

iL1210 IBM MicroPortable Projector



User's Guide

OPTIONS
by 

iL1210 IBM MicroPortable Projector



User's Guide

Note: Before using this information and the product it supports, read the information under “Appendix G. Product warranties and notices” on page 51.

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Safety: Read first

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 přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

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

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

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

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

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

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

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

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

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

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

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

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

Перед установкой продукта прочтите инструкции по технике безопасности.

Pred inštaláciou tohto 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」。

About this book

This manual contains instructions for setting up, using, maintaining, and troubleshooting of the iL1210 IBM MicroPortable Projector. The manual is divided into two parts:

Part 1: Setup guide

This guide contains the product description and expanded installation instructions.

Part 2: Appendixes

The appendixes contain product specifications, accessories, and help and service. They also contain the product warranties and notices.

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

Registering your option

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

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

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

Chapter 1. Installation and user's guide

Introduction

The iL1210 IBM® MicroPortable Projector is specifically designed for the mobile presenter. It generates crisp, clear images using Digital Light Processing (DLP) technology and features an M1-DA connector. The projector is easy to connect, use, transport, and maintain.

Image resolution

The XGA resolution of the iL1210 projected image is 1024 x 768. The projector is compatible with screen resolutions up to 1280 x 1024. If your computer screen resolution is higher than 1280 x 1024, reset it to a lower resolution before you connect the projector.

Note: The iL1210 automatically expands 640 x 480 and 800 x 600 images to 1024 x 768. You can display these images at their native resolutions using the Resize option in the Image menu. See "Image menu for computer sources" on page 20.

Compatibility

The projector is compatible with a wide variety of computers and video devices, including:

- IBM-compatible computers, including mobile computers, up to 1280 x 1024 resolution.
- Apple Macintosh and PowerBook computers up to 1280 x 1024 resolution.
- Most standard VCRs, DVD players, HDTV sources, camcorders, and laser disc players.

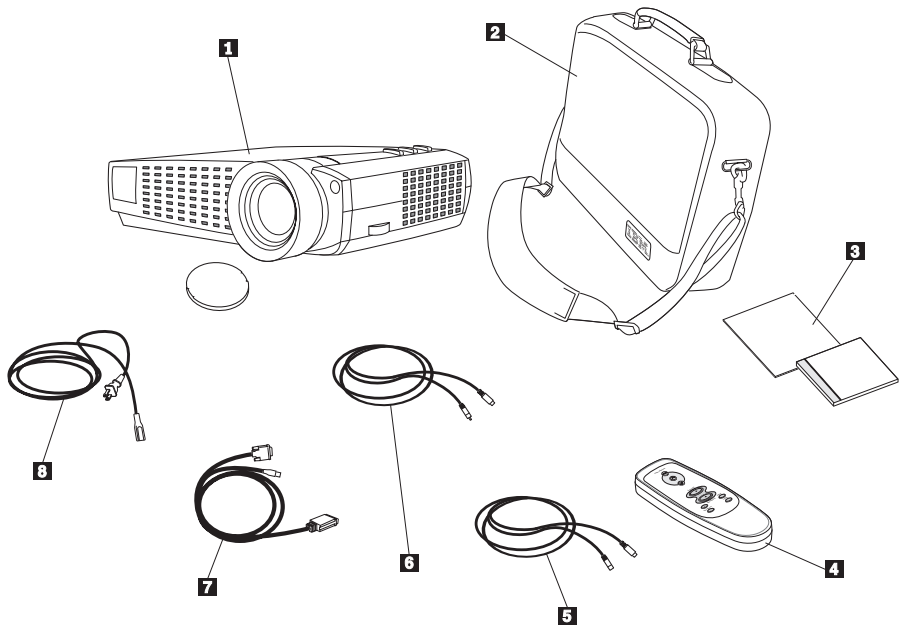
Note: The projector is compatible with 1080i and 720P HDTV formats.

Unpacking the projector

The projector comes with the items shown in the following illustration. Check to make sure that all items are included. Contact your dealer immediately if anything is missing.

If you are experienced in setting up presentation systems, use the *Quick Start* card that was included with this option. For complete details on connecting and operating the projector, refer to the *User's Guide* on CD.

Attention: This product contains a Metal Arc Lamp which contains Mercury. Dispose of it as required by local ordinances and regulations.



1 iL1210 IBM
MicroPortable Projector and
lens cap

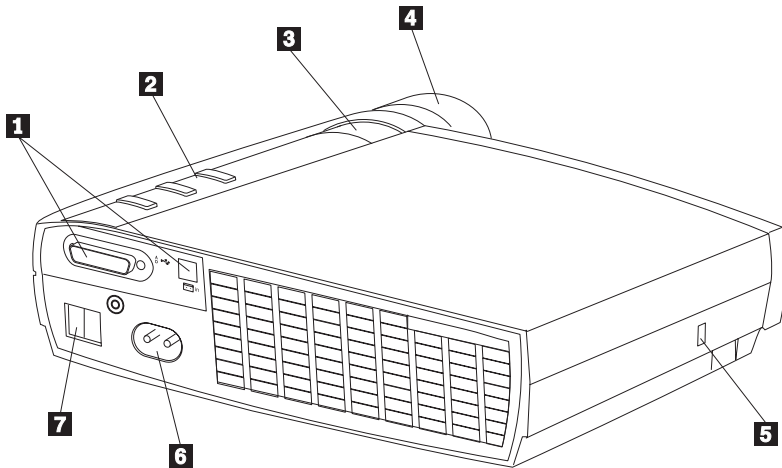
2 Soft carrying case
3 *Quick Start* card and
multi-language online
User's Guide CD

4 Remote control

5 S-video cable
6 Composite video cable

7 Analog cable

8 Power cord



1 Computer and video connectors

2 Keypad

3 Zoom ring

4 Focus ring

5 Security lock

6 Power cord connector

7 Power switch

Usage guidelines

Observe the following guidelines when using the projector.

Caution: Do not look directly into the projection lens when the lamp is turned on. The bright light might harm your eyes.

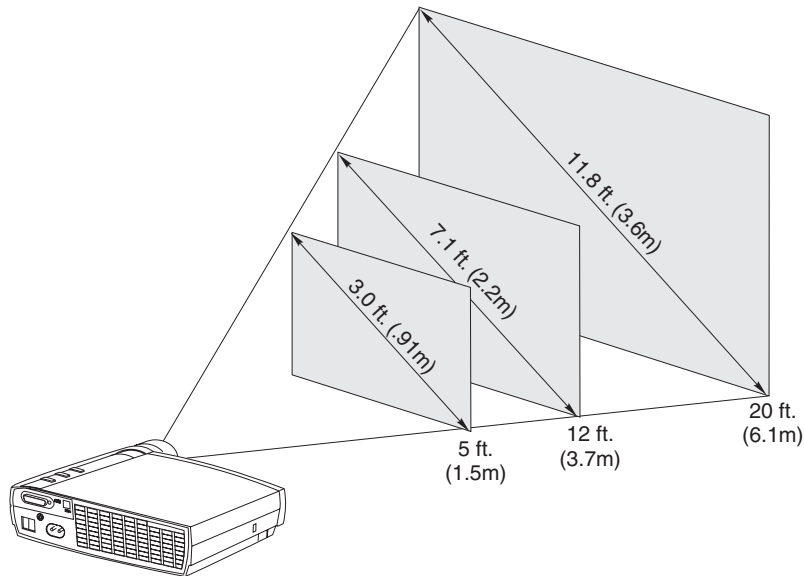
Attention: Follow these guidelines for handling the projector.

