INSTALLATION AND USERS MANUAL

Model PX-B310U External USB Drive
Model PX-B310SA Internal SATA Drive

BD-ROM, DVD±R DL (DOUBLE LAYER/DUAL LAYER), DVD±R/RW, DVD-RAM, CD-R/RW DRIVE

December 2008
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Record Your Serial Number
For future reference, record the serial number in the space provided below.
FEDERAL COMMUNICATIONS COMMISSION STATEMENT
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.

CAUTION: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CANADIAN DEPARTMENT OF COMMUNICATIONS STATEMENT
This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme a la norme NMB-003 du Canada.

LASER INFORMATION
These products have been designed and manufactured according to IEC 60825-1 on the Safety of Laser products. This product comes under “Class 1 Laser Products.”

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

A Laser Caution Label is attached on the top of the internal drive model.

The laser beam emitted from the optical pickup is visible and invisible. Accordingly:
• Do not open the optical pickup housing.
• Obtain service only from Plextor-authorized personnel.

CAUTION: To disconnect the internal DVD/CD drive from an electrical current, pull out the computer’s power plug.
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1. Getting Started

Congratulations! Thank you for purchasing a Plextor® optical disc drive, a reliable, high-performance BD player and recordable DVD and CD writer, rewriter, and player. We appreciate the confidence you have shown in us. Our goal is to put you—and keep you—on the leading edge of optical disc technology.

About this Manual

Please read this manual carefully and keep it handy for easy reference. Use the manual for installation, operation and troubleshooting. If your drive needs service, see your dealer or call Plextor’s Technical Support Department.

In this manual you should find all the information you need to successfully install, operate and troubleshoot your drive. If you run into a problem that doesn't seem to be covered, however, please contact us. (See “Appendix A: Technical Support” for the different ways you can reach us.) You will be connected to our friendly, helpful band of tech support engineers. What might seem like an uncooperative drive to you could very well be a 30-second fix to them. But we will never know unless you contact us.
Meet Your Plextor DVD Rewriter

The PX-B310U External USB and the PX-B310SA are BD read and DVD ReWritable/CD ReWritable drives that provides professional quality BD reading and DVD and CD performance for writing, rewriting and reading.

What the PX-B310U and PX-B310SA Do

For BDs, the PX-B310U and PX-B310SA:
• Reads BD-ROM, BD-R, BD-RE, and BD-R DL media at up to 6X speed

For DVDs, the PX-B310U and PX-B310SA:
• Writes DVD+R (recordable DVD, “plus” format) media at up to 16X speed on recommended media.
• Writes DVD+R DL (double layer) media at up to 8X speed.
• Writes DVD-R DL (double layer) media at up to 8X speed.
• Writes DVD-R (recordable DVD, “dash” format) media at up to 16X speed on recommended media.
• Writes DVD+RW (rewritable DVD, “plus” format) media at up to 8X speed.
• Writes DVD-RW (rewritable DVD, “dash” format) media at up to 6X speed.
• Writes DVD-RAM discs at up to 12X.
• Reads stamped DVD discs at up to 16X.
• Reads DVD-RAM discs at up to 12X.

For CDs, the PX-B310U and PX-B310SA:
• Writes to CD-R (recordable CD) media at up to 48X speed.
• Writes to CD-RW (rewritable CD) media at up to 32X speed.
• Reads all CD-ROM and CD-R data media at a maximum of 48X speed.
• Reads CD-DA (audio) media at up to 48X speed
• Reads CD-R/RW audio media at up to 40X speed.
Features of the PX-B310U and PX-B310SA

- **Interface:**
  - *USB interface:* The PX-B310U easily installs in virtually any PC with a USB 2.0 (recommended) or USB 1.1 interface.
  - *Serial ATA interface:* The PX-B310SA takes advantage of the benefits of the Serial Advanced Technology Attachment (SATA) interface, with its smaller, more flexible cables and faster interface speed.

- **High speed transfers:**
  - The PX-B310U supports high speed transfers via the USB interface.
  - The PX-B310SA supports next-generation high speed transfers via the Serial ATA 1.0 interface.

- **Flash memory:** Allows upgrading the PX-B310U and PX-B310SA to the latest firmware revision (available from the Plextor web site) without opening the computer or physically accessing the drive.

- **Black tray:** Reduces the effect of optical distortion by absorbing reflections from the laser beam, enhancing read quality.

- **Plug and Play:** Supports Windows Plug and Play.

- **CPRM support:** The PX-B310U and PX-B310SA support Content Protection for Recordable Media, so you can play CPRM copy-controlled media.
DVD Features

• **Lossless linking for DVD+R/RW and DVD+R DL:** Allows DVD+RW and DVD+R DL discs to be edited and still play on DVD-ROM players.

• **Zero Link for DVD-R/RW, DVD-R DL:** Has 0 byte gap between sessions so the discs are compatible with all players. This allows DVD-RW and DVD-R DL discs to be edited and still play on DVD-ROM players.

• **Double layer and dual layer DVD discs:** Reads and writes DVD+R DL (double layer) and DVD-R DL (dual layer) discs, so you can burn up to 4 hours of high quality MPEG-2/DVD video on a single 8.5-gigabyte DVD disc.

• **Wide media compatibility:** Compatible with a wide range of DVD-RAM, DVD±R and DVD±RW media.

• **DVD Multi Recorder:** Supports the DVD Multi specification for read and write; can read and write DVD-RAM, DVD-ROM, DVD-Video, multi-border, multi-session and DVD±VR.

