



ThinkStation
Hardware Maintenance Manual



ThinkThink**ThinkStation**Think

Machine Types: 6423, 6427, 6483, and 6493

lenovo

**ThinkStation
Hardware Maintenance Manual**

Note: Before using this information and the product it supports, be sure to read the information in "Notices," on page 239.

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Chapter 1. About this manual

This manual contains service and reference information for ThinkStation™ 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 ThinkStation computers.

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

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

Important Safety Information

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

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

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

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

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

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

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

执行任何说明之前，请确保已阅读本书中的所有警告和危险声明。

執行任何指示前，請確實閱讀本書中的所有警告及危險聲明。

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

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

Important information about replacing RoHS compliant FRUs

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

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

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

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

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

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

Chapter 2. Safety information

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

General safety

Follow these rules to ensure general safety:

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

Electrical safety



CAUTION:

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

Observe the following rules when working on electrical equipment.

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

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

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

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

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

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

Voltage-selection switch

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

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

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

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

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

Safety inspection guide

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

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

Consider these conditions and the safety hazards they present:

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

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

Checklist:

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

Handling electrostatic discharge-sensitive devices

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

Notes:

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

When handling ESD-sensitive parts:

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

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

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

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

Grounding requirements

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

Safety notices (multi-lingual translations)

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

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



DANGER

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

To avoid a shock hazard:

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

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

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



CAUTION:

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

Do not:

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

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



CAUTION:

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

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



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

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



≥18 kg (37 lbs)



≥32 kg (70.5 lbs)



≥55 kg (121.2 lbs)

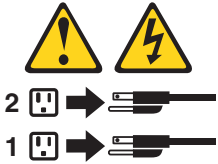
CAUTION:

Use safe practices when lifting.



CAUTION:

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





خطر

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

لتفادي مخاطر الصدمات الكهربائية:

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

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

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

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

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

للفصل:

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

للتوصيل:

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



تنبيه :

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

لا تَقم بـ:

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

تخلص من البطارية طبقاً للقانون أو النظام المحلي .



تنبيه :

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

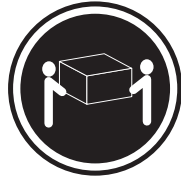
لا تنزع الأغطية. قد ينتج عن نزع أغطية منتج الليزر انفجار أشعة الليزر شديدة الخطورة. لا يوجد أجزاء يمكن تغييرها داخل الجهاز. قد ينتج عن استخدام تحكيمات أو تعديلات أو عمل أي تصرفات أخرى تخالف ما هو محدد هنا إلى انفجار أشعة شديدة الخطورة.



خطر

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

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



≥18 kg (37 lbs)



≥32 kg (70.5 lbs)

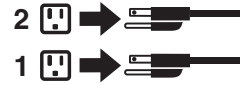


≥55 kg (121.2 lbs)

تنبيه :
يجب استخدام ممارسات آمنة عند الرفع



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





PERIGO

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

Para evitar risco de choque elétrico:

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

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



CUIDADO:

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

Não:

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

Descarte a bateria conforme requerido pelas leis ou regulamentos locais.



PRECAUCIÓN:

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

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

PERIGO

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

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



≥18 kg (37 lbs)



≥32 kg (70.5 lbs)



≥55 kg (121.2 lbs)

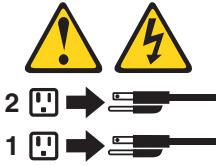
CUIDADO:

Utilize procedimentos de segurança para levantar equipamentos.



CUIDADO:

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





危险

电源、电话和通信电缆中的电流是危险的。

为避免电击危险：

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

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



警告：

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

切勿：

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

请按照当地法令或条例的要求处理电池。



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

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



危险

某些激光产品包含嵌入式 3A 类或 3B 类激光二极管。请注意以下声明：

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



≥18 千克 (37 磅)



≥32 千克 (70.5 磅)



≥55 千克 (121.2 磅)

警告：
抬起时请采取安全措施。



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





危險

電源、電話及通訊纜線上的電流都具有危險性。

若要避免觸電危險：

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

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



警告：

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

請勿：

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



警告：

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



危險

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



≥ 18 公斤 (37 磅)



≥ 32 公斤 (70.5 磅)



≥ 55 公斤 (121.2 磅)

警告：
搬運時請注意安全。



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





DANGER

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

Pour éviter tout risque de choc électrique :

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

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



ATTENTION:

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

Ne pas :

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

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



ATTENTION:

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

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



DANGER

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

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



≥18 kg (37 lbs)



≥32 kg (70.5 lbs)



≥55 kg (121.2 lbs)

ATTENTION:

Soulevez la machine avec précaution.



ATTENTION:

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





VORSICHT

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

Aus Sicherheitsgründen:

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

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



CAUTION:

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

Die Batterie nicht:

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

Die örtlichen Bestimmungen für die Entsorgung von Sondermüll beachten.



ACHTUNG:

Bei der Installation von Lasergeräten (wie CD-ROM-Laufwerken, DVD-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 לנזק מבני או לנזק כתוצאה מאש או ממים.
- נתקו את כבלי החשמל, מערכות התקשורת, התקני הרשת והמודמים המחוברים לפני פתיחת כיסויי ההתקן, אלא אם הליכי ההתקנה וקביעת התצורה מורים אחרת.
- בעת התקנה, העברה או פתיחת כיסויים במוצר זה או בהתקנים המחוברים, חברו ונתקו את הכבלים כמתואר בטבלה שלהלן.

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



זהירות:

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

לעולם:

- אל תטבלו במים

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

- אל תתקנו או תפרקו

השליכו את הסוללה כנדרש לפי התקנות והחוקים המקומיים.



זהירות:

בעת התקנת מוצרי 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.

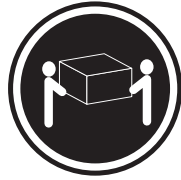
- שינויים, שימוש בבקרות או ביצוע הליכים אחרים מאלה המתוארים כאן, עלולים לגרום לחשיפה לקרינה מסוכנת.



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.



$18 \leq$ ק"ג (37 ליב')



$32 \leq$ ק"ג (70.5 ליב')



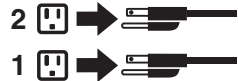
$55 \leq$ ק"ג (121.2 ליב')

זהירות:
השתמשו בהליכים
הנאותים בעת
הרמת הציוד.



זהירות:

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





PERICOLO

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

Per evitare il rischio di scosse elettriche:

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

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



ATTENZIONE:

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

Non:

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

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



ATTENZIONE:

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

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



PERICOLO

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

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



≥18 kg



≥32 kg



≥55 kg

ATTENZIONE:

Prestare attenzione nel sollevare l'apparecchiatura.



ATTENZIONE:

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





위험

전원, 전화, 통신 케이블의 전류는 위험합니다.

감전의 위험을 피하려면 다음과 같이 하십시오.

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

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



주의:

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

사고를 방지하려면 다음 사항을 준수하십시오.

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

배터리를 폐기할 때는 법령 또는 회사의 안전 수칙에 따라 폐기하십시오.



주의:

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

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



위험

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

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



≥ 18 kg (37 lbs)



≥ 32 kg (70.5 lbs)



≥ 55 kg (121.2 lbs)

주의:

제품을 들어 올릴 때 안전 규제를 따르십시오.



주의:

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





PELIGRO

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

Para evitar el riesgo de descarga eléctrica:

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

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



PRECAUCIÓN:

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

No debe:

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

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



PRECAUCIÓN:

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

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



PELIGRO

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

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



≥18 kg



≥32 kg



≥55 kg

PRECAUCIÓN:

Adopte procedimientos seguros al levantar el equipo.



PRECAUCIÓN:

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



Chapter 3. General information

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

The ThinkVantage Productivity Center program

The ThinkVantage® Productivity Center program contains information sources and tools designed to make computing easier and secure.

The ThinkVantage Productivity Center program provides information about your computer and easy access to various technologies, such as:

- The Rescue and Recovery® program
- Productivity Center
- Client Security Solutions
- Factory Recovery
- System Updates
- Service and support

Note: ThinkVantage Technologies are only available on select Lenovo computers.

To access the ThinkVantage Productivity Center program, open the **Start** menu from the Microsoft® Windows® desktop, select **All Programs**, select **ThinkVantage**, and click **Productivity Center**.

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, go to <http://www.lenovo.com/support/>.

Specifications

This section lists the physical specifications for your computer.

Types (6423, 6427, 6483, and 6493)

This section lists the physical specifications.

Dimensions machine types 6423 and 6483:

Width: 175 mm (6.9 in.)

Height: 478 mm (18.8 in.) floor to top of handle

Depth: 460 mm (18.1 in.)

Weight machine types 6423 and 6483:

Maximum configuration: 16.33 kg (36 lbs)

Dimensions machine types 6427 and 6493:

Width: 210 mm (8 in.)

Height: 485 mm (19.1 in.)

Depth: 579 mm (22.8 in.)

Dimensions machine types 6427 and 6493 when rack mounted:

Width: 427 mm (16.8 in.)

Height: 210 mm (8 in.)

Depth: 579 mm (22.8 in.)

Weight machine type 6427 and 6493:

Maximum configuration: 26.00 kg (57 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: 10% to 90%

Maximum altitude: 7000 ft (2133.6 m)

Electrical input machine types 6423 and 6483

Input voltage:

Range 100 V - 240 V

Input kilovolt-amperes (kVA) (approximate)

Minimum configuration as shipped: 0.17 kVA

Maximum configuration: 0.8 kVA

Electrical input machine types 6427 and 6493

Input voltage:

Range 100 V - 240 V

Input kilovolt-amperes (kVA) (approximate)

Minimum configuration as shipped: 0.17 kVA

Maximum configuration: 1.2 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.

Attention

When replacing a hard disk drive in a RAID configured array, depending on which type of array is used, rebuilding the RAID array might be required. If the array is redundant, make sure to connect the new drive to the same port from which the replaced drive was removed.

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 235.

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 82.
 - If the computer displays a POST error, go to "POST error codes" on page 83.
 - If the computer hangs and no error is displayed, continue at step 7.
7. Run the Diagnostic programs. See Chapter 5, "Diagnostics," 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 61.
 - If the test stops and you cannot continue, replace the last device tested.

Problem determination tips

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

- Machine type and model
- Processor or hard disk upgrades
- Failure symptom
 - Do diagnostics indicate a failure?
 - What, when, where, single, or multiple systems?
 - Is the failure repeatable?
 - Has this configuration ever worked?
 - If it has been working, what changes were made prior to it failing?
 - Is this the original reported failure?
- Diagnostics version
 - Type and version level
- Hardware configuration
 - Print (print screen) configuration currently in use
 - BIOS level
- Operating system software
 - Type and version level

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

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

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

Chapter 5. Diagnostics

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

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

Notes:

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

PC-Doctor for Windows

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

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

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

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

PC-Doctor for Windows PE

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

Running diagnostics from the Rescue and Recovery workspace

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

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

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

PC-Doctor for DOS

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

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

Creating a diagnostic CD image

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

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

Creating diagnostic diskettes

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

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

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

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

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

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

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

Running diagnostics from the CD or diskettes

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

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

Note: If the diagnostic program does not start, you might not have your optical drive or diskette drive set as a startable device. See “Selecting a startup device” on page 50 for instructions on how to change the startup device.

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

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

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

Navigating through the diagnostics programs

Use the cursor movement keys to navigate within the menus.

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

Running tests

There are four ways to run the diagnostic tests.

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

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

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

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

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

Test results (N/A, PASSED, FAILED, ABORTED) are displayed in the field beside the test description and in the test log. See “Viewing the test log” on page 47.

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 61 for error code listings.

Quick and Full erase - hard drive

The diagnostics program offers two hard drive format utilities:

- Quick Erase Hard Drive
- Full Erase Hard Drive

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

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

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

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

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

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

Viewing the test log

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

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

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

Chapter 6. Using the Setup Utility

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

Starting the Setup Utility program

To start the Setup Utility program, do the following:

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

Notes:

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

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

Viewing and changing settings

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

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

Using passwords

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

- User Password
- Administrator Password

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

Password considerations

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

- Have at least eight characters in length

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

User Password

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

Administrator Password

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

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

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

Setting, changing, and deleting a password

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

Note: A password can be any combination of up to twelve characters (A- Z, a-z, and 0-9). For more information, see "Password considerations" on page 49.

1. Start the Setup Utility program (see "Starting the Setup Utility program" on page 49).
2. From the Setup Utility program menu, select **Security**.
3. Select **Set Passwords**. Read the information displayed on the right side of the screen.

Selecting a startup device

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

Selecting a temporary startup device

Use this procedure to startup from any boot device.

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

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

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

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

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

Selecting or changing the startup device sequence

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

1. Start the Setup Utility program (see “Starting the Setup Utility program” on page 49).
2. Select **Startup**.
3. Select **Startup Sequence**. See the information displayed on the right side of the screen.
4. Select the devices for the Primary Startup Sequence, the Automatic Startup Sequence, and the Error Startup Sequence.
5. Select **Exit** from the Setup Utility menu and then **Save Settings** or **Save and exit the Setup Utility**.

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

Advanced settings

It might be necessary to change some of the advanced settings.

- **Set max Ext CPUID=3** - An option added specifically for Windows NT®. Newer microprocessors return a value > 3 when queried by the CPUID instruction maximum value supported with its extensions. Windows NT will hang during install when it makes the CPUID query if it gets a value > 3. Enabling this option will cause the value returned to be '3' so NT will work.
- **Processor Power Management** - Controls Power Management Features supported by the microprocessor/chipset combination. When enabled, it allows the processor to enter lower power states when deemed appropriate by microprocessor.
- **Fan Acoustics** - Three choices (High, Normal, Quiet) so user can select whether fan acoustics or system performance is more important. High will allow fans to run faster (louder) to reduce chance to processor throttling. Quiet will run fans at a slower speed (quieter) but may result in processor throttling if temperatures get high.

Exiting from the Setup Utility program

After 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 Settings** or **Save and exit the Setup Utility**. Otherwise, your changes will not be saved.

Chapter 7. Installing and configuring RAID

This section contains information about attaching SATA devices and configuring RAID for this product.

Attaching SATA hard disk drives

You must attach the minimum number of SATA drives for the level of RAID.

- RAID Level 0: Two drives minimum
- RAID Level 1: Two drives
- RAID Level 5: Three drives minimum
- RAID Level 10: Four drives (Available for two-processor system only)

Configuring the system BIOS to enable embedded SATA RAID functionality

This section describes how to configure the BIOS for RAID.

1. Press F1 to enter the system BIOS setup.
2. Use the arrow key on the keyboard to select **Devices**, and press Enter.
3. Use the arrow keys to select **IDE Drive Setup**, and press Enter.
4. Use the arrow keys to select **SATA RAID**, and press Enter.
5. Use the up and down arrow to select **Enabled**.
6. Press F10 to save the new settings.

Creating RAID volumes

This section describes how to use the Intel® Matrix Storage Manager option ROM Configuration Utility to create RAID volumes.

1. Press Ctrl+I when prompted to enter the Intel Matrix Storage Manager option ROM configuration Utility.

Note: To make enough physical drives available to create a RAID volume, see “Deleting RAID volumes” on page 54.
2. Use the arrow keys to select **Create RAID Volume**, and press Enter.
3. Type a RAID Volume name in the **Name** field, and press Tab.
4. Use the arrow keys to select a RAID level in the **RAID Level** field, and press Tab.
5. If appropriate, use the arrow keys to select the Stripe Size in the **Stripe Size** field, and press Tab.
6. Type a volume size in the **Capacity** field, and press Tab.
7. To initiate volume creation, press Enter.
8. When prompted, press Y to accept the warning message and create the volume.
9. To create additional RAID volumes, return to step 3 or select **Exit** and press Enter.
10. Press Y when prompted to confirm the exit.

Deleting RAID volumes

This section describes how to use the Intel Matrix Storage Manager option ROM Configuration Utility to delete RAID volumes.

1. Press Ctrl+I when prompted to enter the Intel Matrix Storage Manager option ROM Configuration Utility.
2. Use the arrow keys to select the RAID volume to be deleted, and press Delete.
3. When prompted, press Y to confirm the deletion of the selected RAID volume.
4. After deleting a RAID volume, you can:
 - Return to step 1 to delete additional RAID volumes.
 - See “Creating RAID volumes” on page 53 for RAID volume creation.
 - Use the arrow keys to select **Exit** and press Enter.
 - Use the arrow keys to select **Reset Disks to Non-RAID**, and press Enter.
 - a. Use the arrow keys and space to mark individual physical disks to be reset.
 - b. Use the space key to select, and then press Enter to complete the selection.
 - c. When prompted, press Y to confirm the reset action.
 - d. After completing the Reset Disks to Non-RAID function, you can:
 - Return to step 1 to delete additional RAID volumes.
 - See “Creating RAID volumes” on page 53 for RAID volume creation.
 - Use the arrow keys to select **Exit** and press Enter.

SUPPORTED SAS RAID configurations

This section provides information that is applicable only for a Windows environment. For information about configuring RAID in a Linux[®] environment, contact your Linux software provider.

The following RAID configurations are supported on the Lenovo ThinkStation:

- RAID Level 0 – Striped disk array
 - Two drives minimum.
 - Better performance and no fault tolerance.
- RAID Level 1 – Mirrored disk array
 - Two drives.
 - Improved read performance and 100% redundancy.
- RAID Level 1E (1 Enhanced)
 - Three drives minimum
 - Can always recover from a single drive failure and, in some cases, can recover from two drives.
 - High Performance.

Configuring the system BIOS to enable SAS RAID functionality

This section describes how to configure the system BIOS to enable SAS RAID functionality.

1. Press F1 to enter the system BIOS setup.
2. Use the arrow keys on the keyboard to select **Advanced**, and press Enter.
3. Use the arrow keys to select the **LSI SAS Interface**, and press Enter.

4. Use the up and down arrow to select **Enabled**, and press F10 to save the new settings.

Configuring the system BIOS to enable SAS RAID 0 functionality

To configure the system BIOS to enable SAS RAID 0 functionality, use the LSI Logic Config Utility as the SAS Configuration Utility. This utility assumes that the system has the required number of disks.

1. Press Ctrl+C when prompted to start the LSI Logic Config Utility.
2. On the Adapter Properties screen, use the arrow key to select **RAID Properties**, and press Enter. The RAID Properties screen is displayed.
3. Use the arrow key to select the first disk for the **IS (Stripe) volume**.
4. Use the arrow keys to move the Array Disk column for this disk, and press +, -, or the space key to select **Yes**.

Note: If a partition is defined on the disk, a message warns you that the data will be lost when the striped volume is created.

5. Press M to Migrate, or D to delete the data on the drive.
6. Repeat the previous steps to select up to three more disks for the stripe volume.
7. Press C to create the array after all drives have been chosen, and select **Save Changes**. Exit this menu, press Enter, and select **Save**.
8. Repeat Step 4 and select **View Existing Array** to view the new Array.
9. To delete the new array, select **Manage Array**, and press Y.

Configuring the system BIOS to enable SAS RAID 1 functionality

To configure the system BIOS to enable SAS RAID 1 functionality, use the LSI Logic Config Utility as the SAS Configuration Utility. This utility assumes that the system has the required number of disks.

1. Press Ctrl +C when prompted to start the LSI Logic Config Utility.
2. On the Adapter Properties screen, use the arrow key to select **RAID Properties**.
3. Press Enter to go to the RAID Properties screen.
4. On the RAID Properties screen, use the arrow keys to select the first disk (primary disk) for the IM (Mirror) volume, the disk with the data that you want to mirror.
5. Then use the arrow keys to move the Array Disk column for this disk, and press the Space key to select **Yes**.

Note: If a partitions is defined on the disk, a message warns you that the data will be lost when the striped volume is created.

6. Press M to Migrate, or D to delete the data on the drive.
7. When the Keep Data/Erasedisk message is displayed, press F3 to keep the data currently on this disk. The value in the Array Disk column changes to Primary.
8. Use the arrow keys to select the secondary (mirrored) disk for the IM volume. Select **Yes** as the value for the Array Disk column.

Note: If a partition is defined on the disk, a message warns you that the data will be lost when the mirrored volume is created.

9. Press Delete to confirm erasing data from the disk.

Configuring mirrored volume disks for Integrated Mirrored Array (IM) two disk, with an optional hot spare disk or Integrated Mirrored Enhanced Array (IME) three to five disks, with an optional hot spare disk:

To configure mirrored volume disks, with an optional hot spare disk:

1. On the RAID Properties screen, use the arrow key to select the first disk for the volume.
2. Use the arrow keys to move to the Array Disk column for this disk, and use the + and – keys to select **Yes** as the value.
3. When the Keep Data/Erased Disk message appears, press Delete to erase the disk.
4. Use the arrow keys to select the next disk for the IM volume. Select **Yes** as the value for the Array Disk column.

Note: If a partition is defined on the disk, a message warns you that the data will be lost when the mirrored volume is created.

5. Press Delete to confirm erasing data from the disk.
6. Repeat the previous steps to select up to four more disks for the IM volume. If you want to configure a hot spare disk for the volume, you can select up to three more disks.
7. (Optional) Use the arrow keys to select a hot spare disk for the IM volume. Select **Yes** as the value for the Hot Spare column.
8. When you have selected all disks for the IM volume, Press C to create the array after all drives have been chosen, and then select **Save Changes** to exit this menu. Press Enter and select **Save**.
9. Repeat Step 1 above and select **View Existing Array** to view the New Array.
10. To Delete the New Array, select **Manage Array**.
11. Then press Y to delete the New Array and exit the Adapter properties screen.

Configuring the system BIOS to enable SAS RAID 1E functionality

To configure the system BIOS to enable SAS RAID 1E functionality, use the LSI Logic Config Utility as the SAS Configuration Utility. This utility assumes that the system has the required number of disks.

1. Press Ctrl+C when prompted to start the LSI Logic Config Utility.
2. On the Adapter Properties screen, use the arrow key to select **RAID Properties**.
3. Press Enter to go to the RAID Properties screen. Continue with step 4 through 9 to configure a two-disk mirrored volume.
4. On the RAID Properties screen, use the arrow key to select the first disk for the IME (Mirror) volume, the disk with the data that you want to mirror.
5. Use the arrow keys to move the Array Disk column for this disk, and press Space, + or - key to select **Yes**.

Note: If a partition is defined on the disk, a message warns you that the data will be lost when the striped volume is created.

6. Press M to Migrate, or D to delete the data on the drive.

7. When the Keep Data/Erase Disk message is displayed, press F3 to keep the data currently on this disk. The value in the Array Disk column changes to Primary.
8. Use the arrow keys to select the secondary (mirrored) disk for the IM volume. Select **Yes** as the value for the Array Disk column.

Notes:

- a. If a partition is defined on the disk, a message warns you that the data will be lost when the mirrored volume is created. Press **Delete** to confirm erasing data from the disk.
 - b. To configure mirrored volume disks, with an optional hot spare disk, see “Configuring mirrored volume disks for Integrated Mirrored Array (IM) two disk, with an optional hot spare disk or Integrated Mirrored Enhanced Array (IME) three to five disks, with an optional hot spare disk:” on page 56.
9. On the RAID Properties screen, use the arrow key to select the first disk for the IME volume.
 10. Use the arrow keys to move to the Array Disk column for this disk, and use the + and – keys to select **Yes** as the value.
 11. When the Keep Data/Erase Disk message is displayed, press Delete to erase the disk.
 12. Use the arrow keys to select the next disk for the IME volume. Select **Yes** as the value for the Array Disk column.

Note: If a partition is defined on the disk, a message warns you that the data will be lost when the mirrored volume is created. Press Delete to confirm erasing data from the disk.

13. Repeat the previous steps to select up to four more disks for the IME volume. If you want to configure a hot spare disk for the volume, you can select up to three more disks.
14. (Optional) Use the arrow keys to select a hot spare disk for the IME volume. Select **Yes** as the value for the Hot Spare column.
15. When you have selected all disks for the IM volume, Press C to create the array after all drives have been chosen, and then select **Save Changes** to exit this menu. Press Enter and select **Save**.
16. Repeat Step 1 above and select **View Existing Array** to view the New Array.
17. To delete the New Array, select **Manage Array**.
18. Press Y to delete the New Array and exit the Adapter properties screen.

Chapter 8. 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 86.

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 Errors

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

1. Turn off the computer and disconnect all external devices.
2. Power-on the computer.
3. There are three LEDs to help you determine if the power supply and system board are working correctly. The power button LED is located on the front of the computer and the two diagnostic LEDs are located on the power supply at the rear of the computer. After pressing the power button, observe the LEDs and refer to the following table:

Power LED	Green diagnostic LED	Yellow diagnostic LED	Action
ON	ON	OFF	This is the normal condition of the LEDs when the power is OK.
OFF	OFF	OFF	<ul style="list-style-type: none"> • Make sure the power cord is attached to a working electrical outlet. • Check the power cord for continuity. • If the problem persists, replace the power supply.
OFF (after the power button has been pressed)	ON	OFF	Replace the system board
ON	ON	ON	Replace the power supply

If the Diagnostic LEDs are in the normal condition and the problem persists, replace the system board and the microprocessor, one at a time, until the computer works correctly.

Diagnostic error codes

Refer to the following diagnostic error codes when using the diagnostic tests. See “Running tests” on page 45 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 235 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 235 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 235 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 235 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 235 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 235 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 235 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 235 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 235 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 235 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 235 3. Go to "Undetermined problems" on page 86
000-199-XXX BIOS test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 86 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 235 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 235 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 235 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 235 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 235 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 235 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 235 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 235 3. Go to "Undetermined problems" on page 86
001-199-XXX System test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 86 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 235 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 235 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 235 3. Go to "Undetermined problems" on page 86
005-199-XXX Video test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 86 2. Flash the system and re-test. See "Flash update procedures" on page 235 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 235 3. Go to "Undetermined problems" on page 86
006-199-XXX Diskette interface test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 86 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 235 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 235 3. Go to "Undetermined problems" on page 86
011-199-XXX Serial port test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 86 2. Flash the system and re-test. See "Flash update procedures" on page 235 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 235 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 235 3. Go to "Undetermined problems" on page 86
014-199-XXX Parallel port test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 86 2. Flash the system and re-test. See "Flash update procedures" on page 235 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 235 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 235 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 235 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 235 3. Go to "Undetermined problems" on page 86
015-199-XXX USB port test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 86 2. Flash the system and re-test. See "Flash update procedures" on page 235 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 235 3. Go to "Undetermined problems" on page 86
018-199-XXX PCI Card test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 86 2. Flash the system and re-test. See "Flash update procedures" on page 235 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 235 3. Go to "Undetermined problems" on page 86
020-199-XXX PCI test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 86 2. Flash the system and re-test. See "Flash update procedures" on page 235 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 235 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 235 3. Go to "Undetermined problems" on page 86
025-199-XXX IDE interface test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 86 2. Flash the system and re-test. See "Flash update procedures" on page 235 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 235 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 235 3. Go to "Undetermined problems" on page 86
030-199-XXX SCSI interface test failed, cause unknown	<ol style="list-style-type: none"> 1. Go to "Undetermined problems" on page 86 2. Flash the system and re-test. See "Flash update procedures" on page 235 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 235 3. Go to "Undetermined problems" on page 86
035-199-XXX RAID interface test failed, cause unknown	<ol style="list-style-type: none"> 1. See "Undetermined problems" on page 86 2. Flash the system and re-test. See "Flash update procedures" on page 235 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 235 3. System board
071-03X-XXX Audio port failure	<ol style="list-style-type: none"> 1. Speakers 2. Microphone 3. Audio card, if installed 4. System board
071-04X-XXX Audio port failure	<ol style="list-style-type: none"> 1. Run Setup 2. Audio card, if installed 3. System board
071-195-XXX Audio port Test aborted by user	<p>Information only Re-start the test, if necessary</p>
071-196-XXX Audio port test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file
071-197-XXX Audio port test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 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 235 3. Go to "Undetermined problems" on page 86
071-199-XXX Audio port test failed, cause unknown	<ol style="list-style-type: none"> 1. See "Undetermined problems" on page 86 2. Flash the system and re-test. See "Flash update procedures" on page 235 3. Replace component under function test
071-25X-XXX Audio port failure	<ol style="list-style-type: none"> 1. Speakers 2. Audio card, if installed 3. System board
080-000-XXX Game Port interface Test Passed	No action
080-XXX-XXX Game Port interface Error	<ol style="list-style-type: none"> 1. Remove the game port device and re-test the system
080-195-XXX Game Port interface Test aborted by user	<p>Information only Re-start the test, if necessary</p>

Diagnostic Error Code	FRU/Action
080-196-XXX Game Port interface test halt, error threshold exceeded	<ol style="list-style-type: none"> 1. Press F3 to review the log file 2. Re-start the test to reset the log file
080-197-XXX Game Port interface test warning	<ol style="list-style-type: none"> 1. Make sure the component that is called out is connected and/or enabled. See Chapter 6, "Using the Setup Utility," on page 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 235 3. Go to "Undetermined problems" on page 86
080-199-XXX Game Port interface test failed, cause unknown	<ol style="list-style-type: none"> 1. See "Undetermined problems" on page 86 2. Flash the system and re-test. See "Flash update procedures" on page 235 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 235 3. Go to "Undetermined problems" on page 86
086-199-XXX Mouse Port interface test failed, cause unknown	<ol style="list-style-type: none"> 1. See "Undetermined problems" on page 86 2. Flash the system and re-test. See "Flash update procedures" on page 235 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 235 2. Go to "Undetermined problems" on page 86
089-199-XXX Microprocessor test failed, cause unknown	<ol style="list-style-type: none"> 1. See "Undetermined problems" on page 86 2. Flash the system and re-test. See "Flash update procedures" on page 235 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 235 3. Go to "Undetermined problems" on page 86
170-199-XXX Voltage Sensor(s) test failed, cause unknown	<ol style="list-style-type: none"> 1. See "Undetermined problems" on page 86 2. Flash the system and re-test. See "Flash update procedures" on page 235 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 235 3. Go to "Undetermined problems" on page 86
175-199-XXX Thermal Sensor(s) test failed, cause unknown	<ol style="list-style-type: none"> 1. See "Undetermined problems" on page 86 2. Flash the system and re-test. See "Flash update procedures" on page 235 3. Replace component under function test
175-250-XXX 175-251-XXX Thermal Sensor(s) limit error	<ol style="list-style-type: none"> 1. Check fans 2. Check Power supply voltages 3. Microprocessor 4. System board
185-000-XXX Asset Security Test Passed	No action
185-XXX-XXX Asset Security failure	<ol style="list-style-type: none"> 1. Flash system 2. System board
185-278-XXX Asset Security Chassis Intrusion	<ol style="list-style-type: none"> 1. Assure Asset Security Enabled 2. C2 Cover Switch 3. System board
201-000-XXX System Memory Test Passed	No action
201-XXX-XXX System Memory error	<ol style="list-style-type: none"> 1. Replace the memory module called out by the test 2. System board
202-000-XXX System Cache Test Passed	No action
202-XXX-XXX System Cache error	<ol style="list-style-type: none"> 1. Cache, if removable 2. System board 3. Microprocessor
206-000-XXX Diskette Drive Test Passed	No action
206-XXX-XXX Diskette Drive error	<ol style="list-style-type: none"> 1. Diskette Drive Cable 2. Check power supply voltages 3. Diskette drive 4. System board

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

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

Beep symptoms

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

The following tables describes beep symptoms.

Beep Symptom	FRU/Action
2 short beeps CMOS setting error	Perform the following actions in order. <ol style="list-style-type: none">1. Start the Setup Utility program and press F10 to Save and exit. See Chapter 6, "Using the Setup Utility," on page 49.2. Start the Setup Utility program and press F9 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 236.
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 F9 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 236.3. 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 Errors" on page 59.	<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 Errors" on page 59.	<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 Errors" on page 59.

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

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 9. Replacing FRUs (types 6423 and 6483)

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.

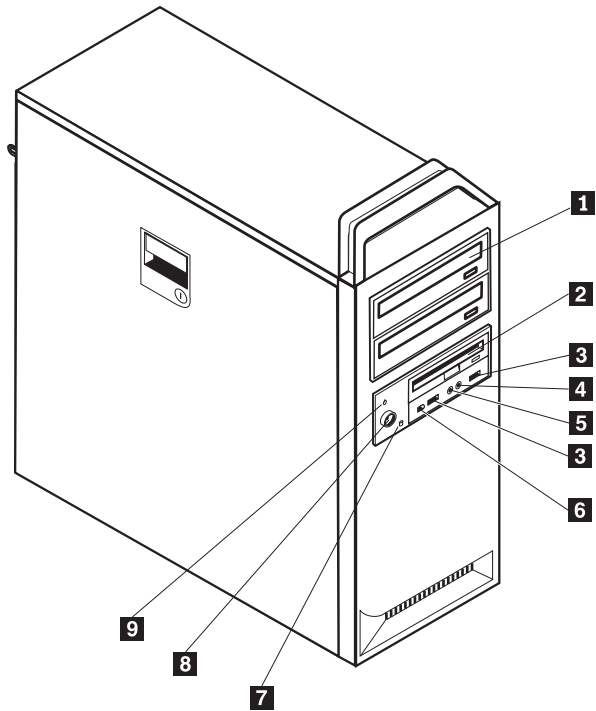
This chapter does not contain a remove and replace procedure for all FRUs. Only the major FRUs are documented.

Locations

This section contains illustrations to help locate the various connectors, controls, and components of the computer.

Controls and connectors on the front of the computer

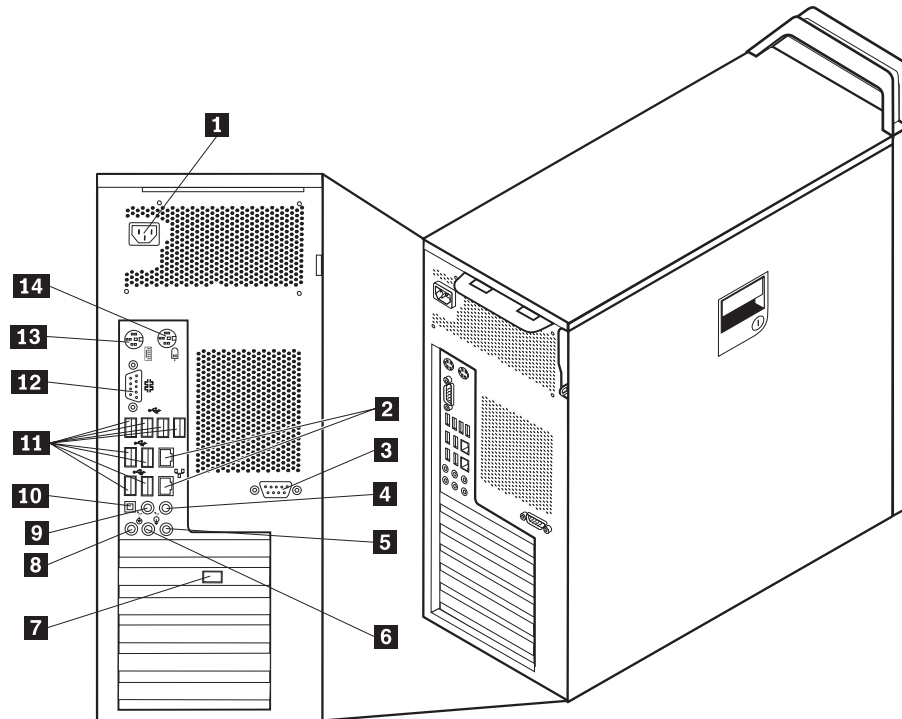
Note: Not all computer models will have the following controls and connections.



- | | | | |
|----------|---|----------|------------------------------------|
| 1 | Optical drive (some models) | 6 | IEEE 1394 connector |
| 2 | 3.5 Diskette drive or card reader (some models) | 7 | Hard disk drive activity indicator |
| 3 | USB connectors (2) | 8 | Power button |
| 4 | Microphone connector | 9 | Power-on indicator |
| 5 | Headphone connector | | |

Connectors on the rear of the computer

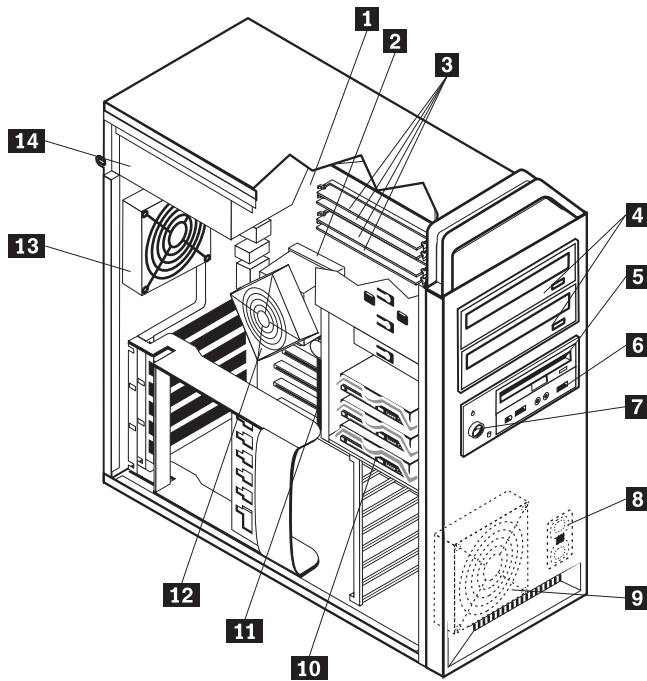
Some connectors on the rear of your computer are color-coded to help you determine where to connect the cables on your computer.



- | | | | |
|----------|---|-----------|---|
| 1 | Power cord connector | 8 | Microphone connector |
| 2 | Ethernet connector | 9 | Audio-line-out connector, rear speakers |
| 3 | Serial connector (some models) | 10 | SPDIF connector |
| 4 | Audio-line-out sub/center connector | 11 | USB connectors (8) |
| 5 | Audio-line-in connector | 12 | Serial connector |
| 6 | Audio-line-out front speakers connector | 13 | Keyboard connector |
| 7 | Video connector (some models) | 14 | Mouse connector |

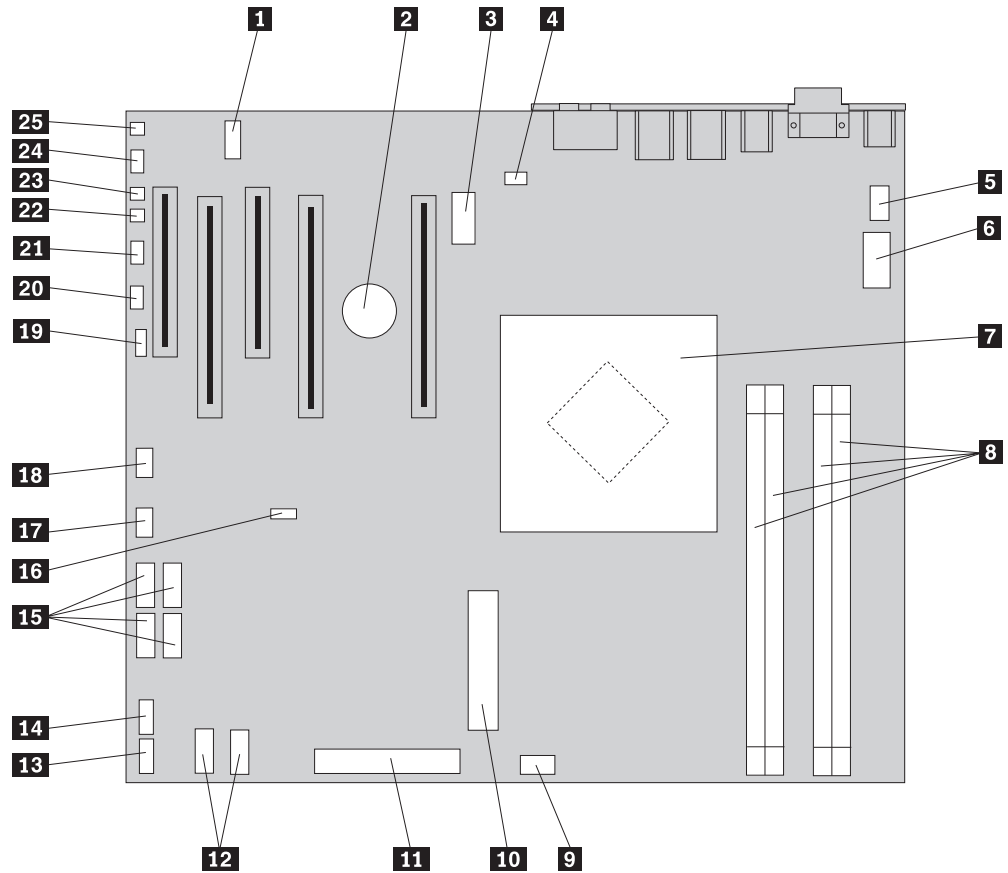
Internal components

To open the computer cover, see "Opening the cover" on page 94.



- | | | | |
|----------|--------------------------------------|-----------|--------------------------|
| 1 | System board | 8 | Internal speaker |
| 2 | Microprocessor | 9 | Front fan assembly |
| 3 | Memory modules | 10 | Hard disk drive |
| 4 | Optical disk drives | 11 | Hard disk drive fan |
| 5 | Diskette drive | 12 | Microprocessor heat sink |
| 6 | Front panel USB and Audio connectors | 13 | Rear system fan |
| 7 | Power switch and LED assembly | 14 | Power-supply assembly |

System board connectors and components



- | | | | |
|-----------|---|-----------|-------------------------------|
| 1 | COM2 | 14 | Front USB connector |
| 2 | Battery | 15 | SATA connectors (4) |
| 3 | 12 volt power connector,
graphics | 16 | Clear CMOS/Recovery jumper |
| 4 | Rear fan connector | 17 | Front adapter fan connector |
| 5 | Microprocessor heat sink fan
connector | 18 | IEEE 1394 Connector |
| 6 | Microprocessor 12 V power
connector | 19 | SAS LED connector |
| 7 | Microprocessor and heat sink | 20 | Auxiliary LEDs connector |
| 8 | Memory slots (4) | 21 | Front panel connector |
| 9 | Front hard disk drive fan
connector | 22 | Cover tamper switch connector |
| 10 | 24- pin system power connector | 23 | Ambient temperature connector |
| 11 | Diskette drive connector | 24 | Front audio connector |
| 12 | SATA connectors (2) | 25 | Internal speaker |
| 13 | Auxiliary USB connector | | |

Opening the cover

To open the computer cover:

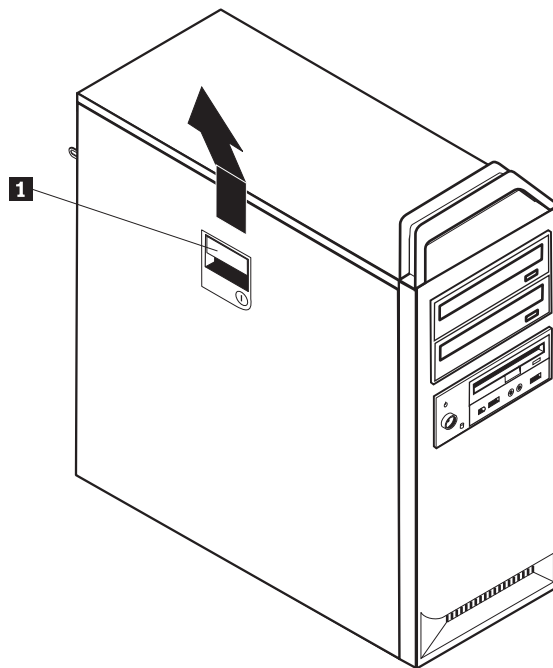
1. Remove any media (diskettes, CDs, or tapes) from the drives, shut down your operating system. Turn off all attached devices. Turn off the computer.

CAUTION:



The heat sink and microprocessor might be very hot. Turn off the computer and wait three to five minutes to let the computer cool before opening the computer cover.

2. Unplug all power cords from electrical outlets.
3. Disconnect the 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 cable lock or padlock that secures the computer cover.
5. Disengage the cover latch **1**, and open the cover. Remove the cover and place it on a flat surface.



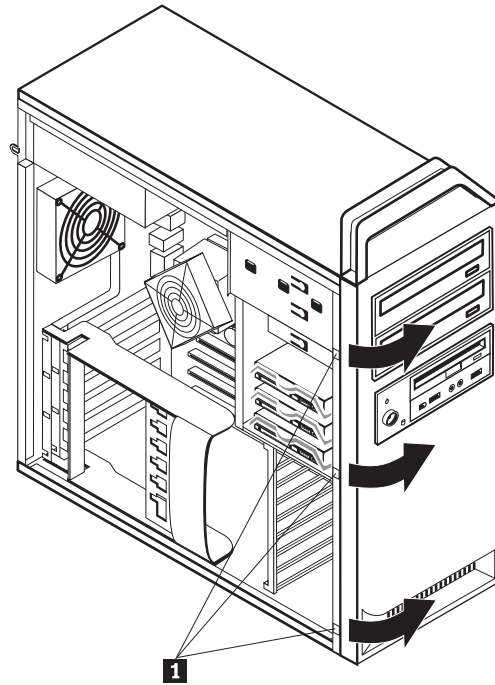
To replace the cover:

1. Align the cover with the chassis.
2. Close the cover.
3. Engage the cover latch.
4. Check to be sure the cover is latched.
5. Secure the cover using your locking device.

Removing the front bezel

To remove the front bezel:

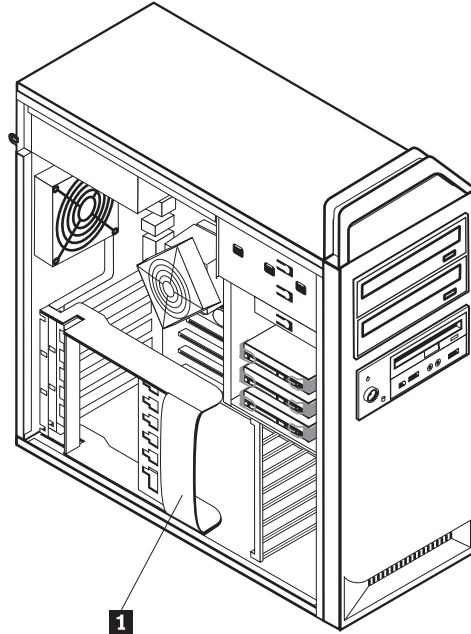
1. Open the cover. See “Opening the cover” on page 94.
2. Disengage the bezel latches **1**, one at a time while rotating the bezel away from the computer just enough to keep the latches disengaged.
3. Lay the front bezel on a flat surface.
4. Reverse these steps to replace the front bezel.



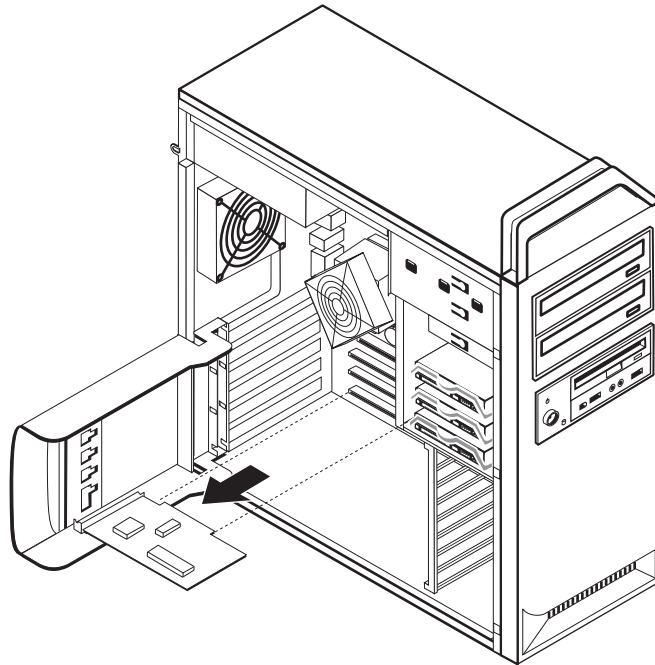
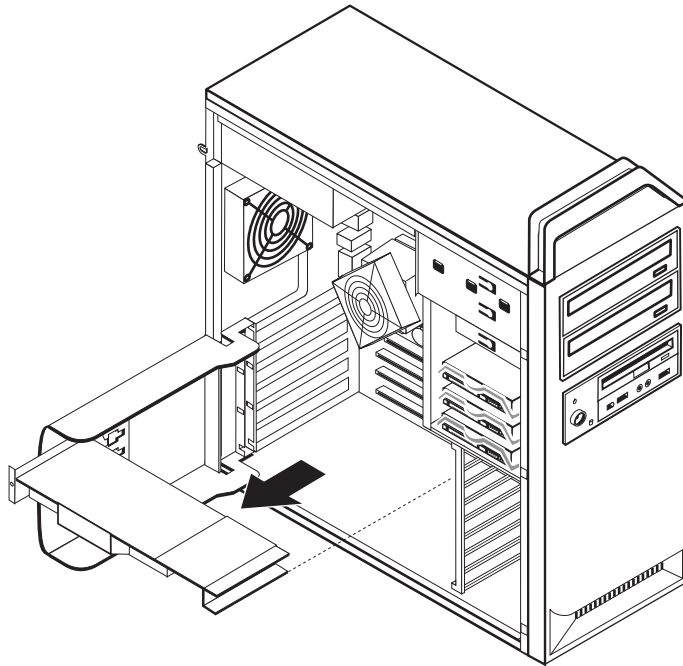
Accessing system board components and drives

To access system board components:

1. Open the computer cover. See “Opening the cover” on page 94.
2. Unlatch and open the adapter card retainer **1**.



3. Remove the hard disk drive fan and bracket if necessary (some models). See “Replacing a fan assembly” on page 119.
4. Take note of the location of all cable connections on the adapter cards. It will be necessary to reconnect them properly when replacing the cards.
5. Disconnect all cables connected to the adapter cards. See “System board connectors and components” on page 93.
6. Remove the adapter cards as necessary. See “Replacing an adapter card” on page 103 for more information.