- Do not block the grills on the projector. Restricting the airflow can cause it to overheat and turn off. If this happens, you must wait one minute before attempting to turn it back on.
- Handle the projector as you would any other product with glass components. Be especially careful not to drop it.
- Avoid leaving the projector in direct sunlight or extreme cold for extended periods of time. If this happens, allow it to reach room temperature before use.
- Transport the projector in a carrying case. See “Accessories” in Appendix A for information on ordering accessories for your projector.

Setting up the projector

Before turning on your projector, make sure all connections are made. Use the following procedure to set up the projector:

1. Place the projector on a flat surface.
 - The projector must be within 3 meters (10 feet) of your power source and within 1.8 meters (6 feet) of your computer.
 - If you want to project from behind a translucent screen, set up the projector behind the screen. See “Rear projection” on page 24 for instructions on reversing the image.
2. Position the projector the desired distance from the screen.
 - If the image is too big or too small, set the zoom ring to adjust the size or move the projector forward or backward. Once you have made all connections described in this section, you can make adjustments. The following illustration shows three projected image sizes. For more information about image size, see “Appendix E. Projected image size” on page 47.



3. Make sure the projector is unplugged and your computer is turned off.



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 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.

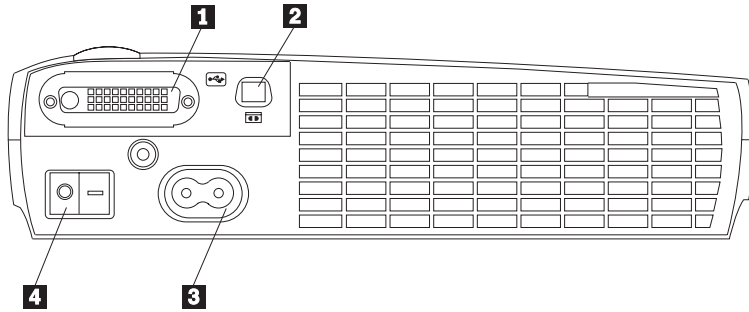
To connect:

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.

Note: If you are connecting the projector to a computer, make sure that the distance between the computer and the projector is 6 feet or less.



1 Computer

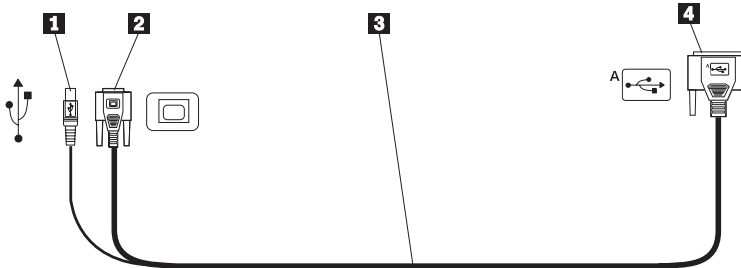
2 Video

3 Power cord

4 Power switch

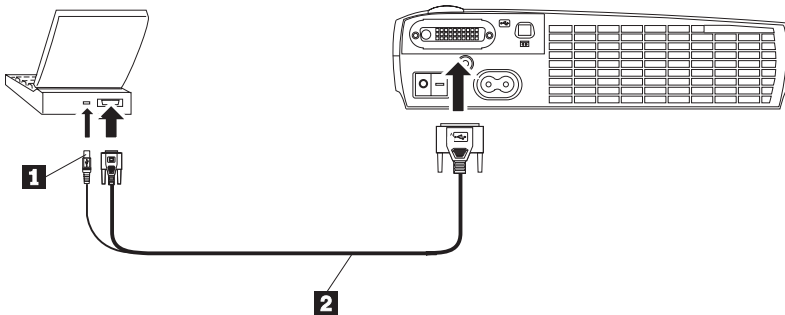
Connecting a computer to the projector

The projector comes with an analog computer cable. If your computer has a digital output port, you can use the optional digital computer cable, which is sold separately. See “Accessories” on page 28 for ordering information.



- 1** To USB mouse **2** To computer video **3** To projector **4** Analog computer cable

1. Plug the single connector end of the computer cable into the connector on the projector as shown in the illustration below.
2. Plug the blue connector on the other end of the computer cable into the video connector on your computer.
3. If you want to advance slides in a PowerPoint™ presentation using the remote control, plug the USB cable into the USB mouse connector on your computer.



- 1** USB mouse **2** Computer cable

Notes:

1. Many mobile computers do not automatically turn on their external video port when a secondary display device such as a projector is connected. See your computer manual for the command that activates the external video

port. Press Fn F7 on your IBM ThinkPad® to activate the external display. Activation commands for some mobile computers are listed in Appendix B.

2. If you are connecting the projector to an older Macintosh computer that does not have a 15-pin connector, you must use a Mac adapter between the computer and the projector.
3. The USB mouse is supported for use only with Microsoft® Windows® 98, Microsoft Windows 2000 Professional, and Apple OS 8.5 and later.
4. You do not need to restart your computer after connecting a USB mouse.

For information on starting the projector and computer, go to “Starting the projector and adjusting the image” on page 10.

Connecting a video player

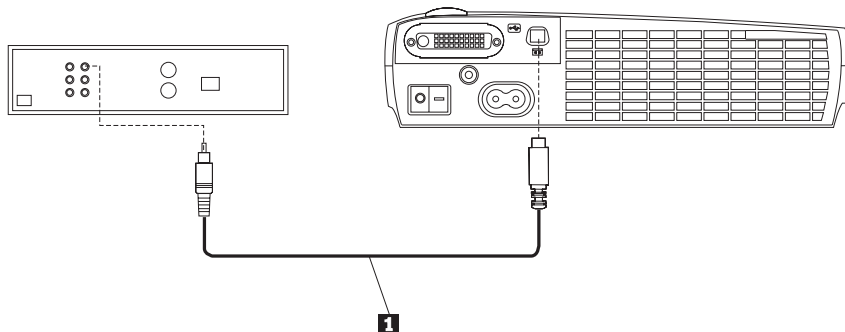
Use the following procedure to connect a video player.

- If your video player uses a round, one-prong composite video connector, use the composite video cable.
- If your video player uses a round, four-prong S-video connector, use the S-video cable. S-video generates a higher quality image.

Attention: Your video player might also have a Video Out connector for a coaxial cable connection. DO NOT use this to connect to the projector.

1. Plug the yellow composite video cable connector into the Video Out connector on your video player. This connector might be labeled To Monitor. If you are using an S-video cable, connect the round black connector to the Video Out connector on the video player.
2. Plug the square yellow connector into the Composite Video connector on the projector.

Note: High Definition Television (HDTV) sources must be connected to the projector using the computer cable (not the video cable).



1 Video cable

The projector is compatible with these major broadcast video standards: NTSC, NTSC 4.43, PAL, PAL-M, PAL-N, PAL-60, and SECAM. It automatically adjusts to optimize its performance for the incoming video.



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 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 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.

Starting the projector and adjusting the image

Use the following procedure to start the projector and adjust the image.

1. Remove the lens cap.
2. Plug the power cord into the side of the projector, and then plug it into an electrical outlet. A surge-protected power strip is recommended. Always use the power cord that was included with the projector.

Note: With some computers, the order in which you start the equipment is very important. Most computers should be turned on last, after all other peripheral devices have been turned on. Refer to the computer documentation to determine the order.

3. Press the Power switch on the back of the projector. The fans start to run, and the LED on the top of the projector lights green until the startup screen displays. It takes about one minute for the image to achieve full brightness.
4. If you connected a video player, turn it on.
 - The video image is displayed on the projection screen. If it is not, press the Source button on the keypad or Video button on the remote control to display your video image.
5. Turn on your computer.

