



Familia de Adaptadores de escritorio Ethernet 10/100 de IBM

Guía del usuario

Nota: Antes de utilizar esta información y el producto al que da soporte, lea la información del Apéndice D, "Garantías y avisos del producto", en la página D-1.

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Seguridad

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」。

Prefacio

Este manual contiene la información necesaria para instalar y utilizar el adaptador. El manual está dividido en dos partes:

Guía del usuario y de instalación

Esta guía contiene las instrucciones abreviadas de instalación.

Esta guía esta disponible en los siguientes idiomas:

- Inglés
- Francés
- Alemán
- Español
- Italiano
- Portugués brasileño
- Chino tradicional
- Japonés

Apéndices

Los apéndices contienen las especificaciones del producto, información de ayuda y de servicio técnico, las garantías y avisos del producto.

Nota: Las figuras contenidas en este manual pueden diferir ligeramente del hardware real del usuario.

Para obtener información detallada sobre el hardware del adaptador, procedimientos de instalación del controlador de dispositivos y características avanzadas, vaya al directorio \info en el CD-ROM y consulte los archivos de ayuda adecuados. Para la instalación del controlador de dispositivos, consulte el archivo drivers.htm.

Cómo registrar la opción

Gracias por adquirir OPTIONS de IBM. Por favor, tómese un tiempo para registrar el producto y proporcionar información que ayudará a IBM a ofrecerle un mejor servicio en el futuro. Su respuesta resulta valiosa para IBM en el desarrollo de productos y servicios que son importantes para los usuarios, así como en el desarrollo de mejores vías de comunicación con éstos. Registre la opción en el sitio Web de IBM en la dirección siguiente:

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

IBM le enviará información y actualizaciones relativas al producto registrado a menos que usted le indique en el cuestionario del sitio Web que no desea recibir más información.

Guía del usuario y de instalación

Este manual contiene la información necesaria para instalar y utilizar el Adaptador de escritorio Ethernet 10/100 de IBM®.

Requisitos del sistema

Antes de instalar el adaptador, compruebe que el sistema tiene los siguientes requisitos de configuración:

- Una ranura PCI abierta de 32 bits.
- El BIOS más reciente para el sistema.
- Microsoft® Windows® 2000 Professional, Microsoft Windows NT® 4.0 Workstation, Windows Millennium Edition (Me), Windows 98, Windows 95, Novell NetWare 3x o posterior, Linux, Solaris, UnixWare o DOS.
- Windows NT requiere el Service Pack 5 o posterior.
- Para NetWare, actualícelo al Support Pack disponible más reciente. Los NLM necesarios se incluyen en este CD.

También puede bajar el software necesario de los sitios Web de Microsoft y Novell.

Los Service Pack de Microsoft

Vaya al siguiente sitio Web de Microsoft para obtener información sobre el Service Pack más reciente: <http://www.microsoft.com/ntserver>. Si la dirección Web ha cambiado, vaya al sitio principal de Microsoft y busque el término 'Service Pack'.

Los Support Packs de Novell NetWare

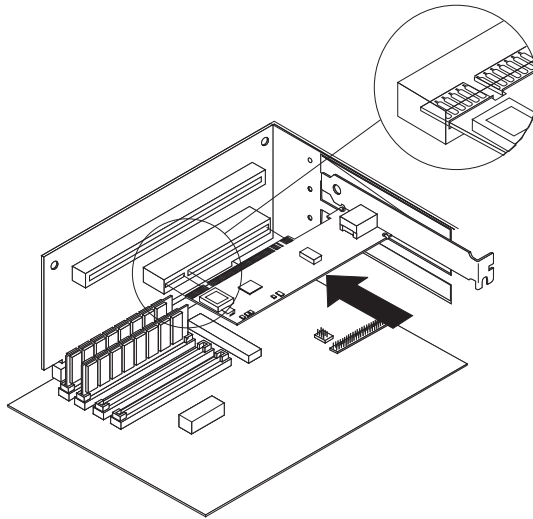
Vaya al siguiente sitio Web de Novell para obtener información sobre el Support Pack más reciente: <http://support.novell.com/misc/patlst.htm>.

