

HH SATA Multi-Burner Optical Disk Drive



# User's Guide



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# User's Guide

**Note:** Before using this information and the product it supports, read the general information in Appendix B, "Notices," on page 15, the *Safety Information* and *Environmental Notices and User Guide* documents on the IBM *Documentation* CD, and the *Important Notices* document that comes with the product.

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## Safety

Before installing this product, read the Safety Information.

قبل تركيب هذا المنتج، يجب قراءة الملاحظات الأمنية

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

在安裝本產品之前，請仔細閱讀 **Safety Information** (安全信息)。

安裝本產品之前，請先閱讀「安全資訊」。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

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 ασφαλείας (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.

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.

**Important:**

Each caution and danger statement in this document is labeled with a number. This number is used to cross reference an English-language caution or danger statement with translated versions of the caution or danger statement in the *Safety Information* document.

For example, if a caution statement is labeled “Statement 1,” translations for that caution statement are in the *Safety Information* document under “Statement 1.”

Be sure to read all caution and danger statements in this document before you perform the procedures. Read any additional safety information that comes with the server or optional device before you install the device.

**Statement 1:**



**DANGER**

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

**To avoid a shock hazard:**

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

**To Connect:**

1. Turn everything OFF.
2. First, attach all cables to devices.
3. Attach signal cables to connectors.
4. Attach power cords to outlet.
5. Turn device ON.

**To Disconnect:**

1. Turn everything OFF.
2. First, remove power cords from outlet.
3. Remove signal cables from connectors.
4. Remove all cables from devices.

**Statement 3:**



**CAUTION:**

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

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



**DANGER**

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

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



Class 1 Laser Product  
Laser Klasse 1  
Laser Klass 1  
Luokan 1 Laserlaite  
Appareil À Laser de Classe 1



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## Chapter 1. Introduction

The IBM® HH SATA Multi-Burner Optical Disk Drive is a multipurpose drive for System x® servers.

The drive must be installed in a DVD or CD drive bay.

The drive is compatible with the DVD Forum DVD-Multi Recorder specification and can record and read DVD-RAM, DVD-RW, DVD-R, and DVD-R DL media. The drive can record DVD+R, DVD+RW, DVD+R DL, CD-R, CD-RW, High-Speed CD-RW, Ultra Speed CD-RW, and Ultra Speed Plus CD-RW media. Buffer underrun prevention is used to ensure reliable burning of DVD-R, DVD+R, and CD-R media.

For information about read and write speeds, see Chapter 4, “DVD and CD read and write speeds,” on page 11.

The drive comes with a limited warranty. For information about the warranty, see the *Important Notices* document that comes with this product.

For information about getting service and assistance, see Appendix A, “Getting help and technical assistance,” on page 13.

Contact your place of purchase if an item is missing or damaged. Be sure to retain your proof of purchase. It might be required for you to receive warranty service.

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## The IBM Documentation CD

The IBM *Documentation* CD contains documentation for your half-high multi-burner drive in Portable Document Format (PDF) and includes the IBM Documentation Browser to help you find information quickly.

## Hardware and software requirements

The IBM *Documentation* CD requires the following minimum hardware and software:

- Microsoft Windows NT 4.0 (with Service Pack 3 or later), Windows 2000, or Red Hat® Linux.
- 100 MHz microprocessor.
- 32 MB of RAM.
- Adobe Acrobat Reader 3.0 (or later) or xpdf, which comes with Linux operating systems. Acrobat Reader software is included on the CD, and you can install it when you run the Documentation Browser.

## Using the Documentation Browser

Use the Documentation Browser to browse the contents of the CD, read brief descriptions of the documents, and view documents, using Adobe Acrobat Reader or xpdf. The Documentation Browser automatically detects the regional settings in use in your computer and displays the documents in the language for that region (if available). If a document is not available in the language for that region, the English-language version is displayed.

Use one of the following procedures to start the Documentation Browser:

- If Autostart is enabled, insert the CD into the CD drive. The Documentation Browser starts automatically.
- If Autostart is disabled or is not enabled for all users, use one of the following procedures:
  - If you are using a Windows operating system, insert the CD into the CD drive and click **Start --> Run**. In the **Open** field, type  
`e:\win32.bat`  
  
where *e* is the drive letter of the CD drive, and click **OK**.
  - If you are using Red Hat Linux, insert the CD into the CD drive; then, run the following command from the `/mnt/cdrom` directory:  
`sh runlinux.sh`

Select multi-burner drive from the **Product** menu. The **Available Topics** list displays all the documents for your drive. Some documents might be in folders. A plus sign (+) indicates each folder or document that has additional documents under it. Click the plus sign to display the additional documents.