• **Versatile recording modes for DVD+R/RW:** Including disc-at-once (DAO), multi-session, and incremental write for DVD+R DL (double layer) discs; DAO, multi-session, and incremental write for DVD+R; and DAO, incremental write, and random access write for DVD+RW.

• **Recording versatility for DVD-R/RW, too:** Including DAO, incremental recording, and layer jump recording for DVD-R DL (dual-layer); DAO, incremental recording, multi-border recording for DVD-R; and DAO, multi-border recording, incremental recording, and restricted overwriting for DVD-RW.
CD-R and CD-RW Features

- **Variety of recording modes**: Supports track-at-once, disc-at-once, session-at-once, and variable and fixed packet writing.

- **Buffer Underrun Proof Technology**: Eliminates buffer underrun errors, so you can safely use your computer for other tasks while you’re writing to a CD-R or CD-RW disc.

- **Wide compatibility**: Wide CD-R and CD-RW media compatibility.

- **Orange Book compatibility**: Compatible with Orange Book, Parts II and III.

- **OPC**: Optimum Power Control, which adjust the laser power for the optimum write strategy.

- **CD-TEXT**: Supports CD-TEXT.

Minimum Configuration to Use the PX-B310U/ PX-B310SA

Here’s what you’ll need in order to install and use the PX-B310U drive.

- **Computer**: Computer CPU, Memory, and configuration are dependent on installed application requirements.

- **Interface**:
  - Model PX-B310UA requires a USB 2.0 interface.
  - Model PX-B310SA requires a Serial ATA controller that supports the ATAPI command set.

- **Hard disk size**: To write to a CD in image mode (that is, to write an image of a CD to your hard disk), you need 1 GB of free space. For a DVD, 10 GB of free space is recommended. (For more accurate guidelines, see the help files or documentation for the recording software you’re using.)

- **Operating System**:
  - Model PX-B310U requires Windows XP or Windows Vista.
  - Model PX-B310SA requires Windows XP or Windows Vista.
What You Can Do with the PX-B310U or PX-B310SA

Just look at some of the things you can do with your PX-B310U or PX-B310SA:

- Play BD media
- Write onto DVD-RAM discs with your set-top box and read the discs with your Plextor drive; or write to DVD-RAM with the Plextor drive, then read those discs on your set-top box.
- Record data or audio onto writable or rewritable CD media.
- Play music CDs.
- Save photos and other images on rewritable or writable CDs.
- Create a CD or DVD “sneakernet” to share information with colleagues—just use software such as Cyberlink BD Suite to drag and drop files onto DVD+R, DVD+RW, CD-R or CD-RW media, then continue adding files and sharing the same disc.
- Archive images and video to DVD or CD.
- Master new software programs on DVD or CD.

About Software

In order to record on DVD±R DL, DVD±R/RW, and CD-R/RW discs you will need to have mastering, packet writing, or duplication software installed on your computer system. If you purchased a retail kit from Plextor, you’ll get software packages that include such software.

Cyberlink BD Suite is one software suite that lets you play Blu-ray discs and write to DVDs and CDs. The software lets you write to and share anything on CD or DVD, including music, photos, and videos; and you can easily back up your critical data to a CD or DVD. (For more information about Cyberlink BD Suite, install this application and examine the help files.)
Take control of several powerful features of Plextor drives. With the power of PlexUTILITIES you have now have extra support for your Plextor hardware. PlexUTILITIES allows you to view basic and advance drive information as well as offering high quality audio and multimedia capabilities. By allowing you to measure and control the burn quality of every disc, PlexUTILITIES makes coasters a thing of the past. The distinctive design in PlexUTILITIES allows ease of use for newcomers without compromising on the powerful features that experienced burners demand.

PlexUTILITIES also features:
- **View Basic and Advanced Drive Information** List the drive’s hardware, including serial number, firmware version and jumper settings, and shows the capabilities of the drive. Concurrently, you can reveal extensive information about the inserted disc—like format, sessions and tracks, manufacturer, and CD TEXT.

- **Permitting Drive Identification and Control** allows you to control different features of your Plextor drive.
- **Measure Disc Burning Quality** Test the quality of a written or pressed disc by counting the number of errors, measure the mechanical characteristics of blank media, show the write quality by checking the jitter rate and the beta value of written media, and measure the quality of the written DVD media by checking the pits and lands for compliance with the DVD specifications.
- **Automatic software and firmware updates** immediately notify you of pending updates to your Plextor drive so that you always have the most current applications.

For details on software that is available for writing to DVDs or CDs, please visit the web sites of the companies whose software you are interested in, refer to their user’s manuals, or look at the help option within the software.
Precautions

Like the rest of your computer system, your PX-B310U or PX-B310SA requires reasonable care in its installation and use.

- Keep the area around your drive clean from dust, smoke, and other contaminants.
- Do not allow moisture or liquids, including water or cleaning fluids, to touch the drive. Thinner, benzene, or alcohol-based solvents can mar your drive’s surface.
- Do not drop or jolt the drive.
- Do not move, carry or transport a disc in the drive because this can cause damage.
- Do not attempt to open the drive and service it yourself. Removing the cover may expose you to harmful electrical voltages or the laser beam. For your safety, entrust service to experienced service personnel only.
- Keep your BDs, DVDs, and CDs free of dirt or other contaminants, by storing them in jewel cases. Use only industry-standard discs. Do not insert dirty, warped, poorly balanced, or cracked discs into the drive.
- Do not clean discs using a circular motion. Instead, using a soft, dry cloth, wipe gently in a radial motion; start at the center of the disc and proceed to the outer edge.
- Do not attempt to clean your drive using solvent-based cleaners or an air compressor.
- Do not attempt to clean your drive using a CD cleaning disc. These discs can damage your drive permanently.
Where to Go From Here

- If you have an External USB drive, see Section 2, beginning on page 10, to learn how to install your drive.

