



IBM 10/100 Ethernet Server Adapters Family

User's Guide

OPTIONS
by IBM

Note:

Before using this information and the product it supports, read the information under Appendix D, "Product warranties and notices" on page D-1.

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Contents

About this book	v
Safety information	vii
Installation and user's guide.	1-1
Appendix A. Help and service information.	A-1
Appendix B. Troubleshooting	B-1
Appendix C. Adapter specifications	C-1
Appendix D. Warranty Statements.	D-1

About this book

This manual contains the information you need to install and use your adapter. The manual is divided into two parts:

Installation and User's Guide

This section contains the product description and installation instructions.

Appendixes

The appendixes contain product specifications, help and service information, the product warranties, and notices.

Note: The illustrations in this manual might be slightly different from your hardware.

For detailed adapter hardware information, driver installation procedures, and advanced features, please go to the \INFO directory of the CD-ROM and view the appropriate help files. For driver installation, view the drivers.htm file.

Registering your option

Thank you for purchasing OPTIONS by IBM. Take a few moments to register your product and provide us with information that will help IBM to better serve you in the future. Your feedback is valuable to us in developing products and services that are important to you, as well as in developing better ways to communicate with you. Register your option on the IBM Web site at

<http://www.ibm.com/pc/register>

IBM will send you information and updates on your registered product unless you indicate on the Web site questionnaire that you do not want to receive further information.

Safety information

Before installing this product, read the Safety Information.

مج، يجب قراءة دات السلامة

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

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

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtete příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

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

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

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

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

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

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

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

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

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

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

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

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

Перед установкой продукта прочтите инструкции по технике безопасности.

Pred inštaláciou tohto zariadenia si pečítajte Bezpečnostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Antes de instalar este producto lea la información de seguridad.

Läs säkerhetsinformationen innan du installerar den här produkten.

安裝本產品之前，請先閱讀「安全資訊」。

Installation and user's guide

This book contains the information you need to install and use your IBM® 10/100 Ethernet Server Adapter.

System requirements

Before installing the adapter, check your computer for the following configuration requirements:

- One open 32-bit PCI slot
- The latest BIOS for your computer
- Microsoft® Windows® 2000 Professional, Windows NT® 4.0, Windows Millennium Edition (Me), Windows 98, Windows 95, Novell® NetWare 3x to 5x, Linux®, Solaris®, UnixWare®, or DOS®.
- Windows NT requires Service Pack 5 or later.
- For NetWare, update to the latest Support Pack available. The required NLMs on this CD.

You can download the necessary software from Microsoft and Novell sites, as listed here:

Microsoft service packs

Visit the following Microsoft Web site for the latest Service Pack information: <http://www.microsoft.com/ntserver>. If the site has changed, go to the main Microsoft site and search for the term 'Service Pack'.

Novell NetWare support packs

<http://support.novell.com/misc/pat1st.htm>

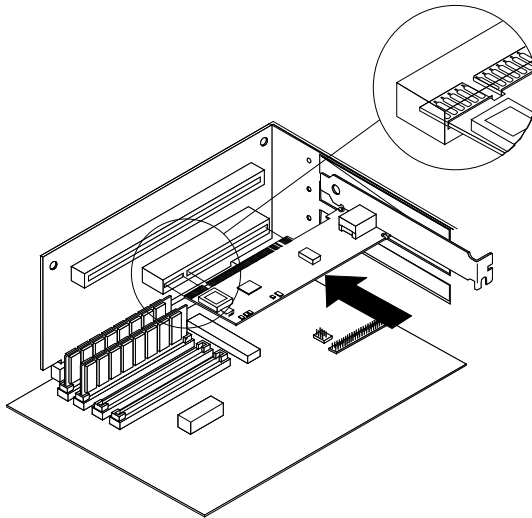
Installing the adapter

1. Turn off your computer and all attached devices, and unplug all cables from your computer and all attached devices.

Warning

Turn off and unplug the computer before removing the cover. Failure to do so could endanger you and may damage either the adapter, the computer, or both. For servers with Hot Plug support, see your server documentation.

2. Remove the cover bracket from an unused 32-bit slot by unscrewing the screw that secures it. Make sure that the cover bracket does not come into contact with any conducting part of the system board.
3. If you want to enable the Wake on Lan (WOL) feature, see “Using Wake on Lan” on page 1-4 before completing the rest of these steps.



4. Push the adapter into the slot until the adapter is firmly seated, and then secure the adapter bracket with the screw you removed in step 2.
5. Repeat steps 2 through 5 for each adapter you want to install.
6. Replace the computer cover and plug in the computer.
7. Turn on the computer. The computer BIOS automatically assigns resources to the adapter(s). If you get a PCI configuration error, see “PCI configuration troubleshooting” on page B-2.

Attaching the network cable

Connect the network cable to the adapter using Category 3, 4, or 5 Twisted Pair Ethernet (TPE) network cable for 10Mbps networks, and Category 5 TPE cable for 100 Mbps residential networks. For maximum cable lengths, see “Appendix C. Adapter specifications” on page C-1.