When you select a document, a description of the document is displayed under **Topic Description**. To select more than one document, press and hold the Ctrl key while you select the documents. Click **View Book** to view the selected document or documents in Acrobat Reader or xpdf. If you selected more than one document, all the selected documents are opened in Acrobat Reader or xpdf.

To search all the documents, type a word or word string in the **Search** field and click **Search**. The documents in which the word or word string is displayed are listed in order of the most occurrences. Click a document to view it, and press Ctrl+F to use the Acrobat search function, or press Alt+F to use the xpdf search function within the document.

Click **Help** for detailed information about using the Documentation Browser.

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## Product specifications

*Table 1. Physical specifications*

Physical specification	
Height	41.3 mm (1.63 in.)
Width	146 mm (5.75 in.)
Length	165 mm (6.5 in.)
Weight	700 g (1.54 lb)

*Table 2. Power requirements*

Voltage	Average power	Maximum power
12 V dc	1000 mA	1800 mA

*Table 3. Environmental requirements*

Specification	Operational	Storage/transportation
Temperature (noncondensing)	5°C to 45°C (41°F to 113°F)	-30°C to 60°C (-22°F to 140°F)
Relative humidity (noncondensing)	15% to 80%	10% to 90%

---

## Notices and statements in this document

The caution and danger statements in this document are also in the multilingual *Safety Information* document, which is on the IBM *Documentation* CD. Each statement is numbered for reference to the corresponding statement in the *Safety Information* document.

The following notices and statements are used in this document:

- **Note:** These notices provide important tips, guidance, or advice.
- **Important:** These notices provide information or advice that might help you avoid inconvenient or problem situations.
- **Attention:** These notices indicate potential damage to programs, devices, or data. An attention notice is placed just before the instruction or situation in which damage could occur.
- **Caution:** These statements indicate situations that can be potentially hazardous to you. A caution statement is placed just before the description of a potentially hazardous procedure step or situation.
- **Danger:** These statements indicate situations that can be potentially lethal or extremely hazardous to you. A danger statement is placed just before the description of a potentially lethal or extremely hazardous procedure step or situation.

---

## Installing the drive

For supported operating systems, see the documentation that comes with the server.

For information about servers that support the drive, see <http://www.ibm.com/servers/eserver/serverproven/compat/us/xseries/storage/matrix.html>.

To install the drive, follow the instructions in the documentation that comes with the server. The operating system automatically recognizes the drive after it is installed.

Keep the packaging that comes with the drive in case you have to return it for service or warranty replacement.

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## Chapter 2. Using the drive and discs

This chapter provides information about using the multi-burner drive and discs.

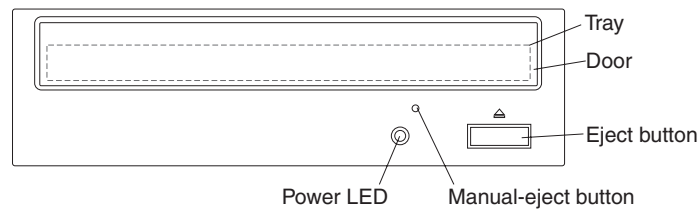
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### Drive controls and connectors

The following sections show the controls and connectors on the front and rear of the drive.

#### Front view

The following illustration shows the controls on the front of the drive.



**Tray and door:** When you press the eject button, the drive tray and door automatically slide out of the unit.

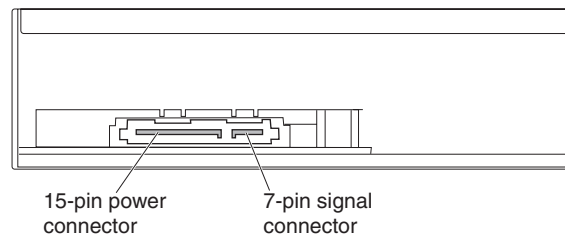
**Eject button:** Press this button to eject a DVD or CD.