Instalación del dispositivo

1. Apague el sistema y todos los dispositivos conectados, desenchufe todos los cables del sistema y todos los dispositivos conectados.

Atención: Apague y desenchufe el sistema antes de extraer la cubierta. No hacerlo podría ponerle en peligro y dañar el adaptador, el sistema o ambos.

2. Extraiga la abrazadera de la cubierta desde una ranura de 32 bits que no se utilice desatornillando el tornillo que la sujeta. Asegúrese de que la abrazadera de la cubierta no entre en contacto con ninguna pieza conductora de la placa del sistema.
3. Si desea habilitar la característica Wake on LAN[®], consulte el apartado "Utilización de la característica Wake on LAN" en la página 1-4 antes de completar el resto de estos pasos.



4. Empuje el adaptador dentro de la ranura hasta que se asiente firmemente y, a continuación, sujete la abrazadera del adaptador con el tornillo que ha extraído en el paso 2.
5. Repita los pasos del 2 al 4 para cada adaptador que desee instalar.
6. Vuelva a colocar la cubierta del sistema, conecte todos los cables y enchufe el sistema a una toma de corriente eléctrica.
7. Encienda el sistema. El BIOS del sistema asigna de manera automática recursos a los adaptadores. Si aparece un error de configuración de PCI, consulte el apartado sobre la resolución de problemas de configuración de PCI en el Apéndice A.

Conexión del cable de red

Conecte el cable de red al adaptador utilizando el cable de red Ethernet de par trenzado (TPE) de categoría 3, 4 ó 5 para una red de 10 Mbps o un cable TPE de categoría 5 para una red de 100 Mbps. Para obtener más detalles, consulte el Apéndice B.

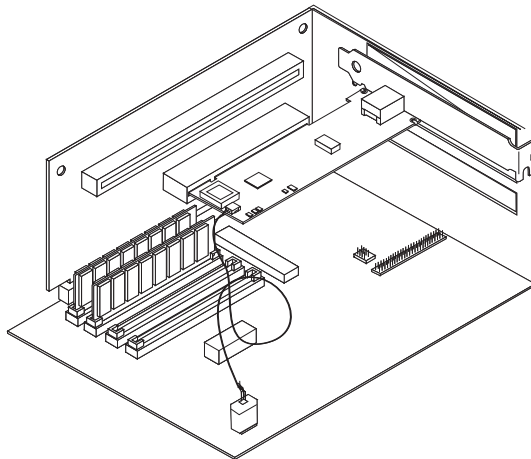
Para configurar el adaptador, consulte las instrucciones para su sistema operativo en el apartado “Instalación de controladores de dispositivo de red” en la página 1-5.

Conexión del cable de alimentación Wake on LAN

Nota: El cable Wake on LAN no es necesario para los sistemas conformes con PCI 2.2. Sin embargo, puede conectar el cable en dichos sistemas sin ningún efecto negativo.

Para que la característica Wake on LAN funcione correctamente, el adaptador debe estar conectado a una fuente de alimentación continua. Esto permite que el adaptador supervise la red, incluso cuando el sistema esté apagado. Para instalar el cable de alimentación Wake on LAN, siga las instrucciones siguientes:

1. Apague el sistema y todos los dispositivos conectados. Desenchufe todos los cables del sistema.
2. Extraiga la cubierta del sistema.
3. Localice el conector Wake on LAN de 3 patillas en el adaptador. Conecte uno de los extremos del cable Wake on LAN al adaptador tal y como se muestra en la siguiente ilustración.



4. Conecte el otro extremo del cable Wake on LAN a la placa del sistema, tal y como se muestra en la ilustración.
5. Puede que algunos sistemas requieran que se cambie algún valor en su BIOS o Programa de configuración para habilitar la característica Wake on LAN. Compruebe la documentación proporcionada con el sistema para obtener más información.
6. Vuelva a colocar la cubierta del sistema y conecte el sistema.