Note: The first time you connect your computer to the projector, the computer might display a message stating that new hardware was found. The Add New Hardware Wizard window might open. Use the wizard to install the correct device driver (the computer considers the projector to be a Plug and Play monitor)

- The computer image is displayed on the projection screen. If it is not, press the Source button on the keypad or Data button on the remote to display your computer image.
- Make sure your mobile computer external video port is activated; see “Appendix C. Portable and mobile computer activation” on page 39 for details.
- If necessary, make adjustments to the image using the projector on-screen menus. To open the menus, press the Menu/Select button on the keypad or remote control. For more information about the menus see “Using the on-screen menus” on page 18.

Turning off the projector

To turn off the projector, press the Power switch. If you want to turn the lamp back on, allow 90 seconds for the lamp to cool. The lamp will not light if it is too hot.

Note: To maximize lamp life, allow the projector to run for at least five minutes before turning it off.

Chapter 2. Using the projector

This chapter describes how to use and make adjustments to the projector. It also provides a reference to the keypad, remote control buttons and the options that are available from the on-screen menus.

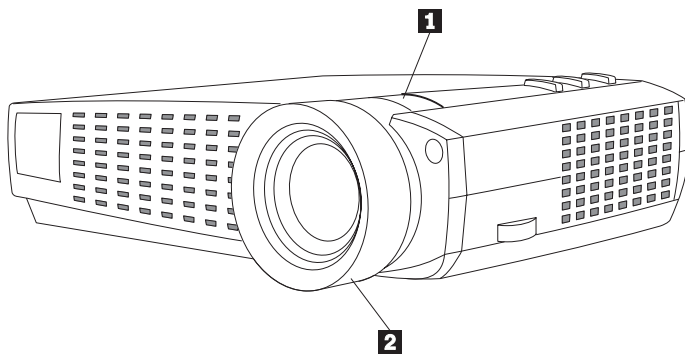
Basic image adjustment

To adjust the image, do the following:

- Make sure that you have turned on your equipment in the correct order. See “Starting the projector and adjusting the image” on page 10.
- If the image is not displayed completely, zoom the image, adjust the height of the projector, or center the image by adjusting its horizontal or vertical position. Be sure the projector is at a 90-degree angle to the screen. See “horizontal position on page 21 and “vertical position” on page 22.
- If the image is out of focus, rotate the focus lens.
- If the colors do not display correctly, adjust the brightness, contrast, tint or color. See “Display menu” on page 19.

Adjusting the projector

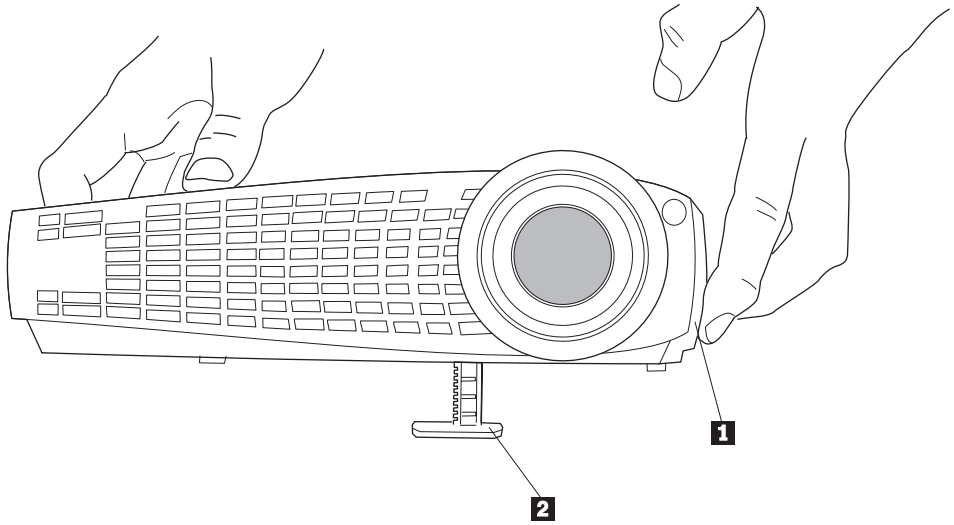
To focus the image, rotate the focus ring **2** (see the following illustration) until the image is clear. To adjust the image size, rotate the zoom ring **1**.



Note: To obtain the best overall focus quality, open a menu and focus the text. This will ensure that the best overall image quality is achieved. See “Menu/select” on page 16 for information on opening a menu.

The projector is equipped with a self-locking, quick-release elevator foot and button. To raise the projector:

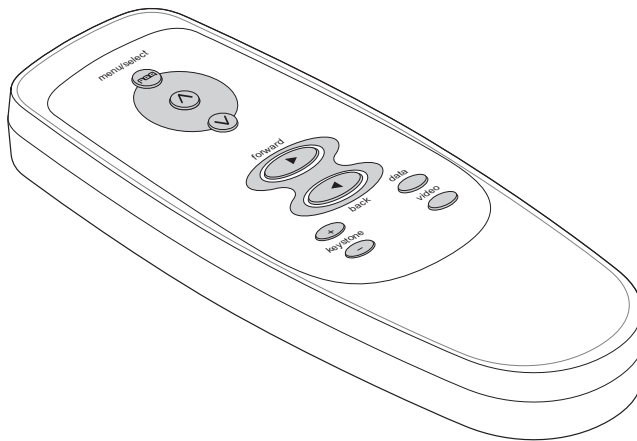
1. Press and hold the elevator button **1** (see the following illustration).
2. Raise the projector to the height that you want, then release the button to lock the elevator foot **2** into position.



Using the remote control

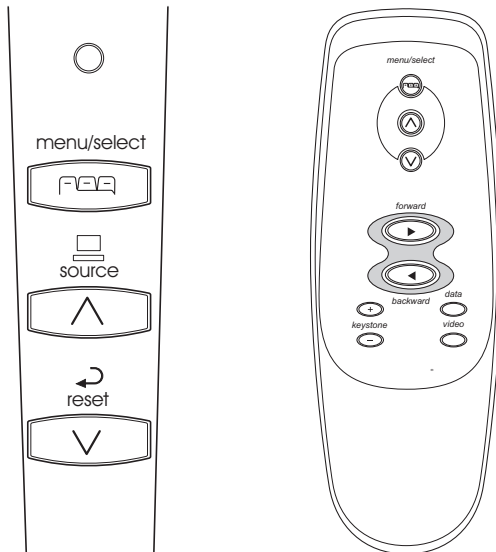
To use the Forward and Back buttons on the remote control to advance slides in PowerPoint, you must connect the USB mouse connector on the computer cable to the computer. See “Connecting a computer to the projector” on page 7 for details.

Point the remote control at the projection screen or at the front of the projector (not at the computer). The range for optimum operation is approximately 7.6 meters (25 feet). If you point the remote control at the projection screen, the distance to the screen and back to the projector must be less than or equal to 7.6 meters (25 feet) or less. For best results, point the remote control directly at the projector.



Using the keypad and remote control buttons

While the menus are displayed, the Source and Reset buttons on the keypad act as menu navigation and adjustment buttons, and the menu/select button acts as a select button. See “Using the on-screen menus” on page 18 for details.



Menu/select

Press the Menu/Select button to open the on-screen menus. Press Menu/Select again (while Exit is highlighted) to close the menus. (The menus automatically close after 30 seconds if no buttons are pressed). When you close the menus, the projector saves any changes you made. For more information about the on-screen menus, see “Using the on-screen menus” on page 18.

Source (keypad only) or data and video (remote control only)

When you have more than one source (computer and video) connected to the projector, select between them by pressing the Source button on the keypad or the Data or Video button on the remote control.