**Manual-eject button:** Use this emergency release to eject a DVD or CD when the eject button does not work. For more information about manually ejecting a DVD or CD, see “Manually ejecting a disc” on page 7.

**Power LED:** This LED is lit when the drive is in use.

#### Rear view

The following illustration shows the connectors on the rear of the drive.



**15-pin power connector:** Connect a power cable from the server power supply to this connector.

**7-pin signal connector:** Connect the signal cable that comes with the multi-burner drive to this connector and to the applicable SATA connector on the server system board.

---

## Guidelines for using the drive

To avoid causing data errors or interrupting the formatting or writing process, observe the following guidelines while the drive is writing to a disc:

- Do not move the server.
- Turn off any screen saver on the server.
- Do not allow the server to go into standby or other power-saving mode.

**Attention:** To avoid damaging the drive, observe the following precautions:

- Operate the drive only on a level surface.
- Do not insert foreign objects into the drive.
- Do not remove the drive cover or attempt to service the drive.
- Do not operate the drive under conditions of high temperature, high humidity, direct sunlight, excessive dust, excessive vibration, or sudden shock.

---

## Handling discs

To prolong the life of a disc and protect the data that is on it, observe the following precautions:

- Store the disc in its original packaging, away from direct sunlight and heat sources.
- Handle the disc by its edges or by the center hole.
- If you must write on a disc, use a soft felt-tip marker, and do not write on the data surface of the disc.
- Do not bend the disc.
- Do not use a cracked disc. Check the disc for cracks before you use it.
- Remove the disc from the drive when you are not using it.
- If you must clean the data surface of the disc, use only a soft, lint free cloth and wipe from the center to the edge. Do not use any cleaning solvents.

**Attention:** Wiping a disc in a circular motion might cause data loss.

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## Using double-sided media

To access both sides of double-sided media, you must remove the disc from the drive, turn it over, and reinsert it.

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## Inserting or removing a disc

To open the drive tray, make sure that the server is turned on, and press the eject button.

**Attention:** Do not use force or insert foreign objects to open the loading tray.

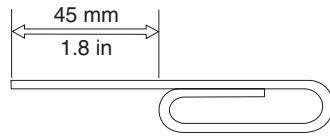
When you place a disc in the tray, make sure that the label side of the disc is facing up. Align the center of the disc with the drive spindle; then, gently press down on the disc until it locks in place. To close the tray, press the eject button or gently push in on the tray.



---

## Manually ejecting a disc

If the tray does not slide out when you press the eject button, turn off the server. Straighten a large paper clip to form a tool, as shown in the illustration. The straightened end must extend at least 45 mm (1.8 in.). Insert the extended end of the tool into the opening on the front of the drive and press the manual-eject button until the tray opens. Gently pull out the tray until you can remove the disc.





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## Chapter 3. Troubleshooting and parts listing

This chapter provides problem-solving information and a parts listing in case you have to replace the multi-burner drive or signal cable.

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### Problem solving

The following table lists problems that might occur with the drive.

*Table 4. Problems and possible solutions*

Problem	Solution
You cannot create a multi-session disc.	Make sure that there is enough space on the disc for another session. Writing a session requires lead-in and lead-out space (approximately 15 MB), in addition to the data that is recorded.
You cannot write to a DVD or CD.	<ul style="list-style-type: none"><li>• Make sure that the write operation process is not interrupted by a screen saver program, an antivirus program, an Internet or email program, or other software. Disable the functions that might interrupt the write operation.</li><li>• Run a defragmentation program on the hard disk drive.</li><li>• Consult the hard disk drive manufacturer or vendor if an older hard disk drive is conducting a thermal recalibration during a write operation.</li><li>• Replace the disc if it is inoperable or scratched.</li><li>• Disable the Windows Auto Insert Notify function on the drives.</li></ul>
You cannot eject a DVD or CD.	Make sure that the drive is not in the process of writing to the disc, and then try the following actions: <ul style="list-style-type: none"><li>• Use software to eject the disc.</li><li>• Press the eject button to eject the disc.</li><li>• Turn off the server. Wait 45 seconds, and then turn on the server and try using the eject button again.</li><li>• Use the manual-eject button. For more information, see “Manually ejecting a disc” on page 7.</li></ul>
You cannot read the DVD or CD after you successfully write to it.	<ol style="list-style-type: none"><li>1. The disc might be damaged. Try a new disc or another brand of disc.</li><li>2. Avoid writing at the slower 1X speed unless the server requires it.</li></ol>

---

## Parts listing

The replaceable components for the drive are Tier 1 customer replaceable units (CRUs). Replacement of Tier 1 CRUs is your responsibility. If IBM installs a Tier 1 CRU at your request, you will be charged for the installation.