Utilización de la característica Wake on LAN

La característica Wake on LAN funciona según una especificación publicada para adaptadores de red, que son capaces de supervisar la actividad de la red incluso cuando el sistema está apagado.

Los adaptadores Wake on LAN tienen una modalidad de espera de baja alimentación que está activa cuando el resto del sistema está sin alimentación. El adaptador responde a un paquete de activación enviado por otro sistema o dispositivo de la red. Típicamente, este paquete de activación hace que el adaptador indique al sistema que se encienda y que ejecute un programa predefinido.

Para obtener más información sobre la configuración y la utilización de la característica Wake on LAN, vea el resumen de información sobre Wake on LAN en la dirección <http://www.ibm.com/pc/us/infobrf/iblan.html>

Consulte el Apéndice A para obtener la resolución de problemas generales y una lista de problemas comunes y sus soluciones para la funcionalidad de Wake on LAN.

Instalación de controladores de dispositivo de red

Esta sección incluye procedimientos de instalación de controladores de dispositivo para los siguientes sistemas operativos:

- Windows 2000 (para Windows 95, Windows 98 y Windows Me, consulte la Guía del usuario en línea)
- Windows NT 4.0 Workstation
- Novell NetWare 5.x (para 3.x, 4.x y clientes DOS, consulte la Guía del usuario en línea)
- Linux, Solaris, UnixWare 2.x y 7.0 (consulte la Guía del usuario en el CD)

Puede instalar controladores de dispositivo directamente desde el CD o puede crear disquetes de instalación. Para crear disquetes de instalación, consulte el apartado “Creación de un disquete” en la página 1-8.

Windows 2000

Después de instalar el adaptador en el sistema, conecte el cable, enchufe el cable de alimentación e inicie el sistema. Windows visualiza la ventana Nuevo hardware encontrado y se inicia el Asistente para nuevo hardware encontrado. Siga este procedimiento para instalar el controlador de dispositivo correcto:

1. Inserte el CD *Familia de Adaptadores de escritorio Ethernet 10/100 de IBM* en la unidad de CD-ROM. Si el CD se inicia automáticamente, cierre la ventana.
2. En la ventana Bienvenido al asistente, pulse **Siguiente**.
3. Pulse **Buscar** y, a continuación, pulse **Siguiente**.
4. En la ventana Buscar controlador, seleccione el recuadro de selección **CD-ROM** y, a continuación, pulse **Siguiente**.
5. Pulse **Siguiente**.
6. Pulse **Finalizar**.
7. Reinicie el sistema.

Nota: Para Windows 2000, el programa de utilidad PROSet 2 de las propiedades del adaptador no se instala automáticamente con la instalación del controlador de dispositivo de red. Para instalar PROSet 2, efectúe lo siguiente:

- Vaya a la opción Instalar funciones avanzadas del programa Autorun.exe en el CD.
- O bien, ejecute el programa setup.exe desde el directorio Configuración en el CD.

Windows NT 4.0 Workstation

El controlador de dispositivos E100NT4.SYS NDIS 4.0 da soporte a Windows NT 4.0 Workstation. No tiene soporte de Windows NT 3.51 o versiones anteriores de Windows NT.

Nota: Antes de instalar este controlador de dispositivo, revise los requisitos del Service Pack en el apartado "Requisitos del sistema" en la página 1-1. Si en este momento también está instalando Windows NT 4.0, primero deberá crear un disquete para la instalación del controlador. Consulte el apartado "Creación de un disquete" en la página 1-8.

Para instalar el controlador de dispositivo, siga estas instrucciones:

1. Pulse **Inicio** y luego pulse **Configuración y Panel de control**.
2. Pulse el icono **Red**.
3. Pulse **Adaptadores** y, a continuación, pulse **Agregar**.
4. Pulse **Utilizar disco**.
5. Inserte el CD *Familia de Adaptadores de escritorio Ethernet 10/100 de IBM* en la unidad de CD-ROM.
6. Escriba la vía de acceso a la unidad de CD-ROM y, a continuación, pulse **Aceptar**.
7. Siga las instrucciones de la pantalla para instalar los controladores de dispositivo. Cuando el adaptador se agregue, se visualizará en la lista de adaptadores de red.
8. Pulse **Aceptar** y, a continuación, pulse **Cerrar**. Cuando se le solicite, reinicie el sistema.