- If you have an Internal drive with the Serial ATA interface, see Section 3, beginning on page 15, to install it.
2. Installing the PX-B310U External USB Drive

This section explains how to physically install your PX-B310U external USB drive in your computer.

PX-B310U Drive Features and Controls

Before proceeding, become familiar with the controls and features of your Plextor drive. Match the parts of your drive to the illustrations below.

Front Panel—PX-B310U External Drive

![Diagram of PX-B310U Front Panel](image)

*Figure 1: Front panel of the PX-B310U external USB drive*

- **Tray front door**: Attached to tray drawer.
- **Emergency eject hole**: If the automatic eject button does not work, insert the emergency eject tool, paper clip, or other thin, rigid object in this hole to eject tray. Turn OFF power before using this feature.
- **Disc/busy indicator**: Illuminated green for disc reading or writing.
- **Eject button**: Push once to eject tray. Push again to insert the tray back into the PX-B310U. To prevent wear on the drive, always use the eject button to insert the tray.
Rear Panel—PX-B310U External Drive

Also familiarize yourself with the drive’s rear panel.

![Rear panel of the PX-B310U external USB drive](image)

**Figure 2: Rear panel of the PX-B310U external USB drive**

- **USB Connector**

  **Power connector**: Connects to your computer’s power supply to provide DC +5 volts and +12 volts to the PX-B310U.

- **On/Off Switch**

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**What Else Is In the PX-B310U Box**

What you find in your Plextor box depends on what the company that sold you the box put in—or took out—while the Plextor drive was in their possession. Plextor currently sells the PX-B310U drive in this configuration:

- PX-B310U BD Combo Super Multi drive
- USB cable
- Plextor software disc
- *PX-B310U Quick Installation Guide*
Save Your Box!

Be sure to save the box after you have installed your drive. The box and its packaging material were designed and drop tested to ensure your drive can endure rough treatment and still arrive in working order. If you have to ship your drive back to Plextor, you’ll want to send it in the original box. (For more details about returning your drive to Plextor, see page 41.)

If the security sticker on top of your box is cut, there may be a good reason: for example, a dealer may have added other components or software. Carefully check the contents to ensure nothing has been removed. If something is missing, contact the party from whom you purchased the box for an explanation.

NOTE: This applies to the Plextor retail box. Your drive may have been shipped in a different box with other contents, depending on whom you purchased the drive from and what they included inside the box.

If your drive came pre-installed, some or all of the items above may have been installed and may not be separately available. See the Plextor web site for locations to purchase additional or replacement accessories.

PX-B310U QuickStart Installation

Here’s an overview of what you’ll do to connect the drive:

1. Connect the USB cable to the External BD Combo Drive
   Plug in the USB cable into the USB port on the back of your external BD drive.

2. Connect the USB cable to your PC
   Locate an available USB port on your PC and plug the other end of the USB cable in that port.

   Note: High Speed USB (2.0) ports provide high-speed data transfer rates. You can connect the external DVD Combo drive to a USB (1.1) port, but this is not recommended because it will significantly lower the external DVD drive’s read speeds. If you are unsure about which ports are available on your PC, check your PC manual or Windows device manager.
3. **Connect the power supply to your external BD Combo drive.**
   Plug the power supply into the back of your external BD Combo drive.

4. **Connect the power supply to a wall outlet.**
   Plug the power supply into the outlet or power strip. Then, turn on the power switch.

   **Note:** Your power plug and outlet may differ from the illustration. The power switch must be turned off before unplugging the power cord.

   **Troubleshooting tip:** You can verify that your external DVD drive has power by pressing the EJECT button on the front of the external DVD drive to open and close the tray. If the tray does not open, ensure that the cables are plugged in properly and securely.

5. **Install the software**
   **Note:** Please ensure your external DVD drive is detected and properly installed by the operating system before installing application software. For further troubleshooting assistance, please refer to your PC’s and Microsoft Windows help, under the “help support” section, in “adding new devices”.

   Insert the Software Installation Disc into your external DVD drive. Click on Install Suite. Follow the on-screen instructions.
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3. Installing the PX-B310SA Internal SATA Drive

This section explains how to physically install your PX-B310SA internal Serial ATA drive in your computer. The steps are as follows:

1. Turn OFF your computer system.

2. Mount the drive into an available drive bay inside the computer system.

3. Make the cabling connections: Serial ATA cable and power cable.

4. Turn your computer system ON.

The following pages give more details for this procedure.

**NOTE**: Your computer's SATA connection must support the ATAPI command set. Some computer motherboards have SATA RAID (Redundant Array of Independent Discs) chipsets that do not support the ATAPI command set used by optical disc drives, or that do not have BIOS settings to enable IDE/ATAPI functions. If you are unsure, consult your motherboard manual or vendor web site for compatibility, BIOS versions, and BIOS settings. And check the Plextor PX-B310SA motherboard compatibility listing at http://www.plextor.com/english/support/support_compatibility.html
PX-B310SA Drive Features and Controls

Before proceeding, become familiar with the controls and features of your Plextor drive. Match the parts of your drive to the illustrations below.

