

ThinkCentre™



Quick Reference

Inside

- Important safety information
- Warranty and other notices
- Computer setup
- Software recovery
- Troubleshooting and diagnostics
- IBM help and service
- IBM Lotus software offer

ThinkCentre™



Quick Reference

Note

Before using this information and the product it supports, be sure to read the following:

- “Important safety information” on page v
- Appendix B, “IBM Statement of Limited Warranty Z125-4753-07 11/2002,” on page 31
- Appendix C, “Notices,” on page 57

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Important safety information

This information can help you safely use your IBM® personal computer. Follow and retain all information included with your IBM computer. The information in this document does not alter the terms of your purchase agreement or the IBM Statement of Limited Warranty.

Customer safety is important to IBM. Our products are developed to be safe and effective. However, personal computers are electronic devices. Power cords, power adapters, and other features can create potential safety risks that can result in physical injury or property damage, especially if misused. To reduce these risks, follow the instructions included with your product, observe all warnings on the product and in the operating instructions, and review the information included in this document carefully. By carefully following the information contained in this document and provided with your product, you can help protect yourself from hazards and create a safer computer work environment.

Note: This information includes references to power adapters and batteries. In addition to mobile personal computers, IBM ships some products (such as speakers or monitors) with external power adapters. If you have such a product, this information applies to your product. In addition, your computer product may contain a coin-sized internal battery that provides power to your system clock even when the machine is unplugged, so the battery safety information applies to all computers.

Conditions that require immediate action

Products can become damaged due to misuse or neglect. Some product damage is serious enough that the product should not be used again until it has been inspected and, if necessary, repaired by an authorized servicer.

As with any electronic device, pay close attention to the product when it is turned on. On very rare occasions, you might notice an odor or see a puff of smoke or sparks vent from your machine. Or you might hear sounds like popping, cracking or hissing. These conditions might merely mean that an internal electronic component has failed in a safe and controlled manner. Or, they might indicate a potential safety issue. However, do not take risks or attempt to diagnose the situation yourself.

Frequently inspect your computer and its components for damage or wear or signs of danger. If you have any question about the condition of a component, do not use the product. Contact the IBM Support Center or the product manufacturer for instructions on how to inspect the product and

have it repaired, if necessary. The telephone numbers for your IBM Support Center location are located in the “Help and Service” section later in this guide.

In the unlikely event that you notice any of the conditions listed below, or if you have any safety concerns with your product, stop using the product and unplug it from the power source and telecommunication lines until you can speak to the IBM Support Center for further guidance.

The telephone numbers for your Support Center location are located in the “Help and Service” section later in this guide.

- Power cords, plugs, power adapters, extension cords, surge protectors, or power supplies that are cracked, broken or damaged.
- Signs of overheating, smoke, sparks or fire.
- Damage to a battery (such as cracks, dents, creases), discharge from a battery, or a buildup of foreign substances on the battery.
- A cracking, hissing or popping sound, or strong odor that comes from the product.
- Signs that liquid has been spilled or an object has fallen onto the computer product, the power cord or power adapter.
- The computer product, the power cord or power adapter has been exposed to water.
- The product has been dropped or damaged in any way.
- The product does not operate normally when you follow the operating instructions.

Note: If you notice these conditions with a non-IBM product (such as an extension cord), stop using that product until you can contact the product manufacturer for further instructions, or until you get a suitable replacement.

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 IBM Support Center. Use only an IBM authorized 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. IBM 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 IBM 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 IBM personal computers contain a non-rechargeable coin cell battery to provide power to the system clock. In addition many mobile products such as Thinkpad notebook PCs utilize a rechargeable battery pack to provide system power when in portable mode. Batteries supplied by IBM for use with your product have been tested for compatibility and should only be replaced with IBM 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 generate heat when turned on and when batteries are charging. Notebook PCs can generate a significant amount of heat due to their compact size. Always follow these basic precautions:

- Do not leave the base of your computer in contact with your lap or any part of your body for an extended period when the computer is functioning or when the battery is charging. Your computer produces some heat during normal operation. Extended contact with the body could cause discomfort or, potentially, a skin burn.
- Do not operate your computer or charge the battery near flammable materials or in explosive environments.
- Ventilation slots, fans and/or 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.

CD and DVD drive safety

CD and DVD drives spin discs at a high speed. If a CD or DVD is cracked or otherwise physically damaged, it is possible for the disc to break apart or even shatter when the CD drive is in use. To protect against possible injury due to this situation, and to reduce the risk of damage to your machine, do the following:

- Always store CD/DVD discs in their original packaging
- Always store CD/DVD discs out of direct sunlight and away from direct heat sources
- Remove CD/DVD discs from the computer when not in use
- Do not bend or flex CD/DVD discs, or force them into the computer or their packaging
- Check CD/DVD discs for cracks before each use. Do not use cracked or damaged discs

Additional safety information

DANGER

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

To avoid a shock hazard:

- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- Connect all power cords to a properly wired and grounded electrical outlet.
- Connect to properly wired outlets any equipment that will be attached to this product.
- When possible, use one hand only to connect or disconnect signal cables.
- Never turn on any equipment when there is evidence of fire, water, or structural damage.
- Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.
- Connect and disconnect cables as described in the following table when installing, moving, or opening covers on this product or attached devices.

<p>To connect:</p> <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. 	<p>To disconnect:</p> <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.
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Lithium battery notice

CAUTION:

Danger of explosion if battery is incorrectly replaced.

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

Modem safety information

To reduce the risk of fire, electrical shock, or injury when using telephone equipment, always follow basic safety precautions, such as:

- Never install telephone wiring during a lightning storm.

- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
- Do not use the telephone to report a gas leak in the vicinity of the leak.

Laser compliance statement

Some IBM Personal Computer models are equipped from the factory with a CD-ROM drive or a DVD-ROM drive. CD-ROM drives and DVD-ROM drives are also sold separately as options. CD-ROM drives and DVD-ROM drives are laser products. These drives are certified in the U.S. to conform to the requirements of the Department of Health and Human Services 21 Code of Federal Regulations (DHHS 21 CFR) Subchapter J for Class 1 laser products. Elsewhere, these drives are certified to conform to the requirements of the International Electrotechnical Commission (IEC) 825 and CENELEC EN 60 825 for Class 1 laser products.

When a CD-ROM drive or a DVD-ROM drive is installed, note the following handling instructions.

CAUTION:

Use of controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.

Removing the covers of the CD-ROM drive or DVD-ROM drive could result in exposure to hazardous laser radiation. There are no serviceable parts inside the CD-ROM drive or DVD-ROM drive. **Do not remove the drive covers.**

Some CD-ROM drives and DVD-ROM drives contain an embedded Class 3A or Class 3B laser diode. Note the following statement.

DANGER

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

Additional help

This *Quick Reference* provides the information for installing your IBM® computer and starting the operating system. This publication also includes basic troubleshooting information, software recovery procedures, help and service information, and warranty information.

The *User Guide* for your computer has information about installing optional hardware. This Portable Document Format (PDF) file is available through Access IBM on your computer desktop. Use Adobe Acrobat Reader to read and print your *User Guide* for use when installing optional hardware.

Access IBM is on your desktop or click **Start** → **Access IBM** to learn more details about the following topics:

- Using your computer
- Installing hardware options
- Connecting communication cables
- Troubleshooting common problems
- Registering your computer

If you have Internet access, you can get the most up-to-date hints, tips, Frequently Asked Questions, and discussion forums, as well as the *User Guide* for your computer from the World Wide Web. For computer service technicians, the *Hardware Maintenance Manual* is also available. To access any of this information, point your browser to <http://www.ibm.com/pc/support/>.

Type your machine type and model number in the **Quick Path** field, and click **Go**.

Chapter 1. Arranging your workspace

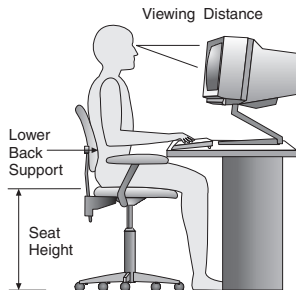
To get the most from your computer, arrange both the equipment you use and your work area to suit your needs and the kind of work you do. Your comfort is of foremost importance, but light sources, air circulation, and the location of electrical outlets also can affect the way you arrange your workspace.

Comfort

Although no single working position is ideal for everyone, here are a few guidelines to help you find a position that suits you best.

Sitting in the same position for a long time can cause fatigue. A good chair can make a big difference. The backrest and seat should adjust independently and provide good support. The seat should have a curved front to relieve pressure on the thighs. Adjust the seat so that your thighs are parallel to the floor and your feet are either flat on the floor or on a footrest.

When using the keyboard, keep your forearms parallel to the floor and your wrists in a neutral, comfortable position. Try to keep a light touch on the keyboard and your hands and fingers relaxed. You can change the angle of the keyboard for maximum comfort by adjusting the position of the keyboard feet.



Adjust the monitor so the top of the screen is at, or slightly below, eye level. Place the monitor at a comfortable viewing distance, usually 51 to 61 cm (20 to 24 in.), and position it so you can view it without having to twist your body. Also position other equipment you use regularly, such as the telephone or a mouse, within easy reach.

Glare and lighting

Position the monitor to minimize glare and reflections from overhead lights, windows, and other light sources. Even reflected light from shiny surfaces can cause annoying reflections on your monitor screen. Place the monitor at right

angles to windows and other light sources, when possible. Reduce overhead lighting, if necessary, by turning off lights or using lower wattage bulbs. If you install the monitor near a window, use curtains or blinds to block the sunlight. You might have to adjust the Brightness and Contrast controls on the monitor as the room lighting changes throughout the day.

Where it is impossible to avoid reflections or to adjust the lighting, an antiglare filter placed over the screen might be helpful. However, these filters might affect the clarity of the image on the screen; try them only after you have exhausted other methods of reducing glare.

Dust buildup compounds problems associated with glare. Remember to clean your monitor screen periodically using a soft cloth moistened with a nonabrasive liquid glass cleaner.

Air circulation

Your computer and monitor produce heat. The computer has a fan that pulls in fresh air and forces out hot air. The monitor lets hot air escape through vents. Blocking the air vents can cause overheating, which might result in a malfunction or damage. Place the computer and monitor so that nothing blocks the air vents; usually, 51 mm (2 in.) of air space is sufficient. Also, make sure the vented air is not blowing on someone else.

Electrical outlets and cable lengths

The location of electrical outlets and the length of power cords and cables that connect to the monitor, printer, and other devices might determine the final placement of your computer.

When arranging your workspace:

- Avoid the use of extension cords. When possible, plug the computer power cord directly into an electrical outlet.
- Keep power cords and cables neatly routed away from walkways and other areas where they might get kicked accidentally.

For more information about power cords, see “Power cord notice” on page 63 of this book.

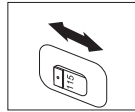
Chapter 2. Setting up your computer

Note: Your computer might not have all of the connectors that are described in this chapter.

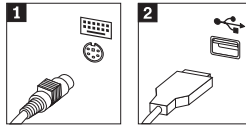
Use the following information when setting up your computer. Look for the small connector icons on the back of your computer.

If your computer cables and connector panel have color-coded connectors, match the color of the cable end with the color of the connector. For example, match a blue cable end with a blue connector, a red cable end with a red connector.

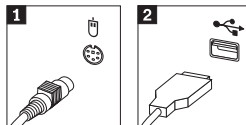
1. Check the position of the voltage-selection switch on the rear of the computer. Use a ballpoint pen to slide the switch, if necessary.
 - If the voltage supply range is 90–137 V ac, set the switch to 115 V.
 - If the voltage supply range is 180–265 V ac, set the switch to 230 V.



2. Your keyboard cable might have a standard keyboard connector **1** or a Universal Serial Bus (USB) connector **2**. Connect the keyboard cable to the appropriate keyboard connector.

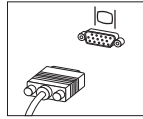


3. Your mouse cable might have a standard mouse connector **1** or a USB connector **2**. Connect the mouse cable to the appropriate mouse connector.



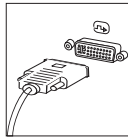
4. Connect the monitor cable to the monitor connector on the computer.
 - If you have a Standard Video Graphics Array (SVGA) monitor, connect the cable to the connector as shown.

Note: If your model has two monitor connectors, be sure to use the connector on the accelerated graphics port (AGP) adapter.

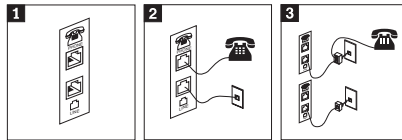


- If you have a digital video interface (DVI) monitor, connect the cable to the connector as shown.

Note: Your computer must have an adapter installed that supports the DVI monitor.

