



Driver Software for DVD-RAM/R Drive
**Windows® 98 / Windows® Millennium Edition /
Windows® 2000
User's Manual**

Computer	IBM PC / AT compatible computer
OS	Windows® 98 / Windows® Millennium Edition / Windows® 2000 (Professional)*1
DVD-RAM/R drive	ATAPI interface 4.7GB DVD-RAM/R Drive manufactured by Matsushita Electric Industrial Co., Ltd.

*1: Not support multiple CPU system

- Specification and design are subject to change without notice.
- This manual is subject to change without notice.

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Before installing the software

Before installing the software

The following programs are supplied on CD-ROM with this DVD-RAM/R drive (be sure to install them on your computer.). All of the software programs listed below are installed when you run the installation program.

■ **Driver software**

A program that allows the DVD-RAM drive to be used in a Windows 98 / Windows Me / Windows 2000 environment, and to allow reading from and writing to UDF format discs.

1. DVD-RAM/R device driver - A device driver that enables Windows to properly communicate with the DVD-RAM/R.
2. UDF file system driver - A device driver that enables Windows to read from and write to a UDF formatted DVD-RAM disc.

■ **Format software (DVDForm)**

Software to format DVD-RAM discs in UDF or FAT.

■ **Region setting software (DVDRgn)**

Allow you to set the region number for DVDs.

Driver software installation

■ In case of Windows 98 / Windows Me

1

Insert the supplied CD-ROM into the DVD-RAM/R drive.

The installation program starts automatically.

- If the installation program does not start automatically, start it manually by following the procedure below.

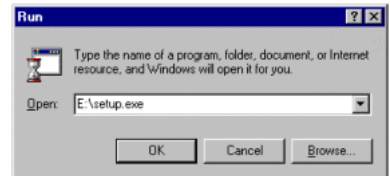
(This assumes that the drive letter assigned to the DVD-RAM/R drive for CD-ROM media is E:.)

1 From the Start menu select [Run].

2 In the “Open” box, enter “e:\setup.exe”.

3 Click [OK].

The installation program starts.

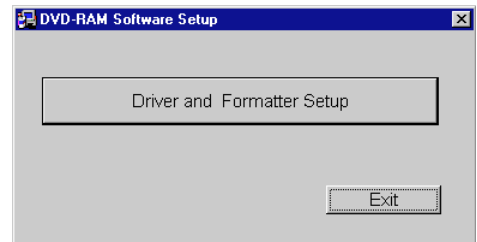


2

Click [Driver & Formatter Setup].

The installation begins.

- Follow the on-screen instructions to proceed.



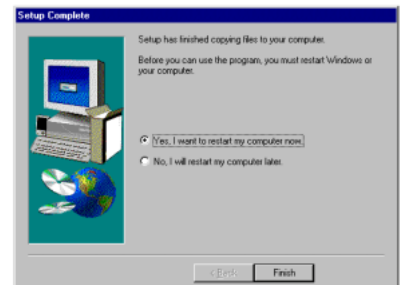
3

After the installation,

1 Select “Yes, I want to restart my computer now.”

2 Click [Finish].

The computer now reboots.



- You can use the DVD-RAM/R drive after rebooting.
- To verify that the drivers were installed correctly, refer to “Checks after installation” on page 9.

■ In case of Windows 2000

1

Insert the supplied CD-ROM into the DVD-RAM/R drive.

The installation program starts automatically.

- If the installation program does not start automatically, start it manually by following the procedure below.

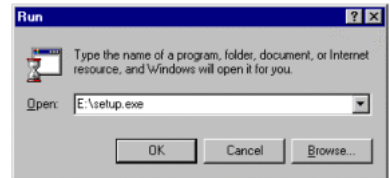
(This assumes that the drive letter assigned to the DVD-RAM/R drive for CD-ROM media is E:.)

① From the Start menu select [Run].

② In the “Open” box, enter “e:\setup.exe”.

③ Click [OK].

The installation program starts.

