

# *DVD/CD Rewritable Drive*

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## Operating Instructions



## *DRX-820UL-T*

# Safety Regulations

## WARNING

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

## CAUTION:

As the laser beam in the DRX-820UL-T is harmful to the eyes, do not attempt to disassemble the cabinet. Refer servicing to qualified personnel only.

The use of optical instruments with this product will increase eye hazard.

The use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

The DRX-820UL-T is classified as a CLASS 1 LASER PRODUCT.

The CLASS 1 LASER PRODUCT label is located on the enclosure.

Bei diesem DRX-820UL-T handelt es sich um ein Laser-Produkt der Klasse 1. Das Etikett mit der Aufschrift LASER KLASSE 1 PRODUKT befindet sich auf dem Gehäuse.

CLASS 1 LASER PRODUCT
LASER KLASSE 1 PRODUKT

LUOKAN 1 LASERLAITE  
KLASS 1 LASER APPARAT

## FCC Compliance:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

## Notes:

If you have any questions about this product, you may call the telephone number listed on the "Product and Support Information" page. The telephone number below is not for customer service but only for official purpose.

### Declaration of Conformity

Trade Name:	SONY
Model No.:	DRX-820UL-T
Responsible Party:	Sony Electronics Inc.
Address:	16530 Via Esprillo, San Diego, CA 92127 U.S.A
Telephone No.:	858-942-2230

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.

## CE Sicherheitsbestimmungen

Diese Ausrüstung erfüllt die Europäischen EMC-Bestimmungen für die Verwendung in folgender / folgenden Umgebung(en):

- Wohngegenden
- Gewerbegebiete
- Leichtindustrieregionen

(Diese Ausrüstung erfüllt die Bestimmungen der Norm EN55022, Klasse B.)

### CAUTION

The mains plug on this equipment must be used to disconnect mains power. Please ensure that the socket outlet is installed near the equipment and shall be easily Accessible.

### Achtung

Zur Trennung vom Netz ist der Netzstecker aus der Steckdose zu ziehen, welche sich in der Nähe des Gerätes befinden muß und leicht zugänglich sein soll.

이 기기는 가정용으로 전자파 적합등록을 한 기기로서  
주거지역에서는 물론 모든 지역에서 사용할 수 있습니다.

기기의 명칭 ( 모델명 ) : DRX-820UL-T  
인증받은자의 상호 : SONY KOREA  
제조년월일 : 별도표시  
제조사 / 제조국가 : SONY CORP./China

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## Compliance Statements

### Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)



This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local Civic Office, your household waste disposal service or the shop where you purchased the product.

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- **Power-Burn** is a trademark of Sony Corporation.  
c o n f o r m e d
- Pentium is a registered trademark of Intel Corporation.
- Microsoft, MS, MS-DOS and Windows are registered trademarks of Microsoft Corporation.
- Macintosh, Mac OS, Power Macintosh, FireWire and iDVD are trademarks of Apple Computer, Inc., registered in the U.S. and other countries.
- Other system and product names used herein are registered trademarks or trademarks of their

- Our product warranty is valid only when the supplied accessories (including software) are used in the specified or recommended system environment, in accordance with the documentation, and applies only to this DVD/CD rewritable drive. Our customer service and user support apply only under these product warranty conditions.
- Please note that we cannot accept responsibility for failure of the computer or other devices, incompatibility with special hardware, operating problems caused by improper installation of software, loss of data, discs or other accidental or incidental damage that might occur when using this product.
- The guarantee and user support for this product are valid only within the countries or sales regions specified on the warranty card.
- Copyright laws prohibit the copying in part or in full of the supplied software and documentation, or loaning the software, without obtaining permission of the copyright holder.
- We cannot accept responsibility for any direct or indirect financial damage or loss of profit that might occur when using the supplied software.
- The supplied software can only be used with this product.
- Specifications of the supplied software may be changed without notice in the interest of product improvement.

### **Please Record Responsibly**

Before copying anything onto a disc, please be sure that you are not violating copyright laws. Most software companies allow you to make a backup or archive copy of software. Check your software's license agreement for details.

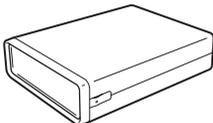
### **About i.LINK**

These operating instructions include IEEE1394 and FireWire in the expression i.LINK.

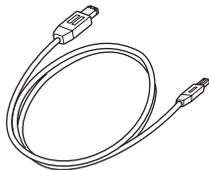
## Unpacking the Package Contents

Please verify that the package contains the following when unpacking. If any of these items appear to be missing and/or damaged, please contact your dealer.

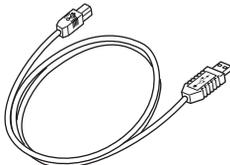
- Drive



- i.LINK cable (6-pin to 4-pin)



- Hi-Speed USB cable



- Quick start guide
- Operating instructions (this document)
- AC power cord
- AC adapter (MPA-AC1)
- Software Quick Start Guide (for Windows)
- Software Quick Start Guide (for Macintosh)
- Software disc (for Windows)
- Software disc (for Macintosh)
- Stand
- Warranty card

### Note

Make sure that you back up the supplied software disc on another disc because the software disc is not distributed independently.

## Features

This product offers the following features.