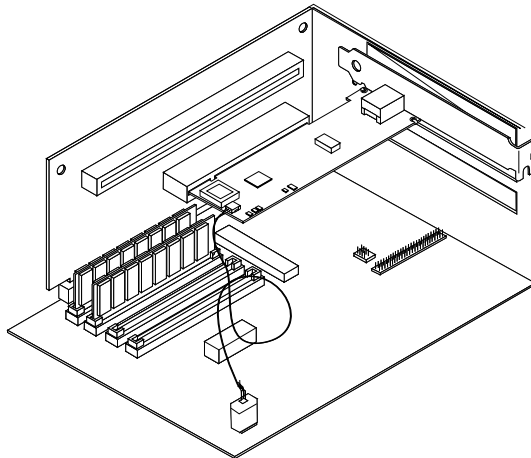
To configure the adapter, see the instructions for your operating system in “Installing the network drivers” on page 1-5.

Connecting the Wake on Lan power cable

Note: The WOL cable is not necessary for PCI 2.2 compliant systems. However, you can connect the WOL cable on these systems with no adverse effect.

For the WOL feature to work correctly, the adapter must be connected to a continuous power source. This allows the adapter to “listen” to the network even when the computer is turned off. To install the WOL power cable, follow these directions:

1. Turn off you computer and all attached devices. Unplug all cords and cables from your computer.
2. Remove the computer cover.
3. Locate the 3-pin WOL connector on the adapter. Attach one end of the WOL cable to the adapter as shown.



4. Attach the other end of the WOL cable to the system board, as shown.
5. Some computers might require you to change a setting in your computer BIOS or Setup program to enable the WOL feature. Check the documentation that comes with your computer for more information.

6. Replace the computer cover and plug in the computer.

Using Wake on Lan

The Wake on Lan (WOL) feature operates according to a published specification. The specification allows designers to build network adapters that are capable of "listening" to network activity even when the computer is turned off.

WOL adapters had a special low-power standby mode that is active when the rest of the computer is without power. The adapter will respond to a special wake-up packet sent by another computer or network device. Typically, this wake-up packet causes the adapter to signal the computer to turn on and run a pre-defined program.

The wake-up packet structure and behavior are defined in a WOL information brief, available on the Web at <http://www.pc.ibm.com/us/infobrf/iblan.html>

See "Appendix B. Troubleshooting" on page B-1 for general troubleshooting and a listing of common problems and solutions for WOL operability.

Installing the network drivers

This section includes driver installation procedures for the following operating systems:

- Windows 2000 (For Windows 95, Windows 98, and Windows Me, see the online User's Guide)
- Windows NT 4.0 servers/workstations
- Novell NetWare 5.x servers (For 3.x, 4.x, and DOS clients, see the online User's Guide)
- Linux, Solaris, UnixWare 2.x and 7.0 (See the online User's Guide)

You can install drivers directly from the CD or you can also create installation diskettes. To create installation diskettes, see "Making a diskette" on page 1-7.

Windows 2000

After you install the adapter in the computer, connect the cable, plug in the power cord, and start the computer, Windows displays the **Found New Hardware** dialog box and starts the **Found New Hardware Wizard**. Follow this procedure to install the correct driver.

1. Insert the *IBM 10/100 Ethernet Server Adapter Family* CD into the CD-ROM drive. If the CD autorun program starts, close this window at this time.
2. In the Wizard Welcome window, click **Next**.
3. Select **Search**, then click **Next**.
4. In the Locate Driver window, select the **CD-ROM** box, then click **Next**.
5. Click **Next**.
6. Click **Finish**.
7. Restart your computer.

Windows NT 4.0 servers

The E100NT4.SYS NDIS 4.0 driver supports Windows NT 4.0 servers and workstations. This driver does not support Windows NT 3.51 or earlier versions of Windows NT.

Note: Before installing this driver, review the Service Pack requirements in "System requirements" on page 1-1. If you are also installing Windows NT 4.0 at this time, you must first create a diskette for the driver installation. See "Making a diskette" on page 1-7.

To install the driver, follow these instructions.

1. Click **Start**, then click **Settings**, and then click **Control Panel**.
2. Click the **Network** icon.
3. Select **Adapters**, and click **Add**.

4. Select **Have Disk**.
5. Insert the *IBM 10/100 Ethernet Server Adapter Family* CD into your CD-ROM drive.
6. Type the path to your CD-ROM drive in the dialog box, and then click **OK**.
7. Follow the instructions on your screen to install the drivers. When the adapter is added, it appears in the Network adapters list.
8. Click **Ok**, and then click **Close**. When prompted, restart your computer.

Novell NetWare 5.x

Note: For other NetWare server and client operating systems, see the online User's Guide on your CD.

Use the NetWare Install program to install the adapter driver (driver name: CE100B.LAN in the /NWSERVER folder). Review the Service pack requirements in "System requirements" on page 1-1.

Note: Prior to installing, either load DOS or NetWare drivers for your server CD-ROM driver or create a diskette from the *IBM 10/100 Ethernet Adapter Family* CD on a different computer. See "Making a diskette" on page 1-7.

To install the driver, follow these instructions.

1. From the NetWare console, type NWCONFIG and press Enter.
2. Select **Driver options**, and then press Enter.
3. Select **Configure network drivers**, and then press Enter.
4. Select **Load an additional driver**, and then press Enter.
5. Insert the *IBM 10/100 Ethernet Server Adapter Family* CD into your CD-ROM drive, or insert the diskette you created into your diskette driver, and select **Install an unlisted driver** by pressing Insert.
6. If you are using a diskette, press Enter. If you are using the CD, press F3 and enter the CD-ROM drive as the source path.
7. Press Enter to select the driver.
8. Select **Yes**, and then press Enter.
9. To modify any driver parameters or protocols, select **Select/Modify driver parameters and protocols**, and then press Enter. The slot number is a required field and must be entered. If you have multiple adapters, enter the slot number for the adapter you are currently configuring. When finished configuring the driver, select **Save parameters and load driver to continue**.