Front Panel—PX-B310SA Internal Drive

![Figure 3: Front panel of the PX-B310SA internal SATA drive](image)

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<th></th>
<th>Eject / Close Button</th>
<th>Push button to open or close the tray.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>On / Busy LED</td>
<td>Indication of drive's operation status. When lit steadily, the drive is reading; when blinking, the drive is writing or rewriting.</td>
</tr>
<tr>
<td>B</td>
<td>Pin Hole Eject</td>
<td>If the Eject button fails to work properly, insert a paper clip into this hole to open the tray. CAUTION: Turn off power to the drive before performing manual ejection.</td>
</tr>
</tbody>
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Rear Panel—PX-B310SA Internal SATA Drive
Also familiarize yourself with the drive’s rear panel.

*Figure 4: Rear panel of the PX-B310SA internal SATA drive*

- **SATA cable connector**: Connects to your computer’s SATA interface using a 7-pin SATA interface cable.

- **Power connector**: Connects to your computer’s 15-pin SATA power cable to provide DC +5 volts and +12 volts to the PX-B310SA.

**NOTE**: If your computer has only 4-pin power connectors, use the SATA power cable adapter to connect to the 15-pin power connector on the PX-B310SA.
What Else Is In the PX-B310SA Box

What you find in your Plextor box depends on what the company that sold you the box put in—or took out—while the Plextor drive was in their possession. Plextor currently sells the PX-B310SA drive in this configuration:

• PX-B310SA Combo Super Multi drive
• 7-pin SATA interface cable
• 4 mounting screws
• Plextor software disc
• PX-B310SA Quick Reference Guide

Save Your Box!

Be sure to save the box after you have installed your drive. The box and its packaging material were designed and drop tested to ensure your drive can endure rough treatment and still arrive in working order. If you have to ship your drive back to Plextor, you’ll want to send it in the original box. (For more details about returning your drive to Plextor, see page 41.)

If the security sticker on top of your box is cut, there may be a good reason: for example, a dealer may have added other components or software. Carefully check the contents to ensure nothing has been removed. If something is missing, contact the party from whom you purchased the box for an explanation.

NOTE: This applies to the Plextor retail box. Your drive may have been shipped in a different box with other contents, depending on whom you purchased the drive from and what they included inside the box.

If your drive came pre-installed, some or all of the items above may have been installed and may not be separately available. See the Plextor web site for locations to purchase additional or replacement accessories.
Mount the PX-B310SA Drive

Before proceeding to install the PX-B310SA drive in your personal computer, make sure you have all the cables you’ll need.

Record the Serial Number

Note the serial number of your drive on the inside front cover of this manual.

Mount the Drive in the Computer

You can mount your internal drive in any available bay. You must remove the small panel that covers the bay that you want to use.

**NOTE:** The drive can be mounted horizontally or vertically

If you don’t have an empty bay, remove the existing DVD-ROM or CD-ROM drive and install the PX-B310SA.

You must make two cable connections to your PX-B310SA. The two cable connections that you must make are:

- SATA cable
- Power cable

To mount the PX-B310SA drive:

1. Before proceeding, make sure the power to your computer and any external peripherals is OFF and your computer is UNPLUGGED from its power source.

2. Remove your computer’s cover, following the directions provided by your computer’s manufacturer. Typically, this involves loosening or removing several screws on the back panel of your computer and sliding off the cover. See the illustration below for an example.
3. Remove the cover panel from the bay that will hold the drive. To remove the cover panel, pop it out by pressing outward lightly. (In some older computers, you may have to remove screws that hold the panel in place.)
4. Determine if you must install mounting rails on the sides of your drive. To do so, insert the drive into the open bay. If the drive fits tightly with little or no clearance on either side of the drive, you will not have to use mounting rails. The drive can be mounted directly into your computer. Go to step 6.

**NOTE:** Plextor does not provide rails. If you need rails, you can obtain them from the computer manufacturer or from a computer supply retail or mail-order store.

5. If you must use mounting rails, fasten the rails to the lower pair of holes as shown in the illustration below. (In some instances, you may need to fasten the rails to the upper set of holes.) After fastening the rails, check their positioning by sliding the drive into the bay before you mount the drive or connect any cables.

**CAUTION:** Be sure not to mistake the inner and outer face of the rail when attaching. Typically, the smooth side of the rail faces away from the drive’s chassis.

*Figure 7: Installing mounting rails (if needed)*
6. Plug one connector of the 7-pin SATA interface cable into the SATA connector (the right-hand connector) on the rear panel of the drive before you insert the drive into your computer. Then thread the cable through the front of the open bay and back toward the motherboard. The drive should slide smoothly into the bay. If it does not, check for obstructions in the bay and ensure the side rails are attached properly.

![Image: Cable connections for an internal SATA drive](image)

**Figure 8: Cable connections for an internal SATA drive**

**NOTE**: Your computer’s SATA connection must support the ATAPI command set. Some computer motherboards have SATA RAID (Redundant Array of Independent Discs) chipsets that do not support the command set used by optical disc drives, or that do not have BIOS settings to enable IDE/ATAPI functions. If you are unsure, consult your motherboard manual or vendor web site for compatibility, BIOS versions, and BIOS settings.