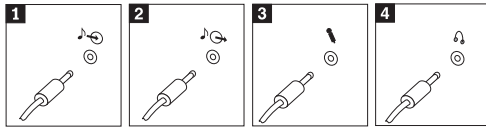


5. If you have a modem, connect the modem using the following instructions.



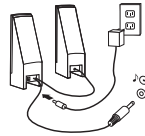
- 1** Use this dual connection on the back of the computer to set up your modem.
- 2** Attach one end of the telephone cable to the telephone and the other end to the telephone connector on the back of the computer. Attach one end of the modem cable to the modem connector on the back of the computer and the other end to the telephone outlet.
- 3** In some cases, a splitter or converter is required to attach the cables to the telephone outlet, as shown at the top of this illustration. You can also use the splitter without the telephone, as shown at the bottom of the illustration.

6. If you have audio devices, attach them using the following instructions. For more information about speakers, see steps 7 and 8.

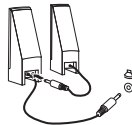


- | | | |
|----------|----------------|--|
| 1 | Audio line-in | This connector receives audio signals from an external audio device, such as a stereo system. |
| 2 | Audio line-out | This connector sends audio signals from the computer to external devices, such as powered stereo speakers. |
| 3 | Microphone | Use this connector to attach a microphone to your computer when you want to record sound or if you use speech-recognition software. |
| 4 | Headphone | Use this connector to attach headphones to your computer when you want to listen to music or other sounds without disturbing anyone. This connector might be located on the front of the computer. |

7. If you have *powered* speakers with an ac adapter, use the following instructions.

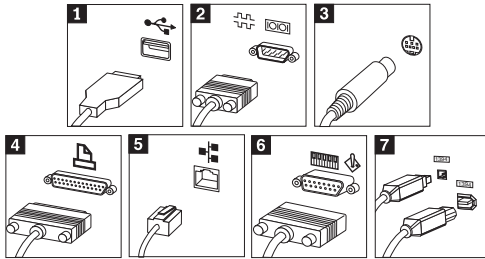


- a. Connect the cable that runs between the speakers, if necessary. On some speakers, this cable is permanently attached.
 - b. Connect the ac adapter cable to the speaker.
 - c. Connect the speakers to the computer.
 - d. Connect the ac adapter to the ac power source.
8. If you have *unpowered* speakers with no ac adapter, use the following instructions.



- a. Connect the cable that runs between the speakers, if necessary. On some speakers, this cable is permanently attached.
- b. Connect the speakers to the computer.

9. Connect any additional devices that you have. Your computer might not have all connectors that are shown.

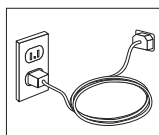


- 1** USB Use these connectors to attach a device that requires a Universal Serial Bus (USB) connection, such as a mouse, scanner, printer, or personal digital assistant (PDA).
- 2** Serial Use this connector to attach an external modem, serial printer, or other device that uses a 9-pin serial connector.
- 3** S-video Use this connector to attach a television set that has an S-Video connector. This connector is present on some high-performance video adapters.
- 4** Parallel Use this connector to attach a parallel printer or any other device that requires a 25-pin parallel connection.
- 5** Ethernet Use this connector to attach the computer to an Ethernet-type local area network or to a cable modem.

Important — To operate the computer within FCC limits when it is connected to an Ethernet network, use a Category 5 Ethernet cable.

- 6** MIDI/joystick Use this connector to attach a joystick, gamepad, or a musical instrument digital interface (MIDI) device such as a MIDI keyboard.
- 7** IEEE 1394 This connector is sometimes called Firewire because it transmits data rapidly. There are two types of IEEE 1394 connectors: the 4-pin and the 6-pin. IEEE 1394 offers connection to several types of consumer electronics, including digital audio devices and scanners.

10. Connect the power cords to properly grounded electrical outlets.



Note: For more information about connectors, see *Access IBM* on your computer desktop.

Turning on power

Turn on the monitor and other external devices first, and then turn on the computer. When the power-on self-test (POST) is finished, the IBM logo window closes. If your computer has preinstalled software, the software installation program starts.

If you experience any problems during startup, see Chapter 4, “Troubleshooting and diagnostics,” on page 15 and Chapter 5, “Getting information, help, and service,” on page 23.

Finishing the software installation

Important

Read the license agreements carefully before using the programs on this computer. These agreements detail your rights, obligations, and warranties for the software on this computer. By using these programs, you accept the terms of the agreements. If you do not accept the agreements, do not use the programs. Instead, promptly return the entire computer for a full refund.

After you start the computer for the first time, follow the instructions on the screen to complete the software installation. If you do not complete the software installation the first time the computer is turned on, unpredictable results might occur. When the installation is complete, click **Access IBM** on your desktop to learn more about your computer.

Completing important tasks

After you have set up your computer, perform the following tasks, which will save you time and trouble later:

- Create an *Enhanced Diagnostics* diskette. The Enhanced Diagnostics tool can isolate hardware problems and is part of the Product Recovery program. Making an *Enhanced Diagnostics* diskette ahead of time assures you use of the Enhanced Diagnostics tool if the Product Recovery program becomes inaccessible. See “Creating an IBM Enhanced Diagnostics diskette” on page 17.
- Record your computer machine type, model, and serial number. If you need service or technical support, you will probably be asked for this information. See “Recording your computer information” on page 9.

Keep this *Quick Reference* in a safe place. It is the only publication that has important information about reinstalling factory-installed software. Chapter 3, "Recovering software," on page 11 contains the information about recovering factory-installed software.

Updating your operating system

Microsoft® makes updates available for various operating systems through the Microsoft Windows Update Web site. The Web site automatically determines what Windows updates are available for your specific computer and lists those updates only. Updates could include security fixes, new versions of Windows components (such as media player), fixes to other portions of the Windows operating system, or enhancements.

For details about updating your operating system, go to Access IBM.

Installing other operating systems

If you install your own operating system, follow the instructions that come with your operating-system CDs or diskettes. Remember to install all device drivers after you install your operating system. Installation instructions are usually provided with the device drivers.

Updating your antivirus software

Your computer comes with the Norton AntiVirus software you can use to detect and eliminate viruses. You should run the LiveUpdate application to get the latest updates from the Norton AntiVirus Web site. LiveUpdate will download the latest virus list and Norton AntiVirus will use the new list when it scans your computer the next time.

For details about updating your antivirus software, go to Access IBM.

Starting the IBM Setup Utility

The IBM Setup Utility enables you to view, set, or change BIOS configuration settings and passwords.

1. Shut down the operating system and turn off your computer.
2. Turn on the computer and look for the following prompt on the logo screen:
(To interrupt normal startup, press Enter)

Press Enter when you see the prompt.

3. When the Startup Interrupt Menu displays, press F1.

Note: Some models might display the Access IBM Predesktop Area. If this happens, double click **Start setup utility**.

Note: If an administrator password has been set, the IBM Setup Utility program menu is not display until you type your password. For more information on the IBM Setup Utility program, see your *User Guide*.

Shutting down the computer

When you are ready to turn off your computer, always follow the shutdown procedure for your operating system. This prevents the loss of unsaved data or damage to your software programs. To shut down the Microsoft Windows® operating system select Shut down or Turn off computer.

Recording your computer information

Recording information about your computer can be helpful if you ever need to have your computer serviced. The service technician will probably ask you for this information.

The machine type, model, and serial number are labeled on your computer. Use the following table to record this information.

Product name	_____
Machine type and model	_____
Serial number (S/N)	_____
Date of purchase	_____

Register your computer over the Internet when you first visit the IBM Web site. When you register your computer with IBM, you will receive the following benefits:

- Faster service when you call IBM for help
- Automatic notification of free software and special promotional offers

Go to <http://www.ibm.com/pc/register/> and follow the on-screen instructions. See Access IBM for more information on how to register your computer.

Chapter 3. Recovering software

The Product Recovery Program will reinstall your computer operating system and factory-installed software. The Product Recovery Program is located on a separate partition on your hard disk. Be sure to read the important notes under “Performing a recovery” before using the Product Recovery program. The Product Recovery program runs independently of the operating system.

Performing a software recovery

Important

Understand the following information before recovering your software:

- Perform a recovery only as a last resort after you have tried using all other diagnostic and troubleshooting tools.
- If possible, make backup copies of your data files before starting the recovery process. The recovery process deletes all information that is stored on the primary hard disk partition (usually drive C).
- If the Product Recovery program does not work or will not start as described, see “Solving recovery problems” on page 12.

To recover your factory-installed software use the Product Recovery program on the hard disk.

Note: Some models might have to use the Access IBM Predesktop Area to perform a software recovery.

This section provides instructions for using this program. If you have any problems running the Product Recovery program, see “Solving recovery problems” on page 12.

To perform a software recovery, use the following procedure:

1. Make backup copies of your data files, if possible. Any files on the hard disk that are not backed up will be lost during recovery.
2. Turn off your computer for at least 5 seconds. Press and hold the F11 key while you press the power button to start the Product Recovery program.

Did the Product Recovery menu display?

Yes. Go to Step 3 on page 12.

No. Go to “Solving recovery problems” on page 12.

Note: If the Access IBM Predesktop Area displays, select **Recover to factory content** or **Restore your backups**.

3. Follow the instructions on the screen. Your computer might restart during the recovery process, possibly more than once. When the recovery process is finished, a completion message is displayed. When the Product Recovery program is finished, the factory-installed software is restored.

Notes:

1. After recovery, you might have to reinstall device drivers for some devices. If you need to reinstall device drivers, see “Recovering or installing device drivers” on page 13.
2. Some computers come with Microsoft Office or Microsoft Works preinstalled. If you need to recover your Microsoft Office or Microsoft Works applications, you must use the *Microsoft Office CD* or *Microsoft Works CD*. These CDs are provided only with computers that come with Microsoft Office or Microsoft Works preinstalled.
3. When the original hard disk drive has been replaced, the Product Recovery program is not available on the new hard disk. See Chapter 5, “Getting information, help, and service,” on page 23 for information on how to contact IBM.

Solving recovery problems

If you are unable to access the Product Recovery program, either the Product Recovery program is damaged, or there is a problem with the hard disk partition that contains the Product Recovery program. Go to “Creating and using a Recovery Repair diskette.” If using the repair diskette does not solve the problem, IBM will provide a Product Recovery CD. See Chapter 5, “Getting information, help, and service,” on page 23 for details.

Creating and using a Recovery Repair diskette

When you turn on your computer the (To interrupt normal startup, press Enter) prompt is displayed. If for some reason you do not see the F11 prompt (used to start product recovery) when you press Enter, the Recovery Repair diskette can be used to recover the prompt.

Creating a Recovery Repair diskette

Note: To create the *Recovery Repair* diskette the operating system must be functioning.

To create a *Recovery Repair* diskette, use the following procedure:

1. Start your computer and operating system.
2. Use Windows Explorer or My Computer to display the directory structure of your hard disk.
3. Open the *ibmtools* folder, which is usually on drive C.
4. Double-click *RRDISK.BAT*, and follow the instructions on the screen.

Using the Recovery Repair diskette

To use the *Recovery Repair* diskette, use the following procedure:

1. Shut down the operating system, and turn off the computer.
2. Insert the *Recovery Repair* diskette into the diskette drive.
3. Turn on the computer, and follow the instructions on the screen

Note: If the repair operation finishes without error, the F11 prompt will be displayed the next time you restart your computer.

If an error message is displayed during the repair operation and the repair operation cannot be completed, you might have a problem with the Product Recovery program or the partition that contains the Product Recovery program. See Chapter 5, "Getting information, help, and service," on page 23 for further information.

Recovering or installing device drivers

Before you can recover or install device drivers, your operating system must be installed on your computer. Make sure that you have the documentation and software media for the device.

Device drivers for IBM-installed devices are located on the computer hard disk (usually drive C) in the `ibmtools\drivers` folder. The instructions for installing device drivers (`readme.txt`) are also located in the `ibmtools\drivers` folder. Other device drivers are on the software media that come with individual devices.

The latest device drivers for IBM-installed devices are also available on the World Wide Web at <http://www.ibm.com/pc/support/>.

To recover a device driver for an IBM-installed device, use the following procedure:

1. Start your computer and operating system.
2. Use Windows Explorer or My Computer to display the directory structure of your hard disk.
3. Open the `C:\IBMTOOLS` folder.
4. Open the `drivers` folder. Within the `drivers` folder are several subfolders that are named for various devices that are installed in your computer (for example, audio, video, and so on).
5. Open the appropriate subfolder.
6. Use one of the following methods to recover the device driver:
 - In the device subfolder, look for a `readme.txt` file or other file with the `.txt` extension that contains information about reinstalling the device

driver. This file might be named after the operating system, such as win98.txt. The text file has information on how to reinstall the device driver.

- If the device subfolder contains a file with an .inf extension, you can use the Add New Hardware program (located in the Windows Control Panel) to reinstall the device driver. Not all device drivers can be reinstalled using this program. In the Add New Hardware program, when prompted for the device driver that you want to install, click **Have Disk** and **Browse**. Then select the appropriate device-driver (.inf) file from the device subfolder.
- In the device subfolder, look for a setup.exe file. Double-click **SETUP.EXE** and follow the instructions on the screen.