Replacing the battery

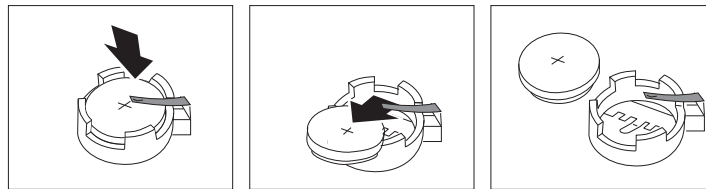
Your computer has a special type of memory that maintains the date, time, and settings for built-in features, such as serial-port assignments (configuration). A battery keeps this information active when you turn off the computer.

The battery normally requires no charging or maintenance throughout its life; however, no battery lasts forever. If the battery fails, the date, time, and configuration information (including passwords) are lost. An error message is displayed when you turn on the computer.

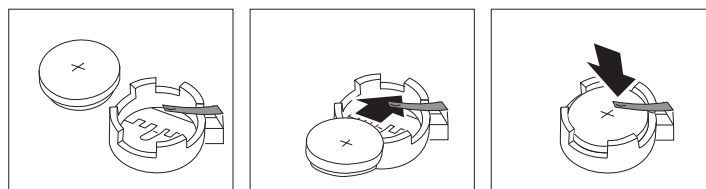
Refer to “Safety notices (multi-lingual translations)” on page 7 for information about replacing and disposing of the battery.

To change the battery:

1. Turn off the computer and disconnect the power cord from the electrical outlet and from the computer.
2. Open the computer cover. See “Opening the cover” on page 94.
3. Access the system board. See “Accessing system board components and drives” on page 96.
4. Locate the battery. See “System board connectors and components” on page 93.
5. Remove the old battery.



6. Install the new battery.



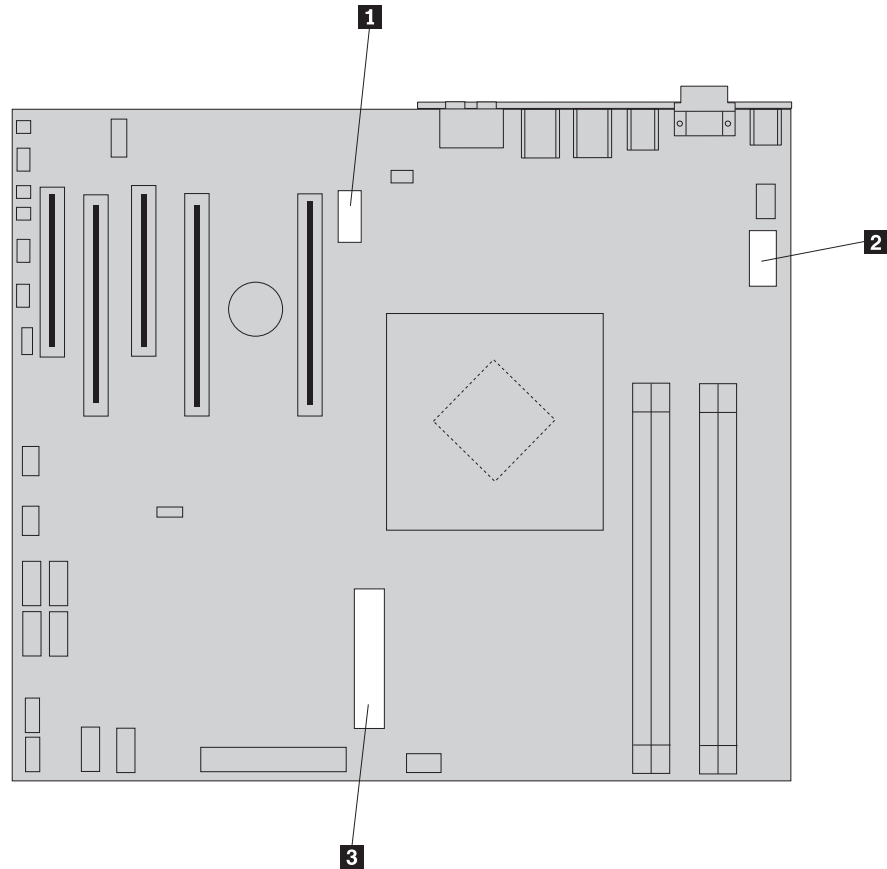
Note: When the computer is turned on for the first time after battery replacement, an error message might be displayed. This is normal after replacing the battery.

7. Go to “Completing the FRU replacement” on page 123.

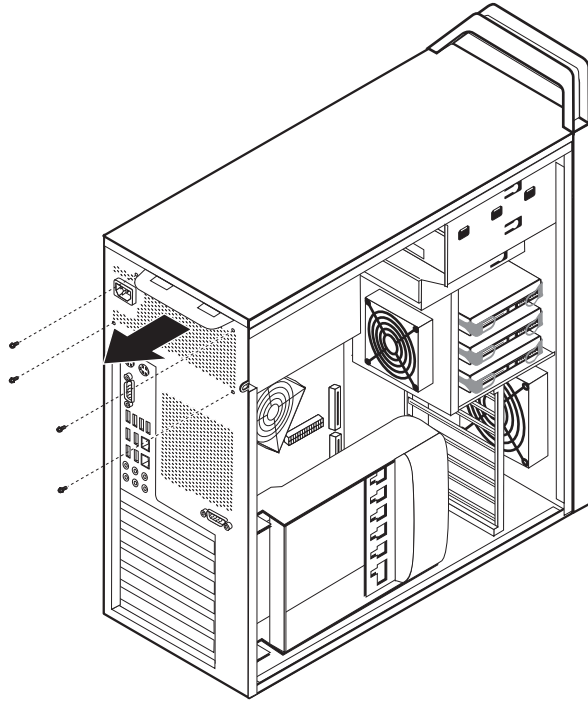
Replacing the power supply assembly

To replace the power-supply assembly:

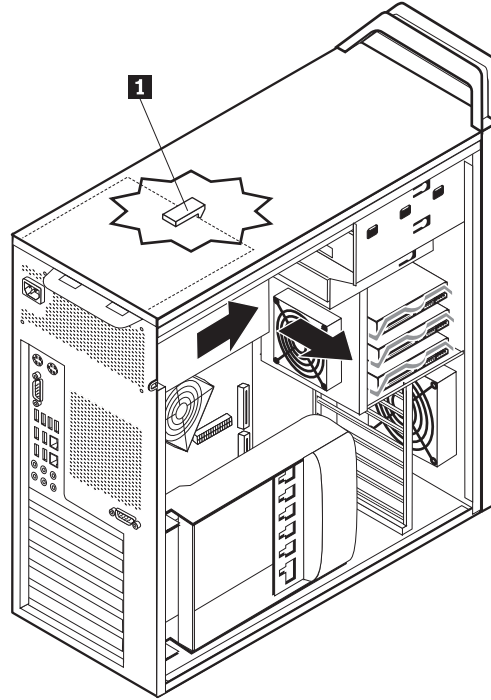
1. Open the computer cover. See “Opening the cover” on page 94.
2. Locate the power-supply assembly. See “Internal components” on page 92.
3. Disconnect the power-supply cables **1**, **2**, and **3** from the system-board connectors, all adapter cards (some models) and from all drives.



4. Remove the power-supply cables from the cable clips and ties.
5. Remove the four screws at the rear of the chassis that secure the power supply.



6. Depress the power supply latch **1**. Slide the power-supply assembly toward the front of the computer, remove it from the chassis.



7. Install the new power-supply assembly into the chassis so that the screw holes in the power-supply assembly align with those in the chassis.

Note: Use only the screws provided by Lenovo.

8. Install and tighten the four screws at the rear of the chassis to secure the power-supply assembly.

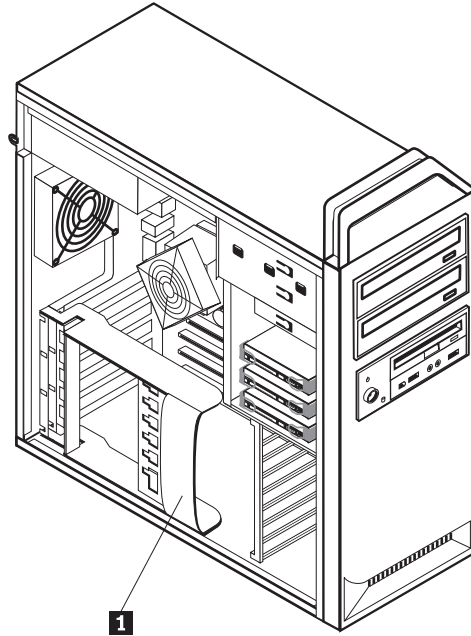
9. Ensure that the power supply is the correct replacement. Some power supplies auto sense the voltage, some power supplies are voltage specific, and some power supplies have a voltage selection switch. If there is a selection switch use a ballpoint pen to slide the switch, if necessary.

Note: For models that have a switch:

- If the voltage supply range is 100–127 V ac, set the switch to 115 V.
 - If the voltage supply range is 200–240 V ac, set the switch to 230 V.
10. Reconnect all the power supply cables to the drives, adapters, and the system board. Make sure to reconnect power to the graphics cards that require an additional cable.
 11. Go to “Completing the FRU replacement” on page 123.

Replacing an adapter card

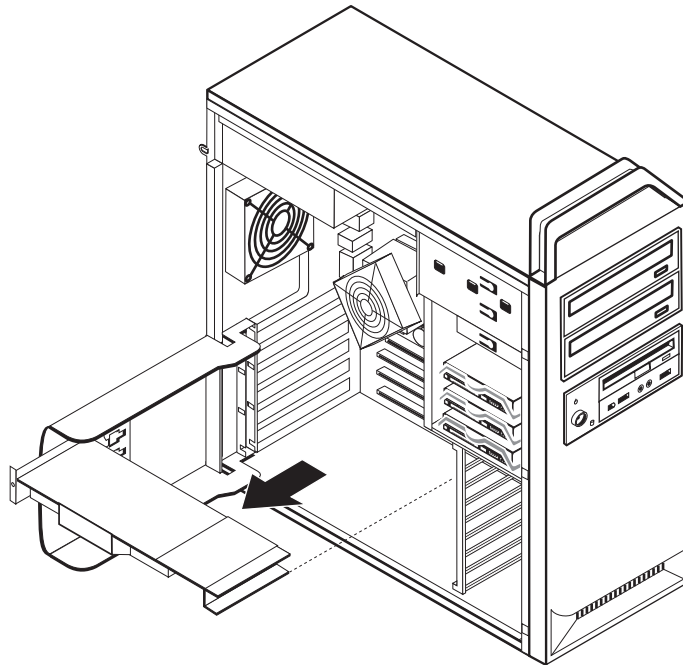
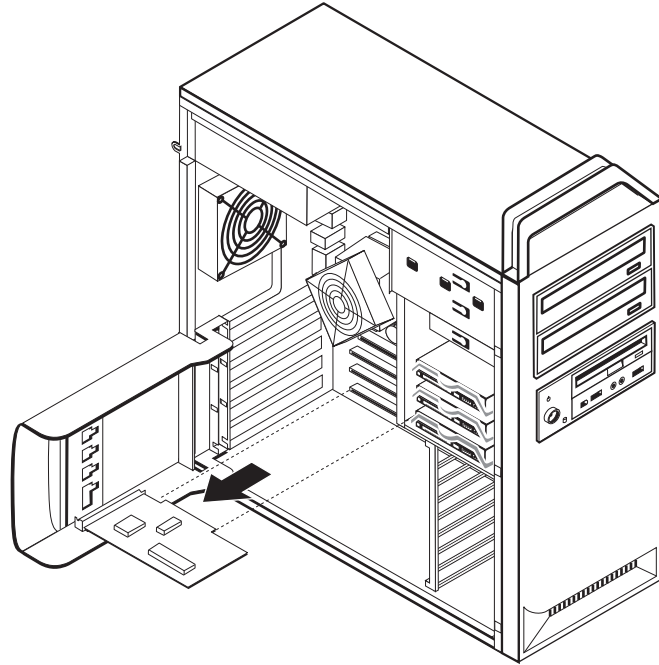
1. Turn off the computer and allow the computer to cool for 3-5 minutes.
2. Open the computer cover. See “Opening the cover” on page 94.
3. Unlatch and open the card retainer **1**.



4. Take note of the location of all cable connections on the adapter card. It will be necessary to reconnect them properly when installing a new card.
5. Disconnect all cables connected to the adapter card. See “System board connectors and components” on page 93.
6. Some models have:
 - A screw installed in the adapter bracket, remove this screw.
 - An additional retention feature located on the card guide end. Push the retention feature toward the front of the chassis before removing the adapter card.

7. Release the card support retaining latches. Grasp the adapter card and pull the card out of the slot.

Note: The card is a tight fit, so it might be necessary to remove each side a little at a time until the card is removed from the card slot.



8. Reverse this procedure to install the card, and then proceed to step 9.
9. Go to “Completing the FRU replacement” on page 123.

Replacing the heat sink

CAUTION:

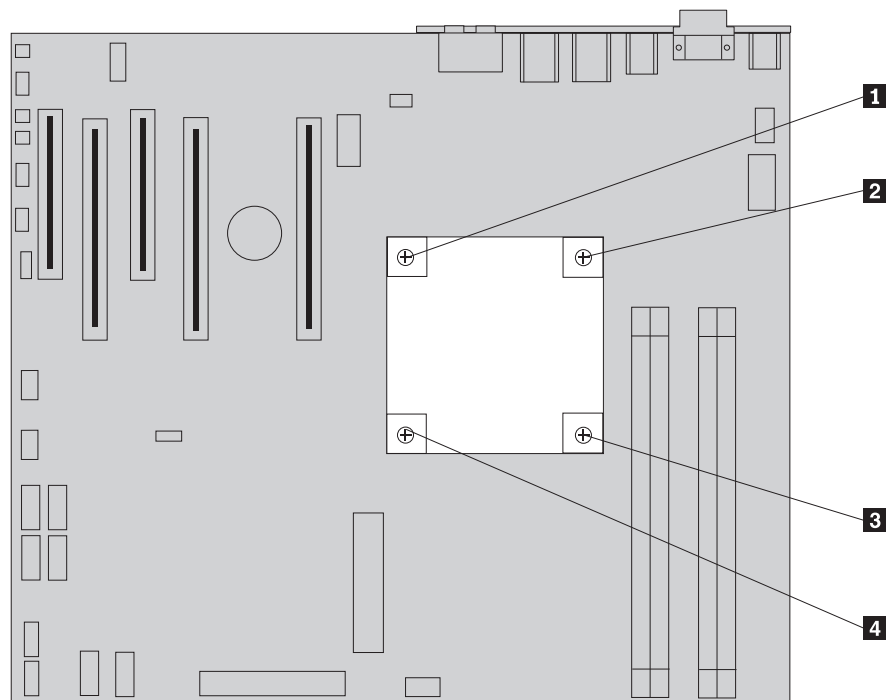


The heat sink and microprocessor might be very hot. Turn off the computer and wait three to five minutes to let the computer cool before opening the computer cover.

This section provides instructions on how to replace and install the heat sink.

To replace the heat sink:

1. Open the computer cover. See “Opening the cover” on page 94.
2. Lay the computer on its side for easier access to the heat sink.
3. Remove the heat sink and fan assembly cable from the system board. Note the cable location. See “System board connectors and components” on page 93.
4. Follow this sequence to remove the heat sink from the system board:
 - a. Partially remove screw **1**, then fully remove screw **3**, and fully remove screw **1**.
 - b. Partially remove screw **2**, then fully remove screw **4**, and fully remove screw **2**.



5. Carefully lift the heat sink off of the system board.
6. Remove the plastic cover from the bottom of the new heat sink to expose the heat sink grease (this cover protects the heat sink grease from contamination).

Notes:

- a. Do not remove the plastic cover until you are ready to install the heat sink and fan assembly on the microprocessor. Do not touch the grease on the

heat sink and fan assembly. Do not put the heat sink and fan assembly anywhere except on the microprocessor after the plastic cover has been removed and the grease exposed.

- b. Some heat sink part numbers will have orientation labels showing "Front of System." Heat Sinks that do not have orientation labels should be oriented so the fan cable is toward the board connector labeled "CPU Fan."
7. Place the new heat sink into position.

Important: Do not touch the thermal grease while handling the heat sink.

8. Align the four screws on the heat sink with the four mounting studs in the chassis.
9. Follow this sequence to install the screws, noting that fully tight is 5 in-lbs +/- 0.5 in-lbs:
 - a. Partially tighten screw **1**, then fully tighten screw **3**, and fully tighten screw **1**.
 - b. Partially tighten screw **2**, then fully tighten screw **4**, and fully tighten screw **2**.
10. Reconnect the heat sink fan cable. See "System board connectors and components" on page 93.
11. Go to "Completing the FRU replacement" on page 123.

Replacing the microprocessor

CAUTION:

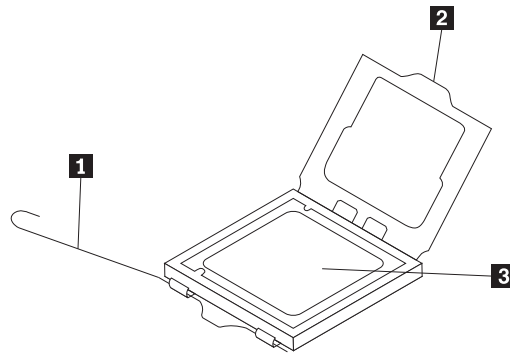


The heat sink and microprocessor might be very hot. Turn off the computer and wait three to five minutes to let the computer cool before opening the computer cover.

This section provides instructions on how to replace the microprocessor.

To replace the microprocessor:

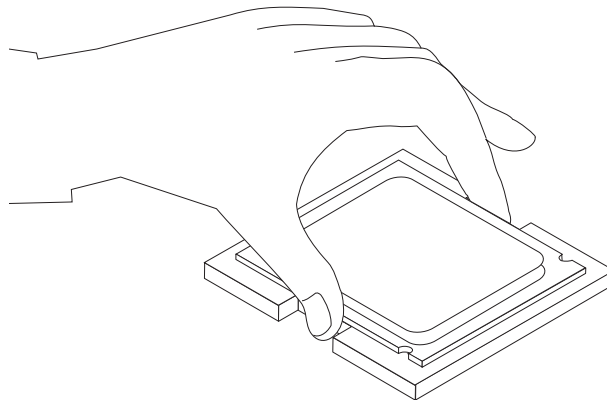
1. Open the computer cover. See “Opening the cover” on page 94.
2. Place the computer on its side to help make the system board more accessible.
3. Remove the heat sink from the system board. See “Replacing the heat sink” on page 105.
4. To remove the microprocessor **3** from the system board, lift the small handle **1** and open the retainer **2**.



Important

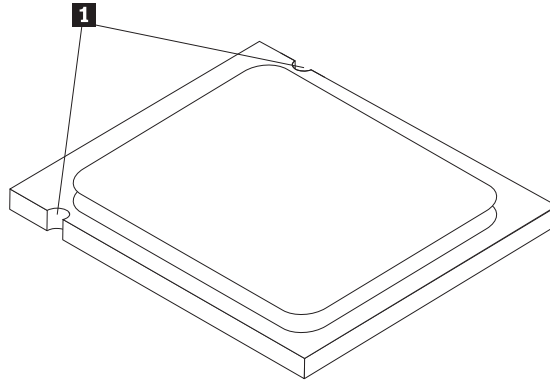
Touch only the sides of the microprocessor. Do not touch the gold contacts on the bottom.

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



Notes:

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

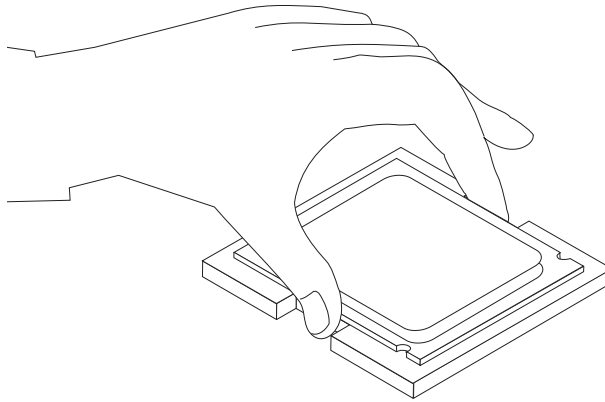


- b. Do not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.
6. Holding the microprocessor with your fingers, position the microprocessor so that the notches on the microprocessor are aligned with the tabs in the microprocessor socket.

Important

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

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



8. Close the microprocessor retainer and clamp it with the small handle.
9. Place the heat sink into position and replace the 4 screws to secure the heat sink to the system board.
10. Reconnect the heat sink fan cable.
11. Go to "Completing the FRU replacement" on page 123.

Replacing the system board

CAUTION:

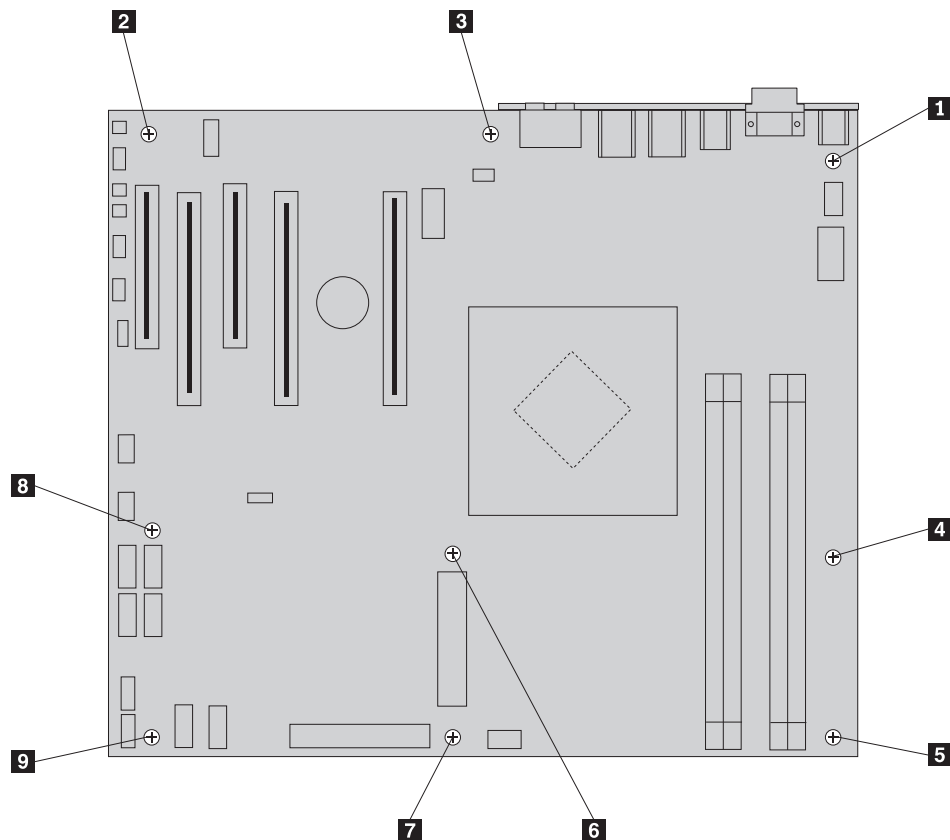


The heat sink and microprocessor might be very hot. Turn off the computer and wait three to five minutes to let the computer cool before opening the computer cover.

This section provides instructions on how to remove and install the system board.

To replace the system board:

1. Open the cover. See “Opening the cover” on page 94.
2. Lay the computer on its side for easier access to the system board.
3. Remove any adapter cards installed in the PCI connectors. See “Replacing an adapter card” on page 103.
4. Remove the hard disk drive fan. See “Replacing a fan assembly” on page 119.
5. Note the location of all cable connections on the system board and disconnect all cables. See “System board connectors and components” on page 93.
6. Remove the nine screws that secure the system board to the chassis, following the sequence shown in the figure:

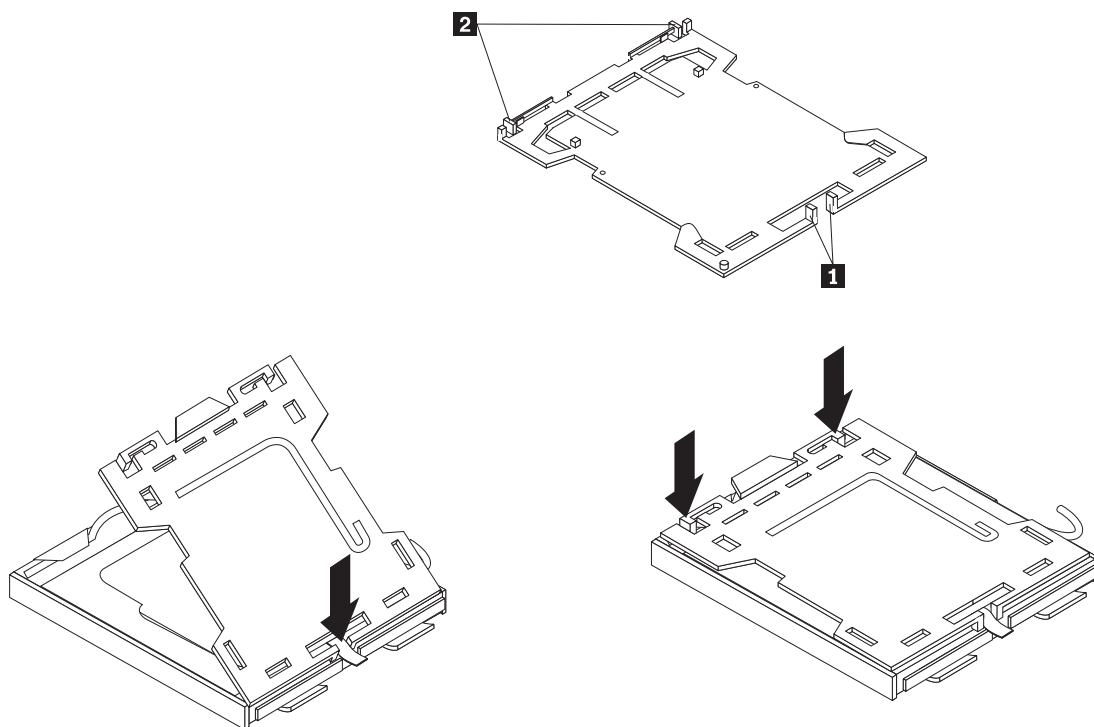


7. Lift the system board out of the chassis.
8. Remove the memory modules from the failing system board.
9. Remove the heat sink from the failing system board. See “Replacing the heat sink” on page 105.

10. Remove the microprocessor socket cover from the new system board.
11. Remove the microprocessor from the failing system board and install it on the new system board. See “Replacing the microprocessor” on page 107.
12. The failing system board must be returned with a microprocessor socket cover to protect the pins during shipping and handling. Install the microprocessor socket cover removed from the new system board on the failing system board.

To install the microprocessor socket cover:

- a. Make sure the microprocessor has been removed from the microprocessor socket, and then close the microprocessor retainer and lock it into position with the small handle.
- b. Insert the tabs **1** of the socket cover into the hinged side of the socket, and then press the other side of the socket cover downward until the tabs **2** snap into position.



13. 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 following the sequence shown in the figure above.
14. Install the memory modules in the same location on the new system board.
15. Install the microprocessor on the new system board. See “Replacing the microprocessor” on page 107
16. Install the heat sink and fan assembly on the new system board. See “Replacing the heat sink” on page 105.
17. Connect the heat sink and fan assembly cable to the new system board. See “System board connectors and components” on page 93.
18. Install the hard disk drive fan. See “Replacing a fan assembly” on page 119.
19. Connect all cables to the system board. See the system board illustration for your machine type at “System board connectors and components” on page 93.
20. Go to “Completing the FRU replacement” on page 123.

Replacing a hard disk drive

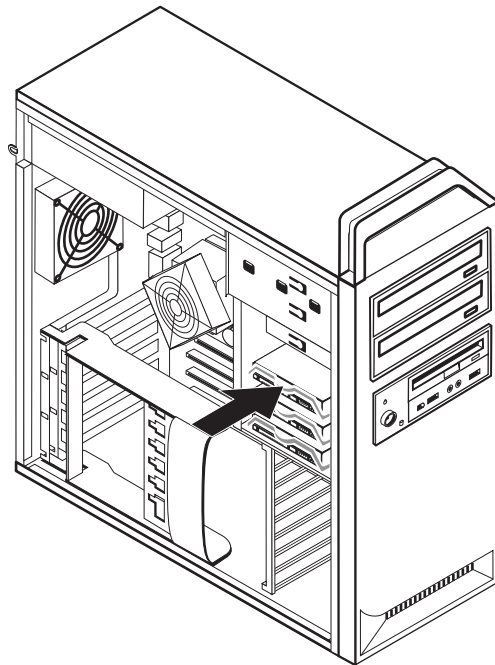
This section provides instructions on how to replace a hard disk drive.

Attention

When replacing a hard disk drive in a RAID configured array, depending on which type of array is used, rebuilding the RAID array might be required. If the array is redundant, make sure to connect the new drive to the same port from which the replaced drive was removed.

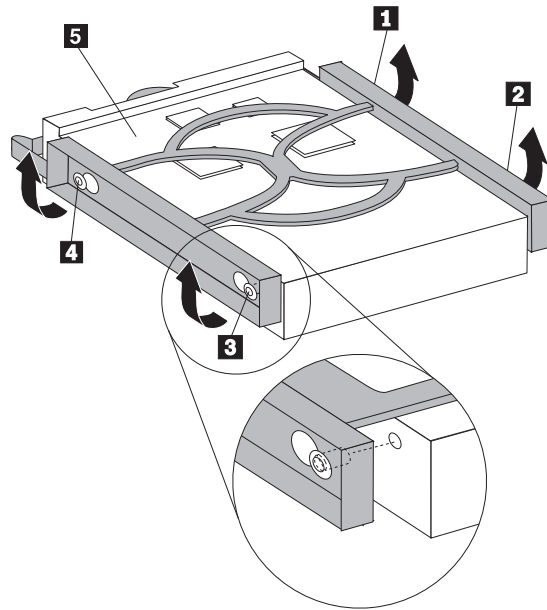
To replace the hard disk drive:

1. Open the computer cover. See “Opening the cover” on page 94.
2. Disconnect the signal and power cables from the hard disk drive.
3. Pull the handle to remove the hard disk drive.



4. Remove the failing hard disk drive from the bracket by flexing the bracket.

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

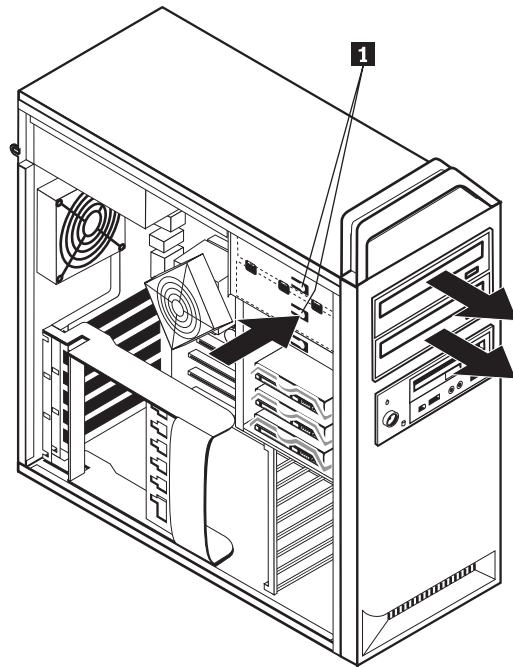


6. Install the hard disk drive and bracket into the drive bay.
7. Connect the signal and power cables to the rear of the new hard disk drive.
8. Go to “Completing the FRU replacement” on page 123.

Replacing an optical drive

This section provides instructions on how to replace the optical drive.

1. Open the computer cover. See “Opening the cover” on page 94.
2. Remove the front bezel. See “Removing the front bezel” on page 95.
3. Locate the optical-drive connectors. See “System board connectors and components” on page 93.
4. Note the location of the optical-drive cables. Disconnect the signal and power cables from the rear of the optical drive.
5. Press the drive latch **1** (for the drive you want to remove) and slide the optical-drive from the chassis.



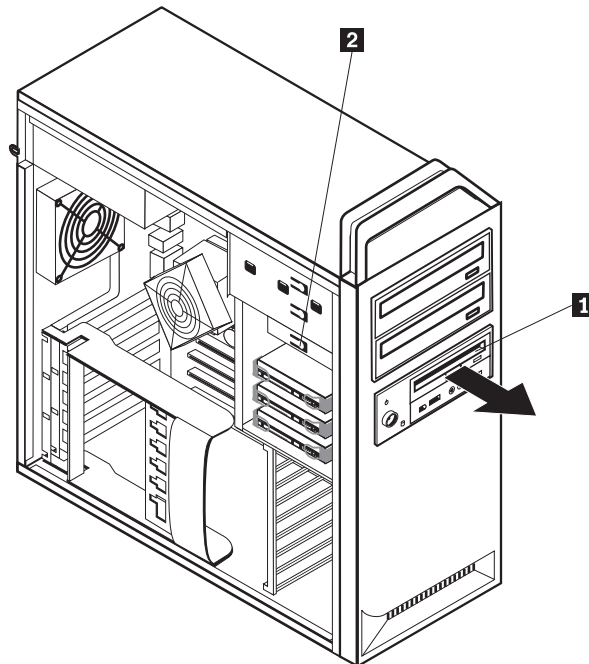
6. Install the new optical-drive from the front of the drive-bay assembly. Slide the optical-drive toward the rear of the chassis to lock the drive into position.
7. Connect the flat cable to the new optical-drive.
8. Go to “Completing the FRU replacement” on page 123.

Replacing the diskette drive or optional card reader

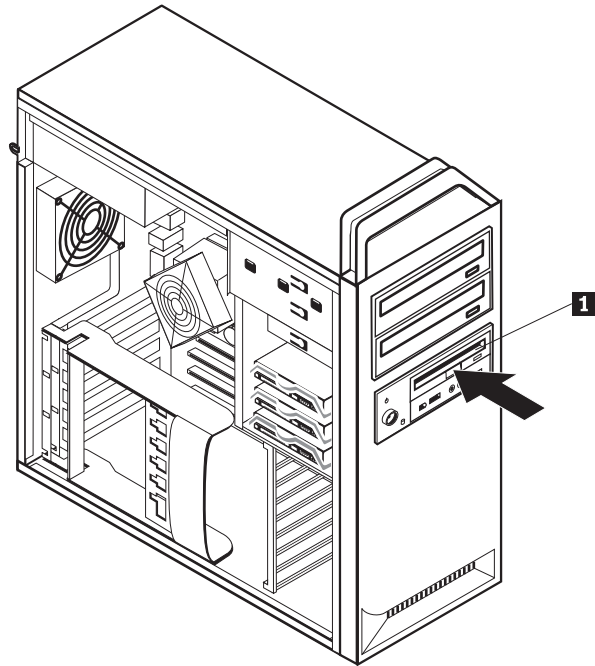
This section provides instructions on how to replace the diskette drive or card reader.

1. Open the computer cover. See “Opening the cover” on page 94.
2. Locate the drive cable connectors. See “System board connectors and components” on page 93.
3. Note the location of the drive cables. Disconnect the drive cables from the system board.
4. Press the drive latch **2** and slide the drive from the chassis.

Note: If necessary, remove the front bezel. See “Removing the front bezel” on page 95.



5. Disconnect the flat cable from the rear of the failing diskette drive.
6. Install the new drive into the drive-bay assembly and lock the drive into position.

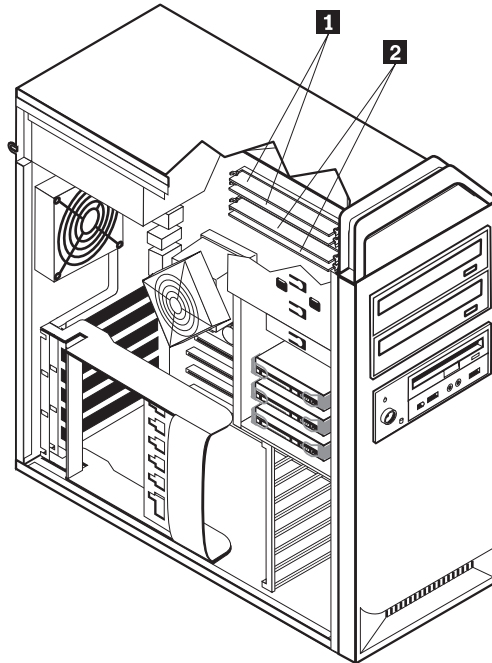


7. Connect the flat cable to the new diskette drive.
8. If the front bezel was removed, install the bezel.
9. Go to “Completing the FRU replacement” on page 123.

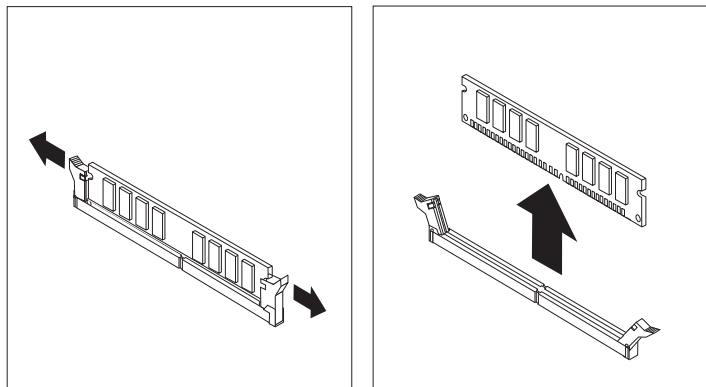
Replacing a memory module

This section provides instructions on how to replace a memory module.

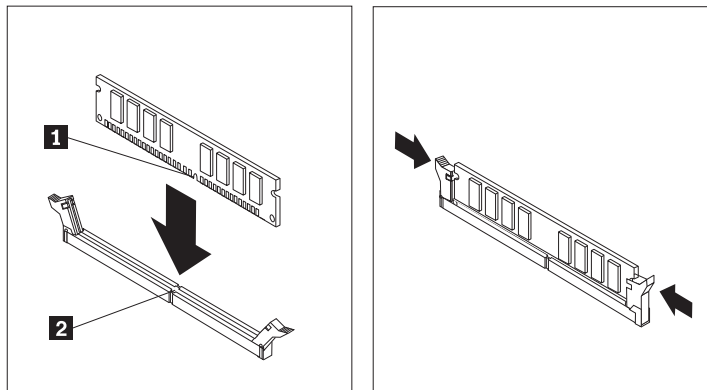
1. Open the computer cover. See “Opening the cover” on page 94.
2. Locate the memory-module connectors **1** and **2**.



3. Remove the memory module being replaced by opening the retaining clips.



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

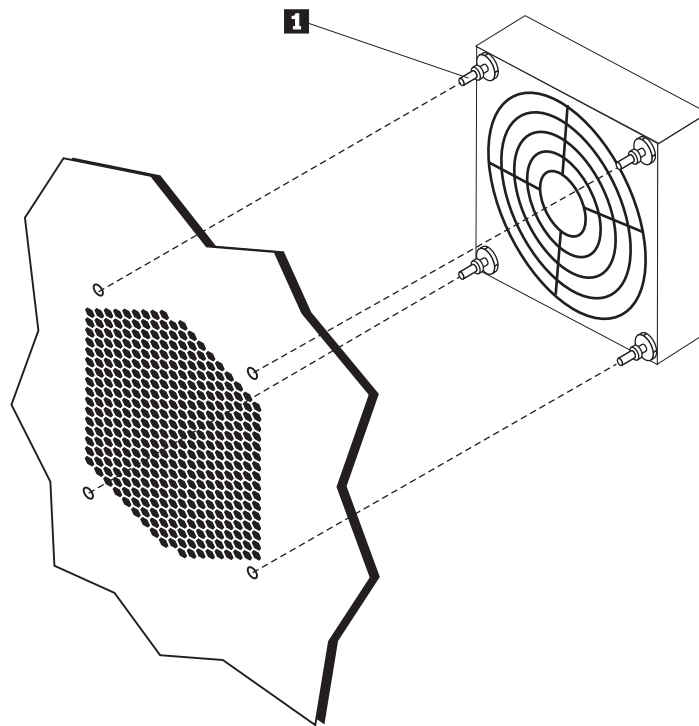


5. Go to “Completing the FRU replacement” on page 123.

Replacing a fan assembly

This section provides instructions on how to replace a fan assembly. Some models will have three fans. See “Internal components” on page 92.

1. Open the computer cover. See “Opening the cover” on page 94.
2. If necessary, remove the adapter cards to access the failing fan. See “Accessing system board components and drives” on page 96.
3. Note the routing of the fan-assembly wiring. See “System board connectors and components” on page 93. Disconnect the fan-assembly-wiring connector from the system board.
4. If you are replacing the front fan, remove the front bezel. See “Removing the front bezel” on page 95.
5. If you are replacing the hard disk drive fan, remove the fan bracket that holds the fan by using your fingers to release the fan bracket and then slide it outward.
6. For all fans, remove the fan assembly by pulling the fan grommets **1** free of the bracket as shown.

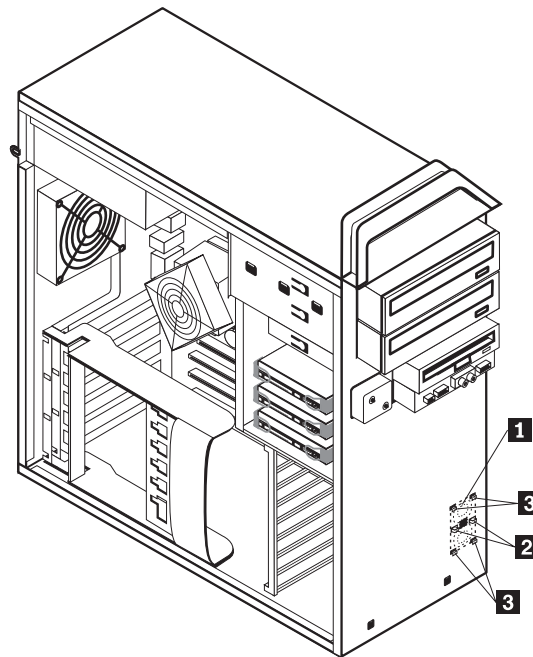


7. Install the new fan assembly, route the wiring, and then connect the fan-wiring connector to the system board. See “System board connectors and components” on page 93.
8. Reinstall any adapters that were removed. See “Replacing an adapter card” on page 103.
9. Reinstall the front bezel if it was removed. See “Removing the front bezel” on page 95.
10. Go to “Completing the FRU replacement” on page 123.

Replacing the internal speaker

This section provides instructions on how to replace the internal speaker.

1. Open the computer cover. See “Opening the cover” on page 94.
2. Remove the front bezel. See “Removing the front bezel” on page 95.
3. Locate the internal-speaker connector on the system board. See “Internal components” on page 92.
4. Note the location of the internal-speaker cable connection. Note the routing of the internal-speaker cable. Disconnect the internal-speaker cable from the system board. See “System board connectors and components” on page 93.
5. Use a blunt instrument (such as, the top of a ball point pen) to disengage one of the internal-speaker-locking tabs **2** and slide that side of the speaker **1** upward enough to keep the locking tab disengaged. Then disengage the other internal-speaker-locking tab and slide the internal speaker upward until the speaker is released.

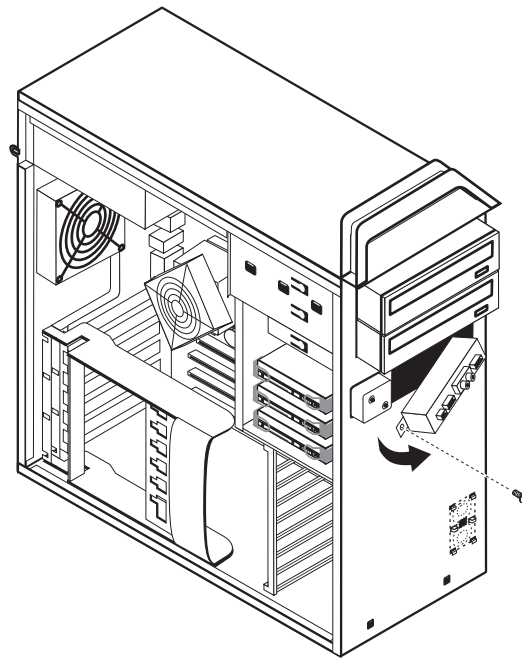


6. Remove the speaker and speaker cable from the computer.
7. Route the speaker cable and then position the new internal-speaker tabs **3** into the metal speaker slots and then push the internal speaker downward until the speaker-locking tabs snap into position.
8. Connect the speaker cable to the system board. See “System board connectors and components” on page 93.
9. Go to “Completing the FRU replacement” on page 123.

Replacing the front panel connector assembly

This section provides instructions on how to replace the front panel connector assembly.

1. Open the computer cover. See “Opening the cover” on page 94.
2. Remove the front bezel. See “Removing the front bezel” on page 95.
3. Remove any installed adapters. See “Replacing an adapter card” on page 103.
4. To have easier access to the computer, lay it down on its side.
5. Remove the plastic adapter retainer in the front of the computer.
6. Remove the diskette drive or card reader if installed in this computer. See “Replacing the diskette drive or optional card reader” on page 115
7. To have easier access to the front panel connector cables, remove the hard disk drives. See “Replacing a hard disk drive” on page 112.
8. Remove the screw holding the front panel connector assembly.
9. Note the routing of the front panel connector assembly cables. They are routed between the front frame and the hard disk drive bay.
10. Disconnect the front panel connector assembly cables from the system board. See “System board connectors and components” on page 93.
11. Rotate the front panel connector assembly outward as shown and remove from the computer. Be careful to not damage the cable connectors when pulling the cables out between the front frame and the hard disk drive bay.



12. Slide the front panel connector assembly cables out the opening in the front of the computer.
13. Route the front panel connector assembly cables and then position the new front panel connector assembly
14. Install the screw holding the front panel connector assembly.
15. Replace the hard disk drives. See “Replacing a hard disk drive” on page 112.
16. Replace the diskette drive or card reader if it was removed. See “Replacing the diskette drive or optional card reader” on page 115

17. Connect the front panel connector assembly cables to the system board. See “System board connectors and components” on page 93.
18. Replace the plastic adapter retainer in the front of the computer.
19. Replace any adapters that were removed. See “Replacing an adapter card” on page 103.
20. Replace the front bezel. See “Removing the front bezel” on page 95.
21. Go to “Completing the FRU replacement” on page 123.

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.

Chapter 10. Replacing FRUs (types 6427 and 6493)

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.

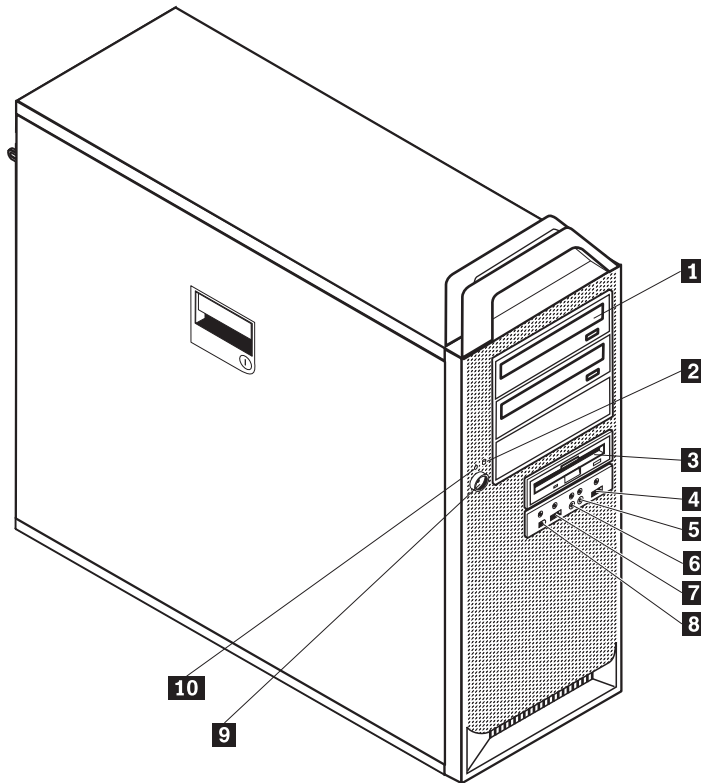
This chapter does not contain a remove and replace procedure for all FRUs. Only the major FRUs are documented.