Novell NetWare 5.x

Nota: Para otros sistemas operativos cliente y servidor de NetWare, consulte la Guía del usuario en línea del CD.

Utilice el programa de instalación NetWare para instalar el controlador de dispositivo del adaptador (el nombre del controlador de dispositivo: ce100b.LAN en la carpeta /nwserver). Revise los requisitos del Service Pack en el apartado "Requisitos del sistema" en la página 1-1.

Nota: Antes de instalar el controlador de dispositivo, cargue controladores DOS o NetWare para la unidad de CD-ROM o cree un disquete desde el CD *Familia de Adaptadores de escritorio Ethernet 10/100 de IBM* en un sistema distinto. Consulte el apartado "Creación de un disquete" en la página 1-8.

Para instalar el controlador de dispositivo, siga estas instrucciones:

1. Desde la consola NetWare, escriba nwconfig y pulse Intro.
2. Pulse **Opciones de controlador** y, a continuación, pulse Intro.
3. Pulse **Configurar controladores de red** y, a continuación, pulse Intro.
4. Pulse **Cargar un controlador adicional** y, a continuación, pulse Intro.
5. Inserte el CD *Familia de Adaptadores de escritorio Ethernet 10/100 de IBM* en la unidad de CD-ROM o inserte el disquete que ha creado en la unidad de disquetes y seleccione **Instalar un controlador no listado** pulsando Insertar.
6. Si está utilizando un disquete, pulse Intro. Si está utilizando un CD, pulse F3 y especifique la unidad de CD-ROM como la vía de acceso de origen.
7. Pulse Intro para seleccionar el controlador.
8. Pulse **Sí** y, a continuación, pulse Intro.
9. Para modificar cualquiera de los parámetros o protocolos del controlador de dispositivo, pulse **Seleccionar/Modificar parámetros y protocolos del controlador** y, a continuación, pulse Intro. El número de ranura es un parámetro necesario y se debe especificar. Si tiene varios adaptadores, especifique el número de ranura para el adaptador que está configurando actualmente. Cuando termine de configurar el controlador de dispositivo, pulse **Guardar parámetros y cargar controlador** para continuar.

Nota: Si el sistema contiene un único Adaptador de escritorio Ethernet 10/100 de IBM, puede especificar cualquier número para la ranura. El controlador detecta automáticamente el número de ranura correcto y se carga de manera satisfactoria.

Si el sistema contiene más de un Adaptador de escritorio Ethernet 10/100 de IBM, pulse Alt+Esc para conmutar a la pantalla de consola en NetWare para buscar los números de ranura válidos para los adaptadores. Escriba LOAD CE100 y pulse Intro. El controlador de dispositivo intentará cargar y le solicitará los números de ranura disponible. Escriba los números de ranura y, a continuación, pulse Esc para detener la carga del controlador de dispositivo. Pulse Alt+Esc para volver a conmutar a la ventana Instalar y especificar el número de ranura correcto.

10. Para obtener la ventana de instalación del controlador de dispositivo, pulse Esc hasta que se visualice la ventana Opciones de configuración y, a continuación, siga las instrucciones en pantalla.
11. Pulse **Salir** para volver al indicador de la consola del servidor.
12. Si está instalando varios adaptadores, repita el proceso de instalación del controlador de dispositivo para cada nuevo adaptador en el servidor.

Nota: Si el adaptador no funciona después de la instalación, es posible que tenga que modificar el tipo de trama o las sentencias LOAD y BIND en el archivo AUTOEXEC.NCF.

Otros sistemas operativos

Para obtener instrucciones para instalar los controladores de dispositivo de red en otros sistemas operativos, busque información de ayuda en el directorio \info o en el archivo Readme en el directorio donde se encuentran los controladores de dispositivo.