Chapter 4. Troubleshooting and diagnostics

This chapter describes some basic troubleshooting and diagnostic tools. If your computer problem is not described here, use Access IBM for more detailed troubleshooting information.

Basic troubleshooting

Symptom	Action
The computer does not start when you press the power button.	<p>Verify that:</p> <ul style="list-style-type: none">• The power cord is plugged into the rear of the computer and into a working electrical outlet.• If your computer has a secondary power switch on the back of the computer, ensure that it is switched on. Check the power indicator on the front of the computer to ensure that the power is on. <p>If you cannot correct the problem, have the computer serviced.</p>
The monitor screen is blank.	<p>Verify that:</p> <ul style="list-style-type: none">• The monitor cable is securely attached to the rear of the monitor and to the rear of the computer.• The monitor power cord is plugged into the monitor and into a working electrical outlet.• The monitor is turned on, and the brightness and contrast controls are set correctly.• The monitor signal cable is securely connected to the monitor and to the monitor connector on the computer. <p>Note: If your computer has two monitor connectors, verify that your monitor is connected to the one in the accelerated graphics port (AGP) option slot rather than the one in the rear of the system board. See Step 4 on page 3.</p> <p>If you cannot correct the problem, have the computer serviced.</p>

Symptom	Action
<p>The keyboard does not work. The computer does not respond to the keyboard.</p>	<p>Verify that:</p> <ul style="list-style-type: none"> • The computer and monitor are turned on and the brightness and contrast controls are set correctly. • The keyboard is securely connected to the keyboard connector on the computer. • No keys are stuck. <p>If you cannot correct the problem, have the computer serviced.</p>
<p>The Rapid Access III Keyboard does not work</p>	<p>Verify that:</p> <ul style="list-style-type: none"> • The computer is turned on. • The keyboard is securely connected to a USB connector on the rear of the computer. • No keys are stuck. <p>If you cannot correct the problem, have the computer serviced.</p>
<p>The mouse does not work. The computer does not respond to the mouse. Note: This applies to a mechanical mouse only.</p>	<p>Clean the mouse. Verify that:</p> <ul style="list-style-type: none"> • The computer and monitor are turned on and the brightness and contrast controls are set correctly. • The mouse is securely connected to the mouse connector on the computer. <p>If you cannot correct the problem, have the computer serviced.</p>
<p>The operating system will not start.</p>	<p>Verify that:</p> <ul style="list-style-type: none"> • There is no diskette in the diskette drive. • The startup sequence includes the device where the operating system resides. Usually, the operating system is on the hard disk. <p>During startup, look for the prompt to start the IBM Setup Utility program. Press the function key that is specified.</p> <p>Verify the startup sequence in the IBM Setup Utility program.</p> <p>If you cannot correct the problem, have the computer serviced.</p>
<p>An error code is displayed before the operating system starts.</p>	<p>Write down the code number, and see "Error codes" on page 18.</p>
<p>The computer beeps multiple times before the operating system starts.</p>	<p>Verify that no keys are stuck down.</p> <p>If you cannot correct the problem, have the computer serviced.</p>

IBM Enhanced Diagnostics

The IBM Enhanced Diagnostics program runs independently of the operating system. You can use this program to test hardware components of your computer. You can use this program when other methods are not available or have not been successful in isolating a possible hardware problem.

You can run the IBM Enhanced Diagnostics using the Product Recovery program on your hard disk. Alternatively, you can create a bootable *IBM Enhanced Diagnostics* diskette from the Product Recovery program.

Note: Some models might have to run the IBM Enhanced Diagnostics program from the Access IBM Predesktop Area. These models can also create a bootable *IBM Enhanced Diagnostics* diskette from the Access IBM Predesktop Area.

You can also download the latest version of the Enhanced Diagnostics program from <http://www.ibm.com/pc/support/> on the World Wide Web. Type your machine type and model number into the **Quick Path** field to find the downloadable files that are specific to your computer.

Running IBM Enhanced Diagnostics from the Product Recovery program

Use the following steps to run diagnostics from the Product Recovery program:

1. Shut down your operating system, and turn off the computer.
2. When you turn on your computer, press and hold the F11 key until the Product Recovery menu is displayed.

Note: The Access IBM Predesktop Area might display for some models. If this is the case, continue to Step 5.

3. Depending on your operating system, you might be prompted to select a system setting. If no prompt is displayed, go to the next step.
4. From the main menu, select **System Utilities**.
5. Select **Run diagnostics**. The IBM Enhanced Diagnostics program starts. When you are finished running diagnostics, you will be returned to the Product Recovery main menu.
6. Restart the computer.

Creating an IBM Enhanced Diagnostics diskette

Use the following steps to create an *IBM Enhanced Diagnostics* diskette:

1. Shut down your operating system, and turn off the computer.
2. When you turn on your computer, press and hold the F11 key until the Product Recovery menu is displayed.

Note: The Access IBM Predesktop Area might display for some models. If this is the case, continue to Step 5.

3. Depending on your operating system, you might be prompted to select a system setting. If no prompt is displayed, go to the next step.
4. From the main menu, select **System Utilities**.
5. Select **Create a diagnostics disk**, and follow the instructions on the screen.
6. When prompted, insert a blank, formatted diskette into the diskette drive, and follow the instructions on the screen.

Notes:

1. You can also download the latest version of the diagnostic program from <http://www.ibm.com/pc/support/> on the World Wide Web. In the **Quick Path** field, type your machine type to find the downloadable files specific to your computer.
2. You can download a self starting bootable CD image (known as an .iso image) of the diagnostics program from <http://www.ibm.com/pc/support> to support systems without a diskette drive.

Running the IBM Enhanced Diagnostics diskette

Use the following steps to run the *IBM Enhanced Diagnostics* diskette:

1. Shut down the operating system, and turn off the computer.
2. Insert the *IBM Enhanced Diagnostics* diskette into the diskette drive.
3. Turn on your computer.
4. Follow the instructions that are displayed on the screen. For help, press F1.
5. When the program finishes, remove the diskette from the diskette drive.
6. Shut down or restart your computer.

Error codes

The following table includes some of the more common error codes that might be displayed when your computer is performing the power-on self-test (POST).

- Record error codes that are displayed. If you call for service, you will be asked for the error codes.
- If there are multiple error codes, always work to solve problems in the order in which the error codes are displayed. Usually, solving the first error code will solve succeeding ones.
- If the error code is not in the following table, more in-depth troubleshooting is required.
 - If the operating system starts when you turn on your computer, see “IBM Enhanced Diagnostics” on page 17 to run diagnostics. Also, use Access IBM for more information on problem solving.
 - If the operating system will not start, have the computer serviced.

Code	Description	Action
135	Fan failure	Have the computer serviced.
162	A change in device configuration occurred.	<p>Verify that:</p> <ul style="list-style-type: none"> • All external devices are turned on. • All devices are properly installed and securely connected. <p>Reload the default configuration settings using the IBM Setup Utility.</p> <p>If you cannot correct the problem, have the computer serviced.</p>
164	System memory size is less than expected.	<p>Add more memory to your computer or use the IBM Setup Utility to accept the new memory amount.</p> <p>If you cannot correct the problem, have the computer serviced.</p>
210 or 211	A keyboard error has occurred.	<p>Verify that:</p> <ul style="list-style-type: none"> • The keyboard is properly connected. • No keys on the keyboard are stuck. <p>If you cannot correct the problem, have the computer serviced.</p>
250	The battery is defective.	Replace the battery. See the battery replacement procedure in your online <i>User Guide</i> , which is available through Access IBM.
270 or 271	Real time clock error	<p>Set the date and time using the IBM Setup Utility.</p> <p>If you cannot correct the problem, have the computer serviced.</p>
662	A change in configuration occurred.	<p>A diskette drive has been added or removed.</p> <ul style="list-style-type: none"> • Restore the original hardware. <p>Or</p> <ul style="list-style-type: none"> • Accept the new configuration using the IBM Setup Utility. <p>If you cannot correct the problem, have the computer serviced.</p>

Code	Description	Action
1762	A change in configuration occurred.	<p>A hard disk drive has been added or removed.</p> <ul style="list-style-type: none"> • Restore the original hardware. <p>Or</p> <ul style="list-style-type: none"> • Accept the new configuration using the IBM Setup Utility. <p>If you cannot correct the problem, have the computer serviced.</p>
1962	No operating system found or no device in the startup sequence has a valid boot record.	<p>Change the startup sequence using the IBM Setup Utility.</p> <p>If you cannot correct the problem, have the computer serviced.</p>
5962	A change in configuration occurred.	<p>An ATAPI device has been added or removed.</p> <ul style="list-style-type: none"> • Restore the original hardware. <p>Or</p> <ul style="list-style-type: none"> • Accept the new configuration using the IBM Setup Utility. <p>If you cannot correct the problem, have the computer serviced.</p>
8603	<p>Pointing device error</p> <p>No mouse was detected.</p>	<ul style="list-style-type: none"> • Install a mouse. <p>Or</p> <ul style="list-style-type: none"> • Set the mouse option correctly using the IBM Setup Utility. <p>If you cannot correct the problem, have the computer serviced.</p>

POST beep codes

Another way for POST to notify you of errors is through a series of audible beeps. A beep pattern represents a numeric value and provides further information about the location of a potential problem.

The following are the most common POST beep codes that you might hear when starting your computer.

Beep pattern	Description	Action
1 long and 2 short beeps	No on-screen message. Beeps occur before video initialization.	Remove and reinstall the dual inline memory modules (DIMMs). If the problem persists, have the computer serviced.
1 long beep followed by a series of short beeps	External ROM failure (such as VGA)	If the problem persists, have the computer serviced.
2 short beeps	A POST error occurred.	If you have changed the hardware configuration, go into the IBM Setup Utility and exit to save setting. Otherwise refer to error code section to resolve error.
1 short - 3 short - 3 short - 1 short	No memory or no configuration memory	Reinstall the memory. If problem persists, replace the memory.
4 sets of 4 short beeps	POV tamper; POV binding information does not match.	Make sure the original POV card is properly in its socket.

Here are some general guidelines for working with POST beep codes:

- Record any beep patterns that you hear. If you call for service, you will be asked for the beep patterns.
- If the beep pattern is not in this book, more in-depth troubleshooting is required.
 - If the operating system starts when you turn on your computer, use Access IBM to learn how to run IBM Enhanced Diagnostics and see the entire online troubleshooting procedures.
 - If the operating system will not start, have the computer serviced.

Chapter 5. Getting information, help, and service

If you need help, service, or technical assistance or just want more information about IBM products, you will find a wide variety of sources available from IBM to assist you. This section contains information about where to go for additional information about IBM and IBM products, what to do if you experience a problem with your computer, and whom to call for service should it be necessary.

Getting information

Information about your IBM computer and preinstalled software, if any, is available in the documentation that comes with your computer. That documentation includes printed books, online books, README files, and help files. In addition, information about IBM products is available on the World Wide Web.

On the World Wide Web, the IBM Web site has up-to-date information about IBM Personal Computer products and support. The address for the IBM Personal Computing home page is <http://www.ibm.com/pc/>.

You can find support information for your IBM products, including supported options, at <http://www.ibm.com/pc/support/>.

You can order publications through the IBM Publications Ordering System at <http://www.elink.ibm.com/public/applications/publications/cgibin/pbi.cgi>.

Getting help and service

If you have a problem with your computer, you will find a wide variety of sources available to help you.

Using the documentation and diagnostic programs

Many computer problems can be solved without outside assistance. If you experience a problem with your computer, the first place to start is the troubleshooting information in your computer documentation. If you suspect a software problem, see the documentation, including README files and online help, that comes with the operating system or application program.

Most IBM computers and servers come with a set of diagnostic programs that you can use to help you identify hardware problems. See the troubleshooting information in your computer documentation for instructions on using the diagnostic programs.

The troubleshooting information or the diagnostic programs might tell you that you need additional or updated device drivers or other software. IBM maintains pages on the World Wide Web where you can get the latest technical information and download device drivers and updates. To access these pages, go to <http://www.ibm.com/pc/support/> and follow the instructions.

Calling for service

If you have tried to correct the problem yourself and still need help, during the warranty period, you can get help and information by telephone through the IBM PC Support Center. The following services are available during the warranty period:

- **Problem determination** - Trained personnel are available to assist you with determining if you have a hardware problem and deciding what action is necessary to fix the problem.
- **IBM hardware repair** - If the problem is determined to be caused by IBM hardware under warranty, trained service personnel are available to provide the applicable level of service.
- **Engineering Change management** - Occasionally, there might be changes that are required after a product has been sold. IBM or your reseller, if authorized by IBM, will make selected Engineering Changes (ECs) available that apply to your hardware.

The following items are not covered:

- Replacement or use of non-IBM parts or nonwarranted IBM parts. All warranted parts contain a 7-character identification in the format IBM FRU XXXXXXX.
- Identification of software problem sources.
- Configuration of BIOS as part of an installation or upgrade.
- Changes, modifications, or upgrades to device drivers.
- Installation and maintenance of network operating systems (NOS).
- Installation and maintenance of application programs.

