

**SONY.**

**CD-ROM Drive Unit**  
CDU7209

Operating Instructions

# OWNER'S RECORD

The model and serial numbers are located on the bottom. Record these numbers in the spaces provided below. Refer to them whenever you call upon your sales representative regarding this product.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

## WARNING

**To prevent fire or shock hazard, do not expose the unit to rain or moisture.**

**To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.**

### CAUTION

As the laser beam used in this CD-ROM drive unit 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.

For your safety, entrust servicing to Sony authorized service personnel only.

### NOTICE

THIS NOTICE IS APPLICABLE FOR USA AND CANADA ONLY.

If used in USA, use the UL LISTED power cord specified below.  
If used in CANADA, use the CSA CERTIFIED power cord specified below.  
DO NOT USE ANY OTHER POWER CORD.

#### For 100-120 V

Plug Cap: Parallel blade with ground pin.  
(NEMA 5-15P Configuration)  
Cord: Type SVT or SUT, three 18 or 18 AWG wires.  
Length: Maximum 14.7 feet (4.5 m)  
Rating: Minimum 10 A, 125 V

#### For 220-240 V

Plug Cap: Tandem blade with ground pin.  
(NEMA 6-15P Configuration)  
Cord: Type SVT or SUT, three 18 or 18 AWG wires.  
Length: Maximum 14.7 feet (4.5 m)  
Rating: Minimum 10 A, 250 V

### ATTENTION

LIRE LA REMARQUE DANS LE MODE D'EMPLOI

### REMARQUE

CETTE REMARQUE NE CONCERNE QUE LES ETATS-UNIS ET LE CANADA

En cas d'utilisation aux Etats-Unis, n'utiliser que le cordon d'alimentation inscrit sur LISTE UL et spécifié ci-dessous pour utilisation.

En cas d'utilisation au CANADA, n'utiliser que le cordon d'alimentation CERTIFIE par CSA et spécifié ci-dessous pour utilisation.

N'UTILISER AUCUN AUTRE CORDON D'ALIMENTATION

#### Sur 100-120 V

Fiche: Lame parallèle avec une broche de mise à la terre.  
(Configuration NEMA 5-15P)  
Cordon: Type SVT ou SUT, trois fils 18 ou 18 AWG.  
Longueur: Maximum 14,7 pieds (4,5 m)  
Capacité: Minimum 10 A, 125 V

#### Sur 220-240 V

Fiche: Lame tandem avec une broche de mise à la terre.  
(Configuration NEMA 6-15P)  
Cordon: Type SVT ou SUT, trois fils 18 ou 18 AWG.  
Longueur: Maximum 14,7 pieds (4,5 m)  
Capacité: Minimum 10 A, 250 V

This unit uses CD-ROM discs with the following mark.



When you use this unit as a CD player, use compact discs with the following mark.



**CLASS 1  
LASER PRODUCT  
LASER KLASSE 1**

This CD-ROM drive is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the bottom.

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## INFORMATION

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause 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 the receiving antenna.
  - Relocate the equipment with respect to the receiver.
  - Move the equipment away from the receiver.
  - Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.
- If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

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

This apparatus complies with the Class B limits for radio noise emissions set out in Radio Interference Regulations.

Cet appareil est conforme aux normes Classe B, pour bruits radioélectriques. Tel que spécifié dans le Règlement sur le brouillage radioélectrique.

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## Introduction

CDU7205 is a stand-alone type unit for CD-ROM (Compact Disc Read-Only Memory) which can store as much as 540 Mbytes of digital data.

The CDU7205 has the following features:

- A half-height drive is used to create a slim unit.
- Fast access time assures high-speed reading operation.
- Have two 40-pin Sony bus connectors.
- On the Sony bus, up to four drives with Sony bus connectors in a daisy-chain.
- Employ highly reliable connectors.
- Capable of audio playback and is provided with audio line outputs and headphones jack.
- A caddy is used for disc protection.
- Automatic locking of the optical pickup when a caddy is ejected. This ensures safety during transportation.
- A caddy can be ejected manually.
- The objective lens of the optical pickup is cleaned automatically everytime the caddy is loaded and ejected.
- Selectable audio channel by software (stereo, monaural, reverse and so on).
- Can be used with the CD-ROM XA discs and the CDI discs.

### Software that must be installed

To read data from discs, install the appropriate software in the host computer.