7. If not already connected, attach the other end of the 7-pin SATA interface cable to the Serial ATA connector on the computer motherboard (or on a PCI board, if that is how the Serial ATA interface is provided in your computer). When connecting the Serial ATA cable, note that cable connectors are keyed, and will fit only one way. For example, the initials “SATA” on the cable connector should be up.
8. Connect a power cable from the computer to the power connector of the drive. In most computers, you will find free power connectors that are ready for your use.
   - If your computer is equipped with 15-pin SATA power cables, you can connect a power cable directly to the PX-B310SA drive.
   - If your computer’s power cables have only 4-pin power connectors, use the 4-pin SATA power cable adapter that came with your PX-B310SA drive.

**CAUTION:** The power connector on the cable and the receptacle on the drive are keyed. Do not force the power connector into the drive, or the drive and/or the computer could be damaged.

9. Mount the PX-B310SA drive in the computer using the four screws that were supplied with your drive. Use only these screws.

**CAUTION:** Do not mount your drive in your computer using screws other than those supplied by Plextor. You may damage the drive if you insert screws that are too long or the wrong thread type.

This completes the installation procedure. Go on to the next section to see how to use your PX-B310SA drive.
4. Using Your PX-B310U and PX-B310SA

This section explains how to use your Plextor drive and how to load, handle and care for your BDs, DVDs, and CDs.

What Media to Use

Use the right media! Your Plextor drive's capabilities change depending on which type of compact disc you use.

BD Media

Blu-ray media is available in different formats:

- BD-ROM, BD-R, BD-RE, and BD-R DL (double layer)

![Blu-rayDisc](image)

*Figure 9: The logo identifies the type of BD media*

Your PX-B310U and PX-B310SA can *read* these media formats, in single layer or double layer media.

DVD Media

DVD recordable media is available in two different, non-compatible formats:

- DVD+R, DVD+R DL (double layer) and DVD+RW
- DVD-R, DVD-R DL (dual layer) and DVD-RW

Your PX-B310U and PX-B310SA can *read* and *write* either media format, in single layer or double layer media. It supports all these types of DVD media:

- **Digital Video Discs**: You can immediately play pre-recorded DVD discs, including movies and other DVDs.
- **DVD+R DL, DVD-R DL, DVD+R, DVD-R**: Recordable DVD. You can record on these discs, but only once. You can also read them.
• **DVD+RW, DVD-RW**: ReWritable DVD. You can record and re-record (up to 1,000 times) on these discs. You can also read them.

![DVD+RW, DVD-RW, DVD+R, DVD+R DL, DVD-R, DVD-RW, DVD RAM, DVD+RW Ultra Speed Plus](image)

*Figure 10: The logo identifies the type of DVD media*

With double layer media, you don’t need to turn the disc over to record on side 2.

**DVD-RAM Media**

Unlike standard DVD media, you do not need special DVD burning software to write or read DVD-RAM discs on a computer. You can access these discs like a floppy disk or hard drive. You can even write a DVD-RAM disc with a set-top box, then read it on the PX-B310U or PX-B310SA drive.

The PX-B310U and PX-B310SA supports reading and writing with 4.7-GB (version 2) DVD-RAM discs.

**CD-ROM Media**

You can use these types of CD media:

• **CD-ROM**: You can immediately play or read prerecorded compact discs, such as audio CDs and data discs.

• **CD-R**: Recordable CD. You can record on these discs, but only once. You can also read them.

• **CD-RW**: Normal Speed, High Speed, Ultra Speed and Ultra Speed Plus ReWritable CD. These discs support recording and re-recording (up to 1,000 times). You can also read them.

To achieve a certain writing speed, you must use the appropriate media. To achieve 48X CD-R writing speed you must use certified 48X (or higher) media; and to achieve 32X CD-RW writing speed you must use Ultra Speed Plus CD-RW media.
Remember:
• Using Normal Speed CD-RW discs (that is, NS-RW media) you can rewrite at 4X.
• Using High Speed CD-RW discs (HS-RW media), you can rewrite at 10X.
• Using Ultra Speed CD-RW discs (US-RW media) in this drive, you can rewrite at up to 24X.
• Using Ultra Speed Plus CD-RW discs (US+) in this drive, you can rewrite at up to 32X.
You can write to Ultra Speed CD-RW discs only on drives that support this media. Drives that are capable of writing to Ultra Speed ReWritable media, such as the Plextor PX-B310U or PX-B310SA, are identified by a “Compact Disc ReWritable Ultra Speed” logo.

![Image of CD-RW media logos]

*Figure 11: The logo also identifies the type of CD-RW media*

**More About Media for Your Plextor Drive**

See the Plextor web site at [www.plextor.com](http://www.plextor.com) for a list of Plextor-approved media for your drive

**Tray Loading and Operation**

**To load and unload the tray:**

1. While the drive is powered up, push the eject button on the front panel. The tray drawer slides out in 3–4 seconds.

![Image of tray loading]

*Figure 12: Loading the tray*
2. Lay a CD or DVD disc in the depression in the tray, label side up.

3. Press the eject button again and the tray will slide shut within seconds.

**NOTE:** Always use the eject button to close the tray in a smooth and secure manner. Closing the tray by pressing the front of the drawer using your hand is not recommended and risks damage or premature wearing of the mechanism.

**Handling DVD and CD Media**

Take care when handling blank CD and DVD media. Dust, scratches, and fingerprints on either side of the disc can cause write errors during recording. When picking up or holding blank media you can either place your fingers along the outer edge of the disc, or place one finger through the center hole and one finger on the outer edge. Once you have finished creating a disc, label it by writing on the top using permanent ink.