For more information about the terms of the warranty and getting service and assistance, see the *Important Notices* document that comes with this product and see Appendix A, “Getting help and technical assistance,” on page 13.

If you are instructed to return a component, follow all packaging instructions, and use any packaging materials for shipping that are supplied to you.

For instructions for replacing the drive, see the *Problem Determination and Service Guide* that comes with the server.

*Table 5. Parts listing*

Component	CRU part number
IBM HH SATA Multi-Burner Optical Disk Drive	43W8467
Signal cable	69Y1330

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## Chapter 4. DVD and CD read and write speeds

The DVD and CD read and write speeds are shown in the following tables.

*Table 6. DVD read and write speeds*

	Media	Maximum speed
Read	DVD-ROM	16X
	DVD-R	16X
	DVD-RW	8X
	DVD+R	16X
	DVD+RW	8X
	DVD-RAM	12X
	DVD-R DL	8X
	DVD+R DL	8X
Write	DVD-R	16X
	DVD-RW	6X
	DVD+R	16X
	DVD+RW	8X
	DVD-RAM	12X
	DVD-R DL	8X
	DVD+R DL	8X

*Table 7. CD read and write speeds*

	Media	Maximum speed
Read	CD-ROM	40X
	CD-R	40X
	CD-RW	40X
Write	CD-R	40X
	CD-RW	4X
	HS CD-RW	10X
	US CD-RW	32X



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## Appendix A. Getting help and technical assistance

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

---

### Before you call

Before you call, make sure that you have taken these steps to try to solve the problem yourself:

- Check all cables to make sure that they are connected.
- Check the power switches to make sure that the system and any optional devices are turned on.
- Use the troubleshooting information in your system documentation, and use the diagnostic tools that come with your system. Information about diagnostic tools is in the *Problem Determination and Service Guide* on the IBM Documentation CD that comes with your system.
- Go to the IBM support website at <http://www.ibm.com/supportportal/> to check for technical information, hints, tips, and new device drivers or to submit a request for information.

You can solve many problems without outside assistance by following the troubleshooting procedures that IBM provides in the online help or in the documentation that is provided with your IBM product. The documentation that comes with IBM systems also describes the diagnostic tests that you can perform. Most systems, operating systems, and programs come with documentation that contains troubleshooting procedures and explanations of error messages and error codes. If you suspect a software problem, see the documentation for the operating system or program.

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### Using the documentation

Information about your IBM system and preinstalled software, if any, or optional device is available in the documentation that comes with the product. That documentation can include printed documents, online documents, readme files, and help files. See the troubleshooting information in your system documentation for instructions for using the diagnostic programs. The troubleshooting information or the diagnostic programs might tell you that you need additional or updated device drivers or other software. IBM maintains pages on the World Wide Web where you can get the latest technical information and download device drivers and updates. To access these pages, go to <http://www.ibm.com/supportportal/> and follow the instructions. Also, some documents are available through the IBM Publications Center at <http://www.ibm.com/shop/publications/order/>.

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### Getting help and information from the World Wide Web

On the World Wide Web, the IBM website has up-to-date information about IBM systems, optional devices, services, and support. The address for IBM System x and xSeries® information is <http://www.ibm.com/systems/x/>. The address for IBM BladeCenter® information is <http://www.ibm.com/systems/bladecenter/>. The address for IBM IntelliStation® information is <http://www.ibm.com/systems/intellistation/>.

You can find service information for IBM systems and optional devices at <http://www.ibm.com/supportportal/>.

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## Software service and support

Through IBM Support Line, you can get telephone assistance, for a fee, with usage, configuration, and software problems with System x and xSeries servers, BladeCenter products, IntelliStation workstations, and appliances. For information about which products are supported by Support Line in your country or region, see <http://www.ibm.com/services/supline/products/>.