Note: If your computer contains a single IBM 10/100 Ethernet Server adapter, you may enter any number for the slot. The driver will automatically detect the correct slot number and load successfully.

If your system contains more than one IBM 10/100 Ethernet Server adapter, use Alt+Esc to switch to the console screen in NetWare to find the valid slot numbers for your adapters. Type LOAD CE100 and press Enter. The driver will attempt to load and prompt you with the available slot numbers. Write down the slot numbers, and then press Esc to abort loading the driver. Press Alt+Esc to switch back to the Install screen and enter the correct slot number.

10. To complete the driver installation, go back to the Configuration Options screen by pressing Esc until you see the Configuration Options screen, and then follow the on-screen instructions.
11. Choose Exit to return to the server console prompt.

Note: If you are installing multiple adapters, repeat the driver installation process for each new adapter in the server.

Note: If the adapter cannot transmit or receive following the installation, you may need to modify the frame type or LOAD and BIND statements in the AUTOEXEC.NCF file.

Making a diskette

If you need to use a floppy disk to install the adapter drivers, use the MAKEDISK.BAT utility located in the /MAKEDISK directory on the *IBM 10/100 Ethernet Server Adapters Family CD*. For your convenience, these BAT files are available from the root directory of the *IBM 10/100 Ethernet Server Adapters Family CD* as well:

Windows NT 4.0	MAKENT.BAT
Windows 2000	MAKEW2K.BAT
Windows 9x	MAKEW9X.BAT
NetWare 4.x and 5.x	MAKENW.BAT

For more details on MAKEDISK, see the README.TXT file in the root directory of the *IBM 10/100 Ethernet Server Adapters Family CD*

Additional setup and configuration

The IBM 10/100 Ethernet Server Adapter family supports a wide range of advanced networking features.

Adapter Teaming: Maximize throughput and fault tolerance in your servers with the following.

- Adapter Fault Tolerance (AFT) – provides automatic redundancy for your adapter. If the primary adapter fails, the secondary takes over. AFT supports two to four adapters per team.
- Adaptive Load Balancing (ALB) – allows balancing the transmission data flow among two to four adapters. Also includes the AFT option. works with any Ethernet switch.
- Cisco Fast EtherChannel (FEC) – creates a team of two, four, six, or eight adapters to increase transmission and reception throughput. also includes AFT option. Requires a switch with FEC capability.

Virtual LAN: improve network security and efficiency by creating VLANs for your workgroups.

PROSet: adapter configuration utility.

Management features: configure Wake on LAN and Boot Agent.

Priority Packet: set up priority filters on your network traffic.

Appendix A. Help and service information

This section contains information on how to obtain online and telephone technical support.

Online technical support

Online technical support is available during the life of your product. Online assistance can be obtained through the Personal Computing Support Web site and the IBM Automated Fax System.

<i>Online technical support</i>	
IBM Personal Computing Support Web site	http://www.ibm.com/pc/support
IBM Automated Fax System	1-800-426-3395 (U.S. and Canada)

During the warranty period, assistance for replacement or exchange of defective components is available. In addition, if your IBM option is installed in an IBM computer, you might be entitled to service at your location. Your technical support representative can help you determine the best alternative.

Telephone technical support

Installation and configuration support through the HelpCenter will be withdrawn or made available for a fee, at IBM's discretion, 90 days after the option has been withdrawn from marketing. Additional support offerings, including step-by-step installation assistance, are available for a nominal fee.

To assist the technical support representative, have available as much of the following information as possible:

- Option name
- Option number
- Proof of purchase
- Computer manufacturer, model, serial number (if IBM), and manual
- Exact wording of the error message (if any)
- Description of the problem
- Hardware and software configuration information for your system

If possible, be at your computer. Your technical support representative might want to walk you through the problem during the call.

For the support telephone number and support hours by country, refer to the following table or to the enclosed technical support insert. Support phone numbers are also available by clicking **HelpCenter phone list** on the IBM support Web page at

<http://www.ibm.com/pc/support>

If the number is not provided, contact your IBM reseller or IBM marketing representative. Response time may vary depending on the number and nature of the calls received.

<i>Support 24 hours a day, 7 days a week</i>	
Canada (Toronto only)	416-383-3344
Canada (all other)	1-800-565-3344
U.S.A. and Puerto Rico	1-800-772-2227

Appendix B. Troubleshooting

The appendix describes corrective actions for a number of common problems.

1. Check the LED lights on the adapter

If the LINK light is not on, check all the connections at the adapter and link partner. Make sure the link partner is set to 100 Mbps and full duplex, and that the driver is loaded.

2. Make sure the cable is installed properly

The network cable must be securely attached at all connections. If the cable is attached but the problem persists, try a different cable.

3. Test the adapter

From DOS, run the adapter and network tests in DIAG100.EXE, located on the root directory of the *IBM 10/100 Ethernet Server Adapter CD*.

4. Check the Common problems table and try the recommended solutions

Check the following table for solutions to fit your problem.

If none of these steps work, see “Appendix A. Help and service information” on page A-1.