Creación de un disquete

Si necesita utilizar un disquete para instalar los controladores de dispositivo del adaptador, ejecute el programa de utilidad makedisk.bat que corresponda a su sistema operativo. Los siguientes archivos del programa de utilidad se encuentran en el directorio raíz del CD *Familia de Adaptadores de escritorio Ethernet 10/100 de IBM*:

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

Para obtener más detalles sobre este programa de utilidad, consulte el archivo Readme.txt en el directorio raíz del CD *Familia de Adaptadores de escritorio Ethernet 10/100 de IBM*.

Configuración y puesta a punto adicional

La familia de Adaptadores de escritorio Ethernet 10/100 de IBM da soporte a muchas características avanzadas de red:

LAN virtual: Crea las VLAN para los grupos de trabajo para mejorar la seguridad y la eficacia de la red.

PROSet 2: Utilice este programa de utilidad para configurar el adaptador.

Características de gestión: Configura Wake on LAN y Boot Agent.

Priority Packet: Utilice estas características para configurar los filtros de prioridad en el tráfico de la red.

Packet Protect: Utilice este programa de utilidad de cifrado para proteger la confidencialidad y autenticidad del tráfico de IP en la LAN.

Para obtener más información sobre estas características, consulte el directorio \info del CD.

Apéndice A. Resolución de problemas

Este apéndice describe acciones para solucionar problemas frecuentes.

1. Comprobar los LED del adaptador.

Si la luz LINK no está encendida, compruebe todas las conexiones del adaptador y del grupo de enlace. Asegúrese de que el grupo de enlace esté establecido en 100 Mbps y a dúplex completo y de que el controlador de dispositivo este funcionando.

2. Asegurar que el cable esté instalado correctamente.

El cable de red debe estar conectado firmemente a todas las conexiones. Si el cable está conectado pero el problema persiste, pruebe un cable diferente.

3. Comprobar el adaptador.

Desde DOS, ejecute las pruebas de red y de adaptador en diag100.exe, situado en el directorio raíz del CD *Adaptador de escritorio Ethernet 10/100 de IBM*.

4. Comprobar la tabla siguiente para obtener soluciones que coincidan con su problema.

Si ninguno de estos pasos funciona, consulte el Apéndice C.

Problema	Solución
El sistema no puede encontrar el adaptador	<ul style="list-style-type: none">• Asegúrese de que el adaptador esté colocado firmemente en la ranura.• Pruebe con una ranura busmaster PCI diferente. Consulte la documentación del servidor para identificar las ranuras busmaster.• Pruebe con un Adaptador Ethernet 10/100 de IBM distinto.
Los diagnósticos son satisfactorios pero la conexión es anómala	<ul style="list-style-type: none">• Intente ejecutar la prueba de diagnóstico Remitente-Destinatario.• Asegúrese de que el cable de red esté firmemente conectado.
Un adaptador ha dejado de funcionar después de instalar el adaptador de la familia Ethernet 10/100 de IBM	<ul style="list-style-type: none">• Asegúrese de que el cable esté conectado al Adaptador Ethernet 10/100 de IBM y no a otro adaptador.• Compruebe que no se haya producido un conflicto de recursos. Consulte el apartado "Resolución de problemas de configuración PCI" en la página A-3.• Asegúrese de que los dos adaptadores estén firmemente colocados en las ranuras.• Compruebe todos los cables.

