# lenovo

Lenovo 128MB ATI Radeon HD2400Pro/256MB ATI Radeon HD2400XT/512MB ATI Radeon HD2600XT Dual-VGA or Dual-DVI, TV-out PCI-e Graphics Adapter User's Guide

# lenovo

Lenovo 128MB ATI Radeon HD2400Pro/256MB ATI Radeon HD2400XT/512MB ATI Radeon HD2600XT Dual-VGA or Dual-DVI, TV-out PCI-e Graphics Adapter User's Guide

Note
Before installing the product, be sure to read the warranty information in "Lenovo Limited Warranty" on page 7.

First Edition (November 2007)

© Copyright Lenovo 2007.

Portions © Copyright International Business Machines Corporation 2005. All rights reserved.

LENOVO products, data, computer software, and services have been developed exclusively at private expense and are sold to governmental entities as commercial items as defined by 48 C.F.R. 2.101 with limited and restricted rights to use, reproduction and disclosure.

LIMITED AND RESTRICTED RIGHTS NOTICE: If products, data, computer software, or services are delivered pursuant a General Services Administration "GSA" contract, use, reproduction, or disclosure is subject to restrictions set forth in Contract No. GS-35F-05925.

# Contents

Safety information v	Service and Support 5
	Registering your option 5
General safety guidelines vii	Online technical support 5
Service	Telephone technical support 5
Power cords and power adapters vii	
Extension cords and related devices vii	Lenovo Limited Warranty 7
Plugs and outlets vii	Warranty information
Batteries viii	Suplemento de Garantía para Méjico
Heat and product ventilation viii	• • •
	Notices
Product description and installation	Recycling information
instructions	Trademarks
Product description	
Preparing for installation	Electronic emission notices 15
Installing the Lenovo ATI Radeon Dual-VGA or	Federal Communications Commission (FCC)
Dual-DVI, TV-out PCI-e Graphics Adapter 2	Declaration of Conformity
Installing the device drivers in Windows Vista,	,
Windows XP or Windows 2000 Professional 2	China RoHS
Uninstalling the device drivers in Windows Vista,	
Windows XP or Windows 2000 Professional	

# Safety information

Before installing this product, read the Safety Information.

Antes de instalar este produto, leia as Informações de Segurança.

在安装本产品之前,请仔细阅读 Safety Information (安全信息)。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας (safety information).

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza.

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Antes de instalar este produto, leia as Informações sobre Segurança.

Перед установкой продукта прочтите инструкции по технике безопасности.

Pred inštaláciou tohto produktu si prečítajte bezpečnostné informácie.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Antes de instalar este producto lea la información de seguridad.

Läs säkerhetsinformationen innan du installerar den här produkten.

安裝本產品之前,請先閱讀「安全資訊」。

# General safety guidelines

Always observe the following precautions to reduce the risk of injury and property damage.

## **Service**

Do not attempt to service a product yourself unless instructed to do so by the Customer Support Center. Use only a service provider who is approved to repair your particular product.

**Note:** Some parts can be upgraded or replaced by the customer. These parts are referred to as Customer Replaceable Units, or CRUs. Lenovo expressly identifies CRUs as such, and provides documentation with instructions when it is appropriate for customers to replace those parts. You must closely follow all instructions when performing such replacements. Always make sure that the power is turned off and that the product is unplugged from any power source before you attempt the replacement. If you have any questions or concerns, contact the Customer Support Center.

## Power cords and power adapters

Use only the power cords and power adapters supplied by the product manufacturer.

Never wrap a power cord around the power adapter or other object. Doing so can stress the cord in ways that can cause the cord to fray, crack or crimp. This can present a safety hazard.

Always route power cords so that they will not be walked on, tripped over, or pinched by objects.

Protect the cord and power adapters from liquids. For instance, do not leave your cord or power adapter near sinks, tubs, toilets, or on floors that are cleaned with liquid cleansers. Liquids can cause a short circuit, particularly if the cord or power adapter has been stressed by misuse. Liquids can also cause gradual corrosion of the power cord terminals and/or the connector terminals on the adapter which can eventually result in overheating.

Always connect power cords and signal cables in the correct order and ensure that all power cord connectors are securely and completely plugged into receptacles.

Do not use any power adapter that shows corrosion at the ac input pins and/or shows signs of overheating (such as deformed plastic) at the ac input or anywhere on the power adapter.

Do not use any power cords where the electrical contacts on either end show signs of corrosion or overheating or where the power cord appears to have been damaged in any way.

## Extension cords and related devices

Ensure that extension cords, surge protectors, uninterruptible power supplies, and power strips that you use are rated to handle the electrical requirements of the product. Never overload these devices. If power strips are used, the load should not exceed the power strip input rating. Consult an electrician for more information if you have questions about power loads, power requirements, and input ratings.

