23V E3M E4A E4T F1M F2M G1A G1T G2A G2T G3A G3T G4V D5K F6A F6T B1A B1T F7M) | 41N3111 | N | Y |

The FRUs listed in the following table are not illustrated.

| 8456 FRUs | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| Shield, EMC, 5.25in. drive bay (all models) | 41A7162 | N | N |
| Cable, Serial-ATA, (18in. RoHs) (all models) | 41A7145 | N | Y |
| Shield, EMC, diskette drive bay (all models) | 41A7146 | N | N |
| Cable, diskette drive (all models) | 41A7147 | N | Y |
| Cover (all models) | 41A7148 | 2 | N |
| Chassis Kit Assembly with bezels (all models) | 41N5251 | N | N |
| Bezel Asembly kit (all models) | 41N5268 | 2 | N |
| Fan duct assembly (all models) | 41A7151 | N | N |
| Shield, EMC, system board (all models) | 41N5286 | N | Y |
| Miscellaneous hardware kit (all models) | 41A7155 | N | N |
| Cable, optical drive signal (all models) | 41A7158 | N | Y |
| Interposer cables (all models) | 41A7161 | N | N |
| Fan assembly, Front (all models) | 41A7198 | N | N |
| Retention bracket kit, heat sink and fan (all models) | 41A7139 | N | N |
| Heat sink (all models) | 41A7847 | N | N |
| Desktop Card Reader Bezel (all models) | 41N5337 | N | N |

| 8456 Keyboards (Preferred Pro fullsize, PS/2, Black) | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| US English (models A1M 21M D1M E3M E4A F1M F2M G1A G2A G3A F6A B1A F7M) | 41A5039 | 1 | Y |
| Hong Kong/Taiwan (models 23V G4V) | 41A5046 | 1 | Y |
| Korean (models D5K) | 41A5060 | 1 | Y |
| Thailand (models E4T G1T G2T G3T F6T B1T) | 41A5072 | 1 | Y |

| 8456 mice | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| Mouse, USB optical wheel (models A1M 21M D1M 23V E3M E4A E4T F1M F2M G1A G1T G2A G2T G3A G3T G4V D5K F6A F6T B1A B1T F7M) | 41A5085 | 1 | Y |

| 8456 Adapters and miscellaneous FRUs | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| PCI Modem Card (Soft) (models A1M 21M D1M 23V E4A E4T G1A G1T G2A G2T G3A G3T G4V D5K B1A B1T) | 29R9729 | 1 | Y |
| L1 IEEE 1394 PCI Adapter (models D1M E4A E4T D5K) | 41D2781 | 1 | Y |
| ATI X300SE 128MB (models E4A E4T) | 39J9635 | 1 | Y |
| Internal USB Memory Card Reader (models 23V G1A G1T G2A G2T G3A G3T G4V B1A B1T) | 41X2089 | 1 | Y |
| Speakers (2-piece) (models A1M 21M D1M 23V E3M E4A E4T G1A G1T G2A G2T G3A G3T G4V D5K F6A F6T B1A B1T) | 89P8589 | 1 | Y |
| Speakers (2-piece) (models A1M 21M D1M 23V E3M E4A E4T G1A G1T G2A G2T G3A G3T G4V D5K F6A F6T B1A B1T) | 41A5331 | 1 | Y |
| Speaker Power brick - US, Canada, LA (low voltage), ASEAN (models E4T G1T G2T G3T F6T B1T) | 89P8571 | 1 | Y |
| Speaker Power brick - ANZ (models A1M 21M D1M E3M E4A G1A G2A G3A F6A B1A) | 89P8579 | 1 | Y |
| Speaker Power brick - Korea (models D5K) | 41A4903 | 1 | Y |
| Speaker Power brick - Taiwan (models 23V G4V) | 41A4905 | 1 | Y |