Problema	Solución
El adaptador ha dejado de funcionar sin ninguna causa aparente.	<ul style="list-style-type: none"> • Intente volver a colocar el adaptador. • Los archivos del controlador de dispositivo de red pueden estar dañados o se pueden haber suprimido. Intente volver a instalar los controladores de dispositivo. • Pruebe con un Adaptador Ethernet 10/100 de IBM distinto. • Intente habilitar o inhabilitar el valor autonegociación en el grupo de enlace (este valor debe ser el mismo para el conmutador y el adaptador). <p>Nota: Es posible que el LED LNK del adaptador se encienda incluso si la comunicación entre el adaptador y su grupo de enlace no se ha establecido correctamente. La configuración adecuada de los grupos de enlace consiste en que los dos lados estén establecidos en autonegociación o con los mismos valores de velocidad y de modalidad dúplex.</p>
El LED LNK no se enciende.	<ul style="list-style-type: none"> • Asegúrese de que se haya instalado el controlador de dispositivo del adaptador. • Compruebe todas las conexiones del adaptador o conmutador. • Pruebe con otro puerto en el repetidor de almacenamiento intermedio o conmutador. • Intente habilitar o inhabilitar el valor autonegociación en el grupo de enlace (este valor debe ser el mismo para el conmutador y el adaptador).
La característica Wake on LAN no está funcionando.	<ul style="list-style-type: none"> • Asegúrese de que el cable Wake on LAN esté conectado y de que la alimentación llegue al sistema. • Compruebe el valor Wake on LAN en el BIOS. Es posible que Wake on LAN se tenga que configurar en algunos sistemas. Consulte la documentación que se suministra con el sistema. • Asegúrese de que el cable de red esté firmemente conectado al adaptador.

Resolución de problemas de configuración PCI

Algunos sistemas PCI requieren pasos adicionales para configurar un adaptador PCI. Si tiene problemas para configurar el adaptador, intente lo siguiente:

- Inhabilitar Conectar y Listo en el BIOS. En algunos sistemas, es posible que se tenga que utilizar el programa de configuración del BIOS para inhabilitar Conectar y Listo si los recursos no están asignados correctamente.
- Habilitar la ranura PCI. En algunos sistemas PCI, es posible que se tenga que utilizar el programa de configuración del BIOS para habilitar la ranura PCI. Esto es especialmente frecuente en sistemas PCI con el código PhoenixBIOS.
- Habilitar la ranura para busmaster. Debe instalar el Adaptador de escritorio Ethernet 10/100 de IBM en la ranura busmaster. Algunos programas de configuración del BIOS requieren que se habilite la ranura para busmaster/master. Compruebe el programa de configuración del BIOS y la documentación del sistema para asegurarse de que la ranura esté configurada para busmaster/master.
- Configurar la ranura para interrupciones causadas por el nivel. La ranura PCI que el adaptador está utilizando debe estar configurada para interrupciones causadas por el nivel en lugar de interrupciones causadas por el borde. Compruebe el programa de configuración del BIOS para asegurarse de que la causalidad de nivel esté establecida.
- Reservar interrupciones y direcciones de memoria para adaptadores ISA. Ésto evita que los adaptadores PCI intenten utilizar los mismos valores que los adaptadores ISA. Compruebe el programa de configuración del BIOS. Podría haber opciones IRQ como, por ejemplo, Habilitación para ISA o Inhabilitación para PCI.

A continuación se muestran algunos ejemplos de parámetros del programa de configuración del BIOS:

Número de ranura PCI:	Ranura en la que está instalado el adaptador (1-3)
Master:	Habilitado
Esclavo:	Habilitado
Temporizador de latencia:	40 - 80
Interrupción:	Elija una de las varias que proporciona la configuración del BIOS
Borde/Nivel:	Nivel

Las palabras exactas de los parámetros varían de un sistema a otro.

Sitios Web para actualizaciones de software

Puede bajar actualizaciones de software de Microsoft y Novell de los siguientes sitios Web:

- **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-fix/>
- **Novell Support Pack 6 para NetWare 4.11 o Support Pack 1 para NetWare 5.0:** <http://support.novell.com/misc/patlst.htm>