**CAUTION:** We recommend using a “non-toxic” marker, such as a Sharpie® pen, that conforms to the ASTM D-4236 standard. Some permanent markers will damage the media. Also, do not press too hard when writing on the disc.

**NOTE:** We do not recommend placing self-sticking CD-R labels on the disc. The weight of the label may unbalance the disc and cause write errors during recording or read errors during reading. Also, attempting to remove the label may permanently damage the disc.

**Cleaning Discs**

For proper read and write performance, your discs must be clean. Trying to record on a dirty disc may result in a failed session and ruin the disc.

To clean the disc, wipe the disc using a clean, soft cotton cloth to remove surface dirt such as fingerprints. Use a straight-line motion, wiping from the center out. Do not wipe the disc in a circular motion.
Section 4. Using Your PX-B310U or PX-B310SA

**Figure 13: Wipe the disc from the center outward**

**HINT:** Keep your frequently used discs in jewel cases at all times to prevent them from becoming dirty or damaged.

### Mounting Position

You can operate your PX-B310U or PX-B310SA drive in either a horizontal or a vertical position.

### Playing BDs

To play a Blu-ray video disc, insert the DVD as you would any other disc. The drive plays both single layer and double layer discs.

**The first time:** A code on each BD allows it to be played only on players designed for a certain regional area, such as North America, Europe, etc. When the drive ships from the factory there is no region code set. The first time a BD that has a region setting is inserted into the drive, the drive is automatically set to that region code by the player application.
If you later insert a BD with a different region code, you are prompted to either accept changing the new region code or not. If you don’t accept the change, then that BD will not play. If you do accept the change, then the region code setting is changed. But remember: you can change the drive’s region code only 5 times. After that, you can’t change it any more.

### Playing DVDs

To play a digital video disc, insert the DVD as you would any other disc. The drive plays both single layer and double layer discs.

**The first time:** A code on each DVD allows it to be played only on players designed for a certain regional area, such as North America, Europe, etc. When the drive ships from the factory there is no region code set. The first time a DVD that has a region setting is inserted into the drive, the drive is automatically set to that region code by the player application.

If you later insert a DVD with a different region code, you are prompted to either accept changing the new region code or not. If you don’t accept the change, then that DVD will not play. If you do accept the change, then the region code setting is changed. But remember: you can change the drive’s region code only 5 times. After that, you can’t change it any more.
Writing to DVD Media
You need special software that supports writing to DVD+R, DVD+R DL, and DVD+RW discs; or to DVD-R DL, DVD-R and DVD-RW discs. Roxio Creator (on the DVD that accompanies your Plextor drive) contains this software.

You don’t need special software to write to DVD-RAM media.

Specifying +R/RW or -R/RW
You don’t need to specify whether to write to +R/RW or -R/RW. The selection is automatically made for you, based on the media you insert in the drive.

Writing to CD-R and CD-RW Media
In conjunction with your drive, mastering and packet writing software such as Roxio Creator allows you to write audio, video, data, or other information to writable (CD-R) or rewritable (CD-RW) media. The PX-B310U and PX-B310SA writes to all types of CD-RW media.

Using the Disc/Busy Indicator
The color of the front-panel disc/battery indicator gives you information about the drive’s operation.

<table>
<thead>
<tr>
<th>Operation</th>
<th>LED Color</th>
<th>On/Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>No disc</td>
<td></td>
<td>OFF</td>
</tr>
<tr>
<td>Loading</td>
<td>Green</td>
<td>ON</td>
</tr>
<tr>
<td>Disc loaded and ready</td>
<td></td>
<td>OFF</td>
</tr>
<tr>
<td>Read or verify activity</td>
<td>Green</td>
<td>ON</td>
</tr>
<tr>
<td>CD/DVD write</td>
<td>Green</td>
<td>ON</td>
</tr>
</tbody>
</table>
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5. Maintenance and Troubleshooting

This section explains maintenance and troubleshooting procedures for your Plextor drive.

With proper maintenance, you can prevent problems. If trouble arises, you can often solve many simple problems on your own, rather than wait for assistance from a Plextor representative.

Cleaning the your Plextor Drive

Plextor drives are sealed against external contamination, so in a normal computer environment and with normal use, your drive should not require internal cleaning. However, if your drive has been in use for some time and has just recently started to exhibit read/write problems, it is possible that dust has accumulated on the laser lens. In this case:

• If your drive is still in warranty and you are experiencing problems, send the drive to Plextor. (See “Returns” on page 41.)
• If your drive is out of warranty, before returning the drive for repair you may want to try a short blast of canned air aimed at the center of the drive. Use only electronics-grade canned air: sterile, filtered, and moisture-free. If you notice no improvements after this step, you will need to return the drive for repair.

CAUTION: Do not attempt to clean your drive using any solvent-based cleaners. Also, do not use an air compressor, because the high-pressure blast can damage the drive.

ANOTHER CAUTION: Do not use a CD cleaning disc. Cleaning discs that use a felt pad can scratch the laser lens surface and render the drive inoperable. Cleaning discs with brushes may also scratch the lens. Moreover, these cleaning discs are often out of balance, making their operation very noisy.
Upgrading Firmware

Plextor creates firmware revisions to meet the particular needs of large computer manufacturers. It is rare that these revisions will impact the performance or operation of your drive. However, we advise that you always update your drive with the latest available firmware. Among other benefits, updating firmware ensures that your drive has the latest media catalog. Before troubleshooting a possible problem with your Plextor drive please visit our web site at www.plextor.com to check if you have the latest firmware.