- An external DVD/CD rewritable drive with i.LINK (IEEE1394) and Hi-Speed USB (USB 2.0-compliant) interfaces for computers.
- Can be used horizontally or vertically.
- The drive can write to DVD+R Double Layer and DVD-R Dual Layer discs.
- You can write at a maximum of 16x when using high speed DVD+R, DVD-R discs.
- The drive can write to DVD-RAM discs.
- Features the **Power-Burn** CONFIRMED technology to prevent buffer underrun errors.

# System Requirements

The drive should be used with a system that meets the following requirements<sup>1)</sup>.

## Windows

- PC/AT-compatible computer
- CPU: Pentium III, 800 MHz or higher (with Nero Vision Express: Pentium 4, 1.6 GHz recommended)
- RAM: 256 MB or higher
- 1 GB (with Nero Vision Express: 10 GB) free hard disk space
- Operating system: Windows 2000 Professional (referred to as Windows 2000), Windows XP Home Edition or Windows XP Professional (referred to as Windows XP)
- i.LINK or USB connector

## Macintosh

- A Power Macintosh G3 or later capable of running Mac OS X 10.2 or later
- RAM: 256 MB or more
- 200 MB or more available hard disk space
- Operating system: Mac OS X 10.2 or later
- FireWire or USB connector

<sup>1)</sup> The above requirements are the minimum necessary requirements to write to disc normally. Under actual operating conditions, the requirements imposed by your software must also be met. For details, refer to your software documentation.

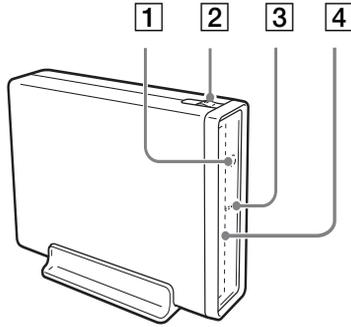
## Notes

- These operating instructions include IEEE1394 and FireWire in the expression i.LINK.
- You must use discs that are compatible with the write speed you have selected.
- Writing speed may automatically be adjusted depending on the disc, specified disc speed, or disc conditions such as weight imbalance and eccentricity.
- System should meet following requirements in order to use USB 2.0 operation with this device.
  - Hi-Speed USB (USB 2.0-compliant) interface cable (included).
  - System equipped with a Hi-Speed USB (USB 2.0-compliant) connector or PCI adapter card, and running the USB 2.0 EHCI device driver<sup>1)</sup>.
    - <sup>1)</sup> The USB 2.0 EHCI driver software is supplied with currently available PCI adapter cards that conform to USB 2.0. You can also use the USB 2.0 EHCI driver software supplied with Windows 2000 SP4 and Windows XP SP1. For details, contact your USB 2.0 adapter dealer or consult the Microsoft Corporation Web site.
- When connected to a product that does not support Hi-Speed USB, the maximum transfer rate is limited to 12 Mbps (equivalent to a USB 1.1 transfer rate).
- For a Macintosh, depending on the specifications of your computer, you may not be able to achieve the proper read/write speeds because the USB transfer rate is limited.
- You cannot use the i.LINK and USB interfaces simultaneously.

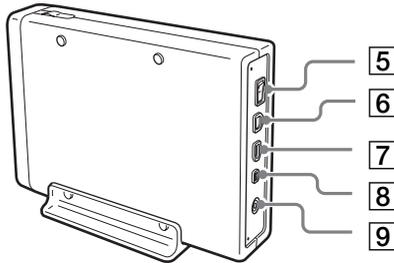
# Part Names and Functions

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## Front Panel



## Rear Panel



**1 Busy indicator**

Indicates the drive status.

**Lit:** The drive is reading data, playing back an audio CD, or writing packets.

**Blinking:**

The drive is writing data (disc-at-once, track-at-once), formatting a disc, or deleting<sup>1)</sup> data from a disc.

**Off:** The drive is in a state other than those outlined above.

<sup>1)</sup> Some drives indicate this state with the lit indicator.

**2 Eject button**

Press to open and close the disc tray.

**3 Emergency eject hole**

If you cannot open the disc tray with the eject button, turn off the drive, and then insert a thin, elongated object into this hole to eject the disc tray manually.

**4 Disc tray**

Insert discs here, label side up.

**Hint**

When you insert a disc into the drive, make sure that it is under the four pins. When using the drive vertically, make sure that you set the disc inside the two lower pins.

**5 Power Switch**

Press to turn the drive on or off.

**6 USB Connector**

Used with a USB cable to connect the drive to a computer.

**7 i.LINK S400 Connector (6-pin)**

Used with an i.LINK cable to connect the drive to a computer.

**8 i.LINK S400 Connector (4-pin)**

Used with an i.LINK cable to connect the drive to a computer.

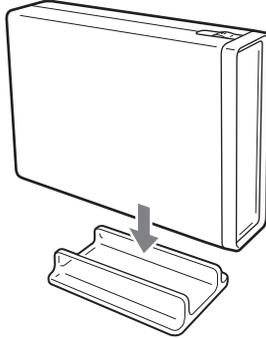
**9 DC IN Jack**

Connect the supplied AC power cord to the AC power adapter. Connect this assembly to the DC IN jack, and then connect the whole to the AC outlet.