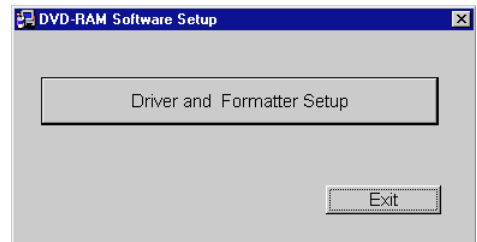


2

Click [Driver & Formatter Setup].

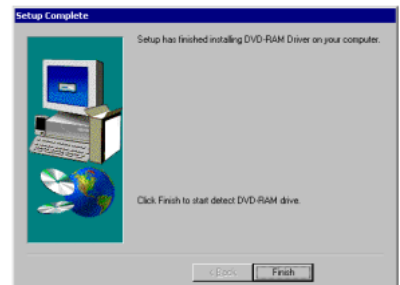
The installation begins.

- Follow the on-screen instructions to proceed.



3

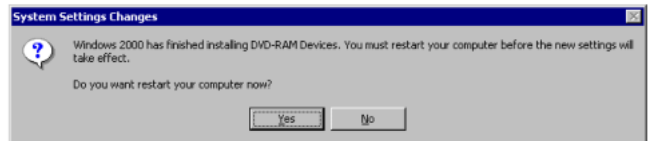
After the installation, Click [Finish].



4 **1** Detect DVD-RAM Devices.



2 After finished installing DVD-RAM Devices, click [Yes].



The computer now reboots.

- After rebooting, Windows 2000 installs DVD-RAM Devices.

5 After installing DVD-RAM/R drive, In case the following message is shown, click [Yes].



The computer now reboots.

- You can use the DVD-RAM/R drive after rebooting.
- To verify that the drivers were installed correctly, refer to "Checks after installation" on page 9.
- In case the above message is not shown, it is unnecessary to follow this step, but be sure to verify that the drivers were installed correctly referring to page 9.

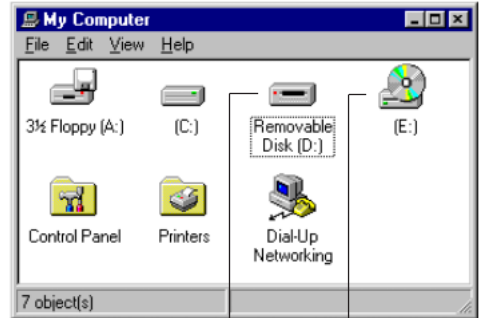
Checks after installation

Follow the steps described below to check that the DVD-RAM/R drive is recognized properly.

■ Checking with [My Computer]

If the DVD-RAM/R drive was correctly connected and the driver programs were properly installed, icons for DVD-RAM disc and CD-ROM/DVD-ROM/DVD-R will be added in [My Computer]. In the example below, removable disks (DVD-RAM disc) have been assigned the drive name D:., and CD-ROMs (CD-ROM/DVD-ROM/DVD-R drive) have been assigned the drive name E:.

- If the correct icons do not appear, select [Refresh] from the View pull-down menu.



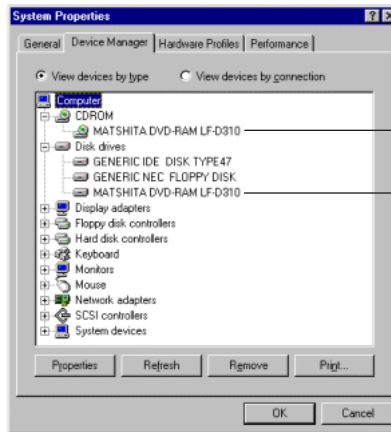
DVD-RAM disc icon (example: drive D)

CD-ROM/DVD-ROM/DVD-R icon (example: drive E)

■ Checking using [Device Manager]

Windows 98 / Windows Me only

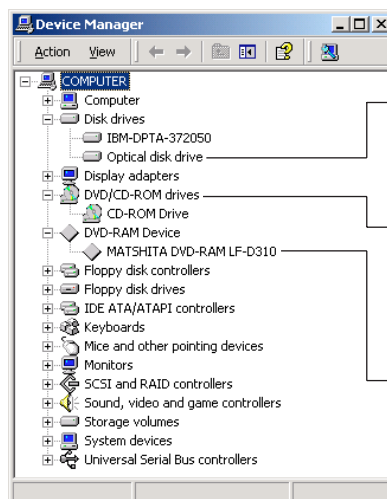
- 1 From the Start menu, select [Settings], then [Control Panel].
- 2 Select [System], and then click on the [Device Manager] tab to bring up the right-side window which shows all devices connected.
- 3 Double-click "CD-ROM" and "Disk drives" and verify that items ① and ② appear.