Apéndice B. Especificaciones del adaptador

Compatibilidad	Sistemas PCI v2.2
Conectores de soporte (cable) y cableado	<ul style="list-style-type: none"> • RJ-45 • Utilice el cableado de categoría 5 a 100 Mbps • Soporta 100BASE-TX Fast Ethernet
Modalidad de cadencia de datos	10 ó 100 Mbps
Niveles de interrupción	PCI: INTA (INTA e INTB para Adaptadores de servidor de puerto dual Ethernet 10/100)
Almacenamiento intermedio de transmisión/recepción SRAM	6 KB
Requisitos de alimentación	300 mA @ +5 V dc (1,5 vatios) (3 vatios @ 5V dc para los Adaptadores de servidor de puerto dual 10/100)
Interrupción	PCI: INTA (INTA e INTB para Adaptadores de servidor de puerto dual 10/100)
LED	Enlace/Actividad
Dimensiones	5,1 cm x 11,9 cm (2 pulg. x 4,7 pulg.) excluyendo las abrazaderas
Temperatura de funcionamiento	De 0° a 55° C (de 32° a 131° F)
Humedad	Del 10% al 90% sin condensación
Conformidad con los estándares	IEEE 802.3, IEEE 802.3x, IEEE 802.1p, IEEE 802.1q
Software de diagnóstico	<ul style="list-style-type: none"> • On-board • PROSet • Responder
Conformidad y certificación	<ul style="list-style-type: none"> • Seguridad - UL • FCC Clase B • CE e Inmunidad • C-tick (Australiano)
Modalidad dúplex	Dúplex completo/Dúplex parcial

Apéndice C. Ayuda y servicio técnico

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

Si es posible, colóquese junto al sistema. 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 might 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

Apéndice D. Garantía y avisos del producto

This section contains the warranty period for your product and the IBM Statement of Limited Warranty.

Machine - 10/100 Desktop Adapters Warranty period* - One Year

** 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.*

IBM Statement of Limited Warranty

Part 1 - General Terms

This Statement of Limited Warranty includes Part 1 - General Terms and Part 2 - Country-unique Terms. 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, 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 Limited 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.

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 ("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.

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.

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.

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 a Machine, contact IBM or your reseller. If you do not register your Machine with IBM, you may be required to present proof of purchase.

During the warranty period, IBM or your reseller, if approved by IBM to provide warranty service, provides without charge certain types of repair and exchange service 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. At its discretion, IBM or your reseller will 1) either repair or exchange the failing Machine and 2) provide the service either at your location or a service center. IBM or your reseller will also manage and install selected engineering changes that apply to the Machine.

Some parts of IBM Machines are designated as Customer Replaceable Units (called “CRUs”), e.g., keyboards, memory, or hard disk drives. IBM ships CRUs to you for replacement by you. You must return all defective CRUs to IBM within 30 days of your receipt of the replacement CRU. You are responsible for

downloading designated Machine Code and Licensed Internal Code updates from an IBM Internet Web site or from other electronic media, and following the instructions that IBM provides.

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. 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.

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), 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.

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, LOST PROFITS OR LOST 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.

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 Agreement, without regard to conflict of law principles.

Part 2 - Country-unique Terms

AMERICAS

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.

NORTH AMERICA

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

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

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 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.

The following is added to this Section: Disputes and differences arising out of or in connection with this Agreement shall be finally settled by arbitration which shall be held in Singapore in accordance with the rules of the International Chamber of Commerce (ICC). The arbitrator or arbitrators designated in conformity with those rules shall have the power to rule on their own competence and on the validity of the Agreement to submit to arbitration. The

arbitration award shall be final and binding for the parties without appeal and the arbitral award shall be in writing and set forth the findings of fact and the conclusions of law.

All proceedings shall be conducted, including all documents presented in such proceedings, in the English language. 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 before proceeding upon the reference. The third arbitrator shall act as chairman of the proceedings. Vacancies in the post of chairman shall be filled by the president of the ICC. 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.

The English language version of this Agreement prevails over any other language version.

HONG KONG AND MACAU

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.*

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

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.*

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.

PEOPLE'S REPUBLIC OF CHINA (PRC)

Governing Law: *The following replaces this Section:* Both you and IBM consent to the application of the laws of the State of New York (except when local law requires otherwise) to govern, interpret, and enforce all your and IBM's rights, duties, and obligations arising from, or relating in any manner to, the subject matter of this Agreement, without regard to conflict of law principles.