# Placing the Drive

## Using the Drive Vertically

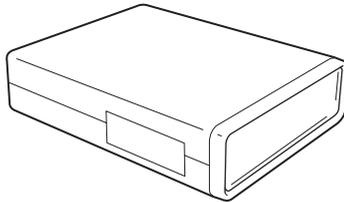
Attach the supplied stand as illustrated below to use the drive vertically.



Position the drive so that the stand straddles the two anti-vibration pads on the drive bottom and then press it into place.

## Using the Drive Horizontally

Place the drive as illustrated below to use the drive horizontally.



# Connection through i.LINK

## Note

This product including bundled software functions properly under Windows XP, Windows 2000, and Mac OS X (10.2 or later).  
It may not fulfill all functional and performance specification under other OS (operating system) environment.

## Before Connection

- Refer to the list of contents to verify that the package contents are complete.
- If your computer is not equipped with an i.LINK connector, install an i.LINK interface card.
- Check the type of i.LINK connector provided with your computer's i.LINK interface and obtain a compatible i.LINK cable.



i.LINK S400 connector (6-pin)



i.LINK S400 connector (4-pin)

- Have the manual for your computer handy.

## Installation

These instructions apply to most commonly used computers.

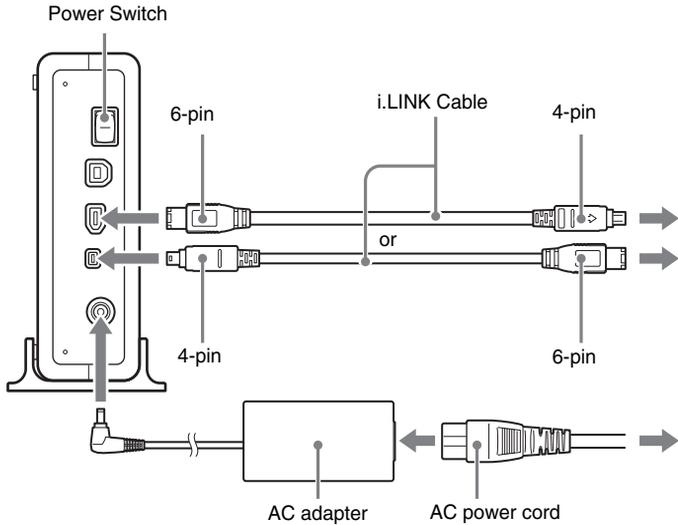
## CAUTION

Using the wrong type of cable with this product can cause it to malfunction. Follow the instructions when connecting the product.

**1** Start your computer.

**2** Connect the necessary cables, then turn on the drive.

- Connect the i.LINK cable to the 6-pin i.LINK connector on the drive.
  - For a computer's 4-pin i.LINK connector: connect to the 6-pin i.LINK connector on the drive.
  - For a computer's 6-pin i.LINK connector: connect to the 4-pin i.LINK connector on the drive.
- Connect the supplied AC power cord to the supplied AC adapter. Then connect the AC adapter to the drive's DC IN jack, and connect the power cord to the power outlet.



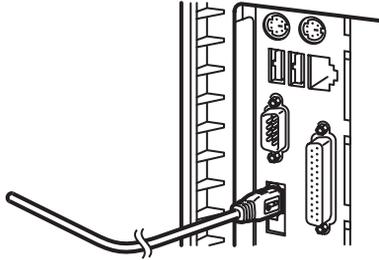
**Hint**

The i.LINK cable may be connected to either of the two i.LINK connectors on the back of the drive.

- 3 Connect the other end of the i.LINK cable to your computer.

**Note**

Please connect the drive directly to your computer.



- 4 Insert the supplied software disc into the DVD/CD rewritable drive and install the software.

Refer to the Software Quick Start Guide for details.

## Disconnection

The disconnection procedure varies depending on your OS.

### Windows

When your computer detects the drive successfully,  appears on the Windows task bar. When you want to disconnect the drive, you must first stop it using this icon.

- 1 Click  on the task bar, and click the drive to be disconnected on the shortcut menu.
- 2 Operate following the message displayed, if any.
- 3 Disconnect the i.LINK cable.

**Note**

If you disconnect the i.LINK cable without performing the procedure above, your computer may operate erratically or data may be damaged. Be sure to perform the procedure above before disconnecting the i.LINK cable.

### Mac OS

With Mac OS X, first confirm that there is no disc in the drive. Confirm that the drive's busy indicator is not lit, and then disconnect the i.LINK cable.

# Connection through USB

## Note

This product including bundled software functions properly under Windows XP, Windows 2000, and Mac OS X (10.2 or later).

It may not fulfill all functional and performance specification under other OS (operating system) environment.

## Before Connection

- Refer to the list of contents to verify that the package contents are complete.
- If your computer is not equipped with a USB connector, install a USB interface card.
- Have the manual for your computer handy.

