

SONY®

DDU1621 Series

DDU1621 Series

DVD-ROM Drive

User's Manual

Owner's Record

The model and serial numbers are located on the topside of the drive. Record these numbers in the space 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

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.

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

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



CAUTION

LASER RADIATION WHEN OPEN.
DO NOT STARE INTO BEAM

ATTENTION

RAYONNEMENT LASER EN CAS D'OUVERTURE.
NE PAS REGARDER DANS LE FAISCEAU.

This label is located on the drive unit's internal chassis.

Dieses Etikett befindet sich auf dem inneren Chassis des Laufwerkes

CAUTION	INVISIBLE LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS.
VORSICHT	UNSIHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT IN DEN STRAHL BLICKEN, AUCH NICHT MIT OPTISCHEN INSTRUMENTEN.
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING SE IKKE IND I STRÅLEN-HELLER IKKE MED OPTISKE INSTRUMENTER.
ADVARSEL	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. STIRR IKKE INN I STRÅLEN ELLER SE DIREKTE MED OPTISKE INSTRUMENTER.
VARNING	OSYNLIG LASERSTRÅLNING NÅR DENNA DEL ÄR ÖPPNAD. STIRRA EJ IN I STRÅLEN OCH BETRAKTA EJ STRÅLEN MED OPTISKA INSTRUMENT.
VARO!	AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ TUIJOTA SÄTEESEEN ÄLÄKÄ KATSO SÄÄ OPTISEN LAITTEEN LÄPI.

This label is located on the top of the drive.

Dieser Aufkleber befindet sich an der Oberseite des Gehäuses.

ACKNOWLEDGMENTS & TRADEMARKS

All contents are subject to change at any time without notice. No responsibility is assumed for its use; nor for infringements of patents or other rights of third parties and no patent or license is implied hereby.


All trademarks are the property of their respective owners.

INFORMATION

You are cautioned that any changes or modifications not expressly approved in this manual could void your warranty covering this equipment.

Note: 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:

- Re-orient 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.



CLASS 1
LASER PRODUCT

LASER KLASSE 1
PRODUKT

This DVD-ROM Drive Unit is classified as a CLASS 1 LASER PRODUCT.

The CLASS 1 LASER PRODUCT label is located on the top of the drive.

Safety Notice

1. Do not install or operate the product in high temperature, humidity or dusty environment.
2. Do not attempt to open the cover to repair the product yourself.
3. Never spill liquid of any kind on the product.
4. Always follow instructions on this manual under operating the product.
5. To prevent exposure to laser emanations (harmful to human eyes), do not attempt to disassemble this unit.
6. Hold CD discs by their edges. Do not touch the surface of the discs.
7. The drive is designed to be incorporated into a computer-based system or unit which has an enclosing cover. Using the drive alone or in any other configuration is prohibited.

Caution:

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

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WARNING - Region Code Settings

This DVD drive conforms to the RPC-2 region code standard. If the DVD drive's region code is changed 5 times it can no longer be changed.

This region count can not be reset.

WARNING - Possible voiding of Warranty

Please be aware that cracked, deeply scratched or other poor quality discs used in this drive may cause damage to the drive and / or the data on the disc. Such discs may break at high speed rotation. If full care is not exercised in relation to this matter you may void the warranty of this product.

PRECAUTIONS

- Do not attempt to open the drive and service it. Removing the cover may cause exposure to harmful laser beams and electrical voltages. User is recommended to get service by returning the defected drive back to the original vendor where the drive is purchased.
- Use the original packing for transporting the drive or sending back for service. The original packing were designed and tested to protect your drive under rough conditions.
- Do not put this DVD-ROM drive in direct sunlight, on heat units, or near electrical appliances which draw large amounts of current.
- Keep your discs clean. Using soft, dust-free cloth to clear the surface of the disc.
- Do not drop or jolt the drive.
- Keep the area around the DVD-ROM drive clean from dust, smoke, and other contaminants.