Problem	Solution
Your computer can't find the adapter	<ul style="list-style-type: none">• Make sure the adapter is seated firmly in the slot.• Try a different PCI busmaster slot. See your server documentation to identify busmaster slots.• Try a different IBM 10/100 Ethernet Adapter
Diagnostics pass but the connection fails	<ul style="list-style-type: none">• Try running the <i>Sender-Responder diagnostic</i> test.• Make sure the network cable is securely attached.
An adapter stopped working after you installed the IBM 10/100 Ethernet family adapter	<ul style="list-style-type: none">• Make sure the cable is connected to the IBM 10/100 Ethernet Adapter and not another adapter.• Check for resource conflict. See “PCI configuration troubleshooting” on page B-2• Make sure both adapters are seated firmly in the slot.• Check all cables

Problem	Solution
The adapter stopped working without apparent cause.	<ul style="list-style-type: none"> • Try reseating the adapter • The network driver files may be damaged or deleted. Try reinstalling the drivers. • Try a different 10/100 Ethernet adapter • Try enabling or disabling the auto-negotiation setting on the link partner (this setting must be set the same on both the switch and the adapter). <p>Note: The adapter LNK LED may light even if communications between the adapter and its link partner have not been properly established. Proper configuration of link partners consists of both sides being set to either auto-negotiate or set with the same speed and duplex settings.</p>
The LNK LED does not light	<ul style="list-style-type: none"> • Make sure you loaded the adapter driver. • Check all connections at the adapter or switch. • Try another port on the buffered repeater or switch. • Try enabling or disabling the auto-negotiation setting on the link partner (this setting must be set the same on both the switch and the adapter).
The Wake on Lan feature is not working	<ul style="list-style-type: none"> • Make sure the WOL cable is attached and that power is being applied to the computer. • Check the BIOS for its WOL setting. Some computers may need to be configured for WOL. See the documentation that comes with your computer. • Make sure the network cable is fully attached to the adapter.

PCI configuration troubleshooting

Some PCI computers require additional steps to configure a PCI adapter. Try the following if you are having problems configuring the adapter.

- Disable Plug n Play (PnP) in the BIOS. In some computers, you may need to use the BIOS Setup program to disable PnP if resources are not properly assigned to adapters and other add-in cards.
- Enable the PCI slot. In some PCI computers, you may need to use the BIOS Setup program to enable the PCI slot. This is especially common in PCI computers with the PhoenixBIOS.
- Enable the slot for busmaster. You must install the 10/100 Ethernet Server adapter in a busmaster slot. Some BIOS Setup programs require you to enable the slot for busmaster/master. Check your BIOS Setup program and the computer documentation to make sure the slot is set for busmaster/master.

- Configure the slot for level-triggered interrupts. The PCI slot the adapter is using must be configured for level-triggered interrupts instead of edge-triggered interrupts. Check your BIOS Setup program to make sure triggering is set up.
- Reserve interrupts and/or memory addresses for ISA adapters. This prevents PCI cards from trying to use the same settings as ISA cards. Check your BIOS Setup program; there may be IRQ options such as Enable for ISA or Disable for PCI.

Here are some examples of BIOS Setup program parameters:

PCI slot #:	<i>slot where the adapter is installed (1-3)</i>
Master:	ENABLED
Slave:	ENABLED
Latency timer	40 - 80
Interrupt:	<i>Choose any one of several that the BIOS Setup provides</i>
Edge/Level	Level

The exact wording of the parameters varies with different computers.

Web sites for software updates

You can download the necessary Microsoft and Novell software updates from the following sites:

- **Microsoft Service Pack 5:**

<ftp://ftp.microsoft.com/bussys/winnt/winnt-public/fixes/usa/nt40/ussp5/>

- **Microsoft Service Pack 4:**

<ftp://ftp.microsoft.com/bussys/winnt/winnt-public/fixes/usa/nt40/ussp4/>

- **Microsoft Service Pack 3:**

<ftp://ftp.microsoft.com/bussys/winnt/winnt-public/fixes/usa/nt40/ussp3/>

- **Microsoft NDIS Driver Hotfix:**

<ftp://ftp.microsoft.com/bussys/winnt/winnt-public/fixes/usa/nt40/hotfixes-postsp3/ndis->

- **Novell Support Pack 6 for NetWare 4.11 or Support Pack 1 for NetWare 5.0:**

<http://support.novell.com/misc/pat1st.htm>

Appendix C. Adapter specifications

Compatibility	PCI v2.2 systems
Media (cable) connectors and wiring	<ul style="list-style-type: none">• RJ-45• Use Category 5 cabling at 100 Mbps• Supports 100BASE-TX Fast Ethernet
Data rate mode	10 or 100 Mbps
Interrupt levels	PCI: INTA (INTA and INTB for 10/100 Ethernet Dual Port Server Adapters)
SRAM transmit/receive buffer	6 KB
Power requirements	300mA @ +5V dc (1.5 watts) (3 watts @ 5V dc for PRO/100+ Dual Port Server Adapters)
Interrupt	PCI: INTA (INTA and INTB for PRO/100+ Dual Port Server Adapters)
LEDs	Link/Activity
Dimensions	5.1 cm x 11.9 cm (2 in. x 4.7 in.) excluding bracket
Operating temperature	0° to 55° C (32° to 131° F)
Humidity	10% to 90% non-condensing
Standards conformance	IEEE 802.3, IEEE 802.3x, IEEE 802.1p, IEEE 802.1q
Diagnostic software	<ul style="list-style-type: none">• On-board• PROSet• Responder
Compliance & Certification	<ul style="list-style-type: none">• Safety - UL• FCC Class B• CE & Immunity• C-tick (Australian)
Duplex mode	Full duplex/Half duplex

Appendix D. Warranty Statements

The warranty statements consist of two parts: Part 1 and Part 2. Part 1 varies by country. Part 2 is the same for both statements. Be sure to read both the Part 1 that applies to your country and Part 2.