## Installation

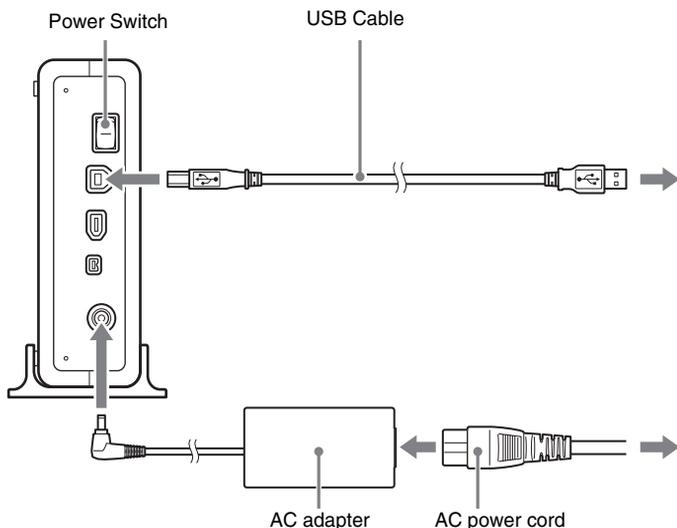
These instructions apply to most commonly used computers.

For connection cautions, refer to the “Installation” section in “Connection through i.LINK” on page 11.

**1** Start your computer.

**2** Connect the necessary cables, then turn on the drive.

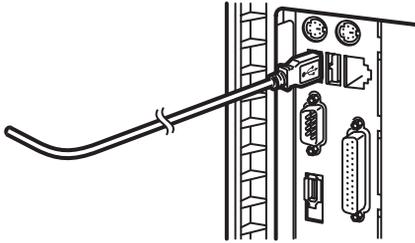
- Connect the USB cable to the drive’s USB connector.
- Connect the supplied AC power cord to the supplied AC adapter. Then connect the AC adapter to the drive’s DC IN jack, and connect the power cord to the power outlet.



- 3 Connect the other end of the USB cable to your computer.

**Note**

Connect the drive to a USB connector on the computer.



- 4 Insert the supplied software disc into the DVD/CD rewritable drive and install the software.

Refer to the Software Quick Start Guide for details.

## Disconnection

The disconnection procedure varies depending on your OS.

### Windows

When your computer detects the drive successfully,  appears on the Windows task bar. When you want to disconnect the drive, you must first stop it using this icon.

- 1 Click  on the task bar, and click the drive to be disconnected on the shortcut menu.
- 2 Operate following the message displayed, if any.
- 3 Disconnect the USB cable.

**Note**

If you disconnect the USB cable without performing the procedure above, your computer may operate erratically or data may be damaged. Be sure to perform the procedure above before disconnecting the USB cable.

### Mac OS X

With Mac OS X, first confirm that there is no disc in the drive. Confirm that the drive's busy indicator is not lit, and then disconnect the USB cable.

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# Using the Drive

Use the supplied software to create discs and play back DVDs. Refer to the documentation of each software for details about their operation.

## Supplied Software

The supplied software disc contains the following software.

### For Windows

#### **Nero StartSmart**

Nero StartSmart serves as the command center to quickly start all the software of the Nero suite.

#### **Nero Burning ROM SE**

Nero Burning ROM is the CD and DVD writing software.

#### **Nero Express**

A light version of the Nero Burning ROM software. Makes it even easier job to create CDs and DVDs.

#### **Nero BackItUp**

Nero BackItUp is software that allows you to back up the data on your hard disk to the hard disk, DVD+R/RW, DVD-R/RW, DVD-RAM, or CD-R/RW discs.

#### **InCD**

InCD is a packet writing software. It supports writing to DVD+RW, DVD-RW, DVD-RAM, and CD-RW.

#### **NeroVision Express**

DVD-Video and video CD authoring software.

#### **Nero ShowTime**

DVD-Video and video CD playback software.

#### **Nero Record**

Nero Recode is software for compiling, copying and archiving DVD-Video titles and other video files (that are not copy-protected) onto DVD+R/RW, DVD-R/RW, DVD-RAM, or CD-R/RW discs.

#### **Nero Wave Editor**

Audio processing software that allows you to modify and such audio files as WAV, MP3, and WMA.

#### **Nero Cover Designer**

CD and DVD cover and label creation software.

### **Nero MediaHome**

This software allows you to share video and audio files among several computers on a network connection and to play back such files seamlessly from any of the connected computers.

### **Nero PhotoSnap**

This software can be used to edit image and picture files.

### **Nero PhotoSnapViewer**

This software can be used to view image and picture files.

### **Nero Toolkit**

The utilities of Nero Toolkit provide information about the system and more. Nero CD-DVD Speed tests the speed of the existing drives. Nero DriveSpeed adjusts the write speed to minimize drive noise. Nero InfoTool provides the main characteristics of drives, the discs they contain, and the installed software.

## **For Mac OS**

### **Roxio Toast Lite**

Roxio Toast Lite is the CD and DVD writing software.

#### **Notes**

- Roxio Toast Lite only offers basic features. To use more advanced features, you must purchase additional third-party software.
- DVD playback software for Mac OS is not included with the supplied software disc.
- The iDVD program does not support third-party drives including this product.

## **Using Generic Software with the Drive**

Using software other than the supplied software (such as generic software, shareware, or freeware) to write data to disc with this drive is not under warranty and Sony offers no customer service if problems arise from using such software.

Make sure that the supplied writing software and generic writing software do not coexist on your computer. Taking appropriate steps to avoid this situation, especially in the case of packet writing software<sup>1)</sup> or format utility<sup>2)</sup> will help prevent erratic operation of the software and/or computer.