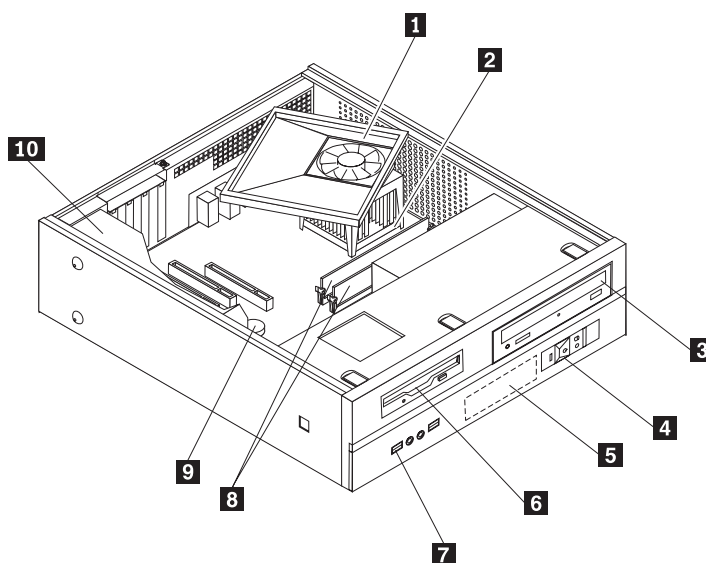
| 8456 Power Cords | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| Power Cord (US) (models E4A E4T G1A G1T G2A G2T G3A G3T F6A F6T B1A B1T) | 39M5080 | 1 | Y |
| Power Cord (Australia, New Zealand) (models A1M 21M D1M E3M F1M F2M F7M) | 39M5102 | 1 | Y |
| Power Cord (Korea) (models D5K) | 39M5212 | 1 | Y |
| Power Cord (UK, Ireland, Singapore, Malaysia, Brunei) (models E4A G1A G2A G3A F6A B1A) | 39M5150 | 1 | Y |
| Power Cord (Taiwan) (models 23V G4V) | 39M5246 | 1 | Y |
| Power Cord (G models) (models E4A G1A G2A G3A F6A B1A) | 39M5122 | 1 | Y |
| Power Cord (South Africa) (models A1M 21M D1M E3M E4A F1M F2M G1A G2A G3A F6A B1A F7M) | 39M5143 | 1 | Y |

| 8456 Windows XP Home Recovery CDs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| US/UK/AP/TH (models A1M 21M D1M E3M E4A E4T G1A G1T) | 41X0607 | 1 | Y |
| Taiwan - TC (models 23V G4V) | 41W3273 | 1 | Y |
| Korean (models D5K) | 41W3289 | 1 | Y |

| 8456 Windows XP Pro Recovery CDs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| US/UK/AP/TH (models F1M F2M G3A G3T F6A F6T B1A B1T F7M) | 41X0439 | 1 | Y |

| 8456 Corel Education CDs | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| US (models A1M 21M D1M E3M E4A E4T G1A G1T G3A G3T F1M F2M F6A F6T B1A B1T F7M) | 41X0440 | 1 | Y |