Locations

This section contains illustrations to help locate the various connectors, controls, and components of the computer.

Controls and connectors on the front of the computer

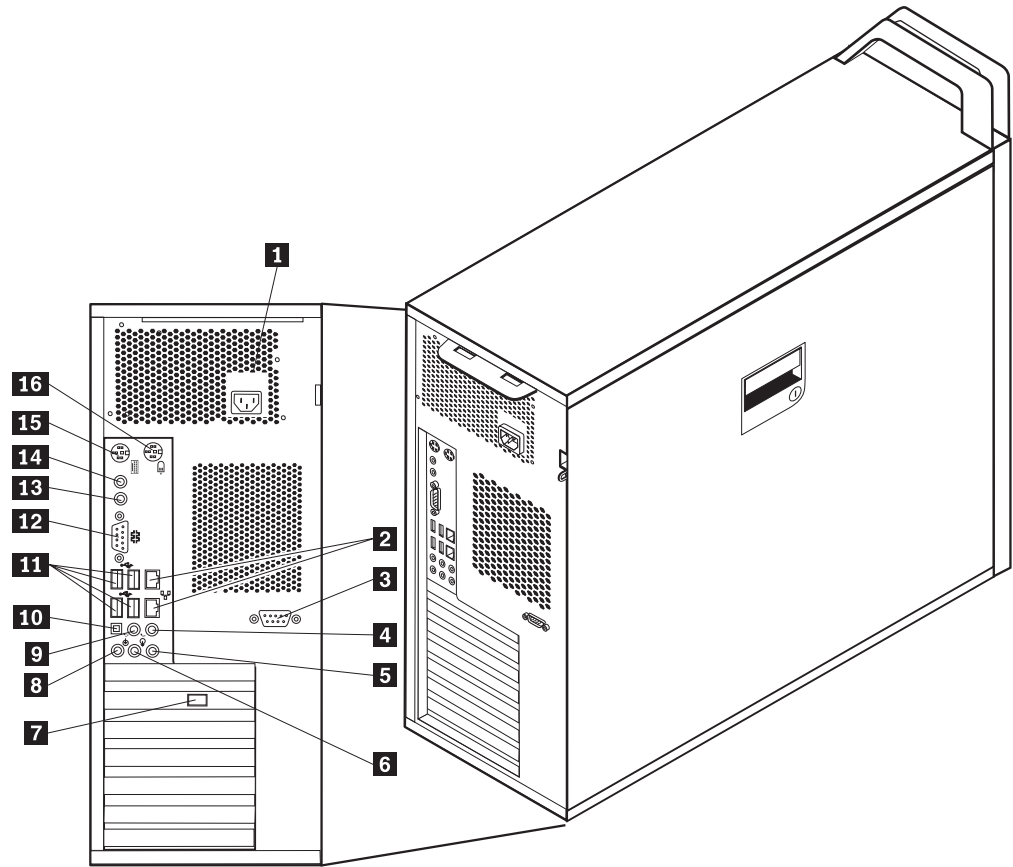
Note: Not all computer models will have the following controls and connections.



- | | | | |
|----------|---|-----------|---------------------|
| 1 | Optical drive (some models) | 6 | Headphone connector |
| 2 | Hard drive activity light | 7 | USB connector |
| 3 | 3.5 Diskette drive or card reader (some models) | 8 | IEEE 1394 connector |
| 4 | USB connector | 9 | Power button |
| 5 | Microphone connector | 10 | Power-on indicator |

Connectors on the rear of the computer

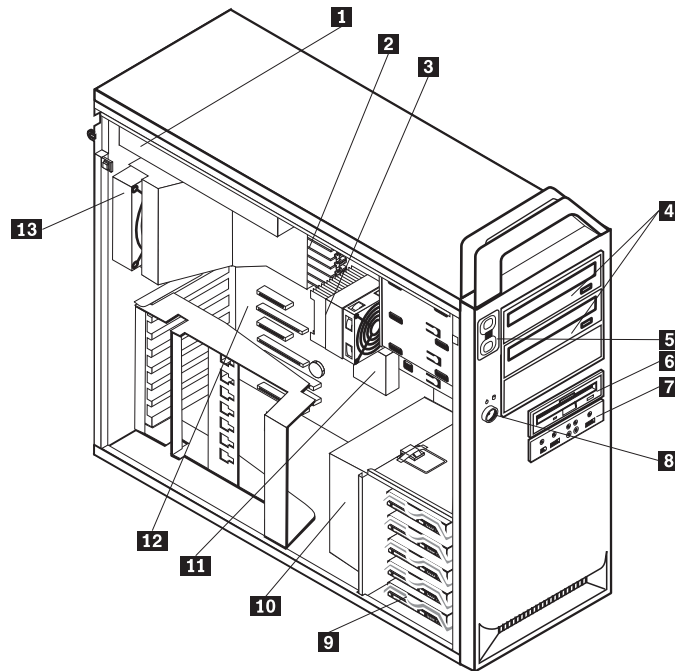
Some connectors on the rear of your computer are color-coded to help you determine where to connect the cables on your computer.



- | | | | |
|----------|---|-----------|---|
| 1 | Power cord connector | 9 | Audio-line-out surround sound connector, rear |
| 2 | Ethernet connector | 10 | Audio-line-out surround sound connector, side, left and right |
| 3 | Serial connector (some models) | 11 | USB connectors (4) |
| 4 | Audio-line-out sub/center connector | 12 | Serial connector |
| 5 | Audio-line-in connector | 13 | SPDIF in |
| 6 | Audio-line-out front speakers connector | 14 | SPDIF out |
| 7 | Video connector (some models) | 15 | Keyboard connector |
| 8 | Microphone connector | 16 | Mouse connector |

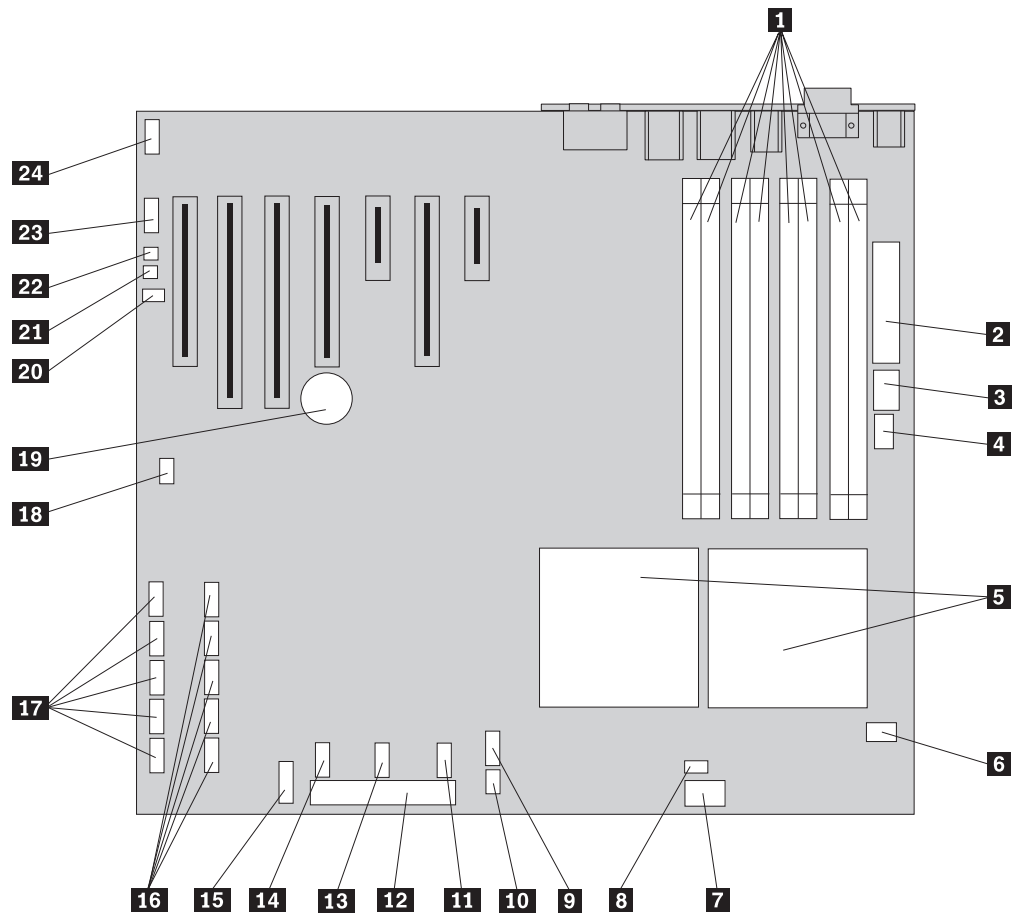
Internal components

To open the computer cover, see "Opening the cover" on page 94.



- | | | | |
|----------|---|-----------|-------------------------------|
| 1 | Power-supply assembly | 8 | Power switch and LED assembly |
| 2 | Memory modules | 9 | Hard disk drive |
| 3 | Microprocessor heat sinks (2) | 10 | Hard disk drive fan assembly |
| 4 | Optical drives (such as a CD or DVD drive) 3 bays | 11 | Microprocessors (2) |
| 5 | Internal speaker | 12 | System board |
| 6 | 3.5 inch diskette drive or card reader | 13 | Rear system fan |
| 7 | Front USB and audio connectors | | |

System board connectors and components



- | | | | |
|-----------|--------------------------------|-----------|---|
| 1 | Memory slots (8) | 13 | Auxiliary USB connector 2 |
| 2 | 24 Pin power connector | 14 | IEEE 1394 Connector |
| 3 | 10 Pin power connector | 15 | Front-panel connector |
| 4 | Rear exhaust fan connector | 16 | SATA connectors (5) |
| 5 | Microprocessor and heat sink | 17 | SAS connectors (5) |
| 6 | Microprocessor fan 1 connector | 18 | Clear CMOS/Recovery jumper |
| 7 | 8 Pin power connector | 19 | Battery |
| 8 | Microprocessor fan 2 connector | 20 | Cover-presence-switch (Tamper SW) connector |
| 9 | Front USB connector | 21 | Internal speaker connector |
| 10 | HDD fan connector | 22 | Ambient temperature sensor connector |
| 11 | Auxiliary LED connectors | 23 | COM2 |
| 12 | Diskette drive connector | 24 | Front audio connector |

Opening the cover

To open the computer cover:

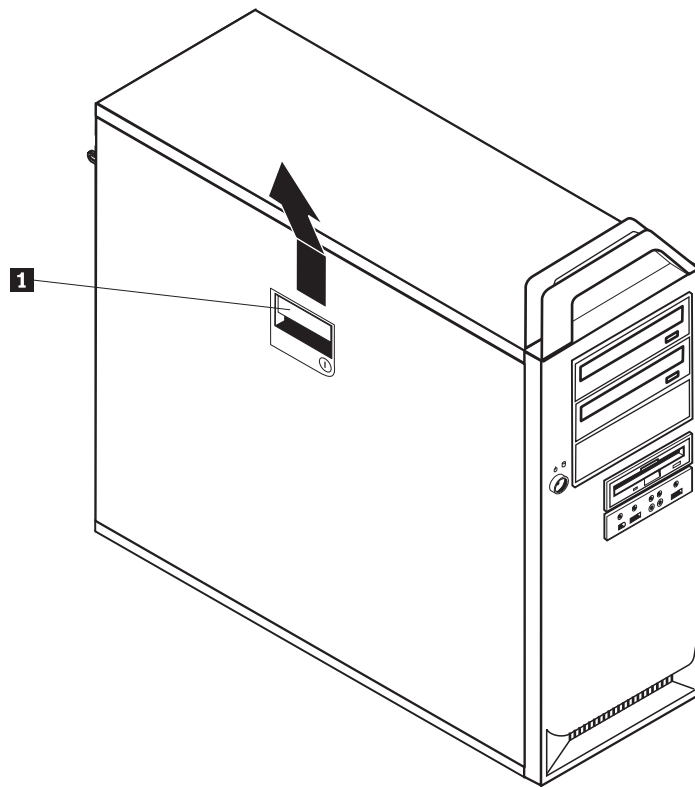
1. Remove any media (diskettes, CDs, or tapes) from the drives, shut down your operating system. Turn off all attached devices. Turn off the computer.

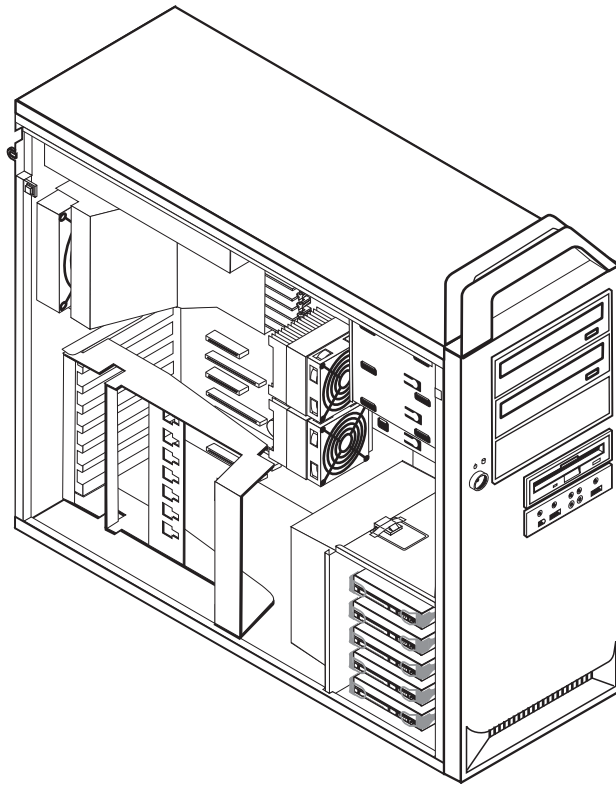
CAUTION:



The heat sink and microprocessor might be very hot. Turn off the computer and wait three to five minutes to let the computer cool before opening the computer cover.

2. Unplug all power cords from electrical outlets.
3. Disconnect the 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 cable lock or padlock that secures the computer cover.
5. Disengage the cover latch **1**, and open the cover. Remove the cover and place it on a flat surface.





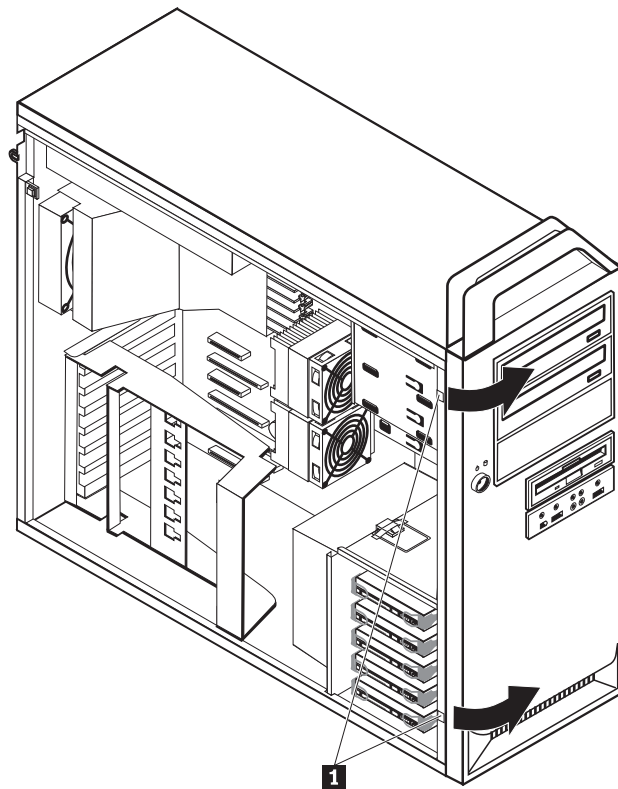
To replace the cover:

1. Align the cover with the chassis.
2. Close the cover.
3. Engage the cover latch.
4. Check to be sure the cover is latched.
5. Secure the cover using your locking device.

Removing the front bezel

To remove the front bezel:

1. Open the cover. See “Opening the cover” on page 130.
2. Disengage the bezel latches **1**, one at a time while rotating the bezel away from the computer just enough to keep the latches disengaged.
3. Lay the front bezel on a flat surface.
4. Reverse these steps to replace the front bezel.

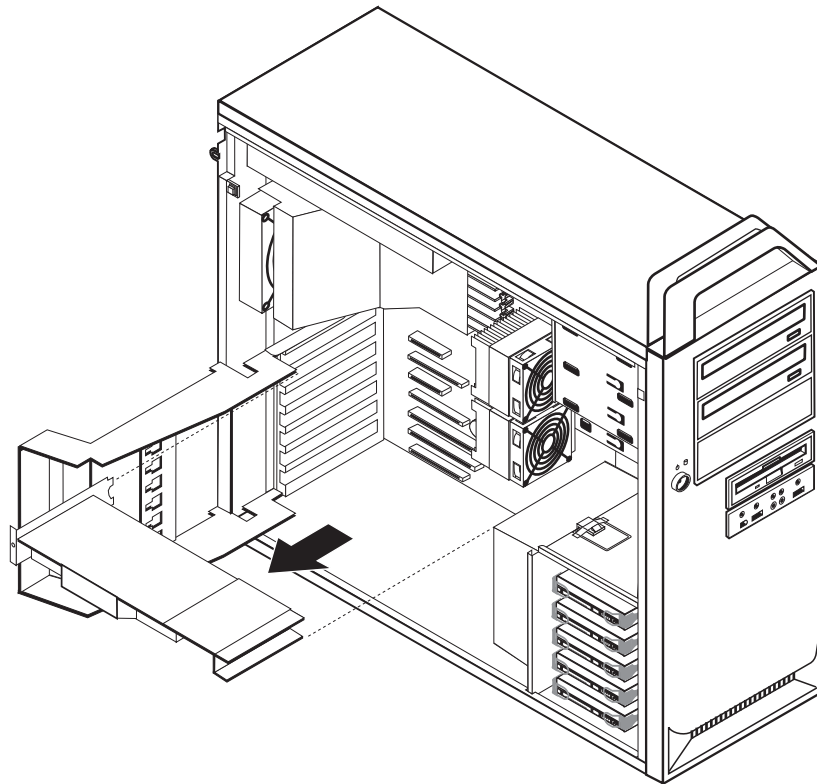


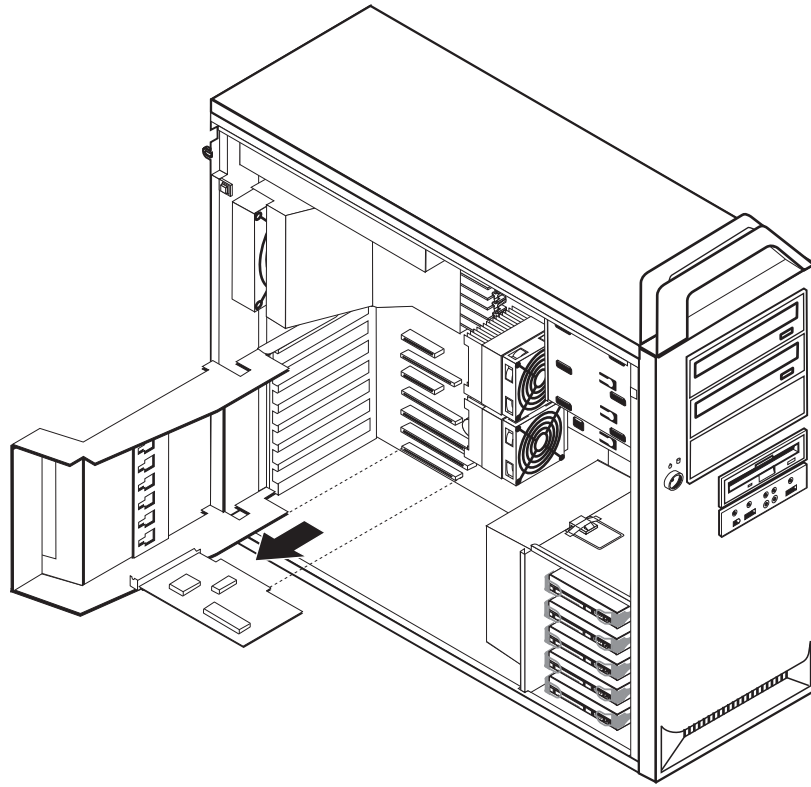
Accessing system board components and drives

To access system board components:

1. Open the computer cover. See “Opening the cover” on page 130.
2. Unlatch and open the adapter card retainer.
3. Take note of the location of all cable connections on the adapter cards. It will be necessary to reconnect them properly when replacing the cards.
4. Disconnect all cables connected to the adapter cards. See “System board connectors and components” on page 129.
5. Remove the card retaining screw, if one is used.
6. Release the card support retaining latches. Grasp the adapter card and pull the card out of the slot. See “Replacing an adapter card” on page 139 for more information.

Note: The card is a tight fit, so it might be necessary to remove each side a little at a time until the card is removed from the card slot.





Replacing the battery

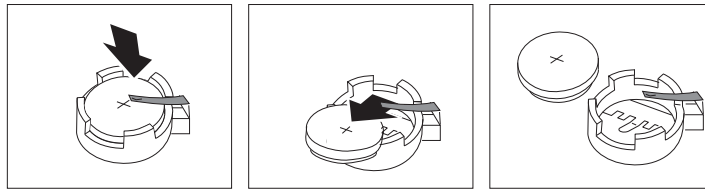
Your computer has a special type of memory that maintains the date, time, and settings for built-in features, such as serial-port assignments (configuration). A battery keeps this information active when you turn off the computer.

The battery normally requires no charging or maintenance throughout its life; however, no battery lasts forever. If the battery fails, the date, time, and configuration information (including passwords) are lost. An error message is displayed when you turn on the computer.

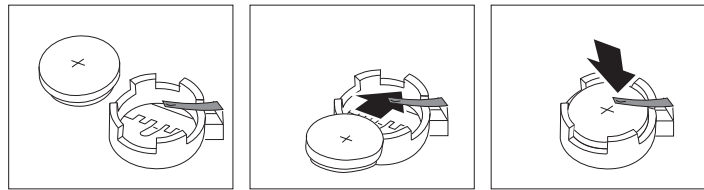
Refer to “Safety notices (multi-lingual translations)” on page 7 for information about replacing and disposing of the battery.

To change the battery:

1. Turn off the computer and disconnect the power cord from the electrical outlet and from the computer.
2. Open the computer cover. See “Opening the cover” on page 130.
3. Access the system board. See “Accessing system board components and drives” on page 133.
4. Locate the battery. See “System board connectors and components” on page 129.
5. Remove the old battery.



6. Install the new battery.



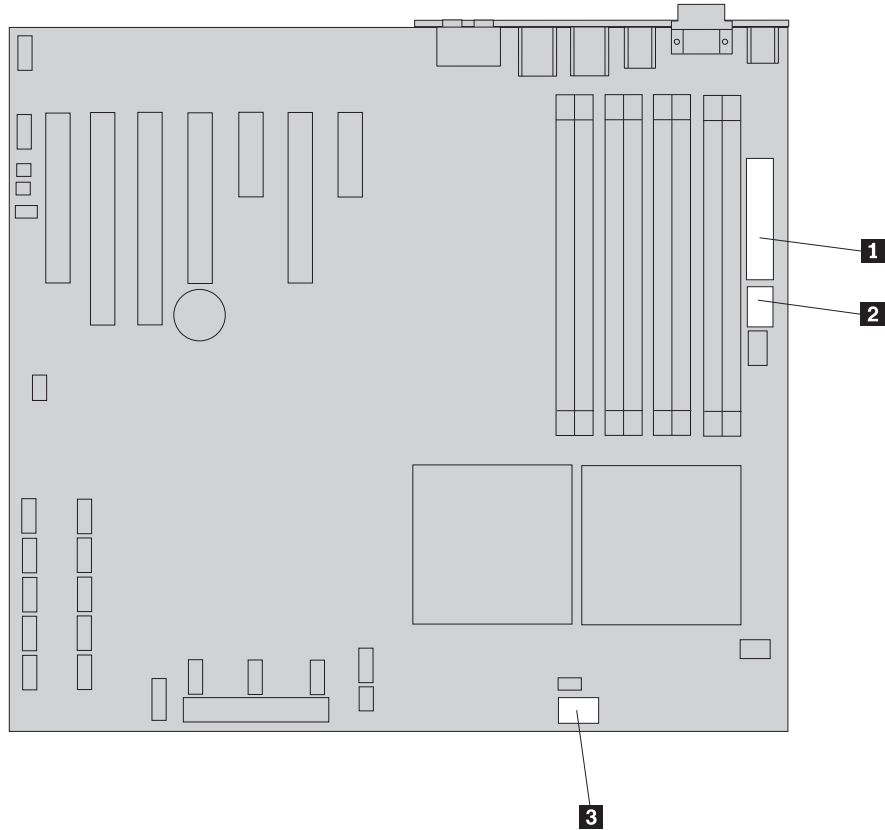
Note: When the computer is turned on for the first time after battery replacement, an error message might be displayed. This is normal after replacing the battery.

7. Go to “Completing the FRU replacement” on page 158.

Replacing the power supply assembly

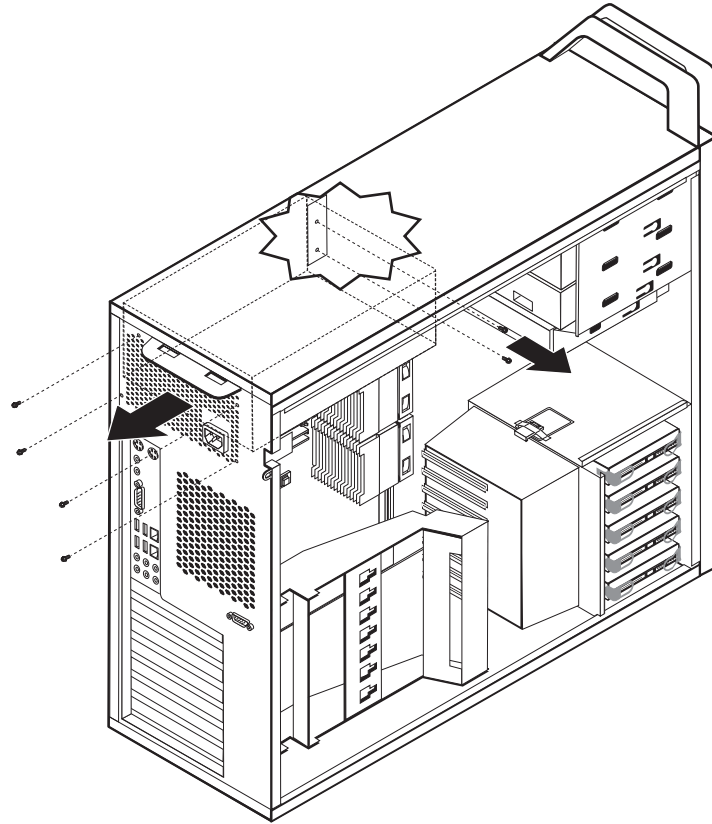
To replace the power-supply assembly:

1. Open the computer cover. See “Opening the cover” on page 130.
2. Locate the power-supply assembly. See “Internal components” on page 128.
3. Disconnect the power-supply cables **1**, **2**, and **3** from the system-board connectors, all adapter cards (some models) and from all drives.

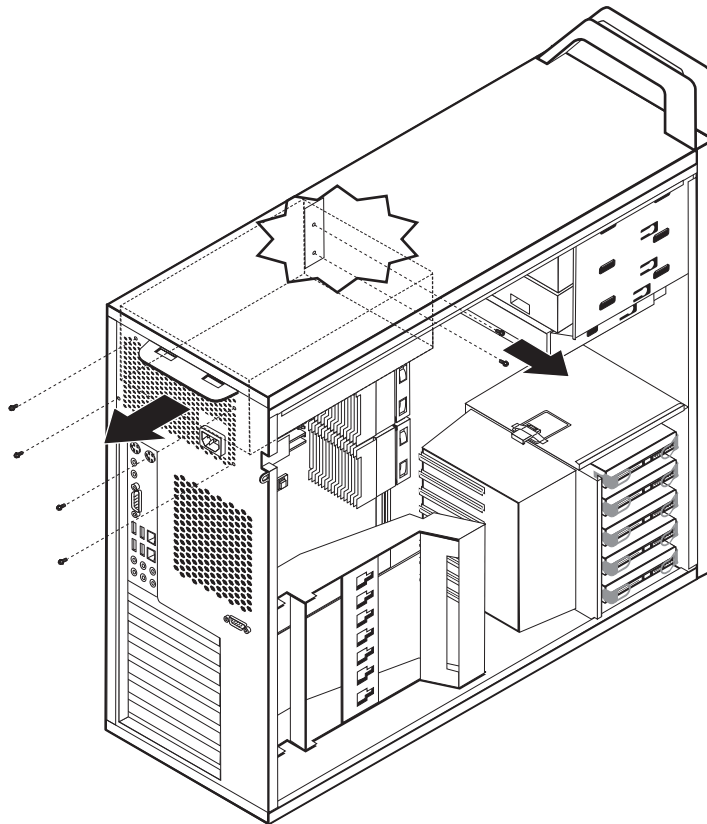


Note: The latches for the power connectors are not easily accessible using fingers. Use a tool such as a screwdriver or a pair of pliers to unlatch the connectors.

4. Remove the power-supply cables from the cable clips and ties.
5. Remove the microprocessor heat sink (see “Replacing the heat sink” on page 141) nearest the power supply before removing the power supply from the chassis.
6. Remove the four screws at the rear of the chassis that secure the power supply.



7. Remove the power supply retaining screws located inside the computer chassis.
8. Slide the power-supply assembly toward the front of the computer, remove it from the chassis.



9. Install the new power-supply assembly into the chassis so that the screw holes in the power-supply assembly align with those in the chassis.

Note: Use only the screws provided by Lenovo.

10. Install and tighten the four screws at the rear of the chassis to secure the power-supply assembly.
11. Install and tighten the 2 screws that secure the power supply to the inside of the chassis.
12. Check the power supply and ensure it is the correct replacement. Some power supplies auto sense the voltage, some power supplies are voltage specific, and some power supplies have a voltage selection switch. Use a ballpoint pen to slide the switch, if necessary.

Note: For models that have a switch:

- If the voltage supply range is 100–127 V ac, set the switch to 115 V.
- If the voltage supply range is 200–240 V ac, set the switch to 230 V.

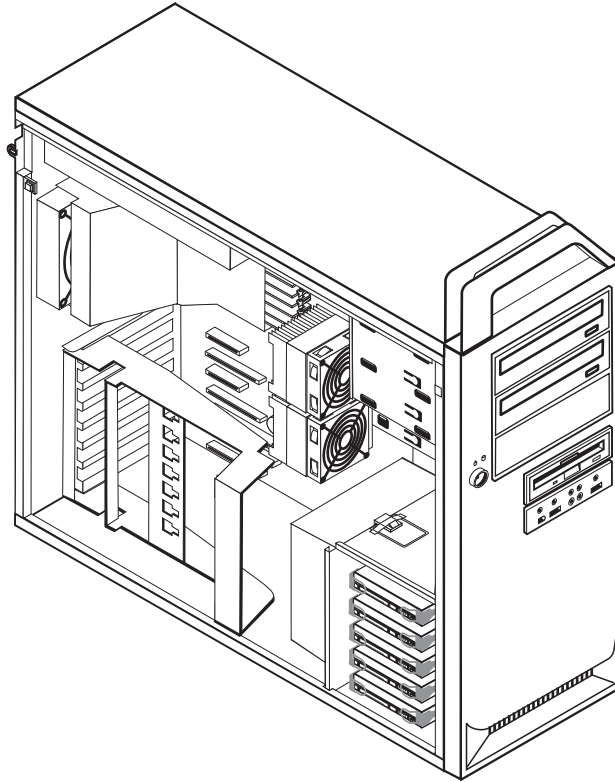
13. Replace the heat sink.

Note: You can reuse the heat sink without replacing the grease as long as the grease on the heat sink or the microprocessor has not been disturbed or contaminated. Be careful not to touch the heat sink or set the heat sink down to prevent the grease from coming in contact with any surface or contaminates.

14. Reconnect the heat sink fan cable.
15. Reconnect all the power supply cables to the drives and the system board.
16. Go to “Completing the FRU replacement” on page 158.

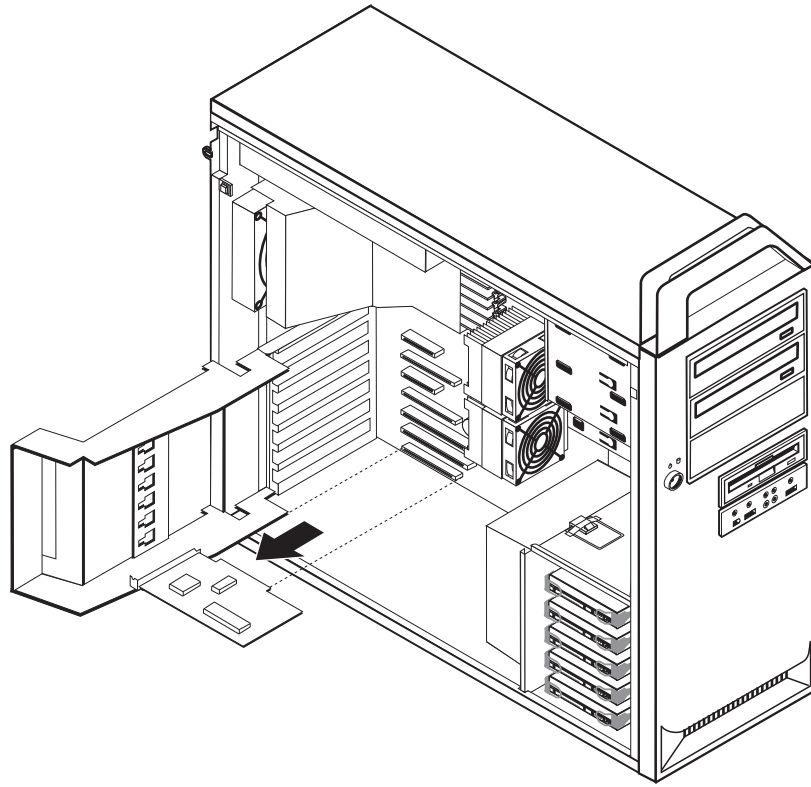
Replacing an adapter card

1. Turn off the computer and allow the computer to cool for 3-5 minutes.
2. Open the computer cover. See “Opening the cover” on page 130.
3. Unlatch and open the card retainer.



4. Take note of the location of all cable connections on the adapter card. It will be necessary to reconnect them properly when installing a new card.
5. Disconnect all cables connected to the adapter card. See “System board connectors and components” on page 129.
6. Some models have:
 - A screw installed in the adapter bracket, remove this screw.
 - An additional retention feature located on the card guide end. Push the retention feature toward the front of the chassis before removing the adapter card.
7. Release the card support retaining latches. Grasp the adapter card and pull the card out of the slot.

Note: The card is a tight fit, so it might be necessary to remove each side a little at a time until the card is removed from the card slot.



8. Reverse this procedure to install the card, and then proceed to the next step.
9. Go to “Completing the FRU replacement” on page 158.

Replacing the heat sink

CAUTION:



The heat sink and microprocessor might be very hot. Turn off the computer and wait three to five minutes to let the computer cool before opening the computer cover.

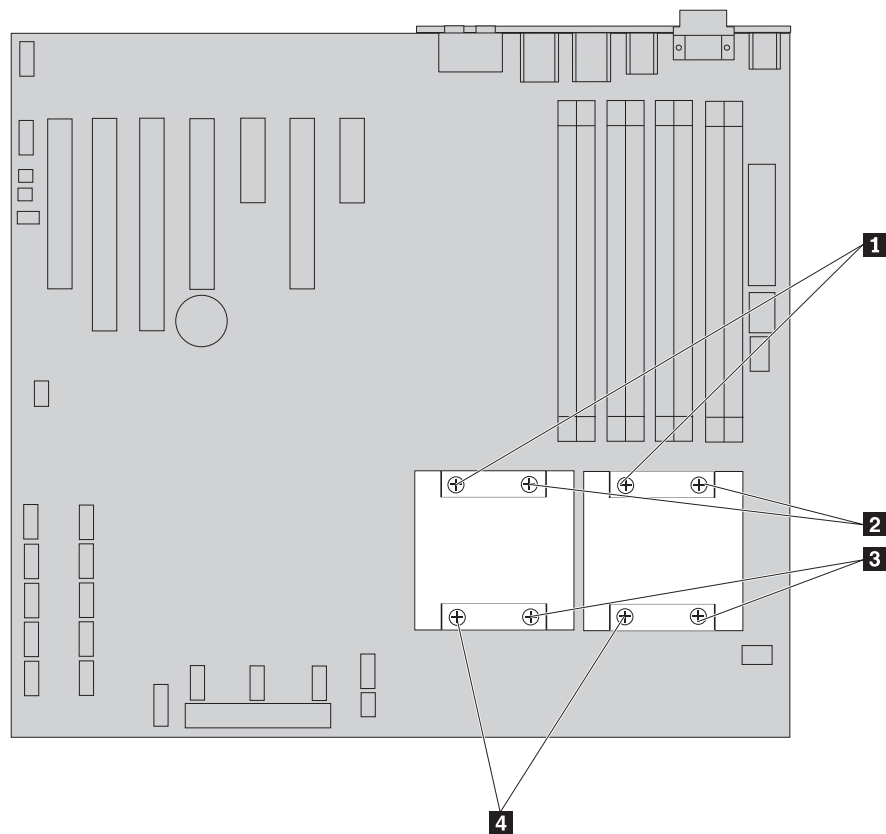
This section provides instructions on how to replace the heat sink.

To replace the heat sink:

1. Open the computer cover. See “Opening the cover” on page 130.
2. Lay the computer on its side for easier access to the heat sink.
3. Remove the heat sink and fan assembly cable from the system board. Note the cable location.

Follow this sequence to remove the heat sink from the system board:

- a. Partially remove screw **1**, then fully remove screw **3**, and fully remove screw **1**.
- b. Partially remove screw **2**, then fully remove screw **4**, and fully remove screw **2**.



Note: If you are removing the heat sink as part of a procedure to remove some other part, you can reuse the heat sink without replacing the grease as long as the grease on the heat sink or the microprocessor has not been disturbed or contaminated. Be careful not to touch the heat

sink or set the heat sink down to prevent the grease from coming in contact with any surface or contaminates.

4. Carefully lift the heat sink off of the system board.
5. Remove the plastic cover from the bottom of the new heat sink to expose the heat sink grease (this cover protects the heat sink grease from contamination).

Notes:

- a. Do not remove the plastic covering the grease until you are ready to install the heat sink on the microprocessor. Do not touch the grease and the heat sink. Do not put the heat sink anywhere except on the microprocessor after the plastic covering has been removed and the grease exposed.
 - b. Some heat sink part numbers will have orientation labels showing "Front of System." Heat Sinks that do not have orientation labels should be oriented so the fan cable is toward the board connector labeled "CPU Fan."
6. Place the new heat sink into position.

Important: Do not touch the thermal grease while handling the heat sink.

7. Align the screws on the heat sink with the mounting studs in the chassis.
8. Follow this sequence to install the screws, noting that fully tight is 5 in-lbs +/- 0.5 in-lbs:
 - a. Partially tighten screw **1**, then fully tighten screw **3**, and fully tighten screw **1**.
 - b. Partially tighten screw **2**, then fully tighten screw **4**, and fully tighten screw **2**.
9. Reconnect the heat sink and fan assembly cable. See "System board connectors and components" on page 129.
10. Go to "Completing the FRU replacement" on page 158.

Replacing the microprocessor

CAUTION:

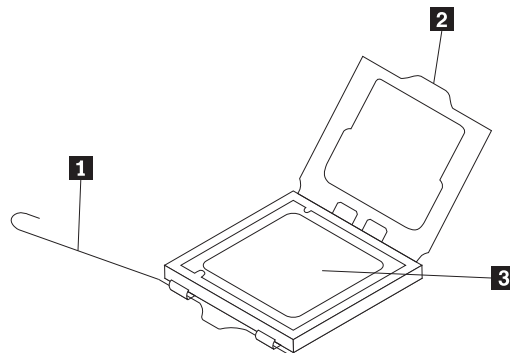


The heat sink and microprocessor might be very hot. Turn off the computer and wait three to five minutes to let the computer cool before opening the computer cover.

This section provides instructions on how to replace the microprocessor.

To replace the microprocessor:

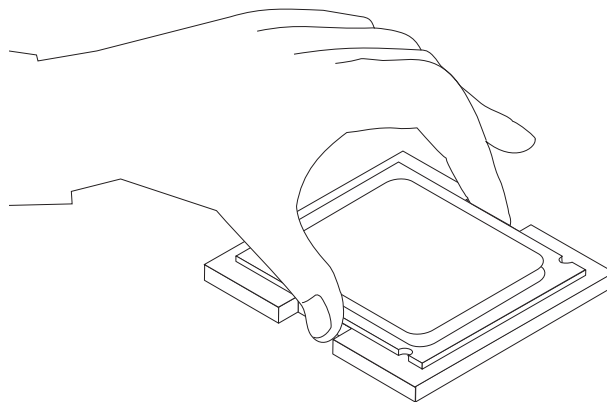
1. Open the computer cover. See “Opening the cover” on page 130.
2. Place the computer on its right side to help make the system board more accessible.
3. Remove the heat sink from the system board. See “Replacing the heat sink” on page 141.
4. To remove the microprocessor **3** from the system board, lift the small handle **1** and open the retainer **2**.



Important

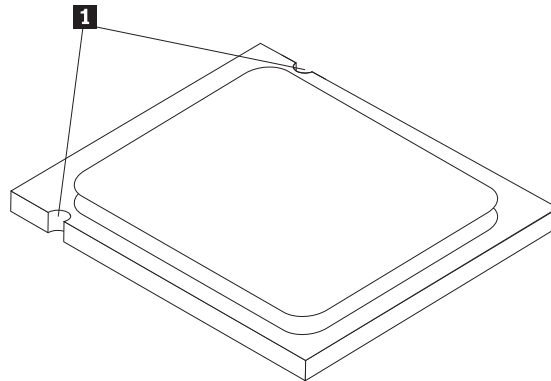
Touch only the sides of the microprocessor. Do not touch the gold contacts on the bottom.

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



Notes:

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

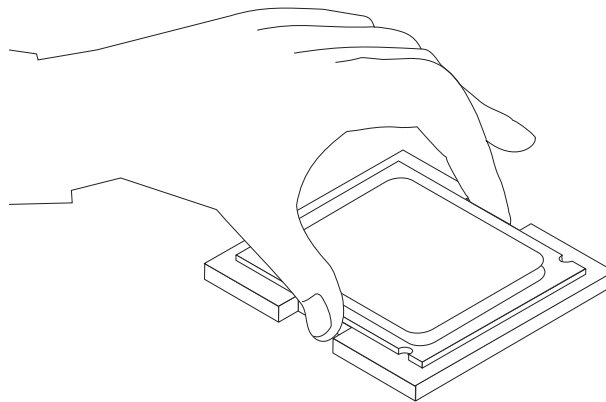


- b. Do not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.
6. Holding the microprocessor with your fingers, position the microprocessor so that the notches on the microprocessor are aligned with the tabs in the microprocessor socket.

Important

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

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



8. Place the heat sink into position and replace the 4 screws to secure the heat sink to the system board.
9. Reconnect the heat sink fan cable.
10. Go to "Completing the FRU replacement" on page 158.

Replacing the system board

This section provides instructions on how to replace the system board.

CAUTION:

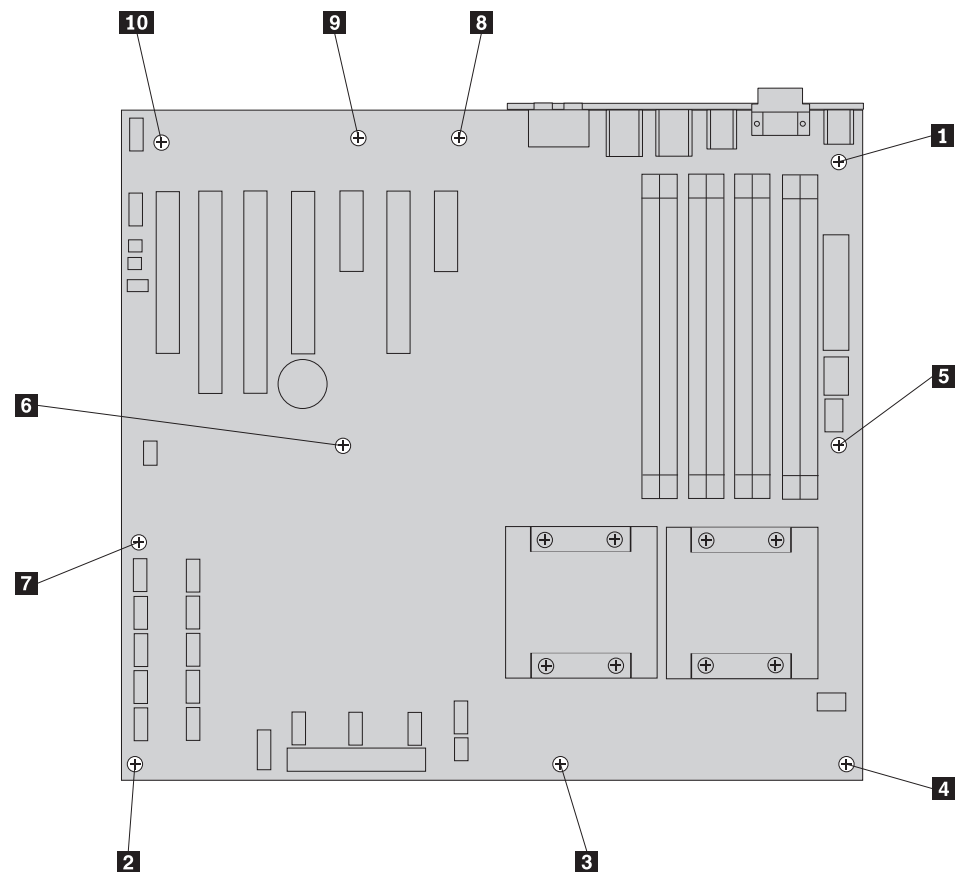


The heat sink and microprocessor might be very hot. Turn off the computer and wait three to five minutes to let the computer cool before opening the computer cover.

1. Open the computer cover. See “Opening the cover” on page 130.
2. Lay the computer on its side for easier access to the system board.
3. Remove any adapter cards installed in the PCI connectors. See “Replacing an adapter card” on page 139.
4. Note the location of all cable connections on the system board and disconnect all cables. See “System board connectors and components” on page 129.

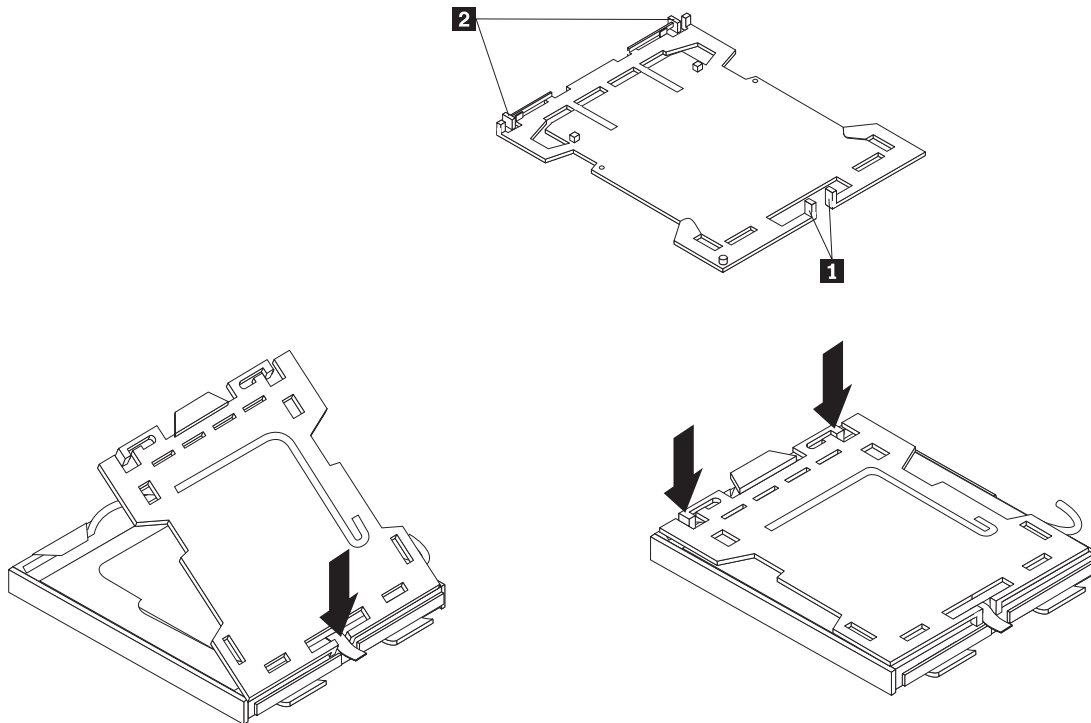
Note: The latches for the power connectors are not easily accessible using fingers. Use a tool such as a screwdriver or a pair of pliers to unlatch the connectors.