- **United States, Puerto Rico, and Canada (Z125-4753-05 11/97)** (Part 1 - General Terms on page D-1)
- **Worldwide except Canada, Puerto Rico, Turkey, and United States (Z125-5697-01 11/97)** (Part 1 - General Terms on page D-5)
- **Worldwide Country-Unique Terms** (Part 2 - Country-Unique Terms on page D-8)

IBM Statement of Limited Warranty for United States, Puerto Rico, and Canada (Part 1 - General Terms)

This Statement of Warranty includes Part 1 - General Terms and Part 2 - Country-unique Terms. The terms of Part 2 may replace or modify those of Part 1. The warranties provided by IBM in this Statement of Warranty apply only to Machines you purchase for your use, and not for resale, from IBM or your reseller. 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. Unless IBM specifies otherwise, the following warranties apply only in the country where you acquire the Machine. Nothing in this Statement of Warranty affects any statutory rights of consumers that cannot be waived or limited by contract. If you have any questions, contact IBM or your reseller.

Machine - IBM 10/100 Ethernet Server Adapters Family **Warranty period*** - Lifetime

** Contact your place of purchase for warranty service information. Some IBM Machines are eligible for on-site warranty service depending on the country where service is performed.*

The IBM Warranty for Machines

IBM warrants that each Machine 1) is free from defects in materials and workmanship and 2) conforms to IBM's Official Published Specifications. The warranty period for a Machine is a specified, fixed period commencing on its Date of Installation. The date on your sales receipt is the Date of Installation, unless IBM or your reseller informs you otherwise.

During the warranty period IBM or your reseller, if approved by IBM to provide warranty service, will provide repair and exchange service for the Machine, without charge, under the type of service designated for the Machine and will manage and install engineering changes that apply to the Machine.

If a Machine does not function as warranted during the warranty period, and IBM or your reseller are unable to either 1) make it do so or 2) replace it with one that is at least functionally equivalent, you may return it to your place of purchase and your money will be refunded. The replacement may not be new, but will be in good working order.

Extent of Warranty

The warranty does not cover the repair or exchange of a Machine resulting from misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you, or failure caused by a product for which IBM is not responsible. The warranty is voided by removal or alteration of Machine or parts identification labels.

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. THESE WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF EXPRESS OR IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION OR LIMITATION MAY NOT APPLY TO YOU. IN THAT EVENT, SUCH WARRANTIES ARE LIMITED IN DURATION TO THE WARRANTY PERIOD. NO WARRANTIES APPLY AFTER THAT PERIOD.

Items Not Covered by Warranty

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

Unless specified otherwise, IBM provides non-IBM machines **WITHOUT WARRANTIES OF ANY KIND.**

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, will be provided **WITHOUT WARRANTIES OF ANY KIND.**

Warranty Service

To obtain warranty service for the Machine, contact your reseller or IBM. In the United States, call IBM at 1-800-772-2227. In Canada, call IBM at 1-800-565-3344. (In Toronto, call 416-383-3344.) You may be required to present proof of purchase.

IBM or your reseller provides certain types of repair and exchange service, either at your location or at a service center, to keep Machines in, or restore them to, conformance with their Specifications. IBM or your reseller will inform you of the available types of service for a Machine based on its country of installation. IBM may repair the failing Machine or exchange it at its discretion.

When 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.

Any feature, conversion, or upgrade IBM or your reseller services must be installed on a Machine which is 1) for certain Machines, the designated, serial-numbered Machine and 2) at an engineering-change level compatible with the feature, conversion, or upgrade. 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.

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 problem determination, problem analysis, and service request procedures that IBM or your reseller provides,
 - b. secure all programs, data, and funds contained in a Machine,
 - c. provide IBM or your reseller with sufficient, free, and safe access to your facilities to permit them to fulfill their obligations, and
 - d. inform IBM or your reseller of changes in a Machine's location.

IBM is responsible for loss of, or damage to, your Machine 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 is responsible for any of your confidential, proprietary or personal information contained in a Machine which you return to IBM or your reseller for any reason. You should remove all such information from the Machine prior to its return.

Production Status

Each IBM Machine is manufactured from new parts, or new and used parts. In some cases, the Machine may not be new and may have been previously installed. Regardless of the Machine's production status, IBM's appropriate warranty terms apply.

Limitation of Liability

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), 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 greater of U.S. \$100,000 (or equivalent in local currency) or the charges (if recurring, 12 months' charges apply) for the Machine that is the subject of the claim.

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 LIABLE FOR ANY OF THE FOLLOWING: 1) THIRD-PARTY CLAIMS AGAINST YOU FOR DAMAGES (OTHER THAN THOSE UNDER THE FIRST ITEM LISTED ABOVE); 2) LOSS OF, OR DAMAGE TO, YOUR RECORDS OR DATA; OR 3) SPECIAL, INCIDENTAL, OR INDIRECT DAMAGES OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFITS OR SAVINGS), EVEN IF IBM, ITS SUPPLIERS OR YOUR RESELLER IS INFORMED OF THEIR POSSIBILITY. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

IBM Statement of Warranty Worldwide except Canada, Puerto Rico, Turkey, United States (Part 1 - General Terms)

This Statement of Warranty includes Part 1 - General Terms and Part 2 - Country-unique Terms. The terms of Part 2 may replace or modify those of Part 1. The warranties provided by IBM in this Statement of Warranty apply only to Machines you purchase for your use, and not for resale, from IBM or your reseller. 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. Unless IBM specifies otherwise, the following warranties apply only in the country where you acquire the Machine. Nothing in this Statement of Warranty affects any statutory rights of consumers that cannot be waived or limited by contract. If you have any questions, contact IBM or your reseller.