- ① CD-ROM/DVD-ROM/DVD-R part of this DVD-RAM/R drive is recognized.
- ② DVD-RAM/R disc part of this DVD-RAM/R drive is recognized.

Windows 2000 only

- 1 From the Start menu, select [Settings], then [Control Panel].
- 2 Select [System], and then click on the [Hardware] tab to bring up the right-side window which shows all device connected.
- 3 Double-click "Disk drives", "DVD/CD-ROM drive" and "DVD-RAM device" and verify that items ①, ② and ③ appear.



- ① DVD-RAM part of this DVD-RAM drive is recognized.
- ② CD-ROM/DVD-ROM/DVD-R part of this DVD-RAM drive is recognized.
- ③ DVD-RAM disc part of this DVD-RAM drive is recognized.

Using a DVD-RAM Disc

Formatting

A DVD-RAM disc can be formatted using either UDF (Universal Disk Format) or FAT format.

Use the format appropriate to your needs.

Format 2.8 GB (8 cm) / 5.2 GB / 9.4 GB double-sided DVD-RAM discs one side at a time.

■ UDF (Universal Disk Format)

UDF is newly specified for the DVD family of products to enable a high level of data compatibility between DVD-ROM, DVD-R and DVD-RAM. This new format is optimized for big capacity files, such as Video and Audio capture and playback, to keep constant, high transfer rates.

- When the UDF is used for formatting, files may be displayed more slowly in Explorer.

■ FAT Format

FAT is the Windows OS embedded file system and used for hard disk drives.

- Compared with UDF, it is good for small random file access.

Note:

- DVD-RAM disc cannot be formatted with the NTFS type supported by Windows 2000.

Starting the formatting software (DVDForm)

- 1** Insert the DVD-RAM disc you want to format.
- 2**
 - 1** Open [My Computer]
 - 2** Right click on the “Removable Disk” icon allocated to the DVD-RAM.
- 3** Click [Format].



Recommended formats

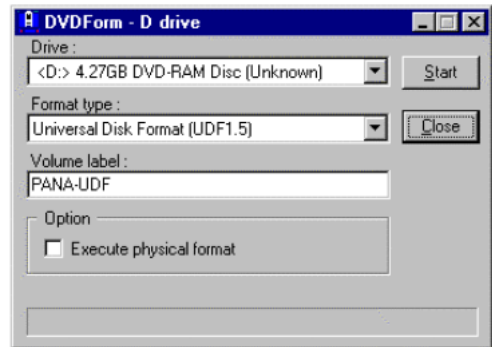
- Select “Universal Disk Format (UDF 1.5)” when you are going to use the DVD-RAM disc to write PC data.

This format allows the transfer of the data between different operation systems, such as between Windows and Mac OS*1.

- 1 Select “Universal Disk Format (UDF 1.5)”.

- 2 Enter a volume name.

- 3 Click [Start].



*1: Only MAC OS9 can read and write UDF 1.5 formatted DVD-RAM discs (as at June 1, 2001).

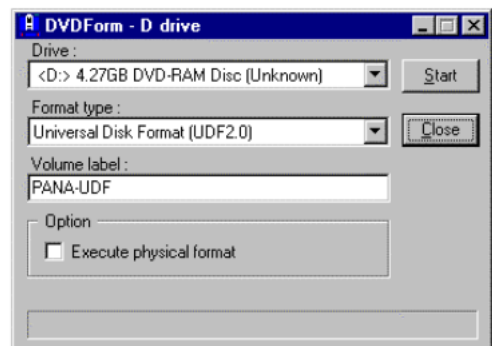
- Select “Universal Disk Format (UDF 2.0)” when you are going to use the DVD-RAM disc to write audio-visual data.