5. Remove the hard disk drive fan. See “Replacing a fan assembly” on page 156.
6. Remove the nine screws that secure the system board to the chassis following the sequence shown in the figure:



7. Lift the system board out of the chassis.
8. Remove the memory modules from the failing system board.

9. Remove the heat sink from the failing system board. See “Replacing the heat sink” on page 141.
10. Remove the microprocessor from the failing system board. See “Replacing the microprocessor” on page 107.
11. Remove the microprocessor socket cover from the new system board.
12. The failing system board must be returned with a microprocessor socket cover to protect the pins during shipping and handling. Install the microprocessor socket cover removed from the new system board on the failing system board.
To install the microprocessor socket cover:
 - a. Make sure the microprocessor has been removed from the microprocessor socket, and then close the microprocessor retainer and lock it into position with the small handle.
 - b. Insert the tabs **1** of the socket cover into the hinged side of the socket, and then press the other side of the socket cover downward until the tabs **2** snap into position.



13. 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 following the sequence shown in the figure above.
14. Install the memory modules on the new system board.
15. Install the microprocessor in the new system board. See “Replacing the microprocessor” on page 107
16. Install the heat sink and fan assembly on the new system board. See “Replacing the heat sink” on page 141.
17. Connect the heat sink and fan assembly cable to the new system board. See “System board connectors and components” on page 129.
18. Install the hard disk drive fan. See “Replacing a fan assembly” on page 156.

19. Connect all cables to the system board. See the system board illustration for your machine type at “System board connectors and components” on page 129.
20. Go to “Completing the FRU replacement” on page 158.

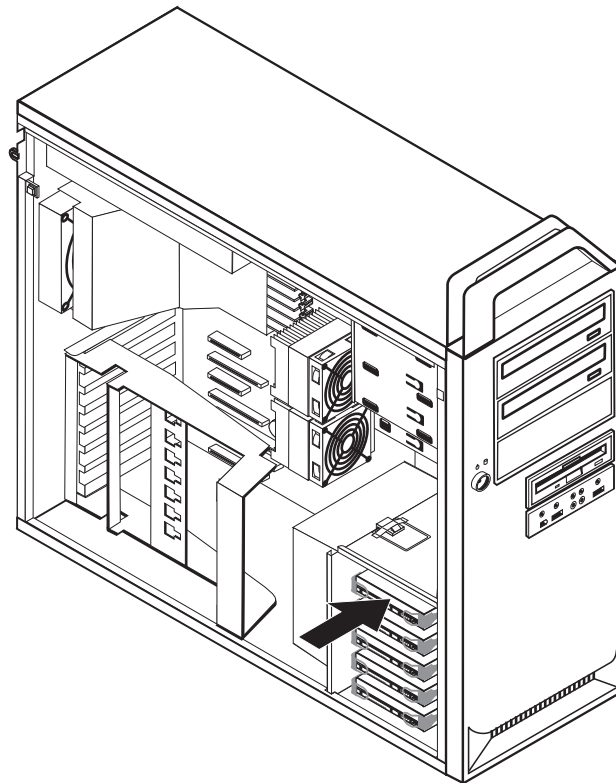
Replacing a hard disk drive

This section provides instructions on how to replace the hard disk drive.

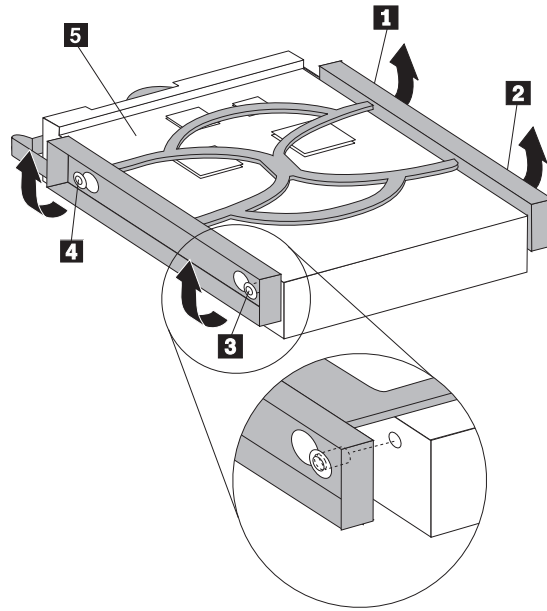
Note: When replacing a hard disk drive in a raid configured array, depending on which type of array is used, rebuilding the raid array might be required. If the array is redundant, make sure to connect the new drive to the same port from which the replaced drive was removed.

To replace the hard disk drive:

1. Open the computer cover. See “Opening the cover” on page 130.
2. Disconnect the signal and power cables from the hard disk drive.
3. Pull the handle to remove the hard disk drive.



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

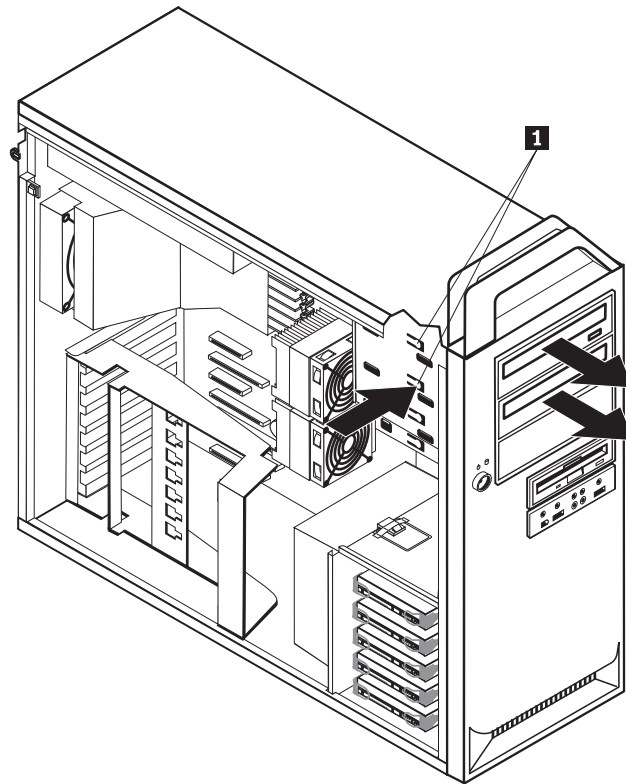


6. Install the hard disk drive and bracket into the drive bay.
7. Connect the signal and power cables to the rear of the new hard disk drive.
8. Go to “Completing the FRU replacement” on page 158.

Replacing an optical drive

This section provides instructions on how to replace the optical drive.

1. Open the computer cover. See “Opening the cover” on page 130.
2. Remove the front bezel. See “Removing the front bezel” on page 132.
3. Locate the optical-drive connectors. See “System board connectors and components” on page 129.
4. Note the location of the optical-drive cables. Disconnect the signal and power cables from the rear of the optical drive.
5. Press the drive latch **1** (for the drive you want to remove) and slide the optical-drive from the chassis.

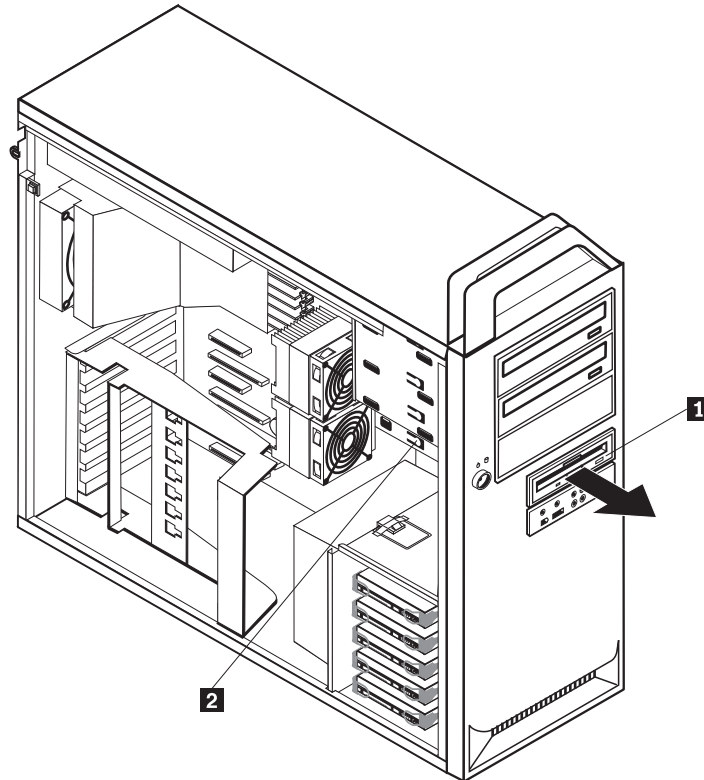


6. Install the new optical-drive from the front of the drive-bay assembly. Slide the optical-drive toward the rear of the chassis to lock the drive into position.
7. Connect the flat cable to the new optical-drive.
8. Go to “Completing the FRU replacement” on page 158.

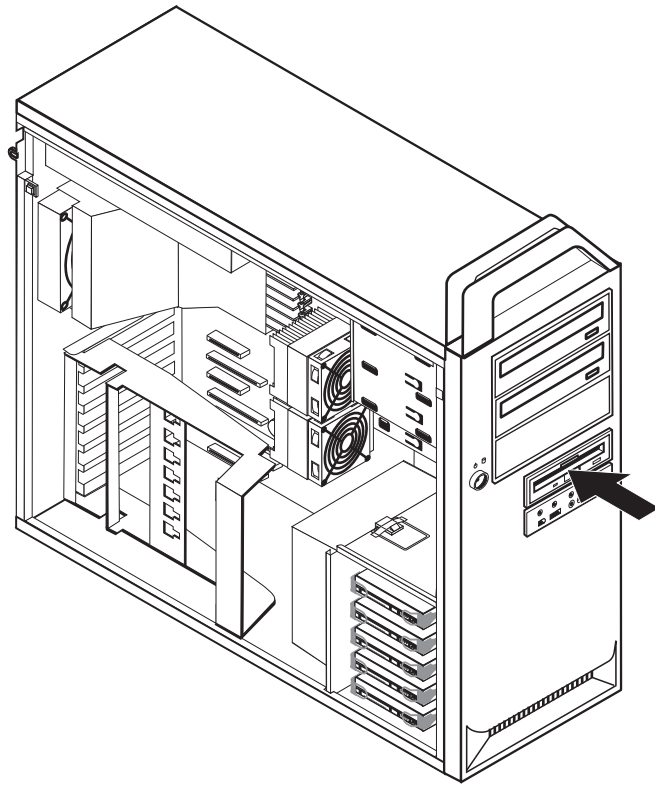
Replacing the diskette drive or optional card reader

This section provides instructions on how to replace the diskette drive or card reader.

1. Open the computer cover. See “Opening the cover” on page 130.
2. Locate the drive or card reader cable connectors. See “System board connectors and components” on page 129.
3. Note the location of the drive or card reader cables. Disconnect the drive or card reader cables from the system board.
4. Press the drive latch **2** and slide the drive or card reader from the chassis.



5. Disconnect the flat cable from the rear of the failing diskette drive or card reader.
6. Connect the flat cable to the new diskette drive or card reader.
7. Install the new drive into the drive-bay assembly and lock the drive or card reader into position.



8. Go to “Completing the FRU replacement” on page 158.

Replacing a memory module

This section provides instructions on how to replace a memory module.

Your computer has eight slots for installing or replacing DDR2 DIMMs (double data rate 2 dual inline memory modules).

When installing or replacing memory modules, use the following guidelines:

- Install the DIMMs in identical pairs, which means the DIMMs of a pair should be the same size, speed, and organization.

Examples:

Correct: 2 GB PC2-5300 2Rx4 + 2 GB PC2-5300 2Rx4

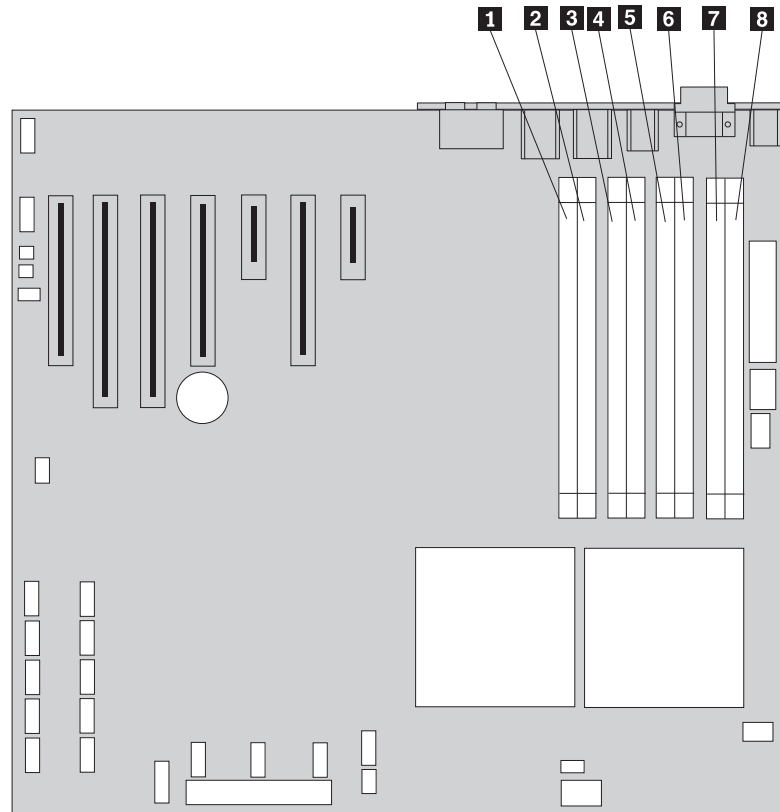
Incorrect: 2 GB PC2-5300 2Rx4 + 2 GB PC2-5300 2Rx8

Incorrect: 2 GB PC2-5300 2Rx4 + 1 GB PC2-5300 2Rx4

Note: If the size, speed, or organization of two DIMMs in one pair is different, the second DIMM will be invalid.

- The two DIMMs of a pair must be identical, but one pair can differ from another pair.
- DIMM Slot **1** is closest to the graphic cards, and DIMM Slot **8** is closest to the power supply.

Install DIMMs in the following order, as shown in the figure below:

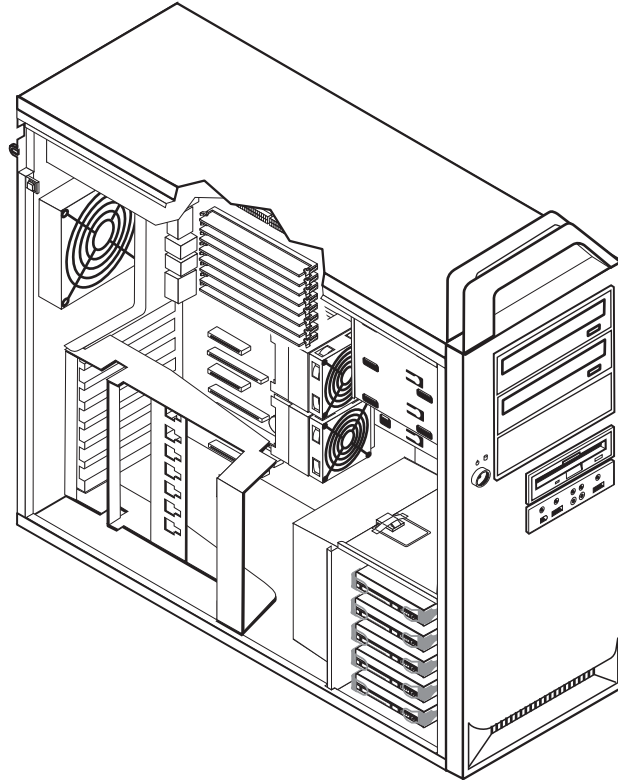


1. Install the first identical pair: DIMM **1** and DIMM **3**.
2. Install the second identical pair: DIMM **5** and DIMM **7**.
3. Install the third identical pair: DIMM **2** and DIMM **4**.
4. Install the fourth identical pair: DIMM **6** and DIMM **8**.

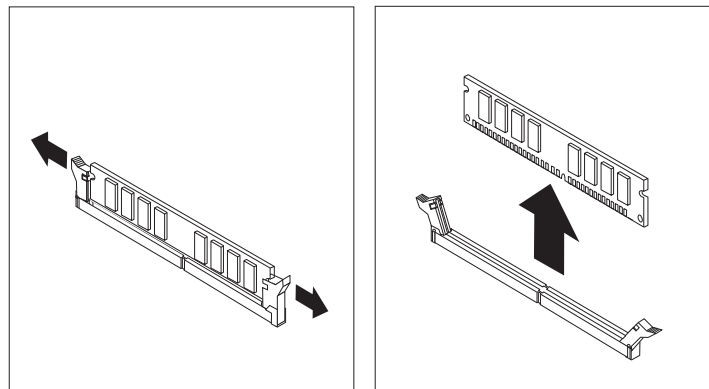
- It is valid to install only one DIMM in DIMM slot **1**.

To replace a memory module, do the following:

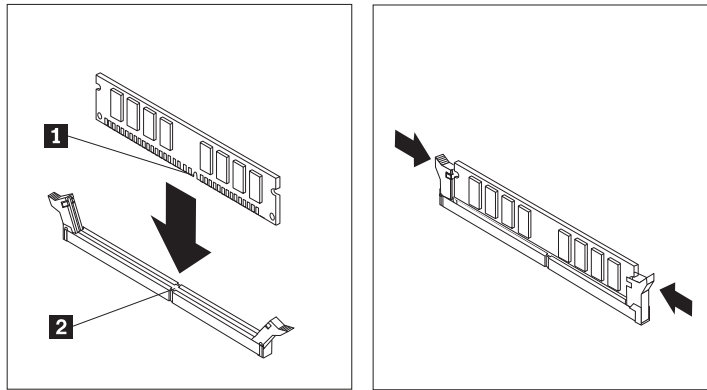
1. Open the computer cover. See “Opening the cover” on page 130.
2. Locate the memory module slots. See “System board connectors and components” on page 129.
3. Remove any parts that might prevent access to the memory slots.



4. Open the retaining clips and remove the memory module.



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

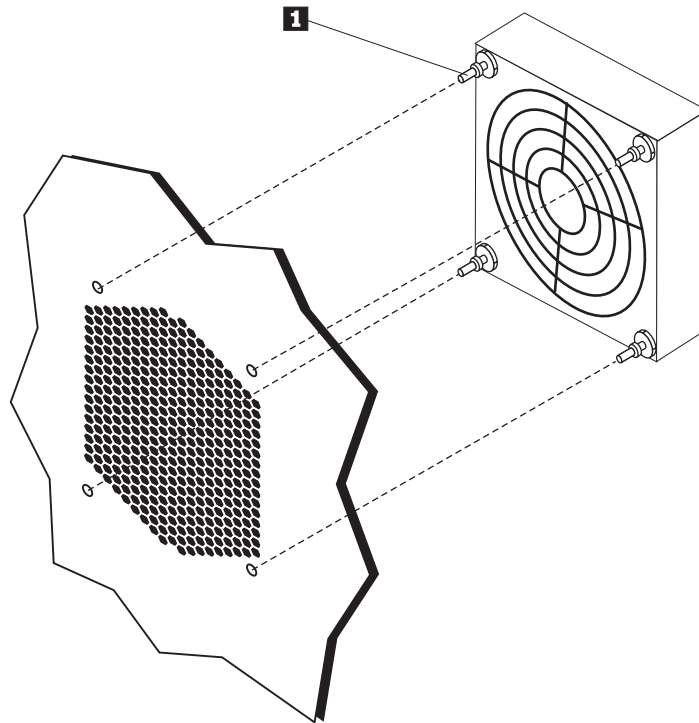


6. Go to “Completing the FRU replacement” on page 158.

Replacing a fan assembly

This section provides instructions on how to replace the fan assembly. These removal instructions apply to the both the front fan and the rear fan.

1. Open the computer cover. See “Opening the cover” on page 130.
2. Note the routing of the fan-assembly wiring. See “System board connectors and components” on page 129. Disconnect the fan-assembly-wiring connector from the system board.
3. Remove the adapter cards to access the fans. See “Accessing system board components and drives” on page 133.
4. If you are replacing the front fan, remove the fan bracket .
5. Remove the fan assembly by releasing the fan grommets **1**. Then remove the fan and wiring.

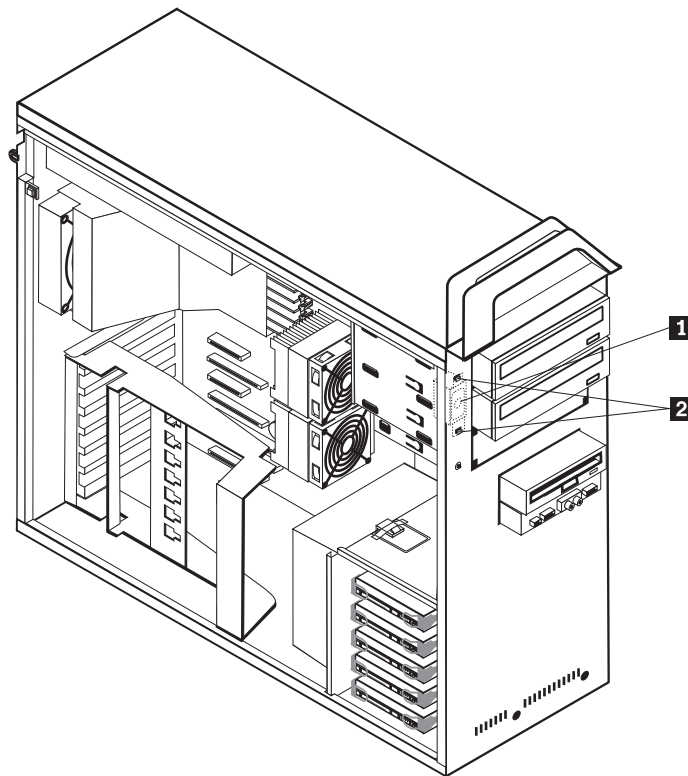


6. Install the new fan assembly using the grommets **1**, route the wiring, and then connect the fan-wiring connector to the system board. .See “System board connectors and components” on page 129.
7. If you are installing the front fan, reinstall the fan bracket.
8. Reinstall any adapter cards that were removed. See “Replacing an adapter card” on page 139.
9. Go to “Completing the FRU replacement” on page 158.

Replacing the internal speaker

This section provides instructions on how to replace the internal speaker.

1. Open the computer cover. See “Opening the cover” on page 130.
2. Remove the front bezel. See “Removing the front bezel” on page 132.
3. Locate the internal-speaker connector on the system board. See “System board connectors and components” on page 129.
4. Note the location of the internal-speaker cable connection. Note the routing of the internal-speaker cable. Disconnect the internal-speaker cable and the switch LED cable from the system board.
5. Disengage the internal-speaker-locking tabs **2** and slide that side of the speaker **1** downward to remove.



6. Remove the speaker and speaker cable from the computer.
7. Route the speaker cable and then position the new internal-speaker tabs **2** into the metal speaker slots and then push the internal speaker downward until the speaker-locking tabs snap into position.
8. Connect the speaker cable to the system board. See “System board connectors and components” on page 129.
9. Go to “Completing the FRU replacement” on page 158.

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.

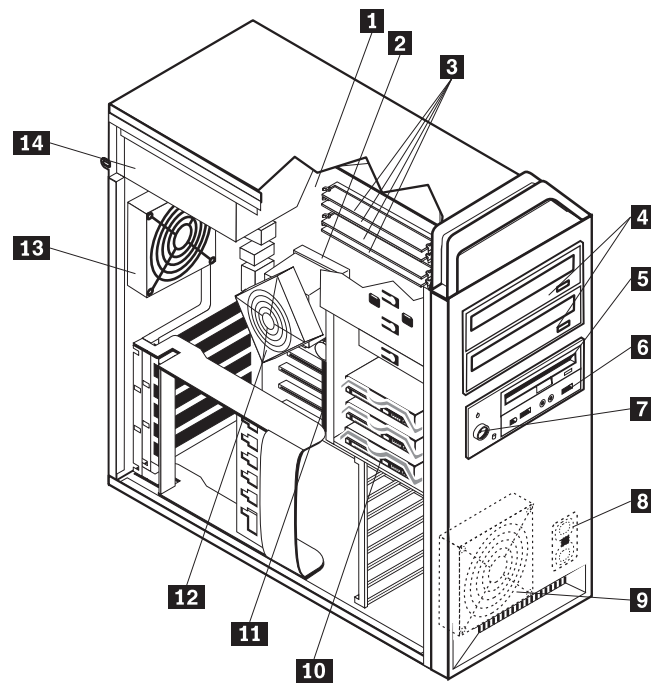
Note: When the power cord is first plugged in, the computer might appear to turn on for a few seconds and then turn off. This is a normal sequence to enable the computer to initialize.

Chapter 11. FRU lists

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

Note: In the following tables, a CRU (Customer Replaceable Unit) is identified as either "1", "2", or "N" in the CRU column. "N" means that the part is not a CRU, "1" means that the part is a Self-service CRU, and "2" means that the part is an Optional-service CRU.

Machine Type 6423



Item #	6423 FRUs	FRU#	CRU Tier
1	System Board, Islay Intel Socket-T, X38, ICH9R (SDV-Level) (models 26M 26A 26Q 26T 26K 26R 26E 26J 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 26U 26F 26G 27U 27F 27G 28U 28G 28F 29U 29F 29G 31U 31F 31G 32U 32F 32G 33U 33F 33E 33J 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 41M 41A 41Q 41T 41K 41R 42M 42A 42Q 42T 42K 42R 43M 43A 43Q 43T 43K 43R 44M 44K 44R 45G 46G 47G 48G 49U 49F 51U 51F 52U 52F 53U 53F 54U 54F 55U 55F 56U 56F 57U 57F 58U 58F 58M 58E 58J 59U 59F 59M 59E 59J 61U 61F 61M 61E 61J 62M 62E 62J 63M 63E 63J 64M 64E 64J 65G 66G 67U 67F 67G 68U 68F 68G 69U 69F 69G 71G 72U 72F)	71Y4884	N
2	Microprocessor, Intel Core 2 Duo E6550 - 2.33GHz, 2MBx2 L2, 1333MHz FSB (models CTO 42M 42A 42Q 42T 42K 42R)	43C3833	N
2	Microprocessor, Intel Core 2 Duo E6750 - 2.66GHz, 2MBx2 L2, 1333MHz FSB, G0 (models 26M 26A 26Q 26T 26K 26R 26E 26J 26U 26F 26G 43M 43A 43Q 43T 43K 43R 49U 49F)	43C1693	N

Item #	6423 FRUs	FRU#	CRU Tier
2	Microprocessor, Intel Core 2 Duo E6850 - 3.00GHz, 2MBx2 L2, 1333MHz FSB, G0 (models 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 29M 29A 29Q 29T 29K 29R 29E 29J 27U 27F 27G 28U 28G 28F 29U 29F 29G 33U 33F 33E 33J 34U 34F 34E 34J 35U 35F 35E 35J 37U 37F 37E 37J 51U 51F 52U 52F 53U 53F)	43C1694	N
2	Microprocessor, Intel Core 2 Quad Q6600 - 2.40GHz, 4MBx2 L2, 1066MHz FSB, G0 (models 31M 31A 31Q 31T31K 31R 31E 31J 31U 31F 31G 41A 41Q 41T 41K 41R 54U 54F)	43C1695	N
2	Microprocessor, Intel Core 2 Quad Q6700 - 2.66GHz, 4MBx2 L2, 1066MHz FSB, G0 (models 32M 32A 32Q 32T 32K 32R 32E 32J 32U 32F 32G 44M 44K 44R 55U 55F 62M 62E 62J)	43C6309	N
2	Microprocessor, Intel Core 2 Extreme X6800 - 2.93GHz, 2MBx2 L2, 1066MHz FSB, G0 (models CTO 36U 36F 36E 36J)	43C9271	N
2	Microprocessor, Intel Core 2 Extreme QX6850 - 3.00GHz, 4MBx2 L2, 1333MHz FSB, G0 (models CTO 38U 38F 38E 38J)	43C9580	N
2	Microprocessor, Intel Core 2 Duo E8500 - 3.16GHz, 6MB L2, 1333MHz FSB (models CTO)	45C7735	N
2	Microprocessor, Intel Core 2 Duo E8400 - 3.00GHz, 6MB L2, 1333MHz FSB (models CTO 45G 46G 47G 48G 59U 59F 59M 59E 59J)	45C7736	N
2	Microprocessor, Intel Core 2 Duo E8300 - 2.83GHz, 6MB L2, 1333MHz FSB (models CTO)	45C7737	N
2	Microprocessor, Intel Core 2 Duo E8200 - 2.66GHz, 6MB L2, 1333MHz FSB (models 61U 61F 61M 61E 61J 73M 73A 73Q 73T 73K 73R)	45C7738	N
2	Microprocessor, Intel Core 2 Quad Q9550 - 2.83GHz, 12MB L2, 1333MHz FSB (models CTO 56U 56F 69U 69F 69G)	45C7739	N
2	Microprocessor, Intel Core 2 Quad Q9450 - 2.66GHz, 12MB L2, 1333MHz FSB (models CTO 57U 57F 63M 63E 63J 66G 67U 67F 67G 68U 68F 68G)	45C7740	N
2	Microprocessor, Intel Core 2 Quad Q9300 - 2.50GHz, 12MB L2, 1333MHz FSB (models CTO 65G 74M 74A 74Q 74T 74K 74R)	45C7741	N
2	Microprocessor, Intel Core 2 Extreme QX9650 - 3.00GHz, 12MB L2, 1333MHz FSB (models CTO 64M 64E 64J 71G 72U 72F)	45R2316	N
3	Memory module, 1GB DDR3 ECC UDIMM PC3-8500 (1066MHz) (models 26M 26A 26Q 26T 26K 26R 26E 26J 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 26U 26F 26G 27U 27F 27G 28U 28G 28F 29U 29F 29G 31U 31F 31G 32U 32F 32G 33U 33F 33E 33J 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 41M 41A 41Q 41T 41K 41R 43M 43A 43Q 43T 43K 43R 45G 46G 47G 48G 49U 49F 51U 51F 52U 52F 53U 53F 54U 54F 55U 55F 56U 56F 57U 57F 58U 58F 58M 58E 58J 59U 59F 59M 59E 59J 61U 61F 61M 61E 61J 62M 62E 62J 63M 63E 63J 64M 64E 64J 65G 66G 67U 67F 67G 73M 73A 73Q 73T 73K 73R 74M 74A 74Q 74T 74K 74R)	43C1705	2
3	Memory module, 2GB DDR3 ECC UDIMM PC3-8500 (1066MHz) (models CTO 44M 44K 44R 68U 68F 68G 69U 69F 69G 71G 72U 72F)	43C1706	2

Item #	6423 FRUs	FRU#	CRU Tier
4	Optical drive, DVD Burner/CD-RW Rambo 8 (SATA) (models 26M 26A 26Q 26T 26K 26R 26E 26J 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 26U 26F 26G 27U 27F 27G 28U 28G 28F 29U 29F 29G 31U 31F 31G 32U 32F 32G 33U 33F 33E 33J 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 41M 41A 41Q 41T 41K 41R 43M 43A 43Q 43T 43K 43R 44M 44K 44R 45G 46G 47G 48G 49U 49F 51U 51F 52U 52F 53U 53F 54U 54F 55U 55F 56U 56F 57U 57F 58U 58F 58M 58E 58J 59U 59F 59M 59E 59J 61U 61F 61M 61E 61J 62M 62E 62J 63M 63E 63J 65G 66G 67U 67F 67G 68U 68F 68G 69U 69F 69G 71G 72U 72F 73M 73A 73Q 73T 73K 73R 74M 74A 74Q 74T 74K 74R)	43C1042	2
4	Optical drive, DVD-ROM Drive - 16x/48x (SATA) (models CTO 42M 42A 42Q 42T 42K 42R)	43C1040	2
4	Optical drive, DVD-ROM Drive - 16x/48x (SATA) (models CTO 42M 42A 42Q 42T 42K 42R)	41N3325	2
4	Optical drive, DVD-ROM Drive - 16x/48x (SATA) (models CTO 42M 42A 42Q 42T 42K 42R)	42Y6324	2
4	Optical drive, Blu-Ray DVD Burner (SATA) (models CTO 37U 37F 37E 37J 38U 38F 38E 38J 64M 64E 64J)	43C9584	2
4	Optical drive, DVD Burner/CD-RW Rambo 8 (SATA) (models 26M 26A 26Q 26T 26K 26R 26E 26J 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 26U 26F 26G 27U 27F 27G 28U 28G 28F 29U 29F 29G 31U 31F 31G 32U 32F 32G 33U 33F 33E 33J 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 41M 41A 41Q 41T 41K 41R 43M 43A 43Q 43T 43K 43R 44M 44K 44R 45G 46G 47G 48G 49U 49F 51U 51F 52U 52F 53U 53F 54U 54F 55U 55F 56U 56F 57U 57F 58U 58F 58M 58E 58J 59U 59F 59M 59E 59J 61U 61F 61M 61E 61J 62M 62E 62J 63M 63E 63J 65G 66G 67U 67F 67G 68U 68F 68G 69U 69F 69G 71G 72U 72F 73M 73A 73Q 73T 73K 73R 74M 74A 74Q 74T 74K 74R)	43C1043	2
5	Diskette drive kit (includes diskette drive, bezel, and cable) (models 23U 23G 24U 24G)	TBD	2
5	Diskette drive, 3.5" 1.44MB 2-Mode (models 23U 23G 24U 24G)	40Y9105	2
5	Diskette drive, 3.5" 1.44MB 2-Mode (models 23U 23G 24U 24G)	40Y9107	2
6	Front USB/Audio assembly (all models)	41R5612	2
7	Power switch/LED assembly (all models)	41R5496	2
8	Internal speaker and cable Asm (all models)	41R5494	2
9	Fan Asm, 92 mm Front PCI (all models)	41R5595	2
10	Hard disk drive, 160GB 7200rpm SATA (models 32U 32F 32G 41M 41A 41Q 41T 41K 41R 42M 42A 42Q 42T 42K 42R 44M 44K 44R 55U 55F 65G)	40Y9035	2
10	Hard disk drive, 250GB 7200rpm SATA (models 21M 21A 21Q 21K 21R 21E 21J 26M 26A 26Q 26T 26K 26R 26E 26J 27M 27A 27Q 27T 27K 27R 27E 27J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 26U 26F 26G 27U 27F 27G 29U 29F 29G 31U 31F 31G 33U 33F 33E 33J 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 43M 43A 43Q 43T 43K 43R 45G 46G 47G 48G 49U 49F 51U 51F 53U 53F 54U 54F 56U 56F 57U 57F 58U 58F 58M 58E 58J 59U 59F 59M 59E 59J 62M 62E 62J 63M 63E 63J 66G 67U 67F 67G 68U 68F 68G 73M 73A 73Q 73T 73K 73R 74M 74A 74Q 74T 74K 74R)	40Y9036	2
10	Hard disk drive, 500GB 7200rpm SATA (models CTO 69U 69F 69G 71G 72U 72F)	41X5582	2
10	Hard disk drive, 73GB SAS - 15000 rpm, 3 Gb/s, 32MB cache (models CTO)	43C6967	2
10	Hard disk drive, 73GB SAS - 15000 rpm, 3 Gb/s, 32MB cache (models)	45K0607	2
10	Hard disk drive, 750GB SATA - 7200 rpm, 3 Gb/s (models CTO)	43C3671	2

Item #	6423 FRUs	FRU#	CRU Tier
10	Hard disk drive, 1000GB (1TB) SATA - 7200 rpm, 3 Gb/s (models)	45C5973	2
10	Hard disk drive, 146GB SAS - 15000 rpm, 3 Gb/s, 32MB cache (models 22M 22A 22Q 22K 22R 22E 22J 28M 28A 28Q 28T 28K 28R 28E 28J 28U 28G 28F 52U 52F 61U 61F 61M 61E 61J 64M 64E 64J)	45K0608	2
10	Hard disk drive, 300GB SAS - 15000 rpm, 3 Gb/s, 32MB cache (models CTO)	45K0609	2
11	Hard disk drive fan and bracket Asm, 70x25 (all models)	41R5477	2
12	Fan sink, Copper Slug, Martell (all models)	41R5479	2
12	Heat Sink, Acoustic Solution (all models)	41R5540	2
13	Rear fan (all models)	41R5484	2
14	Power supply, 650W (models 26M 26A 26Q 26T 26K 26R 26E 26J 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 26U 26F 26G 27U 27F 27G 28U 28G 28F 29U 29F 29G 31U 31F 31G 32U 32F 32G 33U 33F 33E 33J 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 41M 41A 41Q 41T 41K 41R 42M 42A 42Q 42T 42K 42R 43M 43A 43Q 43T 43K 43R 44M 44K 44R 45G 46G 47G 48G 49U 49F 51U 51F 52U 52F 53U 53F 54U 54F 55U 55F 56U 56F 57U 57F 58U 58F 58M 58E 58J 59U 59F 59M 59E 59J 61U 61F 61M 61E 61J 62M 62E 62J 63M 63E 63J 64M 64E 64J 65G 66G 67U 67F 67G 68U 68F 68G 69U 69F 69G 71G 72U 72F 73M 73A 73Q 73T 73K 73R 74M 74A 74Q 74T 74K 74R)	41A9745	2

The FRUs listed in the following tables are not illustrated.

6423 FRUs	FRU#	CRU Tier
Diskette drive cable (all models)	41N8294	2
SATA Cable (optical disk drive) (all models)	41R5481	2
SATA Cable (hard disk drive) (all models)	41N8298	2
Cable Asm, SAS HDD (all models)	41R5482	2
Handle with screws (all models)	41R5490	1
Mechanical shell kit (all models)	41R5491	N
Miscellaneous Parts (all models)	41R5493	2
Cable Asm, Cover Detect Switch (all models)	41R5497	2
Serial Port Cable (all models)	41R5544	2
Label kit (all models)	41R5549	1
System board Screw Kit (all models)	41R5547	2
Cable Asm, SAS Controller HDD LED (all models)	41R5556	2
Thermal Sense Cable (all models)	41R2511	2
Martell Bezel Kit (all models)	41R5610	2
Martell Miscellaneous Parts Kit (all models)	41R5614	2
EMC Shield Asm, Islay motherboard (all models)	41R5623	2
Martell Access Cover asm with tape (all models)	41R5670	2

6423 Keyboards (PS2 Preferred Pro)	FRU#	CRU Tier
US English (models)	41A5039	1
Arabic (models)	41A5040	1

6423 Keyboards (PS2 Preferred Pro)	FRU#	CRU Tier
Arabic/French (models)	41A5041	1
Belgian/French (models)	41A5042	1
Belgian/UK (models)	41A5043	1
Bulgarian (models)	41A5045	1
Hong Kong/Taiwan (models)	41A5046	1
Czech (models)	41A5047	1
Danish (models)	41A5048	1
Dutch (models)	41A5049	1
French (models)	41A5050	1
French Canadian 445 (models)	41A5051	1
French Canadian 58 (models)	41A5052	1
German (models)	41A5053	1
Greek (models)	41A5054	1
Hebrew (models)	41A5055	1
Hungarian (models)	41A5056	1
Iceland (models)	41A5057	1
Italian (models)	41A5058	1
Japanese (models)	41A5059	1
Korean (models)	41A5060	1
LA Spanish (models)	41A5061	1
Norwegian (models)	41A5062	1
Polish (models)	41A5063	1
Portuguese (models)	41A5064	1
Romanian (models)	41A5065	1
Russian/Cyrilic (models)	41A5066	1
Serbian/Cyrilic (models)	41A5067	1
Slovak (models)	41A5068	1
Spanish (models)	41A5069	1
Swedish/Finn (models)	41A5070	1
Swiss F/G (models)	41A5071	1
Thailand (models)	41A5072	1
Turkish 440 (models)	41A5073	1
Turkish 179 (models)	41A5074	1
UK English (models)	41A5075	1
US Euro (models)	41A5076	1
Slovenian (models)	41A5077	1
Brazil/Portuguese (models)	41A5044	1

6423 Keyboards (Lenovo Productivity -USB)	FRU#	CRU Tier
US English (models 26M 26A 26Q 26R 26E 27M 27A 27Q 27R 27E 28M 28A 28Q 28R 28E 29M 29A 29Q 29R 29E 31M 31A 31Q 31R 31E 32M 32A 32Q 32R 32E 26U 26G 27U 27G 28U 28G 29U 29G 31U 31G 32U 32G 33U 34U 35U 36U 37U 38U 49U 51U 52U 53U 54U 55U 33E 34E 35E 36E 37E 38E 41M 41A 41Q 41R 42M 42A 42Q 43M 43A 43Q 44M 41R 42R 43R 44R 45G 46G 47G 48G 56U 57U 58U 58M 58E 59U 59M 59E 61U 61M 61E 62M 62E 63M 63E 64M 64E 65G 66G 67U 67G 68U 68G 69U 69G 71G 72U 73M 73A 73Q 73R 74M 74A 74Q 74R)	41A5289	1
Arabic (models)	41A5290	1
Arabic/French (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5291	1
Belgian/French (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5292	1
Belgian/UK (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5293	1
Brazilian (models 226G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5294	1
Bulgarian (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5295	1
Hong Kong/Taiwan (models)	41A5296	1
Czech (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5297	1
Danish (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5298	1
Dutch (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5299	1
French (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5300	1
French Canadian 445 (models 26F 27F 28F 29F 31F 32F 33F 34F 35F 36F 37F 38F 49F 51F 52F 53F 54F 55F 56F 57F 59F 61F 67F 68F 69F 72F)	41A5301	1
French Canadian 58 (models 26F 27F 28F 29F 31F 32F 33F 34F 35F 36F 37F 38F 49F 51F 52F 53F 54F 55F 56F 57F 59F 61F 67F 68F 69F 72F)	41A5302	1
German (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5303	1
Greek (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5304	1
Greek/US (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5305	1
Hebrew (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5306	1
Hungarian (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5307	1
Iceland (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5308	1
Italian (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5309	1
Japanese (models 26J 27J 28J 29J 31J 32J 33J 34J 35J 36J 37J 38J 58J 59J 61J 62J 63J 64J)	41A5310	1
Korean (models 26K 27K 28K 29K 31K 32K 41K 42K 43K 44K 73K 74K)	41A5311	1
LA Spanish (models)	41A5312	1
Norwegian (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5313	1
Polish (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5314	1
Portuguese (models 2 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5315	1

6423 Keyboards (Lenovo Productivity -USB)	FRU#	CRU Tier
Romanian 096 (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5317	1
Romanian 446 (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5316	1
Russian/Cyrillic (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5318	1
Serbian/Cyrillic (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5319	1
Slovak (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5320	1
Spanish (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5321	1
Swedish/Finnish (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5322	1
Swiss French/German (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5323	1
Thailand (models 26T 27T 28T 29T 31T 32T 73T 74T)	41A5324	1
Turkish 440 (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5325	1
Turkish 179 (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5326	1
UK English (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5327	1
US Euro (models)	41A5328	1
Slovenian (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	41A5329	1

6423 Keyboards (Preferred Pro Fingerprint Reader USB)	FRU#	CRU Tier
US English (models)	41A5248	1
Arabic (models)	41A5249	1
Arabic/French (models)	41A5250	1
Belgian/French (models)	41A5251	1
Belgian/UK (models)	41A5252	1
Brazil/Portuguese (models)	41A5253	1
Bulgarian (models)	41A5254	1
Czech (models)	41A5256	1
Danish (models)	41A5257	1
Dutch (models)	41A5258	1
French (models)	41A5259	1
French Canadian 445 (models)	41A5260	1
French Canadian 58 (models)	41A5261	1
German (models)	41A5262	1
Greek (models)	41A5263	1
Greek/US (models)	41A5264	1

6423 Keyboards (Preferred Pro Fingerprint Reader USB)	FRU#	CRU Tier
Hebrew (models)	41A5265	1
Hungarian (models)	41A5266	1
Iceland (models)	41A5267	1
Italian 141 (models)	41A5268	1
Japanese (models)	41A5269	1
Korean (models)	41A5270	1
LA/Spanish (models)	41A5271	1
Norwegian (models)	41A5272	1
Polish (models)	41A5273	1
Portuguese (models)	41A5274	1
Romanian 096 (models)	41A5275	1
Romanian 446 (models)	41A5276	1
Russian/Cyrillic (models)	41A5277	1
Serbian/Cyrillic (models)	41A5278	1
Slovak (models)	41A5279	1
Spanish (models)	41A5280	1
Swedish/Finn (models)	41A5281	1
Swiss (models)	41A5282	1
Thailand (models)	41A5283	1
Turkish 440 (models)	41A5284	1
Turkish 179 (models)	41A5285	1
UK English (models)	41A5286	1
US Euro (models)	41A5287	1
Slovenian (models)	41A5288	1

6423 Keyboards (Wireless)	FRU#	CRU Tier
US English (models)	41A5219	1
Belgium French (models)	41A5220	1
Belgium English (models)	41A5221	1
Chinese/US (models)	41A5222	1
Czech (ABB) (models)	41A5223	1
Danish (models)	41A5224	1
Dutch (models)	41A5225	1
French (models)	41A5226	1
French Canadian (models)	41A5227	1
French Canadian (models)	41A5228	1
German (models)	41A5229	1
Greek (models)	41A5230	1
Greek/US (models)	41A5231	1
Hungarian (models)	41A5232	1
Iceland (models)	41A5233	1

6423 Keyboards (Wireless)	FRU#	CRU Tier
Italy (models)	41A5234	1
Japanese (models)	41A5235	1
Norwegian (models)	41A5236	1
Polish (models)	41A5237	1
Portugese (models)	41A5238	1
Slovak (models)	41A5239	1
Spanish (models)	41A5240	1
Swedish/Finnish (models)	41A5241	1
Swiss French/German (models)	41A5242	1
UK English (models)	41A5243	1
US Euro (models)	41A5244	1
Slovenian (models)	41A5245	1

6423 mice	FRU#	CRU Tier
Optical Wheel Mouse (400 DPI), USB - Red wheel (Primary) (all models)	41U3013	1
Optical Wheel Mouse (400 DPI), USB - Red Wheel (Secondary) (all models)	41U3030	1
ScrollPoint Optical Mouse (800DPI, USB) (models)	41K1654	1
Wireless Mouse (models)	41U3023	1

6423 Adapters and miscellaneous FRUs	FRU#	CRU Tier
3.5" 9-in-1 Media Card Reader (models 26M 26A 26Q 26T 26K 26R 26E 26J 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 26U 26F 26G 27U 27F 27G 28U 28G 28F 29U 29F 29G 31U 31F 31G 32U 32F 32G 56U 56F 57U 57F 58U 58F 58M 58E 58J 59U 59F 59M 59E 59J 61U 61F 61M 61E 61J 62M 62E 62J 63M 63E 63J 64M 64E 64J 65G 66G 67U 67F 67G 68U 68F 68G 69U 69F 69G 71G 72U 72F 73M 73A 73Q 73T 73K 73R 74M 74A 74Q 74T 74K 74R)	41R3378	2
Transceiver (USB) (models)	41A5246	2
L1 IEEE 1394 PCI Adapter (models 26M 26A 26Q 26T 26K 26R 26E 26J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T31K 31R 31E 31J 26U 26F 26G 29U 29F 29G 31U 31F 31G 49U 49F)	41D2781	2
Speakers (2-piece) Lenovo Logo (models)	41A5331	2
Speakers (2-piece) Lenovo Logo (models)	41A5334	1
Lenovo 3 pieces Speakers (China Only) (models)	45C8640	1
Lenovo 2 pieces Speakers (China Only) (models)	45C8641	1
Speaker Power brick - US, Canada, LA low voltage, ASEAN (models 26A 27A 28A 29A 31A 32A 26U 27U 28U 29U 31U 32U 33U 34U 35U 36U 37U 38U 49U 51U 52U 53U 54U 55U 41A 42A 43A 56U 57U 58U 59U 61U 67U 68U 69U 72U 73A 74A)	89P8571	1
Speaker Power brick - LA high voltage (non-APU) (models)	89P8575	1
Speaker Power brick - China, Thailand (models 73T 74T)	89P8581	1
Speaker Power brick - Japan (models 26E 26J 27E 27J 28E 28J 29E 29J 31E 31J 32E 32J 33E 34E 35E 36E 37E 38E 33J 34J 35J 36J 37J 38J 58E 58J 59E 59J 61E 61J 62E 62J 63E 63J 64E 64J)	89P8577	1
Speaker Power brick - Brazil (models)	89P8583	1