For more information about Support Line and other IBM services, see <http://www.ibm.com/services/>, or see <http://www.ibm.com/planetwide/> for support telephone numbers. In the U.S. and Canada, call 1-800-IBM-SERV (1-800-426-7378).

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## Hardware service and support

You can receive hardware service through your IBM reseller or IBM Services. To locate a reseller authorized by IBM to provide warranty service, go to <http://www.ibm.com/partnerworld/> and click **Find Business Partners** on the right side of the page. For IBM support telephone numbers, see <http://www.ibm.com/planetwide/>. In the U.S. and Canada, call 1-800-IBM-SERV (1-800-426-7378).

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

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## IBM Taiwan product service

台灣 IBM 產品服務聯絡方式：  
台灣國際商業機器股份有限公司  
台北市松仁路 7 號 3 樓  
電話：0800-016-888

IBM Taiwan product service contact information:

IBM Taiwan Corporation  
3F, No 7, Song Ren Rd.  
Taipei, Taiwan  
Telephone: 0800-016-888



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## Appendix B. Notices

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## Important notes

This product is not intended to be connected directly or indirectly by any means whatsoever to interfaces of public telecommunications networks, nor is it intended to be used in a public services network.

Processor speed indicates the internal clock speed of the microprocessor; other factors also affect application performance.

CD or DVD drive speed is the variable read rate. Actual speeds vary and are often less than the possible maximum.

When referring to processor storage, real and virtual storage, or channel volume, KB stands for 1024 bytes, MB stands for 1,048,576 bytes, and GB stands for 1,073,741,824 bytes.

When referring to hard disk drive capacity or communications volume, MB stands for 1,000,000 bytes, and GB stands for 1,000,000,000 bytes. Total user-accessible capacity can vary depending on operating environments.

Maximum internal hard disk drive capacities assume the replacement of any standard hard disk drives and population of all hard disk drive bays with the largest currently supported drives that are available from IBM.

Maximum memory might require replacement of the standard memory with an optional memory module.

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IBM makes no representations or warranties with respect to non-IBM products. Support (if any) for the non-IBM products is provided by the third party, not IBM.

Some software might differ from its retail version (if available) and might not include user manuals or all program functionality.

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## Particulate contamination

**Attention:** Airborne particulates (including metal flakes or particles) and reactive gases acting alone or in combination with other environmental factors such as humidity or temperature might pose a risk to the device that is described in this document. Risks that are posed by the presence of excessive particulate levels or concentrations of harmful gases include damage that might cause the device to malfunction or cease functioning altogether. This specification sets forth limits for particulates and gases that are intended to avoid such damage. The limits must not be viewed or used as definitive limits, because numerous other factors, such as temperature or moisture content of the air, can influence the impact of particulates or environmental corrosives and gaseous contaminant transfer. In the absence of specific limits that are set forth in this document, you must implement practices that maintain particulate and gas levels that are consistent with the protection of human health and safety. If IBM determines that the levels of particulates or gases in your environment have caused damage to the device, IBM may condition provision of repair or replacement of devices or parts on implementation of appropriate remedial measures to mitigate such environmental contamination. Implementation of such remedial measures is a customer responsibility.

*Table 8. Limits for particulates and gases*

Contaminant	Limits
Particulate	<ul style="list-style-type: none"><li>• The room air must be continuously filtered with 40% atmospheric dust spot efficiency (MERV 9) according to ASHRAE Standard 52.2<sup>1</sup>.</li><li>• Air that enters a data center must be filtered to 99.97% efficiency or greater, using high-efficiency particulate air (HEPA) filters that meet MIL-STD-282.</li><li>• The deliquescent relative humidity of the particulate contamination must be more than 60%<sup>2</sup>.</li><li>• The room must be free of conductive contamination such as zinc whiskers.</li></ul>
Gaseous	<ul style="list-style-type: none"><li>• Copper: Class G1 as per ANSI/ISA 71.04-1985<sup>3</sup></li><li>• Silver: Corrosion rate of less than 300 Å in 30 days</li></ul>

<sup>1</sup> ASHRAE 52.2-2008 - *Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size*. Atlanta: American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

<sup>2</sup> The deliquescent relative humidity of particulate contamination is the relative humidity at which the dust absorbs enough water to become wet and promote ionic conduction.