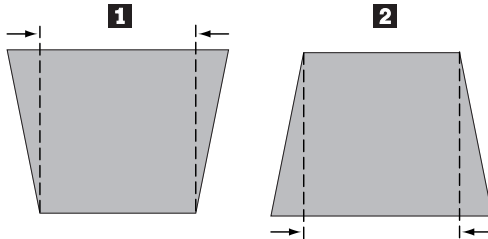
Note: If you have turned Auto Source off, you might need to press the source button more than once to display an active source. The sources switch in this order: data analog, data digital, S-video, and composite video.

Reset (keypad only)

Use this option to reset the options in the menus (except Language, Video Standard, and Rear Projection) to their original settings.

Keystone (remote only)

Use this feature to adjust the image vertically and make a square image. Press the Keystone + button to reduce the upper part of the image **1**, and press the Keystone - button to reduce the lower part **2**. You can also adjust the keystone from the Display menu. See “Display menu” on page 19.



Forward/back buttons (remote only)

These buttons act like the page up and page down buttons on your computer keyboard. You can use them to advance through a slide show in PowerPoint presentations. To use this feature, connect the USB mouse connector on the computer cable to your computer. See “Connecting a computer to the projector” on page 7.

Up/down arrow buttons

Use these buttons to navigate through and make adjustments to the on-screen menus. See “Using the on-screen menus” on page 18.

Using the on-screen menus

The projector has menus that enable you to make image adjustments and change a variety of settings. These adjustments are not available directly from the keypad.

Note: Some menu items might be unavailable at certain times (grayed out or dimmed). This indicates that the item is not applicable to your setup (for example, video standards do not apply to computer sources) or the item is not enabled until another selection is made.

To open the on-screen menus, press the Menu/Select button on the keypad or remote. The menus automatically close after 30 seconds if no buttons are pressed. This displays the Main menu and changes the source and reset buttons on the keypad to menu navigation buttons. Press the down arrow button to move the cursor down and press the up arrow button to move the cursor up. The selected menu is highlighted.



To change a menu setting, use the up and down arrow buttons to move the cursor up and down to the item you want to change (the selected item is highlighted), then press Menu/Select. When an item is selected, the button appears depressed to provide a visual indication of the selection.

Use the up and down arrows to adjust the setting or turn it on and off. Press Menu/Select when you are done. Press the up and down arrows to move to another setting. When you complete your adjustments, navigate to Exit, then press Menu/Select. You are returned to the top of the Main menu. Press Menu/Select again to exit the Main menu, or navigate to another submenu.

Display menu

To access the Display menu settings, press the Menu/Select button to display the Main menu, press the down arrow to highlight Display, then press Menu/Select again to access the Display menu.

↶ exit		
keystone	50	- —●— +
brightness	50	- —●— +
contrast	50	- —●— +
tint	45	- —●— +
color	25	- —●— +
blank screen		blue

Keystone

This option helps to keep the image square as the angle of projection. Use this feature to adjust the image vertically and make a square image. See “Keystone (remote only)” on page 17 for details on keystone adjustment.

Press the down button to highlight Keystone, then press Menu/Select. Use the up and down arrows to adjust the keystone setting. Press Menu/Select to accept your changes.

Brightness

Adjusting the brightness changes the intensity of the image. Use the up and down arrows to highlight Brightness, press Menu/Select, use the arrows to adjust the brightness, then press Menu/Select to accept your changes.

Contrast

The contrast controls the degree of difference between the lightest and darkest parts of the picture. Adjusting the contrast changes the amount of black and white in the image.

Use the up and down arrows to highlight Contrast, press Menu/Select, use the arrows to adjust the contrast; then press Menu/Select to accept your changes.

Tint

The tint adjusts the red-green color balance in the projected image.

Use the up and down arrows to highlight Tint, press Menu/Select, use the arrows to adjust the tint, then press Menu/Select to accept your changes.

Color

The color setting adjusts a video image from black and white to fully saturated color. Use the up and down arrows to highlight Color, press Menu/Select, use the arrows to adjust the color, then press Menu/Select to accept your changes.

Blank screen

The Blank Screen setting determines what color is displayed when there is no active source and when the projector is in standby.

Use the up and down arrows to highlight Blank screen, press Menu/Select, use the arrows to cycle through the options blue, black, and white, then press Menu/Select to accept your selection.

Image menu for computer sources

To access the Image menu settings, press the Menu/Select button to display the Main menu, press the down arrow to highlight Image, then press Menu/Select again to access the Image menu.

↶ exit			
resize			native
auto image			<input type="checkbox"/>
manual sync	50	--●--	+
manual tracking	50	--●--	+
horizontal position	50	--■--	+
vertical position	45	--●--	+

Resize

Resize enables you to select from among four different re-sizing options. The default is Standard, which resizes the image from its original version to fit a standard 4x3 aspect ratio screen. Widescreen Letterbox preserves the 16x9 aspect ratio of the original theater version, but the image is placed in a 4x3 space, so black bars appear at the top and bottom of the image.

Enhanced Widescreen also preserves the aspect ratio of the original theater version and is designed to be used with content that is Enhanced for Widescreen TVs. This option yields more detail than Widescreen Letterbox. Native reduces the Standard size to match the height of Enhanced

Widescreen. Highlight **Resize**, press **Menu/Select**, use the up or down arrows to cycle through the options, then press **Menu/Select** to select.

Auto Image

The projector automatically adjusts tracking, signal synchronization and vertical and horizontal position for most computers. If you want to adjust these features manually, you must turn off **Auto image** first. Highlight **Auto image**, press **Menu/Select**; then press the up or down arrow buttons to turn this feature off and on.

Manual sync

The projector adjusts signal synchronization automatically for most computers. If the projected computer image looks fuzzy or streaked, try turning **Auto image** off then back on again. If the image still looks distorted, try adjusting the signal synchronization manually:

1. Turn **Auto Image** off.
2. Highlight **Manual sync**, and press **Menu/Select**, use the arrow buttons to adjust **Manual sync** until the image is sharp and free of streaks, then press **Menu/Select**.

Manual tracking

The projector adjusts tracking automatically to match the video signal from your computer. However, if the display shows evenly spaced, fuzzy, vertical lines or if the projected image is too wide or too narrow for the screen, try turning **Auto Image** off then back on again. If the image is still distorted, try adjusting the tracking manually:

1. Turn **Auto Image** off.
2. Highlight **Manual tracking**, and then press the left or right navigation button repeatedly until the fuzzy vertical bars are gone.

Note: The **Manual sync**, **Manual tracking**, **Horizontal position** and **Vertical position** options are available only for analog computer sources. The projector sets these options automatically for digital computer and video sources with no manual override.

Horizontal position

Follow these steps to manually adjust the horizontal position:

1. Turn **Auto Image** off.
2. Highlight **Horizontal position**, and then press Menu/Select, use the arrow buttons to adjust the Horizontal position, then press Menu/Select.

Positioning adjustments are saved when you turn off the projector.

Vertical position

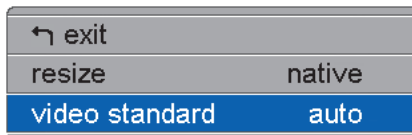
Follow these steps to manually adjust the vertical position:

1. Turn **Auto Image** off.
2. Highlight **Vertical position**, press Menu/Select, use the arrow buttons to adjust the Vertical position, then press Menu/Select.

Positioning adjustments are saved when you turn off the projector.

Image menu for video sources

The following describes the Image menu for video sources.



Resize

Resize enables you to select from among four different re-sizing options. The default is Standard, which resizes the image from its original version to fit a standard 4x3 aspect ratio screen. Widescreen Letterbox preserves the 16x9 aspect ratio of the original theater version, but the image is placed in a 4x3 space, accounting for the black bars located at the top and bottom of the image.

Enhanced Widescreen also preserves the aspect ratio of the original theater version and is designed to be used with content that is Enhanced for Widescreen TVs. This option yields more detail than Widescreen Letterbox. Native reduces the Standard size to match the height of Enhanced Widescreen. Highlight Resize, press Menu/Select, use the up or down arrows to cycle through the options, then press Menu/Select.