6423 Adapters and miscellaneous FRUs	FRU#	CRU Tier
Speaker Power brick - Argentina (models)	41A4901	1
Speaker Power brick - ANZ (models 26M 27M 28M 29M 31M 32M 41M 42M 43M 44M 58M 59M 61M 62M 63M 64M)	89P8579	1
Speaker Brick - Korea (models 26K 26R 27K 27R 28K 28R 29K 29R 31K 31R 32K 32R 42R 43R 44R 41K 42K 43K 44K 73K 73R 74K 74R)	41A4903	1
Speaker Brick - Hong Kong, EMEA (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G 65G 66G 67G 68G 69G 71G)	89P8573	1
Speaker Brick - Taiwan (models)	41A4905	1
Speaker Power brick - India, South Africa (models 26Q 27Q 28Q 29Q 31Q 32Q 41Q 42Q 43Q 73Q 74Q)	89P8585	1
256MB NVIDIA NVS290 (DMS59 Connector) - Quasar (models 32M 32A 32Q 32T 32K 32R 32E 32J 32U 32F 32G 33U 33F 33E 33J 34U 42M 42A 42Q 42T 42K 42R 55U 55F 58U 58F 58M 58E 58J)	42Y6329	2
256MB NVIDIA FX370 (DVI-DL+DVI-DL) - Brown Dwarf (models 26M 26A 26Q 26T 26K 26R 26E 26J 16U 16G 16F 34U 34F 34E 34J 43M 43A 43Q 43T 43K 43R 45G 47G 49U 49F 59U 59F 59M 59E 59J 62M 62E 62J 65G 66G)	42Y6331	2
512MB NVIDIA FX1700 (DVI-DL+DVI-DL+HDTV) - Pulsar (models 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T31K 31R 31E 31J 27U 27F 27G 28U 28G 28F 29U 29F 29G 31U 31F 31G 35U 35F 35E 35J 37U 37F 37E 37J 41M 41A 41Q 41T 41K 41R 44M 44K 44R 46G 48G 51U 51F 52U 52F 53U 53F 54U 54F 61U 61F 61M 61E 61J 63M 63E 63J 68U 68F 68G)	42Y6333	2
768MB NVIDIA FX4600 (DVI-DL+DVI-DL+ST) - Black Hole (models CTO 36U 36F 36E 36J 38U 38F 38E 38J 71G)	42Y6337	2
1536MB NVIDIA C870 Physics Card - Newton Card (models)	45C5226	2
256MB NVIDIA FX570 (DVI-DL+DVI-DL+HDTV) - Super Giant (models 57U 57F 67U 67F 67G)	45R7403	2
512MB NVIDIA FX3700 (DVI-DL+DisplayPort+ST) - Nebula (models 56U 56F 64M 64E 64J 69U 69F 69G 72U 72F)	42Y6335	2
Soft Modem V.90/V.44 (models)	29R9729	2
Sound Blaster X-Fi Sound Card (models 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T31K 31R 31E 31J 29U 29F 29G 31U 31F 31G 53U 53F 54U 54F)	43C8028	2
SAS Controller Card (models 28M 28A 28Q 28T 28K 28R 28E 28J 61U 61F 61M 61E 61J 64M 64E 64J)	43C9285	2
Lenovo Branded 3-Piece Speakers (models)	TBD	1
Lenovo Branded Headset (models)	TBD	1
Dongle Cable - DMS59 to dual DVI (included in Quasar L1) (models)	41X6398	2
DVI to VGA Dongle (models)	45C7816	2
Modem Phone Cable (models)	39K5120	2

6423 Power Cords - C13	FRU#	CRU Tier
Line Cord - US - C13 (models 26A 27A 28A 29A 31A 32A 26T 27T 28T 29T 31T 32T 26U 26F 27U 27F 28U 28F 29U 29F 31U 32F 33U 34U 35U 36U 37U 38U 49U 51U 52U 53U 54U 55U 41A 42A 43A 33F 34F 35F 36F 37F 38F 49F 51F 52F 53F 54F 55F)	41R3184	1
Line Cord - US - C13 (models 26A 27A 28A 29A 31A 32A 26T 27T 28T 29T 31T 32T 26U 26F 27U 27F 28U 28F 29U 29F 31U 32F 33U 34U 35U 36U 37U 38U 49U 51U 52U 53U 54U 55U 41A 42A 43A 33F 34F 35F 36F 37F 38F 49F 51F 52F 53F 54F 55F)	41R3185	1
Line Cord - China - C13 (models)	41R3256	1

6423 Power Cords - C13	FRU#	CRU Tier
Line Cord - China - C13 (models)	41R3257	1
Line Cord - Japan - C13 (models 26E 26J 27E 27J 28E 28J 29E 29J 31E 31J 32E 32J 33E 34E 35E 36E 37E 38E 33J 34J 35J 36J 37J 38J)	41R3248	1
Line Cord - Japan - C13 (models 26E 26J 27E 27J 28E 28J 29E 29J 31E 31J 32E 32J 33E 34E 35E 36E 37E 38E 33J 34J 35J 36J 37J 38J)	41R3249	1
Line Cord - Brazil - C13 (models)	41R3270	1
Line Cord - Brazil - C13 (models)	41R3271	1
Line Cord - LA High Volt (APU) - C13 (models)	41R3176	1
Line Cord - LA High Volt (APU) - C13 (models)	41R3177	1
Line Cord-Australia / New Zealand - C13 (models 26M 27M 28M 29M 31M 32M 41M 42M 43M 44M)	41R3196	1
Line Cord-Australia / New Zealand - C13 (models 26M 27M 28M 29M 31M 32M 41M 42M 43M 44M)	41R3197	1
Line Cord - Korea - C13 (models 26K 26R 27K 27R 28K 28R 29K 29R 31K 31R 32K 32R 42R 43R 44R 41K 42K 43K 44K)	41R3260	1
Line Cord - Korea - C13 (models 26K 26R 27K 27R 28K 28R 29K 29R 31K 31R 32K 32R 42R 43R 44R 41K 42K 43K 44K)	41R3261	1
Line Cord - Hong Kong, UK, Ireland, Singapore, Malaysia, Brunei - C13 (models 26A 27A 28A 29A 31A 32A 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G)	41R3224	1
Line Cord - Hong Kong, UK, Ireland, Singapore, Malaysia, Brunei - C13 (models 26A 27A 28A 29A 31A 32A 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G)	41R3225	1
Line Cord - Taiwan - C13 (models)	41R3278	1
Line Cord - Taiwan - C13 (models)	41R3279	1
Line Cord - Italy - C13 (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G)	41R3232	1
Line Cord - Italy - C13 (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G)	41R3233	1
Line Cord - A models - C13 (models 26A 27A 28A 29A 31A 32A 41A 42A 43A)	41R3208	1
Line Cord - A models - C13 (models 26A 27A 28A 29A 31A 32A 41A 42A 43A)	41R3209	1
Line Cord - Denmark - C13 (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G)	41R3212	1
Line Cord - Denmark - C13 (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G)	41R3213	1
Line Cord - Switzerland - C13 (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G)	41R3228	1
Line Cord - Switzerland - C13 (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G)	41R3229	1
Line Cord - Israel - C13 (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G)	41R3236	1
Line Cord - Israel - C13 (models 26G 27G 28G 29G 31G 32G 45G 46G 47G 48G)	41R3237	1
Line Cord - South Africa - C13 (models 26M 27M 28M 29M 31M 32M 26G 27G 28G 29G 31G 32G 41M 42M 43M 44M 45G 46G 47G 48G)	41R3220	1
Line Cord - South Africa - C13 (models 26M 27M 28M 29M 31M 32M 26G 27G 28G 29G 31G 32G 41M 42M 43M 44M 45G 46G 47G 48G)	41R3220	1
Line Cord - India - C13 (models 26Q 27Q 28Q 29Q 31Q 32Q 41Q 42Q 43Q)	41R3341	1
Line Cord - India - C13 (models 26Q 27Q 28Q 29Q 31Q 32Q 41Q 42Q 43Q)	41R3175	1

6423 Windows XP Home Recovery DVDs	FRU#	CRU Tier
US/UK/AP/TH (models)	TBD	1
FR/CF (models)	TBD	1
GR (models)	TBD	1

6423 Windows XP Home Recovery DVDs	FRU#	CRU Tier
IT (models)	TBD	1
BR (models)	TBD	1
SP/LA (models)	TBD	1
DK (models)	TBD	1
NL (models)	TBD	1
AE (models)	TBD	1
SV (models)	TBD	1
HE (models)	TBD	1
FI (models)	TBD	1
NO (models)	TBD	1
PL (models)	TBD	1
PO (models)	TBD	1
RU (models)	TBD	1
RE (models)	TBD	1
HU (models)	TBD	1
CZ (models)	TBD	1
TR (models)	TBD	1
GK (models)	TBD	1
Japanese (models)	TBD	1
Simplified Chinese (models)	TBD	1
Taiwan-TC (models)	TBD	1
Hong Kong-TC (models)	TBD	1
Korea (models)	TBD	1

6423 Windows XP Pro Recovery DVDs	FRU#	CRU Tier
English (models 33U 34U 35U 36U 37U 38U 33E 34E 35E 36E 37E 38E 33J 34J 35J 36J 37J 38J 41M 41A 41Q 41T 41R 42M 42A 42Q 42T 42R 43M 43A 43Q 43R 44M 44R 45G 46G)	63Y9616	1
French (models 33F 34F 35F 36F 37F 38F 45G 46G)	63Y9617	1
German (models 45G 46G)	63Y9618	1
Spanish (models 45G 46G)	63Y9619	1
Brazil (models)	63Y9620	1
Italian (models 45G 46G)	63Y9621	1
Japanese (models 45G 46G)	63Y9622	1
Norwegian (models 45G 46G)	63Y9623	1
Swedish (models 45G 46G)	63Y9624	1
Danish (models 45G 46G)	63Y9625	1
Dutch (models 45G 46G)	63Y9626	1
Czech (models 45G 46G)	63Y9627	1
Finnish (models 45G 46G)	63Y9628	1
Hebrew (models 45G 46G)	63Y9629	1
Polish (models 45G 46G)	63Y9630	1

6423 Windows XP Pro Recovery DVDs	FRU#	CRU Tier
Russian (models 45G 46G)	63Y9631	1
Turkish (models 45G 46G)	63Y9632	1
Hungarian (models 45G 46G)	63Y9633	1
Greek (models 45G 46G)	63Y9634	1
Simplified Chinese (models)	63Y9635	1
Taiwan (models)	63Y9636	1
HongKong (models)	63Y9637	1
Korea (models)	63Y9638	1
Slovenian (models 45G 46G)	63Y9639	1
Arabic (models 45G 46G)	63Y9640	1
Russian English (models 45G 46G)	63Y9641	1
Portuguese (models 45G 46G)	63Y9642	1
Multilingual 1 XP-P -- EN, NL, FR, GR, IT (models 45G 46G)	63Y9644	1
Multilingual 2 XP-P -- EN, DK, FI, NO, SV (models 45G 46G)	63Y9645	1

6423 Windows XP Pro 64 Recovery DVDs	FRU#	CRU Tier
English (models 65G 66G 67U 67G 68U 68G 69U 69G 71G 72U)	53Y6633	1
Japanese (models)	53Y6634	1

6423 Vista Home Basic 32 Recovery DVDs	FRU#	CRU
US/UK/AP/TH (models)	TBD	1
FR/CF (models)	TBD	1
GR (models)	TBD	1
SP/LA (models)	TBD	1
BR (models)	TBD	1
IT (models)	TBD	1
JP (models)	TBD	1
NO (models)	TBD	1
SV (models)	TBD	1
DK (models)	TBD	1
NL (models)	TBD	1
CZ (models)	TBD	1
FI (models)	TBD	1
PL (models)	TBD	1
RU (models)	TBD	1
TR (models)	TBD	1
HU (models)	TBD	1
GK (models)	TBD	1
PO (models)	TBD	1
SC (models)	TBD	1
TW (models)	TBD	1

6423 Vista Home Basic 32 Recovery DVDs	FRU#	CRU
HK (models)	TBD	1
KR (models)	TBD	1
SL (models)	TBD	1
RE (models)	TBD	1

6423 Vista Business 32 Recovery DVDs	FRU#	CRU
English (models)	64Y6750	1
Russian English (models)	64Y6751	1
French (models)	64Y6752	1
German (models)	64Y6753	1
Spanish (models)	64Y6754	1
Brazilian (models)	64Y6755	1
Italian (models)	64Y6756	1
Japanese (models)	64Y6757	1
Norwegian (models)	64Y6758	1
Swedish (models)	64Y6759	1
Danish (models)	64Y6760	1
Dutch (models)	64Y6761	1
Czech (models)	64Y6762	1
Finnish (models)	64Y6763	1
Polish (models)	64Y6764	1
Russian (models)	64Y6765	1
Turkish (models)	64Y6766	1
Hungarian (models)	64Y6767	1
Greek (models)	64Y6768	1
Simplified Chinese (models)	64Y6769	1
Traditional Chinese-TC (models)	64Y6770	1
Traditional Chinese-HK (models)	64Y6771	1
Korean (models)	64Y6772	1
Slovenian (models)	64Y6773	1
Romanian (models)	64Y6774	1
Portuguese (models)	64Y6775	1
Sebian-Latin (models)	64Y6776	1
Slovakian (models)	64Y6777	1
Arabic Localized (models)	64Y6778	1
Hebrew (models)	64Y6779	1

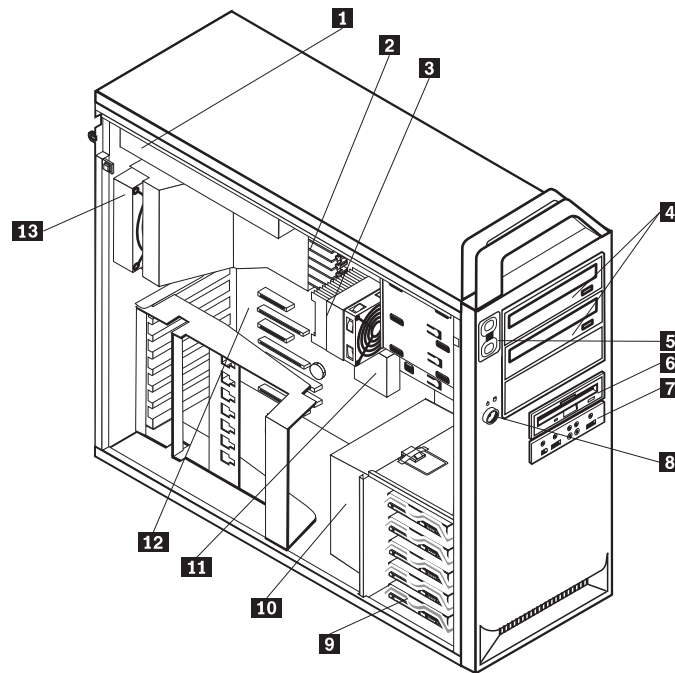
6423 Vista Home Pre 32 Recovery DVDs	FRU#	CRU Tier
English (models)	TBD	1
Russian English (models)	TBD	1
French/Canadian French (models)	TBD	1

6423 Vista Home Pre 32 Recovery DVDs	FRU#	CRU Tier
German (models)	TBD	1
Spanish/LA (models)	TBD	1
Brazil (models)	TBD	1
Italy (models)	TBD	1
Japanese (models)	TBD	1
Norway (models)	TBD	1
Swedish (models)	TBD	1
Denmark (models)	TBD	1
Dutch (models)	TBD	1
Czech (models)	TBD	1
Finnish (models)	TBD	1
Polish (models)	TBD	1
Russian (models)	TBD	1
Turkish (models)	TBD	1
Hungarian (models)	TBD	1
Greek (models)	TBD	1
Simplified Chinese (models)	TBD	1
Traditional Chinese (models)	TBD	1
Traditional Chinese (models)	TBD	1
Korean (models)	TBD	1
Slovenian (models)	TBD	1
Hebrew (models)	TBD	1
Romanian (models)	TBD	1
Bulgarian (models)	TBD	1
Croatian (models)	TBD	1
Portuguese (models)	TBD	1
Serbian-Latin (models)	TBD	1
Ukrainian (models)	TBD	1
Slovakian (models)	TBD	1

6423 Vista Business 64 Recovery DVDs	FRU#	CRU
English (models 26M 26A 26Q 26R 26E 27M 27A 27Q 27R 27E 28M 28A 28Q 28R 28E 29M 29A 29Q 29R 29E 31M 31A 31Q 31R 31E 32M 32A 32Q 32R 32E 26U 26G 27U 27G 28U 28G 29U 29G 31U 31G 32U 32G 47G 48G 56U 57U 58U 59U 61U 67U 68U 69U 72U 58M 59M 61M 62M 63M 64M 58E 59E 5 61E 62E 63E 64E 65G 66G 67G 68G 69G 71G)	64Y6780	1
Russian English (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6781	1
French (models 26F 27F 28F 29F 31F 32F 47G 48G 56F 57F 58F 59F 61F 67F 68F 69F 72F)	64Y6782	1
German (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6783	1
Spanish (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6784	1
Brazilian (models)	64Y6785	1
Italian (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6786	1
Japanese (models 26J 27J 28J 29J 31J 32J 58J 59J 61J 62J 63J 64J)	64Y6787	1

6423 Vista Business 64 Recovery DVDs	FRU#	CRU
Norwegian (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6788	1
Swedish (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6789	1
Danish (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6790	1
Dutch (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6791	1
Czech (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6792	1
Finnish (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6793	1
Polish (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6794	1
Russian (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6795	1
Turkish (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6796	1
Hungarian (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6797	1
Greek (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6798	1
Simplified Chinese (models)	64Y6799	1
Trad Chinese-TC (models)	64Y6800	1
Trad Chinese-HK (models)	64Y6801	1
Korean (models 26K 27K 28K 29K 31K 32K)	64Y6802	1
Slovenian (models 26K 27K 28K 29K 31K 32K)	64Y6803	1
Portuguese (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6804	1
Slovakian (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6805	1
Arabic Localized (models)	64Y6806	1
Hebrew (models 26G 27G 28G 29G 31G 32G 47G 48G 65G 66G 67G 68G 69G 71G)	64Y6807	1

Machine Type 6427



Item #	6427 FRUs	FRU#	CRU Tier
1	Power supply, 1000 Watt (models 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 34M 34A 34Q 34T 34K 34R 34E 34J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 33M 33A 33Q 33T 33K 33R 33E 33J 27U 27F 27G 28U 28F 28G 29U 29G 29F 31U 31F 31G 32U 32F 32G 33U 33F 33G 34U 34F 34G 73U 73F 73E 73J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38M 38A 38Q 38T 38K 38R 39M 39A 39Q 39T 39K 39R 41M 41A 41Q 41T 41K 41R 42M 42K 42R 43G 44G 45G 46G 47G 48G 74U 74F 74E 74J 75M 75E 75J 76M 76E 76J 77M 77E 77J 78M 78E 78J 79M 79E 79J 81M 81E 81J 82M 82E 82J 83G 84G 85G 86G 87G 88U 88F 88G 89U 89F 89E 89J 91U 91F 91G 92M 92A 92Q 92T 92K 92R 93M 93A 93Q 93T 93K 93R)	41A9709	N
1	Power supply, 1000 Watt (C13 power connector) (models 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 33M 33A 33Q 33T 33K 33R 33E 33J 27U 27F 27G 28U 28F 28G 29U 29G 29F 31U 31F 31G 32U 32F 32G 33U 33F 33G 34U 34F 34G 73U 73F 73E 73J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38M 38A 38Q 38T 38K 38R 39M 39A 39Q 39T 39K 39R 41M 41A 41Q 41T 41K 41R 42M 42K 42R 43G 44G 45G 46G 47G 48G 74U 74F 74E 74J 75M 75E 75J 76M 76E 76J 77M 77E 77J 78M 78E 78J 79M 79E 79J 81M 81E 81J 82M 82E 82J 83G 84G 85G 86G 87G 88U 88F 88G 89U 89F 89E 89J 91U 91F 91G)	41A9764	N
2	Memory module, 1GB DDR2 ECC FBDIMM PC2-5300 (667MHz) (models 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 34M 34A 34Q 34T 34K 34R 34E 34J 31M 31A 31Q 31T 31K 31R 31E 31J 33M 33A 33Q 33T 33K 33R 33E 33J 27U 27F 27G 28U 28F 28G 31U 31F 31G 33U 33F 33G 34U 34F 34G 73U 73F 73E 73J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38M 38A 38Q 38T 38K 38R 39M 39A 39Q 39T 39K 39R 43G 44G 45G 46G 47G 48G 74U 74F 74E 74J 75M 75E 75J 76M 76E 76J 77M 77E 77J 79M 79E 79J 89U 89F 89E 89J 92M 92A 92Q 92T 92K 92R 93M 93A 93Q 93T 93K 93R)	43C1708	2
2	Memory module, 2GB DDR2 ECC FBDIMM PC2-5300 (667MHz) (models 29M 29A 29Q 29T 29K 29R 29E 29J 32M 32A 32Q 32T 32K 32R 32E 32J 29U 29G 29F 32U 32F 32G 41M 41A 41Q 41T 41K 41R 42M 42K 42R 78M 78E 78J 81M 81E 81J 82M 82E 82J 83G 84G 85G 86G 87G 88U 88F 88G 91U 91F 91G)	43C1709	2

Item #	6427 FRUs	FRU#	CRU Tier
2	Memory module, 4GB DDR2 ECC FBDIMM PC2-5300 (667MHz) (models CTO)	43C1710	2
2	Memory module, 8GB 667MHz DDR2 FBDIMMs (models)	43C1711	2
3	Heat sink, Low Acoustics (all models)	41R5542	2
4	Optical drive, DVD Burner/CD-RW Rambo 8 (SATA) (models 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 34M 34A 34Q 34T 34K 34R 34E 34J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 33M 33A 33Q 33T 33K 33R 33E 33J 27U 27F 27G 28U 28F 28G 29U 29G 29F 31U 31F 31G 32U 32F 32G 33U 33F 33G 34U 34F 34G 73U 73F 73E 73J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38M 38A 38Q 38T 38K 38R 39M 39A 39Q 39T 39K 39R 41M 41A 41Q 41T 41K 41R 42M 42K 42R 43G 44G 45G 46G 47G 48G 74U 74F 74E 74J 75M 75E 75J 76M 76E 76J 77M 77E 77J 78M 78E 78J 79M 79E 79J 81M 81E 81J 82M 82E 82J 83G 84G 85G 86G 87G 88U 88F 88G 89U 89F 89E 89J 91U 91F 91G 92M 92A 92Q 92T 92K 92R 93M 93A 93Q 93T 93K 93R)	43C1042	2
4	Optical drive, DVD Burner/CD-RW Rambo 8 (SATA) (models 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 34M 34A 34Q 34T 34K 34R 34E 34J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 33M 33A 33Q 33T 33K 33R 33E 33J 27U 27F 27G 28U 28F 28G 29U 29G 29F 31U 31F 31G 32U 32F 32G 33U 33F 33G 34U 34F 34G 73U 73F 73E 73J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38M 38A 38Q 38T 38K 38R 39M 39A 39Q 39T 39K 39R 41M 41A 41Q 41T 41K 41R 42M 42K 42R 43G 44G 45G 46G 47G 48G 74U 74F 74E 74J 75M 75E 75J 76M 76E 76J 77M 77E 77J 78M 78E 78J 79M 79E 79J 81M 81E 81J 82M 82E 82J 83G 84G 85G 86G 87G 88U 88F 88G 89U 89F 89E 89J 91U 91F 91G 92M 92A 92Q 92T 92K 92R 93M 93A 93Q 93T 93K 93R)	43C1043	2
5	Internal speaker (see item 8) (all models)	41R5532	2
6	Diskette drive kit (includes diskette drive, bezel, and cable) (models)	TBD	2
6	Diskette drive, 3.5" 1.44MB 2-Mode (models)	40Y9105	2
6	Diskette drive, 3.5" 1.44MB 2-Mode (models)	40Y9107	2
7	Front Panel Cable Asm (USB, Audio, 1394) (all models)	41R5645	2
8	Power switch/LED/speaker assembly (all models)	41R5532	2
9	Hard disk drive, 160GB 7200rpm SATA (models CTO 38M 38A 38Q 38T 38K 38R)	40Y9035	2
9	Hard disk drive, 250GB 7200rpm SATA (models 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 34M 34A 34Q 34T 34K 34R 34E 34J 31M 31A 31Q 31T 31K 31R 31E 31J 33M 33A 33Q 33T 33K 33R 33E 33J 27U 27F 27G 28U 28F 28G 27U 27F 27G 28U 28F 28G 34U 34F 34G 31U 31F 31G 32U 32F 32G 33U 33F 33G 34U 34F 34G 73U 73F 73E 73J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 39M 39A 39Q 39T 39K 39R 41M 41A 41Q 41T 41K 41R 42M 42K 42R 43G 46G 74U 74F 74E 74J 75M 75E 75J 76M 76E 76J 77M 77E 77J 79M 79E 79J 83G 84G 89U 89F 89E 89J)	40Y9036	2
9	Hard disk drive, 500GB 7200rpm SATA (models CTO 85G)	41X5582	2
9	Hard disk drive, 750GB SATA - 7200 rpm, 3 Gb/s (models CTO)	43C3671	2
9	Hard disk drive, 73GB SAS - 15000 rpm, 3 Gb/s, 32MB cache (models CTO)	43C6967	2
9	Hard disk drive, 1000GB (1TB) SATA - 7200 rpm, 3 Gb/s (models)	45C5973	2
9	Hard disk drive, 73GB SAS - 15000 rpm, 3 Gb/s, 32MB cache (models)	45K0607	2
9	Hard disk drive, 146GB SAS - 15000 rpm, 3 Gb/s, 32MB cache (models 29M 29A 29Q 29T 29K 29R 29E 29J 32M 32A 32Q 32T 32K 32R 32E 32J 29U 29F 29G 32U 32F 32G 44G 45G 47G 48G 78M 78E 78J 81M 81E 81J 82M 82E 82J 86G 87G 88U 88F 88G 91U 91F 91G)	45K0608	2
9	Hard disk drive, 300GB SAS - 15000 rpm, 3 Gb/s, 32MB cache (models CTO)	45K0609	2

Item #	6427 FRUs	FRU#	CRU Tier
10	Fan Asm,Front 120 mm with grommets and fingerguard (all models)	41R5506	2
11	Microprocessor, Intel Xeon® 5110 - 1.60GHz, 4MB L2, 1066MHz FSB, G0 (models 2RU 24G)	TBD	N
11	Microprocessor, Intel Xeon 5130 - 2.00GHz, 4MB L2, 1333MHz FSB, G0 (models 2M 12A 12Q 12K 12R 12E 12J 13M 13A 13Q 13K 13R 13E 13J 8M 18A 18Q 18K 18R 18E 18J 25U 25G)	TBD	N
11	Microprocessor, Intel Xeon 5150 - 2.66GHz, 4MB L2, 1333MHz FSB, G0 (models 11M 11A 11Q 11K 11R 11E 11J)	TBD	N
11	Microprocessor, Intel Xeon 5160 - 3.00GHz, 4MB L2, 1333MHz FSB, G0 (models 15M 15A 15Q 15K 15R 15E 15J)	TBD	N
11	Microprocessor, Intel Xeon E5335 - 2.00GHz, 4MBx2 L2, 1333MHz FSB, G0 (models 14M 14A 14Q 14K 14R 14E 14J 16M 16A 16Q 16K 16R 16E 16J 17M 17A 17Q 17K 17R 17E 17J 19M 19A 19Q 19K 19R 19E 19J 21M 21A 21Q 21K 21R 21E 21J 22M 22A 22Q 22K 22R 22E 22J)	TBD	N
11	Microprocessor, IntelXeon X5355 - 2.66GHz, 4MBx2 L2, 1333MHz FSB, G0 (models 23M 23A 23Q 23K 23R 23E 23J 26U 26G)	TBD	N
11	Microprocessor, Intel Xeon E5205 - 1.86GHz, 6MB L2, 1066MHz FSB, 65W (models)	45C7445	N
11	Microprocessor, Intel Xeon E5260 - 3.33GHz, 6MB L2, 1333MHz FSB, 80W (models CTO 39M 39A 39Q 39T 39K 39R)	45C7446	N
11	Microprocessor, Intel Xeon E5405 - 2.00GHz, 12MB L2, 1333MHz FSB, 80W (models)	45C7447	N
11	Microprocessor, Intel Xeon E5410 - 2.33GHz, 12MB L2, 1333MHz FSB, 80W (models)	45C7448	N
11	Microprocessor, Intel Xeon E5420 - 2.50GHz, 12MB L2, 1333MHz FSB, 80W (models CTO 43G 44G 45G 46G 47G 48G 84G 87G 92M 92A 92Q 92T 92K 92R)	45C7449	N
11	Microprocessor, Intel Xeon E5430 - 2.66GHz, 12MB L2, 1333MHz FSB, 80W (models 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 34M 34A 34Q 34T 34K 34R 34E 34J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 33M 33A 33Q 33T 33K 33R 33E 33J 27U 27F 27G 28U 28F 28G 31U 31F 31G 32U 32F 32G 33U 33F 33G 34U 34F 34G 73U 73F 73E 73J 36U 36F 36E 36J 38M 38A 38Q 38T 38K 38R 75M 75E 75J 76M 76E 76J 93M 93A 93Q 93T 93K 93R)	45C7450	N
11	Microprocessor, Intel Xeon E5440 - 2.83GHz, 12MB L2, 1333MHz FSB, 80W (models 229M 29A 29Q 29T 29K 29R 29E 29J 29U 29G 29F 35U 35F 35E 35J 37U 37F 37E 37J 41M 41A 41Q 41T 41K 41R 74U 74F 74E 74J 77M 77E 77J 78M 78E 78J 89U 89F 89E 89J)	45C7451	N
11	Microprocessor, Intel Xeon E5450 - 3.00GHz, 12MB L2, 1333MHz FSB, 80W (models CTO 79M 79E 79J 81M 81E 81J 85G 88U 88F 88G 91U 91F 91G)	45C7452	N
11	Microprocessor, Intel Xeon X5460 - 3.16GHz, 12MB L2, 1333MHz FSB, 120W (models CTO 42M 42K 42R 82M 82E 82J 83G 86G)	45C7453	N
11	Microprocessor, Intel Xeon X5450 - 3.00GHz, 12MB L2, 1333MHz FSB, 120W (models CTO)	45C8260	N

Item #	6427 FRUs	FRU#	CRU Tier
12	System Board, Skye - 2P Intel Socket LGA771, Seaburg, ESB2 (models 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 34M 34A 34Q 34T 34K 34R 34E 34J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 33M 33A 33Q 33T 33K 33R 33E 33J 27U 27F 27G 28U 28F 28G 29U 29G 29F 31U 31F 31G 32U 32F 32G 33U 33F 33G 34U 34F 34G 73U 73F 73E 73J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38M 38A 38Q 38T 38K 38R 39M 39A 39Q 39T 39K 39R 41M 41A 41Q 41T 41K 41R 42M 42K 42R 43G 44G 45G 46G 47G 48G 74U 74F 74E 74J 75M 75E 75J 76M 76E 76J 77M 77E 77J 78M 78E 78J 79M 79E 79J 81M 81E 81J 82M 82E 82J 83G 84G 85G 86G 87G 88U 88F 88G 89U 89F 89E 89J 91U 91F 91G)	53Y7791	N
13	Fan Asm, 120mm, system exhaust (all models)	41R5529	2

The FRUs listed in the following tables are not illustrated.

6427 FRUs	FRU#	CRU Tier
Diskette drive cable (all models)	41N8294	2
Handle with screws (all models)	41R5526	2
Cable Asm, SATA (all models)	41R5481	2
Cable Asm, SATA, optical disk drive (all models)	41R5517	2
Cover Asm (access panel) (all models)	41R5530	1
Mechanical Shell Kit (all models)	41R5508	N
Miscellaneous Parts Kit (all models)	41R5630	2
Cable Asm, Cover Detect Switch (all models)	41R5534	2
Serial Port Cable (all models)	41R5544	2
System board Screw Kit (all models)	41R5547	2
Label Kit (all models)	41R5549	1
Bezel Kit, Remy (all models)	41R5628	1
Cable Asm, HDD SAS (all models)	41R5513	2
Second Serial Port Cable (all models)	39K5021	2
Thermal Sense Cable (all models)	41R2511	2
Rail Kit, Remy with filler (all models)	41R5597	2
Heat Sink Dummy Filler (all models)	41R5563	2
Shield, Skye Motherboard EMC (all models)	41R5643	2
Filler Plate, Remy (all models)	41R5636	2
Aluminum Fansink, w/grease cover (all models)	45K2261	2

6427 Keyboards (PS2 Preferred Pro)	FRU#	CRU
US English (models)	41A5039	1
Arabic (models)	41A5040	1
Arabic/French (models)	41A5041	1
Belgian/French (models)	41A5042	1
Belgian/UK (models)	41A5043	1
Bulgarian (models)	41A5045	1
Hong Kong/Taiwan (models)	41A5046	1

6427 Keyboards (PS2 Preferred Pro)	FRU#	CRU
Czech (models)	41A5047	1
Danish (models)	41A5048	1
Dutch (models)	41A5049	1
French (models)	41A5050	1
French Canadian 445 (models)	41A5051	1
French Canadian 58 (models)	41A5052	1
German (models)	41A5053	1
Greek (models)	41A5054	1
Hebrew (models)	41A5055	1
Hungarian (models)	41A5056	1
Iceland (models)	41A5057	1
Italian (models)	41A5058	1
Japanese (models)	41A5059	1
Korean (models)	41A5060	1
LA Spanish (models)	41A5061	1
Norwegian (models)	41A5062	1
Polish (models)	41A5063	1
Portuguese (models)	41A5064	1
Romanian (models)	41A5065	1
Russian/Cyrilic (models)	41A5066	1
Serbian/Cyrilic (models)	41A5067	1
Slovak (models)	41A5068	1
Spanish (models)	41A5069	1
Swedish/Finn (models)	41A5070	1
Swiss F/G (models)	41A5071	1
Thailand (models)	41A5072	1
Turkish 440 (models)	41A5073	1
Turkish 179 (models)	41A5074	1
UK English (models)	41A5075	1
US Euro (models)	41A5076	1
Slovenian (models)	41A5077	1
Brazil/Portuguese (models)	41A5044	1

6427 Keyboards (Lenovo Productivity -USB)	FRU#	CRU Tier
US English (models 27M 27A 27Q 27R 27E 28M 28A 28Q 28R 28E 34M 34A 34Q 34R 34E 29M 29A 29Q 29R 29E 31M 31A 31Q 31R 31E 32M 32A 32Q 32R 32E 33M 33A 33Q 33R 33E 27U 27G 28U 28G 29U 29G 31U 31G 32U 32G 33U 33G 34U 34G 43G 44G 45G 46G 47G 48G 73U 35U 36U 37U 73E 35E 36E 37E 38M 39M 41M 42M 38A 39A 41A 38Q 39Q 41Q 38T 39T 41T 38R 39R 41R 42R 74U 74E 75M 75E 76M 76E 77M 77E 78M 78E 79M 79E 81M 81E 82M 82E 83G 84G 85G 86G 87G 88U 88G 92M 92A 92Q 92R 93M 93A 93Q 93R)	41A5289	1
Arabic (models)	41A5290	1

6427 Keyboards (Lenovo Productivity -USB)	FRU#	CRU Tier
Arabic/French (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5291	1
Belgian/French (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5292	1
Belgian/UK (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5293	1
Bulgarian (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5295	1
Hong Kong/Taiwan (models)	41A5296	1
Czech (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5297	1
Danish (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5298	1
Dutch (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5299	1
French (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5300	1
French Canadian 445 (models 73F 35F 36F 37F 74F 88F)	41A5301	1
French Canadian 58 (models 73F 35F 36F 37F 74F 88F)	41A5302	1
German (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5303	1
Greek (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5304	1
Greek/US (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5305	1
Hebrew (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5306	1
Hungarian (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5307	1
Iceland (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5308	1
Italian (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5309	1
Japanese (models 27J 28J 29J 34J 31J 32J 33J 73J 35J 36J 37J 74J 75J 76J 77J 78J 79J 81J 82J)	41A5310	1
Korean (models 27K 28K 34K 29K 31K 32K 33K 38K 39K 41K 42K 92K 93K)	41A5311	1
LA Spanish (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5312	1
Norwegian (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5313	1
Polish (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5314	1
Portuguese (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5315	1
Romanian 096 (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5317	1
Romanian 446 (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5316	1

6427 Keyboards (Lenovo Productivity -USB)	FRU#	CRU Tier
Russian/Cyrillic (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5318	1
Serbian/Cyrillic (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5319	1
Slovak (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5320	1
Spanish (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5321	1
Swedish/Finnish (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5322	1
Swiss French/German (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5323	1
Thailand (models 27T 28T 34T 29T 31T 32T 33T 38T 39T 41T 92T 93T)	41A5324	1
Turkish 440 (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5325	1
Turkish 179 (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5326	1
UK English (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5327	1
US Euro (models)	41A5328	1
Slovenian (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	41A5329	1

6427 Keyboards (Preferred Pro Fingerprint Reader USB)	FRU#	CRU Tier
US English (models)	41A5248	1
Arabic (models)	41A5249	1
Arabic/French (models)	41A5250	1
Belgian/French (models)	41A5251	1
Belgian/UK (models)	41A5252	1
Brazil/Portuguese (models)	41A5253	1
Bulgarian (models)	41A5254	1
Czech (models)	41A5256	1
Danish (models)	41A5257	1
Dutch (models)	41A5258	1
French (models)	41A5259	1
French Canadian 445 (models)	41A5260	1
French Canadian 58 (models)	41A5261	1
German (models)	41A5262	1
Greek (models)	41A5263	1
Greek/US (models)	41A5264	1
Hebrew (models)	41A5265	1
Hungarian (models)	41A5266	1
Iceland (models)	41A5267	1
Italian 141 (models)	41A5268	1

6427 Keyboards (Preferred Pro Fingerprint Reader USB)	FRU#	CRU Tier
Japanese (models)	41A5269	1
Korean (models)	41A5270	1
LA/Spanish (models)	41A5271	1
Norwegian (models)	41A5272	1
Polish (models)	41A5273	1
Portuguese (models)	41A5274	1
Romanian 096 (models)	41A5275	1
Romanian 446 (models)	41A5276	1
Russian/Cyrillic (models)	41A5277	1
Serbian/Cyrillic (models)	41A5278	1
Slovak (models)	41A5279	1
Spanish (models)	41A5280	1
Swedish/Finn (models)	41A5281	1
Swiss (models)	41A5282	1
Thailand (models)	41A5283	1
Turkish 440 (models)	41A5284	1
Turkish 179 (models)	41A5285	1
UK English (models)	41A5286	1
US Euro (models)	41A5287	1
Slovenian (models)	41A5288	1

6427 Keyboards (Wireless)	FRU#	CRU Tier
US English (models)	41A5219	1
Belgium French (models)	41A5220	1
Belgium English (models)	41A5221	1
Chinese/US (models)	41A5222	1
Czech (ABB) (models)	41A5223	1
Danish (models)	41A5224	1
Dutch (models)	41A5225	1
French (models)	41A5226	1
French Canadian (models)	41A5227	1
French Canadian (models)	41A5228	1
German (models)	41A5229	1
Greek (models)	41A5230	1
Greek/US (models)	41A5231	1
Hungarian (models)	41A5232	1
Iceland (models)	41A5233	1
Italy (models)	41A5234	1
Japanese (models)	41A5235	1
Norwegian (models)	41A5236	1
Polish (models)	41A5237	1

6427 Keyboards (Wireless)	FRU#	CRU Tier
Portugese (models)	41A5238	1
Slovak (models)	41A5239	1
Spanish (models)	41A5240	1
Swedish/Finnish (models)	41A5241	1
Swiss French/German (models)	41A5242	1
UK English (models)	41A5243	1
US Euro (models)	41A5244	1
Slovenian (models)	41A5245	1

6427 mice	FRU#	CRU Tier
Optical Wheel Mouse (400 DPI), USB - Red Wheel (Primary) (models 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 34M 34A 34Q 34T 34K 34R 34E 34J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 33M 33A 33Q 33T 33K 33R 33E 33J 27U 27F 27G 28U 28F 28G 29U 29G 29F 31U 31F 31G 32U 32F 32G 33U 33F 33G 34U 34F 34G 73U 73F 73E 73J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38M 38A 38Q 38T 38K 38R 39M 39A 39Q 39T 39K 39R 41M 41A 41Q 41T 41K 41R 42M 42K 42R 43G 44G 45G 46G 47G 48G 74U 74F 74E 74J 75M 75E 75J 76M 76E 76J 77M 77E 77J 78M 78E 78J 79M 79E 79J 81M 81E 81J 82M 82E 82J 83G 84G 85G 86G 87G 88U 88F 88G 89U 89F 89E 89J 91U 91F 91G 92M 92A 92Q 92T 92K 92R 93M 93A 93Q 93T 93K 93R)	41U3013	1
Optical Wheel Mouse (400 DPI), USB - Red Wheel (Secondary) (models 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 34M 34A 34Q 34T 34K 34R 34E 34J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 33M 33A 33Q 33T 33K 33R 33E 33J 27U 27F 27G 28U 28F 28G 29U 29G 29F 31U 31F 31G 32U 32F 32G 33U 33F 33G 34U 34F 34G 73U 73F 73E 73J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38M 38A 38Q 38T 38K 38R 39M 39A 39Q 39T 39K 39R 41M 41A 41Q 41T 41K 41R 42M 42K 42R 43G 44G 45G 46G 47G 48G 74U 74F 74E 74J 75M 75E 75J 76M 76E 76J 77M 77E 77J 78M 78E 78J 79M 79E 79J 81M 81E 81J 82M 82E 82J 83G 84G 85G 86G 87G 88U 88F 88G 89U 89F 89E 89J 91U 91F 91G 92M 92A 92Q 92T 92K 92R 93M 93A 93Q 93T 93K 93R)	41U3030	1
ScrollPoint Optical Mouse (800DPI, USB) (models CTO)	41K1654	1
Wireless Mouse (models)	41U3023	1

6427 Adapters and miscellaneous FRUs	FRU#	CRU Tier
3.5" 9-in-1 Media Card Reader (models 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 34M 34A 34Q 34T 34K 34R 34E 34J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 33M 33A 33Q 33T 33K 33R 33E 33J 27U 27F 27G 28U 28F 28G 29U 29G 29F 31U 31F 31G 32U 32F 32G 33U 33F 33G 34U 34F 34G 74U 74F 74E 74J 75M 75E 75J 76M 76E 76J 77M 77E 77J 78M 78E 78J 79M 79E 79J 81M 81E 81J 82M 82E 82J 83G 84G 85G 86G 87G 88U 88F 88G 89U 89F 89E 89J 91U 91F 91G 92M 92A 92Q 92T 92K 92R 93M 93A 93Q 93T 93K 93R)	41R3378	2
Transceiver (USB) (models)	41A5246	2
L1 IEEE 1394 PCI Adapter (models 28M 28A 28Q 28T 28K 28R 28E 28J 34M 34A 34Q 34T 34K 34R 34E 34J 29M 29A 29Q 29T 29K 29R 29E 29J 28U 28F 28G 29U 29G 29F 34U 34F 34G 73U 73F 73E 73J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38M 38A 38Q 38T 38K 38R 39M 39A 39Q 39T 39K 39R 41M 41A 41Q 41T 41K 41R 42M 42K 42R 43G 44G 45G 46G 47G 48G 76M 76E 76J 77M 77E 77J 78M 78E 78J)	41D2781	2
Speakers (2-piece) Lenovo Logo (models)	41A5331	1
Speakers (2-piece) Lenovo Logo (models)	41A5334	1

6427 Adapters and miscellaneous FRUs	FRU#	CRU Tier
Lenovo 3 pieces Speakers (China Only) (models)	45C8640	1
Lenovo 2 pieces Speakers (China Only) (models)	45C8641	1
Speaker Power brick - US, Canada, LA low voltage, ASEAN (models 27A 28A 34A 29A 31A 32A 33A 27U 28U 29U 31U 32U 33U 34U 73U 35U 36U 37U 38A 39A 41A 74U 88U 89U 91U 92A 93A)	89P8571	1
Speaker Power brick - LA high voltage (non-APU) (models)	89P8575	1
Speaker Power brick - China, Thailand (models 27T 28T 34T 29T 31T 32T 33T 38T 39T 41T 92T 93T)	89P8581	1
Speaker Power brick - Japan (models 27E 27J 28E 28J 29E 29J 31J 32J 33J 73E 35E 36E 37E 73J 35J 36J 37J 74J 75J 76J 77J 78J 79J 81J 82J 74E 75E 76E 77E 78E 79E 81E 82E)	89P8577	1
Speaker Power brick - Brazil (models)	89P8583	1
Speaker Power brick - Argentina (models)	41A4901	1
Speaker Power brick - ANZ (models 27M 28M 34M 29M 31M 32M 33M 38M 39M 41M 42M 75M 76M 77M 78M 79M 81M 82M 92M 93M)	89P8579	1
Speaker Brick - Korea (models 27K 27R 28K 28R 34K 34R 29K 29R 31K 31R 32K 32R 33K 33R 38K 39K 41K 42K 38R 39R 41R 42R 92K 93K 92R 93R)	41A4903	1
Speaker Brick - Hong Kong, EMEA (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	89P8573	1
Speaker Brick - Taiwan (models)	41A4905	1
Speaker Power brick - India, South Africa (models 27Q 28Q 29Q 31Q 32Q 33Q 38Q 39Q 41Q 92Q 93Q)	89P8585	1
256MB NVIDIA NVS290 (DMS59 Connector) - Quasar (models 33M 33A 33Q 33T 33K 33R 33E 33J 33U 33F 33G 75M 75E 75J)	42Y6329	2
256MB NVIDIA FX370 (DVI-DL+DVI-DL) - Brown Dwarf (models CTO 39M 39A 39Q 39T 39K 39R 41M 41A 41Q 41T 41K 41R)	42Y6331	2
512MB NVIDIA FX1700 (DVI-DL+DVI-DL+HDTV) - Pulsar (models 27M 27A 27Q 27T 27K 27R 27E 27J 28M 28A 28Q 28T 28K 28R 28E 28J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 27U 27F 27G 28U 28F 28G 29U 29F 29G 31U 31F 31G 32U 32F 32G 73U 73F 73E 73J 35U 35F 35E 35J 38M 38A 38Q 38T 38K 38R 42M 42K 42R 43G 44G 46G 47G 77M 77E 77J 79M 79E 79J 81M 81E 81J)	42Y6333	2
768MB NVIDIA FX4600 (DVI-DL+DVI-DL+ST) - Black Hole (models 34M 34A 34Q 34T 34K 34R 34E 34J 34U 34F 34G 36U 36F 36E 36J 37U 37F 37E 37J 45G 48G)	42Y6337	2
256MB NVIDIA FX570 (DVI-DL+DVI-DL+HDTV) - Super Giant (models 76M 76E 76J 84G 87G 89U 89F 89E 89J 91U 91F 91G)	45R7403	2
512MB NVIDIA FX3700 (DVI-DL+DisplayPort+ST) - Nebula (models 74U 74F 74E 74J 78M 78E 78J 82M 82E 82J 83G 85G 86G 88U 88F 88G)	42Y6335	2
1536MB NVIDIA C870 Physics Card - Newton Card (models)	45C5226	2
Soft Modem V.90/V.44 (models)	29R9729	2
Sound Blaster X-Fi Sound Card (models 28M 28A 28Q 28T 28K 28R 28E 28J 34M 34A 34Q 34T 34K 34R 34E 34J 29M 29A 29Q 29T 29K 29R 29E 29J)	43C8028	2
SAS Controller Card (models)	43C9285	2
Lenovo Branded 3-Piece Speakers (models)	TBD	1
Lenovo Branded Headset (models)	TBD	1
Dongle Cable - DMS59 to dual DVI (included in Quasar L1) (models)	41X6398	2
DVI to VGA Dongle (models)	45C7816	2
Modem Phone Cable (models)	39K5120	2