Select this format only if the disc is to be played in a DVD Recorder that uses the DVD Forum's video recording standard or with the recording software designed for personal computers that is based on the above standard, or if an 8-cm DVD-RAM is to be used in a DVD video camera.

- 1 Select “Universal Disk Format (UDF 2.0)”.

- 2 Enter a volume name.

- 3 Click [Start].

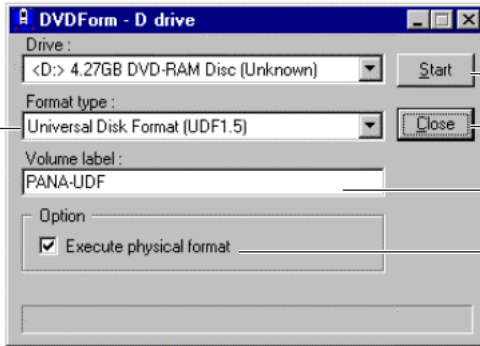


Note:

The driver software for Windows 2000 included with this DVD-RAM/R drive has the following limitations because it is compatible only with UDF 2.0.

- When formatting discs, you will be unable to select “Universal Disk Format (UDF2.0)”.

Parts of the windows



Click to start formatting.

Click to close DVDForm.

Enter a volume name.

You must input a volume name when you select UDF format. When you do not input it, a volume name is set as "PANA-UDF" automatically.

Select this when you want to perform physical formatting.

(There is no need to do this every time.)

This mode forces a check of all sectors for defects and allocates detected defective sectors to the spare area.

(Normally it takes about one hour for 4.7 GB/9.4 GB DVD-RAM discs, and 2.6 GB/5.2 GB DVD-RAM discs and takes about a half hour for 8 cm DVD-RAM disc.)

Select the format type.

(see the table below and page 13)

Select the format type.

4.7 GB / 9.4 GB DVD-RAM discs

<p>Universal Disk Format (UDF 1.5)</p>	<ul style="list-style-type: none"> This is the standard format type for DVD-RAM. Data can be transferred between different operating systems, for example Windows and Mac OS*1. DVD-RAM formatted with UDF1.5 cannot be used with DVD Video recorders that use the DVD Forum's video recording standard or with the recording software designed for personal computers that is based on the above standard.
<p>Universal Disk Format (UDF 2.0)</p>	<ul style="list-style-type: none"> This format is designed to be used with DVD Video recorders that use the DVD Forum's video recording standard and with the recording software designed for personal computers that is based on the above standard. Perform this format for a disc used for a DVD video recorder. This is not displayed in Windows 2000. The computer you are using must be able to handle UDF2.0 to use DVD-RAM formatted with UDF2.0.
<p>FDISK FAT-16 2.0 GB</p>	<ul style="list-style-type: none"> This is the Windows OS embedded format type. This format can be used with Windows 95 / Windows 98 / Windows Me / Windows NT / Windows 2000.
<p>FAT-32</p>	<ul style="list-style-type: none"> This is the additional format type on Windows 95 (OSR2*2) / Windows 98 / Windows Me / Windows 2000. FAT-32 formatted discs cannot be used on Windows NT.
<p>FDISK FAT-16 4.0 GB (Windows NT / Windows 2000 Only)</p>	<ul style="list-style-type: none"> This is the Windows 2000 embedded format type. This is not displayed in Windows 98 / Windows Me. Do not use FDISK FAT-16 4.0 GB formatted DVD-RAM discs on Windows 95 / Windows 98 / Windows Me.