Features

The DDU 1621 is an internal DVD-Rom (Digital Versatile Disc - Read Only Memory) drive unit designed for use with personal computers. It can also function as a CD-Rom (Compact Disc - Read Only Memory) drive. It comes with the following features:

General

- Speed: 16X DVD-Rom or 40X CD-Rom.
- 40 Pin ATAPI - IDE interface.
- Dust Proof Structure.
- Industry Standard RPC-2 region coding.
(refer to "Warnings & Precautions").
- 5 1/4 inch half-height drive form factor.
- Power loading and eject of a disc.
- 512 KB of buffer memory.
- Power saving functions.

Supported Disc Formats

The DDU 1621 can read data in each of the following formats:

- DVD Family: SS-SL, SS-DL-OPT, SS-DL-PTP, DS-SL, DS-SL-OPT, DS-SL-PTP DVD-ROM DISCS.
- CD Family: CD/DA, CD-ROM, CD-ROM XA, CD-I BRIDGE, PHOTO CD, VIDEO CD, ENHANCED MUSIC CD, CD-R & CD-RW (multiread) & CD TEXT.

Audio

- Outputs 16-bit digital data over the IDE or Digital Audio interfaces
- Analogue Audio is output over the line output and headphones jack for audio CD playback.

Software Requirements

Reading Data

For your computer to recognise your new DVD drive and to be able to access data from it, the correct device drivers must be installed.

Most modern operating systems such as Microsoft® Windows™ 95, 98, ME, NT4, 2000 and XP along with Macintosh® OS 8.5.1™ or later, most versions of Linux and OS/2™ include these drivers as standard in the operating system, hence no additional drivers are required for reading discs on these operating systems.

MS-DOS™

If you require the drive to be recognised by MS-DOS™ you will need to install the MS-DOS™ device driver. It can be downloaded from our support web site:

<http://www.sony.com.au/support/itp>

NOTE: If using Windows 95™ or later and you have previously installed the MS-DOS™ device driver it is recommended that you disable or remove MS-DOS™ device driver as it will decrease performance and cause DVD movies to play back poorly.

DVD Movie Play Back

DVD movies are compressed in the MPEG-2 format and also contain encryption to protect against unauthorised duplication.

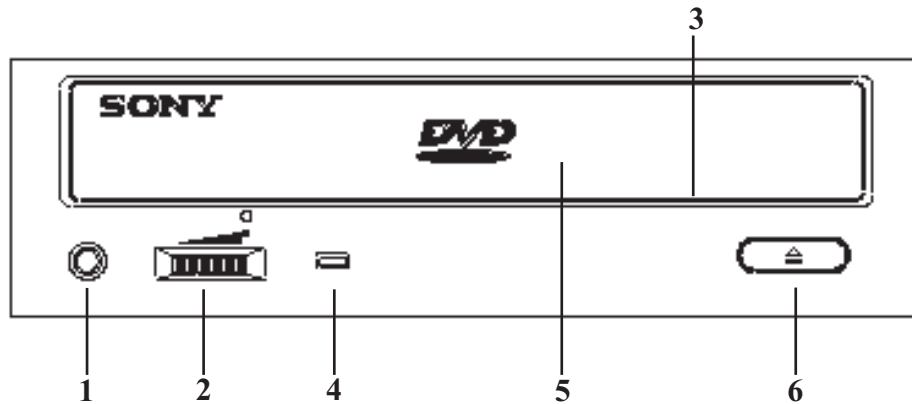
This compression and encryption requires specialised DVD movie player software & / or hardware for decoding the data.

If you do not already own DVD movie player software & / or hardware a list of available products is provided on our support web site:

<http://www.sony.com.au/support/itp>

If DVD movie play back is poor please refer the relevant DVD player software and / or hardware manufacturers web site for support.