## Plugs and outlets

If a receptacle (power outlet) that you intend to use with your computer equipment appears to be damaged or corroded, do not use the outlet until it is replaced by a qualified electrician.

Do not bend or modify the plug. If the plug is damaged, contact the manufacturer to obtain a replacement.

Some products are equipped with a three-pronged plug. This plug fits only into a grounded electrical outlet. This is a safety feature. Do not defeat this safety feature by trying to insert it into a non-grounded outlet. If you cannot insert the plug into the outlet, contact an electrician for an approved outlet adapter or to replace the outlet with one that enables this safety feature. Never overload an electrical outlet. The overall system load should not exceed 80 percent of the branch circuit rating. Consult an electrician for more information if you have questions about power loads and branch circuit ratings.

Be sure that the power outlet you are using is properly wired, easily accessible, and located close to the equipment. Do not fully extend power cords in a way that will stress the cords.

Connect and disconnect the equipment from the electrical outlet carefully.

#### **Batteries**

All personal computers manufactured by Lenovo contain a non-rechargeable coin cell battery to provide power to the system clock. In addition many mobile products such as notebook PCs utilize a rechargeable battery pack to provide system power when in portable mode. Batteries supplied by Lenovo for use with your product have been tested for compatibility and should only be replaced with Lenovo approved parts.

Never attempt to open or service any battery. Do not crush, puncture, or incinerate batteries or short circuit the metal contacts. Do not expose the battery to water or other liquids. Only recharge the battery pack strictly according to instructions included in the product documentation.

Battery abuse or mishandling can cause the battery to overheat, which can cause gasses or flame to "vent" from the battery pack or coin cell. If your battery is damaged, or if you notice any discharge from your battery or the buildup of foreign materials on the battery leads, stop using the battery and obtain a replacement from the battery manufacturer.

Batteries can degrade when they are left unused for long periods of time. For some rechargeable batteries (particularly Lithium Ion batteries), leaving a battery unused in a discharged state could increase the risk of a battery short circuit, which could shorten the life of the battery and can also pose a safety hazard. Do not let rechargeable Lithium-Ion batteries completely discharge or store these batteries in a discharged state.

## Heat and product ventilation

Computers, AC adapters, and many accessories can generate heat when turned on and when batteries are charging. Always follow these basic precautions:

- Do not leave your computer, AC adapter, or accessories in contact with your lap or any part of your body for an extended period when the products are functioning or when the battery is charging. Your computer, AC adapter, and many accessories produce some heat during normal operation. Extended contact with the body could cause discomfort or, potentially, a skin burn.
- Do not charge the battery or operate your computer, AC adapter, or accessories near flammable materials or in explosive environments.
- · Ventilation slots, fans, and heat sinks are provided with the product for safety, comfort, and reliable operation. These features might inadvertently become blocked by placing the product on a bed, sofa, carpet, or other flexible surface. Never block, cover, or disable these features.

# Product description and installation instructions

This chapter contains the product description and instructions for installing the Lenovo<sup>™</sup> 128MB ATI Radeon HD2400Pro/256MB ATI Radeon HD2400XT/512MB ATI Radeon HD2600XT Dual-VGA or Dual-DVI, TV-out PCI-e Graphics Adapter. It also includes instructions for installing and uninstalling the device drivers.

## **Product description**

The Lenovo 128MB ATI Radeon HD2400Pro/256MB ATI Radeon HD2400XT/512MB ATI Radeon HD2600XT Dual-VGA or Dual-DVI, TV-out PCI-e Graphics Adapter uses the PCI-e x16 technology and the ATI RV610/630 processor to provide superior visual quality and graphics performance. With Shader Model 4.0, integrated HDCP, and a Unified Video Decoder (UVD), the graphics adapter supports DirectX 10 and HD-DVD and Blu-ray decode (H.264 or VC-1 format). Also it features 2D/3D and Motion Video graphics acceleration. These features enhance full-motion video playback and 3D games performance.

In addition to this guide, your option package contains:

- Graphics adapter attached with a full-height (ATX) bracket
- Installation and User's Guide CD
- · Safety and warranty supplement
- For HD2400 series:
  - DMS59 to Dual-VGA dongle for Dual Monitor support (enables attachment of VGA analog monitors)
  - DMS59 to Dual-DVI dongle for Dual Monitor support (enables attachment of digital monitors)
  - Low-profile bracket
- For HD2600XT: two DVI-VGA converter dongles (enables attachment of VGA analog monitors)

**Note:** A full-height bracket is designed for installation of this adapter in tower systems. A low-profile bracket is designed for installation in small form factor (SFF) and desktop systems. For additional information, including system compatibility, refer to the following Lenovo Support Web site:

For the 128MB ATI Radeon HD 2400Pro graphics adapter: http://www.lenovo.com/support/graphics/43R1961

For the 256MB ATI Radeon HD 2400XT graphics adapter: http://www.lenovo.com/support/graphics/43R1962

For the 512MB ATI Radeon HD 2600XT graphics adapter: http://www.lenovo.com/support/graphics/43R1963

## **Preparing for installation**

Before you install a graphics adapter, take the following precautions to prevent static electricity from damaging electronic parts:

- Before touching any electronic parts, drain the static electricity from your body. You can do this by touching the metal frame of your computer.
- Do not remove the graphics adapter from the antistatic shipping container until you are ready to install it. When you remove an adapter from your computer, place it back in its original container.
- When handling the graphics adapter, hold it by its edges, and avoid touching its circuitry.

**Note:** Check the appropriate support Web sites for the latest updates for your basic input/output system (BIOS) code , utility programs, device drivers, and other software programs. Follow the instructions provided by your service provider for downloading and installing updates.

Online technical support is available through the Lenovo Support Web site at http://www.lenovo.com/support.

# Installing the Lenovo ATI Radeon Dual-VGA or Dual-DVI, TV-out PCI-e Graphics Adapter

To install the Lenovo 128MB ATI Radeon HD2400Pro/256MB ATI Radeon HD2400XT/512MB ATI Radeon HD2600XT Dual-VGA or Dual-DVI, TV-out PCI-e Graphics Adapter, complete the following procedure:

- 1. Prepare your computer for adapter installation by completing the following steps:
  - a. Turn off all attached devices and then turn off the computer.
  - b. Unplug all cords and power cables from the computer and all attached devices.
  - **c**. Remove the cover from your computer. For instructions on how to remove the cover, refer to the documentation that came with your computer.
- 2. Select a PCI-e x16 expansion slot.
- 3. Remove the expansion-slot cover for the selected expansion slot. Save the screw to use with the mounting bracket.

**Attention:** Inserting a graphics adapter into the wrong type of slot might damage your adapter, your computer, or both. To identify the location of each type of expansion slot in your computer, refer to the documentation that came with your computer.

- 4. Position the graphics adapter over the selected expansion slot. Push the graphics adapter in firmly and evenly until it is fully seated in the slot.
- 5. Secure the mounting of the graphics adapter to the computer frame.

**Attention:** Do not insert the plastic tab next to the connector pins into the expansion slot.

- 6. Attache the DMS59 to Dual-VGA or DMS59 to Dual-DVI dongle (for HD2400 series).
- 7. Attache the DVI to VGA dongle for Dual Monitor with the VGA interface in your computer (for HD2600XT).
- 8. Re-attach the keyboard, the monitor and the power cord to the computer.
- 9. Replace the cover on your computer.

# Installing the device drivers in Windows Vista, Windows XP or Windows 2000 Professional

To install the device drivers in Microsoft<sup>®</sup> Windows<sup>®</sup> Vista<sup>®</sup>, Microsoft Windows XP or Microsoft Windows 2000 Professional, complete the following procedures:

- 1. Save any open documents and exit all applications.
- 2. Insert the Installation and User's Guide CD into the computer CD drive. A welcome window opens.
- 3. Click **Software** on the left side of the window.
- 4. Click Install Device Drivers.
- 5. Follow the steps in each window and click **Next** to continue.
- 6. Click Finish, and restart your computer to complete the device driver installation.

**Note:** You also can use the steps below to replace step 3 and step 4 in the above procedure.

- 1. Click the **Start** button, and click **Run**.
- 2. Click **Browse** and navigate to your computer CD drive; then double-click the **SETUP.EXE** file in the XP2K or the VISTA directory on the *Installation and User's Guide CD*.

#### 3. Click OK.

# Uninstalling the device drivers in Windows Vista, Windows XP or Windows 2000 Professional

To uninstall device drivers in Windows Vista, Windows XP, or Windows 2000 Professional, complete the following procedure:

- 1. Click Start > Setting > Control Panel.
- 2. Double-click Add or Remove Programs.
- 3. Click Remove, and then click ATI Software Uninstall Utility.
- 4. Click **Yes** to confirm that you want to remove the device drivers.
- 5. Click **Yes** to restart the computer.

# **Service and Support**

The following information describes the technical support that is available for your product, during the warranty period or throughout the life of your product. Refer to the Lenovo Limited Warranty for a full explanation of Lenovo warranty terms.

## Registering your option

Register to receive product service and support updates, as well as free and discounted computer accessories and content.

Go to http://www.lenovo.com/register

## Online technical support

Online technical support is available during the lifetime of a product at http://www.lenovo.com/support.