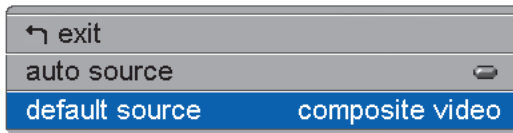
Video standard (video sources only)

When Video is set to Auto, the projector attempts to pick the video standard (NTSC, NTSC 4.43, PAL, or SECAM) automatically based on the input signal it receives. (The video standard options may vary depending on your region of the world.) If the projector is unable to detect the correct standard, the colors might not display correctly or the image might appear distorted. If this happens, manually select a video standard.

Highlight **Video standard**, press Menu/Select, use the up or down arrows to cycle through the options, then press Menu/Select to select.

Control menu

To access the Control menu settings, press the Menu/Select button to display the Main menu, press the down arrow to highlight Control; then press Menu/Select again to access the Control menu.



Auto source

When Auto Source is On, the projector automatically finds the active source, checking the default source first. When this feature is Off, the projector defaults to the source selected in Default Source. To display another source, you must manually select one by pressing the Source button on the keypad or the Data or Video button on the remote.

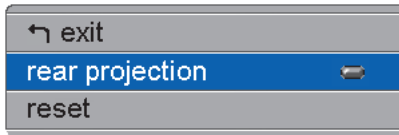
Highlight **Auto source**, press Menu/Select, then press the up or down arrow buttons to turn this feature off and on.

Default source

This determines which source the projector checks first for active video when you turn it on. Select Data-Analog, Data-Digital, composite video, or S-Video. Highlight **Default source**; then press Menu/Select. Use the up or down arrows to cycle through the options; then press Menu/Select to select.

Advanced menu

To access the Advanced menu settings, press the Menu/Select button to display the Main menu. Press the down arrow to highlight Advanced; then press Menu/Select again to access the Advanced menu.



Rear projection

When you turn **Rear Projection** on, the projector reverses the image so you can project from behind a translucent screen. Highlight **Rear Projection**, press Menu/Select, then press the up or down arrow buttons to turn this feature off and on.

Reset

Highlight Reset then press Menu/Select to reset the options in the menus (except Language, Video Standard, and Rear Projection) to their original settings.

Language menu

You can display the on-screen menus in English, French, German, Spanish, Chinese or Japanese.



- Press the Menu/Select button to display the Main menu, press the arrow buttons to highlight Language; then press Menu/Select again to access the Language menu.
- Press the arrow buttons to highlight the desired language, then press Menu/Select. Press the arrow to navigate to the exit option. Press Menu/Select to exit this menu and return to the Main menu.

Status menu

This is a read-only menu for informational purposes. To display the Status menu, highlight Status from the Main menu, then press Menu/Select.

↵ exit	
lamp hours used	39
computer resolution	1024 x 768 – 75Hz
source	data-analog
version	111111

Lamp hours used

Indicates how many hours the current lamp has been in use. The counter starts at zero hours and counts each hour the lamp is in use. Replace the bulb when the brightness is no longer acceptable. See “Replacing the projection lamp” on page 30 for details.

Computer resolution

Shows your computer’s resolution setting. To change this, go to your computer’s Control Panel and adjust the resolution in the Display tab. See your computer’s user’s guide for details.

Source

Indicates the active source, Data-Analog, Data-Digital, Composite video, or S-video.

Version

Indicates the projector software version. This information is useful when contacting Technical Support.

Appendix A. Product specifications

Specifications

The iL1210 Projector must be operated and stored within the temperature and humidity ranges specified.

Temperature

Operating	50 to 104° F (10 to 40° C) at sea level 50 to 95° F (10 to 35° C) at 10,000 feet
Non-operating	-4 to 158° F (-20 to 70° C)

Altitude

Operating	0 to 10 000 feet (3 048 meters)
Non-operating	0 to 20 000 feet (6 096 meters)

Humidity

Operating and non-operating	10% to 95% relative humidity, non-condensing
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Dimensions

6.25 x 8.25 x 2 inches (15.9 x 21.0 x 5.1 cm)

Weight

2.9 lbs. (1.33 kg) unpacked

Optics

Focus range	4.9 - 13 feet (1.5-4 m)
-------------	-------------------------

Lamp

Type	120-watt UHP lamp
------	-------------------

Input power requirements

100-120VAC 2A;50/60Hz
200-240VAC 1A; 50Hz

Accessories

There are many accessories available for your projector and new ones are added frequently. Please refer to <http://www.infocus.com/> and select from the many accessories for you to purchase.

Appendix B. Maintenance and troubleshooting

This section describes how to:

- Clean the lens
- Replace the projection lamp
- Replace the batteries in the remote
- Use the security lock feature
- Troubleshoot the projector

Cleaning the lens

Follow these steps to clean the projection lens:

1. Apply a non-abrasive camera lens cleaner to a soft, dry cloth.
 - Avoid using an excessive amount of cleaner, and do not apply the cleaner directly to the lens.
 - Abrasive cleaners, solvents or other harsh chemicals might scratch the lens.
2. Lightly wipe the cleaning cloth over the lens in a circular motion.
3. If you do not intend to use the projector immediately, replace the lens cap.



CAUTION:

The following label indicates a hot surface nearby.



Replacing the projection lamp

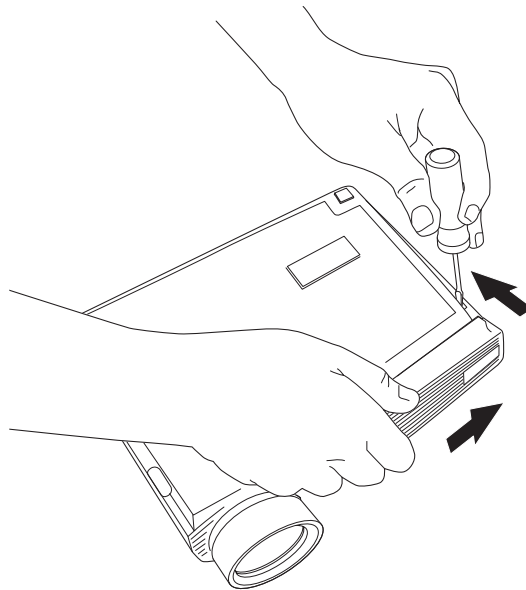
WARNING:

To avoid burns, allow the projector to cool for at least 30 minutes before you open the lamp access grill. Never extract the lamp module while the projector is operating.

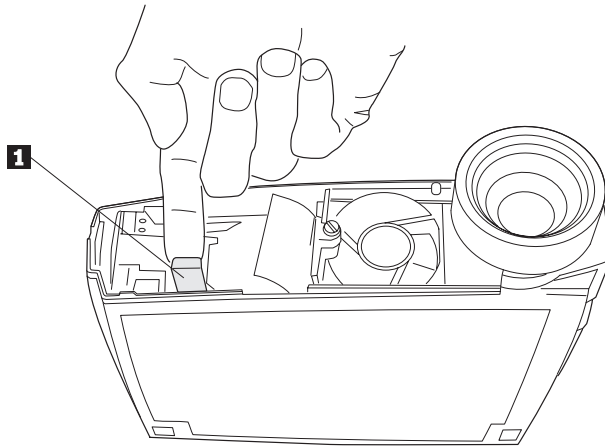
The lamp hour counter in the Status menu counts the number of hours the lamp has been in use. Change the lamp when the brightness is no longer acceptable. You can order new lamp modules. See “Accessories” in Appendix A for ordering information.