Front Panel



- | | |
|---------------------|--|
| 1 - Earphone Jack | Stereo mini-jack for headphones and/or powered speakers. |
| 2 - Volume Control | Control volume of earphone jack. This control has no effect on rear panel audio output. |
| 3 - Emergency Eject | In case of the Eject button isn't working, insert a small paper clip into this hole to eject the tray. Note: Turn off the power before doing this manual ejection. |
| 4 - On/Busy LED | The On/Busy LED will be flashing while the DVD-ROM drive is busy. |
| 5 - Disc Tray | The user can open or close the disc tray by pressing the Open/Close button. |
| 6 - Open/Close | This is a toggle button. When pressed, the DVD-ROM drive will either open the door and tray out the disc, or tray in the disc and close the door. |

Playing DVD Movies

DVD movies are compressed in the MPEG-2 format and also contain encryption to protect against unauthorised duplication.

This compression and encryption requires specialised DVD movie player software & / or hardware for decoding the data.

If you do not already own DVD movie player software & / or hardware a list of available products is provided on our support web site:

<http://www.sony.com.au/support/itp>

Viewing DVD Movies

If you wish to view the DVD movie on your television or other external viewing source you will require some form of video signal output from your computer. Most computers do not have this feature as standard, however some DVD movie player hardware and some computer graphics cards incorporate these options. Please consult their relevant manuals or web sites.

If you experience problems when playing DVD movies please consult the relevant DVD Player software and / or hardware manufacturers web site for support.

DVD Regions

To further reduce the risk of DVD movie piracy & illegal imports most commercial DVD titles have a region code included in the encryption on the disc. This region code varies according to your location.

- 0 - No Region Code (Region Free).
- 1 - US, Canada, US Territories.
- 2 - Japan, Europe, South Africa & Middle East (Inc. Egypt).
- 3 - South East Asia & East Asia (Inc. Hong Kong).
- 4 - Australia, New Zealand, Pacific Islands, Central America, Mexico, South America & the Caribbean.
- 5 - Eastern Europe, Indian Subcontinent, Africa, North Korea & Mongolia.
- 6 - China.
- 7- Reserved.
- 8 - Special International Venues (Airplanes, Cruise Ships, etc.).

To play a DVD movie title with region coding your DVD drive must be set to the same region as the disc you are trying to play.

When you receive your new Sony DVD drive its region code has not been set. The first time a region coded disc is inserted in your DVD drive your “DVD Player Software” or “Operating System” will ask you to confirm the initial region setting.

After this initial region setting the drives region code can then be changed a total of 5 times. If the region code is changed a total of 5 times it then will remain on the last region set and can not be changed or reset.

WARNING: *Expired region codes can not be reset.*

The region code is set and changed by either the DVD player software or the operating system. Please consult their relevant manuals for instructions.

NOTE: Your Sony DVD drive conforms to the RPC-2 region code standard.

System Requirements

To ensure stable performance, the following system specifications are recommended.

CPU	Pentium 166 MHz or higher
OS	Windows 95/98/ME/2000/NT 4.0 or XP
Memory	64MB minimum
Hard Drive	Minimum 100MB available capacity
Interface	Vacant IDE interface connector (Master is recommended)

NOTE: Your DVD movie player software and / or hardware may have different system requirements. Please refer to their relevant manuals.

Hardware Installation

Please refer to your PC's user manual and follow their guidelines for adding hardware components. Always follow their anti-static precautions.

- 1 Set the Master/Slave jumper on DVD-ROM rear panel (refer to figure 1)
NOTE: For optimum DVD movie playback it is recommended that the drive be set as the "Master" device.
- 2 Locate an empty drive bay and slide the DVD-ROM drive into the bay. Secure with four screws.
- 3 Connect the power supply cable to the DVD-ROM drive. (Ensure the pin definition of power connector is the same as shown in figure 1).
- 4 Connect the 40 pin IDE / ATAPI cable to the DVD-ROM drive according to the description in figure 1 (Note: Pin 1 on the cable is generally indicated by a red stripe along the edge of the ribbon cable).
- 5 Connect the sound cable from the Analog Audio on the rear panel of DVD-ROM to your sound card (if you have a sound card in your system).
- 6 Follow you PC's user manual to re-assemble your PC.