## Example of system set-up

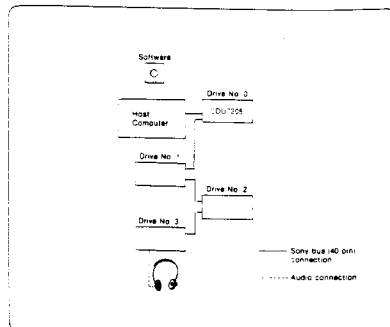
A system is composed of:

- a personal computer
- a CDU7205
- a host adapter
- software

Up to four drive units can be connected through 40-pin Sony bus interface in a daisy-chain.

CDU7205, provided with the audio line outputs and headphones jack, is capable of audio playback.

Here is an example of system set-up. For instructions on connecting each unit, refer to "Connections" on page 12.



## Precautions

### Safety

- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for extended period of time.
- To disconnect a cord, pull it out by the plug. Never pull the cord itself.

### Installation

- Avoid placing the unit in a location subject to:
  - high humidity
  - high temperature
  - excessive dust
  - mechanical vibration
  - direct sunlight
- Always use the unit in horizontal position. Do not place the unit on its end.
- Do not place the unit on surfaces (rug, blankets) or near materials (curtains, draperies) that may block the ventilation slot.

### Operation

- Do not move the drive unit during operation, or error may occur in reading operation.
- Avoid sudden changes in temperature as that may cause condensation inside the unit. Should the surrounding temperature suddenly rise while the drive is on, wait more than one hour to turn off the power. If you operate the unit right after a sudden increase in temperature, it may malfunction during reading.

### Transportation

To avoid damage

- Keep the original packing materials.
- Before you transport the drive, remove the caddy from the drive unit and repack the drive unit as it was originally.

### Cleaning

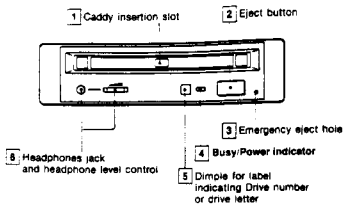
Clean the cabinet, panel and controls with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzene, which may damage the finish.

If you have any questions about this unit, contact your sales representative.

For detailed safety precautions, see the leaflet "IMPORTANT SAFEGUARDS".

# Location and Function of Parts and Controls

## Front panel

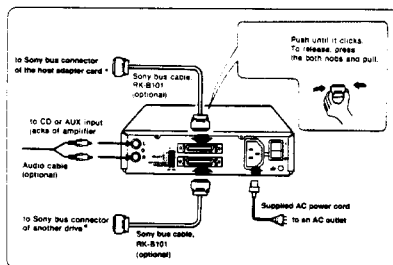


- 1 **Caddy insertion slot**  
Accepts a caddy loaded with a CD-ROM disc.
- 2 **Eject button**  
Ejects the caddy from the drive unit.
- 3 **Emergency eject hole**  
Insert a rod here to eject a caddy manually.
- 4 **Busy/Power indicator**  
Lights up in green when the power is on. Lights up in amber during TOC read, seek, data read operations and audio playback.
- 5 **Dimple for label indicating Drive number or drive letter**  
Place the supplied drive number label here.
- 6 **Headphones jack and headphone level control**  
Connect headphones to the headphones jack and adjust the volume with this headphone level control.

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## Connections

Before making connections and setting the DIP switches, be sure to turn off the power of the CD-ROM drive unit.



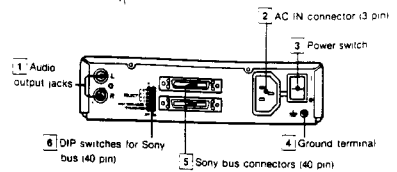
### Note:

- Up to 4 Sony bus units can be connected through the Sony bus in a daisy-chain.
- Assign the Sony bus drive No. using the SELECT switch on the rear. Refer to page 13.

\* You can connect to another drive unit in a daisy-chain, using RK-B101 or RK-990.

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## Rear panel



- 1 **Audio output jacks**  
Connect to CD or AUX input jacks of an amplifier using an audio cable.
- 2 **AC IN connector (3 pin)**  
Connect to an AC power source with supplied AC power cord.
- 3 **Power switch**  
Set this switch to "I" to turn on this CD-ROM drive unit. To turn it off, set this switch to "O".
- 4 **Ground terminal**  
Connecting to the host computer or an amplifier may reduce audio noise.
- 5 **Sony bus connector (40 pin)**  
Connect to another drive.
- 6 **DIP switches for Sony bus (40 pin)**  
Refer to page 13 for assignment and setting.