If the generic software you are using does not detect the drive correctly, visit the Web site of the software manufacturer and update the software, as this may solve the problem.

<sup>1)</sup> Such as Roxio's Drag-to-Disc, BHA's B's CLIP, and Sonic's DLA

<sup>2)</sup> Such as BHA's DVD-RAM Driver and Panasonic's DVDForm

# Compatible Discs

The following discs are compatible with the drive.

## DVD

Disc types	Logo	Read	Write	Write speed <sup>1)</sup>
DVD+R		✓	✓	Speed supported by the disc (max. 16×)
DVD+R DL (Double layer)		✓	✓	Speed supported by the disc (max. 8×)
DVD+RW		✓	✓	Speed supported by the disc (max. 4×)
DVD+RW (High Speed)		✓	✓	Speed supported by the disc (max. 8×)
DVD-R		✓	✓	Speed supported by the disc (max. 16×)
DVD-R DL (Dual Layer)		✓	✓	Speed supported by the disc (max. 6×)
DVD-RW		✓	✓	Speed supported by the disc (max. 6×)
DVD-RAM <sup>2)</sup>		✓	✓	Speed supported by the disc (max. 5×)
DVD-ROM		✓	—	—
DVD-Video		✓	—	—

<sup>1)</sup> Writing speed supported by the drive. Depending on your software and media, this speed may vary.  
For more details on writing speed by disc type, access the user support Web site (see page 31).

<sup>2)</sup> Use a non-cartridge-type disc or a cartridge from which the disc can be ejected.

Disc types	Logo	Read	Write	Write speed <sup>1)</sup>
CD-R		✓	✓	Speed supported by the disc (max. 48×)
CD-RW		✓	✓	Speed supported by the disc (max. 4×)
CD-RW (High Speed)		✓	✓	Speed supported by the disc (max. 10×)
CD-RW (Ultra Speed)		✓	✓	Speed supported by the disc (max. 24×)
CD-RW (Ultra Speed Plus)		✓	✓	Speed supported by the disc (max. 32×)
CD-ROM		✓	—	—
CD-DA (audio only)		✓	—	—
CD Extra		✓	—	—
Video CD		✓	—	—
CD TEXT		✓	—	—

<sup>1)</sup> Writing speed supported by the drive. Depending on your software and media, this speed may vary.  
For more details on writing speed by disc type, access the user support Web site (see page 31).

Disc diameters		Read	Write
DVD	12 cm	✓	✓
	8 cm	✓	—
CD	12 cm	✓	✓
	8 cm	✓	✓

### Notes

- Only round discs should be used with this drive. Attempting to read odd-shaped discs (stars, hearts, card shape, etc.) may damage the drive.
- Operation is not guaranteed when writing to or playing back 99 minute discs.
- With 8 cm discs, you must place the drive horizontally.
- When using a double-sided disc, orient the drive horizontally.

## Recommended Writable Discs

We recommend that you only use discs for which operation has been guaranteed. You can obtain the latest list of writable discs for which operation with this drive has been guaranteed at the user support Web site address (see page 31 for details).

### User support Web site

Insert the supplied software disc into the drive, and in the [Menu Selection] screen, click [User Support Web Page]. You can also directly type the user support Web site address (see page 31 for details) in the address box of your Web browser.

#### Note

You can safely use most disc formats that comply to the appropriate standards with this drive. However, bear in mind that some generic discs do not comply to quality or performance standards necessary for safe use with this drive. If you use such discs, the drive may automatically adjust the writing speed, writing errors may occur, and discs that have been written to may generate reading errors, etc.

## Writable Disc Features

You can use a variety of discs with the drive to write data. Refer to the table below to find the type of disc that matches what you want to do.

	DVD+R DVD+R DL	DVD+RW	DVD-R DVD-R DL	DVD-RW	DVD- RAM	CD-R	CD-RW
Want to create DVD-Video that can be played back by most drives and/or players	✓		✓				
Want to create DVDs that you can modify		✓		✓	✓		
Want to create DVDs to which you can add to later.		✓		✓	✓		
Want to create video CDs that can be played back with most computers						✓	
Want to use DVDs as you would video tapes (allowing multiple rewrites)		✓		✓	✓		
Want to share 700 MB of data or more	✓		✓				
Want to share data that can be used on most computers						✓	
Want to create audio CDs that be played back by most CD players						✓	
Want to back up your hard disk		✓		✓	✓		
Want to store data without deleting it	✓		✓			✓	
Want to use discs as floppy disks		✓		✓	✓		✓

### Note

You can access/play back the data written to the discs above with most drives/players that support their formats. However, some combinations of drives/players and discs (depending on their quality and/or characteristics) may make access/playback impossible. For details, refer to your drive/player documentation.

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## Writable CDs and compatibility

The drive can write to CD-R and CD-RW discs, when used with writing software.

To play back (read) these CD-R and CD-RW discs on other CD-ROM drives, make settings on the writing software according to the purpose of the data.

### CD-R Discs

Data can be written to this type of disc only once, and once it has been written, it cannot be erased. Music CDs created on CD-R disc media can be played on standard CD players.

### CD-RW Discs

Data can be written to and erased from this type of disc repeatedly. Typically, a new CD-RW disc can be rewritten about 1,000 times.