With the installation of PlexUTILITIES, firmware upgrades are automated. When a new firmware is available, PlexUTILITIES will automatically download and install the latest firmware.

To obtain new firmware for your drive:
2. Look for firmware upgrades in the Support area, on the Downloads page. There is a description of the latest firmware revision and its intended use.
3. Download the firmware to your computer.

To upgrade firmware in your drive’s flash memory:
1. Run the executable file that you downloaded from Plextor’s web site.
2. Accept all defaults by continuing to click on the Next button until you see the message:
   Firmware update has completed.
3. Restart your system.
Emergency Eject

If the computer power is turned off or the automatic eject button at the front of the drive does not work, use this procedure to open the drive.

To use the emergency eject tool to open the drive:
1. Make sure power to the drive is OFF. (That is, turn off your computer.)

2. At the front of the drive, insert the emergency eject tool, or a paper clip or other thin, rigid object, into the emergency eject hole.

3. Push the tool or other object straight in, until the disc tray clicks open.

4. Carefully continue to slide the disc tray open.

5. Remove the disc from the disc tray.

6. Carefully push the disc tray shut.
Troubleshooting

If you have problems during or right after installation of your drive, first make sure the drive is recognized. If you still have problems, visit the Plextor web site for tips and troubleshooting help.

Make Sure the Drive Is Recognized

If you’re having trouble after installation, make sure the PX-B310U or PX-B310SA drive is recognized by your computer. To check whether the drive is recognized:

To see if the drive is recognized in Windows:
1. Turn the computer ON. After the computer boots up, you should see the Windows display.

2. Open Windows Explorer or My Computer and ensure there is an icon for the Plextor drive, the hard disk, and another DVD or CD-ROM drive, if present. The Plextor icon may be D: or E: or another designator.

3. If the PX-B310U or PX-B310SA drive is not recognized in Windows, reboot the computer and use your computer’s setup program to program the BIOS to recognize it.

NOTE: Refer to the computer’s documentation for information on how to run the motherboard BIOS setup program.

☐ For the PX-B310U, verify the USB connection and compatibility.

☐ For the PX-B310SA, verify the SATA chipset supports the ATAPI Command set. Use your computer’s motherboard BIOS setup program to enable SATA/IDE/ATAPI as needed for your configuration.

Note that if your computer’s SATA chipset is dedicated for SATA RAID, the connection may not support optical disc drives like the PX-B310SA. Consult your motherboard manual or vendor website for assistance in configuration or for questions of compatibility.
4. Save and exit your CMOS setup to restart your computer with the new settings.

5. In Windows Vista or XP, right-click on the My Computer icon and select Properties. Click on the Hardware tab, then click on the Device Manager button. Click the + sign next to the DVD/CD-ROM drives heading and look for the “PLEXTOR BD PX-B310U” or “PLEXTOR BD PX-B310SA” entry underneath.

If you do not see this drive listed as one of the devices, or if it has a yellow diamond with an exclamation point (!), contact Plextor Technical Support. (See “Appendix A: Technical Support” for the different ways you can contact us.)
6. Frequently Asked Questions

Q: What is Blu-ray?
Blu-ray, also known as Blu-ray Disc (BD), is the name of a next-generation optical disc format jointly developed by the Blu-ray Disc Association (BDA), a group of the world's leading consumer electronics, personal computer and media manufacturers.

Q: Is the PX-B310U and PX-B310SA a DVD Multi Recorder?
Yes. The DVD Multi specification requires that DVD Multi Recorders read and write DVD-ROM (prerecorded), DVD-R (General), DVD-RW and DVD-RAM discs. Because your Plextor drive conforms to the DVD Multi specification, it can read and write the formats used by today’s computers and consumer electronic (CE) DVD devices. (Note that DVD Multi does not prescribe that devices should accommodate DVD-RAM cartridges or 8-cm discs.)

Q: Which is better, DVD+R and DVD+RW? Or DVD-R and DVD-RW?
A: Neither is “better” or “worse.” They’re just different standards, like English versus metric measurement.

Different manufacturers support different standards. The DVD+R and DVD+RW formats are supported by Plextor, Philips, Sony, Hewlett-Packard, Dell, Ricoh, Yamaha and other manufacturers. DVD-R, DVD-RW and DVD-RAM are also supported by Plextor, as well as Panasonic, Toshiba, Apple Computer, Hitachi, NEC, Pioneer, Samsung and Sharp.

No matter which format a DVD disc is recorded in, it can be read by most commercial DVD-ROM players.
Q: What's the difference between "double layer" and "dual layer"?
A: Nothing, really. It's simply a difference of opinion within the industry about how to label media and drive capabilities. DVD+R DL (as named by the DVD+RW Alliance) stands for DVD+R Double Layer. DVD-R DL (from the DVD Forum) stands for DVD-R Dual Layer. Whether your DL media is labeled "double layer" or "dual layer," the PX-B310U and PX-B310SA can handle it.
Appendix A: Technical Support

Store Plextor’s e-mail, web site, phone, and fax numbers in a convenient location. Keep your drive’s serial number and a copy of your sales receipt handy as well.

If you experience a problem while installing or operating your drive, please refer first to the relevant sections of this manual regarding setup and installation (Sections 1–3). If you do not uncover the solution there, please refer next to the maintenance and troubleshooting section that begins on page 32. You may also wish to refer to the Frequently Asked Questions (FAQ) section of our web site to assist you in troubleshooting the problem on your own.