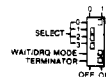
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## DIP switch setting for Sony bus

The CD-ROM drive comes from the factory with DIP switches pre-set as illustrated. If you'd need to change the setting, follow the instruction below.

### Note:

Turn off the power before setting DIP switches, or they may not work correctly.



## Assigning the Sony bus drive number SELECT switches

Assign the drive number for each drive unit according to the table below. Drive number labels are supplied.

Do not set the same drive number setting for more than one drive. Trouble may occur both in the drive unit and in the host adaptor card.

Sony bus Drive number	SELECT			
	0	1	2	3
0	1	0	0	0
1	0	1	0	0
2	0	0	1	0
3	0	0	0	1

## Assigning the WAIT/DRQ switch

Set this switch to DRQ unless otherwise instructed by the manual of the software.

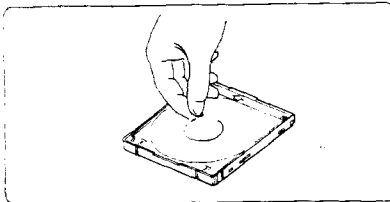
## Assigning the TERMINATOR switch

When you connect one drive in your system, set this switch to ON. When you connect more than one drive in a daisy-chain, set this switch to ON for the last drive and OFF for the other drives.

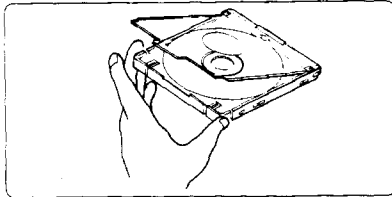
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## How to use

- 1 If there is a protective film on the lid of the caddy, remove it before using the caddy.



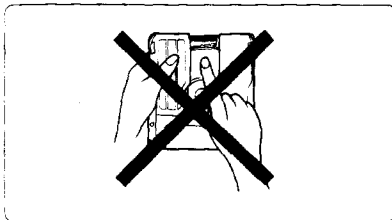
- 2 To open the lid of the caddy, press the tabs on both its sides.



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## Precautions

- Do not drop the disc or the caddy, or subject them to shock.
- The caddy is designed so that the shutter automatically opens when it is installed in the drive unit. Do not open the shutter manually and touch the disc.



- The caddy is precisely adjusted at the factory. Do not disassemble it.

## Storage

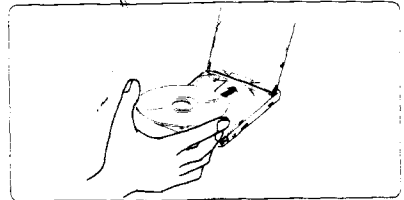
- Remove the caddy from the drive unit for transportation.
- Do not put the disc and the caddy in a location subject to:
  - dust
  - direct sunlight
  - high temperature
  - high humidity

## Cleaning

When a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the center out.  
Do not use solvents such as benzene, thinner, commercially available cleaners or anti-static spray intended for analog discs.

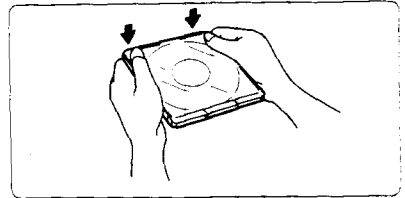
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- 3 Put a disc into the caddy with label upward. Be sure to place the disc beneath the edge of a caddy.



Do not touch the surface of the disc.

- 4 Close the lid firmly.



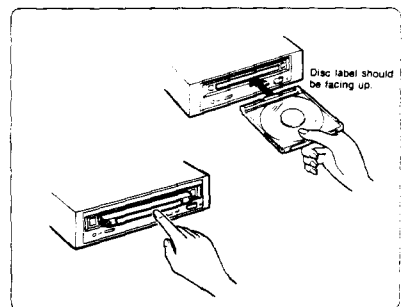
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## Operation

Make sure that the software is installed in the host computer before starting operation of the unit.

### To start-up the unit

- 1 Turn on the power switch at the rear of the unit.  
The busy/power indicator lights up in green.
- 2 Insert the caddy into the caddy insertion slot as illustrated.