Music CDs created on CD-RW disc media cannot be played on a CD player unless it is designed to be CD-RW compatible.

### High Speed CD-RW Discs

The drive can write to High Speed CD-RW disc media. Data written on High Speed CD-RW discs can be read by standard CD-ROM drives.

#### Note

Drives that do not have the High Speed CD-RW logo cannot be used to write to High Speed CD-RW discs. When writing or adding to such discs with a drive other than this one, make sure that the drive has the High Speed CD-RW logo. Also, always set the writing speed to that specified for the particular High Speed CD-RW disc media being used.

### Ultra Speed CD-RW Discs

The drive can write to Ultra Speed CD-RW disc media. Data written on Ultra Speed CD-RW discs can be read by standard CD-ROM drives.

#### Note

Drives that do not have the Ultra Speed CD-RW logo cannot be used to write to Ultra Speed CD-RW discs. When writing or adding to such discs with a drive other than this one, make sure that the drive has the Ultra Speed CD-RW logo. Also, always set the writing speed to that specified for the particular Ultra Speed CD-RW disc media being used.

### Ultra Speed Plus CD-RW Discs

The drive can write to Ultra Speed Plus CD-RW disc media. Data written on Ultra Speed Plus CD-RW disc can be read by standard CD-ROM drives.

#### Note

Drives that do not have the Ultra Speed Plus CD-RW logo cannot be used to write to Ultra Speed Plus CD-RW discs. When writing or adding to such discs with a drive other than this one, make sure that the drive has the Ultra Speed Plus CD-RW logo. Also, always set the writing speed to that specified for the particular Ultra Speed Plus CD-RW disc media being used.

### Writing Speed

When writing to CD-R and CD-RW discs, set the writing speed to that specified on the disc. Change the writing speed on the writing software.

### **About playback/reading compatibility in CDs**

CD-R and CD-RW discs created with the drive can be read on most CD-ROM drives. However, some older CD-ROM drives cannot read CD-RW discs.

In addition, CD-R music discs created and finalized with the drive can be played on most CD players, however, there are some CD players and automobile CD players that do not guarantee playback of CD-R discs.

Also, CD-R music discs created with the drive can be played back on many standard CD players. However, depending on the type of your player, playback of CD-R and CD-RW discs may not be supported.

Further, because of the differences in quality and characteristics between various CD-ROM drive, CD player, CD-R disc, and CD-RW disc manufacturers, playback may not be possible depending on the combination.

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### **Writable DVDs and compatibility**

The drive can write to DVD+R DL, DVD+R, DVD-R DL, and DVD-R discs, as well as to DVD+RW, DVD-RW and DVD-RAM discs, when used with writing software. The playback (read) compatibility of data written by this drive depends on the capabilities of the DVD-ROM drives or the DVD players and on the logical format selected when the disc is recorded (written).

#### **DVD+R DL/DVD+R/DVD-R DL/DVD-R Discs**

Data can be written to this type of disc only once. Once it has been written, it cannot be erased. Playback (read) compatibility of DVD+R and DVD-R discs depends on the capability of the DVD-ROM drive and the DVD player and on the logical format selected when it is recorded (written).

#### **DVD+RW and DVD-RW Discs**

Data can be repeatedly written to or erased from this type of disc. Typically, a new DVD+RW or DVD-RW disc can be rewritten about 1,000 times.

Playback (read) compatibility of DVD+RW and DVD-RW discs depends on the capability of the DVD-ROM drive and the DVD player and on the logical format selected when it is recorded (written).

#### **DVD-RAM Discs**

Data can be repeatedly written to or erased from this type of disc. Typically, a new DVD-RAM disc can be rewritten about 100,000 times. To play back (or read the data on) a DVD-RAM disc, a DVD-ROM drive or DVD player that supports DVD-RAM discs is required.

### **About playback/reading compatibility in DVDs**

DVD+R DL/DVD+R/DVD-R DL/DVD-R discs, as well as DVD+RW and DVD-RW discs created and finalized with the drive can be played back on almost all DVD-ROM drives. However depending on the type of your drive, playback of DVD+R DL, DVD+RW, DVD-R DL, and DVD-RW discs may not be supported.

In addition, some drives do not support multi-session (DVD+R DL/DVD+R/DVD+RW) or multi-border (DVD-R DL/DVD-R/DVD-RW). In these cases,

you can only play back the disc in single-session (DVD+R DL/DVD+R/DVD+RW) or single-border (DVD-R DL/DVD-R/DVD-RW).

Also, DVD-Video discs created with the drive can be played back on many standard DVD players. However depending on the type of your player, playback of DVD+RW and DVD-RW discs may not be supported.

Playback of DVD-RAM discs is only supported for DVD-RAM compatible DVD drives and DVD players.

Further, because of the differences in quality and characteristics between various DVD-ROM drive, DVD player, DVD+R DL disc, DVD+R disc, DVD+RW disc, DVD-R DL disc, DVD-R disc, DVD-RW disc and DVD-RAM disc manufacturers, playback may not be possible depending on the combination. (Playback compatibility is not under warranty.)