6427 Power Cords	FRU#	CRU
Line Cord - US (models 27A 28A 29A 31A 32A 33A 27T 28T 29T 31T 32T 33T 27U 28U 29U 31U 32U 33U 34U 27F 28F 29F 31F 32F 33F 34F 73U 35U 36U 37U 38A 39A 41A 73F 35F 36F 37F 38T 39T 41T)	41R3393	1
Line Cord - US (models 27A 28A 29A 31A 32A 33A 27T 28T 29T 31T 32T 33T 27U 28U 29U 31U 32U 33U 34U 27F 28F 29F 31F 32F 33F 34F 73U 35U 36U 37U 38A 39A 41A 73F 35F 36F 37F 38T 39T 41T)	41R3406	1
Line Cord - US - C13 (models)	41R3184	1
Line Cord - US - C13 (models)	41R3185	1
Line Cord - China (models)	41R3398	1
Line Cord - China (models)	41R3411	1
Line Cord - China - C13 (models)	41R3256	1
Line Cord - China - C13 (models)	41R3257	1
Line Cord-Australia / New Zealand (models 27M 28M 34M 29M 31M 32M 33M 38M 39M 41M 42M)	41R3397	1
Line Cord-Australia / New Zealand (models 27M 28M 34M 29M 31M 32M 33M 38M 39M 41M 42M)	41R3410	1
Line Cord-Australia / New Zealand - C13 (models)	41R3196	1
Line Cord-Australia / New Zealand - C13 (models)	41R3197	1
Line Cord - Taiwan (models)	41R3399	1
Line Cord - Taiwan (models)	41R3412	1
Line Cord - Taiwan - C13 (models)	41R3278	1
Line Cord - Taiwan - C13 (models)	41R3279	1
Line Cord - A models (models 27A 28A 29A 31A 32A 33A 38A 39A 41A)	41R3395	1
Line Cord - A models (models 27A 28A 29A 31A 32A 33A 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 38A 39A 41A)	41R3408	1
Line Cord - A models - C13 (models)	41R3208	1
Line Cord - A models - C13 (models)	41R3209	1
Line Cord - Israel (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G)	41R3396	1
Line Cord - Israel (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G 43G 44G 45G 46G 47G 48G)	41R3409	1
Line Cord - Israel - C13 (models)	41R3236	1
Line Cord - Israel - C13 (models)	41R3237	1
Line Cord - Japan (models 27E 27J 28E 28J 29E 29J 31E 31J 32E 32J 33E 33J 73E 35E 36E 37E 73J 35J 36J 37J)	41R3414	1
Line Cord - Japan - C13 (models)	41R3248	1
Line Cord - Japan - C13 (models)	41R3249	1
Line Cord - Brazil (models)	41R3416	1
Line Cord - Brazil - C13 (models)	41R3270	1
Line Cord - Brazil - C13 (models)	41R3271	1
Line Cord - LA High Volt (APU) (models)	41R3417	1
Line Cord - LA High Volt (APU) - C13 (models)	41R3176	1
Line Cord - LA High Volt (APU) - C13 (models)	41R3177	1
Line Cord - Korea (models 27K 27R 28K 28R 34K 34R 29K 29R 31K 31R 32K 32R 33K 33R 38K 39K 41K 42K 38R 39R 41R 42R)	41R3418	1

6427 Power Cords	FRU#	CRU
Line Cord - Korea - C13 (models)	41R3260	1
Line Cord - Korea - C13 (models)	41R3261	1
Line Cord - Hong Kong , UK, Ireland, Singapore, Malaysia, Brunei (models 27A 28A 29A 31A 32A 33A 27G 28G 29G 31G 32G 33G 34G 38A 39A 41A 43G 44G 45G 46G 47G 48G)	41R3419	1
Line Cord - Hong Kong, UK, Ireland, Singapore, Malaysia, Brunei - C13 (models)	41R3224	1
Line Cord - Hong Kong, UK, Ireland, Singapore, Malaysia, Brunei - C13 (models)	41R3225	1
Line Cord - Italy (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G)	41R3420	1
Line Cord - Italy - C13 (models)	41R3232	1
Line Cord - Italy - C13 (models)	41R3233	1
Line Cord - Denmark (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G)	41R3425	1
Line Cord - Denmark - C13 (models)	41R3212	1
Line Cord - Denmark - C13 (models)	41R3213	1
Line Cord - Switzerland (models 27G 28G 29G 31G 32G 33G 34G 43G 44G 45G 46G 47G 48G)	41R3421	1
Line Cord - Switzerland - C13 (models)	41R3228	1
Line Cord - Switzerland - C13 (models)	41R3229	1
Line Cord - South Africa (models 27M 28M 34M 29M 31M 32M 33M 27A 28A 29A 31A 32A 33A 27G 28G 29G 31G 32G 33G 34G 38M 39M 41M 42M 38A 39A 41A)	41R3422	1
Line Cord - South Africa - C13 (models)	41R3220	1
Line Cord - South Africa - C13 (models)	41R3220	1
Line Cord - India (models 27Q 28Q 29Q 31Q 32Q 33Q 38Q 39Q 41Q)	41R3423	1
Line Cord - India - C13 (models)	41R3341	1
Line Cord - India - C13 (models)	41R3175	1

6427 Windows XP Home Recovery DVDs	FRU#	CRU
US/UK/AP/TH (models)	TBD	1
FR/CF (models)	TBD	1
GR (models)	TBD	1
IT (models)	TBD	1
BR (models)	TBD	1
SP/LA (models)	TBD	1
DK (models)	TBD	1
NL (models)	TBD	1
AE (models)	TBD	1
SV (models)	TBD	1
HE (models)	TBD	1
FI (models)	TBD	1
NO (models)	TBD	1
PL (models)	TBD	1
PO (models)	TBD	1
RU (models)	TBD	1

6427 Windows XP Home Recovery DVDs	FRU#	CRU
RE (models)	TBD	1
HU (models)	TBD	1
CZ (models)	TBD	1
TR (models)	TBD	1
GK (models)	TBD	1
Japanese (models)	TBD	1
Simplified Chinese (models)	TBD	1
Taiwan-TC (models)	TBD	1
Hong Kong-TC (models)	TBD	1
Korea (models)	TBD	1

6427 Windows XP Pro Recovery DVDs	FRU#	CRU Tier
English (models 73U 35U 36U 37U 38A 39A 41A 38M 39M 41M 42M 38Q 39Q 41Q 38R 39R 41R 42R 73E 35E 36E 37E 43G 44G 45G)	63Y9616	1
French (models 73F 35F 36F 37F)	63Y9617	1
German (models 43G 44G 45G)	63Y9618	1
Spanish (models 43G 44G 45G)	63Y9619	1
Brazil (models)	63Y9620	1
Italian (models 43G 44G 45G)	63Y9621	1
Japanese (models 73J 35J 36J 37J)	63Y9622	1
Norwegian (models 43G 44G 45G)	63Y9623	1
Swedish (models 43G 44G 45G)	63Y9624	1
Danish (models 43G 44G 45G)	63Y9625	1
Dutch (models 43G 44G 45G)	63Y9626	1
Czech (models 43G 44G 45G)	63Y9627	1
Finnish (models 43G 44G 45G)	63Y9628	1
Hebrew (models 43G 44G 45G)	63Y9629	1
Polish (models 43G 44G 45G)	63Y9630	1
Russian (models 43G 44G 45G)	63Y9631	1
Turkish (models 43G 44G 45G)	63Y9632	1
Hungarian (models 43G 44G 45G)	63Y9633	1
Greek (models 43G 44G 45G)	63Y9634	1
Simplified Chinese (models)	63Y9635	1
Taiwan (models)	63Y9636	1
HongKong (models)	63Y9637	1
Korea (models 38K 39K 41K 42K)	63Y9638	1
Slovenian (models 43G 44G 45G)	63Y9639	1
Arabic (models 45G 46G)	63Y9640	1
Russian English (models 45G 46G)	63Y9641	1
Portuguese (models 43G 44G 45G)	63Y9642	1
Multilingual 1 XP-P -- EN, NL, FR, GR, IT (models 43G 44G 45G)	63Y9644	1

6427 Windows XP Pro Recovery DVDs	FRU#	CRU Tier
Multilingual 2 XP-P -- EN, DK, FI, NO, SV (models 43G 44G 45G)	63Y9645	1

6427 Windows XP Pro 64 Recovery DVDs	FRU#	CRU Tier
English (models 83G 84G 85G 86G 87G 88U 88G 89U 89E 91U 91G)	53Y6633	1
Japanese (models 89J)	53Y6634	1

6427 Vista Home Basic 32 Recovery DVDs	FRU#	CRU
US/UK/AP/TH (models)	TBD	1
FR/CF (models)	TBD	1
GR (models)	TBD	1
SP/LA (models)	TBD	1
BR (models)	TBD	1
IT (models)	TBD	1
JP (models)	TBD	1
NO (models)	TBD	1
SV (models)	TBD	1
DK (models)	TBD	1
NL (models)	TBD	1
CZ (models)	TBD	1
FI (models)	TBD	1
PL (models)	TBD	1
RU (models)	TBD	1
TR (models)	TBD	1
HU (models)	TBD	1
GK (models)	TBD	1
PO (models)	TBD	1
SC (models)	TBD	1
TW (models)	TBD	1
HK (models)	TBD	1
KR (models)	TBD	1
SL (models)	TBD	1
RE (models)	TBD	1

6427 Vista Business 32 Recovery DVDs	FRU#	CRU
English (models)	64Y6750	1
Russian English (models)	64Y6751	1
French (models)	64Y6752	1
German (models)	64Y6753	1
Spanish (models)	64Y6754	1
Brazilian (models)	64Y6755	1

6427 Vista Business 32 Recovery DVDs	FRU#	CRU
Italian (models)	64Y6756	1
Japanese (models)	64Y6757	1
Norwegian (models)	64Y6758	1
Swedish (models)	64Y6759	1
Danish (models)	64Y6760	1
Dutch (models)	64Y6761	1
Czech (models)	64Y6762	1
Finnish (models)	64Y6763	1
Polish (models)	64Y6764	1
Russian (models)	64Y6765	1
Turkish (models)	64Y6766	1
Hungarian (models)	64Y6767	1
Greek (models)	64Y6768	1
Simplified Chinese (models)	64Y6769	1
Traditional Chinese-TC (models)	64Y6770	1
Traditional Chinese-HK (models)	64Y6771	1
Korean (models)	64Y6772	1
Slovenian (models)	64Y6773	1
Romanian (models)	64Y6774	1
Portuguese (models)	64Y6775	1
Sebian-Latin (models)	64Y6776	1
Slovakian (models)	64Y6777	1
Arabic Localized (models)	64Y6778	1
Hebrew (models)	64Y6779	1

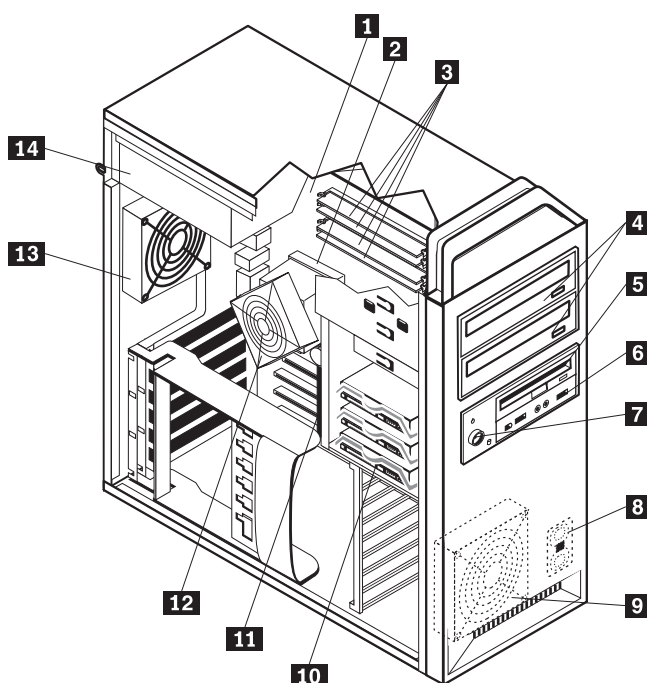
6427 Vista Home Pre 32 Recovery DVDs	FRU#	CRU Tier
English (models)	TBD	1
Russian English (models)	TBD	1
French/Canadian French (models)	TBD	1
German (models)	TBD	1
Spanish/LA (models)	TBD	1
Brazil (models)	TBD	1
Italy (models)	TBD	1
Japanese (models)	TBD	1
Norway (models)	TBD	1
Swedish (models)	TBD	1
Denmark (models)	TBD	1
Dutch (models)	TBD	1
Czech (models)	TBD	1
Finnish (models)	TBD	1
Polish (models)	TBD	1

6427 Vista Home Pre 32 Recovery DVDs	FRU#	CRU Tier
Russian (models)	TBD	1
Turkish (models)	TBD	1
Hungarian (models)	TBD	1
Greek (models)	TBD	1
Simplified Chinese (models)	TBD	1
Traditional Chinese (models)	TBD	1
Traditional Chinese (models)	TBD	1
Korean (models)	TBD	1
Slovenian (models)	TBD	1
Hebrew (models)	TBD	1
Romanian (models)	TBD	1
Bulgarian (models)	TBD	1
Croatian (models)	TBD	1
Portuguese (models)	TBD	1
Serbian-Latin (models)	TBD	1
Ukrainian (models)	TBD	1
Slovakian (models)	TBD	1

6427 Vista Business 64 Recovery DVDs	FRU#	CRU
English (models 27M 27A 27Q 27R 27E 28M 28A 28Q 28R 28E 34M 34A 34Q 34R 34E 29M 29A 29Q 29R 29E 31M 31A 31Q 31R 31E 32M 32A 32Q 32R 32E 33M 33A 33Q 33R 33E 27U 27G 28U 28G 29U 29G 31U 31G 32U 32G 33U 33G 34U 34G 46G 47G 48G 74U 88U 89U 91U 83G 84G 85G 86G 87G 88G 75M 76M 77M 78M 79M 81M 82M 74E 75E 76E 77E 78E 79E 81E 82E)	64Y6780	1
Russian English (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6781	1
French (models 27F 28F 29F 31F 32F 33F 34F 74F 88F 89F 91F)	64Y6782	1
German (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6783	1
Spanish (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6784	1
Brazilian (models)	64Y6785	1
Italian (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6786	1
Japanese (models 26J 27J 28J 29J 31J 32J 33J 74J 75J 76J 77J 78J 79J 81J 82J)	64Y6787	1
Norwegian (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6788	1
Swedish (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6789	1
Danish (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6790	1
Dutch (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6791	1
Czech (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6792	1
Finnish (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6793	1
Polish (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6794	1

6427 Vista Business 64 Recovery DVDs	FRU#	CRU
Russian (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6795	1
Turkish (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6796	1
Hungarian (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6797	1
Greek (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6798	1
Simplified Chinese (models)	64Y6799	1
Trad Chinese-TC (models)	64Y6800	1
Trad Chinese-HK (models)	64Y6801	1
Korean (models 27K 28K 34K 29K 31K 32K 33K)	64Y6802	1
Slovenian (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6803	1
Portuguese (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6804	1
Slovakian (models)	64Y6805	1
Arabic Localized (models)	64Y6806	1
Hebrew (models 27G 28G 29G 31G 32G 33G 34G 46G 47G 48G 83G 84G 85G 86G 87G 88G)	64Y6807	1

Machine Type 6483



Item #	6483 FRUs	FRU#	CRU Tier
1	System Board, Islay - Barcelona 1.1 Intel Socket-T, X38, ICH9R (SDV-Level) (models 19U 19G 19M 19A 19Q 19C 19B 19H 19V 19K 19E 19R 19J 21U 21G 21M 21A 21Q 21C 21B 21H 21V 21K 21R 21E 21J 22M 22A 22Q 22T 22K 22R 22E 22J 23M 23A 23Q 23T 23K 23R 23E 23J 24M 24A 24Q 24T 24K 24R 24E 24J 33M 33A 33Q 33T 33K 33R 33E 33J 25M 25A 25Q 25T 25K 25R 25E 25J 26M 26A 26Q 26T 26K 26R 26E 26J 27M 27A 27Q 27T 27K 27R 27E 27J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 22U 22F 22G 22C 22B 22H 22V 23U 23F 23C 23B 23H 23V 24U 24F 24C 24B 24H 24V 33U 33F 33C 33B 33H 33V 25U 25F 25C 25B 25H 25V 26U 26F 26C 26B 26H 26V 27U 27F 27C 27B 27H 27V 27U 27F 27C 27B 27H 27V 29U 29F 29C 29B 29H 29V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 19T 21T 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 39U 39F 39E 39J 41U 41F 41E 41J 42U 42F 42E 42J 43U 43F 43E 43J 44U 44F 44E 44J 45U 45F 45E 45J 46U 46F 46E 46J 47U 47F 47E 47J 49M 49A 49Q 49T 49K 49R 51M 51A 51Q 51T 51K 51R 52M 52A 52Q 52T 52K 52R 53M 53A 53Q 53T 53K 53R 54M 54A 54Q 54T 54K 54R 55M 55A 55Q 55T 55K 55R 56M 56A 56Q 56T 56K 56R 57M 57A 57Q 57T 57K 57R 58M 58A 58Q 58T 58K 58R 59B 59H 59V 61C 61B 61H 61V 62B 62H 62V 63C 64C 65G 66G 67G 67M 67A 67Q 67T 67E 67J 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79g 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G 92U 92F 93U 93F 94U 94F 95U 95F 96U 96F S1M S1A S1Q S1T S1K S1R S1E S1J S4M S4A S4Q S4T S4K S4R S4E S4J A1U A1F A1E A1J A2U A2F A2E A2J A3U A3F A3E A3J A4U A4F A4E A4J A5M A5E A5J A6M A6E A6J A7M A7E A7J A8M A8E A8J A9M A9E A9J B1M B1E B1J B2U B2F B2M B2E B2J B3U B3F B3M B3E B3J B4U B4F B4M B4E B4J B5U B5F B5M B5E B5J B6M B6E B6J B7M B7E B7J B8U B8F B8A B8Q B8T B8K B8R B8E B8J B9U B9F B9A B9Q B9T B9K B9R B9E B9J C1U C1F C1E C1J C2U C2F C2E C2J C3G C4G C5G C6G C6B C6H C7G C8G C9G D1G D2G D3G D4G D4B D4H D5G D6G D7G D8G D9G E1U E1F E1G E2U E2F E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F2B F2H F3G F7V F8V)	71Y4884	N
2	Microprocessor, Intel Core 2 Duo E6550 - 2.33GHz, 2MBx2 L2, 1333MHz FSB, G0 (models CTO 51A 51Q 51T 51K 51R)	43C3833	N

Item #	6483 FRUs	FRU#	CRU Tier
2	Microprocessor, Intel Core 2 Duo E6750 - 2.66GHz, 2MBx2 L2, 1333MHz FSB, G0 (models CTO 52M 52A 52Q 52T 52K 52R)	43C1693	N
2	Microprocessor, Intel Core 2 Duo E6850 - 3.00GHz, 2MBx2 L2, 1333MHz FSB, G0 (models 19U 19G 19M 19A 19Q 19C 19B 19H 19V 19K 19E 19R 19J 23M 23A 23Q 23T 23K 23R 23E 23J 26M 26A 26Q 26T 26K 26R 26E 26J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 23U 23F 23C 23B 23H 23V 26U 26F 26C 26B 26H 26V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 19T 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 39U 39F 39E 39J 43U 43F 43E 43J 46U 46F 46E 46J 58M 58A 58Q 58T 58K 58R 92U 92F 94U 94F 95U 95F 96U 96F)	43C1694	N
2	Microprocessor, Intel Core 2 Quad Q6600 - 2.40GHz, 4MBx2 L2, 1066MHz FSB, G0 (models 27M 27A 27Q 27T 27K 27R 27E 27J 27U 27F 27C 27B 27H 27V 29U 27F 27C 27B 27H 27V 46U 46F 46E 46J 53M 53A 53Q 53T 53K 53R 54M 54A 54Q 54T 54K 54R)	43C1695	N
2	Microprocessor, Intel Core 2 Quad Q6700 - 2.66GHz, 4MBx2 L2, 1066MHz FSB, G0 (models 22M 22A 22Q 22T 22K 22R 22E 22J 25M 25A 25Q 25T 25K 25R 25E 25J 29M 29A 29Q 29T 29K 29R 29E 29J 22U 22F 22G 22C 22B 22H 22V 25U 25F 25C 25B 25H 25V 29U 29F 29C 29B 29H 29V 55M 55A 55Q 55T 55K 55R 56M 56A 56Q 56T 56K 56R 57M 57A 57Q 57T 57K 57R 62B 62H 62V 64C 74G 75G 76G 77G 87G 88G 89G 91G 93U 93F A9M A9E A9J)	43C6309	N
2	Microprocessor, Intel Core 2 Extreme QX6800 - 2.93GHz, 4MBx2 L2, 1066MHz FSB, G0 (models CTO 21T)	43C9271	N
2	Microprocessor, Intel Core 2 Extreme QX6850 - 3.00GHz, 4MBx2 L2, 1333MHz FSB, G0 (models 24M 24A 24Q 24T 24K 24R 24E 24J 33M 33A 33Q 33T 33K 33R 33E 33J 24U 24F 24C 24B 24H 24V 33U 33F 33C 33B 33H 33V 37U 37F 37E 37J 38U 38F 38E 38J 41U 41F 41E 41J 42U 42F 42E 42J 44U 44F 44E 44J 45U 45F 45E 45J 47U 47F 47E 47J)	43C9580	N
2	Microprocessor, Intel Core 2 Duo E8500 - 3.16GHz, 6MB L2, 1333MHz FSB (models CTO C2U C2F C2E C2J)	45C7735	N
2	Microprocessor, Intel Core 2 Duo E8400 - 3.00GHz, 6MB L2, 1333MHz FSB (models CTO 61C 61B 61H 61V 66G 67G 67M 67A 67Q 67T 67E 67J 68G 69G 71G 72G 73G 79G 81G 82G 83G 84G 85G 86G A6M A6E A6J A7M A7E A7J A8M A8E A8J C1U C1F C1E C1J E4G)	45C7736	N
2	Microprocessor, Intel Core 2 Duo E8300 - 2.83GHz, 6MB L2, 1333MHz FSB (models CTO)	45C7737	N
2	Microprocessor, Intel Core 2 Duo E8200 - 2.66GHz, 6MB L2, 1333MHz FSB (models CTO 59B 59H 59V 63C 65G 78G S1M S1A S1Q S1T S1K S1R S1E S1J S4M S4A S4Q S4T S4K S4R S4E S4J A5M A5E A5J B8U B8F B8A B8Q B8T B8K B8R B8E B8J B9U B9F B9A B9Q B9T B9K B9R B9E B9J)	45C7738	N
2	Microprocessor, Intel Core 2 Quad Q9550 - 2.83GHz, 12MB L2, 1333MHz FSB (models CTO A1F A1E A1J A2U A2F A2E A2J A3U A3F A3E A3J A4U A4F A4E A4J B3U B3F B3M B3E B3J B4U B4F B4M B4E B4J D7G D8G D9G E8G E9G F6M F6A F6Q F6T F6K F6R)	45C7739	N
2	Microprocessor, Intel Core 2 Quad Q9450 - 2.66GHz, 12MB L2, 1333MHz FSB (models CTO B2U B2F B2M B2E B2J C4G C5G C6G C6B C6H C7G C8G C9G D1G D2G D3G D4G D4B D4H D5G D6G E3G E4G E5G E6G E7G F5M F5A F5Q F5T F5K F5R)	45C7740	N
2	Microprocessor, Intel Core 2 Quad Q9300 - 2.50GHz, 12MB L2, 1333MHz FSB (models CTO B1M B1E B1J C3G F7V)	45C7741	N
2	Microprocessor, Intel Core 2 Extreme QX9650 - 3.00GHz, 12MB L2, 1333MHz FSB (models CTO B5U B5F B5M B5E B5J B6M B6E B6J B7M B7E B7J E1U E1F E1G E2U E2F E2G F1G F2G F2B F2H F3G F8V)	45R2316	N

Item #	6483 FRUs	FRU#	CRU Tier
3	Memory module, 1GB DDR3 ECC UDIMM PC3-8500 (1067MHz) (models 19U 19G 19M 19A 19Q 19C 19B 19H 19V 19K 19E 19R 19J 21U 21G 21M 21A 21Q 21C 21B 21H 21V 21K 21R 21E 21J 22M 22A 22Q 22T 22K 22R 22E 22J 23M 23A 23Q 23T 23K 23R 23E 23J 24M 24A 24Q 24T 24K 24R 24E 24J 33M 33A 33Q 33T 33K 33R 33E 33J 25M 25A 25Q 25T 25K 25R 25E 25J 26M 26A 26Q 26T 26K 26R 26E 26J 27M 27A 27Q 27T 27K 27R 27E 27J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 22U 22F 22G 22C 22B 22H 22V 23U 23F 23C 23B 23H 23V 24U 24F 24C 24B 24H 24V 33U 33F 33C 33B 33H 33V 25U 25F 25C 25B 25H 25V 26U 26F 26C 26B 26H 26V 27U 27F 27C 27B 27H 27V 29U 29F 29C 29B 29H 29V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 19T 21T 34U 34F 34E 34J 35U 35F 52M 52A 52Q 52T 52K 52R 53M 53A 53Q 53T 53K 53R 54M 54A 54Q 54T 54K 54R 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 39U 39F 39E 39J 41U 41F 41E 41J 42U 42F 42E 42J 43U 43F 43E 43J 44U 44F 44E 44J 45U 45F 45E 45J 46U 46F 46E 46J 47U 47F 47E 47J 49M 49A 49Q 49T 49K 49R 59B 59H 59V 61C 61B 61H 61V 62B 62H 62V 63C 64C 65G 66G 67G 67M 67A 67Q 67T 67E 67J 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G C 87G 88G 89G 91G 92U 92F 93U 93F 94U 94F 95U 95F 96U 96F S2M S2A S2Q A1F A1E A1J A2U A2F A2E A2J A3U A3F A3E A3J A4U A4F A4E A4J A5M A5E A5J A6M A6E A6J A7M A7E A7J A8M A8E A8J A9M A9E A9J B1M B1E B1J B2U B2F B2M B2E B2J B3U B3F B3M B3E B3J B4U B4F B4M B4E B4J B5U B5F B5M B5E B5J B6M B6E B6J B7M B7E B7J B8U B8F B8A B8Q B8T B8K B8R B8E B8J B9U B9F B9A B9Q B9T B9K B9R B9E B9J C1U C1F C1E C1J C3G E3G F4M F4A F4Q F4T F4K F4R F5M F5A F5Q F5T F5K F5R F7V)	43C1705	2
3	Memory module, 2GB DDR3 ECC UDIMM PC3-8500 (1066MHz) (models CTO 55M 55A 55Q 55T 55K 55R 56M 56A 56Q 56T 56K 56R 57M 57A 57Q 57T 57K 57R 58M 58A 58Q 58T 58K 58R C2U C2F C2E C2J C4G C5G C6G C6B C6H C7G C8G C9G D1G D2G D3G D4G D4B D4H D5G D6G D7G D8G D9G E1U E1F E1G E2U E2F E2G E4G E5G E6G E7G E8G E9G F1G F2G F2B F2H F3G F6M F6A F6Q F6T F6K F6R F8V)	43C1706	2
4	Optical drive, DVD-ROM Drive - 16x/48x (SATA) (models CTO 51M 51A 51Q 51T 51K 51R B8U B8F B8A B8Q B8T B8K B8R B8E B8J B9U B9F B9A B9Q B9T B9K B9R B9E B9J)	43C1040	2
4	Optical drive, DVD-ROM Drive - 16x/48x (SATA) (models CTO 51M 51A 51Q 51T 51K 51R B8U B8F B8A B8Q B8T B8K B8R B8E B8J B9U B9F B9A B9Q B9T B9K B9R B9E B9J)	41N3325	2
4	Optical drive, DVD-ROM Drive - 16x/48x (SATA) (models CTO 51M 51A 51Q 51T 51K 51R B8U B8F B8A B8Q B8T B8K B8R B8E B8J B9U B9F B9A B9Q B9T B9K B9R B9E B9J)	42Y6324	2

Item #	6483 FRUs	FRU#	CRU Tier
4	Optical drive, DVD Burner/CD-RW Rambo 8 (SATA) (models 19U 19G 19M 19A 19Q 19C 19B 19H 19V 19K 19E 19R 19J 21U 21G 21M 21A 21Q 21C 21B 21H 21V 21K 21R 21E 21J 22M 22A 22Q 22T 22K 22R 22E 22J 23M 23A 23Q 23T 23K 23R 23E 23J 24M 24A 24Q 24T 24K 24R 24E 24J 33M 33A 33Q 33T 33K 33R 33E 33J 25M 25A 25Q 25T 25K 25R 25E 25J 26M 26A 26Q 26T 26K 26R 26E 26J 27M 27A 27Q 27T 27K 27R 27E 27J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 22U 22F 22G 22C 22B 22H 22V 23U 23F 23C 23B 23H 23V 24U 24F 24C 24B 24H 24V 33U 33F 33C 33B 33H 33V 25U 25F 25C 25B 25H 25V 26U 26F 26C 26B 26H 26V 27U 27F 27C 27B 27H 27V 27U 27F 27C 27B 27H 27V 29U 29F 29C 29B 29H 29V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 19T 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 39U 39F 39E 39J 41U 41F 41E 41J 42U 42F 42E 42J 43U 43F 43E 43J 44U 44F 44E 44J 45U 45F 45E 45J 49M 49A 49Q 49T 49K 49R 52M 52A 52Q 52T 52K 52R 53M 53A 53Q 53T 53K 53R 54M 54A 54Q 54T 54K 54R 55M 55A 55Q 55T 55K 55R 56M 56A 56Q 56T 56K 56R 57M 57A 57Q 57T 57K 57R 58M 58A 58Q 58T 58K 58R 59B 59H 59V 61C 61B 61H 61V 62B 62H 62V 63C 64C 65G 66G 67G 67M 67A 67Q 67T 67E 67J 68G 69G 71G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G A1U A1F A1E A1J A2U A2F A2E A2J A3U A3F A3E A3J A4U A4F A4E A4J A5M A5E A5J A6M A6E A6J A8M A8E A8J A9M A9E A9J B1M B1E B1J B2U B2F B2M B2E B2J B3U B3F B3M B3E B3J B4U B4F B4M B4E B4J B5U B5F B5M B5E B5J B6M B6E B6J B7M B7E B7J C1U C1F C1E C1J C2U C2F C2E C2J C3G C4G C5G C6G C6B C6H C7G C8G C9G D1G D2G D3G D4G D4B D4H D5G D6G D7G D8G D9G E1U E1F E1G E2U E2F E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F2B F2H F3G F4M F4A F4Q F4T F4K F4R F5M F5A F5Q F5T F5K F5R F6M F6A F6Q F6T F6K F6R F7V F8V)	43C1042	2
4	Optical drive, DVD Burner/CD-RW Rambo 8 (SATA) (models 19U 19G 19M 19A 19Q 19C 19B 19H 19V 19K 19E 19R 19J 21U 21G 21M 21A 21Q 21C 21B 21H 21V 21K 21R 21E 21J 22M 22A 22Q 22T 22K 22R 22E 22J 23M 23A 23Q 23T 23K 23R 23E 23J 24M 24A 24Q 24T 24K 24R 24E 24J 33M 33A 33Q 33T 33K 33R 33E 33J 25M 25A 25Q 25T 25K 25R 25E 25J 26M 26A 26Q 26T 26K 26R 26E 26J 27M 27A 27Q 27T 27K 27R 27E 27J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 22U 22F 22G 22C 22B 22H 22V 23U 23F 23C 23B 23H 23V 24U 24F 24C 24B 24H 24V 33U 33F 33C 33B 33H 33V 25U 25F 25C 25B 25H 25V 26U 26F 26C 26B 26H 26V 27U 27F 27C 27B 27H 27V 27U 27F 27C 27B 27H 27V 29U 29F 29C 29B 29H 29V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 19T 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 39U 39F 39E 39J 41U 41F 41E 41J 42U 42F 42E 42J 43U 43F 43E 43J 44U 44F 44E 44J 45U 45F 45E 45J 49M 49A 49Q 49T 49K 49R 52M 52A 52Q 52T 52K 52R 53M 53A 53Q 53T 53K 53R 54M 54A 54Q 54T 54K 54R 55M 55A 55Q 55T 55K 55R 56M 56A 56Q 56T 56K 56R 57M 57A 57Q 57T 57K 57R 58M 58A 58Q 58T 58K 58R 59B 59H 59V 61C 61B 61H 61V 62B 62H 62V 63C 64C 65G 66G 67G 67M 67A 67Q 67T 67E 67J 68G 69G 71G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G A1U A1F A1E A1J A2U A2F A2E A2J A3U A3F A3E A3J A4U A4F A4E A4J A5M A5E A5J A6M A6E A6J A8M A8E A8J A9M A9E A9J B1M B1E B1J B2U B2F B2M B2E B2J B3U B3F B3M B3E B3J B4U B4F B4M B4E B4J B5U B5F B5M B5E B5J B6M B6E B6J B7M B7E B7J C1U C1F C1E C1J C2U C2F C2E C2J C3G C4G C5G C6G C6B C6H C7G C8G C9G D1G D2G D3G D4G D4B D4H D5G D6G D7G D8G D9G E1U E1F E1G E2U E2F E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F2B F2H F3G F4M F4A F4Q F4T F4K F4R F5M F5A F5Q F5T F5K F5R F6M F6A F6Q F6T F6K F6R F7V F8V)	43C1043	2
4	Optical drive, Blu-Ray DVD Burner (SATA) (models 21U 21G 21M 21A 21Q 21C 21B 21H 21V 21K 21R 21E 21J 21T 46U 46F 46E 46J 47U 47F 47E 47J 72G 73G 85G 86G 87G 88G 89G 91G 92U 92F 93U 93F 94U 94F 95U 95F 96U 96F S1M S1A S1Q S1T S1K S1R S1E S1J S4M S4A S4Q S4T S4K S4R S4E S4J A7M A7E A7J)	43C9584	2
5	Diskette drive kit (includes diskette drive, bezel, and cable) (models 16U 16G 17U 17G)	TBD	2
5	Diskette drive, 3.5" 1.44MB 2-Mode (models)	40Y9105	2

Item #	6483 FRUs	FRU#	CRU Tier
5	Diskette drive, 3.5" 1.44MB 2-Mode (models)	40Y9107	2
6	Front Panel Cable Asm (USB, Audio, 1394) (all models)	41R5612	2
7	Power switch/LED Cable assembly (all models)	41R5496	2
8	Internal speaker and cable Asm (all models)	41R5494	2
9	Fan Asm, 92 mm Front PCI (all models)	41R5595	2
10	Hard disk drive, 160GB 7200rpm SATA (models CTO S4M S4A S4Q S4T S4K S4R S4E S4J B8U B8F B8A B8Q B8T B8K B8R B8E B8J B9U B9F B9A B9Q B9T B9K B9R B9E B9J F3G)	40Y9035	2
10	Hard disk drive, 250GB 7200rpm SATA (models 11B 11H 11V 12C 12B 12H 12V 13B 13H 13V 14C 15C 18U 18G 19U 19G 19M 19A 19Q 19C 19B 19H 19V 19K 19E 19R 19J 22M 22A 22Q 22T 22K 22R 22E 22J 25M 25A 25Q 25T 25K 25R 25E 25J 26M 26A 26Q 26T 26K 26R 26E 26J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 22U 22F 22G 22C 22B 22H 22V 25U 25F 25C 25B 25H 25V 26U 26F 26C 26B 26H 26V 29U 27F 27C 27B 27H 27V 29U 29F 29C 29B 29H 29V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 19T 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 43U 43F 43E 43J 44U 44F 44E 44J 45U 45F 45E 45J 46U 46F 46E 46J 47U 47F 47E 47J 49M 49A 49Q 49T 49K 49R 51M 51A 51Q 51T 51K 51R 52M 52A 52Q 52T 52K 52R 53M 53A 53Q 53T 53K 53R 54M 54A 54Q 54T 54K 54R 55M 55A 55Q 55T 55K 55R 57M 57A 57Q 57T 57K 59B 59H 59V 61C 61B 61H 61V 62B 62H 62V 63C 64C 65G 66G 67G 67M 67A 67Q 67T 67E 67J 68G 57R 72G 73G 74G 75G 78G 79G 81G 82G 85G 86G 87G 88G 92U 92F 93U 93F 94U 94F 95U 95F 96U 96F A1U A1F A1E A1J A2U A2F A2E A2J A3U A3F A3E A3J A4U A4F A4E A4J A5M A5E A5J A9M A9E A9J B1M B1E B1J B3U B3F B3M B3E B3J B5U B5F B5M B5E B5J C1U C1F C1E C1J C2U C2F C2E C2J C3G C4G C6G C6B C6H C8G D2G D7G F4M F4A F4Q F4T F4K F4R F5M F5A F5Q F5T F5K F5R F7V)	40Y9036	2
10	Hard disk drive, 750GB SATA - 7200 rpm, 3 Gb/s (models CTO D6G)	43C3671	2
10	Hard disk drive, 73GB SAS - 15000 rpm, 3 Gb/s, 32MB cache (models CTO E3G E5G)	43C6967	2
10	Hard disk drive, 500GB 7200rpm SATA (models 21U 21G 21M 21A 21Q 21C 21B 21H 21V 21K 21R 21E 21J 21T A6M A6E A6J A7M A7E A7J C5G C7G C9G D1G D3G D4G D4B D4H D5G D8G D9G E1U E1F E1G E2U E2F E2G)	41X5582	2
10	Hard disk drive, 1000GB (1TB) SATA - 7200 rpm, 3 Gb/s (models)	45C5973	2
10	Hard disk drive, 73GB SAS - 15000 rpm, 3 Gb/s, 32MB cache (models)	45K0607	2
10	Hard disk drive, 146GB SAS - 15000 rpm, 3 Gb/s, 32MB cache (models 23M 23A 23Q 23T 23K 23R 23E 23J 24M 24A 24Q 24T 24K 24R 24E 24J 33M 33A 33Q 33T 33K 33R 33E 33J 27M 27A 27Q 27T 27K 27R 27E 27J 23U 23F 23C 23B 23H 23V 24U 24F 24C 24B 24H 24V 33U 33F 33C 33B 33H 33V 27B 27H 27V 27U 27F 27C 27B 27H 27V 39U 39F 39E 39J 41U 41F 41E 41J 42U 42F 42E 42J 56M 56A 56Q 56T 56K 56R 58M 58A 58Q 58T 58K 58R 69G 71G 76G 77G 83G 84G 89G 91G A8M A8E A8J A9M B2U B2F B2M B2E B2J B4U B4F B4M B4E B4J B6M B6E B6J B7M B7E B7J E4G E6G E7G E8G E9G F1G F2G F2B F2H)	45K0608	2
10	Hard disk drive, 300GB SAS - 15000 rpm, 3 Gb/s, 32MB cache (models CTO)	45K0609	2
11	Hard disk drive fan and bracket Asm, 70x25 (all models)	41R5477	2
12	Fan sink, Copper Slug, Martell (all models)	41R5479	2
12	Heat Sink, Acoustic Solution (all models)	41R5540	2
13	Fan Asm, 92 mm system exhaust (all models)	41R5484	2

Item #	6483 FRUs	FRU#	CRU Tier
14	Power supply, 650 Watt (models 19U 19G 19M 19A 19Q 19C 19B 19H 19V 19K 19E 19R 19J 21U 21G 21M 21A 21Q 21C 21B 21H 21V 21K 21R 21E 21J 22M 22A 22Q 22T 22K 22R 22E 22J 23M 23A 23Q 23T 23K 23R 23E 23J 24M 24A 24Q 24T 24K 24R 24E 24J 33M 33A 33Q 33T 33K 33R 33E 33J 25M 25A 25Q 25T 25K 25R 25E 25J 26M 26A 26Q 26T 26K 26R 26E 26J 27M 27A 27Q 27T 27K 27R 27E 27J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 22U 22F 22G 22C 22B 22H 22V 23U 23F 23C 23B 23H 23V 24U 24F 24C 24B 24H 24V 33U 33F 33C 33B 33H 33V 25U 25F 25C 25B 25H 25V 26U 26F 26C 26B 26H 26V 27U 27F 27C 27B 27H 27V 27U 27F 27C 27B 27H 27V 29U 29F 29C 29B 29H 29V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 19T 21T 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 39U 39F 39E 39J 41U 41F 41E 41J 42U 42F 42E 42J 43U 43F 43E 43J 44U 44F 44E 44J 45U 45F 45E 45J 46U 46F 46E 46J 47U 47F 47E 47J 49M 49A 49Q 49T 49K 49R 51M 51A 51Q 51T 51K 51R 52M 52A 52Q 52T 52K 52R 53M 53A 53Q 53T 53K 53R 54M 54A 54Q 54T 54K 54R 55M 55A 55Q 55T 55K 55R 56M 56A 56Q 56T 56K 56R 57M 57A 57Q 57T 57K 57R 58M 58A 58Q 58T 58K 58R 59B 59H 59V 61C 61B 61H 61V 62B 62H 62V 63C 64C 65G 66G 67G 67M 67A 67Q 67T 67E 67J 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G C 87G 88G 89G 91G 92U 92F 93U 93F 94U 94F 95U 95F 96U 96F S1M S1A S1Q S1T S1K S1R S1E S1J S4M S4A S4Q S4T S4K S4R S4E S4J A1U A1F A1E A1J A2U A2F A2E A2J A3U A3F A3E A3J A4U A4F A4E A4J A5M A5E A5J A6M A6E A6J A7M A7E A7J A8M A8E A8J A9M A9E A9J B1M B1E B1J B2U B2F B2M B2E B2J B3U B3F B3M B3E B3J B4U B4F B4M B4E B4J B5U B5F B5M B5E B5J B6M B6E B6J B7M B7E B7J B8U B8F B8A B8Q B8T B8K B8R B8E B8J B9U B9F B9A B9Q B9T B9K B9R B9E B9J C1U C1F C1E C1J C2U C2F C2E C2J C3G C4G C5G C6G C6B C6H C7G C8G C9G D1G D2G D3G D4G D4B D4H D5G D6G D7G D8G D9G E1U E1F E1G E2U E2F E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F2B F2H F3G F4M F4A F4Q F4T F4K F4R F5M F5A F5Q F5T F5K F5R F6M F6A F6Q F6T F6K F6R F7V F8V)	41A9745	2

The FRUs listed in the following tables are not illustrated.