Refer to your IBM Statement of Limited Warranty for a full explanation of IBM warranty terms. Be sure to retain your proof of purchase to obtain warranty service.

In the U.S. and Canada, these services are available 24 hours a day, 7 days a week. In the U.K., these services are available Monday through Friday, from 9:00 a.m. to 6:00 p.m.

Note: Response times vary; may exclude some holidays.

If possible, be at your computer when you call. Please have the following information ready:

- Machine type and model

- Serial numbers of your IBM hardware products
- Description of the problem
- Exact wording of any error messages
- Hardware and software configuration information

Telephone numbers

See “Types of Warranty Service” on page 52 for the worldwide IBM support center phone list, or for the most up-to-date phone numbers, go to <http://www.ibm.com/pc/support/> and click **Support Phone List**.

In all other countries or regions, contact your IBM reseller or IBM marketing representative.

Other services

IBM Update Connector™ is a remote communication tool that you can use with some IBM computers to communicate with the Support Center. Update Connector enables you to receive and download updates for some of the software that might come with your computer.

If you travel with your computer or relocate it to a country where your ThinkCentre machine type is sold, your computer might be eligible for International Warranty Service, which automatically entitles you to obtain warranty service throughout the warranty period. Service will be performed by IBM or by IBM resellers who are authorized to perform warranty service.

Service methods and procedures vary by country, and some services might not be available in all countries. International Warranty Service is delivered through the method of service (such as depot, carry-in, or on-site service) that is provided in the servicing country. Service centers in certain countries might not be able to service all models of a particular machine type. In some countries, fees and restrictions might apply at the time of service.

To determine whether your computer is eligible for International Warranty Service and to view a list of the countries where service is available, go to <http://www.ibm.com/pc/support/>, and click **Warranty Lookup**. Eligible IBM computers are identified by their four-digit machine types. For more information about International Warranty Service, see Service Announcement 601-034 at <http://www.ibm.com/>. Click **Support & downloads**, click **Announcement letters**, and click **Announcements search**. In the **Search by letter number only** field, type 601-034, and click **Search**.

IBM Integrated Technology Services offers a broad range of information technology support, implementation, and management services. For more information about these services, refer to the Integrated Technology Services Web site at <http://www.ibm.com/services/its/>.

For technical assistance with the installation of, or questions related to, Service Packs for your preinstalled Microsoft Windows product, refer to the Microsoft Product Support Services Web site at <http://support.microsoft.com/directory/>, or you can contact the IBM Support Center. Some fees might apply.

Purchasing additional services

During and after the warranty period, you can purchase additional services, such as support for IBM and non-IBM hardware, operating systems, and application programs; network setup and configuration; upgraded or extended hardware repair services; and custom installations. Service availability and service name might vary by country or region.

For more information about these services, see the online information.

Appendix A. IBM Lotus Software Offer

About the offer: As a qualifying IBM personal computer customer, you are receiving a license for Lotus Notes Standalone Client and Lotus SmartSuite software. This license entitles you to install and use this software on your new IBM personal computer using one of the following options:

- **Media for this software is not included in this offer. If you do not already have the appropriate Lotus Notes Client or Lotus SmartSuite software media,** you can order a CD and install the software onto your computer.** Use one of the methods listed on the following page to order.
- **If you already have a licensed copy of the software,** you are entitled to make and use one additional copy of the software you have.

About IBM Lotus Notes: With your Notes Standalone client, you can integrate your most valuable messaging, collaborative and personal information management (PIM) resources —like e-mail, calendar, to-do list — allowing you to access them while connected to or disconnected from your network. For more information visit <http://www.lotus.com/notes>

About IBM Lotus SmartSuite: Lotus SmartSuite contains powerful applications with timesaving features that give you a head start on your work and guide you through individual tasks.

- Lotus Word Pro – Word Processor
- Lotus 1-2-3 – Spreadsheet
- Lotus Freelance Graphics – Presentation Graphics
- Lotus Approach – Database
- Lotus Organizer – Time, Contact, and Information Manager
- Lotus FastSite – Web Publisher
- Lotus SmartCenter – Internet Information Manager

Customer Support: For support information and phone numbers to help with initial installation of software, visit <http://www.pc.ibm.com/support>. To purchase technical support beyond this initial installation support, visit <http://www.lotus.com/passport>.

International License Agreement: The software licensed to you under this offer does not include software upgrades or technical support, and is subject to the terms and conditions of the IBM International Program License Agreement (IPLA) that accompanies the software. Your use of the Lotus SmartSuite and Lotus Notes programs described in this offer constitutes acceptance of the terms of this Offer and the IPLA. For further information regarding the IBM IPLA, visit <http://www.ibm.com/software/sla/sladb.nsf>. These programs are not for resale.

Proof of Entitlement: The proof of purchase for your qualifying IBM personal computer, as well as this Offer document, should be retained as your proof of entitlement.

Purchasing Upgrades, Additional Licenses and Technical Support

Software upgrades and technical support are available for a fee through IBM's Passport Advantage Program. For information about purchasing additional licenses for Notes, SmartSuite, or other Lotus products, visit <http://www.ibm.com> or <http://www.lotus.com/passport> Subject to certain qualifications, client access licenses can be purchased using a Competitive Tradeup license.

To order a CD:

****Important:** Pursuant to this Offer, you may order one CD media per license. You will need to provide the 7 digit serial number of the new IBM personal computer that you purchased. The CD is provided at no charge; however, applicable shipping, duties and taxes may be imposed by local jurisdictions. Please allow 10 to 20 business days from receipt of your request for delivery.

- **In U. S. Or Canada:**

- Call 800-690-3899

- **In Latin American Countries:**

- Via the Internet: <http://smartsuite.modusmedia.com>
 - Mail address:
IBM - Lotus Notes and SmartSuite Program
Modus Media International
501 Innovation Avenue
Morrisville, NC, USA 27560

Fax: 919-405-4495

To inquire about an order, contact:
Smartsuite_ibm@modusmedia.com

- **In European Countries:**

- Via the Internet: <http://ibm.modusmedia.co.uk>
 - Mail address:
IBM - Lotus Notes and SmartSuite Program
P.O. Box 3118
Cumbernauld, Scotland, G68 9JX

To inquire about an order, contact:
ibm_smartsuite@modusmedia.com

- **In Asia Pacific Countries:**

- Via the Internet: <http://smartsuite.modusmedia.com>

- Mail address:

- IBM - Lotus Notes and SmartSuite Program

- Modus Media International

- eFulfillment Solution Center

- 750 Chai Chee Road

- #03-10/14, Technopark at Chai Chee,

- Singapore 469000

Fax: +65 6448 5830

To inquire about an order, contact:

Smartsuiteapac@modusmedia.com

Appendix B. IBM Statement of Limited Warranty Z125-4753-07 11/2002

Part 1 - General Terms

This Statement of Limited Warranty includes Part 1 - General Terms, Part 2 - Country-unique Terms, and Part 3 - Warranty Information. The terms of Part 2 replace or modify those of Part 1. The warranties provided by IBM in this Statement of Limited Warranty apply only to Machines you purchase for your use, and not for resale. The term "Machine" means an IBM machine, its features, conversions, upgrades, elements, or accessories, or any combination of them. The term "Machine" does not include any software programs, whether pre-loaded with the Machine, installed subsequently or otherwise. Nothing in this Statement of Limited Warranty affects any statutory rights of consumers that cannot be waived or limited by contract.

What this Warranty Covers

IBM warrants that each Machine 1) is free from defects in materials and workmanship and 2) conforms to IBM's Official Published Specifications ("Specifications") which are available on request. The warranty period for the Machine starts on the original Date of Installation and is specified in Part 3 - Warranty Information. The date on your invoice or sales receipt is the Date of Installation unless IBM or your reseller informs you otherwise. Many features, conversions, or upgrades involve the removal of parts and their return to IBM. A part that replaces a removed part will assume the warranty service status of the removed part. Unless IBM specifies otherwise, these warranties apply only in the country or region in which you purchased the Machine.

THESE WARRANTIES ARE YOUR EXCLUSIVE WARRANTIES AND REPLACE 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 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 MAY NOT APPLY TO YOU.

What this Warranty Does not Cover

This warranty does not cover the following:

- any software programs, whether pre-loaded or shipped with the Machine, or installed subsequently;

- failure resulting from misuse (including but not limited to use of any Machine capacity or capability, other than that authorized by IBM in writing), accident, modification, unsuitable physical or operating environment, or improper maintenance by you;
- failure caused by a product for which IBM is not responsible; and
- any non-IBM products, including those that IBM may procure and provide with or integrate into an IBM Machine at your request.

The warranty is voided by removal or alteration of identification labels on the Machine or its parts.

IBM does not warrant uninterrupted or error-free operation of a Machine.

Any technical or other support provided for a Machine under warranty, such as assistance via telephone with "how-to" questions and those regarding Machine set-up and installation, is provided **WITHOUT WARRANTIES OF ANY KIND**.

How to Obtain Warranty Service

If the Machine does not function as warranted during the warranty period, contact IBM or your reseller to obtain warranty service. If you do not register the Machine with IBM, you may be required to present proof of purchase as evidence of your entitlement to warranty service.

What IBM Will Do to Correct Problems

When you call for service, you must follow the problem determination and resolution procedures that IBM specifies. A technician will attempt to make an initial diagnosis of your problem and help you resolve it over the telephone. The type of warranty service applicable to your Machine is specified in Part 3 - Warranty Information.

You are responsible for downloading and installing designated Machine Code (microcode, basic input/output system code (called "BIOS"), utility programs, device drivers, and diagnostics delivered with an IBM Machine) and other software updates from an IBM Internet Web site or from other electronic media, and following the instructions that IBM provides.

If your problem can be resolved with a Customer Replaceable Unit ("CRU") (e.g., keyboard, mouse, speaker, memory, hard disk drive and other easily replaceable parts), IBM will ship these parts to you for replacement by you.

If the Machine does not function as warranted during the warranty period and your problem cannot be resolved over the telephone, through your application of Machine Code or software updates, or with a CRU, IBM or your reseller, if approved by IBM to provide warranty service, will either, at its discretion, 1) repair it to make it function as warranted, or 2) replace it with one that is at least functionally equivalent. If IBM is unable to do either, you may return the Machine to your place of purchase and your money will be refunded.

IBM or your reseller will also manage and install selected engineering changes that apply to the Machine.

Exchange of a Machine or Part

When the warranty service involves the exchange of a Machine or part, the item IBM or your reseller replaces becomes its property and the replacement becomes yours. You represent that all removed items are 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 service status of the replaced item.

Your Additional Responsibilities

Before IBM or your reseller exchanges a Machine or part, you agree to remove all features, parts, options, alterations, and attachments not under warranty service.

You also agree to:

1. ensure that the Machine is free of any legal obligations or restrictions that prevent its exchange;
2. obtain authorization from the owner to have IBM or your reseller service a Machine that you do not own; and
3. where applicable, before service is provided:
 - a. follow the service request procedures that IBM or your reseller provides;
 - b. backup or secure all programs, data, and funds contained in the Machine;
 - c. provide IBM or your reseller with sufficient, free, and safe access to your facilities to permit IBM to fulfill its obligations; and
 - d. inform IBM or your reseller of changes in the Machine's location.
4. (a) ensure all information about identified or identifiable individuals (Personal Data) is deleted from the Machine (to the extent technically possible), (b) allow IBM, your reseller or an IBM supplier to process on your behalf any remaining Personal Data as IBM or your reseller considers necessary to fulfill its obligations under this Statement of Limited Warranty (which may include shipping the Machine for such processing to other IBM service locations around the world), and (c) ensure that such processing complies with any laws applicable to such Personal Data.

Limitation of Liability

IBM is responsible for loss of, or damage to, your Machine only while it is 1) in IBM's possession or 2) in transit in those cases where IBM is responsible for the transportation charges.

Neither IBM nor your reseller are responsible for any of your confidential, proprietary or personal information contained in a Machine which you return to IBM for any reason. You should remove all such information from the Machine prior to its return.

Circumstances may arise where, because of a default on IBM's part or other liability, you are entitled to recover damages from IBM. In each such instance, regardless of the basis on which you are entitled to claim damages from IBM (including fundamental breach, negligence, misrepresentation, or other contract

or tort claim), except for any liability that cannot be waived or limited by applicable laws, IBM is liable for no more than

1. damages for bodily injury (including death) and damage to real property and tangible personal property; and
2. the amount of any other actual direct damages, up to the charges (if recurring, 12 months' charges apply) for the Machine that is subject of the claim. For purposes of this item, the term "Machine" includes Machine Code and Licensed Internal Code ("LIC").

This limit also applies to IBM's suppliers and your reseller. It is the maximum for which IBM, its suppliers, and your reseller are collectively responsible.