Follow these steps to replace the projection lamp:

1. Turn off the projector by unplugging the power cord.
2. Wait 30 minutes to allow the projector to cool thoroughly.
3. Insert a small screwdriver or other flat object into the slot near the front of the projector. Slide the screwdriver toward the back of the projector to disengage the lamp access grill, then slide the lamp access grill off (away from the lens).



4. Pull the yellow tab **1** on the lamp module.

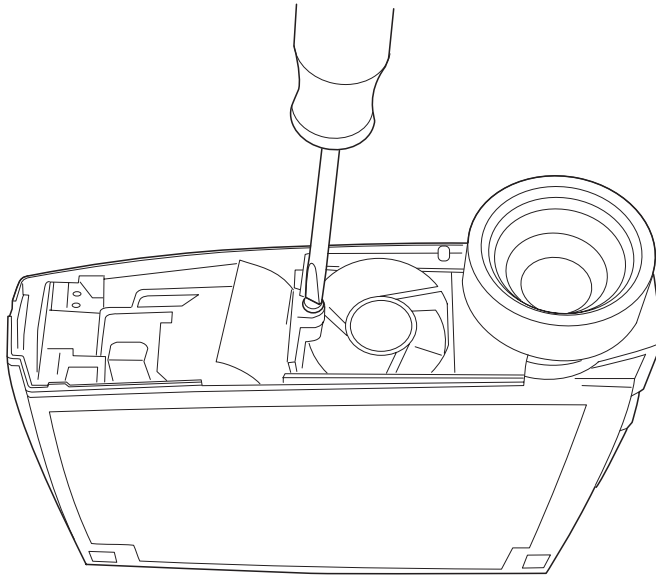


WARNING:

Be extremely careful when removing the lamp module. In the unlikely event that the bulb breaks, small glass fragments might be generated. The lamp module is designed to contain these fragments, but use caution when removing the lamp module.

Attention: This product contains a Metal Arc Lamp which contains Mercury. Dispose of it as required by local ordinances and regulations.

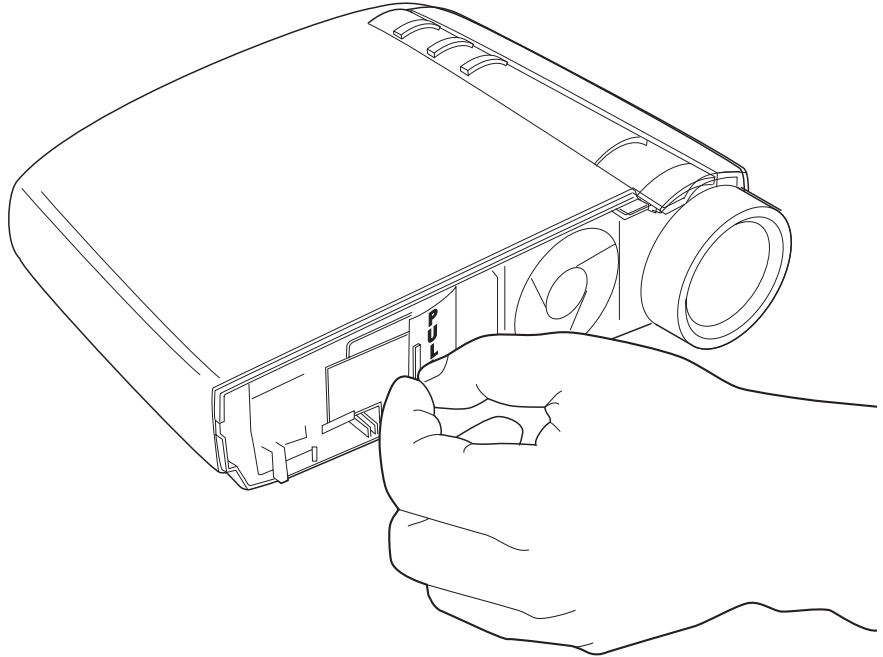
5. Loosen the captive screw on the lamp module.



WARNING:

Never operate the projector with the lamp access grill removed. This disrupts the air flow and causes the projector to overheat.

6. Grasp the pull tab **1** to pull the lamp module out. Dispose of the lamp module in an environmentally proper manner.



WARNING:

Do not drop the lamp module or touch the glass bulb. The glass may shatter and cause injury.

7. Install the new lamp module.
8. Tighten the screw on the outside of the module.
9. Press the yellow tab to reconnect the lamp module.
10. Replace the lamp access grill by lining up the ribs on the grill with the marks on the bottom case and sliding the grill in the direction of the arrows on the bottom case.
11. Plug in the power cord and press the Power switch to turn the projector back on.
12. To reset the lamp hour counter in the Status menu, press and hold the **reset** button, then press the **menu/select** button (while still holding down the **reset** button) for 10 seconds. Verify that the counter was reset by pressing the **menu/select** button and viewing the counter in the Status menu. See "Status menu" on page 25 for details.

Replacing the batteries in the remote control

The life of the batteries depends on how often and how long you use the remote control. Symptoms of low battery charge include erratic responses when using the remote control and a reduced range of operation.

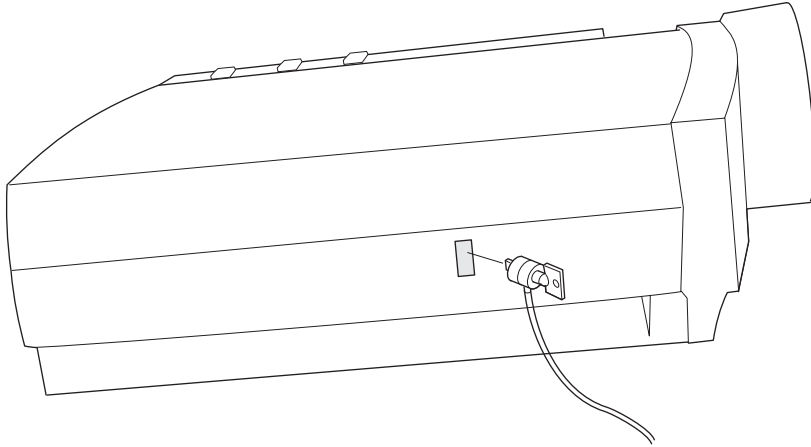
Follow these steps to replace the batteries:

1. Turn the remote face down in your hand.
2. Push the tab on the battery door toward the top of the remote and lift the door off.
3. Remove the old batteries and dispose of them in an environmentally proper manner.
4. Install two new AAA alkaline batteries. Make sure you install each battery in the correct direction.
5. Insert the hooks on the battery door into the remote control and press the tab to re-install the door.

Using the security lock

The projector has a security connector to use with a computer lock system. Go to <http://www.compu-lock.com> for ordering information. Refer to the information that comes with the lock for instructions on how to secure it to the projector.

Note: The lamp cannot be removed while the security lock is attached.



Troubleshooting

Problem: The projector is not running.

- Make sure that the power cord is properly connected to a fully functional ac electrical outlet. Make sure that the power cord is also properly connected to the projector.
- If the projector is plugged into a power strip, make sure the power strip is turned on.
- Make sure the projector is turned on.

Problem: Projector is running, but nothing appears on projection screen.

- Make sure you have removed the lens cap on the projection lens at the front of the projector.
- Check the projector's lamp to ensure that it is securely connected in the lamp module. Make sure the lamp access grill is installed. See "Replacing the projection lamp" on page 30.

Problem: Only the start-up screen displays.

- Verify that the cables are connected correctly. See for "Connecting a computer to the projector" on page 7 for connection procedures.
- Make sure that the cables do not have any bent pins.
- Verify that the proper input source is connected. See "Source (keypad only) or data and video (remote control only)" on page 16.
- You might need to turn everything off and power up the equipment again in the proper order. Refer to your computer's documentation to determine the correct order.
- Make sure the computer external video port is turned on. See the "Appendix C. Portable and mobile computer activation" on page 39 or your computer's manual for details.
- Make sure your computer video board is installed and configured correctly.
- Make sure your computer has a compatible video board. The projector isn't CGA or EGA compatible.