Machine - 10/100 Ethernet Server Adapters Family **Warranty period*** - Lifetime

** Contact your place of purchase for warranty service information. Some IBM Machines are eligible for on-site warranty service depending on the country where service is performed.*

The IBM Warranty for Machines

IBM warrants that each Machine 1) is free from defects in materials and workmanship and 2) conforms to IBM's Official Published Specifications. The warranty period for a Machine is a specified, fixed period commencing on its Date of Installation. The date on your sales receipt is the Date of Installation, unless IBM or your reseller informs you otherwise.

During the warranty period IBM or your reseller, if approved by IBM to provide warranty service, will provide repair and exchange service for the Machine, without charge, under the type of service designated for the Machine and will manage and install engineering changes that apply to the Machine.

If a Machine does not function as warranted during the warranty period, and IBM or your reseller are unable to either 1) make it do so or 2) replace it with one that is at least functionally equivalent, you may return it to your place of purchase and your money will be refunded. The replacement may not be new, but will be in good working order.

Extent of Warranty

The warranty does not cover the repair or exchange of a Machine resulting from misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you, or failure caused by a product for which IBM is not responsible. The warranty is voided by removal or alteration of Machine or parts identification labels.

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. THESE WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF EXPRESS OR IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION OR LIMITATION MAY NOT APPLY TO YOU. IN THAT EVENT, SUCH WARRANTIES ARE LIMITED IN DURATION TO THE WARRANTY PERIOD. NO WARRANTIES APPLY AFTER THAT PERIOD.

Items Not Covered by Warranty

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

Unless specified otherwise, IBM provides non-IBM machines **WITHOUT WARRANTIES OF ANY KIND.**

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, will be provided **WITHOUT WARRANTIES OF ANY KIND.**

Warranty Service

To obtain warranty service for the Machine, contact your reseller or IBM. You may be required to present proof of purchase.

IBM or your reseller provides certain types of repair and exchange service, either at your location or at a service center, to keep Machines in, or restore them to, conformance with their Specifications. IBM or your reseller will inform you of the available types of service for a Machine based on its country of installation. IBM may repair the failing Machine or exchange it at its discretion.

When 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.

Any feature, conversion, or upgrade IBM or your reseller services must be installed on a Machine which is 1) for certain Machines, the designated,

serial-numbered Machine and 2) at an engineering-change level compatible with the feature, conversion, or upgrade. 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.

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 problem determination, problem analysis, and service request procedures that IBM or your reseller provides,
 - b. secure all programs, data, and funds contained in a Machine,
 - c. provide IBM or your reseller with sufficient, free, and safe access to your facilities to permit them to fulfill their obligations, and
 - d. inform IBM or your reseller of changes in a Machine's location.

IBM is responsible for loss of, or damage to, your Machine 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 is responsible for any of your confidential, proprietary or personal information contained in a Machine which you return to IBM or your reseller for any reason. You should remove all such information from the Machine prior to its return.

Production Status

Each IBM Machine is manufactured from new parts, or new and used parts. In some cases, the Machine may not be new and may have been previously installed. Regardless of the Machine's production status, IBM's appropriate warranty terms apply.

Limitation of Liability

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), 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 greater of U.S. \$100,000 (or equivalent in local currency) or the charges (if recurring, 12 months' charges apply) for the Machine that is the subject of the claim.

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 LIABLE FOR ANY OF THE FOLLOWING: 1) THIRD-PARTY CLAIMS AGAINST YOU FOR DAMAGES (OTHER THAN THOSE UNDER THE FIRST ITEM LISTED ABOVE); 2) LOSS OF, OR DAMAGE TO, YOUR RECORDS OR DATA; OR 3) SPECIAL, INCIDENTAL, OR INDIRECT DAMAGES OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFITS OR SAVINGS), EVEN IF IBM, ITS SUPPLIERS OR YOUR RESELLER IS INFORMED OF THEIR POSSIBILITY. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

Part 2 - Worldwide Country-Unique Terms

ASIA PACIFIC

AUSTRALIA: The IBM Warranty for Machines: 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 legislation and are only limited to the extent permitted by the applicable legislation.

Extent of Warranty: The following replaces the first and second sentences of this Section: The warranty does not cover the repair or exchange of a Machine resulting from misuse, accident, modification, unsuitable physical or operating environment, operation in other than the Specified Operating Environment, improper maintenance by you, or failure caused by a product for which IBM is not responsible.

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, 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.

PEOPLE'S REPUBLIC OF CHINA: Governing Law: The following is added to this Statement: The laws of the State of New York govern this Statement.

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;
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 Warranty, IBM's liability will be limited to the charge paid by you for the individual Machine that is the subject of the claim.

NEW ZEALAND: The IBM Warranty for Machines: 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.

EUROPE, MIDDLE EAST, AFRICA (EMEA)

The following terms apply to all EMEA countries.