Machine Type 8457



| Item # | 8457 FRUs | FRU# | CRU Tier | RoHS? |
|--------|--|---------|----------|-------|
| 1 | Heat sink and fan assembly - Intel Prescott & Celeron (models B1G 21G D3G 61G) | 41N5292 | N | Y |
| 1 | Heat sink and fan assembly - Intel CedarMill & Smithfield (models F7J F8J F9J FAJ) | 41N5296 | N | Y |
| 2 | Microprocessor, 3.06 Ghz, Celeron D, 533FSB, 256KB L2 (models B1G) | 41T1697 | N | Y |
| 2 | Microprocessor, 3.06 Ghz, Pentium 4, 533FSB, 1MB L2 (models 21G) | 41T1708 | N | Y |
| 2 | Microprocessor, 2.8 Ghz, Pentium 4, 800FSB, 2MB L2 (models 61G) | 41X2412 | N | Y |
| 2 | Microprocessor, 3.0 Ghz, Pentium 4, 800FSB, 2MB L2 (models D3G) | 41T1709 | N | Y |
| 2 | Microprocessor, 3.0 Ghz, Intel Cedar Mill (models E1J) | 41T1713 | N | Y |
| 2 | Microprocessor, Intel - A0 Smithfield (models F7J F8J F9J FAJ) | 41T1704 | N | Y |
| 3 | DVD - ROM - CDRW Combo 48-32-48-16 (models B1G) | 40Y8919 | N | Y |
| 3 | DVD - ROM - CDRW Combo 48-32-48-16 (models B1G) | 40Y8941 | N | Y |
| 3 | DVD - ROM - CDRW Combo 48-32-48-16 (models B1G) | 40Y8943 | N | Y |
| 3 | Multi-Burner Plus (models 21G D3G 61G F7J F8J F9J FAJ) | 41N3343 | N | Y |
| 4 | Power switch/LED assembly (all models) | 41N5269 | N | N |
| 5 | Hard disk drive, 80GB, 7200rpm Serial ATA (models B1G) | 40Y9034 | N | Y |
| 5 | Hard disk drive, 80GB, 7200rpm Serial ATA (models B1G) | 40Y8761 | N | Y |
| 5 | Hard disk drive, 160GB, 7200rpm Serial ATA (models 21G F7J F8J F9J FAJ) | 40Y9035 | N | Y |
| 5 | Hard disk drive, 160GB, 7200rpm Serial ATA (models 21G F7J F8J F9J FAJ) | 40Y8762 | N | Y |
| 5 | Hard disk drive, 250GB, 7200rpm Serial ATA (models D3G 61G) | 40Y9036 | N | Y |
| 5 | Hard disk drive, 250GB, 7200rpm Serial ATA (models D3G 61G) | 40Y8763 | N | Y |
| 6 | Diskette drive, wo/bezel (models none) | | | |
| 7 | Front I/O (USB/Audio) Cable Assembly (all models) | 41N5270 | N | N |
| 8 | Memory module, DDR2 512MB PC4200 (models B1G 21G F7J F8J F9J FAJ) | 30R5121 | 2 | Y |
| 8 | Memory module, DDR2 1024MB PC3200 (models D3G 61G) | 30R5122 | 2 | Y |

| Item # | 8457 FRUs | FRU# | CRU Tier | RoHS? |
|--------|--|---------|----------|-------|
| 9 | System board, 945G - Intel based (models 21G D3G 61G) Note: When you order a new system board you must also order a new retention bracket kit for the heat sink and fan assembly. | 41T1609 | N | Y |
| 9 | System board, 945GZ - Intel based (models B1G F7J F8J F9J FAJ) Note: When you order a new system board you must also order a new retention bracket kit for the heat sink and fan assembly. | 41T1608 | N | Y |
| 9 | System board, 945GZ - Intel based (models B1G F7J F8J F9J FAJ) Note: When you order a new system board you must also order a new retention bracket kit for the heat sink and fan assembly. | 41X2042 | N | Y |
| 10 | Power supply, 180W (non-smokeless) (models B1G 21G D3G 61G) | 41N3111 | N | Y |
| 10 | Power supply, 180W (smokeless) (models F7J F8J F9J FAJ) | 41N3114 | N | Y |

The FRUs listed in the following table are not illustrated.

| 8457 FRUs | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| Shield, EMC, 5.25in. drive bay (all models) | 41A7162 | N | N |
| Cable, Serial-ATA, (18in. RoHs) (all models) | 41A7145 | N | Y |
| Shield, EMC, diskette drive bay (all models) | 41A7146 | N | N |
| Cable, diskette drive (all models) | 41A7147 | N | Y |
| Cover (all models) | 41A7148 | 2 | N |
| Chassis Kit Assembly with bezels (all models) | 41N5251 | N | N |
| Bezel Asembly kit (all models) | 41N5268 | 2 | N |
| Fan duct assembly (all models) | 41A7151 | N | N |
| Shield, EMC, system board (all models) | 41N5286 | N | Y |
| Miscellaneous hardware kit (all models) | 41A7155 | N | N |
| Cable, optical drive signal (all models) | 41A7158 | N | Y |
| Interposer cables (all models) | 41A7161 | N | N |
| Fan assembly, Front (all models) | 41A7198 | N | N |
| Retention bracket kit, heat sink and fan (all models) | 41A7139 | N | N |
| Heat sink (all models) | 41A7847 | N | N |
| Desktop Card Reader Bezel (all models) | 41N5337 | N | N |

| 8457 Keyboards (Preferred Pro fullsize, PS/2, Black) | FRU# | CRU Tier | RoHS? |
|--|---------|----------|-------|
| Japanese (models F7J F8J F9J FAJ) | 41A5059 | 1 | Y |