Product replacement assistance or exchange of defective components also is available during the warranty period. In addition, if your option is installed in a Lenovo computer, you might be entitled to service at your location. A Lenovo technical support representative can help you determine the best alternative.

## Telephone technical support

Installation and configuration support through the Customer Support Center will be available until 90 days after the option has been withdrawn from marketing. After that time, the support is cancelled, or made available for a fee, at Lenovo's discretion. Additional support is also available for a nominal fee.

Before contacting a Lenovo technical support representative, please have the following information as possible: option name and number, proof of purchase, computer manufacturer, model, serial number and manual, the exact wording of any error message, description of the problem, and the hardware and software configuration information for your system.

Your technical support representative might want to walk you through the problem while you are at your computer during the call.

For a list of Service and Support phone numbers, visit http://www.lenovo.com/support/phone.

# **Lenovo Limited Warranty**

#### L505-0010-00 09/2006

This Lenovo Limited Warranty applies only to Lenovo hardware products you purchased for your own use and not for resale. This warranty may sometimes be referred to as the "Statement of Limited Warranty" (SOLW) in other documents from Lenovo.

#### What this Warranty Covers

Lenovo warrants that each hardware product is free from defects in materials and workmanship under normal use during the warranty period. The warranty period for the product starts on the original date of purchase specified on your invoice unless Lenovo informs you otherwise in writing. The warranty period and type of warranty service that apply to your product are designated below under the section titled "Warranty Information."

THIS WARRANTY IS YOUR EXCLUSIVE WARRANTY AND REPLACES ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SOME STATES OR JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF EXPRESS OR IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU. IN THAT EVENT, SUCH WARRANTIES APPLY ONLY TO THE EXTENT REQUIRED BY LAW AND ARE LIMITED IN DURATION TO THE WARRANTY PERIOD. NO WARRANTIES APPLY AFTER THAT PERIOD. SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION ON DURATION MAY NOT APPLY TO YOU.

#### How to Obtain Warranty Service

If the product does not function as warranted during the warranty period, you may obtain warranty service by contacting Lenovo or an approved service provider. Each of them is referred to as a "Service Provider." A list of Service Providers and their telephone numbers is available at <a href="www.lenovo.com/support/phone">www.lenovo.com/support/phone</a>.

Warranty service may not be available in all locations and may differ from location to location. Charges may apply outside a Service Provider's normal service area. Contact a local Service Provider for location-specific information.

#### What Your Service Provider Will Do to Correct Problems

When you contact a Service Provider, you must follow the problem determination and resolution procedures specified.

Your Service Provider will attempt to diagnose and resolve your problem over the telephone or through remote assistance. Your Service Provider may direct you to download and install designated software updates.

Some problems can be resolved with a replacement part that you install yourself (such as keyboard, mouse, speaker, memory, hard disk drive, or port replicator), called a "Customer Replaceable Unit" or "CRU." If so, your Service Provider will ship the CRU to you for you to install.

If your problem cannot be resolved over the telephone or remotely, through your application of software updates, or with a CRU, your Service Provider will arrange for service under the type of warranty service designated for the product under the section titled "Warranty Information."

If your Service Provider determines that it is unable to repair your product, your Service Provider will replace it with one that is at least functionally equivalent.

If your Service Provider determines that it is unable to either repair or replace your product, your sole remedy is to return the product to your place of purchase or to Lenovo and your purchase price will be refunded.

### **Exchange of a Product or Part**

When the warranty service involves the exchange of a product or part, the item your Service Provider replaces becomes Lenovo's property and the replacement becomes yours. All removed items must be genuine and unaltered. The replacement may not be new, but will be in good working order and at least functionally equivalent to the item replaced. The replacement assumes the warranty status of the replaced item.

Before your Service Provider exchanges a product or part, you agree to:

- 1. remove all features, parts, options, alterations, and attachments not under warranty service;
- 2. ensure that the product is free of any legal obligations or restrictions that prevent its exchange; and
- 3. obtain authorization from the owner to have your Service Provider service a product that you do not own.

#### Your Additional Responsibilities

Where applicable, before service is provided, you agree to:

- 1. follow the service request procedures that your Service Provider specifies;
- 2. backup or secure all programs and data contained in the product;
- 3. provide your Service Provider with all system keys or passwords and sufficient, free, and safe access to your facilities to permit the terms of this warranty to be fulfilled; and
- 4. ensure that all information about identified or identifiable individuals ("Personal Data") is deleted from the product or that, with respect to any remaining Personal Data you did not delete, you are in compliance with all applicable laws.