UNDER NO CIRCUMSTANCES IS IBM, ITS SUPPLIERS OR RESELLERS LIABLE FOR ANY OF THE FOLLOWING EVEN IF INFORMED OF THEIR POSSIBILITY: 1) THIRD PARTY CLAIMS AGAINST YOU FOR DAMAGES (OTHER THAN THOSE UNDER THE FIRST ITEM LISTED ABOVE); 2) LOSS OF, OR DAMAGE TO, DATA; 3) SPECIAL, INCIDENTAL, OR INDIRECT DAMAGES OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES; OR 4) 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. SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

Governing Law

Both you and IBM consent to the application of the laws of the country in which you acquired the Machine to govern, interpret, and enforce all of your and IBM's rights, duties, and obligations arising from, or relating in any manner to, the subject matter of this Statement of Limited Warranty, without regard to conflict of law principles.

THESE WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE OR JURISDICTION TO JURISDICTION.

Jurisdiction

All of our rights, duties, and obligations are subject to the courts of the country in which you acquired the Machine.

Part 2 - Country-unique Terms

AMERICAS

ARGENTINA

Governing Law: *The following is added after the first sentence:*

Any litigation arising from this Statement of Limited Warranty will be settled exclusively by the Ordinary Commercial Court of the city of Buenos Aires.

BRAZIL

Governing Law: *The following is added after the first sentence:*

Any litigation arising from this Agreement will be settled exclusively by the court of Rio de Janeiro, RJ.

PERU

Limitation of Liability: *The following is added at the end of this section:*

In accordance with Article 1328 of the Peruvian Civil Code the limitations and exclusions specified in this section will not apply to damages caused by IBM's willful misconduct ("dolo") or gross negligence ("culpa inexcusable").

NORTH AMERICA

How to Obtain Warranty Service: *The following is added to this Section:*

To obtain warranty service from IBM in Canada or the United States, call 1-800-IBM-SERV (426-7378).

CANADA

Limitation of Liability: *The following replaces item 1 of this section:*

1. damages for bodily injury (including death) or physical harm to real property and tangible personal property caused by IBM's negligence; and

Governing Law: *The following replaces "laws of the country in which you acquired the Machine" in the first sentence:*

laws in the Province of Ontario.

UNITED STATES

Governing Law: *The following replaces "laws of the country in which you acquired the Machine" in the first sentence:*

laws of the State of New York.

ASIA PACIFIC

AUSTRALIA

What this Warranty Covers: *The following paragraph is added to this Section:*

The warranties specified in this Section are in addition to any rights you may have under the Trade Practices Act 1974 or other similar legislation and are only limited to the extent permitted by the applicable legislation.

Limitation of Liability: *The following is added to this Section:*

Where IBM is in breach of a condition or warranty implied by the Trade Practices Act 1974 or other similar legislation, IBM's liability is limited to the repair or replacement of the goods or the supply of equivalent goods. Where

that condition or warranty relates to right to sell, quiet possession or clear title, or the goods are of a kind ordinarily acquired for personal, domestic or household use or consumption, then none of the limitations in this paragraph apply.

Governing Law: *The following replaces "laws of the country in which you acquired the Machine" in the first sentence:*

laws of the State or Territory.

CAMBODIA, LAOS, AND VIETNAM

Governing Law: *The following replaces "laws of the country in which you acquired the Machine" in the first sentence:*

laws of the State of New York, United States of America.

CAMBODIA, INDONESIA, LAOS, AND VIETNAM

Arbitration: *The following is added under this heading:*

Disputes arising out of or in connection with this Statement of Limited Warranty shall be finally settled by arbitration which shall be held in Singapore in accordance with the Arbitration Rules of Singapore International Arbitration Center ("SIAC Rules") 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.

The number of arbitrators shall be three, with each side to the dispute being entitled to appoint one arbitrator. The two arbitrators appointed by the parties shall appoint a third arbitrator who shall act as chairman of the proceedings. Vacancies in the post of chairman shall be filled by the president of the SIAC. Other vacancies shall be filled by the respective nominating party. Proceedings shall continue from the stage they were at when the vacancy occurred.

If one of the parties refuses or otherwise fails to appoint an arbitrator within 30 days of the date the other party appoints its, the first appointed arbitrator shall be the sole arbitrator, provided that the arbitrator was validly and properly appointed.

All proceedings shall be conducted, including all documents presented in such proceedings, in the English language. The English language version of this Statement of Limited Warranty prevails over any other language version.

HONG KONG S.A.R. OF CHINA AND MACAU S.A.R. OF CHINA

Governing Law: *The following replaces "laws of the country in which you acquired the Machine" in the first sentence:*

laws of Hong Kong Special Administrative Region of China.

INDIA

Limitation of Liability: *The following replaces items 1 and 2 of this Section:*

1. liability for bodily injury (including death) or damage to real property and tangible personal property will be limited to that caused by IBM's negligence; and

2. as to any other actual damage arising in any situation involving nonperformance by IBM pursuant to, or in any way related to the subject of this Statement of Limited Warranty, the charge paid by you for the individual Machine that is the subject of the claim. For purposes of this item, the term "Machine" includes Machine Code and Licensed Internal Code ("LIC").

Arbitration: *The following is added under this heading*

Disputes arising out of or in connection with this Statement of Limited Warranty shall be finally settled by arbitration which shall be held in Bangalore, India 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. The number of arbitrators shall be three, with each side to the dispute being entitled to appoint one arbitrator. The two arbitrators appointed by the parties shall appoint a third arbitrator who shall act as chairman of the proceedings. Vacancies in the post of chairman shall be filled by the president of the Bar Council of India. Other vacancies shall be filled by the respective nominating party. Proceedings shall continue from the stage they were at when the vacancy occurred.

If one of the parties refuses or otherwise fails to appoint an arbitrator within 30 days of the date the other party appoints its, the first appointed arbitrator shall be the sole arbitrator, provided that the arbitrator was validly and properly appointed.

All proceedings shall be conducted, including all documents presented in such proceedings, in the English language. The English language version of this Statement of Limited Warranty prevails over any other language version.

JAPAN

Governing Law: *The following sentence is added to this Section:*

Any doubts concerning this Agreement will be initially resolved between us in good faith and in accordance with the principle of mutual trust.

MALASIA

Limitation of Liability: The word "SPECIAL" in item 3 of the fifth paragraph is deleted.

NEW ZEALAND

What this Warranty Covers: *The following paragraph is added to this Section:*

The warranties specified in this section are in addition to any rights you may have under the Consumer Guarantees Act 1993 or other legislation which cannot be excluded or limited. The Consumer Guarantees Act 1993 will not apply in respect of any goods which IBM provides, if you require the goods for the purposes of a business as defined in that Act.

Limitation of Liability: *The following is added to this Section:*

Where Machines are not acquired for the purposes of a business as defined in the Consumer Guarantees Act 1993, the limitations in this Section are subject to the limitations in that Act.

PEOPLE'S REPUBLIC OF CHINA (PRC)

Governing Law: *The following replaces "laws of the country in which you acquired the Machine" in the first sentence:*

laws of the State of New York, United States of America (except when local law requires otherwise).

PHILIPPINES

Limitation of Liability: *Item 3 in the fifth paragraph is replaced by the following:*

SPECIAL (INCLUDING NOMINAL AND EXEMPLARY DAMAGES), MORAL, INCIDENTAL, OR INDIRECT DAMAGES FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES; OR

Arbitration: The following is added: under this heading

Disputes arising out of or in connection with this Statement of Limited Warranty shall be finally settled by arbitration which shall be held in Metro Manila, Philippines in accordance with the laws of the Philippines 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.

The number of arbitrators shall be three, with each side to the dispute being entitled to appoint one arbitrator. The two arbitrators appointed by the parties shall appoint a third arbitrator who shall act as chairman of the proceedings. Vacancies in the post of chairman shall be filled by the president of the Philippine Dispute Resolution Center, Inc.. Other vacancies shall be filled by the respective nominating party. Proceedings shall continue from the stage they were at when the vacancy occurred.

If one of the parties refuses or otherwise fails to appoint an arbitrator within 30 days of the date the other party appoints its, the first appointed arbitrator shall be the sole arbitrator, provided that the arbitrator was validly and properly appointed.

All proceedings shall be conducted, including all documents presented in such proceedings, in the English language. The English language version of this Statement of Limited Warranty prevails over any other language version.

SINGAPORE

Limitation of Liability: *The words "SPECIAL" and "ECONOMIC" in item 3 in the fifth paragraph are deleted.*

EUROPE, MIDDLE EAST, AFRICA (EMEA)

THE FOLLOWING TERMS APPLY TO ALL EMEA COUNTRIES:

The terms of this Statement of Limited Warranty apply to Machines purchased from IBM or an IBM reseller.

How to Obtain Warranty Service:

If you purchase a Machine in Austria, Belgium, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, Netherlands, Norway, Portugal, Spain, San Marino, Sweden, Switzerland, United Kingdom or Vatican State, you may obtain warranty service for that Machine in any of those countries from either (1) an IBM reseller approved to perform warranty service or (2) from IBM, provided the Machine has been announced and made available by IBM in the country in which you wish to obtain service. If you purchased a Personal Computer Machine in Albania, Armenia, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Federal Republic of Yugoslavia, Former Yugoslav Republic of Macedonia (FYROM), Moldova, Poland, Romania, Russia, Slovak Republic, Slovenia, or Ukraine, you may obtain warranty service for that Machine in any of those countries from either (1) an IBM reseller approved to perform warranty service or (2) from IBM.

If you purchase a Machine in a Middle Eastern or African country, you may obtain warranty service for that Machine from the IBM entity within the country of purchase, if that IBM entity provides warranty service in that country, or from an IBM reseller, approved by IBM to perform warranty service on that Machine in that country. Warranty service in Africa is available within 50 kilometers of an IBM approved service provider. You are responsible for transportation costs for Machines located outside 50 kilometers of an IBM approved service provider.

Add the following paragraph in Western Europe (Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Monaco, Netherlands, Norway, Portugal, Spain, San Marino, Sweden, Switzerland, United Kingdom, Vatican State):

The warranty for Machines acquired in Western Europe shall be valid and applicable in all Western Europe countries provided the Machines have been announced and made available in such countries.

Governing Law:

The phrase "the laws of the country in which you acquired the Machine" is replaced by:

- 1) "the laws of Austria" in **Albania, Armenia, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, FYR Macedonia, Moldova, Poland, Romania, Russia, Slovakia, Slovenia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, and FR Yugoslavia;**
- 2) "the laws of France" in **Algeria, Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo Republic, Djibouti, Democratic Republic of Congo, Equatorial Guinea, French Guiana, French Polynesia, Gabon, Gambia, Guinea, Guinea-Bissau, Ivory Coast, Lebanon, Madagascar, Mali, Mauritania, Mauritius, Mayotte, Morocco, New Caledonia, Niger, Reunion, Senegal, Seychelles, Togo, Tunisia, Vanuatu, and Wallis &**

Futuna; 3) "the laws of Finland" in Estonia, Latvia, and Lithuania; 4) "the laws of England" in Angola, Bahrain, Botswana, Burundi, Egypt, Eritrea, Ethiopia, Ghana, Jordan, Kenya, Kuwait, Liberia, Malawi, Malta, Mozambique, Nigeria, Oman, Pakistan, Qatar, Rwanda, Sao Tome, Saudi Arabia, Sierra Leone, Somalia, Tanzania, Uganda, United Arab Emirates, the United Kingdom, West Bank/Gaza, Yemen, Zambia, and Zimbabwe; and 5) "the laws of South Africa" in South Africa, Namibia, Lesotho and Swaziland.

Jurisdiction: *The following exceptions are added to this section:*

1) **In Austria** the choice of jurisdiction for all disputes arising out of this Statement of Limited Warranty and relating thereto, including its existence, will be the competent court of law in Vienna, Austria (Inner-City); 2) **in Angola, Bahrain, Botswana, Burundi, Egypt, Eritrea, Ethiopia, Ghana, Jordan, Kenya, Kuwait, Liberia, Malawi, Malta, Mozambique, Nigeria, Oman, Pakistan, Qatar, Rwanda, Sao Tome, Saudi Arabia, Sierra Leone, Somalia, Tanzania, Uganda, United Arab Emirates, West Bank/Gaza, Yemen, Zambia, and Zimbabwe** all disputes arising out of this Statement of Limited Warranty or related to its execution, including summary proceedings, will be submitted to the exclusive jurisdiction of the English courts; 3) **in Belgium and Luxembourg**, all disputes arising out of this Statement of Limited Warranty or related to its interpretation or its execution, the law, and the courts of the capital city, of the country of your registered office and/or commercial site location only are competent; 4) **in France, Algeria, Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo Republic, Djibouti, Democratic Republic of Congo, Equatorial Guinea, French Guiana, French Polynesia, Gabon, Gambia, Guinea, Guinea-Bissau, Ivory Coast, Lebanon, Madagascar, Mali, Mauritania, Mauritius, Mayotte, Morocco, New Caledonia, Niger, Reunion, Senegal, Seychelles, Togo, Tunisia, Vanuatu, and Wallis & Futuna** all disputes arising out of this Statement of Limited Warranty or related to its violation or execution, including summary proceedings, will be settled exclusively by the Commercial Court of Paris; 5) **in Russia**, all disputes arising out of or in relation to the interpretation, the violation, the termination, the nullity of the execution of this Statement of Limited Warranty shall be settled by Arbitration Court of Moscow; 6) **in South Africa, Namibia, Lesotho and Swaziland**, both of us agree to submit all disputes relating to this Statement of Limited Warranty to the jurisdiction of the High Court in Johannesburg; 7) **in Turkey** all disputes arising out of or in connection with this Statement of Limited Warranty shall be resolved by the Istanbul Central (Sultanahmet) Courts and Execution Directorates of Istanbul, the Republic of Turkey; 8) in each of the following specified countries, any legal claim arising out of this Statement of Limited Warranty will be brought before, and settled exclusively by, the competent court of a) Athens for **Greece**, b) Tel Aviv-Jaffa for **Israel**, c) Milan for **Italy**, d) Lisbon for **Portugal**, and e) Madrid for **Spain**; and 9) **in the United Kingdom**, both of us agree to submit all disputes relating to this Statement of Limited Warranty to the jurisdiction of the English courts.