# Precautions on Writing/Playing Discs

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## Write speed and compatible discs

- When writing data to disc at high speeds, you must use the appropriate type of disc.
- Configure the writing speed through your writing software. For details about the setting procedures, refer to your writing software documentation.
- When writing data to disc, the drive may adjust the writing speed to the quality of the disc in the drive. Depending on the transfer rate, there may also be limitations on writing speeds.

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## DVD region codes

The playback of DVD-Video (DVD discs) is protected and controlled by a region code setting. For the drive to play back DVD-Video, the region code on the DVD disc, the region code of the drive, and the region code of the DVD-Video software must all match.

With this drive, the region code can be set up to five times, including the initial assignment (RPC phase 2<sup>1)</sup> standard). After setting the region code five times, the setting becomes permanent and can no longer be changed. From this point on, you are only able to play back DVD-Video whose region code matches the one set the fifth time.

Do not attempt to make unauthorized changes to the region code. Any problems resulting from doing so are not covered by the warranty.

### Hint

You can change the region code of the drive on its properties dialog box accessible from the Device Manager.

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## Precautions when playing back DVD-Video

DVD-Video disc playback conditions are sometimes determined by software manufacturers. Because the drive plays back discs as determined by software manufacturers, some drive functions may not always perform as expected. When playing back DVD-Video, refer to the documentation accompanying each disc.

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## DVD copy protection technology

Most DVD-Video discs on the market are protected against unauthorized copy. Attempting to copy protected discs violates copyright laws.

<sup>1)</sup> Region Playback Control (RPC) standard.

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## Copy controlled CDs

This product is designed to play back discs conforming to the compact disc (CD) standard. Audio CDs encoded with copyright protection technology are now marketed by various record companies. Be aware that some of these discs do not conform to the CD standard and you may not be able to play them back with the drive. When using the drive as an audio CD player, only use audio CDs with the following mark. Some of these discs are encoded in such a way as to prevent sampling and/or copy, while others can only be played back under certain conditions. For details, refer to the documentation of your audio CD.



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## Attention Regarding DualDisc Software

A DualDisc is a two sided disc product which mates DVD recorded material on one side with digital audio material on the other side. However, since the audio material side does not conform to the Compact Disc (CD) standard, playback on this product is not guaranteed.

# Maximizing Performance

## Reaching the Highest Possible Data Transfer Rate

Make sure that you use High Speed discs for which this operation has been certified by Sony. For the latest information about these discs, visit the user support Web site. When using discs other than those mentioned above, the drive may limit writing speed to preserve a good reading quality.

## Updating the Firmware

We recommend using the drive with the latest firmware as some problems encountered when using the drive can be solved simply by updating the drive firmware. Firmware updates are available on the user support Web site. see page 31 for details.

### Hint

The firmware is the built-in software that makes the drive work.

## Turbo Boost Function

The default CD-R and CD-ROM read/write speed of this drive is 40× speed. With a single touch, you can activate the Turbo Boost function, to raise the read/write speed to 48× speed.

### Notes

- On rare occasions, some discs may not be able to tolerate 48× speed, causing them to break. We recommend that you do not use deeply scratched, brittle, or other discs that may break at 48× speed.
- The Turbo Boost function does not guarantee a 48× write speed. Depending on the condition of the disc you are using, the speed may be automatically lowered.
- The Turbo Boost function does not increase read/write speed with CD-RW discs.

### 1 Insert a disc into the drive.

The read/write speed when you insert a disc is normally 40× speed.

### 2 Press and hold the Eject button for five seconds.

The Busy indicator blinks twice and the read/write speed switches to 48× speed. (The Turbo Boost function is active.)

### Hint

When you open the disc tray, the read/write speed reverts to its default of 40× speed.

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## Precautions for Use

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### Operation and storage conditions

Avoid using or storing the drive in a hot or humid location, or where it might be subject to severe vibration or direct sunlight.

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### On transportation

- Please repack the drive in its original carton when shipping by itself.
- If the drive is to be shipped while installed in a PC, remove any disc beforehand.

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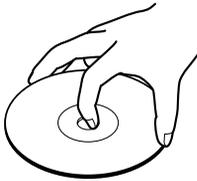
### Avoiding condensation problems

As much as possible, avoid sudden temperature changes. Do not attempt to use the drive immediately after moving it from a cold to a warm location, or raising the room temperature suddenly, as condensation may form within the drive. If the temperature changes suddenly while using the drive, stop using it but keep the power on for at least an hour.

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### Handling discs

- Handle discs only by the edges. Never touch the recording surface.



- Do not affix labels on discs.



- Do not store discs in dusty, dirty or humid locations, in direct sunlight, or near heat-generating devices.
- To protect important data, always keep discs in their protective cases.
- Do not wipe writable discs to clean them before recording data. Instead, use a blower to remove any dust.
- Data may not record properly if a scratch or dust is present on the unrecorded area of writable discs. Use special care when handling.