| 8457 Keyboards (USB Enhanced Performance) | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| US English (models D3G 61G) | 41A4961 | 1 | Y |
| Arabic (models D3G 61G) | 41A4962 | 1 | Y |
| Arabic/French (models D3G 61G) | 41A4963 | 1 | Y |
| Belgian/French (models D3G 61G) | 41A4964 | 1 | Y |

| 8457 Keyboards (USB Enhanced Performance) | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| Belgian/UK (models D3G 61G) | 41A4965 | 1 | Y |
| Bulgarian (models D3G 61G) | 41A4967 | 1 | Y |
| Czech (models D3G 61G) | 41A4969 | 1 | Y |
| Danish (models D3G 61G) | 41A4970 | 1 | Y |
| Dutch (models D3G 61G) | 41A4971 | 1 | Y |
| French (models D3G 61G) | 41A4972 | 1 | Y |
| German (models D3G 61G) | 41A4975 | 1 | Y |
| Greek (models D3G 61G) | 41A4976 | 1 | Y |
| Hebrew (models D3G 61G) | 41A4977 | 1 | Y |
| Hungarian (models D3G 61G) | 41A4978 | 1 | Y |
| Iceland (models D3G 61G) | 41A4979 | 1 | Y |
| Italian (models D3G 61G) | 41A4980 | 1 | Y |
| Norwegian (models D3G 61G) | 41A4984 | 1 | Y |
| Polish (models D3G 61G) | 41A4985 | 1 | Y |
| Portuguese (models D3G 61G) | 41A4986 | 1 | Y |
| Romanian (models D3G 61G) | 41A4987 | 1 | Y |
| Russian/Cy (models D3G 61G) | 41A4988 | 1 | Y |
| Serbian/Cyrillic (models D3G 61G) | 41A4989 | 1 | Y |
| Slovak (models D3G 61G) | 41A4990 | 1 | Y |
| Spanish (models D3G 61G) | 41A4991 | 1 | Y |
| Swedish/Finn (models D3G 61G) | 41A4992 | 1 | Y |
| Swiss F/G (models D3G 61G) | 41A4993 | 1 | Y |
| Turkish 440 (models D3G 61G) | 41A4995 | 1 | Y |
| Turkish 179 (models D3G 61G) | 41A4996 | 1 | Y |
| UK English (models D3G 61G) | 41A4997 | 1 | Y |
| US Euro (models D3G 61G) | 41A4998 | 1 | Y |
| Slovenian (models D3G 61G) | 41A4999 | 1 | Y |

| 8457 mice | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| Mouse, USB optical wheel (models B1G 21G D3G 61G F7J F8J F9J FAJ) | 41A5085 | 1 | Y |

| 8457 Adapters and miscellaneous FRUs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| L1 IEEE 1394 PCI Adapter (models D3J 61G) | 41D2781 | 1 | Y |
| ATI X300SE 128MB (models 21G D3G 61G) | 39J9635 | 1 | Y |
| Internal USB Memory Card Reader (models B1G 21G D3G 61G) | 41X2089 | 1 | Y |

| 8457 Power Cords | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| Power Cord (Japan) (models F7J F8J F9J FAJ) | 39M5193 | 1 | Y |

| 8457 Power Cords | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| Power Cord (UK, Ireland, Singapore, Malaysia, Brunei) (models B1G 21G D3G 61G) | 39M5150 | 1 | Y |
| Power Cord (Italy) (models B1G 21G D3G 61G) | 39M5164 | 1 | Y |
| Power Cord (G models A1G B1G) (models B1G 21G D3G 61G) | 39M5122 | 1 | Y |
| Power Cord (Denmark) (models B1G 21G D3G 61G) | 39M5129 | 1 | Y |
| Power Cord (Switzerland) (models B1G 21G D3G 61G) | 39M5157 | 1 | Y |
| Power Cord (Israel) (models B1G 21G D3G 61G) | 39M5171 | 1 | Y |
| Power Cord (South Africa) (models B1G 21G D3G 61G) | 39M5143 | 1 | Y |