Arbitration: *The following is added under this heading:*

In Albania, Armenia, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, FYR Macedonia, Moldova, Poland, Romania, Russia, Slovakia, Slovenia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, and FR Yugoslavia all disputes arising out of this Statement of Limited Warranty or related to its violation, termination or nullity will be finally settled under the Rules of Arbitration and Conciliation of the International Arbitral Center of the Federal Economic Chamber in Vienna (Vienna Rules) by three arbitrators appointed in accordance with these rules. The arbitration will be held in Vienna, Austria, and the official language of the proceedings will be English. The decision of the arbitrators will be final and binding upon both parties. Therefore, pursuant to paragraph 598 (2) of the Austrian Code of Civil Procedure, the parties expressly waive the application of paragraph 595 (1) figure 7 of the Code. IBM may, however, institute proceedings in a competent court in the country of installation.

In Estonia, Latvia and Lithuania all disputes arising in connection with this Statement of Limited Warranty will be finally settled in arbitration that will be held in Helsinki, Finland in accordance with the arbitration laws of Finland then in effect. Each party will appoint one arbitrator. The arbitrators will then jointly appoint the chairman. If arbitrators cannot agree on the chairman, then the Central Chamber of Commerce in Helsinki will appoint the chairman.

EUROPEAN UNION (EU)

THE FOLLOWING TERMS APPLY TO ALL EU COUNTRIES:

Consumers have legal rights under applicable national legislation governing the sale of consumer goods. Such rights are not affected by the warranties provided in this Statement of Limited Warranty.

How to Obtain Warranty Service: *The following is added to this section:*

To obtain warranty service from IBM in EU countries, see the telephone listing in Part 3 - Warranty Information.

You may contact IBM at the following address:

IBM Warranty & Service Quality Dept.

PO Box 30

Spango Valley

Greenock

Scotland PA16 0AH

AUSTRIA, DENMARK, FINLAND, GREECE, ITALY, NETHERLANDS, NORWAY, PORTUGAL, SPAIN, SWEDEN AND SWITZERLAND

Limitation of Liability: *The following replaces the terms of this section in its entirety:*

Except as otherwise provided by mandatory law:

1. IBM's liability for any damages and losses that may arise as a consequence of the fulfillment of its obligations under or in connection with this Statement of Limited Warranty or due to any other cause related to this Statement of Limited Warranty is limited to the compensation of only those damages and losses proved and actually arising as an immediate and direct consequence of the non-fulfillment of such obligations (if IBM is at fault) or of such cause, for a maximum amount equal to the charges you paid for the Machine. For purposes of this item, the term "Machine" includes Machine Code and Licensed Internal Code ("LIC").

The above limitation shall not apply to damages for bodily injuries (including death) and damages to real property and tangible personal property for which IBM is legally liable.

2. **UNDER NO CIRCUMSTANCES IS IBM, ITS SUPPLIERS OR RESELLERS LIABLE FOR ANY OF THE FOLLOWING, EVEN IF INFORMED OF THEIR POSSIBILITY: 1) LOSS OF, OR DAMAGE TO, DATA; 2) INCIDENTAL OR INDIRECT DAMAGES, OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES; 3) LOST PROFITS, EVEN IF THEY ARISE AS AN IMMEDIATE CONSEQUENCE OF THE EVENT THAT GENERATED THE DAMAGES; OR 4) LOSS OF BUSINESS, REVENUE, GOODWILL, OR ANTICIPATED SAVINGS.**

FRANCE AND BELGIUM

Limitation of Liability: *The following replaces the terms of this section in its entirety:*

Except as otherwise provided by mandatory law:

1. IBM's liability for any damages and losses that may arise as a consequence of the fulfillment of its obligations under or in connection with this Statement of Limited Warranty is limited to the compensation of only those damages and losses proved and actually arising as an immediate and direct consequence of the non-fulfillment of such obligations (if IBM is at fault), for a maximum amount equal to the charges you paid for the Machine that has caused the damages. For purposes of this item, the term "Machine" includes Machine Code and Licensed Internal Code ("LIC").

The above limitation shall not apply to damages for bodily injuries (including death) and damages to real property and tangible personal property for which IBM is legally liable.

2. **UNDER NO CIRCUMSTANCES IS IBM, ITS SUPPLIERS OR RESELLERS LIABLE FOR ANY OF THE FOLLOWING, EVEN IF INFORMED OF THEIR POSSIBILITY: 1) LOSS OF, OR DAMAGE TO, DATA; 2) INCIDENTAL OR INDIRECT DAMAGES, OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES; 3) LOST PROFITS, EVEN IF THEY ARISE AS AN IMMEDIATE CONSEQUENCE OF THE EVENT THAT GENERATED THE DAMAGES; OR 4) LOSS OF BUSINESS, REVENUE, GOODWILL, OR ANTICIPATED SAVINGS.**

THE FOLLOWING TERMS APPLY TO THE COUNTRY SPECIFIED:

AUSTRIA

What this Warranty Covers: *The following replaces the first sentence of the first paragraph of this section:*

The warranty for an IBM Machine covers the functionality of the Machine for its normal use and the Machine's conformity to its Specifications.

The following paragraphs are added to this section:

The warranty period for Machines is 12 months from the date of delivery. The limitation period for consumers in action for breach of warranty is the statutory period as a minimum. In case IBM or your reseller is unable to repair an IBM Machine, you can alternatively ask for a partial refund as far as justified by the reduced value of the unrepaired Machine or ask for a cancellation of the respective agreement for such Machine and get your money refunded.

The second paragraph does not apply.

What IBM Will Do to Correct Problems: *The following is added to this section:*

During the warranty period, transportation for delivery of the failing Machine to IBM will be at IBM's expense.

Limitation of Liability: *The following paragraph is added to this section:*

The limitations and exclusions specified in the Statement of Limited Warranty will not apply to damages caused by IBM with fraud or gross negligence and for express warranty.

The following sentence is added to the end of item 2:

IBM's liability under this item is limited to the violation of essential contractual terms in cases of ordinary negligence.

EGYPT

Limitation of Liability: *The following replaces item 2 in this section:*

as to any other actual direct damages, IBM's liability will be limited to the total amount you paid for the Machine that is the subject of the claim. For purposes of this item, the term "Machine" includes Machine Code and Licensed Internal Code ("LIC").

Applicability of suppliers and resellers (unchanged).

FRANCE

Limitation of Liability: *The following replaces the second sentence of the first paragraph of this section:*

In such instances, regardless of the basis on which you are entitled to claim damages from IBM, IBM is liable for no more than: (items 1 and 2 unchanged).

GERMANY

What this Warranty Covers: *The following replaces the first sentence of the first paragraph of this section:*

The warranty for an IBM Machine covers the functionality of the Machine for its normal use and the Machine's conformity to its Specifications.

The following paragraphs are added to this section:

The minimum warranty period for Machines is twelve months. In case IBM or your reseller is unable to repair an IBM Machine, you can alternatively ask for a partial refund as far as justified by the reduced value of the unrepaired Machine or ask for a cancellation of the respective agreement for such Machine and get your money refunded.

The second paragraph does not apply.

What IBM Will Do to Correct Problems: *The following is added to this section:*

During the warranty period, transportation for delivery of the failing Machine to IBM will be at IBM's expense.

Limitation of Liability: *The following paragraph is added to this section:*

The limitations and exclusions specified in the Statement of Limited Warranty will not apply to damages caused by IBM with fraud or gross negligence and for express warranty.

The following sentence is added to the end of item 2:

IBM's liability under this item is limited to the violation of essential contractual terms in cases of ordinary negligence.

HUNGARY

Limitation of Liability: *The following is added at the end of this section:*

The limitation and exclusion specified herein shall not apply to liability for a breach of contract damaging life, physical well-being, or health that has been caused intentionally, by gross negligence, or by a criminal act.

The parties accept the limitations of liability as valid provisions and state that the Section 314.(2) of the Hungarian Civil Code applies as the acquisition price as well as other advantages arising out of the present Statement of Limited Warranty balance this limitation of liability.

IRELAND

What this Warranty Covers: *The following is added to this section:*

Except as expressly provided in these terms and conditions, all statutory conditions, including all warranties implied, but without prejudice to the generality of the foregoing all warranties implied by the Sale of Goods Act 1893 or the Sale of Goods and Supply of Services Act 1980 are hereby excluded.

Limitation of Liability: *The following replaces the terms of section in its entirety:*

For the purposes of this section, a "Default" means any act, statement, omission, or negligence on the part of IBM in connection with, or in relation to, the subject matter of this Statement of Limited Warranty in respect of which IBM is legally liable to you, whether in contract or tort. A number of Defaults which together result in, or contribute to, substantially the same loss or damage will be treated as one Default occurring on the date of occurrence of the last such Default.

Circumstances may arise where, because of a Default, you are entitled to recover damages from IBM.

This section sets out the extent of IBM's liability and your sole remedy.

1. will accept unlimited liability for death or personal injury caused by the negligence of IBM.
2. Subject always to the **Items for Which IBM is Not Liable** below, IBM will accept unlimited liability for physical damage to your tangible property resulting from the negligence of IBM.
3. Except as provided in items 1 and 2 above, IBM's entire liability for actual damages for any one Default will not in any event exceed the greater of 1) EUR 125,000, or 2) 125% of the amount you paid for the Machine directly relating to the Default.

Items for Which IBM is Not Liable

Save with respect to any liability referred to in item 1 above, under no circumstances is IBM, its suppliers or resellers liable for any of the following, even if IBM or they were informed of the possibility of such losses:

1. loss of, or damage to, data;
2. special, indirect, or consequential loss; or
3. loss of profits, business, revenue, goodwill, or anticipated savings.

SLOVAKIA

Limitation of Liability: *The following is added to the end of the last paragraph:*

The limitations apply to the extent they are not prohibited under §§ 373-386 of the Slovak Commercial Code.

SOUTH AFRICA, NAMIBIA, BOTSWANA, LESOTHO AND SWAZILAND

Limitation of Liability: *The following is added to this section:*

IBM's entire liability to you for actual damages arising in all situations involving nonperformance by IBM in respect of the subject matter of this Statement of Warranty will be limited to the charge paid by you for the individual Machine that is the subject of your claim from IBM.

UNITED KINGDOM

Limitation of Liability: *The following replaces the terms of this section in its entirety:*

For the purposes of this section, a "Default" means any act, statement, omission, or negligence on the part of IBM in connection with, or in relation to, the subject matter of this Statement of Limited Warranty in respect of which IBM is legally liable to you, whether in contract or tort. A number of Defaults which together result in, or contribute to, substantially the same loss or damage will be treated as one Default.

Circumstances may arise where, because of a Default, you are entitled to recover damages from IBM.

This section sets out the extent of IBM's liability and your sole remedy.

1. IBM will accept unlimited liability for:
 - a. death or personal injury caused by the negligence of IBM; and

- b. any breach of its obligations implied by Section 12 of the Sale of Goods Act 1979 or Section 2 of the Supply of Goods and Services Act 1982, or any statutory modification or re-enactment of either such Section.
2. IBM will accept unlimited liability, subject always to the Items for Which IBM is Not Liable below, for physical damage to your tangible property resulting from the negligence of IBM.
3. IBM's entire liability for actual damages for any one Default will not in any event, except as provided in items 1 and 2 above, exceed the greater of 1) Pounds Sterling 75,000, or 2) 125% of the total purchase price payable or the charges for the Machine directly relating to the Default.

These limits also apply to IBM's suppliers and resellers. They state the maximum for which IBM and such suppliers and resellers are collectively responsible.

Items for Which IBM is Not Liable

Save with respect to any liability referred to in item 1 above, under no circumstances is IBM or any of its suppliers or resellers liable for any of the following, even if IBM or they were informed of the possibility of such losses:

1. loss of, or damage to, data;
2. special, indirect, or consequential loss; or
3. loss of profits, business, revenue, goodwill, or anticipated savings.