NOTE: We encourage you to go the Plextor web site (www.plextor.com) before attempting to contact Technical Support. The answers to the most common questions callers ask can be found quickly in the support area. Select PlexHelper for online troubleshooting or FAQs for answers to common questions.

If you have not been successful in your quest, our Technical Support Department will help you solve problems that relate specifically to your Plextor drive. In many cases, a problem that appears to be caused by your Plextor drive actually originates in another part of your computer. In such instances, our technical support staff will try to help you identify the part at fault and will refer you to the manufacturer of that part for further assistance.
How to Contact Plextor Technical Support

There are several ways for you to contact Plextor’s Technical Support Department:

- Visit our web site (www.plextor.com) for answers to Frequently Asked Questions.

- Send us e-mail (techsupport-it@plextor.com). Include your telephone number and the hours during which you can be reached. Be as detailed as possible in describing your problem. Please include system configuration, hardware and software, as well as versions of drivers used.

- Call 1-800-204-0332 or 1-510-824-9693 and select the tech support option.

Before You E-mail or Call for Support

Please gather as much of the following information as possible before contacting us.

- The serial number of your Plextor drive. Your serial number appears on the drive label.

- The latest version of firmware you loaded onto the drive, if applicable.

- The version of the Windows operating system you are using.

- The brand name and model number of your computer (e.g., Dell 466/NP, Hewlett-Packard Pavilion 752n, etc.).

- The type of VGA, Super VGA, or other graphics board you use.

- Brand name and model number of any other peripherals you have installed or connected to your computer (e.g., CD-ROM, scanner, fax board, network board).
Returns

In the unlikely event that you need to return a drive to Plextor, you need an RMA (Returned Materials Authorization) number. You will need this number before any Plextor drive can be returned for replacement. Here’s how you get an RMA number and return your drive:

1. Contact Plextor Technical Support. You will receive assistance in troubleshooting your system. If the drive is determined to be defective, you will receive an RMA number.

2. Plextor will e-mail you with the RMA number and shipping information.

3. When you receive the RMA number, pack the Plextor drive securely in a box, and include the RMA number with the drive.

4. Write the RMA number in large bold numbers on the outside of the box, and ship it to Plextor.

Contacting Plextor’s RMA Department

You can contact our RMA Department and request an RMA number at:

- techsupport-IT@plextor.com
- Or by calling us at 1-800-204-0332 or 1-510-824-9693.

Packing Your Drive

Check the drive to make sure there is no disc inside, and if possible, pack your drive in the original box. Some of our customers have not held on to their boxes and have had to resort to less-than-secure methods to get drives back to us.

CAUTION: Never ship the drive with a CD or DVD disc inside it.

If you did not receive a box (for example, your drive came pre-installed in a computer), we recommend you pay a packaging store (such as The UPS Store) to ship your drive. If you don’t have a packaging store in your area, ask for packaging pointers when you contact us to get an RMA number before returning any drive.
Shipping Your Drive to Plextor

Be sure to write the RMA number on the outside of the shipping box. Any drive sent to Plextor without an RMA number will not be accepted.

**NOTE**: The RMA number must be clearly visible on the outside of the shipping box.

Drives must be sent postage prepaid. We recommend that you insure your shipment, as Plextor cannot be held responsible for any damage that may occur during shipment.
Appendix B: Warranty

PLEXTOR warrants your Plextor drive against any defect in material and workmanship, under normal use, for a period of one year following its date of purchase. In the event this product is found to be defective within the warranty period, PLEXTOR will replace the defective unit.

This warranty is void: a) if the unit is operated or stored under abnormal use and/or conditions; b) if the unit is repaired, modified or altered, unless such repair, modification or alteration is expressly authorized in writing by PLEXTOR; c) if the unit is subjected to abuse, neglect, lightning strike, electrical fault, improper packaging, or accident; d) if the unit is installed improperly; or e) if the serial number of the unit is defaced or missing.

PLEXTOR will not, under any circumstances, be liable for direct, special, or consequential damages such as, but not limited to, damage or loss of property or equipment, loss of profits or revenues, cost of replacement goods, or expense or inconvenience caused by service interruptions. Under no circumstances will any person be entitled to any sum greater than the purchase price paid for the unit.

To obtain warranty service, you must contact PLEXTOR’s Technical Support Department by e-mail (techsupport-it@plextor.com) or by calling 1-800-204-0332 or 510-824-9693. The Technical Support Department will attempt to diagnose and correct your problem. If the unit does not function properly, they will provide you with a Return Material Authorization (RMA) number. You may be asked to furnish proof of purchase to confirm that the unit is still under warranty.

All product returns must be authorized in advance by PLEXTOR. Authorization is confirmed by issuance of the RMA number, which must be written prominently on the outside of the box in which the defective unit is returned to PLEXTOR.
Appendix B: Warranty

All drives returned to PLEXTOR must be securely packaged and shipped postage prepaid.

The drive will be returned to the customer at Plextor’s expense when originating within the United States. For a drive originating outside of the United States, the customer is responsible for shipping costs in both directions.

**NOTE:** Warranty validity is limited to that applicable in the location where the drive was originally purchased.

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**If You’re Outside the U.S. or Canada**

Note that the warranty and RMA policy only apply to the United States and Canada. If you are in South America, contact your dealer or reseller for all warranty and RMA claims.
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