Any disputes arising from or in connection with this Agreement will first be resolved by friendly negotiations, failing which either of us has the right to submit the dispute to the China International Economic and Trade Arbitration Commission in Beijing, the PRC, for arbitration in accordance with its arbitration rules in force at the time. The arbitration tribunal will consist of three arbitrators. The language to be used therein will be English and Chinese. An arbitral award will be final and binding on all the parties, and will be enforceable under the Convention on the Recognition and Enforcement of Foreign Arbitral Awards (1958).

The arbitration fee will be borne by the losing party unless otherwise determined by the arbitral award.

During the course of arbitration, this Agreement will continue to be performed except for the part which the parties are disputing and which is undergoing arbitration.

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.

Warranty Service:

If you purchase 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 purchase 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.

If you purchase an IBM 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 authorized service provider. You are responsible for transportation costs for Machines located outside 50 kilometers of an IBM authorized service provider.

Governing Law:

The applicable laws that govern, interpret and enforce rights, duties, and obligations of each of us arising from, or relating in any manner to, the subject matter of this Statement, without regard to conflict of laws principles, as well as Country-unique terms and competent court for this Statement are those of the country in which the warranty service is being provided, except that in 1) Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Hungary, Former Yugoslav Republic of Macedonia, Romania, Slovakia, Slovenia, Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan, the laws of Austria apply; 2) Estonia, Latvia, and Lithuania, the laws of Finland apply; 3) Algeria, Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Congo, Djibouti, Democratic Republic of Congo, Equatorial Guinea, France, Gabon, Gambia, Guinea, Guinea-Bissau, Ivory Coast, Lebanon, Mali, Mauritania, Morocco, Niger, Senegal, Togo, and Tunisia, this Agreement will be construed and the legal relations between the parties will be determined in accordance with the French laws and all disputes arising out of this Agreement or related to its violation or execution, including summary proceedings, will be settled exclusively by the Commercial Court of Paris; 4) 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, United Kingdom, West Bank/Gaza, Yemen, Zambia, and Zimbabwe, this Agreement will be governed by English Law and disputes relating to it

will be submitted to the exclusive jurisdiction of the English courts; and 5) in Greece, Israel, Italy, Portugal, and Spain any legal claim arising out of this Statement will be brought before, and finally settled by, the competent court of Athens, Tel Aviv, Milan, Lisbon, and Madrid, respectively.

THE FOLLOWING TERMS APPLY TO THE COUNTRY SPECIFIED:

AUSTRIA AND 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 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.

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.

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.

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).

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 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: 1. (unchanged) 2. as to any other actual damage arising in all situations involving nonperformance 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 third 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.

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 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 shall be limited to damages.

Notices

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*IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785*

U.S.A.

The following paragraph does not apply to the United Kingdom or any country where such provisions are inconsistent with local law:

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Processing date data

This IBM hardware product and IBM software products that might be packaged with it have been designed, when used in accordance with their associated documentation, to process date data correctly within and between the 20th and 21st centuries, provided all other products (for example, software, hardware, and firmware) used with these products properly exchange accurate date data with them.

IBM cannot take responsibility for the date data processing capabilities of non-IBM products, even if those products are preinstalled or otherwise distributed by IBM. You should contact the vendors responsible for those products directly to determine the capabilities of their products and update them if needed. This IBM hardware product cannot prevent errors that might occur if software, upgrades, or peripheral devices you use or exchange data with do not process date data correctly.

The foregoing is a Year 2000 Readiness Disclosure.

Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments

may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Trademarks

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

IBM

Wake on LAN

HelpCenter

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

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

Electronic emission notices

10/100 Desktop Adapters

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:

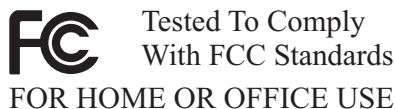
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an IBM authorized dealer or service representative for help.

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



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 legislatura 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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Japanese statement of compliance for products less than or equal to 20 A per phase

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