6483 FRUs	FRU#	CRU Tier
Diskette drive cable (all models)	41N8294	2
SATA Cable (optical disk drive) (all models)	41R5481	2
SATA Cable (hard disk drive) (all models)	41N8298	2
Cable Asm, SAS HDD (all models)	41R5482	2
Bezel Asm (all models)	41R5610	2
Handle with screws (all models)	41R5490	1
Mechanical shell kit (all models)	41R5491	N
Miscellaneous Parts (all models)	41R5493	2
Cable Asm, Cover Detect Switch (all models)	41R5497	2
Serial Port Cable (all models)	41R5544	2
Label kit (all models)	41R5549	1
Systemboard Screw Kit (all models)	41R5547	2
Cable Asm, SAS Controller HDD LED (all models)	41R5556	2
Thermal Sense Cable (all models)	41R2511	2
Martell Miscellaneous Parts Kit (all models)	41R5614	2
EMC Shield Asm, Islay motherboard (all models)	41R5623	2
Martell Access Cover asm with tape (all models)	41R5670	2
Foot, Martell Chassis (all models)	41R5675	2

6483 Keyboards (PS2 Preferred Pro)	FRU#	CRU Tier
US English (models)	41A5039	1
Arabic (models)	41A5040	1
Arabic/French (models)	41A5041	1
Belgian/French (models)	41A5042	1
Belgian/UK (models)	41A5043	1
Bulgarian (models)	41A5045	1
Hong Kong/Taiwan (models)	41A5046	1
Czech (models)	41A5047	1
Danish (models)	41A5048	1
Dutch (models)	41A5049	1
French (models)	41A5050	1
French Canadian 445 (models)	41A5051	1
French Canadian 58 (models)	41A5052	1
German (models)	41A5053	1
Greek (models)	41A5054	1
Hebrew (models)	41A5055	1
Hungarian (models)	41A5056	1
Iceland (models)	41A5057	1
Italian (models)	41A5058	1
Japanese (models)	41A5059	1
Korean (models)	41A5060	1
LA Spanish (models)	41A5061	1
Norwegian (models)	41A5062	1
Polish (models)	41A5063	1
Portuguese (models)	41A5064	1
Romanian (models)	41A5065	1
Russian/Cyrilic (models)	41A5066	1
Serbian/Cyrilic (models)	41A5067	1
Slovak (models)	41A5068	1
Spanish (models)	41A5069	1
Swedish/Finn (models)	41A5070	1
Swiss F/G (models)	41A5071	1
Thailand (models)	41A5072	1
Turkish 440 (models)	41A5073	1
Turkish 179 (models)	41A5074	1
UK English (models)	41A5075	1
US Euro (models)	41A5076	1
Slovenian (models)	41A5077	1
Brazil/Portuguese (models)	41A5044	1

6483 Keyboards (Lenovo Productivity -USB)	FRU#	CRU Tier
US English (models 19U 19G 19M 19A 19Q 19H 19R 19E 22M 22A 22Q 22R 22E 23M 23A 23Q 23R 23E 24M 24A 24Q 24R 24E 33M 33A 33Q 33R 33E 25M 25A 25Q 25R 25E 26M 26A 26Q 26R 26E 27M 27A 27Q27R 27E 29M 29A 29Q 29R 29E 31M 31A 31Q 31R 31E 32M 32A 32Q 32E 32R 22U 22G 22H 23U 23G 23H 24U 24G 24H 33U 33G 33H 25U 25G 25H 26U 26G 26H 27U 27G 27H 29U 29G 29H 31U 31G 31H 32U 32G 32H 34U 34E 35U 35E 36U 36E 37U 37E 38U 38E 39U 39E 41U 41E 42U 42E 43U 43E 44U 44E 45U 45E 46U 46E 47U 47E 49M 49A 49Q 49R 51M 51A 51Q 51R 52M 52A 52Q 52R 53M 53A 53Q 53R 54M 54A 54Q 54R 55M 55A 55Q 55R 56M 56A 56Q 56R 57M 57A 57Q 57R 58M 58A 58Q 58R 59H 61H 62H 65G 66G 67G 67M 67A 67Q 67E 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G 92U 93U 94U 95U 96U S1M S1A S1Q S1R S1E S4M S4A S4Q S4R S4E A1U A1E A2U A2E A3U A3E A4U A4E A5M A5E A8M A8E A9M A9E B1M B1E B2U B2M B2E B3U B3M B3E B4U B4M B4E B5U B5M B5E B6M B6E B7M B7E B8U B8U B8A B8Q B8R B8E B9U B9A B9Q B9R B9E C1U C1E C2U C2E C3G C4G C5G C6G C6H C7G C8G C9G D1G D2G D3G D4G D4H D6G D7G D8G D9G E2U E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F2H F3G F4M F4A F4Q F4R F5M F5A F5Q F5R F6M F6A F6Q F6R)	41A5289	1
Arabic (models)	41A5290	1
Arabic/French (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5291	1
Belgian/French (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5292	1
Belgian/UK (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5293	1
Bulgarian (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5295	1
Hong Kong/Taiwan (models 19B 19V 22B 22V 23B 23V 24B 24V 33B 33V 25B 25V 26B 26V 27B 27V 29B 29V 31B 31V 32B 32V 59B 59H 61B 61H 62B 62H 59V 61V 62V F7V F8V C6B D4B F2B)	41A5296	1
Czech (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5297	1
Danish (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5298	1
Dutch (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5299	1
French (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5300	1

6483 Keyboards (Lenovo Productivity -USB)	FRU#	CRU Tier
French Canadian 445 (models 22F 23F 24F 33F 25F 26F 27F 29F 31F 32F 34F 35F 36F 37F 38F 39F 41F 42F 43F 44F 45F 46F 47F A1F A2F B2F B3F B4F B5F B8F B8F B9F C1F C2F E2F)	41A5301	1
French Canadian 58 (models 22F 23F 24F 33F 25F 26F 27F 29F 31F 32F 34F 35F 36F 37F 38F 39F 41F 42F 43F 44F 45F 46F 47F A1F A2F B2F B3F B4F B5F B8F B8F B9F C1F C2F E2F)	41A5302	1
German (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5303	1
Greek (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5304	1
Greek/US (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5305	1
Hebrew (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5306	1
Hungarian (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5307	1
Iceland (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5308	1
Italian (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5309	1
Japanese (models 22J 23J 24J 33J 25J 26J 27J 29J 31J 32J 34J 35J 36J 37J 38J 39J 41J 42J 43J 44J 45J 46J 47J 67J S1J S4J A1J A2J A3J A4J A5J A8J A9J B1J B2J B3J B4J B5J B6J B7J B8J B9J C1J C2J)	41A5310	1
Korean (models 22K 23K 24K 33K 25K 26K 27K 29K 31K 32K 49K 51K 52K 53K 54K 55K 56K 57K 58K S1K S4K B8K B9K F4K F5K F6K)	41A5311	1
LA Spanish (models)	41A5312	1
Norwegian (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5313	1
Polish (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5314	1
Portuguese (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5315	1

6483 Keyboards (Lenovo Productivity -USB)	FRU#	CRU Tier
Romanian 096 (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5317	1
Romanian 446 (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5316	1
Russian/Cyrillic (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5318	1
Serbian/Cyrillic (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5319	1
Slovak (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5320	1
Spanish (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5321	1
Swedish/Finnish (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5322	1
Swiss French/German (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5323	1
Thailand (models 22T 23T 24T 33T 25T 26T 27T 29T 31T 32T 19T 49T 51T 52T 53T 54T 55T 56T 57T 58T 67T S1T S4T B8T B9T F4T F5T F6T)	41A5324	1
Turkish 440 (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5325	1
Turkish 179 (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5326	1
UK English (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5327	1
US Euro (models)	41A5328	1
Slovenian (models 19G 22G 23G 24G 33G 25G 26G 27G 29G 32G 32G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D6G D7G D8G D9G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41A5329	1

6483 Keyboards (Preferred Pro Fingerprint Reader USB)	FRU#	CRU Tier
US English (models 21U 21G 21M 21A 21Q 21H 21R 21E A6M A6E A7M A7E)	41A5248	1
Arabic (models)	41A5249	1
Arabic/French (models 21G)	41A5250	1
Belgian/French (models 21G)	41A5251	1
Belgian/UK (models 21G)	41A5252	1
Brazil/Portuguese (models 21G)	41A5253	1
Bulgarian (models 21G)	41A5254	1
Chinese/US (models 21C)	41A5255	1
Czech (models 21G)	41A5256	1
Danish (models 21G)	41A5257	1
Dutch (models 21G)	41A5258	1
French (models 21G)	41A5259	1
French Canadian 445 (models)	41A5260	1
French Canadian 58 (models)	41A5261	1
German (models 21G)	41A5262	1
Greek (models 21G)	41A5263	1
Greek/US (models 21G)	41A5264	1
Hebrew (models 21G)	41A5265	1
Hungarian (models 21G)	41A5266	1
Iceland (models 21G)	41A5267	1
Italian 141 (models 21G)	41A5268	1
Japanese (models 21J A6J A7J)	41A5269	1
Korean (models 21K)	41A5270	1
LA/Spanish (models)	41A5271	1
Norwegian (models 21G)	41A5272	1
Polish (models 21G)	41A5273	1
Portuguese (models 21G)	41A5274	1
Romanian 096 (models 21G)	41A5275	1
Romanian 446 (models 21G)	41A5276	1
Russian/Cyrillic (models 21G)	41A5277	1
Serbian/Cyrillic (models 21G)	41A5278	1
Slovak (models 21G)	41A5279	1
Spanish (models 21G)	41A5280	1
Swedish/Finn (models 21G)	41A5281	1
Swiss (models 21G)	41A5282	1
Thailand (models 21G 21T)	41A5283	1
Turkish 440 (models 21G)	41A5284	1
Turkish 179 (models 21G)	41A5285	1
UK English (models 21G)	41A5286	1
US Euro (models)	41A5287	1
Slovenian (models 21G)	41A5288	1

6483 Keyboards (Wireless)	FRU#	CRU Tier
US English (models)	41A5219	1
Belgium French (models)	41A5220	1
Belgium English (models)	41A5221	1
Chinese/US (models)	41A5222	1
Czech (ABB) (models)	41A5223	1
Danish (models)	41A5224	1
Dutch (models)	41A5225	1
French (models)	41A5226	1
French Canadian (models)	41A5227	1
French Canadian (models)	41A5228	1
German (models)	41A5229	1
Greek (models)	41A5230	1
Greek/US (models)	41A5231	1
Hungarian (models)	41A5232	1
Iceland (models)	41A5233	1
Italy (models)	41A5234	1
Japanese (models)	41A5235	1
Norwegian (models)	41A5236	1
Polish (models)	41A5237	1
Portugese (models)	41A5238	1
Slovak (models)	41A5239	1
Spanish (models)	41A5240	1
Swedish/Finnish (models)	41A5241	1
Swiss French/German (models)	41A5242	1
UK English (models)	41A5243	1
US Euro (models)	41A5244	1
Slovenian (models)	41A5245	1

6483 mice	FRU#	CRU Tier
Optical Wheel Mouse (400 DPI), USB - Red Wheel (Primary) (all models)	41U3013	1
Optical Wheel Mouse (400 DPI), USB - Red Wheel (Secondary) (all models)	41U3030	1
ScrollPoint Optical Mouse (800 DPI), USB (models CTO)	41K1654	1
Wireless Mouse (models CTO)	41U3023	1

6483 Adapters and miscellaneous FRUs	FRU#	CRU Tier
256MB NVIDIA NVS290 (DMS59 Connector) - Quasar (models CTO 34U 34F 34E 34J 51M 51A 51Q 51T 51K 51R 53M 53A 53Q 53T 53K 53R 57M 57A 57Q 57T 57K 57R 65G 78G S1M S1A S1Q S1T S1K S1R S1E S1J S4M S4A S4Q S4T S4K S4R S4E S4J A9M A9E A9J)	42Y6329	2
256MB NVIDIA FX370 (DVI-DL+DVI-DL) - Brown Dwarf (models CTO 35U 35F 35E 35J 52M 52A 52Q 52T 52K 52R 54M 54A 54Q 54T 54K 54R 55M 55A 55Q 55T 55K 55R 66G 79G S2M S2A S2Q S2T S2K S2R S2E S2J S5M S5A S5Q S5T S5K S5R S5E S5J A5M A5E A5J C3G C4G E3G)	42Y6331	2
512MB NVIDIA FX1700 (DVI-DL+DVI-DL+HDTV) - Pulsar (models 19U 19G 19M 19A 19Q 19C 19B 19H 19V 19K 19E 19R 19J 25M 25A 25Q 25T 25K 25R 25E 25J 26M 26A 26Q 26T 26K 26R 26E 26J 27M 27A 27Q 27T 27K 27R 27E 27J 29M 29A 29Q 29T 29K 29R 29E 29J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 25U 25F 25C 25B 25H 25V 26U 26F 26C 26B 26H 26V 27U 27F 27C 27B 27H 27V 29U 29F 29C 29B 29H 29V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 19T 36U 36F 36E 36J 37U 37F 37E 37J 39U 39F 39E 39J 41U 41F 41E 41J 43U 43F 43E 43J 44U 44F 44E 44J 46U 46F 46E 46J 49M 49A 49Q 49T 49K 49R 56M 56A 56Q 56T 56K 56R 58M 58A 58Q 58T 58K 58R 59B 59H 59V 61C 61B 61H 61V 62B 62H 62V 63C 64C 67G 67M 67A 67Q 67T 67E 67J 69G 72G 74G 76G 81G 83G 85G 87G 89G 92U 92F 94U 94F 95U 95F 96U 96F A7M A7E A7J B2U B2F B2M B2E B2J B3U B3F B3M B3E B3J B5U B5F B5M B5E B5J C1U C1F C1E C1J C6G C6B C6H C7G C8G C9G D1G D7G E1U E1F E1G E5G E6G)	42Y6333	2
768MB NVIDIA FX4600 (DVI-DL+DVI-DL+ST) - Black Hole (models 21U 21G 21M 21A 21Q 21C 21B 21H 21V 21K 21R 21E 21J 22M 22A 22Q 22T 22K 22R 22E 22J 23M 23A 23Q 23T 23K 23R 23E 23J 24M 24A 24Q 24T 24K 24R 24E 24J 33M 33A 33Q 33T 33K 33R 33E 33J 22U 22F 22G 22C 22B 22H 22V 23U 23F 23C 23B 23H 23V 24U 24F 24C 24B 24H 24V 33U 33F 33C 33B 33H 33V 21T 38U 38F 38E 38J 42U 42F 42E 42J 45U 45F 45E 45J 47U 47F 47E 47J 68G 71G 73G 75G 77G 82G 84G 86G 88G 91G 93U 93F D6G D9G E9G E3G)	42Y6337	2
256MB NVIDIA FX570 (DVI-DL+DVI-DL+HDTV) - Super Giant (models A2U A2F A2E A2J A3U A3F A3E A3J A6M A6E A6J B1M B1E B1J B8U B8F B8A B8Q B8T B8K B8R B8E B8J C5G F7V)	45R7403	2
512MB NVIDIA FX3700 (DVI-DL+DisplayPort+ST) - Nebula (models A7M A7E A7J B9U B9F B9A B9Q B9T B9K B9R B9E B9J C2U C2F C2E C2J D2G D3G)	42Y6335	2
1536MB NVIDIA C870 Physics Card - Newton Card (models)	45C5226	2
Soft Modem V.90/V.44 (models)	29R9729	2
Sound Blaster X-Fi Sound Card (models 21U 21G 21M 21A 21Q 21C 21B 21H 21V 21K 21R 21E 21J 24M 24A 24Q 24T 24K 24R 24E 24J 33M 33A 33Q 33T 33K 33R 33E 33J 24U 24F 24C 24B 24H 24V 33U 33F 33C 33B 33H 33V 58M 58A 58Q 58T 58K 58R)	43C8028	2
SAS Controller Card (models 23M 23A 23Q 23T 23K 23R 23E 23J 24M 24A 24Q 24T 24K 24R 24E 27M 27A 27Q 27T 27K 27R 27E 27J 23B 23H 23V 24U 24F 24C 24B 24H 24V 33U 33F 33C 33B 33H 33V 27U 27F 27C 27B 27H 27V A8M A8E A8J B2U B2F B2M B2E B2J B4U B4F B4M B4E B4J B6M B6E B6J B7M B7E B7J E3G E4G E5G E6G E7G E8G E9G F1G F2G F6M F6A F6Q F6T F6K F6R)	43C9285	2
Lenovo Branded 3-Piece Speakers (models)	TBD	1
Lenovo Branded Headset (models)	TBD	1
Dongle Cable - DMS59 to dual DVI (included in Quasar L1) (models)	41X6398	2
DVI to VGA Dongle (models)	45C7816	2
Modem Phone Cable (models)	39K5120	2

6483 Power Cords - C13	FRU#	CRU Tier
Line Cord - US - C13 (models 19U 19A 20U 21A 22A 23A 24A 33A 25A 26A 27A 29A 31A 32A 22U 22F 23U 23F 24U 24F 25U 25F 26U 26F 27U 27F 29U 29F 31U 31F 32U 32F 33U 33F 19T 21T 34U 34F 35U 35F 36U 36F 37U 37F 38U 38F 39U 39F 41U 41F 42U 42F 43U 43F 44U 44F 45U 45F 46U 46F 47U 47F 92U 92F 93U 93F 94U 94F 95U 95F 96U 96F 49A 51A 52A 53A 54A 55A 56A 57A 58A S1A S2A S3A S4A S5A S6A 9T 51T 52T 53T 54T 55T 56T 57T 58T 67T S1T S4T A1U A1F A2U A2F A3U A3F A4U A4F B2U B2F B3U B3F B4U B4F B5U B5F B8U B8F B8A B9T C1U C1F C2U C2F E1U E1F E2U E2F F4A F4T F5A F5T F6A F6T)	41R3184	1
Line Cord - US - C13 (models 19U 19A 20U 21A 22A 23A 24A 33A 25A 26A 27A 29A 31A 32A 22U 22F 23U 23F 24U 24F 25U 25F 26U 26F 27U 27F 29U 29F 31U 31F 32U 32F 33U 33F 19T 21T 34U 34F 35U 35F 36U 36F 37U 37F 38U 38F 39U 39F 41U 41F 42U 42F 43U 43F 44U 44F 45U 45F 46U 46F 47U 47F 92U 92F 93U 93F 94U 94F 95U 95F 96U 96F 49A 51A 52A 53A 54A 55A 56A 57A 58A S1A S2A S3A S4A S5A S6A 9T 51T 52T 53T 54T 55T 56T 57T 58T 67T S1T S4T)	41R3185	1
Line Cord - China - C13 (models 19C 21C 22C 23C 24C 25C 26C 27C 29C 31C 32C 33C 61C 63C 64C)	41R3256	1
Line Cord - China - C13 (models 19C 21C 22C 23C 24C 25C 26C 27C 29C 31C 32C 33C 61C 63C 64C)	41R3257	1
Line Cord - Japan - C13 (models 19J 21J 19E 21E 22E 22J 23E 23J 24E 23J 24E 24J 33E 33J 25E 25J 26E 26J 27E 27J 29E 29J 31E 31J 32E 32J 34E 34J 35E 35J 36E 36J 37E 37J 38E 38J 39E 39J 41E 41J 42E 42J 43E 43J 44E 44J 45E 45J 46E 46J 47E 46J 47E 47J 67E 67J S1E S1J S4E S4J)	41R3248	1
Line Cord - Japan - C13 (models 19J 21J 19E 21E 22E 22J 23E 23J 24E 23J 24E 24J 33E 33J 25E 25J 26E 26J 27E 27J 29E 29J 31E 31J 32E 32J 34E 34J 35E 35J 36E 36J 37E 37J 38E 38J 39E 39J 41E 41J 42E 42J 43E 43J 44E 44J 45E 45J 46E 46J 47E 46J 47E 47J 67E 67J S1E S1J S4E S4J)	41R3249	1
Line Cord - Brazil - C13 (models)	41R3270	1
Line Cord - Brazil - C13 (models)	41R3271	1
Line Cord - LA High Volt (APU) - C13 (models)	41R3176	1
Line Cord - LA High Volt (APU) - C13 (models)	41R3177	1
Line Cord - Australia / New Zealand - C13 (models 19M 21M 22M 23M 24M 33M 25M 26M 27M 29M 31M 32M 49M 51M 52M 53M 54M 55M 56M 57M 67M S1M S4M A5M A6M A7M A8M A9M B1M B2M B3M B4M B5M B6M F4M F5M F6M)	41R3196	1
Line Cord - Australia / New Zealand - C13 (models 19M 21M 22M 23M 24M 33M 25M 26M 27M 29M 31M 32M 49M 51M 52M 53M 54M 55M 56M 57M 67M S1M S4M A5M A6M A7M A8M A9M B1M B2M B3M B4M B5M B6M F4M F5M F6M)	41R3197	1
Line Cord - Korea - C13 (models 19K 21K 21R 19R 22K 22R 23K 23R 24K 24R 33K 33R 25K 25R 26K 26R 27K 27R 29K 29R 31K 31R 32K 32R 51K 51R 52K 52R 53K 53R 54K 54R 55K 55R 56K 56R 57K 57R 58K 58R S1K S1R S4K S4R B9K B9R F4K F4R F5K F5R F6K F6R)	41R3260	1
Line Cord - Korea - C13 (models 19K 21K 21R 19R 22K 22R 23K 23R 24K 24R 33K 33R 25K 25R 26K 26R 27K 27R 29K 29R 31K 31R 32K 32R 51K 51R 52K 52R 53K 53R 54K 54R 55K 55R 56K 56R 57K 57R 58K 58R S1K S1R S4K S4R B9K B9R F4K F4R F5K F5R F6K F6R)	41R3261	1
Line Cord - Hong Kong,UK, Ireland, Singapore, Malaysia, Brunei, Hong Kong - C13 (models 19B 19H 21B 21H 22B 22H 223B 23H 24B 24H 25B 25H 26B 26H 27B 27H 29B 29H 31B 31H 32B 32H 33B 33H 19G 19A 21G 21A 22A 23A 24A 33A 25A 26A 27A 29A 31A 32A 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 59B 59H 61B 61H 62B 62H 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G B8A C3G C4G C5G C6G C6B C6H D4B D4H F6A)	41R3224	1

6483 Power Cords - C13	FRU#	CRU Tier
Line Cord - Hong Kong,UK, Ireland, Singapore, Malaysia, Brunei, Hong Kong - C13 (models 19B 19H 21B 21H 22B 22H 223B 23H 24B 24H 25B 25H 26B 26H 27B 27H 29B 29H 31B 31H 32B 32H 33B 33H 19G 19A 21G 21A 22A 23A 24A 33A 25A 26A 27A 29A 31A 32A 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 59B 59H 61B 61H 62B 62H 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G)	41R3225	1
Line Cord - Taiwan - C13 (models 19V 21V 22V 23V 24V 25V 26V 27V 28V 29V 31V 32V 33V 59V 61V 62V F7V F8V)	41R3278	1
Line Cord - Taiwan - C13 (models 19V 21V 22V 23V 24V 25V 26V 27V 28V 29V 31V 32V 33V 59V 61V 62V F7V F8V)	41R3279	1
Line Cord - Italy - C13 (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41R3232	1
Line Cord - Italy - C13 (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41R3233	1
Line Cord - A models - C13 (models 19G 21G 19A 21A 22A 23A 24A 33A 25A 26A 27A 29A 31A 32A 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G 49A 51A 52A 53A 54A 55A 56A 57A 58A S1A S2A S3A S4A S5A S6A B8A C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G F4A F5A F6A)	41R3208	1
Line Cord - A models - C13 (models 19G 21G 19A 21A 22A 23A 24A 33A 25A 26A 27A 29A 31A 32A 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G 49A 51A 52A 53A 54A 55A 56A 57A 58A S1A S2A S3A S4A S5A S6A B8A C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G F4A F5A F6A)	41R3209	1
Line Cord - Denmark - C13 (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41R3212	1
Line Cord - Denmark - C13 (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41R3213	1
Line Cord - Switzerland - C13 (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G D5G D6G D7G D8G D9G E1G)	41R3228	1
Line Cord - Switzerland - C13 (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G D5G D6G D7G D8G D9G E1G)	41R3229	1
Line Cord - Israel - C13 (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	41R3236	1

6483 Power Cords - C13	FRU#	CRU Tier
Line Cord - Israel - C13 (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2GF3G)	41R3237	1
Line Cord - South Africa - C13 (models 19G 21G 19M 21M 19A 21A 22M 23M 24M 33M 25M 26M 27M 29M 31M 32M 22A 23A 24A 33A 25A 26A 27A 29A 31A 32A 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 49A 51A 52A 53A 54A 55A 56A 57A 58A S1A S2A S3A S4A S5A S6A 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G 49M 51M 52M 53M 54M 55M 56M 57M 67M S1M S4M A5M A6M A7M A8M A9M B1M B2M B3M B4M B5M B6M B8A C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G F4M F4A F5M F5A F6M)	41R3220	1
Line Cord - South Africa - C13 (models 19G 21G 19M 21M 19A 21A 22M 23M 24M 33M 25M 26M 27M 29M 31M 32M 22A 23A 24A 33A 25A 26A 27A 29A 31A 32A 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 49A 51A 52A 53A 54A 55A 56A 57A 58A S1A S2A S3A S4A S5A S6A 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G 49M 51M 52M 53M 54M 55M 56M 57M 67M S1M S4M A5M A6M A7M A8M A9M B1M B2M B3M B4M B5M B6M B8A C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G F4M F4A F5M F5A F6M)	41R3221	1
Line Cord - India - C13 (models 19Q 21Q 22Q 23Q 24Q 33Q 25Q 26Q 27Q 29Q 31Q 32Q 49Q 51Q 52Q 53Q 54Q 55Q 56Q 57Q 67Q S1Q S4Q B8Q F4Q F5Q F6Q)	41R3341	1
Line Cord - India - C13 (models 19Q 21Q 22Q 23Q 24Q 33Q 25Q 26Q 27Q 29Q 31Q 32Q 49Q 51Q 52Q 53Q 54Q 55Q 56Q 57Q 67Q S1Q S4Q B8Q F4Q F5Q F6Q)	41R3175	1

6483 Windows XP Home Recovery CDs	FRU#	CRU Tier
US/UK/AP/TH (models)	TBD	1
FR/CF (models)	TBD	1
GR (models)	TBD	1
IT (models)	TBD	1
BR (models)	TBD	1
SP/LA (models)	TBD	1
DK (models)	TBD	1
NL (models)	TBD	1
AE (models)	TBD	1
SV (models)	TBD	1
HE (models)	TBD	1
FI (models)	TBD	1
NO (models)	TBD	1
PL (models)	TBD	1
PO (models)	TBD	1
RU (models)	TBD	1
RE (models)	TBD	1
HU (models)	TBD	1
CZ (models)	TBD	1
TR (models)	TBD	1
GK (models)	TBD	1

6483 Windows XP Home Recovery CDs	FRU#	CRU Tier
Japanese (models)	TBD	1
Simplified Chinese (models)	TBD	1
Taiwan-TC (models)	TBD	1
Hong Kong-TC (models)	TBD	1
Korea (models)	TBD	1

6483 Windows XP Pro Recovery CDs	FRU#	CRU Tier
English (models 34U 35U 36U 37U 38U 39U 41U 42U 43U 44U 45U 46U 47U 34E 35E 36E 37E 38E 39E 41E 42E 43E 44E 45E 46E 47E 54M 54A 54Q 54R 56M 56A 56Q 56R 57M 57A 57Q 57R 58M 58A 58Q 58R 59H 61H 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G 67M 67A 67Q 67E S4M S4A S4Q S4R S4E S)	63Y9616	1
French (models 34F 35F 36F 37F 38F 39F 41F 42F 43F 44F 45F 46F 47F 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9617	1
German (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9618	1
Spanish (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9619	1
Brazil (models)	63Y9620	1
Italian (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9621	1
Japanese (models 34J 35J 36J 37J 38J 39J 41J 42J 43J 44J 45J 46J 47J 67J S4J)	63Y9622	1
Norwegian (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9623	1
Swedish (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9624	1
Danish (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9625	1
Dutch (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9626	1
Czech (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9627	1
Finnish (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9628	1
Hebrew (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9629	1
Polish (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9630	1
Russian (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9631	1
Turkish (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9632	1
Hungarian (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9633	1
Greek (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9634	1
Simplified Chinese (models 59C 61C 63C 64C)	63Y9635	1
Taiwan (models 59V 61V 62V)	63Y9636	1
HongKong (models 59B 61B 62B)	63Y9637	1
Korea (models 54K 56K 57K 58K S4K)	63Y9638	1
Slovenian (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9639	1
Arabic (models)	63Y9640	1
Russian English (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9641	1
Portuguese (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9642	1
Multilingual 1 XP-P -- EN, NL, FR, GR, IT (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9644	1
Multilingual 2 XP-P -- EN, DK, FI, NO, SV (models 65G 66G 67G 68G 69G 71G 72G 73G 74G 75G 76G 77G)	63Y9645	1

6483 Windows XP Pro 64 Recovery DVDs	FRU#	CRU Tier
English (models A1U A1E A2U A2E A3U A3E A4U A4E B2U B2M B2E B3U B3E B3M B4U B4M B4E B5U B5M B5E B8U B8E B8A B8Q B9U B9E B9A B9Q C1U C1E C2U C2E C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1U E1G E2U E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F2H F3G)	53Y6633	1
Japanese (models A1J A2J A3J A4J B2J B3J B4J B5J B8J B9J C1J C2J)	53Y6634	1

6483 Vista Home Basic 32 Recovery DVDs	FRU#	CRU
US/UK/AP/TH (models)	TBD	1
FR/CF (models)	TBD	1
GR (models)	TBD	1
SP/LA (models)	TBD	1
BR (models)	TBD	1
IT (models)	TBD	1
JP (models)	TBD	1
NO (models)	TBD	1
SV (models)	TBD	1
DK (models)	TBD	1
NL (models)	TBD	1
CZ (models)	TBD	1
FI (models)	TBD	1
PL (models)	TBD	1
RU (models)	TBD	1
TR (models)	TBD	1
HU (models)	TBD	1
GK (models)	TBD	1
PO (models)	TBD	1
SC (models)	TBD	1
TW (models)	TBD	1
HK (models)	TBD	1
KR (models)	TBD	1
SL (models)	TBD	1
RE (models)	TBD	1

6483 Vista Business 32 Recovery DVDs	FRU#	CRU
English (models 92U 93U 94U 95U 94U S1M S1A S1Q S1R S1E S2M S2A S2Q S2R S2E S3M S3A S3Q S3R S3E)	64Y6750	1
Russian English (models)	64Y6751	1
French (models 92F 93F 94F 95F 94F)	64Y6752	1
German (models)	64Y6753	1
Spanish (models)	64Y6754	1

6483 Vista Business 32 Recovery DVDs	FRU#	CRU
Brazilian (models)	64Y6755	1
Italian (models)	64Y6756	1
Japanese (models)	64Y6757	1
Norwegian (models)	64Y6758	1
Swedish (models)	64Y6759	1
Danish (models)	64Y6760	1
Dutch (models)	64Y6761	1
Czech (models)	64Y6762	1
Finnish (models)	64Y6763	1
Polish (models)	64Y6764	1
Russian (models)	64Y6765	1
Turkish (models)	64Y6766	1
Hungarian (models)	64Y6767	1
Greek (models)	64Y6768	1
Simplified Chinese (models)	64Y6769	1
Traditional Chinese-TC (models)	64Y6770	1
Traditional Chinese-HK (models)	64Y6771	1
Korean (models)	64Y6772	1
Slovenian (models)	64Y6773	1
Romanian (models)	64Y6774	1
Portuguese (models)	64Y6775	1
Sebian-Latin (models)	64Y6776	1
Slovakian (models)	64Y6777	1
Arabic Localized (models)	64Y6778	1
Hebrew (models)	64Y6779	1

6483 Vista Home Pre 32 Recovery DVDs	FRU#	CRU Tier
English (models)	TBD	1
Russian English (models)	TBD	1
French/Canadian French (models)	TBD	1
German (models)	TBD	1
Spanish/LA (models)	TBD	1
Brazil (models)	TBD	1
Italy (models)	TBD	1
Japanese (models)	TBD	1
Norway (models)	TBD	1
Swedish (models)	TBD	1
Denmark (models)	TBD	1
Dutch (models)	TBD	1
Czech (models)	TBD	1
Finnish (models)	TBD	1

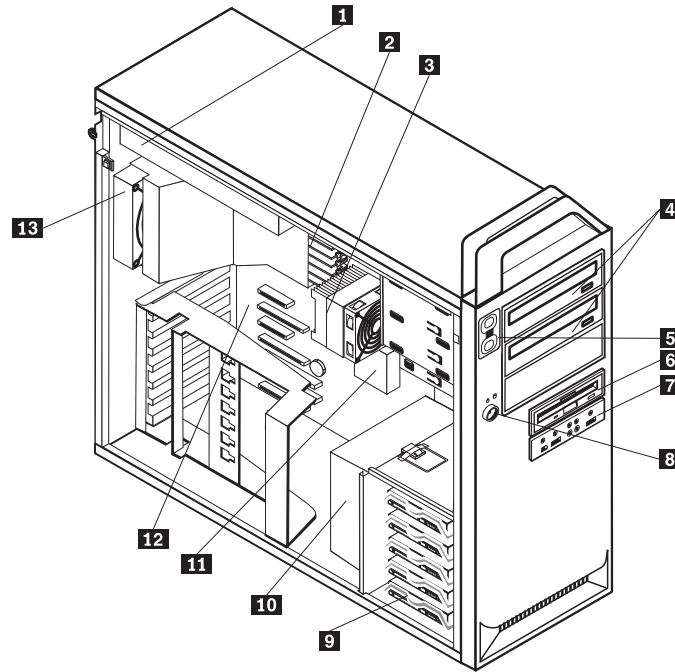
6483 Vista Home Pre 32 Recovery DVDs	FRU#	CRU Tier
Polish (models)	TBD	1
Russian (models)	TBD	1
Turkish (models)	TBD	1
Hungarian (models)	TBD	1
Greek (models)	TBD	1
Simplified Chinese (models)	TBD	1
Traditional Chinese (models)	TBD	1
Traditional Chinese (models)	TBD	1
Korean (models)	TBD	1
Slovenian (models)	TBD	1
Hebrew (models)	TBD	1
Romanian (models)	TBD	1
Bulgarian (models)	TBD	1
Croatian (models)	TBD	1
Portuguese (models)	TBD	1
Serbian-Latin (models)	TBD	1
Ukrainian (models)	TBD	1
Slovakian (model)	TBD	1

6483 Vista Business 64 Recovery DVDs	FRU#	CRU
English (models 19U 19G 19M 19A 19Q 19H 19R 19E 21U 21G 21M 21A 21Q 21H 21R 21E 22M 22A 22Q 22R 22E 23M 23A 23Q 23R 23E 24M 24A 24Q 24R 24E 33M 33A 33Q 33R 33E 25M 25A 25Q 25R 25E 26M 26A 26Q 26R 26E 27M 27A 27Q27R 27E 29M 29A 29Q 29R 29E 31M 31A 31Q 31R 31E 32M 32A 32Q 32E 32R 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 22U 23U 24U 25U 26U 27U 29U 31U 32U 33U 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G A1U A2U A3U A4U B2U B3U B4U B5U B8U B9U C1U C2U E1U E2U C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G C6B C6H D4B D4H F2B F2H A5M A6M A7M A8M A9M B1M B2M B3M B4M B5M B6M B7M B8A B9A B8Q B9Q C6H D4H F2H B8R B9R A1E A2E A3E A4E A5E A6E A7E A8E A9E B1EB2E B3E B4E B5E B7E B9E C1E C C1E C2E)	64Y6780	1
Russian English (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6781	1
French (models 22F 23F 24F 25F 26F 27F 28F 29F31F 32F 33F 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G)	64Y6782	1
German (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6783	1
Spanish (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6784	1
Brazilian (models)	64Y6785	1

6483 Vista Business 64 Recovery DVDs	FRU#	CRU
Italian (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6786	1
Japanese (models 19J 21J 22J 23J 24J 33J 25J 26J 27J 29J 31J 32J A1J A2J A3J A4J A5J A6J A7J A8J A9J B1J B2E B2J B3J B4J B5J B7J B9J C1J C1J C2J)	64Y6787	1
Norwegian (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6788	1
Swedish (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6789	1
Danish (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6790	1
Dutch (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6791	1
Czech (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6792	1
Finnish (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6793	1
Polish (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6794	1
Russian (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6795	1
Turkish (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6796	1
Hungarian (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6797	1
Greek (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6798	1
Simplified Chinese (models 19C 21C 22C 23C 24C 25C 26C 27C 29C 31C 32C 33C)	64Y6799	1
Trad Chinese-TC (models 19V 21V 22V 23V 24V 25V 26V 27V 29V 31V 32V 33V F7V F8V)	64Y6800	1

6483 Vista Business 64 Recovery DVDs	FRU#	CRU
Trad Chinese-HK (models 19B 21B 22B 23B 24B 25B 26B 27B 29B 31B 32B 33B C6B D4B F2B)	64Y6801	1
Korean (models 22K 23K 24K 33K 25K 26K 27K 29K 31K 32K B8K B9K)	64Y6802	1
Slovenian (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6803	1
Portuguese (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6804	1
Slovakian (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6805	1
Arabic Localized (models)	64Y6806	1
Hebrew (models 19G 21G 22G 23G 24G 25G 26G 27G 28G 29G 31G 32G 33G 78G 79G 81G 82G 83G 84G 85G 86G 87G 88G 89G 91G C3G C4G C5G C6G C7G C8G C9G D1G D2G D3G D4G D5G D6G D7G D8G D9G E1G E2G E3G E4G E5G E6G E7G E8G E9G F1G F2G F3G)	64Y6807	1

Machine Type 6493



Item #	6493 FRUs	FRU#	CRU Tier
1	Power supply, 1000 Watt (models 11C 11B 11H 11V 12C 12B 12H 12V 13C 13B 13H 13V 17U 17G 17M 17A 17Q 17C 17B 17H 17V 17K 17R 17E 17J 18U 18G 18M 18A 18Q 18C 18B 18H 18V 18K 18R 18E 18J 19M 19A 19Q 19T 19K 19R 19E 19J 21M 21A 21Q 21T 21K 21R 21E 21J 22M 22A 22Q 22T 22K 22R 22E 22J 23M 23A 23Q 23T 23K 23R 23E 23J 25M 25A 25Q 25T 25K 25R 25E 25J 26M 26A 26Q 26T 26K 26R 26E 26J 33M 33A 33Q 33T 33K 33R 33E 33J 27M 27A 27Q 27T 27K 27R 27E 27J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 19U 19F 19G 19C 19B 19H 19V 21U 21F 21C 21B 21H 21V 22U 22F 22C 22B 22H 22V 23U 23F 23C 23B 23H 23V 25U 25F 25C 25B 25H 25V 26U 26F 26C 26B 26H 26V 33U 33F 33C 33B 33H 33V 27U 27F 27C 27B 27H 27V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 17T 18T 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 39U 39F 39E 39J 41U 41F 41E 41J 42U 42F 42E 42J 43U 43F 43E 43J 44U 44F 44E 44J 45U 45F 45E 45J 46U 46F 46E 46J 47U 47F 47E 47J 48M 48A 48Q 48T 48K 48R 49M 49A 49Q 49T 49K 49R 51M 51A 51Q 51T 51K 51R 52M 52A 52T 52K 52R 53M 53A 53Q 53T 53K 53R 54M 54A 54T 54K 54R 55M 55A 55T 55K 55R 56M 56A 56T 56K 56R 57B 57H 57V 58B 58H 58V 59C 61C 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 73U 73F 73E 73J 74M 74E 74J 75M 75E 75J 76M 76E 76J 77M 77E 77J 78M 78E 78J 79M 79E 79J 81M 81E 81J 82M 82E 82J 83M 83E 83J 84M 84E 84J 85M 85E 85J 86M 86E 86J 87M 87E 87J 88A 88Q 88T 88K 88R 88E 88J 89A 89Q 89T 89K 89R 89E 89J 91E 91J 92E 92J 93G 94G 95G 96G 97G 98G 99G A1G A2U A2F A2E A2J A3M A3A A3Q A3T A3K A3R A4M A4A A4Q A4T A4K A4R A5M A5A A5Q A5T A5K A5R A6K A7K)	41A9709	N
1	Power supply, 1000 Watt (C13 power connector) (all models)	41A9764	N

Item #	6493 FRUs	FRU#	CRU Tier
2	Memory module, 1GB DDR2 ECC FBDIMM PC2-5300 (667MHz) (models 11C 11B 11H 11V 12C 12B 12H 12V 13C 13B 13H 13V 17U 17G 17M 17A 17Q 17C 17B 17H 17V 17K 17R 17E 17J 19M 19A 19Q 19T 19K 19R 19E 19J 23M 23A 23Q 23T 23K 23R 23E 23J 25M 25A 25Q 25T 25K 25R 25E 25J 27M 27A 27Q 27T 27K 27R 27E 27J 19U 19F 19G 19C 19B 19H 19V 23U 23F 23C 23B 23H 23V 25U 25F 25C 25B 25H 25V 27U 27F 27C 27B 27H 27V 17T 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 39U 39F 39E 39J 41U 41F 41E 41J 42U 42F 42E 42J 43U 43F 43E 43J 44U 44F 44E 44J 45U 45F 45E 45J 46U 46F 46E 46J 47U 47F 47E 47J 48M 48A 48Q 48T 48K 48R 49M 49A 49Q 49T 49K 49R 57B 57H 57V 58B 58H 58V 59C 61C 62G 63G 64G 65G 73U 73F 73E 73J 74M 74E 74J 77M 77E 77J 78M 78E 78J 86M 86E 86J 88A 88Q 88T 88K 88R 88E 88J 89A 89Q 89T 89K 89R 89E 89J 91E 91J A2U A2F A2E A2J A3M A3A A3Q A3T A3K A3R A4M A4A A4Q A4T A4K A4R A6K)	43C1708	2
2	Memory module, 2GB DDR2 ECC FBDIMM PC2-5300 (667MHz) (models 21T 21K 21R 21E 21J 22M 22A 22Q 22T 22K 22R 22E 22J 26M 26A 26Q 26T 26K 26R 26E 26J 33M 33A 33Q 33T 33K 33R 33E 33J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 21U 21F 21C 21B 21H 21V 22U 22F 22C 22B 22H 22V 26U 26F 26C 26B 26H 26V 33U 33F 33C 33B 33H 33V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 18T 51M 51A 51Q 51T 51K 51R 52M 52A 52T 52K 52R 53M 53A 53Q 53T 53K 53R 54M 54A 54T 54K 54R 55M 55A 55T 55K 55R 56M 56A 56T 56K 56R 66G 67G 68G 69G 71G 72G)	43C1709	2
2	Memory module, 8GB DDR2 ECC FBDIMM PC2-5300 (667MHz) (models A1G A7K)	43C1711	2
3	Heat sink, Low Acoustics (all models)	41R5542	2
4	Optical drive, DVD-ROM Drive - 16x/48x (SATA) (models CTO 88A 88Q 88T 88K 88R 88E 88J 89A 89Q 89T 89K 89R 89E 89J)	43C1040	2
4	Optical drive, DVD-ROM Drive - 16x/48x (SATA) (models CTO 88A 88Q 88T 88K 88R 88E 88J 89A 89Q 89T 89K 89R 89E 89J)	41N3325	2
4	Optical drive, DVD-ROM Drive - 16x/48x (SATA) (models CTO 88A 88Q 88T 88K 88R 88E 88J 89A 89Q 89T 89K 89R 89E 89J)	42Y6324	2
4	Optical drive, DVD Burner/CD-RW Rambo 8 (SATA) (models 27Q 27T 27K 27R 27E 27J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 19U 19F 19G 19C 19B 19H 19V 21U 21F 21C 21B 21H 21V 22U 22F 22C 22B 22H 22V 23U 23F 23C 23B 23H 23V 25U 25F 25C 25B 25H 25V 26U 26F 26C 26B 26H 26V 33U 33F 33C 33B 33H 33V 27U 27F 27C 27B 27H 27V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 17T 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 39U 39F 39E 39J 41U 41F 41E 41J 42U 42F 42E 42J 43U 43F)	43C1042	2
4	Optical drive, Blu-Ray DVD Burner (SATA) (models 18U 18G 18M 18A 18Q 18C 18B 18H 18V 18K 18R 18E 18J 18T 61C 87M 87E 87J)	43C9584	2
5	Internal speaker (see item 8) (all models)	41R5532	2
6	Diskette drive kit (includes diskette drive, bezel, and cable) (models 13C 13B 13H 13V 17U 17G 17M 17A 17Q 17C 17B 17H 17V 17K 17R 17E 17J 18U 18G 18M 18A 18Q 18C 18B 18H 18V 18K 18R 18E 18J)	TBD	2
6	Diskette drive, 3.5" 1.44MB 2-Mode (models 13C 13B 13H 13V 17U 17G 17M 17A 17Q 17C 17B 17H 17V 17K 17R 17E 17J 18U 18G 18M 18A 18Q 18C 18B 18H 18V 18K 18R 18E 18J)	40Y9105	2
6	Diskette drive, 3.5" 1.44MB 2-Mode (models 13C 13B 13H 13V 17U 17G 17M 17A 17Q 17C 17B 17H 17V 17K 17R 17E 17J 18U 18G 18M 18A 18Q 18C 18B 18H 18V 18K 18R 18E 18J)	40Y9107	2
7	Front Panel Cable Asm (USB, Audio, 1394) (all models)	41R5645	2
8	Speaker, Power Switch, LED, and bracket Asm (all models)	41R5532	2

Item #	6493 FRUs	FRU#	CRU Tier
9	Hard disk drive, 160GB 7200rpm SATA (models CTO 48M 48A 48Q 48T 48K 48R 88A 88Q 88T 88K 88R 88E 88J 89A 89Q 89T 89K 89R 89E 89J A1G)	40Y9035	2
9	Hard disk drive, 250GB 7200rpm SATA (models 19M 19A 19Q 19T 19K 19R 19E 19J 23M 23A 23Q 23T 23K 23R 23E 23J 25M 25A 25Q 25T 25K 25R 25E 25J 27M 27A 27Q 27T 27K 27R 27E 27J 19U 19F 19G 19C 19B 19H 19V 23U 23F 23C 23B 23H 23V 25U 25F 25C 25B 25H 25V 27U 27F 27C 27B 27H 27V 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 45U 45F 45E 45J 46U 46F 46E 46J 47U 47F 47E 47J 49M 49A 49Q 49T 49K 49R 51M 51A 51Q 51T 51K 51R 57B 57H 57V 58B 58H 58V 59C 61C 62G 63G 66G 68G 69G 73U 73F 73E 73J 74M 74E 74J 75M 75E 75J 77M 77E 77J 78M 78E 78J 79M 79E 79J 83M 83E 83J 93G 95G 96G A2U A2F A2E A2J A3A A3Q A3T A3K A3R)	40Y9036	2
9	Hard disk drive, 500GB 7200rpm SATA (models 17U 17G 17M 17A 17Q 17C 17B 17H 17V 17K 17R 17E 17J 17T 52M 52A 52T 52K 52R 54M 54A 54T 54K 54R 86M 86E 86J 94G 97G 99G)	41X5582	2
9	Hard disk drive, 750GB SATA - 7200 rpm, 3 Gb/s (models CTO)	43C3671	2
9	Hard disk drive, 73GB SAS - 15000 rpm, 3 Gb/s, 32MB cache (models CTO)	43C6967	2
9	Hard disk drive, 1000GB (1TB) SATA - 7200 rpm, 3 Gb/s (models)	45C5973	2
9	Hard disk drive, 73GB SAS - 15000 rpm, 3 Gb/s, 32MB cache (models)	45K0607	2
9	Hard disk drive, 146GB SAS - 15000 rpm, 3 Gb/s, 32MB cache (models 11C 11B 11H 11V 12C 12B 12H 12V 13C 13B 13H 13V 18U 18G 18M 18A 18Q 18C 18B 18H 18V 18K 18R 18E 18J 21M 21A 21Q 21T 21K 21R 21E 21J 22M 22A 22Q 22T 22K 22R 22E 26M 26A 26Q 26T 26K 26R 26E 26J 33M 33A 33Q 33T 33K 33R 33E 33J 31M 31A 31Q 31T 31K 31R 31E 31J 31M 32A 32Q 32T 32K 32R 32E 32J 21U 21F 21C 21B 21H 21V 22U 22F 22C 22B 22H 22V 26U 26F 26C 26B 26H 26V 33U 33F 33C 33B 33H 33V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 18T 39U 39F 39E 39J 41U 41F 41E 41J 42U 42F 42E 42J 43U 43F 43E 43J 44U 44F 44E 44J 55M 55A 55T 55K 55R 64G 65G 67G 71G 72G 76M 76E 76J 81M 81E 81J 82M 82E 82J 84M 84E 84J 85M 85E 85J 87M 87E 87J 91E 91J 92E 92J 98G A6K A7K)	45K0608	2
9	Hard disk drive, 300GB SAS - 15000 rpm, 3 Gb/s, 32MB cache (models CTO 53M 53A 53Q 53T 53K 53R 56M 56A 56T 56K 56R)	45K0609	2
10	Fan Asm, Front 120 mm with grommets and fingerguard (all models)	41R5506	2
11	Microprocessor, Intel Xeon 5110 - 1.60GHz, 4MB L2, 1066MHz FSB, G0 (models 14U 14G)	TBD	N
11	Microprocessor, Intel Xeon 5130 - 2.00GHz, 4MB L2, 1333MHz FSB, G0 (models 11C 11B 11H 11V 12U 12G 15U 15G)	TBD	N
11	Microprocessor, Intel Xeon 5140 - 2.33GHz, 4MB L2, 1333MHz FSB, G0 (models 12C 12B 12H 12V)	TBD	N
11	Microprocessor, Intel Xeon 5150 - 2.66GHz, 4MB L2, 1333MHz FSB, G0 (models 13C 13B 13H 13V)	TBD	N
11	Microprocessor, Intel Xeon 5160 - 3.00GHz, 4MB L2, 1333MHz FSB, G0 (models)	TBD	N
11	Microprocessor, Intel Xeon E5310 - 1.60GHz, 4MBx2 L2, 1066MHz FSB, G0 (models 17U 17G 17M 17A 17Q 17C 17B 17H 17V 17K 17R 17E 17J)	TBD	N
11	Microprocessor, Intel Xeon E5335 - 2.00GHz, 4MBx2 L2, 1333MHz FSB, G0 (models)	TBD	N
11	Microprocessor, IntelXeon X5355 - 2.66GHz, 4MBx2 L2, 1333MHz FSB, G0 (models16U 16G 18U 18G 18M 18A 18Q 18C 18B 18H 18V 18K 18R 18E 18J)	TBD	N
11	Microprocessor, Intel Xeon E5205 - 1.86GHz, 6MB L2, 1066MHz FSB, 65W (models CTO 86M 86E 86J)	45C7445	N
11	Microprocessor, Intel Xeon E5260 - 3.33GHz, 6MB L2, 1333MHz FSB, 80W (models CTO 51M 51A 51Q 51T 51K 51R 84M 84E 84J 85M 85E 85J 87M 87E 87J)	45C7446	N

Item #	6493 FRUs	FRU#	CRU Tier
11	Microprocessor, Intel Xeon E5405 - 2.00GHz, 12MB L2, 1333MHz FSB, 80W (models 17U 17G 17M 17A 17Q 17C 17B 17H 17V 17K 17R 17E 17J 17T A6K)	45C7447	N
11	Microprocessor, Intel Xeon E5410 - 2.33GHz, 12MB L2, 1333MHz FSB, 80W (models)	45C7448	N
11	Microprocessor, Intel Xeon E5420 - 2.50GHz, 12MB L2, 1333MHz FSB, 80W (models 11C 11B 11H 11V 25M 25A 25Q 25T 25K 25R 25E 25J 62G 63G 64G 65G 66G 67G 74M 74E 74J 95G 96G 97G 98G 99G A7K)	45C7449	N
11	Microprocessor, Intel Xeon E5430 - 2.66GHz, 12MB L2, 1333MHz FSB, 80W (models 12C 12B 12H 12V 19M 19A 19Q 19T 19K 19R 19E 19J 23M 23A 23Q 23T 23K 23R 23E 23J 19U 19F 19G 19C 19B 19H 19V 23U 23F 23C 23B 23H 23V 34U 34F 34E 34J 39U 39F 39E 39J 48M 48A 48Q 48T 48K 48R 49M 49A 49Q 49T 49K 49R 52M 52A 52T 52K 52R 53M 53A 53Q 53T 53K 53R 57B 57H 57V 59C 75M 75E 75J 88A 88Q 88T 88K 88R 88E 88J 89A 89Q 89T 89K 89R 89E 89J 94G)	45C7450	N
11	Microprocessor, Intel Xeon E5440 - 2.83GHz, 12MB L2, 1333MHz FSB, 80W (models 13C 13B 13H 13V 18U 18G 18M 18A 18Q 18C 18B 18H 18V 18K 18R 18E 18J 21M 21A 21Q 21T 21K 21R 21E 21J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 21U 21F 21C 21B 21H 21V 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 18T 54M 54A 54T 54K 54R 68G 69G 71G 72G 76M 76E 76J 77M 77E 77J A3M A3A A3Q A3T A3K A3R)	45C7451	N
11	Microprocessor, Intel Xeon E5450 - 3.00GHz, 12MB L2, 1333MHz FSB, 80W (models CTO 35U 35F 35E 35J 37U 37F 37E 37J 41U 41F 41E 41J 43U 43F 43E 43J 46U 46F 46E 46J 55M 55A 55T 55K 55R 73U 73F 73E 73J 78M 78E 78J 79M 79E 79J 81M 81E 81J A2U A2F A2E A2J)	45C7452	N
11	Microprocessor, Intel Xeon X5460 - 3.Hz, 12MB L2, 1333MHz FSB, 120W (models 22M 22A 22Q 22T 22K 22R 22E 22J 26M 26A 26Q 26T 26K 26R 26E 26J 33M 33A 33Q 33T 33K 33R 33E 33J 27M 27A 27Q 27T 27K 27R 27E 27J 22U 22F 22C 22B 22H 22V 26U 26F 26C 26B 26H 26V 33U 33F 33C 33B 33H 33V 27U 27F 27C 27B 27H 27V 36U 36F 36E 36J 38U 38F 38E 38J 42U 42F 42E 42J 44U 44F 44E 44J 45U 45F 45E 45J 47U 47F 47E 47J 56M 56A 56T 56K 56R 58B 58H 58V 61C 82M 82E 82J 83M 83E 83J 91E 91J 92E 92J 93G 95G A1G)	45C7453	N
11	Microprocessor, Intel Xeon X5450 - 3.00GHz, 12MB L2, 1333MHz FSB, 120W (models CTO A4M A4A A4Q A4T A4K A4R A5M A5A A5Q A5T A5K A5R)	45C8260	N
12	System Board, Skye - 2P Intel Socket LGA771, Seaburg, ESB2 (models 11C 11B 11H 11V 12C 12B 12H 12V 13C 13B 13H 13V 17U 17G 17M 17A 17Q 17C 17B 17H 17V 17K 17R 17E 17J 18U 18G 18M 18A 18Q 18C 18B 18H 18V 18K 18R 18E 18J 19M 19A 19Q 19T 19K 19R 19E 19J 21M 21A 21Q 21T 21K 21R 21E 21J 22M 22A 22Q 22T 22K 22R 22E 22J 23M 23A 23Q 23T 23K 23R 23E 23J 25M 25A 25Q 25T 25K 25R 25E 25J 26M 26A 26Q 26T 26K 26R 26E 26J 33M 33A 33Q 33T 33K 33R 33E 33J 27M 27A 27Q 27T 27K 27R 27E 27J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 19U 19F 19G 19C 19B 19H 19V 21U 21F 21C 21B 21H 21V 22U 22F 22C 22B 22H 22V 23U 23F 23C 23B 23H 23V 25U 25F 25C 25B 25H 25V 26U 26F 26C 26B 26H 26V 33U 33F 33C 33B 33H 33V 27U 27F 27C 27B 27H 27V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 17T 18T 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 39U 39F 39E 39J 41U 41F 41E 41J 42U 42F 42E 42J 43U 43F 43E 43J 44U 44F 44E 44J 45U 45F 45E 45J 46U 46F 46E 46J 47U 47F 47E 47J 48M 48A 48Q 48T 48K 48R 49M 49A 49Q 49T 49K 49R 51M 51A 51Q 51T 51K 51R 52M 52A 52T 52K 52R 53M 53A 53Q 53T 53K 53R 54M 54A 54T 54K 54R 55M 55A 55T 55K 55R 56M 56A 56T 56K 56R 57B 57H 57V 58B 58H 58V 59C 61C 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 73U 73F 73E 73J 74M 74E 74J 75M 75E 75J 76M 76E 76J 77M 77E 77J 78M 78E 78J 79M 79E 79J 81M 81E 81J 82M 82E 82J 83M 83E 83J 84M 84E 84J 85M 85E 85J 86M 86E 86J 87M 87E 87J 88A 88Q 88T 88K 88R 88E 88J 89A 89Q 89T 89K 89R 89E 89J 91E 91J 92E 92J 93G 94G 95G 96G 97G 98G 99G A1G A2U A2F A2E A2J A6K A7K)	53Y7791	N
13	Fan Asm, 120mm, system exhaust (all models)	41R5529	2

The FRUs listed in the following tables are not illustrated.