NOTE: For optimum performance on Windows based systems the drives DMA setting in the device manager should be enabled. Refer to your Systems help menu for assistance.

Connections and Settings

There are three pairs of jumpers, MA (Master), SL (Slave) and CS (Cable Select) on the rear panel of your DVD-ROM drive. Figure 1 shows the location of each jumper.

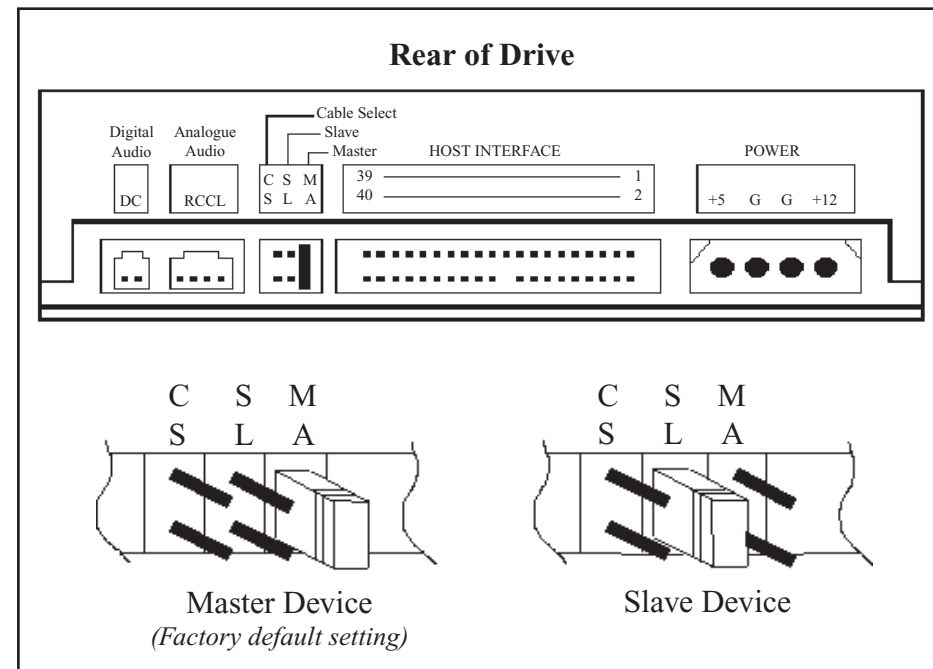


Figure 1

NOTE: For optimum DVD movie playback it is recommended that the drive be set as the "Master Device".

CS (CSEL)

If your system supports the CS setting you can set the jumper to the "CS" position. The Master/Slave setting will then be made automatically depending on your hardware Configuration. No jumper is then required on the "MA" or "SL" pins.

Connecting the IDE cable

Most PC systems can connect up to 4 devices on the IDE ports. Your PC should consist of a “Primary IDE Bus” and a “Secondary IDE Bus” each of which can have two devices connected to it - a “Master device” and a “Slave device” *Refer Figure 2.*

In most PC systems, the hard disk drive is set as the “Master Device” on the “Primary IDE Bus”, **this should not be altered.**

It is recommended that you connect the DVD-ROM drive as the “Master Device” on the “Secondary IDE Bus”.

The DVD-ROM drive can also be set as the “Slave Device” on either bus if both of the “Master Device” possibilities have been taken by other devices, however on some systems this may reduce playback performance of DVD movies.

For optimum DVD movie playback it is recommended that the drive be set as the “Master Device”. The “Master device” will always receive CPU priority.