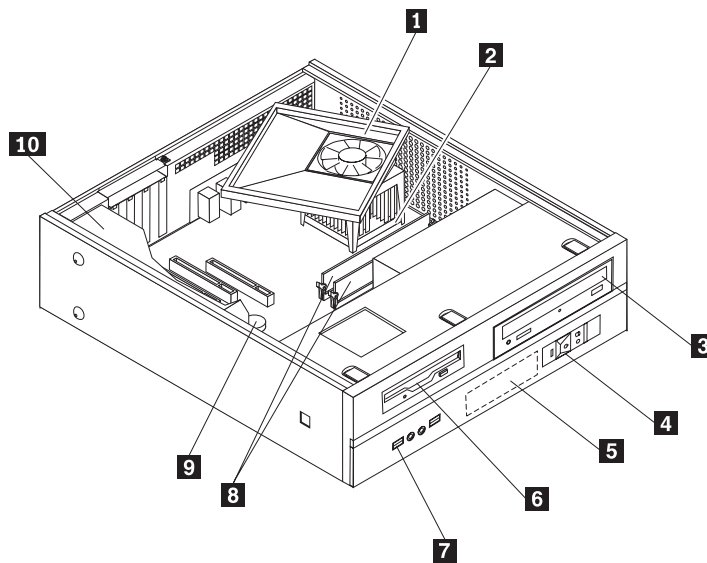
| 8457 Windows XP Home Recovery CDs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| US/UK/AP/TH (models B1G D3G 61G) | 41X0607 | 1 | Y |
| FR/CF (models B1G D3G 61G) | 41X0610 | 1 | Y |
| GR (models B1G D3G 61G) | 41X0612 | 1 | Y |
| IT (models B1G D3G 61G) | 41X0615 | 1 | Y |
| SP/LA (models B1G D3G 61G) | 41X0613 | 1 | Y |
| DK (models B1G D3G 61G) | 41X0619 | 1 | Y |
| NL (models B1G D3G 61G) | 41X0622 | 1 | Y |
| AE (models B1G D3G 61G) | 41X0626 | 1 | Y |
| SV (models B1G D3G 61G) | 41X0618 | 1 | Y |
| HE (models B1G D3G 61G) | 41X0623 | 1 | Y |
| FI (models B1G D3G 61G) | 41X0620 | 1 | Y |
| NO (models B1G D3G 61G) | 41X0621 | 1 | Y |
| PL (models B1G D3G 61G) | 41X0624 | 1 | Y |
| PO (models B1G D3G 61G) | 41X0630 | 1 | Y |
| RU (models B1G D3G 61G) | 41X0627 | 1 | Y |
| RE (models B1G D3G 61G) | 41X0609 | 1 | Y |
| HU (models B1G D3G 61G) | 41X0629 | 1 | Y |
| CZ (models B1G D3G 61G) | 41X0625 | 1 | Y |
| TR (models B1G D3G 61G) | 41X0628 | 1 | Y |
| GK (models B1G D3G 61G) | 41X0631 | 1 | Y |
| Japanese (models F9J FAJ) | 41W3297 | 1 | Y |

| 8457 Windows XP Pro Recovery CDs | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| US/UK/AP/TH (models 21G) | 41X0439 | 1 | Y |
| FR/CF (models 21G) | 41X0442 | 1 | Y |
| GR (models 21G) | 41X0444 | 1 | Y |
| IT (models 21G) | 41X0447 | 1 | Y |
| SP/LA (models 21G) | 41X0445 | 1 | Y |
| DK (models 21G) | 41X0451 | 1 | Y |

| 8457 Windows XP Pro Recovery CDs | FRU# | CRU Tier | RoHS? |
|----------------------------------|---------|----------|-------|
| NL (models 21G) | 41X0454 | 1 | Y |
| AE (models 21G) | 41X0458 | 1 | Y |
| SV (models 21G) | 41X0450 | 1 | Y |
| HE (models 21G) | 41X0455 | 1 | Y |
| FI (models 21G) | 41X0452 | 1 | Y |
| NO (models 21G) | 41X0453 | 1 | Y |
| PL (models 21G) | 41X0456 | 1 | Y |
| PO (models 21G) | 41X0462 | 1 | Y |
| RU (models 21G) | 41X0459 | 1 | Y |
| RE (models 21G) | 41X0441 | 1 | Y |
| HU (models 21G) | 41X0461 | 1 | Y |
| CZ (models 21G) | 41X0457 | 1 | Y |
| TR (models 21G) | 41X0460 | 1 | Y |
| GK (models 21G) | 41X0463 | 1 | Y |
| SL (models 21G) | 41X0464 | 1 | Y |
| Japanese (models F7J F8J) | 41W2957 | 1 | Y |
| Multilingual 1 (models 21G) | 41X0757 | 1 | Y |
| Multilingual 2 (models 21G) | 41X0758 | 1 | Y |