6493 FRUs	FRU#	CRU Tier
Diskette drive cable Asm (all models)	41N8294	2
Bezel Kit (all models)	41R5628	2
Handle with screws (all models)	41R5526	2
Cable Asm, SATA (all models)	41R5481	2
Cable Asm, SATA, optical disk drive (all models)	41R5517	2
Cover Asm (access panel) (all models)	41R5530	1
Mechanical Shell Kit (all models)	41R5508	N
Miscellaneous Parts Kit (all models)	41R5630	2
Cable Asm, Cover Detect Switch (all models)	41R5534	2
Serial Port Cable (all models)	41R5544	2
System board Screw Kit (all models)	41R5547	2
Label Kit (all models)	41R5549	1
Cable Asm, HDD SAS (all models)	41R5513	2
Thermal Sense Cable (all models)	41R2511	2
Rail Kit, Remy with filler (all models)	41R5597	2
Heat Sink Dummy Filler (all models)	41R5563	2
Shield, Skye Motherboard EMC (all models)	41R5643	2
Filler Plate, Remy (all models)	41R5636	2
Aluminum Fansink, w/grease cover (all models)	45K2261	2
SAS HDD Filler (all models)	41R5552	2

6493 Keyboards (PS2 Preferred Pro)	FRU#	CRU
US English (models)	41A5039	1
Arabic (models)	41A5040	1
Arabic/French (models)	41A5041	1
Belgian/French (models)	41A5042	1
Belgian/UK (models)	41A5043	1
Bulgarian (models)	41A5045	1
Hong Kong/Taiwan (models)	41A5046	1
Czech (models)	41A5047	1
Danish (models)	41A5048	1
Dutch (models)	41A5049	1
French (models)	41A5050	1
French Canadian 445 (models)	41A5051	1
French Canadian 58 (models)	41A5052	1
German (models)	41A5053	1
Greek (models)	41A5054	1
Hebrew (models)	41A5055	1
Hungarian (models)	41A5056	1

6493 Keyboards (PS2 Preferred Pro)	FRU#	CRU
Iceland (models)	41A5057	1
Italian (models)	41A5058	1
Japanese (models)	41A5059	1
Korean (models)	41A5060	1
LA Spanish (models)	41A5061	1
Norwegian (models)	41A5062	1
Polish (models)	41A5063	1
Portuguese (models)	41A5064	1
Romanian (models)	41A5065	1
Russian/Cyrilic (models)	41A5066	1
Serbian/Cyrilic (models)	41A5067	1
Slovak (models)	41A5068	1
Spanish (models)	41A5069	1
Swedish/Finn (models)	41A5070	1
Swiss F/G (models)	41A5071	1
Thailand (models)	41A5072	1
Turkish 440 (models)	41A5073	1
Turkish 179 (models)	41A5074	1
UK English (models)	41A5075	1
US Euro (models)	41A5076	1
Slovenian (models)	41A5077	1
Brazil/Portuguese (models)	41A5044	1

6493 Keyboards (Lenovo Productivity -USB)	FRU#	CRU Tier
US English (models 11H 17U 17G 17M 17A 17Q 17H 17R 17E 17J 19M 19A 19Q 19R 19E 21M 21A 21Q 21R 21E 22M 22A 22Q 22R 22E 23M 23A 23Q 23R 23E 25M 25A 25Q 25R 25E 26M 26A 26Q 26R 26E 33M 33A 33Q 33R 33E 27M 27A 27Q 27R 27E 31M 31A 31Q 31R 31E 32M 32A 32Q 32R 32E 19U 19G 19H 21U 21G 21H 22U 22G 22H 23U 23G 23H 25U 25G 25H 26U 26G 26H 33U 33G 33H 27U 27G 27H 31U 31G 31H 32U 32G 32H 34U 35U 36U 37U 38U 39U 41U 42U 43U 44U 45U 46U 47U 57H 58H 34E 35E 36E 37E 38E 39E 41E 42E 43E 44E 45E 46E 47E 48R 49R 51R 52R 53R 54R 55R 56R 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 73U 73E 74M 74E 75M 75E 76M 76E 77M 77E 78M 78E 79M 79E 81M 81E 82M 82E 83M 83E 84M 84E 85M 85E 86M 86E 88A 88Q 88R 88E 89A 89Q 89R 89E 91E 92E 93G 94G 95G 96G 97G 98G 99G A1G A2U A2E A3M A3A A3Q A3R A4M A4A A4Q A4R A5M A5A A5Q A5R)	41A5289	1
Arabic (models)	41A5290	1
Arabic/French (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5291	1
Belgian/French (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5292	1
Belgian/UK (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5293	1
Brazilian (models)	41A5294	1
Bulgarian (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5295	1

6493 Keyboards (Lenovo Productivity -USB)	FRU#	CRU Tier
Hong Kong/Taiwan (models 11B 11V 12B 12V 13B 13V 17B 17V 19B 19V 21B 21V 22B 22V 23B 23V 25B 25V 26B 26V 33B 33V 27B 27V 31B 31V 32B 32V)	41A5296	1
Czech (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5297	1
Danish (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5298	1
Dutch (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5299	1
French (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5300	1
French Canadian 445 (models 19F 21F 22F 23F 25F 26F 27F 31F 32F 33F 34F 35F 36F 37F 38F 39F 41F 42F43 44F 45F 46F 47F 73F A2F)	41A5301	1
French Canadian 58 (models 19F 21F 22F 23F 25F 26F 27F 31F 32F 33F 34F 35F 36F 37F 38F 39F 41F 42F43 44F 45F 46F 47F 73F A2F)	41A5302	1
German (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5303	1
Greek (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5304	1
Greek/US (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5305	1
Hebrew (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5306	1
Hungarian (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5307	1
Iceland (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5308	1
Italian (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	41A5309	1
Japanese (models 17J 19J 21J 22J 23J 25J 26J 27J 31J 32J 34J 35J 36J 37J 38J 39J 41J 42J 43J 44J 45J 46J 47J 73J 74J 75J 76J 77J 78J 79J 81J 82J 83J 84J 85J 86J 88J 89J 91J 92J A2J)	41A5310	1
Korean (models 17K 19K 21K 22K 23K 25K 26K 27K 31K 32K 48K 49K 51K 52K 53K 54K 55K 56K 88K 89K A3K A4K A5K A6K A7K)	41A5311	1
LA Spanish (models)	41A5312	1
Norwegian (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5313	1
Polish (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5314	1
Portuguese (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5315	1
Romanian 096 (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5317	1
Romanian 446 (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5316	1
Russian/Cyrillic (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5318	1
Serbian/Cyrillic (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5319	1

6493 Keyboards (Lenovo Productivity -USB)	FRU#	CRU Tier
Slovak (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5320	1
Spanish (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5321	1
Swedish/Finnish (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5322	1
Swiss French/German (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5323	1
Thailand (models 19T 21T 22T 23T 25T 26T 27T 31T 32T 17T 88T 89T A3T A4T A5T)	41A5324	1
Turkish 440 (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5325	1
Turkish 179 (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5326	1
UK English (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5327	1
US Euro (models)	41A5328	1
Slovenian (models 17G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41A5329	1

6493 Keyboards (Preferred Pro Fingerprint Reader USB)	FRU#	CRU Tier
US English (models 18U 18G 18M 18A 18Q 18H 18R 18E 87M 87E)	41A5248	1
Arabic (models)	41A5249	1
Arabic/French (models 18G)	41A5250	1
Belgian/French (models 18G)	41A5251	1
Belgian/UK (models 18G)	41A5252	1
Brazil/Portuguese (models)	41A5253	1
Bulgarian (models 18G)	41A5254	1
Chinese/US (models 18C)	41A5255	1
Czech (models 18G)	41A5256	1
Danish (models 18G)	41A5257	1
Dutch (models 18G)	41A5258	1
French (models 18G)	41A5259	1
French Canadian 445 (models)	41A5260	1
French Canadian 58 (models)	41A5261	1
German (models 18G)	41A5262	1
Greek (models 18G)	41A5263	1
Greek/US (models 18G)	41A5264	1
Hebrew (models 18G)	41A5265	1
Hungarian (models 18G)	41A5266	1
Iceland (models 18G)	41A5267	1
Italian 141 (models 18G)	41A5268	1
Japanese (models 18J 87J)	41A5269	1
Korean (models 18K)	41A5270	1

6493 Keyboards (Preferred Pro Fingerprint Reader USB)	FRU#	CRU Tier
LA/Spanish (models)	41A5271	1
Norwegian (models 18G)	41A5272	1
Polish (models 18G)	41A5273	1
Portuguese (models 18G)	41A5274	1
Romanian 096 (models 18G)	41A5275	1
Romanian 446 (models 18G)	41A5276	1
Russian/Cyrillic (models 18G)	41A5277	1
Serbian/Cyrillic (models 18G)	41A5278	1
Slovak (models 18G)	41A5279	1
Spanish (models 18G)	41A5280	1
Swedish/Finn (models 18G)	41A5281	1
Swiss (models 18G)	41A5282	1
Thailand (models 18T)	41A5283	1
Turkish 440 (models 18G)	41A5284	1
Turkish 179 (models 18G)	41A5285	1
UK English (models 18G)	41A5286	1
US Euro (models)	41A5287	1
Slovenian (models 18G)	41A5288	1

6493 Keyboards (Wireless)	FRU#	CRU Tier
US English (models)	41A5219	1
Belgium French (models)	41A5220	1
Belgium English (models)	41A5221	1
Chinese/US (models)	41A5222	1
Czech (ABB) (models)	41A5223	1
Danish (models)	41A5224	1
Dutch (models)	41A5225	1
French (models)	41A5226	1
French Canadian (models)	41A5227	1
French Canadian (models)	41A5228	1
German (models)	41A5229	1
Greek (models)	41A5230	1
Greek/US (models)	41A5231	1
Hungarian (models)	41A5232	1
Iceland (models)	41A5233	1
Italy (models)	41A5234	1
Japanese (models)	41A5235	1
Norwegian (models)	41A5236	1
Polish (models)	41A5237	1
Portugese (models)	41A5238	1
Slovak (models)	41A5239	1

6493 Keyboards (Wireless)	FRU#	CRU Tier
Spanish (models)	41A5240	1
Swedish/Finnish (models)	41A5241	1
Swiss French/German (models)	41A5242	1
UK English (models)	41A5243	1
US Euro (models)	41A5244	1
Slovenian (models)	41A5245	1

6493 mice	FRU#	CRU Tier
Optical Wheel Mouse (400 DPI), USB - Red Wheel (Primary) (models 11C 11B 11H 11V 12C 12B 12H 12V 13C 13B 13H 13V 17U 17G 17M 17A 17Q 17C 17B 17H 17V 17K 17R 17E 17J 18U 18G 18M 18A 18Q 18C 18B 18H 18V 18K 18R 18E 18J 19M 19A 19Q 19T 19K 19R 19E 19J 21M 21A 21Q 21T 21K 21R 21E 21J 22M 22A 22Q 22T 22K 22R 22E 22J 23M 23A 23Q 23T 23K 23R 23E 23J 25M 25A 25Q 25T 25K 25R 25E 25J 26M 26A 26Q 26T 26K 26R 26E 26J 33M 33A 33Q 33T 33K 33R 33E 33J 27M 27A 27Q 27T 27K 27R 27E 27J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 19U 19F 19G 19C 19B 19H 19V 21U 21F 21C 21B 21H 21V 22U 22F 22C 22B 22H 22V 23U 23F 23C 23B 23H 23V 25U 25F 25C 25B 25H 25V 26U 26F 26C 26B 26H 26V 33U 33F 33C 33B 33H 33V 27U 27F 27C 27B 27H 27V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 17T 18T 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 39U 39F 39E 39J 41U 41F 41E 41J 42U 42F 42E 42J 43U 43F 43E 43J 44U 44F 44E 44J 45U 45F 45E 45J 46U 46F 46E 46J 47U 47F 47E 47J 48M 48A 48Q 48T 48K 48R 49M 49A 49Q 49T 49K 49R 51M 51A 51Q 51T 51K 51R 52M 52A 52T 52K 52R 53M 53A 53Q 53T 53K 53R 54M 54A 54T 54K 54R 55M 55A 55T 55K 55R 56M 56A 56T 56K 56R 57B 57H 57V 58B 58H 58V 59C 61C 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 73U 73F 73E 73J 74M 74E 74J 75M 75E 75J 76M 76E 76J 77M 77E 77J 78M 78E 78J 79M 79E 79J 81M 81E 81J 82M 82E 82J 83M 83E 83J 84M 84E 84J 85M 85E 85J 86M 86E 86J 87M 87E 87J 88A 88Q 88T 88K 88R 88E 88J 89A 89Q 89T 89K 89R 89E 89J 91E 91J 92E 92J 93G 94G 95G 96G 97G 98G 99G A1G A2U A2F A2E A2J A3M A3A A3Q A3T A3K A3R A4M A4A A4Q A4T A4K A4R A5M A5A A5Q A5T A5K A5R A6K A7K)	41U3013	1
Optical Wheel Mouse (400 DPI), USB - Red Wheel (Secondary) (models 11C 11B 11H 11V 12C 12B 12H 12V 13C 13B 13H 13V 17U 17G 17M 17A 17Q 17C 17B 17H 17V 17K 17R 17E 17J 18U 18G 18M 18A 18Q 18C 18B 18H 18V 18K 18R 18E 18J 19M 19A 19Q 19T 19K 19R 19E 19J 21M 21A 21Q 21T 21K 21R 21E 21J 22M 22A 22Q 22T 22K 22R 22E 22J 23M 23A 23Q 23T 23K 23R 23E 23J 25M 25A 25Q 25T 25K 25R 25E 25J 26M 26A 26Q 26T 26K 26R 26E 26J 33M 33A 33Q 33T 33K 33R 33E 33J 27M 27A 27Q 27T 27K 27R 27E 27J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 19U 19F 19G 19C 19B 19H 19V 21U 21F 21C 21B 21H 21V 22U 22F 22C 22B 22H 22V 23U 23F 23C 23B 23H 23V 25U 25F 25C 25B 25H 25V 26U 26F 26C 26B 26H 26V 33U 33F 33C 33B 33H 33V 27U 27F 27C 27B 27H 27V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 17T 18T 34U 34F 34E 34J 35U 35F 35E 35J 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 39U 39F 39E 39J 41U 41F 41E 41J 42U 42F 42E 42J 43U 43F 43E 43J 44U 44F 44E 44J 45U 45F 45E 45J 46U 46F 46E 46J 47U 47F 47E 47J 48M 48A 48Q 48T 48K 48R 49M 49A 49Q 49T 49K 49R 51M 51A 51Q 51T 51K 51R 52M 52A 52T 52K 52R 53M 53A 53Q 53T 53K 53R 54M 54A 54T 54K 54R 55M 55A 55T 55K 55R 56M 56A 56T 56K 56R 57B 57H 57V 58B 58H 58V 59C 61C 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 73U 73F 73E 73J 74M 74E 74J 75M 75E 75J 76M 76E 76J 77M 77E 77J 78M 78E 78J 79M 79E 79J 81M 81E 81J 82M 82E 82J 83M 83E 83J 84M 84E 84J 85M 85E 85J 86M 86E 86J 87M 87E 87J 88A 88Q 88T 88K 88R 88E 88J 89A 89Q 89T 89K 89R 89E 89J 91E 91J 92E 92J 93G 94G 95G 96G 97G 98G 99G A1G A2U A2F A2E A2J A3M A3A A3Q A3T A3K A3R A4M A4A A4Q A4T A4K A4R A5M A5A A5Q A5T A5K A5R A6K A7K)	41U3030	1
ScrollPoint Optical Mouse (800 DPI), USB (models CTO)	41K1654	1
Wireless Mouse (models CTO)	41U3023	1

6493 Adapters and miscellaneous FRUs	FRU#	CRU Tier
3.5" 9-in-1 Media Card Reader (models 13C 13B 13H 13V 17U 17G 17M 17A 17Q 17C 17B 17H 17V 17K 17R 17E 17J 18U 18G 18M 18A 18Q 18C 18B 18H 18V 18K 18R 18E 18J 19M 19A 19Q 19T 19K 19R 19E 19J 21M 21A 21Q 21T 21K 21R 21E 21J 22M 22A 22Q 22T 22K 22R 22E 22J 23M 23A 23Q 23T 23K 23R 23E 23J 25M 25A 25Q 25T 25K 25R 25E 25J 26M 26A 26Q 26T 26K 26R 26E 26J 33M 33A 33Q 33T 33K 33R 33E 33J 27M 27A 27Q 27T 27K 27R 27E 27J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 19U 19F 19G 19C 19B 19H 19V 21U 21F 21C 21B 21H 21V 22U 22F 22C 22B 22H 22V 23U 23F 23C 23B 23H 23V 25U 25F 25C 25B 25H 25V 26U 26F 26C 26B 26H 26V 33U 33F 33C 33B 33H 33V 27U 27F 27C 27B 27H 27V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 17T 18T 73U 73F 73E 73J 74M 74E 74J 75M 75E 75J 76M 76E 76J 77M 77E 77J 78M 78E 78J 79M 79E 79J 81M 81E 81J 82M 82E 82J 83M 83E 83J 84M 84E 84J 85M 85E 85J 86M 86E 86J 87M 87E 87J 88A 88Q 88T 88K 88R 88E 88J 89A 89Q 89T 89K 89R 89E 89J 91E 91J 92E 92J 93G 94G 95G 96G 97G 98G 99G A1G A2U A2F A2E A2J A3M A3A A3Q A3T A3K A3R A4M A4A A4Q A4T A4K A4R A5M A5A A5Q A5T A5K A5R A6K A7K)	41R3378	2
Transceiver (USB) (models)	41A5246	2
L1 IEEE 1394 PCI Adapter (models 23M 23A 23Q 23T 23K 23R 23E 23J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 23U 23F 23C 23B 23H 23V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 58B 58H 58V 59C 61C 63G 64G 65G 66G 67G 68G 69G 71G 72G)	41D2781	2
Speakers (2-piece) Lenovo Logo (models)	41A5331	1
Speakers (2-piece) Lenovo Logo (models)	41A5334	1
Lenovo 3 pieces Speakers (China Only) (models)	45C8640	1
Lenovo 2 pieces Speakers (China Only) (models)	45C8641	1
Speaker Power brick - US, Canada, LA low voltage, ASEAN (models 17U 18U 19U 21U 22U 23U 25U 26U 27U 29U 31U 32U 33U 34U 35U 36U 37U 38U 39U 41U 42U 43U 44U 45U 46U 47U 48A 49A 51A 52A 53A 54A 55A 56A 73U A2U 88A 89A A3A A4A A5A)	89P8571	1
Speaker Power brick - LA high voltage (non-APU) (models)	89P8575	1
Speaker Power brick - China, Thailand (models 11C 12C 13C 19C 21C 22C 23C 25C 26C 27C 29C 31C 32C 33C 17T 18T 59C 61C 48T 49T 51T 52T 53T 54T 55T 56T 88T 89T A3T A4T A5T)	89P8581	1
Speaker Power brick - Japan (models 17J 18J 17E 18E 19J 19E 21J 21E 22J 22E 23J 23E 25E 25J 26E 26J 33E 33J 27E 27J 31E 31J 32E 32J 34E 35E 36E 37E 38E 39E 41E 42E 43E 44E 45E 46E 47E 34J 35J 36J 37J 38J 39J 41J 42J 43J 44J 45J 46J 47J 73J 74J 75J 76J 77J 78J 79J 81J 82J 83J 84J 85J 86J 88J 89J 91J 92J A2J 73E 74E 75E 76E 77E 78E 79E 81E 82E 83E 84E 85E 86E 87E 88E 89E 91E 92E A2E)	89P8577	1
Speaker Power brick - Brazil (models)	89P8583	1
Speaker Power brick - Argentina (models)	41A4901	1
Speaker Power brick - ANZ (models 19M 21M 22M 23M 25M 26M 33M 26M 27M 31M 32M 48M 49M 51M 52M 53M 54M 55M 56M 74M 75M 76M 77M 78M 79M 81M 82M 83M 84M 85M 86M 87M 88M A3M A4M A5M)	89P8579	1
Speaker Brick - Korea (models 17K 18K 17R 18R 17K 19K 21K 22K 23K 25K 26K 27K 31K 32K 19R 21R 22R 23R 25R 26R 27R 31R 32R 48K 49K 51K 52K 53K 54K 55K 56K 48R 49R 51R 52R 53R 54R 55R 56R 88K 88R 89K 89R A3K A3R A4K A4R A5K A5R A6K A7K)	41A4903	1
Speaker Brick - Hong Kong, EMEA (models 11B 11H 12B 12H 13B 13H 17G 18G 17B 17H 18B 18H 19G 21G 2G 23G 25G 26G 27G 29G 31G 32G 33G 19B 19H 21B 21H 22B 22H 23B 23H 25B 25H 26B 26H 27B 27H 29B 29H 31B 31H 32B 32H 33B 33H 57B 57H 58B 58H 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	89P8573	1
Speaker Brick - Taiwan (models 11V 12V 13V 17V 18V 19V 21V 22V 23V 25V 26V 27V 29V 31V 32V 33V 57V 58V)	41A4905	1
Speaker Power brick - India, South Africa (models 17Q 18Q 19Q 21Q 22Q 23Q 15Q 16Q 33Q 27Q 31Q 32Q 48Q 49Q 51Q 53Q 88Q 89Q A3Q A4Q A5Q)	89P8585	1

6493 Adapters and miscellaneous FRUs	FRU#	CRU Tier
512MB NVIDIA FX3700 (DVI-DL+DisplayPort+ST) - Nebula (models 11C 11B 11H 11V 12C 12B 12H 12V 13C 13B 13H 13V 73U 73F 73E 73J 76M 76E 76J 81M 81E 81J 82M 82E 82J 84M 84E 84J 87M 87E 87J 89A 89Q 89T 89K 89R 89E 89J 91E 91J 92E 92J 93G 94G 95G A7K)	42Y6335	2
256MB NVIDIA NVS290 (DMS59 Connector) - Quasar (models 27M 27A 27Q 27T 27K 27R 27E 27J 27U 27F 27C 27B 27H 27V 49M 49A 49Q 49T 49K 49R 52M 52A 52T 52K 52R 54M 54A 54T 54K 54R 74M 74E 74J 83M 83E 83J 86M 86E 86J)	42Y6329	2
256MB NVIDIA FX370 (DVI-DL+DVI-DL) - Brown Dwarf (models CTO 75M 75E 75J)	42Y6331	2
512MB NVIDIA FX1700 (DVI-DL+DVI-DL+HDTV) - Pulsar (models 17U 17G 17M 17A 17Q 17C 17B 17H 17V 17K 17R 17E 17J 11C 11B 11H 11V 12C 12B 12H 12V 13C 13B 13H 13V 19M 19A 19Q 19T 19K 19R 19E 19J 23M 23A 23Q 23T 23K 23R 23E 23J 11C 11B 11H 11V 12C 12B 12H 12V 13C 13B 13H 13V 19U 19F 19G 19C 19B 19H 19V 23U 23F 23C 23B 23H 23V 25U 25F 25C 25B 25H 25V 17T 34U 34F 34E 34J 35U 35F 35E 35J 39U 39F 39E 39J 41U 41F 41E 41J 48M 48A 48Q 48T 48K 48R 51M 51A 51Q 51T 51K 51R 53M 53A 53Q 53T 53K 53R 55M 55A 55T 55K 55R 56M 56A 56T 56K 56R 57B 57H 57V 58B 58H 58V 59C 61C 62G 64G 68G 71G 77M 77E 77J 78M 78E 78J 79M 79E 79J 85M 85E 85J A2U A2F A2E A2J)	42Y6333	2
768MB NVIDIA FX4600 (DVI-DL+DVI-DL+ST) - Black Hole (models 18U 18G 18M 18A 18Q 18C 18B 18H 18V 18K 18R 18E 18J 1M 21A 21Q 21T 21K 21R 21E 21J 22M 22A 22Q 22T 22K 22R 22E 22J 26M 26A 26Q 26T 26K 26R 26E 26J 33M 33A 33Q 33T 33K 33R 33E 33J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 21U 21F 21C 21B 21H 21V 22U 22F 22C 22B 22H 22V 26U 26F 26C 26B 26H 26V 33U 33F 33C 33B 33H 33V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 18T 36U 36F 36E 36J 37U 37F 37E 37J 38U 38F 38E 38J 42U 42F 42E 42J 43U 43F 43E 43J 44U 44F 44E 44J 45U 45F 45E 45J 46U 46F 46E 46J 47U 47F 47E 47J 63G 65G 66G 67G 69G 72G A1G)	42Y6337	2
256MB NVIDIA FX570 (DVI-DL+DVI-DL+HDTV) - Super Giant (models 88A 88Q 88T 88K 88R 88E 88J 89A 96G 97G 98G 99G A6K)	45R7403	2
1536MB NVIDIA C870 Physics Card - Newton Card (models)	45C5226	2
Soft Modem V.90/V.44 (models)	29R9729	2
Sound Blaster X-Fi Sound Card (models 18U 18G 18M 18A 18Q 18C 18B 18H 18V 18K 18R 18E 18J 23M 23A 23Q 23T 23K 23R 23E 23J 31M 31A 31Q 31T 31K 31R 31E 31J 32M 32A 32Q 32T 32K 32R 32E 32J 23U 23F 23C 23B 23H 23V 31U 31F 31C 31B 31H 31V 32U 32F 32C 32B 32H 32V 18T 56M 56A 56T 56K 56R)	43C8028	2
SAS Controller Card (models)	43C9285	2
Lenovo Branded 3-Piece Speakers (models)	TBD	1
Lenovo Branded Headset (models)	TBD	1
Dongle Cable - DMS59 to dual DVI (included in Quasar L1) (models)	41X6398	2
DVI to VGA Dongle (models)	45C7816	2
Modem Phone Cable (models)	39K5120	2

6493 Power Cords	FRU#	CRU
Line Cord - US (models 17U 17A 18U 18A 19A 21A 22A 23A 25A 26A 27A 31A 32A 33A 19U 21U 22U 23U 25U 26U 27U 29U 31U 32U 33U 19F 21F 22F 23F 25F 26F 27F 29F 31F 32F 17T 18T 34U 35U 36U 37U 38U 39U 41U 42U 43U 44U 45U 46U 47U 48A 49A 51A 52A 53A 54A 55A 56A 34F 35F 36F 37F 38F 39F 41F 42F43 44F 45F 46F 47F 48T 49T 51T 52T 53T 54T 55T 56T 73U 73F A2U A2F 88A 88T 89A 89T A3A A4A A5A A3T A4T A5T)	41R3393	1
Line Cord - US (models 17U 17A 18U 18A 19A 21A 22A 23A 25A 26A 27A 31A 32A 33A 19U 21U 22U 23U 25U 26U 27U 29U 31U 32U 33U 19F 21F 22F 23F 25F 26F 27F 29F 31F 32F 17T 18T 34U 35U 36U 37U 38U 39U 41U 42U 43U 44U 45U 46U 47U 48A 49A 51A 52A 53A 54A 55A 56A 34F 35F 36F 37F 38F 39F 41F 42F43 44F 45F 46F 47F 48T 49T 51T 52T 53T 54T 55T 56T 73U 73F A2U A2F 88A 88T 89A 89T A3A A4A A5A A3T A4T A5T)	41R3406	1

6493 Power Cords	FRU#	CRU
Line Cord - US - C13 (models)	41R3184	1
Line Cord - US - C13 (models)	41R3185	1
Line Cord - China (models 11C 12C 13C 17C 18C 19C 21C 22C 23C 25C 26C 27C 29C 31C 32C 33C 59C 61C)	41R3398	1
Line Cord - China (models 11C 12C 13C 17C 18C 19C 21C 22C 23C 25C 26C 27C 29C 31C 32C 33C 59C 61C)	41R3411	1
Line Cord - China - C13 (models)	41R3256	1
Line Cord - China - C13 (models)	41R3257	1
Line Cord-Australia / New Zealand (models 17M 18M 19M 21M 22M 23M 25M 26M 33M 27M 31M 32M 48M 49M 51M 52M 53M 54M 55M 56M 74M 75M 76M 77M 78M 79M 81M 82M 83M 84M 85M 86M 87M A3M A4M A5M)	41R3397	1
Line Cord-Australia / New Zealand (models 17M 18M 19M 21M 22M 23M 25M 26M 33M 27M 31M 32M 48M 49M 51M 52M 53M 54M 55M 56M 74M 75M 76M 77M 78M 79M 81M 82M 83M 84M 85M 86M 87M 88M A3M A4M A5M)	41R3410	1
Line Cord-Australia / New Zealand - C13 (models)	41R3196	1
Line Cord-Australia / New Zealand - C13 (models)	41R3197	1
Line Cord - Taiwan (models 11V 12V 13V 17V 18V 19V 21V 22V 23V 25V 27V 26V 29V 31V 32V 33V 57V 58V)	41R3399	1
Line Cord - Taiwan (models 11V 12V 13V 17V 18V 19V 21V 22V 23V 25V 27V 26V 29V 31V 32V 33V 57V 58V)	41R3412	1
Line Cord - Taiwan - C13 (models)	41R3278	1
Line Cord - Taiwan - C13 (models)	41R3279	1
Line Cord - A models (models 17G 18G 19A 21A 22A 23A 25A 26A 27A 31A 32A 33A 19G 21G 22G 23G 25G 26G 27G 29G 31G 32G 33G 48A 49A 51A 52A 53A 54A 55A 56A 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G 88A 89A A3A A4A A5A)	41R3395	1
Line Cord - A models (models 17G 18G 19A 21A 22A 23A 25A 26A 27A 31A 32A 33A 19G 21G 22G 23G 25G 26G 27G 29G 31G 32G 33G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 48A 49A 51A 52A 53A 54A 55A 56A)	41R3408	1
Line Cord - A models - C13 (models)	41R3208	1
Line Cord - A models - C13 (models)	41R3209	1
Line Cord - Israel (models 17G 18G 19G 21G 22G 23G 25G 26G 27G 29G 31G 32G 33G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41R3396	1
Line Cord - Israel (models 17G 18G 19G 21G 22G 23G 25G 26G 27G 29G 31G 32G 33G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41R3409	1
Line Cord - Israel - C13 (models)	41R3236	1
Line Cord - Israel - C13 (models)	41R3237	1
Line Cord - Japan (models 17J 18J 17E 18E 19J 19E 21J 21E 22J 22E 23J 23E 25E 25J 26E 26J 33E 33J 27E 27J 31E 31J 32E 32J 34E 35E 36E 37E 38E 39E 41E 42E 43E 44E 45E 46E 47E 34J 35J 36J 37J 38J 39J 41J 42J 43J 44J 45J 46J 47J 73J 74J 75J 76J 77J 78J 79J 81J 82J 83J 84J 85J 86J 88J 89J 91J 92J A2J 73E 74E 75E 76E 77E 78E 79E 81E 82E 83E 84E 85E 86E 87E 88E 89E 91E 92E A2E)	41R3414	1
Line Cord - Japan - C13 (models)	41R3248	1
Line Cord - Japan - C13 (models)	41R3249	1
Line Cord - Brazil (models)	41R3416	1
Line Cord - Brazil - C13 (models)	41R3270	1
Line Cord - Brazil - C13 (models)	41R3271	1

6493 Power Cords	FRU#	CRU
Line Cord - LA High Volt (APU) (models)	41R3417	1
Line Cord - LA High Volt (APU) - C13 (models)	41R3176	1
Line Cord - LA High Volt (APU) - C13 (models)	41R3177	1
Line Cord - Korea (models 17K 17R 18K 18R 19K 21K 22K 23K 25K 26K 27K 31K 32K 19R 21R 22R 23R 25R 26R 27R 31R 32R 48K 49K 51K 52K 53K 54K 55K 56K 48R 49R 51R 52R 53R 54R 55R 56R A3K A3R A4K A4R A5K A5R A6K A7K)	41R3418	1
Line Cord - Korea - C13 (models)	41R3260	1
Line Cord - Korea - C13 (models)	41R3261	1
Line Cord - Hong Kong, UK, Ireland, Singapore, Malaysia, Brunei (models 11B 11H 12B 12H 13B 13H 17B 17H 18H 18B 17G 18G 17A 18A 19A 21A 22A 23A 25A 26A 27A 31A 32A 33A 57B 57H 58B 58H 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 48A 49A 51A 52A 53A 54A 55A 56A 93G 94G 95G 96G 97G 98G 99G A1G 88A 89A A3A A4A A5A)	41R3419	1
Line Cord - Hong Kong, UK, Ireland, Singapore, Malaysia, Brunei - C13 (models)	41R3224	1
Line Cord - Hong Kong, UK, Ireland, Singapore, Malaysia, Brunei - C13 (models)	41R3225	1
Line Cord - Italy (models 17G 18G 19G 21G 22G 23G 25G 26G 27G 29G 31G 32G 33G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41R3420	1
Line Cord - Italy - C13 (models)	41R3232	1
Line Cord - Italy - C13 (models)	41R3233	1
Line Cord - Denmark (models 17G 18G 19G 21G 22G 23G 25G 26G 27G 29G 31G 32G 33G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41R3425	1
Line Cord - Denmark - C13 (models)	41R3212	1
Line Cord - Denmark - C13 (models)	41R3213	1
Line Cord - Switzerland (models 17G 18G 19G 21G 22G 23G 25G 26G 27G 29G 31G 32G 33G 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G)	41R3421	1
Line Cord - Switzerland - C13 (models)	41R3228	1
Line Cord - Switzerland - C13 (models)	41R3229	1
Line Cord - South Africa (models 17G 18G 17M 17A 18M 18A 19M 21M 22M 23M 25M 26M 33M 27M 31M 32M 19A 21A 22A 23A 25A 26A 27A 31A 32A 33A 19G 21G 22G 23G 25G 26G 27G 29G 31G 32G 33G 48A 49A 51A 52A 53A 54A 55A 56A 48M 49M 51M 52M 53M 54M 55M 56M 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G 93G 94G 95G 96G 97G 98G 99G A1G 74M 75M 76M 77M 78M 79M 81M 82M 83M 84M 85M 86M 87M 88M A3M A4M A5M 88A 89A A3A A4A A5A)	41R3422	1
Line Cord - South Africa - C13 (models)	41R3220	1
Line Cord - South Africa - C13 (models)	41R3220	1
Line Cord - India (models 17Q 18Q 19Q 21Q 22Q 23Q 25Q 26Q 33Q 27Q 31Q 32Q 49Q 51Q 53Q 88Q 89Q A3Q A4Q A5Q)	41R3423	1
Line Cord - India - C13 (models)	41R3341	1
Line Cord - India - C13 (models)	41R3175	1

6493 Windows XP Home Recovery CDs	FRU#	CRU
US/UK/AP/TH (models)	TBD	1
FR/CF (models)	TBD	1
GR (models)	TBD	1
IT (models)	TBD	1
BR (models)	TBD	1

6493 Windows XP Home Recovery CDs	FRU#	CRU
SP/LA (models)	TBD	1
DK (models)	TBD	1
NL (models)	TBD	1
AE (models)	TBD	1
SV (models)	TBD	1
HE (models)	TBD	1
FI (models)	TBD	1
NO (models)	TBD	1
PL (models)	TBD	1
PO (models)	TBD	1
RU (models)	TBD	1
RE (models)	TBD	1
HU (models)	TBD	1
CZ (models)	TBD	1
TR (models)	TBD	1
GK (models)	TBD	1
Japanese (models)	TBD	1
Simplified Chinese (models)	TBD	1
Taiwan-TC (models)	TBD	1
Hong Kong-TC (models)	TBD	1
Korea (models)	TBD	1

6493 Windows XP Pro Recovery CDs	FRU#	CRU Tier
English (models 34U 35U 36U 37U 38U 39U 41U 42U 43U 44U 45U 46U 47U 51M 51A 51Q 51R 53M 53A 53Q 53R 55M 55A 56M 56A 55R 56R 57H 58H 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9616	1
French (models 34F 35F 36F 37F 38F 39F 41F 42F 43F 44F 45F 46F 47F 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9617	1
German (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9618	1
Spanish (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9619	1
Brazil (models)	63Y9620	1
Italian (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9621	1
Japanese (models)	63Y9622	1
Norwegian (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9623	1
Swedish (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9624	1
Danish (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9625	1
Dutch (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9626	1
Czech (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9627	1
Finnish (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9628	1
Hebrew (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9629	1
Polish (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9630	1
Russian (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9631	1

6493 Windows XP Pro Recovery CDs	FRU#	CRU Tier
Turkish (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9632	1
Hungarian (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9633	1
Greek (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9634	1
Simplified Chinese (models 59C 61C)	63Y9635	1
Taiwan (models 57V 58V)	63Y9636	1
HongKong (models 57B 58B)	63Y9637	1
Korea (models 51K 53K 56K)	63Y9638	1
Slovenian (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9639	1
Arabic (models)	63Y9640	1
Russian English (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9641	1
Portuguese (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9642	1
Multilingual 1 XP-P -- EN, NL, FR, GR, IT (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9644	1
Multilingual 2 XP-P -- EN, DK, FI, NO, SV (models 62G 63G 64G 65G 66G 67G 68G 69G 71G 72G)	63Y9645	1

6493 Windows XP Pro 64 Recovery DVDs	FRU#	CRU Tier
English (models 73U 73E 93G 94G 95G 96G 97G 98G 99G A1G A2U A2E)	53Y6633	1
Japanese (models 73J A2J)	53Y6634	1

6493 Vista Home Basic 32 Recovery DVDs	FRU#	CRU
US/UK/AP/TH (models)	TBD	1
FR/CF (models)	TBD	1
GR (models)	TBD	1
SP/LA (models)	TBD	1
BR (models)	TBD	1
IT (models)	TBD	1
JP (models)	TBD	1
NO (models)	TBD	1
SV (models)	TBD	1
DK (models)	TBD	1
NL (models)	TBD	1
CZ (models)	TBD	1
FI (models)	TBD	1
PL (models)	TBD	1
RU (models)	TBD	1
TR (models)	TBD	1
HU (models)	TBD	1
GK (models)	TBD	1
PO (models)	TBD	1

6493 Vista Home Basic 32 Recovery DVDs	FRU#	CRU
SC (models)	TBD	1
TW (models)	TBD	1
HK (models)	TBD	1
KR (models)	TBD	1
SL (models)	TBD	1
RE (models)	TBD	1

6493 Vista Business 32 Recovery DVDs	FRU#	CRU
English (models)	64Y6750	1
Russian English (models)	64Y6751	1
French (models)	64Y6752	1
German (models)	64Y6753	1
Spanish (models)	64Y6754	1
Brazilian (models)	64Y6755	1
Italian (models)	64Y6756	1
Japanese (models)	64Y6757	1
Norwegian (models)	64Y6758	1
Swedish (models)	64Y6759	1
Danish (models)	64Y6760	1
Dutch (models)	64Y6761	1
Czech (models)	64Y6762	1
Finnish (models)	64Y6763	1
Polish (models)	64Y6764	1
Russian (models)	64Y6765	1
Turkish (models)	64Y6766	1
Hungarian (models)	64Y6767	1
Greek (models)	64Y6768	1
Simplified Chinese (models)	64Y6769	1
Traditional Chinese-TC (models)	64Y6770	1
Traditional Chinese-HK (models)	64Y6771	1
Korean (models)	64Y6772	1
Slovenian (models)	64Y6773	1
Romanian (models)	64Y6774	1
Portuguese (models)	64Y6775	1
Sebian-Latin (models)	64Y6776	1
Slovakian (models)	64Y6777	1
Arabic Localized (models)	64Y6778	1
Hebrew (models)	64Y6779	1

6493 Vista Home Pre 32 Recovery DVDs	FRU#	CRU Tier
English (models)	TBD	1

6493 Vista Home Pre 32 Recovery DVDs	FRU#	CRU Tier
Russian English (models)	TBD	1
French/Canadian French (models)	TBD	1
German (models)	TBD	1
Spanish/LA (models)	TBD	1
Brazil (models)	TBD	1
Italy (models)	TBD	1
Japanese (models)	TBD	1
Norway (models)	TBD	1
Swedish (models)	TBD	1
Denmark (models)	TBD	1
Dutch (models)	TBD	1
Czech (models)	TBD	1
Finnish (models)	TBD	1
Polish (models)	TBD	1
Russian (models)	TBD	1
Turkish (models)	TBD	1
Hungarian (models)	TBD	1
Greek (models)	TBD	1
Simplified Chinese (models)	TBD	1
Traditional Chinese (models)	TBD	1
Traditional Chinese (models)	TBD	1
Korean (models)	TBD	1
Slovenian (models)	TBD	1
Hebrew (models)	TBD	1
Romanian (models)	TBD	1
Bulgarian (models)	TBD	1
Croatian (models)	TBD	1
Portuguese (models)	TBD	1
Serbian-Latin (models)	TBD	1
Ukrainian (models)	TBD	1
Slovakian (models)	TBD	1

6493 Vista Business 64 Recovery DVDs	FRU#	CRU
English (models 11H 12H 13H 17U 17G 17M 17A 17Q 17H 17R 17E 18U 18G 18M 18A 18Q 18H 18R 18E 19M 19A 19Q 19R 19E 1M 21A 21Q 21R 21E 22M 22A 22Q 22R 22E 23M 23A 23Q 23R 23E 25M 25A 25Q 25R 25E 26M 26A 26Q 26R 26E 33M 33A 33Q 33R 33E 27M 27A 27Q 27R 27E 31M 31A 31Q 31R 31E 32M 32A 32Q 32R 32E 19U 19G 19H 21U 21G 21H 22U 22G 22H 23U 23G 23H 25U 25G 25H 26U 26G 26H 33U 33G 33H 27U 27G 27H 31U 31G 31H 32U 32G 32H 73U 73E 74M 74E 75M 75E 76M 76E 77M 77E 78M 78E 79M 79E 81M 81E 82M 82E 83M 83E 84M 84E 85M 85E 86M 86E 87M 87E 88A 88Q 88R 88E 89A 89Q 89R 89E 91E 92E 93G 94G 95G 96G 97G 98G 99G A1G A2U A2E)	64Y6780	1
Russian English (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6781	1

6493 Vista Business 64 Recovery DVDs	FRU#	CRU
French (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G A2F)	64Y6782	1
German (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6783	1
Spanish (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6784	1
Brazilian (models)	64Y6785	1
Italian (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6786	1
Japanese (models 19J 21J 22J 23J 25J 26J 27J 31J 32J 73J 74J 75J 76J 77J 78J 79J 81J 82J 83J 84J 85J 86J 87J 88J 89J 91J 92J A2J)	64Y6787	1
Norwegian (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6788	1
Swedish (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6789	1
Danish (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6790	1
Dutch (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6791	1
Czech (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6792	1
Finnish (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6793	1
Polish (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6794	1
Russian (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6795	1
Turkish (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6796	1
Hungarian (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6797	1
Greek (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6798	1
Simplified Chinese (models 11C 12C 13C 17C 18C 19C 21C 22C 23C 25C 26C 27C 29C 31C 32C 33C)	64Y6799	1
Trad Chinese-TC (models 11V 12V 13V 17V 18V 19V 21V 22V 23V 25V 26V 27V 29V 31V 32V 33V)	64Y6800	1
Trad Chinese-HK (models 11B 12B 13B 17B 18B 19B 21B 22B 23B 25B 26B 27B 29B 31B 32B 33B)	64Y6801	1
Korean (models 19K 21K 22K 23K 25K 26K 27K 31K 32K 88K A6K A7K)	64Y6802	1
Slovenian (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6803	1
Portuguese (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6804	1
Slovakian (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6805	1
Arabic Localized (models)	64Y6806	1

6493 Vista Business 64 Recovery DVDs	FRU#	CRU
Hebrew (models 17G 18G 19G 21G 22G 23G 25G 26G 33G 27G 31G 32G 93G 94G 95G 96G 97G 98G 99G A1G)	64Y6807	1

Chapter 12. 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 or CD-ROM

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

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

Updating (flashing) BIOS from the operating system

Note: Due to the constant improvements made to the Web site, Web page content (including the links referenced in the following procedure) is subject to change.

1. From your browser, type <http://www.lenovo.com/support> in the address field and press Enter.
2. Locate the Downloadable files for your machine type as follows:
 - a. Type your machine type and click **Go**.
 - b. Click **Continue**.
 - c. Click **Downloads and drivers**.
 - d. Under the BIOS category, click the Flash BIOS update.
 - e. Click the .txt file that contains the installation instructions for the flash BIOS update (flash from the operating system version).
3. Print these instructions. This is very important since they are not on the screen after the download begins.
4. From your browser, click **Back** to return to the list of files. Carefully follow the printed instructions to download, extract, and install the update.

Recovering from a POST/BIOS update failure

If power to your computer is interrupted while POST/BIOS is being updated (flash update), your computer might not restart correctly. If this happens, perform the following procedure commonly called Boot-block Recovery.

1. Turn off the computer and any attached devices, such as printers, monitors, and external drives.

2. Unplug all power cords from electrical outlets, and unplug any external options from the computer, including the USB mouse and the USB keyboard, if they are connected. Open the computer cover. See "Opening the cover" on page 94.
3. Access the system board. See "Accessing system board components and drives" on page 96.
4. Locate the Clear CMOS/Recovery jumper on the system board. See "System board connectors and components" on page 93.
5. Remove any cables that impede access to the Clear CMOS/Recovery jumper.
6. Move the jumper from the standard position (pins 1 and 2) to pins 2 and 3.
7. Reinstall the adapter cards (some models).
8. Close the computer cover and reconnect any cables that were disconnected.
9. Reconnect the power cords for the computer and monitor to electrical outlets.
10. Insert the POST/BIOS update (flash) diskette into drive A, and turn on the computer and the monitor.
11. The recovery session will take two to three minutes. During this time you will hear a series of beeps. After the update session is completed, there will be no video, the series of beeps will end, and the system will automatically turn off. Remove the diskette from the diskette drive.
12. Repeat steps 2 through 5.
13. Replace the Clear CMOS/Recovery jumper to its original position.
14. Reinstall the adapter cards (some models) if removed.
15. Close the computer cover and reconnect any cables that were disconnected.
16. Turn on the computer to restart the operating system.

Power management

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

Automatic configuration and power interface (ACPI) BIOS

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

Automatic Power-On features

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

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

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