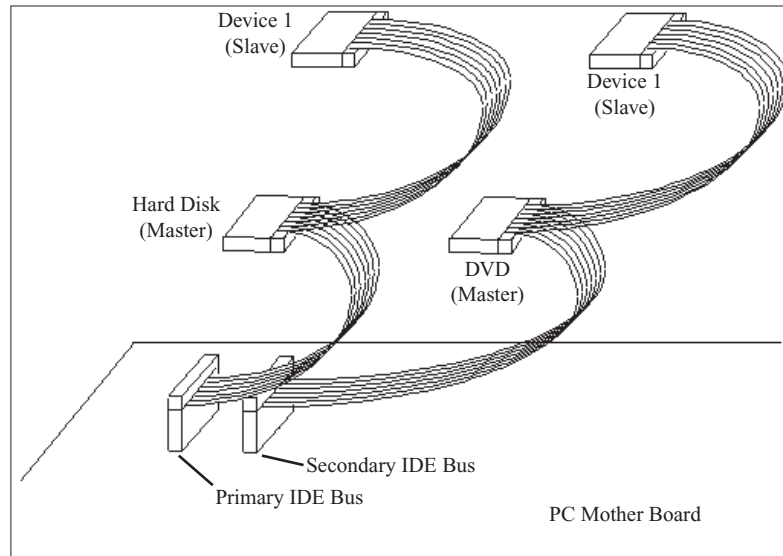


Figure 2

If you experience any trouble during installation or normal use of your DVD-ROM drive, please refer to the following information.

You will find further information on our support web site:

<http://www.sony.com.au/support/itp>

Symptoms

Appears to have no power.

DVD drive not recognised by system.

The disc tray will not open.

Cannot read data on discs.

No sound.

Cannot play DVD movie

Action

Check DC power cable connection.

Check IDE interface connections.
Check the MASTER/SLAVE settings of all devices.

Disable the “lock eject” feature software of the operating system.
Shut power down and use emergency eject hole to eject disc.

Check the surface of CD media, always keep it clean and free from scratches.
Check the quality of CD media.
Check if other discs or music CD’s are reading OK.
Is Disc inserted upside down?
Could disc be a UDF formatted disc? Check if a UDF reader is installed.

Check sound cable connections.
Check the volume settings of the drive and operating system volume controls.
Are speakers turned on?

Check if the DVD Player software and/or hardware is installed.
Check minimum speed of CPU, sufficient memory and HDD are used.
Make sure the region code of the disc and / or drive are set correct.

SPECIFICATIONS

General

Host Interface	ATA-PI compliant.
Acceptable Formats	
DVD Family:	SS-SL, SS-DL-OPT, SS-DL-PTP, DS-SL, DS-SL-OPT, DS-SL-PTP DVD-ROM DISCS.
CD Family:	CD/DA, CD-ROM, CD-ROM XA, CD-I BRIDGE, PHOTO CD, VIDEO CD, ENHANCED MUSIC CD, CD-R & CD-RW (multiread) & CD TEXT.
Acceptable Disc Diameters	12 cm and 8 cm.

Performance

Rotational Speeds	DVD-Rom, Max 16X. CD-Rom, Max - 40X,.
Random access time	100 ms in DVD-ROM. 85 ms in CD-ROM.
Data Buffer	512 KB.
Burst Data Rate	Ultra DMA- 33.3 MB/sec. DMA mode 2- 16.7 MB/sec. PIO mode 4- 16.7 MB/sec.

Audio

Line Output (Front)	0.8 +/- 10% VRMS @ 47K ohm load
Line Output (Rear)	0.7 +/- 10% VRMS @ 32K ohm load

Reliability

MTBF	100,000 POH @ 25% Duty
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Power Requirements

Operation Max	+5V = 1200mA	
	+12V = 1300mA	
Sleep Max	+5V = 220mA	
	+12V = 22mA	
Voltage Requirements	+5V +/- 5% and less than 100m Vp-p ripple voltage	
	+12V +/- 10% and less than 200m Vp-p ripple voltage	

SPECIFICATIONS

Environmental Conditions

Operating	Temp	5°C to 45°C
	Humidity	8% to 80% RH
Non Operating	Temp	-30°C to 60°C
	Humidity	5% to 90% RH

Dimensions & Mass

Dimensions	143.2 x 38.85 x 172 mm (WxHxD)
Weight	0.95Kg