| 8457 Corel Education CDs | FRU# | CRU Tier | RoHS? |
|-----------------------------|---------|----------|-------|
| JP (models F7J F8J F9J FAJ) | 41X0484 | 1 | Y |

Machine Type 8459



| Item # | 8459 FRUs | FRU# | CRU Tier | RoHS? |
|--------|---|---------|----------|-------|
| 1 | Heat sink and fan assembly (models G1M G1A G1T G1B G1H G1V G1K G1J G2M G2A G2T G3M G3A G3T J1M J1A J1T H1M H1A H1T H2M H2A H2T J2M J3M H3M) | 41A7847 | N | Y |
| 2 | Microprocessor, AMD 754 Sempron 3000 (models J4A J4T J5V) | 41T1736 | N | Y |
| 2 | Microprocessor, AMD 754 Athlon64 3200+ 2.0 (models H7M) | TBD | N | Y |
| 2 | Microprocessor, AMD 754 Athlon64 3200+ 2.2 (models H5A H5T H5M H8M) | 41T1742 | N | Y |
| 3 | DVD - ROM - CDRW Combo 48-32-48-16 (models J4A J4T J5V H7M) | 40Y8919 | N | Y |
| 3 | DVD - ROM - CDRW Combo 48-32-48-16 (models J4A J4T J5V H7M) | 40Y8941 | N | Y |
| 3 | DVD - ROM - CDRW Combo 48-32-48-16 (models J4A J4T J5V H7M) | 40Y8943 | N | Y |
| 3 | Multi-Burner Plus (models H5A H5T H5M H8M) | 41N3343 | N | Y |
| 4 | Power switch/LED assembly (all models) | 41N5269 | N | N |
| 5 | Hard disk drive, 80GB, 7200rpm Serial ATA (models J4A J4T J5V H7M) | 40Y9034 | N | Y |
| 5 | Hard disk drive, 80GB, 7200rpm Serial ATA (models J4A J4T J5V H7M) | 40Y8761 | N | Y |
| 5 | Hard disk drive, 160GB, 7200rpm Serial ATA (models H5A H5T H5M H8M) | 40Y9035 | N | Y |
| 5 | Hard disk drive, 160GB, 7200rpm Serial ATA (models H5A H5T H5M H8M) | 40Y8762 | N | Y |
| 6 | Diskette drive, wo/bezel (models none) | | | |
| 7 | Front I/O (USB/Audio) Cable Assembly (all models) | 41N5270 | N | N |
| 8 | Memory module, 256MB DDR2 PC3200 (models H7M) | 73P2683 | 2 | Y |
| 8 | Memory module, 512MB DDR2 PC3200 (models J4A J4T J5V H5A H5T H5M H8M) | 73P2684 | 2 | Y |
| 9 | System board, K8M800 (AMD based) (models J4A J4T J5V H5A H5T H5M H7M H8M) Note: When you order a new system board you must also order a new retention bracket kit for the heat sink and fan assembly. | 41X0138 | N | Y |
| 10 | Power supply, 180W (non-smokeless) (models J4A J4T J5V H5A H5T H5M H7M H8M) | 41N3111 | N | Y |
| 10 | Power supply, 180W (smokeless) (models J4J H5J) | 41N3114 | N | Y |

| 8459 FRUs | FRU# | CRU Tier | RoHS? |
|---|---------|----------|-------|
| Shield, EMC, 5.25in. drive bay (all models) | 41A7162 | N | N |
| Cable, Serial-ATA, (18in. RoHs) (all models) | 41A7145 | N | Y |
| Shield, EMC, diskette drive bay (all models) | 41A7146 | N | N |
| Cable, diskette drive (all models) | 41A7147 | N | Y |
| Cover (all models) | 41A7148 | 2 | N |
| Chassis Kit Assembly with bezels (all models) | 41N5251 | N | N |
| Bezel Asembly kit (all models) | 41N5268 | 2 | N |
| Fan duct assembly (all models) | 41A7151 | N | N |
| Shield, EMC, system board (all models) | 41A7154 | N | N |
| Miscellaneous hardware kit (all models) | 41A7155 | N | N |