If you are using Windows 98:

1. Open the "My Computer" icon, the Control Panel folder and then the Display icon.
2. Click the Settings tab.
3. Verify that the Desktop area is set to 1280x1024 or less.

Problem: Color or text not being projected.

You might need to adjust the brightness up or down until the text is visible. Refer to "Brightness" on p. 19 for more information.

Problem: The screen resolution is not correct.

- Make sure the computer's video card is set for a resolution of no greater than 1280 x 1024.

Problem: Image is not centered on the screen.

- Move the projector to reposition the image.
- Reposition the image using the menu. Refer to "Horizontal position" on page 21 and "Vertical position" on page 22.
- Be sure the projector is at a 90-degree angle to the screen.

Problem: Image is too wide or narrow for screen.

- Adjust the zoom or projector placement.
- Adjust the resolution of your video card if it is greater than 1280 x 1024.

Problem: Image is out of focus.

- Turn the projection lens to focus the image.
- Make sure the projection screen is at least 1.5 m (5 feet) from the projector.
- Check the projection lens to see if it needs cleaning.

Problem: Image and menus are reversed left to right.

- Rear projection mode is probably turned on. Turn Rear Projection off in the Controls menu. The image should immediately return to forward projection. See "Rear projection" on page 24.

Problem: the projector displays vertical lines or spot.

- Adjust the brightness. For more information see "Brightness" on page 19.
- Check the projection lens to see if it needs cleaning.

Problem: The image is streaked.

Try these steps in this order:

1. Deactivate the screen saver on your computer.
2. Turn **Auto Image** off, and then on again. See "Auto image" on page 21.
3. Turn **Auto Image** off, and adjust the synchronization and tracking manually to find an optimal setting. See "Manual sync" and "Manual tracking" on page 21. The problem might be with your computer video adapter. If possible, connect the projector to a different computer.

Problem: Projected colors don't match the computer or video player color.

Just as there are differences in the displays of different monitors, there are often differences between the computer image and the projected image. Adjust the brightness, tint and/or contrast from the Display menu. See "Brightness", "Tint" and "Contrast" on page 19.

Problem: Lamp seems to be getting dimmer.

The lamp begins to lose brightness when it has been in use for a long time. Replace the lamp as described in "Replacing the projection lamp" on page 30.

Problem: The lamp shuts off.

- A minor power surge may cause the lamp to shut off. Unplug the projector, wait at least a minute, then plug it back in.
- Make sure that the vents are not blocked.

Appendix C. Portable and mobile computer activation

Many mobile computers do not automatically turn on their external video port when a projector is connected. Activation commands for some mobile computers are listed in the following table. (If your computer is not listed or the given command does not work, refer to the computer documentation for the appropriate command.) On many mobile computers, the activation function key is labeled CRT/LCD or with an icon such as:



Note: Visit <http://www.infocus.com/> for the most current activation chart. It is located in the Service and Support link.

Note: Usually, pressing the key commands once activates the external video port, pressing it again activates both external and internal ports, and pressing it a third time activates the internal port. Refer to your computer documentation for details on your specific model.

Computer	Key command to activate port	Key command to deactivate port
Acer	Ctrl+Alt+Esc (for setup)	Ctrl+Alt+Esc (for setup)
AST* **	FN+D or Ctrl+D Ctrl+FN+D FN+F5 type from A:\IVGA\CRT FN+F12	FN+D or Ctrl+D Ctrl+FN+D FN+F5 type from A:\IVGACRT FN+F12
AMS	FN+F2	FN+F2
AMT	setup screen	setup screen
AT&T	FN+F3 FN+F6	FN+F3 F+-F6
Advanced Logic Research	Ctrl+Alt+V	Ctrl+Alt+V
Altima	Shift-Ctrl-Alt-C setup VGA/Conf.Simulscan	Shift-Ctrl-Alt-L setup VGA/Conf.Simulscan
Ambra**	FN-F12 FN-F5 F2/Choose Option/F5	FN-F12 FN-F5 F2/Choose Option/F5
Amrel* **	setup menu Shift-Ctrl-D	setup menu Shift-Ctrl-D

Computer	Key command to activate port	Key command to deactivate port
Apple	see Mac Portable and Mac PowerBook	
Aspen	automatic	automatic
Award	FN-F6	FN-F6
BCC*	automatic	reboot computer
Bondwell	LCD or CRT options after bootup	reboot for LCD or CRT options to appear
Chaplet**	setup screen FN-F6 FN-F4	setup screen FN-F6 FN-F4
Chembook	FN-F6	FN-F6
Commax	Ctrl-Alt-#6	Ctrl-Alt-#5
Compaq* **	Ctrl-Alt-< FN-F4 automatic mode/? (for setup option)	Ctrl-Alt-> FN-F4 automatic mode/? (for setup option)
Compuadd* **	automatic Alt-F for screen setup option	automatic Alt-F for screen setup option
Data General	Ctrl-Alt-Command	Ctrl-Alt-Command
Data General Walkabout	2 CRT/X at DOS prompt	restart
Datavue	Ctrl-Shift-M	Ctrl-Shift-M
DEC**	FN-F5 FN-F4	FN-F5 FN-F4
Dell**	Ctrl-Alt-< Ctrl-Alt-F10 FN-F8 (CRT/LCD) FN-D FN-F12	Ctrl-Alt-> Ctrl-Alt-F10 FN-F8 FN-D FN-F12
Digital*	automatic FN-F2	reboot FN-F2
Dolch	dip switch to CRT	dip switch to LCD
Epson	dip switch to CRT	dip switch to LCD
Everex*	setup screen option	setup screen option
For-A	Ctrl-Alt-Shift-C	Ctrl-Shift-Alt-L

Computer	Key command to activate port	Key command to deactivate port
Fujitsu	FN-F10	
Gateway	FN-F3 FN-F1/FN-F1 again simultaneous	FN-F3 FN-F1
Grid* **	FN-F2, select auto or simultaneous Ctrl-Alt-Tab	FN-F2 Ctrl-Alt-Tab
Hitachi	FN-F7	FN-F7
Honeywell	FN-F10	FN-F10
Hyundai	setup screen option	setup screen option
IBM 970*	automatic	warm restart
IBM ThinkPad**	reboot, enter setup menu FN-F7, select choice from setup menu FN-F1, select choice FN-F5, select choice PS/2 SC select choice (such as CRT, LCD)	FN-F2
Infotel	FN-F12	FN-F12
Kaypro	start up, monitor plugged in	unplug monitor
Kris Tech	FN-F8	FN-F8
Leading Edge	FN-T	FN-T
Mac Portable 100	no video port; not compatible	
Mac PowerBook 140, 145, 150, 170 160, 165, 180, 520, 540, 5300 210, 230, 250, 270, 280, 2300	no video port; requires a third-party interface Control Panel folder, PowerBook Display folder; Activate Video Mirroring requires Apple Docking Station or Mini Dock	warm restart
Magitronic	FN-F4	FN-F4
Mastersport	FN-F2	FN-F1
Micro Express*	automatic	warm restart
Micron	FN-F2	FN-F2
Microslate*	automatic	warm restart