#### **Use of Personal Information**

If you obtain service under this warranty, Lenovo will store, use, and process information about your warranty issue and your contact information, including name, phone numbers, address, and e-mail address. Lenovo will use this information to perform service under this warranty and to improve our business relationship with you, such as to conduct internal reviews of the efficiency of the warranty service we provide to you. We may contact you to inquire about your satisfaction regarding our warranty service or to notify you about any product recalls or safety issues. In accomplishing these purposes, we may transfer your information to any country where we do business and may provide it to entities acting on our behalf. We also may disclose it where required by law or legal authorities to do so.

## What this Warranty Does not Cover

This warranty does not cover the following:

- uninterrupted or error-free operation of a product;
- loss of, or damage to, your data;
- · any software programs, whether provided with the product or installed subsequently;
- failure or damage resulting from misuse, accident, modification, unsuitable physical or operating environment, natural disasters, power surges, or improper maintenance by you;

- · any third party products, including those that Lenovo may procure and provide with or integrate into the Lenovo product at your request; and
- any technical or other support, such as assistance with "how-to" questions and those regarding product set-up and installation.

This warranty is voided by removal or alteration of identification labels on the product or its parts.

#### Limitation of Liability

Lenovo is responsible for loss of, or damage to, your product only while it is 1) in your Service Provider's possession or 2) in transit in those cases in which the Service Provider is responsible for the transportation.

Neither Lenovo nor your Service Provider is responsible for any of your data including confidential, proprietary, or personal data contained in a product. You should remove and/or backup all such information from the product prior to its service or return.

Circumstances may arise where, because of a default on Lenovo's part or other liability, you may be entitled to recover damages from Lenovo. In each such instance, regardless of the basis on which you are entitled to claim damages from Lenovo (including fundamental breach, negligence, misrepresentation, or other contract or tort claim), except and to the extent that liability cannot be waived or limited by applicable laws, Lenovo is liable for no more than the amount of actual direct damages suffered by you, up to the amount you paid for the product. This limit does not apply to damages for bodily injury (including death) and damage to real property and tangible personal property for which Lenovo is required by law to be liable.

This limit also applies to Lenovo's suppliers, resellers, and your Service Provider. It is the maximum for which Lenovo, its suppliers, resellers, and your Service Provider are collectively responsible.

UNDER NO CIRCUMSTANCES IS LENOVO, ITS SUPPLIERS, RESELLERS, OR SERVICE PROVIDERS LIABLE FOR ANY OF THE FOLLOWING EVEN IF INFORMED OF THEIR POSSIBILITY: 1) THIRD PARTY CLAIMS AGAINST YOU FOR DAMAGES; 2) LOSS OF, OR DAMAGE TO, YOUR DATA; OR 3) SPECIAL, INCIDENTAL, OR INDIRECT DAMAGES OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES, INCLUDING LOST PROFITS, BUSINESS REVENUE, GOODWILL, OR ANTICIPATED SAVINGS. SOME STATES OR JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

### **Dispute Resolution**

If you acquired the product in Cambodia, Indonesia, Philippines, Vietnam or Sri Lanka, disputes arising out of or in connection with this warranty shall be finally settled by arbitration held in Singapore and this warranty shall be governed, construed and enforced in accordance with the laws of Singapore, without regard to conflict of laws. If you acquired the product in India, disputes arising out of or in connection with this warranty shall be finally settled by arbitration held in Bangalore, India. Arbitration in Singapore shall be held in accordance with the Arbitration Rules of Singapore International Arbitration Center ("SIAC Rules") then in effect. Arbitration in India shall be held in accordance with the laws of India then in effect. The arbitration award shall be final and binding for the parties without appeal and shall be in writing and set forth the findings of fact and the conclusions of law. All arbitration proceedings shall be conducted, including all documents presented in such proceedings, in the English language, and the English language version of this warranty prevails over any other language version in such proceedings.

### Other Rights

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE OR JURISDICTION TO JURISDICTION. YOU ALSO MAY HAVE OTHER RIGHTS UNDER APPLICABLE LAW OR WRITTEN AGREEMENT WITH LENOVO. NOTHING IN THIS WARRANTY AFFECTS STATUTORY RIGHTS, INCLUDING RIGHTS OF CONSUMERS UNDER NATIONAL LEGISLATION GOVERNING THE SALE OF CONSUMER GOODS THAT CANNOT BE WAIVED OR LIMITED BY CONTRACT.

#### European Economic Area (EEA)

Customers in the EEA may contact Lenovo at the following address: Lenovo Warranty & Service Quality Dept., PO Box 19547, Inverkip Road, Greenock, Scotland PA16 9WX. Service under this warranty for Lenovo hardware products purchased in EEA countries may be obtained in any EEA country in which the product has been announced and made available by Lenovo.

This Lenovo Limited Warranty is available in other languages at www.lenovo.com/warranty.