| 8459 FRUs | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| Cable, optical drive signal (all models) | 41A7158 | N | Y |
| Interposer cables (all models) | 41A7161 | N | N |
| Fan assembly, Front (all models) | 41A7198 | N | N |
| Retention bracket kit, heat sink and fan (all models) | 41A7842 | N | Y |
| Desktop Card Reader Bezel (all models) | 41N5337 | N | N |

The FRUs listed in the following table are not illustrated.

| 8459 Keyboards (Preferred Pro fullsize, Black) | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| US English (models H7M H8M) | 41A5039 | 1 | Y |

| 8259 Keyboards (USB Enhanced Performance) | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| US English (models J4A H5A H5M) | 41A4961 | 1 | Y |
| Hong Kong/Taiwan (models J5V) | 41A4968 | 1 | Y |
| Thailand (models J4T H5T) | 41A4994 | 1 | Y |

| 8459 mice | FRU# | CRU Tier | RoHS? |
|---|-------------|-----------------|--------------|
| Mouse, USB optical wheel (models J4A J4T J5V H5A H5T H5M H7M H8M) | 41A5085 | 1 | Y |

| 8459 Adapters and miscellaneous FRUs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| PCI Modem Card (Soft) (models J4A J4T J5V H5A H5T H5M) | 29R9729 | 1 | Y |
| Speakers (2-piece) (models J4A J4T J5V H5A H5T H5M) | 89P8589 | 1 | Y |
| Speakers (2-piece) (Lenovo Logo) (models J4A J4T J5V H5A H5T H5M) | 41A5331 | 1 | Y |
| Speaker Power brick - US, Canada, LA (low voltage), ASEAN (models J4T H5T) | 89P8571 | 1 | Y |
| Speaker Power brick - ANZ (models J4A H5A H5M) | 89P8579 | 1 | Y |
| Speaker Power brick - Taiwan (models J5V) | 41A4905 | 1 | Y |

| 8459 Power Cords | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| Power Cord (US) (models J4A J4T H5A H5T) | 39M5080 | 1 | Y |
| Power Cord (Australia, New Zealand) (models H5M H7M H8M) | 39M5102 | 1 | Y |
| Power Cord (UK, Ireland, Singapore, Malaysia, Brunei) (models J4A H5A) | 39M5150 | 1 | Y |
| Power Cord (Taiwan) (models J5V) | 39M5246 | 1 | Y |
| Power Cord (G models) (models J4A H5A) | 39M5122 | 1 | Y |
| Power Cord (South Africa) (models J4A H5A H5M H7M H8M) | 39M5143 | 1 | Y |

| 8459 Windows XP Pro Recovery CDs | FRU# | CRU Tier | RoHS? |
|--|-------------|-----------------|--------------|
| US/UK/AP/TH (models J4A J4T H5A H5T H5M H7M H8M) | 41X0439 | 1 | Y |
| Japanese (models J4J H5J) | 41W2957 | 1 | Y |
| Taiwan - TC (models J5V H6V) | 41W2933 | 1 | Y |

| 8459 Corel Education CDs | FRU# | CRU Tier | RoHS? |
|-------------------------------------|-------------|-----------------|--------------|
| US (models J4A J4T H5A H5T H7M H8M) | 41X0440 | 1 | Y |

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 49.

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 diskette

1. Insert a system program update (flash) diskette into the diskette drive. system program updates are available at <http://www.lenovo.com/support> on the World Wide Web.
2. Turn on the computer. If it is already on, you must turn it off and back on. The update begins.
3. 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 special recovery BIOS flash diskette in the diskette drive.
2. Turn the computer on.
3. The recovery session takes two to three minutes. During this time you will hear a series of beeps. After the update session completes, the series of beeps ends and the computer automatically turns off. There is no video during the recovery session.
4. Remove the special recovery 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).

Recovering software

Refer to the *Quick Reference* that comes with the computer to learn about recovering software.

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