Part 3 - Warranty Information

This Part 3 provides information regarding the warranty applicable to your Machine, including the warranty period and type of warranty service IBM provides.

Warranty Period

The warranty period may vary by country or region and is specified in the table below. NOTE: "Region" means either Hong Kong or Macau Special Administrative Region of China.

Machine Type	Country or Region of Purchase	Warranty Period	Types of Warranty Service
2296	PRC (China)	Parts and Labor - 3 years	1 and 4
	Taiwan	Parts - 3 years	Parts exchange
		Labor - 1 year	1 and 4
	Australia, New Zealand, Bangladesh, Sri Lanka, Brunei, Vietnam, Philippines, Indonesia, India, Malaysia, Singapore, Thailand, and China (Hong Kong S.A.R.)	Parts and Labor - 1 year	1 and 4
8092	United States, Latin America, Canada, Europe, Middle East, and Africa	Parts and Labor - 3 years	1 and 5
	PRC (China)	Parts and Labor - 3 years	1 and 7
	Australia, New Zealand, Bangladesh, India, Indonesia, Malaysia, Philippines, Singapore, Sri Lanka, Vietnam, Brunei, Thailand, China (Hong Kong S.A.R.), and Taiwan	Parts and Labor - 3 years	
		Labor - 1 st year	1 and 5
		Labor - 2 nd and 3 rd years	1
Japan	Parts and Labor - 1 year	1 and 6	
8127	Australia and New Zealand	Parts and Labor - 1 year	1 and 5
8128	Australia and New Zealand	Parts and Labor - 1 year	1 and 2
8183	United States, Latin America, Canada, Europe, Middle East, and Africa	Parts and Labor - 3 years	1 and 5
	PRC (China)	Parts and Labor - 3 years	1 and 7
	Australia, New Zealand, Bangladesh, India, Indonesia, Malaysia, Philippines, Singapore, Sri Lanka, Vietnam, Brunei, Thailand, China (Hong Kong S.A.R.), and Taiwan	Parts and Labor - 3 years	
		Labor - 1 st year	1 and 5
		Labor - 2 nd and 3 rd years	1
	Korea	Parts and Labor - 1 year	1 and 5
Japan	Parts and Labor - 1 year	1 and 6	
8184	All countries and regions	Parts and Labor - 3 years	1 and 5

Machine Type	Country or Region of Purchase	Warranty Period	Types of Warranty Service
8185	United States, Canada, Europe, Middle East, and Africa	Parts and Labor - 3 years	1 and 2
	PRC (China)	Parts and Labor - 3 years	1 and 4
	Latin America, Australia, New Zealand, Bangladesh, India, Indonesia, Malaysia, Philippines, Singapore, Sri Lanka, Vietnam, Brunei, Thailand, China (Hong Kong S.A.R.), and Taiwan	Parts - 3 years	Parts exchange
		Labor - 1 year	1 and 2
	Korea	Parts and Labor - 1 year	1 and 2
	Japan	Parts and Labor - 1 year	1 and 3
8186	All countries and regions	Parts and Labor - 3 years	1 and 2
8187	United States, Canada, Europe, Middle East, and Africa	Parts and Labor - 3 years	1 and 2
	PRC (China)	Parts and Labor - 3 years	1 and 4
	Latin America, Australia, New Zealand, Bangladesh, India, Indonesia, Malaysia, Philippines, Singapore, Sri Lanka, Vietnam, Brunei, Thailand, China (Hong Kong S.A.R.), and Taiwan	Parts - 3 years	Parts exchange
		Labor - 1 year	1 and 2
	Korea	Parts and Labor - 1 year	1 and 2
	Japan	Parts and Labor - 1 year	1 and 3
8188	All countries and regions	Parts and Labor - 3 years	1 and 2
8189	United States, Canada, Europe, Middle East, and Africa	Parts and Labor - 3 years	1 and 2
	PRC (China)	Parts and Labor - 3 years	1 and 4
	Latin America, Australia, New Zealand, Bangladesh, India, Indonesia, Malaysia, Philippines, Singapore, Sri Lanka, Vietnam, Brunei, Thailand, China (Hong Kong S.A.R.), and Taiwan	Parts - 3 years	Parts exchange
		Labor - 1 year	1 and 2
	Korea	Parts and Labor - 1 year	1 and 2
	Japan	Parts and Labor - 1 year	1 and 3
8190	All countries and regions	Parts and Labor - 3 years	1 and 2

Machine Type	Country or Region of Purchase	Warranty Period	Types of Warranty Service
8191	Europe, Middle East, Africa, and PRC (China)	Parts and Labor - 3 years	1 and 4
	United States, Canada, Latin America, Australia, New Zealand, Bangladesh, Sri Lanka, Brunei, Vietnam, Philippines, Indonesia, India, Malaysia, Singapore, Thailand, China (Hong Kong S.A.R.), and Taiwan	Parts - 3 years	Parts exchange
		Labor - 1 year	1 and 2
8192	Europe, Middle East, Africa, and PRC (China)	Parts and Labor - 3 years	1 and 4
	United States, Canada, Australia, New Zealand, Bangladesh, India, Indonesia, Malaysia, Philippines, Singapore, Sri Lanka, Vietnam, Brunei, Thailand, and Taiwan	Parts - 3 years	Parts exchange
		Labor - 1 year	1 and 2
	China (Hong Kong S.A.R.)	Parts and Labor - 1 year	1 and 4
8193 8194	Europe, Middle East, Africa, and PRC (China)	Parts and Labor - 3 years	1 and 4
	United States, Brazil, Canada, Australia, New Zealand, Bangladesh, India, Indonesia, Malaysia, Philippines, Singapore, Sri Lanka, Vietnam, Brunei, Thailand, China (Hong Kong S.A.R.), and Taiwan	Parts - 3 years	Parts exchange
		Labor - 1 year	1 and 2
8195	PRC (China)	Parts and Labor - 3 years	1 and 4
	Bangladesh, India, Indonesia, Malaysia, Philippines, Singapore, Sri Lanka, Vietnam, Brunei, and Thailand	Parts - 3 years	Parts exchange
		Labor - 1 year	1 and 2
	United States	Parts and Labor - 1 year	1 and 2
	Canada, Latin America, Australia, New Zealand, China (Hong Kong S.A.R.), and Taiwan	Parts and Labor - 1 year	1 and 4
	Japan	Parts and Labor - 1 year	1 and 3
8196	PRC (China)	Parts and Labor - 3 years	1 and 4
	Australia, New Zealand, Bangladesh, India, Indonesia, Malaysia, Philippines, Singapore, Sri Lanka, Vietnam, Brunei, Thailand, China (Hong Kong S.A.R.), and Taiwan	Parts - 3 years	Parts exchange
		Labor - 1 year	1 and 2

Machine Type	Country or Region of Purchase	Warranty Period	Types of Warranty Service
8197	PRC (China)	Parts and Labor - 3 years	1 and 4
	Taiwan	Parts - 3 years	Parts exchange
		Labor - 1 year	1 and 4
	Australia, New Zealand, Bangladesh, India, Indonesia, Malaysia, Philippines, Singapore, Sri Lanka, Vietnam, Brunei, Thailand, and China (Hong Kong S.A.R.)	Parts and Labor - 1 year	1 and 4
8198	Europe, Middle East, Africa, and PRC (China)	Parts and Labor - 3 years	1 and 4
	Latin America, Australia, New Zealand, Bangladesh, Sri Lanka, Brunei, Vietnam, Philippines, Indonesia, India, Malaysia, Singapore, Thailand, China (Hong Kong S.A.R.), and Taiwan	Parts - 3 years	Parts exchange
		Labor - 1 year	1 and 2
	United States and Canada	Parts and Labor - 1 year	1 and 2
8199	PRC (China)	Parts and Labor - 3 years	1 and 4
	Bangladesh, Sri Lanka, Brunei, Vietnam, Philippines, Indonesia, India, Malaysia, Singapore, and Thailand	Parts - 3 years	Parts exchange
		Labor - 1 year	1 and 2
	Latin America, Australia, New Zealand, China (Hong Kong S.A.R.) and Taiwan	Parts and Labor - 1 year	1 and 4
	United States and Canada	Parts and Labor - 1 year	1 and 2
	Japan	Parts and Labor - 1 year	1 and 3
8316	Europe, Middle East, Africa, and PRC (China)	Parts and Labor - 3 years	1 and 4
	United States, Canada, Australia, New Zealand, Bangladesh, Sri Lanka, Brunei, Vietnam, Philippines, Indonesia, India, Malaysia, Singapore, Thailand, and Taiwan	Parts - 3 years	Parts exchange
		Labor - 1 year	1 and 2
	China (Hong Kong S.A.R.)	Parts and Labor - 1 year	1 and 4

Machine Type	Country or Region of Purchase	Warranty Period	Types of Warranty Service
8320	PRC (China)	Parts and Labor - 3 years	1 and 7
	Europe, Middle East, and Africa	Parts and Labor - 3 years	1 and 5
	Australia, New Zealand, Bangladesh, India, Indonesia, Malaysia, Philippines, Singapore, Sri Lanka, Vietnam, Brunei, Thailand, and Taiwan	Parts and Labor - 3 years	
		Labor - 1 st year	1 and 5
		Labor - 2 nd and 3 rd years	1
	United States and Latin America	Parts and Labor - 1 year	1 and 5
	China (Hong Kong S.A.R.)	Parts and Labor - 1 year	1 and 7
Japan	Parts and Labor - 1 year	1 and 6	
8413	All countries and regions	Parts and Labor - 4 years	1 and 2
8414	All countries and regions	Parts and Labor - 4 years	1 and 2
8415	All countries and regions	Parts and Labor - 4 years	1 and 2
8416	All countries and regions	Parts and Labor - 4 years	1 and 5
8417	Europe, Middle East, and Africa	Parts and Labor - 3 years	1 and 7
	United States	Parts and Labor - 3 years	1
8418	United States and Latin America	Parts and Labor - 1 year	1 and 5
	Europe, Middle East, and Africa	Parts and Labor - 1 year	1
8419	United States	Parts and Labor - 3 years	
		Labor - 1 st year	1 and 5
		Labor - 2 nd and 3 rd years	1
	Australia and New Zealand	Parts and Labor - 1 year	1 and 5
8429	All countries and regions	Parts and Labor - 3 years	1 and 2
8432	United States	Parts - 3 years	Parts exchange
		Labor - 1 year	1 and 2
8433	United States	Parts and Labor - 1 year	1 and 2
8434	PRC (China)	Parts and Labor - 3 years	1 and 4
	Australia, New Zealand, Bangladesh, Sri Lanka, Brunei, Vietnam, Philippines, Indonesia, India, Malaysia, Singapore, Thailand, Taiwan, and China (Hong Kong S.A.R.)	Parts - 3 years	Parts exchange
		Labor - 1 year	1 and 2
	Korea	Parts and Labor - 1 year	1 and 4

A warranty period of 3 years on parts and 1 year on labor means that IBM provides warranty service without charge for:

1. parts and labor during the first year of the warranty period; and
2. parts only, on an exchange basis, in the second and third years of the warranty period. IBM will charge you for any labor provided in performance of the repair or replacement(s) in the second and third year of warranty period.

When more than one type of warranty service is listed, IBM will determine which type of warranty service is appropriate for the repair.

Types of Warranty Service

If required, IBM provides repair or exchange service depending on the type of warranty service specified for your Machine in the above table and as described below. Warranty service may be provided by your reseller if approved by IBM to perform warranty service. Scheduling of service will depend upon the time of your call and is subject to parts availability. Service levels are response time objectives and are not guaranteed. The specified level of warranty service may not be available in all worldwide locations, additional charges may apply outside IBM's normal service area, contact your local IBM representative or your reseller for country and location specific information.

1. Customer Replaceable Unit ("CRU") Service

IBM will ship CRU parts to you for your replacement. If IBM instructs you to return the replaced CRU, you are responsible for returning it to IBM in accordance with IBM's instructions. If you do not return the defective CRU, if IBM so instructs, within 30 days of your receipt of the replacement CRU, IBM may charge you for the replacement.

2. On-site Service

IBM or your reseller will either repair or exchange the failing Machine at your location and verify its operation. You must provide suitable working area to allow disassembly and reassembly of the IBM Machine. The area must be clean, well lit and suitable for the purpose. **For some Machines, certain repairs may require sending the Machine to an IBM service center.**

3. Courier or Depot Service

You will disconnect the failing Machine for collection arranged by IBM. IBM will provide you with a shipping container for you to return your Machine to a designated service center. A courier will pick up your Machine and deliver it to the designated service center. Following its repair or exchange, IBM will arrange the return delivery of the Machine to your location. You are responsible for its installation and verification. This type of service is called ThinkPad EasyServ or EasyServ in some countries.