# Specifications

Compatible discs	Read (max.)	Write (max.)
DVD+R (4X)	16X-CAV	4X
DVD+R (8X)	16X-CAV	8X-PCAV
DVD+R (16X)	16X-CAV	16X-CAV
DVD+R Double Layer	12X-CAV	2.4X
DVD+R Double Layer(8X)	12X-CAV	8X-ZCLV
DVD+RW	12X-CAV	2.4X
DVD+RW (4X)	12X-CAV	4X
DVD+RW (High Speed)	12X-CAV	8X-ZCLV
DVD-R (4X)	16X-CAV	4X
DVD-R (8X)	16X-CAV	8X-PCAV
DVD-R (16X)	16X-CAV	16X-CAV
DVD-R Dual Layer	12X-CAV	6X
DVD-RW (2X)	12X-CAV	2X
DVD-RW (4X)	12X-CAV	4X
DVD-RW (6X)	12X-CAV	6X
DVD-ROM	16X-CAV	—
DVD-Video	4X-CAV	—
DVD-RAM <sup>1)</sup>	5X	5X
CD-R	48X-CAV <sup>2)</sup>	48X-CAV <sup>2)</sup>
CD-RW	40X-CAV	4X
CD-RW (High Speed)	40X-CAV	10X
CD-RW (Ultra Speed)	40X-CAV	24X-CAV
CD-RW (Ultra Speed Plus)	40X-CAV	32X-CAV
CD-ROM	48X-CAV <sup>2)</sup>	—
CD-DA	4X	—
CD-DA (DAE)	40X-CAV	—

## Disc diameters

DVD	12 cm	✓	✓
	8 cm <sup>3)</sup>	✓	—
CD	12 cm	✓	✓
	8 cm <sup>3)</sup>	✓	✓

- 1) Use a non-cartridge-type disc or a cartridge from which the disc can be ejected.
- 2) The default setting is 40x. You must use the turbo boost function to achieve 48x speed.
- 3) With 8 cm discs, you must place the drive horizontally.

Depending on your system, there may be limitation on maximum writing speed.

## Writing systems

### DVD

Random write  
Sequential write

### CD

Track-at-once  
Disc-at-once  
Session-at-once  
Packet writing

## Drive

### Data transfer rate

DVD: 22.1 MB/s (16x speed<sup>4)</sup>)  
CD: 7.2 MB/s (48x speed<sup>4)</sup>)

### Access time

Average random stroke  
Approx. 140 ms (DVD)  
Approx. 130 ms (CD)

<sup>4)</sup> Maximum data transfer rate depends on the capabilities of the host computer.

## Buffer underrun error protection

**Power-Burn.**  
c o n f o r m e d

## Operating environment

Operating temperature  
5 to 35 °C

## Power and miscellaneous

### Power source

DC +12 V (supplied from the DC IN jack)

### Consumption

Max. 3.0 A

### AC adapter

AC 100 - 240 V (use a power cord appropriate to the region or country of use)

### Size

Approx. 52 × 164 × 250 mm (W×H×D)  
(excluding front panel)

### Weight

Approx. 1.6 kg (drive only)

## **Laser**

### **CD**

Wavelength: 784 +3/-4 nm

Output power (max.): 120 mW (CW)  
240 mW (Pulse)

### **DVD**

Wavelength: 658 ±4 nm

Output power (max.): 100 mW (CW)  
250 mW (Pulse)

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## **Interface**

### **Drive interface**

IEEE1394-compliant (6-pin connector) ×1

IEEE1394-compliant (4-pin connector) ×1

USB 2.0-compliant (Hi-Speed USB) ×1

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### **Buffer capacity**

2 MB

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### **Drive product number (Inquiry)**

SONY DVD RW DRU-820A

Design and specifications are subject to change without notice.

# Support Overview

If you have problems with the drive, or are unsure of a procedure or some other details, please contact your Sony customer support center.

## User Support Web Site

You can find the following information on this Web site. The information is periodically updated, so we recommend that you visit regularly.

- Information about the drive
- Information about the software supplied with the drive
- Latest firmware
- Frequently asked questions
- Troubleshooting guide
- Certified compatible computers
- Certified compatible discs
- Operating instructions
- Et cetera

## Accessing the user support Web site

Insert the supplied software disc into the drive, and in the [Menu Selection] screen, click [User Support Web Page]. You can also directly type the user support Web site address (see Product and Support Information for details) in the address box of your Web browser.

## Update the Drive Firmware

Some problems encountered when using the drive can be solved simply by updating the drive firmware. Firmware updates are available on the user support Web site. Access the site, make sure that there is an update for your firmware, and follow the instructions on the screen to proceed with download and installation.

## Product and Support Information

### Sony Global Sites Information (As of January, 2006)

**Product purchased in the USA:\***  
<http://sony.storagesupport.com/>

**Product purchased in Australia or New Zealand:**  
<http://www.sony.com.au/>

\* Local Web sites for computer peripheral products

### About the Bundled Software

Detailed information about the supplied software is available on the Web sites of the software manufacturer.

### For Windows

<http://www.nero.com>

### For Mac OS

<http://www.roxio.com>

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## Technical Support

Please consult the above sources before calling with questions about using this product, or with technical questions about the drive or the supplied software. If using telephone or e-mail support, please have the following information available:

- Model number: DRX-820UL-T
- Serial number
- Date and place of purchase
- Computer maker and model number
- Computer specifications (CPU speed, memory size, OS version, etc.)
- Writing software used (version, etc.)

**Local technical support is only available in the specified sales regions. The customers in these regions should be provided with a warranty card for this product. For contact information, refer to the warranty card.**

**Note that technical support conditions may vary according to the locality, and that charges and/or limited service may apply in some regions.**







<http://www.sony.net/>

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