The drive starts reading the Table of Contents (TOC).  
The busy/power indicator goes amber while the TOC is being read.

The caddy will be ejected, if the enclosed disc is upside-down, if it is not properly nested in the caddy, or if any other conditions prevent the drive from reading the disc.

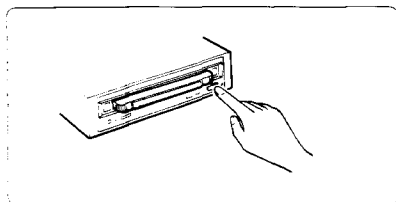
- 3 When the busy/power indicator goes green, the unit is ready to receive the command from the host computer.
- 4 From here on, follow the instructions provided by the software.

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# Specifications

## To eject a caddy

Press the eject button on the drive unit.

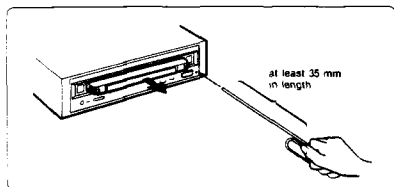


### Note

If the eject button is disabled by the software, the button does not function.

## To eject a caddy manually

- 1 First, turn off the power of the drive unit.
- 2 Insert a steel rod (about 1.2 mm diameter) into the emergency eject hole and push hard.



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## Environmental condition

<b>Operating</b>	
Temperature	5 to 45 °C
Humidity	10 to 90 %
Absolute humidity	30 grams/m <sup>3</sup>
	(maximum wet bulb temperature is 29 °C)
Atmosphere	Noncondensing
<b>Non-operating/Transportation</b>	
Temperature	-30 to 55 °C
Humidity	10 to 90 %
Atmosphere	Noncondensing
<b>Vibration</b>	
Operating	0.15 G <sub>rms</sub> at 5 to 300 Hz
Non-operating	2 G <sub>rms</sub> at 5 to 300 Hz
Transportation	0.015 G <sup>2</sup> /Hz at 5 to 50 Hz (with standard package)
<b>Shock</b>	
Operating	0.4 G <sub>rms</sub> at 11 ms half sine wave
Non-operating	40 G <sub>rms</sub> at 11 ms half sine wave
Transportation	76 cm drop (with standard package)

## General

Power requirements	100-240 V AC, 50/60 Hz
Power consumption	0.2 A
Weight	2.9 kg (6 lb 6 oz)
<b>Dimension (excluding projections)</b>	
	177.5 x 49 x 325 mm (w/h/d)
	(7 x 1 15/16 x 12 1/4 inches)

## Disc

<b>Disc</b>	
Applicable disc	CD-ROM Mode-1 data discs CD-ROM Mode-2 data discs CD-Audio discs Audio-combined discs CD-ROM XA discs CD-I discs
Disc diameter	12 cm, 8 cm
Rotational speed (Depends on the disc.)	
Innermost track	500 rpm at CLV = 1.4 meter/sec
Outermost track	200 rpm at CLV = 1.2 meter/sec

## Drive performance

<b>Data transfer rate</b>	
Sustained rate	150 K byte/sec
Burst rate	600 K byte/sec
<b>Access time</b>	
Full stroke	0.53 sec (typical)
Average (1/3 stroke)	0.34 sec (typical)
Interface cable length	3 m (maximum)

## Reliability

<b>Read error rate (includes retry)</b>	
LEC on	1 Block / 10 <sup>6</sup> bits
LEC off	1 Block / 10 <sup>6</sup> bits

## Audio

<b>Output level</b>	
Line out	0.5 V at 47 kΩ
Headphone	0.55 V at 32 Ω (at maximum volume)

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## Laser use

Type: Semiconductor laser GaAlAs
Wave length: 780 nm
Output power: 0.6 mW
Beam divergence: 53.4°±1.5°

Design and specifications are subject to change without notice.

## Supplied accessories

Drive number label (1)  
AC power cord (1)

## Optional accessories

Sony interface card for IBM PC, PC/XT, PC/AT\*, HP Vectra\*\*\*, PS/2  
Model 30 or compatible, CDB-231, CDB-242  
Sony bus cable RK-B101, RK-B60  
Caddy OPA-1011

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\*\* HP Vectra is registered trademark of Hewlett-Packard Company.

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