## Warranty information

Product or Machine Type	Country or Region of Purchase	Warranty Period	Type of Warranty Service
Lenovo 128MB ATI	Worldwide	1 year	1, 4
Radeon			
HD2400Pro/256MB ATI			
Radeon			
HD2400XT/512MB ATI			
Radeon HD2600XT			
Dual-VGA or Dual-DVI,			
TV-out PCI-e Graphics			
Adapter			

If required, your Service Provider will provide repair or exchange service depending on the type of warranty service specified for your product and the available service. Scheduling of service will depend upon the time of your call, parts availability, and other factors.

A warranty period of 1 year on parts and 1 year on labor means that Lenovo provides warranty service during the first year of the warranty period (or a longer period as required by law).

#### Types of Warranty Service

#### 1. Customer Replaceable Unit ("CRU") Service

Under CRU Service, your Service Provider will ship CRUs to you for you to install. Most CRUs are easy to install whereas others may require some technical skill and tools. CRU information and replacement instructions are shipped with your product and are available from Lenovo at any time upon request. You may request that a Service Provider install some CRUs under one of the other types of warranty service designated for your product. Installation of external CRUs (such as mice, keyboards, or monitors) is your responsibility. Lenovo specifies in the materials shipped with a replacement CRU whether the defective CRU must be returned. When return is required, 1) return instructions, a prepaid return shipping label, and a container are included with the replacement CRU, and 2) you may be charged for the replacement CRU if your Service Provider does not receive the defective CRU within thirty (30) days of your receipt of the replacement.

#### 2. On-site Service

Under On-Site Service, your Service Provider will either repair or exchange the product at your location. You must provide a suitable working area to allow disassembly and reassembly of the Lenovo product. For some products, certain repairs may require your Service Provider to send the product to a designated service center.

#### 3. Courier or Depot Service

Under Courier or Depot Service, your product will be repaired or exchanged at a designated service center, with shipping arranged by your Service Provider. You are responsible for disconnecting the product. A shipping container will be provided to you for you to return your product to a designated service center. A courier will pick up your product and deliver it to the designated service center. Following its repair or exchange, the service center will arrange the return delivery of the product to you.

### 4. Customer Carry-In or Mail-In Service

Under Customer Carry-In or Mail-In Service, your product will be repaired or exchanged at a designated service center, with delivery or shipping arranged by you. You are responsible to deliver or mail, as your Service Provider specifies, (prepaid unless specified otherwise) the product suitably packaged to a designated location. After the product has been repaired or exchanged, it will be made available for your collection. Failure to collect the product may result in your Service Provider disposing of the product as it sees fit. For Mail-in Service, the product will be returned to you at Lenovo's expense, unless your Service Provider specifies otherwise.

## Suplemento de Garantía para Méjico

Este Suplemento se considera parte integrante de la Garantía Limitada de Lenovo y será efectivo única y exclusivamente para los productos distribuidos y comercializados dentro del Territorio de los Estados Unidos Mejicanos. En caso de conflicto, se aplicarán los términos de este Suplemento.

Todos los programas de software precargados en el equipo sólo tendrán una garantía de treinta (30) días por defectos de instalación desde la fecha de compra. Lenovo no es responsable de la información incluida en dichos programas de software y/o cualquier programa de software adicional instalado por Usted o instalado después de la compra del producto.

Los servicios no cubiertos por la garantía se cargarán al usuario final, previa obtención de una autorización.

En el caso de que se precise una reparación cubierta por la garantía, por favor, llame al Centro de soporte al cliente al 001-866-434-2080, donde le dirigirán al Centro de servicio autorizado más cercano. Si no existiese ningún Centro de servicio autorizado en su ciudad, población o en un radio de 70 kilómetros de su ciudad o población, la garantía incluirá cualquier gasto de entrega razonable relacionado con el transporte del producto a su Centro de servicio autorizado más cercano. Por favor, llame al Centro de servicio autorizado más cercano para obtener las aprobaciones necesarias o la información relacionada con el envío del producto y la dirección de envío.

Para obtener una lista de los Centros de servicio autorizados, por favor, visite::

http://www.lenovo.com/mx/es/servicios

Manufactured by: SCI Systems de México, S.A. de C.V. Av. De la Solidaridad Iberoamericana No. 7020 Col. Club de Golf Atlas El Salto, Jalisco, México C.P. 45680, Tel. 01-800-3676900 Marketing by: Lenovo México S de RL de C. V. Av. Santa Fe 505, Piso 15 Col. Cruz Manca Cuajimalpa, D.F., México C.P. 05349 Tel. (55) 5000 8500

## **Notices**

Lenovo may not offer the products, services, or features discussed in this document in all countries. Consult your local Lenovo representative for information on the products and services currently available in your area. Any reference to a Lenovo product, program, or service is not intended to state or imply that only that Lenovo product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any Lenovo intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any other product, program, or service.