Computer	Key command to activate port	Key command to deactivate port
Mitsubishi	SW2 On-Off-Off-Off	SW2 Off-On-On-On
NCR	setup screen option	setup screen option
NEC* **	setup screen option CRT at the DOS prompt FN-F3	setup screen option LCD at the DOS prompt FN-F3
Olivetti*	automatic FN-O/*	automatic FN-O/*
Packard Bell* **	FN-F0 Ctrl-Alt-<	FN-F0 Ctrl-Alt->
Panasonic	FN-F2	FN-F2
Prostar	Ctrl-Alt-S at startup	Ctrl-Alt-S at startup
Samsung*	setup screen option	setup screen option
Sanyo	setup screen option	setup screen option
Sharp	dip switch to CRT	dip switch to LCD
Sun SPARC-Dataview	Ctrl-Shift-M	Ctrl-Shift-M
Tandy**	Ctrl-Alt-Insert setup screen option	Ctrl-Alt-Insert setup screen option
Tangent	FN-F5	FN-F5
Texas Instruments*	setup screen option	setup screen option
Top-Link* **	setup screen option FN-F6	setup screen option FN-F6
Toshiba* **	Ctrl-Alt-End FN-End FN-F5 setup screen option	Ctrl-Alt-Home FN-Home FN-F5 setup screen option
Twinhead*	FN-F7 FN-F5 automatic	FN-F7 FN-F5 automatic
WinBook	Ctrl-Alt-F10	Ctrl-Alt-F10
Wyse	software driven	software driven
Zenith**	FN-F10 FN-F2	FN-F10 FN-F2

Computer	Key command to activate port	Key command to deactivate port
Zeos **	FN-F1 Ctrl-Shift-D FN-F1	FN-F1 Ctrl-Shift-D FN-F1

* These manufacturers have models that automatically send video to the external CRT port when some type of display device is attached.

** These manufacturers offer more than one key command depending on the computer model.

Appendix D. Using video mirroring

Using video mirroring with a PowerBook computer

When you turn on video mirroring (called SimulScan in newer PowerBook computers), the projector displays the same information that appears on a PowerBook built-in screen. When video mirroring is off, the projector operates like a separate display.

To turn on video mirroring for the first time:

1. Open the Monitors control panel; click **Monitor 2**.
2. Set the number of colors that you want.
3. Open the Control Strip, and then click the monitor icon.
4. Select **Turn Video Mirroring On**.

Now you can turn video mirroring on and off from the Control Strip without having to open the monitor control panel again. When using video mirroring and high-color graphics such as slide shows, the projected image occasionally might turn black and white. If this happens, perform the following steps:

1. Turn off video mirroring.
2. Open the monitor control panel.
3. Move the white menu bar to **Monitor 2** to set the projector as the primary monitor.
4. Restart the PowerBook computer.

Using Simulscan

Some newer PowerBook computers display images on an external monitor or projector differently than previous ones. When using SimulScan, the projector displays the same information that appears on your PowerBook computer. To select SimulScan:

1. Open the Control Panel, and then double-click **Monitors** and **Sound**.
2. In the Resolution list, select the SimulScan mode, and then click **OK**.
3. If this changes your display settings, a window opens. Click **OK** to confirm the change.

Appendix E. Projected image size

Use the following graph and table to help you determine projected image sizes.

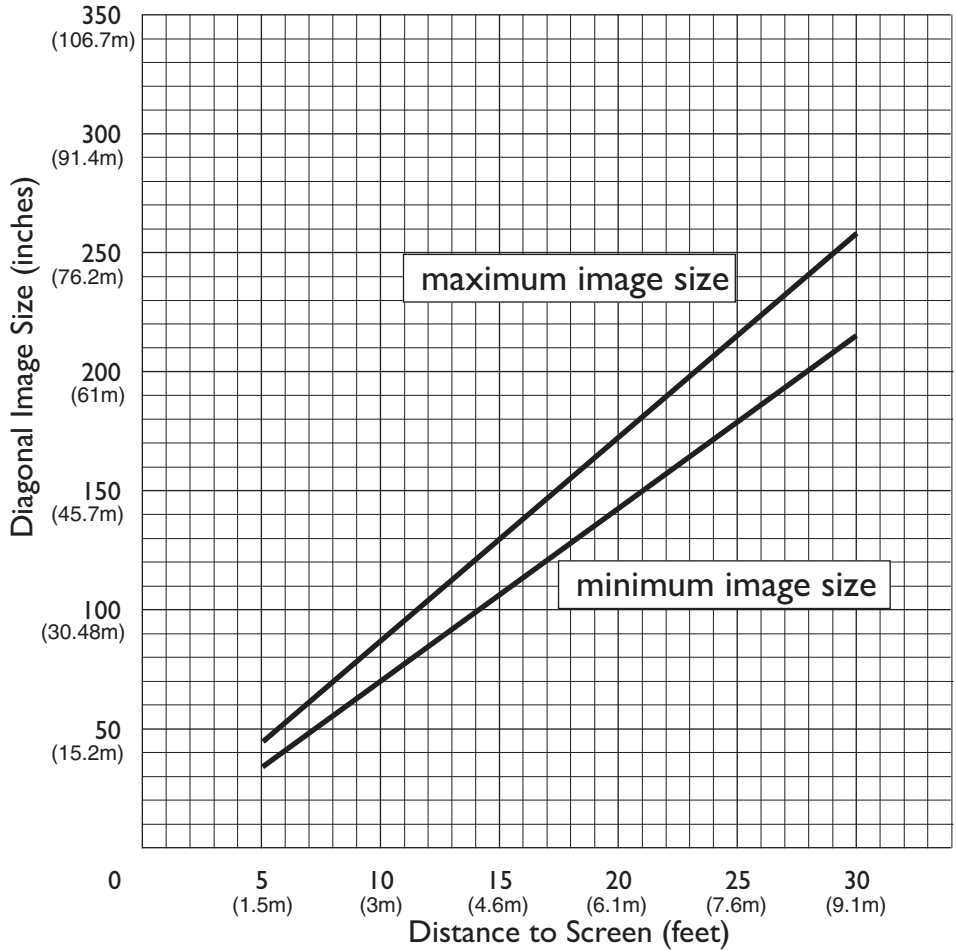


Table 1. Image size, width and height-maximum image size

Diagonal image size	Image width	Maximum distance	Minimum distance
152.4 c (60 in)	121.9 c (48 in)	2.59 m (8.5 ft.)	2.10 m (6.9 ft.)
183 c (72 in)	147.3 c (58 in)	3.1 m (10.2 ft.)	2.53 m (8.3 ft.)
213.4 c (84 in)	170 c (67 in)	3.62 m(11.9 ft.)	2.95 m (9.7 ft.)
229.6 c (90 in)	182.48 c (72 in)	3.87 m (12.7 ft.)	3.13 m (10.4 ft.)
254 c (100 in)	203.2 c (80 in)	4.29 m (14.1 ft.)	3.53 m (11.6 ft.)
304.8 c (120 in)	243.8 c (96 in)	5.18 m (17.0 ft.)	4.23 m (13.9 ft.)
381 c (150 in)	304.8 c (120 in)	6.46 m (21.2 ft.)	5.3 m (17.4 ft.)

Appendix F. Help and service information

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

Online technical support

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

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

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

Telephone technical support

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

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

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

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

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

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

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

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

Appendix G. Product warranties and notices

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

Machine - iL1210 IBM MicroPortable Projector
Warranty period* - Three years

** 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:

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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.

Deutsche EMV-Direktive (electromagnetische Verträglichkeit)

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

Der Aussteller der Konformitätserklärung ist die IBM UK, Greenock.

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

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

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

Hinweis: Dieses Genehmigungsverfahren ist von der Deutschen Bundespost noch nicht veröffentlicht worden.

European Union - EMC directive

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

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

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to CISPR 22/European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

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

Union Européenne - Directive Conformité électromagnétique

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

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

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

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

Union Europea - Normativa EMC

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

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

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

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

Unione Europea - Directiva EMC (Conformidad electromagnética)

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

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

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

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

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