<sup>3</sup> ANSI/ISA-71.04-1985. *Environmental conditions for process measurement and control systems: Airborne contaminants*. Instrument Society of America, Research Triangle Park, North Carolina, U.S.A.

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## Documentation format

The publications for this product are in Adobe Portable Document Format (PDF) and should be compliant with accessibility standards. If you experience difficulties when you use the PDF files and want to request a web-based format or accessible PDF document for a publication, direct your mail to the following address:

*Information Development  
IBM Corporation  
205/A015  
3039 E. Cornwallis Road  
P.O. Box 12195  
Research Triangle Park, North Carolina 27709-2195  
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In the request, be sure to include the publication part number and title.

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## Electronic emission notices

### 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 à la réglementation d'Industrie Canada

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

### Australia and New Zealand Class A statement

**Attention:** 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.

### European Union EMC Directive conformance statement

This product is in conformity with the protection requirements of EU Council Directive 2004/108/EC on the approximation of the laws of the Member States

relating to electromagnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a nonrecommended modification of the product, including the fitting of non-IBM option cards.

**Attention:** This is an EN 55022 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.

Responsible manufacturer:

International Business Machines Corp.  
New Orchard Road  
Armonk, New York 10504  
914-499-1900

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IBM Technical Regulations, Department M456  
IBM-Allee 1, 71137 Ehningen, Germany  
Telephone: +49 7032 15-2937  
E-mail: tjahn@de.ibm.com

## Germany Class A statement

**Deutschsprachiger EU Hinweis:**

### **Hinweis für Geräte der Klasse A EU-Richtlinie zur Elektromagnetischen Verträglichkeit**

Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 2004/108/EG zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der EN 55022 Klasse A ein.

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

EN 55022 Klasse A Geräte müssen mit folgendem Warnhinweis versehen werden: "Warnung: Dieses ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funk-Störungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen zu ergreifen und dafür aufzukommen."

### **Deutschland: Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Geräten**

Dieses Produkt entspricht dem "Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG)". Dies ist die Umsetzung der EU-Richtlinie 2004/108/EG in der Bundesrepublik Deutschland.

### **Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) (bzw. der EMC EG Richtlinie 2004/108/EG) für Geräte der Klasse A**

Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

Verantwortlich für die Einhaltung der EMV Vorschriften ist der Hersteller:

International Business Machines Corp.

New Orchard Road  
Armonk, New York 10504  
914-499-1900

Der verantwortliche Ansprechpartner des Herstellers in der EU ist:

IBM Deutschland  
Technical Regulations, Department M456  
IBM-Allee 1, 71137 Ehningen, Germany  
Telephone: +49 7032 15-2937  
E-mail: tjahn@de.ibm.com

#### **Generelle Informationen:**

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

### **Japan VCCI Class A statement**

この装置は、クラス A 情報技術装置です。この装置を家庭環境で使用する  
と電波妨害を引き起こすことがあります。この場合には使用者が適切な対策  
を講ずるよう要求されることがあります。 VCCI-A

This is a Class A product based on the standard of the Voluntary Control Council for Interference (VCCI). If this equipment is used in a domestic environment, radio interference may occur, in which case the user may be required to take corrective actions.

### **Japan Electronics and Information Technology Industries Association (JEITA) statement**

高調波ガイドライン準用品

Japanese Electronics and Information Technology Industries Association (JEITA)  
Confirmed Harmonics Guideline with Modifications (products greater than 20 A per phase)

### **Korea Communications Commission (KCC) statement**

이 기기는 업무용으로 전자파 적합등록을 받은 기기  
이오니, 판매자 또는 사용자는 이점을 주의하시기  
바라며, 만약 잘못 구입하셨을 때에는 구입한 곳에  
서 비업무용으로 교환하시기 바랍니다.

Please note that this equipment has obtained EMC registration for commercial use. In the event that it has been mistakenly sold or purchased, please exchange it for equipment certified for home use.

### **Russia Electromagnetic Interference (EMI) Class A statement**

**ВНИМАНИЕ!** Настоящее изделие относится к классу A.  
В жилых помещениях оно может создавать радиопомехи, для  
снижения которых необходимы дополнительные меры

## People's Republic of China Class A electronic emission statement

中华人民共和国“A类”警告声明

声 明

此为A级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施。

## Taiwan Class A compliance statement

警告使用者：  
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。





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