Lenovo may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

Lenovo (United States), Inc. 1009 Think Place - Building One Morrisville, NC 27560 U.S.A.

Attention: Lenovo Director of Licensing

LENOVO PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. Lenovo may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

The products described in this document are not intended for use in implantation or other life support applications where malfunction may result in injury or death to persons. The information contained in this document does not affect or change Lenovo product specifications or warranties. Nothing in this document shall operate as an express or implied license or indemnity under the intellectual property rights of Lenovo or third parties. All information contained in this document was obtained in specific environments and is presented as an illustration. The result obtained in other operating environments may vary.

Lenovo may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Any references in this publication to non-Lenovo Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this Lenovo product, and use of those Web sites is at your own risk.

Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

## **Recycling information**

Lenovo encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed. Lenovo offers a variety of programs and services to assist equipment owners in recycling their IT products. Information on product recycling offerings can be found on Lenovo's Internet site at http://www.pc.ibm.com/ww/lenovo/about/environment/.

環境配慮に関して

本機器またはモニターの回収リサイクルについて

企業のお客様が、本機器が使用済みとなり廃棄される場合は、資源有効利用促進法の規定により、産業廃棄物として、地域を管轄する県知事あるいは、政令市長の許可を持った産業廃棄物処理業者に適正処理を委託する必要があります。また、弊社では資源有効利用促進法に基づき使用済みパソコンの回収および再利用・再資源化を行う「PC 回収リサイクル・サービス」を提供しています。詳細は、http://www.ibm.com/jp/pc/service/recycle/pcrecycle/ をご参照ください。

また、同法により、家庭で使用済みとなったパソコンのメーカー等による回収再資源化が 2003 年 10 月 1 日よりスタートしました。詳細は、http://www.ibm.com/jp/pc/service/recycle/pcrecycle/ をご参照ください。

重金属を含む内部部品の廃棄処理について

本機器のプリント基板等には微量の重金属(鉛など)が使用されています。使用後は適切な処理を行うため、上記「本機器またはモニターの回収リサイクルについて」に従って廃棄してください。

## **Trademarks**

The following terms are trademarks of Lenovo in the United States, other countries, or both:

Lenovo

Lenovo logo

IBM is a trademark of International Business Machines Corporation in the United States, other countries, or both and is used under license.

Microsoft, Windows, and Windows Vista are trademarks of Microsoft Corporation in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.

## **Electronic emission notices**

The following information refers to the Lenovo 128MB ATI Radeon HD2400Pro/256MB ATI Radeon HD2400XT/512MB ATI Radeon HD2600XT Dual-VGA or Dual-DVI, TV-out PCI-e Graphics Adapter.

## Federal Communications Commission (FCC) Declaration of Conformity

Lenovo 128 MB ATI Radeon HD2400Pro/256 MB ATI Radeon HD2400XT/512MB ATI Radeon HD2600XT Dual-VGA or Dual-DVI, TV-out PCI-e Graphics Adapter - (43R1961, 43R1962, 43R1963)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- · Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- · Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an authorized dealer or service representative for help.

Lenovo is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible party:

Lenovo (United States) Incorporated 1009 Think Place - Building One Morrisville, NC 27560 Phone Number: 919-294-5900



Industry Canada Class B emission compliance statement

This Class B digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

EU-EMC Directive (2004/108/EC) EN 55022 class B Statement of Compliance

Deutschsprachiger EU Hinweis:

Hinweis für Geräte der Klasse B EU-Richtlinie zur Elektromagnetischen Verträglichkeit Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 2004/108/EG (früher 89/336/EWG) zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der EN 55022 Klasse B ein.

Um dieses sicherzustellen, sind die Geräte wie in den Handbüchern beschrieben zu installieren und zu betreiben. Des Weiteren dürfen auch nur von der Lenovo empfohlene Kabel angeschlossen werden. Lenovo übernimmt keine Verantwortung für die Einhaltung der Schutzanforderungen, wenn das Produkt ohne Zustimmung der Lenovo verändert bzw. wenn Erweiterungskomponenten von Fremdherstellern ohne Empfehlung der Lenovo gesteckt/eingebaut werden.

Deutschland:

Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Betriebsmitteln Dieses Produkt entspricht dem "Gesetz über die elektromagnetische Verträglichkeit von Betriebsmitteln" EMVG (früher "Gesetz über die elektromagnetische Verträglichkeit von Geräten"). Dies ist die Umsetzung der EU-Richtlinie 2004/108/EWG (früher 89/336/EWG) in der Bundesrepublik Deutschland.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Betriebsmitteln, EMVG vom 20. Juli 2007 (früher Gesetz über die elektromagnetische Verträglichkeit von Geräten), bzw. der EMV EG Richtlinie 2004/108/EC (früher 89/336/EWG), für Geräte der Klasse B.

Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen. Verantwortlich für die Konformitätszerklärung nach Paragraf 5 des EMVG ist die Lenovo (Deutschland) GmbH, Gropiusplatz 10, D-70563 Stuttgart.

Informationen in Hinsicht EMVG Paragraf 4 Abs. (1) 4:

Das Gerät erfüllt die Schutzanforderungen nach EN 55024 und EN 55022 Klasse B.

#### European Union - Compliance to the Electromagnetic Compatibility Directive

This product is in conformity with the protection requirements of EU Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility. Lenovo cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the installation of option cards from other manufacturers.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication devices.

#### Avis de conformité à la directive de l'Union Européenne

Le présent produit satisfait aux exigences de protection énoncées dans la directive 2004/108/EC du Conseil concernant le rapprochement des législations des Etats membres relatives à la compatibilité électromagnétique. Lenovo décline toute responsabilité en cas de non-respect de cette directive résultant d'une modification non recommandée du produit, y compris l'ajout de cartes en option non Lenovo.

Ce produit respecte les limites des caractéristiques d'immunité des appareils de traitement de l'information définies par la classe B de la norme européenne EN 55022 (CISPR 22). La conformité aux spécifications de la classe B offre une garantie acceptable contre les perturbations avec les appareils de communication agréés, dans les zones résidentielles.

#### Unión Europea - Normativa EMC

Este producto satisface los requisitos de protección del Consejo de la UE, Directiva 2004/108/EC en lo que a la legislatura de los Estados Miembros sobre compatibilidad electromagnética se refiere.

Lenovo no puede aceptar responsabilidad alguna si este producto deja de satisfacer dichos requisitos de protección como resultado de una modificación no recomendada del producto, incluyendo el ajuste de tarjetas de opción que no sean Lenovo.

Este producto ha sido probado y satisface los límites para Equipos Informáticos Clase B de conformidad con el Estándar Europeo EN 55022. Los límites para los equipos de Clase B se han establecido para entornos residenciales típicos a fin de proporcionar una protección razonable contra las interferencias con dispositivos de comunicación licenciados.

#### Unione Europea - Directiva EMC (Conformidad électromagnética)

Questo prodotto è conforme alle normative di protezione ai sensi della Direttiva del Consiglio dell'Unione Europea 2004/108/EC sull'armonizzazione legislativa degli stati membri in materia di compatibilità elettromagnetica.

Lenovo non accetta responsabilità alcuna per la mancata conformità alle normative di protezione dovuta a modifiche non consigliate al prodotto, compresa l'installazione di schede e componenti di marca diversa da Lenovo.

Le prove effettuate sul presente prodotto hanno accertato che esso rientra nei limiti stabiliti per le apparecchiature di informatica Classe B ai sensi del Norma Europea EN 55022. I limiti delle apparecchiature della Classe B sono stati stabiliti al fine di fornire ragionevole protezione da interferenze mediante dispositivi di comunicazione in concessione in ambienti residenziali tipici.

### Korea Class B Compliance

이 기기는 가정용으로 전자파 적합등록을 한 기기로서

주거지역에서는 물론 모든 지역에서 사용할 수 있습니다.

#### Japan VCCI Class B Compliance

この装置は、情報処理装置等電波障害自主規制協議会(VCCI)の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。 取扱説明書に従って正しい取り扱いをして下さい。 Lenovo product service information for Taiwan

台灣 Lenovo 產品服務資訊如下 荷蘭商思惟個人電腦產品股份有限公司台灣分公司 台北市信義區信義路五段七號十九樓之一

服務電話: 0800-000-700

# **China RoHS**

The information in the following table is only applicable to products for sale in the People's Republic of China.

Lenovo		有毒有害物质或元素					China
电脑选件	铅	汞	镉	六价铬	多溴联苯	多溴二苯醚	ROHS
	(Pb)	(Hg)	(Cd)	(Cr(VI))	(PBB)	(PBDE)	标识
图形适配器	x	0	0	0	0	0	10
O. 表示该有毒有害物质在该部件所有均质材料中的含量均在 S.VT 11363-2006 标准规定的限量要求以下。							

O:表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006 标准规定的限量要求以下。 X:表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006 标准规定的限量要求。 对于销往欧盟的产品,标有"X"的项目均符合欧盟指令 2002/95/EC 豁免条款。



在中华人民共和国境內销售的电子信息产品上将 印有"环保使用期"(EPuP)符号。圆圈中的数字代 表产品的正常环保使用年限。

## lenovo

Part Number: 43R1811

Printed in XXX

(1P) P/N: 43R1811