The terms of this Statement of Warranty apply to Machines purchased from an IBM reseller. If you purchased this Machine from IBM, the terms and conditions of the applicable IBM agreement prevail over this warranty statement.

Warranty Service

If you purchased an IBM Machine in Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland or United Kingdom, 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 purchased an IBM Personal Computer Machine in Albania, Armenia, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Georgia, Hungary, Kazakhstan, Kirghizia, 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.

The applicable laws, Country-unique terms and competent court for this Statement are those of the country in which the warranty service is being provided. However, the laws of Austria govern this Statement if the warranty service is provided in Albania, Armenia, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Federal Republic of Yugoslavia, Georgia, Hungary, Kazakhstan, Kirghizia, Former Yugoslav Republic of Macedonia (FYROM), Moldova, Poland, Romania, Russia, Slovak Republic, Slovenia, and Ukraine.

The following terms apply to the country specified:

EGYPT: Limitation of Liability: The following replaces item 2 in this Section: 2. 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.

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: The IBM Warranty for Machines: 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 six months.

In case IBM or your reseller are 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.

Extent of Warranty: The second paragraph does not apply.

Warranty Service: 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.

Production Status: The following paragraph replaces this Section: Each Machine is newly manufactured. It may incorporate in addition to new parts, re-used parts as well.

Limitation of Liability: The following is added to this Section: The limitations and exclusions specified in the Statement of Warranty will not apply to damages caused by IBM with fraud or gross negligence and for express warranty.

In item 2, replace "U.S. \$100,000" with "1.000.000 DEM."

The following sentence is added to the end of the first paragraph of item 2: IBM's liability under this item is limited to the violation of essential contractual terms in cases of ordinary negligence.

IRELAND: Extent of Warranty: 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 items one and two of the first paragraph of this Section: 1. death or personal injury or physical damage to your real property solely caused by IBM's negligence; and 2. the amount of any other actual direct damages, up to the greater of Irish Pounds 75,000 or 125 percent of the charges (if recurring, the 12 months' charges apply) for the Machine that is the subject of the claim or which otherwise gives rise to the claim.

Applicability of suppliers and resellers (unchanged).

The following paragraph is added at the end of this Section: IBM's entire liability and your sole remedy, whether in contract or in tort, in respect of any default shall be limited to damages.

ITALY: Limitation of Liability: The following replaces the second sentence in the first paragraph: In each such instance unless otherwise provided by mandatory law, IBM is liable for no more than: (item 1 unchanged) 2) as to any other actual damage arising in all situations involving non-performance by IBM pursuant to, or in any way related to the subject matter of this Statement of Warranty, IBM's liability, will be limited to the total amount you paid for the Machine that is the subject of the claim.

Applicability of suppliers and resellers (unchanged).

The following replaces the second paragraph of this Section: Unless otherwise provided by mandatory law, IBM and your reseller are not liable for any of the following: (items 1 and 2 unchanged) 3) indirect damages, even if IBM or your reseller is informed of their possibility.

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.

TURKIYE: Production Status: The following replaces this Section: IBM fulfills customer orders for IBM Machines as newly manufactured in accordance with IBM's production standards.

UNITED KINGDOM: Limitation of Liability: The following replaces items 1 and 2 of the first paragraph of this Section:

1. death or personal injury or physical damage to your real property solely caused by IBM's negligence;
2. the amount of any other actual direct damages or loss, up to the greater of Pounds Sterling 150,000 or 125 percent of the charges (if recurring, the 12 months' charges apply) for the Machine that is the subject of the claim or which otherwise gives rise to the claim.

The following item is added to this paragraph: 3. breach of IBM's obligations implied by Section 12 of the Sale of Goods Act 1979 or Section 2 of the Supply of Goods and Services Act 1982.

Applicability of suppliers and resellers (unchanged).

The following is added to the end of this Section: IBM's entire liability and your sole remedy, whether in contract or in tort, in respect of any default will be limited to damages.

NORTH AMERICA

CANADA: Warranty Service: The following is added to this section: To obtain warranty service from IBM, call **1-800-565-3344**. In Toronto, call **416-383-3344**.

UNITED STATES OF AMERICA: Warranty Service: The following is added to this section: To obtain warranty service from IBM, call **1-800-772-2227**.

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

Federal Communications Commission (FCC) statement

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. 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.

Industry Canada Class A emission compliance statement

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

Avis de conformité a la réglementation d'Industrie Canada

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

Deutsche EMV-Direktive (electromagnetische Verträglichkeit)

Dieses Gerät ist berechtigt in Übereinstimmung mit dem deutschen EMVG vom 9.Nov.92 das EG-Konformitätszeichen zu führen.

Der Aussteller der Konformitätserklärung ist die IBM UK, Greenock.

Dieses Gerät erfüllt die Bedingungen der EN 55022 Klasse A. Für diese Klasse von Geräten gilt folgende Bestimmung nach dem EMVG:

Geräte dürfen an Orten, für die sie nicht ausreichend entstört sind, nur mit besonderer Genehmigung des Bundesministers für Post und Telekommunikation oder des Bundesamtes für Post und Telekommunikation betrieben werden. Die Genehmigung wird erteilt, wenn keine elektromagnetischen Störungen zu erwarten sind.