4. Customer Carry-In or Mail-In Service

You will deliver or mail as IBM specifies (prepaid unless IBM specifies otherwise) the failing Machine suitably packaged to a location IBM designates. After IBM has repaired or exchanged the Machine, IBM will make it available for your collection or, for Mail-in Service, IBM will return it to you at IBM's expense, unless IBM specifies otherwise. You are responsible for the subsequent installation and verification of the Machine.

5. Limited On-site Service for selected CRUs

IBM or your reseller will perform selected CRU repairs at your request on the following parts only: power supply, microprocessor, heat sink and system board. IBM or your reseller will perform the repair at your location and verify the Machine's operation. You must provide suitable working area to allow disassembly and reassembly of the IBM Machine. The area must be clean, well lit and suitable for the purpose. **For some Machines, certain repairs may require sending the Machine to an IBM service center.**

6. Limited Courier or Depot Service for selected CRUs

In the event of the failure of your IBM Machine's power supply, microprocessor, heat sink or system board, you will disconnect the failing Machine for collection arranged by IBM. IBM will provide you with a shipping container for you to return your Machine to a designated service center. A courier will pick up your Machine and deliver it to the designated service center. Following its repair, IBM will arrange the return delivery of the Machine to your location. You are responsible for its installation and verification. This type of service is called ThinkPad EasyServ or EasyServ in some countries.

7. Limited Customer Carry-In or Mail-In Service for selected CRUs

In the event of the failure of your IBM Machine's power supply, microprocessor, heat sink or system board, you will deliver or mail as IBM specifies (prepaid unless IBM specifies otherwise) the failing Machine suitably packaged to a location IBM designates. After IBM has repaired the Machine, IBM will make it available for your collection or, for Mail-in Service, IBM will return it to you at IBM's expense, unless IBM specifies otherwise. You are responsible for the subsequent installation and verification of the Machine.

The IBM Machine Warranty worldwide web site at

http://www.ibm.com/servers/support/machine_warranties/ provides a worldwide overview of IBM's Limited Warranty for Machines, a Glossary of IBM definitions, Frequently Asked Questions (FAQs) and Support by Product (Machine) with links to Product Support pages. **The IBM Statement of Limited Warranty is also available on this site in 29 languages.**

To obtain warranty service contact IBM or your IBM reseller.

Worldwide telephone list

Phone numbers are subject to change without notice.

Country or Region	Telephone Number	Country or Region	Telephone Number
Africa	Africa: +44 (0)1475 555 055 South Africa: +27 11 3028888 and 0800110756 Central Africa: Contact the nearest IBM Business Partner	Latvia	+386-61-1796-699
Argentina	0800-666-0011	Lithuania	+386-61-1796-699
Australia	131-426	Luxembourg	+352-298-977-5063
Austria	+43-1-24592-5901	Malaysia	1800-88-8558
Belgium	Dutch: 02-210 9820 French: 02-210 9800	Malta	+356-23-4175
Bolivia	0800-0189	Mexico	001-866-434-2080
Brazil	55-11-3889-8986	Middle East	+44 (0)1475-555-055
Canada	English: 1-800-565-3344 French: 1-800-565-3344 In Toronto only call: 416-383-3344	Netherlands	+31-20-514-5770
Chile	800-224-488	New Zealand	0800-446-149
China (PRC)	800-810-1818	Nicaragua	255-6658
China (Hong Kong S.A.R.)	Home PC: 852 2825 7799 Commercial PC: 852 8205 0333	Norway	NetVista and ThinkCentre: +47 6699 8960 All products: +47 815 21550
Columbia	1-800-912-3021	Panama	206-6047
Costa Rica	284-3911	Peru	0-800-50-866
Cyprus	+357-22-841100	Philippines	1800-1888-1426
Czech Republic	+420-2-7213-1316	Poland	+48-22-878-6999
Denmark	4520-8200	Portugal	+351-21-892-7147

Country or Region	Telephone Number	Country or Region	Telephone Number
Dominican Republic	566-4755 566-5161 ext. 8201 Toll Free within the Dominican Republic: 1-200-1929	Russia Federation	+7-095-940-2000
Ecuador	1-800-426911	Singapore	1800-3172-888
El Salvador	250-5696	Slovakia	+421-2-4954-1217
Estonia	+386-61-1796-699	Slovenia	+386-1-5830-050
Finland	+358-9-459-6960	Spain	+34-91-714-7983
France	+33-238-557-450	Sri Lanka	+94-11-2448-442 +94-11-2421-066 +94-11-2493-500
Germany	+49-7032-15-49201	Sweden	+46-8-477-4420
Greece	+30-210-680-1700	Switzerland	+41-58-333-0971
Guatemala	335-8490	Taiwan	886-2-8723-9799
Honduras	Tegucigalpa & San Pedro Sula: 232-4222 San Pedro Sula: 552-2234	Thailand	1-800-299-229
Hungary	+36-1-382-5720	Turkey	00800-211-4032 +90-212-317-1760
India	1600-44-6666	United Kingdom	+44-1475-555-055
Indonesia	800-140-3555	United States	1-800-IBM-SERV (1-800-426-7378)
Ireland	+353-(0)1-815-9200	Uruguay	000-411-005-6649
Italy	+39-02-7031-6101	Venezuela	0-800-100-2011
Japan	Toll free: 0120-887-870; For International: +81-46-266-4724	Vietnam	Ho Chi Minh: (848) 824-1474 Hanoi: (844) 842-6316
Korea	1588-5801		

Guarantee supplement for Mexico

This supplement is considered part of IBM's Statement of Limited Warranty and shall be effective solely and exclusively for products distributed and commercialized within Territory of the Mexican United States. In the event of a conflict, the terms of this supplement shall apply.

All software programs pre-loaded in the equipment shall only have a thirty-(30) day guarantee for installation defects from the date of purchase. IBM is not responsible for the information in such software programs and/or any additional software programs installed by you or installed after purchase of the product.

Services not chargeable to the guarantee shall be charged to the final user, prior an authorization.

In the event that warranty repair is required please call the Help Center at 001-866-434-2080, where you will be directed to the nearest Authorized Service Center. Should no Authorized Service Center exist in your city, location or within 50 miles of your city or location, the guarantee includes any reasonable delivery charges related to the transportation of the product to our nearest Authorized Service Center. Please call the nearest Authorized Service Center to obtain the necessary approvals or information concerning the shipment of the product and the shipment address.

To obtain a list of Authorized Service Centers, please visit:
http://www.pc.ibm.com/la/centros_de_servicio/servicio_mexico/servicio_mex_ico.html

IBM de México, Manufactura y Tecnología, S. A. de C. V.
Camino a El Castillo 2200
El Salto, Jalisco
C.P. 45680,
Tel. 01-800-3676900

Appendix C. Notices

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Electronic emissions notices

The following paragraph refers to machine types 2296, 8092, 8127, 8128, 8183, 8184, 8185, 8186, 8187, 8188, 8189, 8190, 8191, 8192, 8193, 8194, 8195, 8196, 8197, 8198, 8199, 8316, 8320, 8413, 8414, 8415, 8416, 8417, 8418, 8419, 8429, 8432, 8433, and 8434.

Federal Communications Commission (FCC) statement

Note: 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 IBM authorized dealer or service representative for help.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Proper cables and connectors are available from IBM authorized dealers. IBM 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:

International Business Machines Corporation
New Orchard Road
Armonk, NY 10504
Telephone: 1-919-543-2193



Tested To Comply
With FCC Standards

FOR HOME OR OFFICE USE

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.

European Union EMC Directive conformance statement

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a nonrecommended modification of the product, including the fitting of non-IBM option cards.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to CISPR 22/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.

Federal Communications Commission (FCC) and telephone company requirements

1. This device complies with Part 68 of the FCC rules. A label is affixed to the device that contains, among other things, the FCC registration number, USOC, and Ringer Equivalency Number (REN) for this equipment. If these numbers are requested, provide this information to your telephone company.

Note: If the device is an internal modem, a second FCC registration label is also provided. You may attach the label to the exterior of the computer in which you install the IBM modem, or you may attach the label to the external DAA, if you have one. Place the label in a location that is easily accessible, should you need to provide the label information to the telephone company.

2. The REN is useful to determine the quantity of devices you may connect to your telephone line and still have those devices ring when your number is called. In most, but not all areas, the sum of the RENs of all devices should not exceed five (5). To be certain of the number of devices you may connect

to your line, as determined by the REN, you should call your local telephone company to determine the maximum REN for your calling area.

3. If the device causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance; if advance notice is not practical, you will be notified as soon as possible. You will be advised of your right to file a complaint with the FCC.
4. Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper operation of your equipment. If they do, you will be given advance notice to give you an opportunity to maintain uninterrupted service.
5. If you experience trouble with this product, contact your authorized reseller, or call IBM. In the United States, call IBM at **1-800-426-SERV**. In Canada, call IBM at **1-800-565-3344**. You may be required to present proof of purchase.

The telephone company may ask you to disconnect the device from the network until the problem has been corrected, or until you are sure the device is not malfunctioning.

6. No customer repairs are possible to the device. If you experience trouble with the device, contact your Authorized Reseller or see the Diagnostics section of this manual for information.
7. This device may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs. Contact your state public utility commission or corporation commission for information.
8. When ordering network interface (NI) service from the local Exchange Carrier, specify service arrangement USOC RJ11C.

Canadian Department of Communications certification label

NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements documents. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations. Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

NOTICE: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

Étiquette d'homologation du ministère des Communications du Canada

AVIS : L'étiquette d'Industrie Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunications. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur. L'entreprise de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

Avertissement : L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques ou à un électricien, selon le cas.

AVIS : L'indice d'équivalence de la sonnerie (IES) assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface. La terminaison d'une interface téléphonique peut consister en une combinaison de quelques dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5.

Power cord notice

For your safety, IBM provides a power cord with a grounded attachment plug to use with this IBM product. To avoid electrical shock, always use the power cord and plug with a properly grounded outlet.

IBM power cords used in the United States and Canada are listed by Underwriter's Laboratories (UL) and certified by the Canadian Standards Association (CSA).

For units intended to be operated at 115 volts: Use a UL-listed and CSA-certified cord set consisting of a minimum 18 AWG, Type SVT or SJT, three-conductor cord, a maximum of 15 feet in length and a parallel blade, grounding-type attachment plug rated 15 amperes, 125 volts.

For units intended to be operated at 230 volts (U.S. use): Use a UL-listed and CSA-certified cord set consisting of a minimum 18 AWG, Type SVT or SJT, three-conductor cord, a maximum of 15 feet in length and a tandem blade, grounding-type attachment plug rated 15 amperes, 250 volts.

For units intended to be operated at 230 volts (outside the U.S.): Use a cord set with a grounding-type attachment plug. The cord set should have the appropriate safety approvals for the country in which the equipment will be installed.

IBM power cords for a specific country or region are usually available only in that country or region.

IBM power cord part number	Used in these countries and regions
13F9940	Argentina, Australia, China (PRC), New Zealand, Papua New Guinea, Paraguay, Uruguay, Western Samoa

IBM power cord part number	Used in these countries and regions
13F9979	Afghanistan, Algeria, Andorra, Angola, Austria, Belgium, Benin, Bulgaria, Burkina Faso, Burundi, Cameroon, Central African Rep., Chad, China (Macau S.A.R.), Czech Republic, Egypt, Finland, France, French Guiana, Germany, Greece, Guinea, Hungary, Iceland, Indonesia, Iran, Ivory Coast, Jordan, Lebanon, Luxembourg, Malagasy, Mali, Martinique, Mauritania, Mauritius, Monaco, Morocco, Mozambique, Netherlands, New Caledonia, Niger, Norway, Poland, Portugal, Romania, Senegal, Slovakia, Spain, Sudan, Sweden, Syria, Togo, Tunisia, Turkey, former USSR, Vietnam, former Yugoslavia, Zaire, Zimbabwe
13F9997	Denmark
14F0015	Bangladesh, Burma, Pakistan, South Africa, Sri Lanka
14F0033	Antigua, Bahrain, Brunei, Channel Islands, China (Hong Kong S.A.R.), Cyprus, Dubai, Fiji, Ghana, India, Iraq, Ireland, Kenya, Kuwait, Malawi, Malaysia, Malta, Nepal, Nigeria, Polynesia, Qatar, Sierra Leone, Singapore, Tanzania, Uganda, United Kingdom, Yemen, Zambia
14F0051	Liechtenstein, Switzerland
14F0069	Chile, Ethiopia, Italy, Libya, Somalia
14F0087	Israel
1838574	Thailand
6952301	Bahamas, Barbados, Bermuda, Bolivia, Brazil, Canada, Cayman Islands, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Japan, Korea (South), Liberia, Mexico, Netherlands Antilles, Nicaragua, Panama, Peru, Philippines, Saudi Arabia, Suriname, Taiwan, Trinidad (West Indies), United States of America, Venezuela

Polyvinyl Chloride (PVC) cable and cord notice

WARNING: Handling the cord on this product or cords associated with accessories sold with this product will expose you to lead, a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm. *Wash hands after handling.*



Part Number: 13R9163

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