(Auszug aus dem EMVG vom 9.Nov.92, Para.3. Abs.4)

<p>Hinweis: Dieses Genehmigungsverfahren ist von der Deutschen Bundespost noch nicht veröffentlicht worden.</p>
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European Union - EMC directive

This product is in conformity with the protection requirements of EU Council Directive 89/366/ECC 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 non-recommended 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 A Information Technology Equipment according to CISPR 22/European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Union Européenne - Directive Conformité électromagnétique

Ce produit est conforme aux exigences de protection de la Directive 89/336/EEC du Conseil de l'UE sur le rapprochement des lois des États membres en matière de compatibilité électromagnétique.

IBM ne peut accepter aucune responsabilité pour le manquement aux exigences de protection résultant d'une modification non recommandée du produit, y compris l'installation de cartes autres que les cartes IBM.

Ce produit a été testé et il satisfait les conditions de l'équipement informatique de Classe A en vertu de CISPR22/Standard européen EN 55022. Les conditions pour l'équipement de Classe A ont été définies en fonction d'un contexte d'utilisation commercial et industriel afin de fournir une protection raisonnable contre l'interférence d'appareils de communication autorisés.

Avvertimento : Ceci est un produit de Classe A. Dans un contexte résidentiel, ce produit peut causer une interférence radio exigeant que l'utilisateur prenne des mesures adéquates.

Union Europea - Normativa EMC

Questo prodotto è conforme alle normative di protezione ai sensi della Direttiva del Consiglio dell'Unione Europea 89/336/CEE sull'armonizzazione legislativa degli stati membri in materia di compatibilità elettromagnetica.

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

Le prove effettuate sul presente prodotto hanno accertato che esso rientra nei limiti stabiliti per le apparecchiature di informatica Classe A ai sensi del CISPR 22/Norma Europea EN 55022. I limiti delle apparecchiature della Classe A sono stati stabiliti al fine di fornire ragionevole protezione da interferenze mediante dispositivi di comunicazione in concessione in ambienti commerciali ed industriali.

Avvertimento: Questo è un prodotto appartenente alla Classe A. In ambiente domestico, tale prodotto può essere causa di interferenze radio, nel qual caso l'utente deve prendere misure adeguate.

Unione Europea - Directiva EMC (Conformidad electromagnética)

Este producto satisface los requisitos de protección del Consejo de la UE, Directiva 89/336/CEE en lo que a la legislación de los Estados Miembros sobre compatibilidad electromagnética se refiere.

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

Este producto ha sido probado y satisface los límites para Equipos Informáticos Clase A de conformidad con el Estándar CISPR22 y el Estándar Europeo EN 55022. Los límites para los equipos de Clase A se han establecido para entornos comerciales e industriales a fin de proporcionar una protección razonable contra las interferencias con dispositivos de comunicación licenciados.

Advertencia: Este es un producto de Clase A. En un entorno doméstico este producto podría causar radiointerferencias en cuyo caso el usuario deberá tomar las medidas adecuadas.

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這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

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 a la réglementation d'Industrie Canada

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

Deutsche EMV-Direktive (electromagnetische Verträglichkeit)

Dieses Gerät ist berechtigt in Übereinstimmung mit dem deutschen EMVG vom 9.Nov.92 das EG-Konformitätszeichen zu führen.

Der Aussteller der Konformitätserklärung ist die IBM UK, Greenock.

Dieses Gerät erfüllt die Bedingungen der EN 55022 Klasse B.

European Union - emission directive

This product is in conformity with the protection requirements of EU Council Directive 89/366/ECC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

IBM can not accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended 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.

Union Européenne - Directive Conformité électromagnétique

Ce produit est conforme aux exigences de protection de la Directive 89/336/EEC du Conseil de l'UE sur le rapprochement des lois des États membres en matière de compatibilité électromagnétique.

IBM ne peut accepter aucune responsabilité pour le manquement aux exigences de protection résultant d'une modification non recommandée du produit, y compris l'installation de cartes autres que les cartes IBM.

Ce produit a été testé et il satisfait les conditions de l'équipement informatique de Classe B en vertu de CISPR22/Standard européen EN 55022. Les conditions pour l'équipement de Classe B ont été définies en fonction d'un contexte

résidentiel ordinaire afin de fournir une protection raisonnable contre l'interférence d'appareils de communication autorisés.

Unione Europea - Directiva EMC (Conformidad electromagnética)

Este producto satisface los requisitos de protección del Consejo de la UE, Directiva 89/336/CEE en lo que a la legislación de los Estados Miembros sobre compatibilidad electromagnética se refiere.

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

Este producto ha sido probado y satisface los límites para Equipos Informáticos Clase B de conformidad con el Estándar CISPR22 y el Estándar Europeo EN 55022. Los límites para los equipos de Clase B se han establecido para entornos residenciales típicos a fin de proporcionar una protección razonable contra las interferencias con dispositivos de comunicación licenciados.

Union Europea - Normativa EMC

Questo prodotto è conforme alle normative di protezione ai sensi della Direttiva del Consiglio dell'Unione Europea 89/336/CEE sull'armonizzazione legislativa degli stati membri in materia di compatibilità elettromagnetica.

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

Le prove effettuate sul presente prodotto hanno accertato che esso rientra nei limiti stabiliti per le apparecchiature di informatica Classe B ai sensi del CISPR 22/Norma Europea EN 55022. I limiti delle apparecchiature della Classe B sono stati stabiliti al fine di fornire ragionevole protezione da interferenze mediante dispositivi di comunicazione in concessione in ambienti residenziali tipici.

Korean B급 규격 증명서

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