Continued on next page

• **2.6GB / 5.2GB DVD-RAM discs**

Universal Disk Format (UDF 1.5)	<ul style="list-style-type: none"> • This is the standard format type for DVD-RAM. Data can be transferred between different operating systems, for example Windows and Mac OS*1.
FDISK FAT-16 2.0 GB	<ul style="list-style-type: none"> • This is the Windows OS embedded format type. • This formatted DVD-RAM disc can be used with Windows 95 / Windows 98 / Windows Me / Windows NT / Windows 2000.
FAT-32	<ul style="list-style-type: none"> • This is the additional format type on Windows 95 (OSR2*2) / Windows 98 / Windows Me / Windows 2000. • FAT-32 formatted discs cannot be used on Windows NT.
FDISK FAT-16 2.32 GB (Windows NT / Windows 2000 Only)	<ul style="list-style-type: none"> • This is the Windows 2000 embedded format type. • This is not displayed in Windows 98 / Windows Me. • Do not use FDISK FAT-16 2.32 GB formatted DVD-RAM discs on Windows 95 / Windows 98 / Windows Me.

• **8-cm DVD-RAM discs**

Universal Disk Format (UDF 1.5)	<ul style="list-style-type: none"> • This is the standard format type for DVD-RAM. Data can be transferred between different operating systems, for example Windows and Mac OS*1. • DVD-RAM formatted with UDF1.5 cannot be used with DVD Video recorders and DVD video cameras that use the DVD Forum's video recording standard or with the recording software designed for personal computers that is based on the above standard.
Universal Disk Format (UDF 2.0)	<ul style="list-style-type: none"> • This format is designed to be used with DVD Video recorders and DVD video cameras that use the DVD Forum's video recording standard and with the recording software designed for personal computers that is based on the above standard. Perform this format for a disc used for a DVD video recorder or a DVD video camera. • This is not displayed in Windows 2000. • The computer you are using must be able to handle UDF2.0 to use DVD-RAM formatted with UDF2.0.
FDISK FAT-16 2.0 GB	<ul style="list-style-type: none"> • This is the Windows OS embedded format type. • This format can be used with Windows 95 / Windows 98 / Windows Me / Windows NT / Windows 2000.
FAT-32	<ul style="list-style-type: none"> • This is the additional format type on Windows 95 (OSR2*2) / Windows 98 / Windows Me / Windows 2000. • FAT-32 formatted discs cannot be used on Windows NT.

*1: DVD-RAM formatted with UDF 1.5 can only be read by Mac OS 9.0 (as at June 1, 2001).

*2: Windows 95 whose system property is "4.00.950 B" or "4.00.950 C".

Confirm the system properties in [Start] → [Setting] → [Control Panel] → [System].

The formats you can use with the various Windows operating systems and free space and used space after formatting.

There are 4.7 GB of capacity on a side on 4.7 GB and 9.4 GB DVD-RAM discs. There are 2.6 GB of capacity on a side on 2.6 GB and 5.2 GB DVD-RAM discs. There are 1.4 GB of capacity on a side on 8-cm DVD-RAM discs.

This chart shows the free space and used space on one side after formatting.

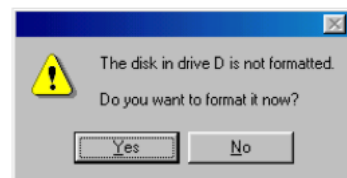
DISC	Format Type	Free space	OS version (used space shown in parentheses)	
			Windows 98 Windows Me	Windows 2000
4.7 GB 9.4 GB (one side)	UDF1.5	4.26 GB* ³	○(384 KB)	○(282 KB)
	UDF2.0	4.26 GB* ³	○(384 KB)	×
	FDISK FAT-16 2.0 GB	1.99 GB	○	○
	FAT-32	4.25 GB* ³	○ (4 KB)	○ (4 KB)
	FDISK FAT-16 4.0 GB	3.99 GB	×	○
2.6 GB 5.2 GB (one side)	UDF1.5	2.32 GB	○(128 KB)	○(158 KB)
	FDISK FAT-16 2.0 GB	1.99 GB	○	○
	FAT-32	2.31 GB	○(4 KB)	○(4 KB)
	FDISK FAT-16 2.32 GB	2.32 GB	×	○
1.4 GB 2.8 GB (one side)	UDF1.5	1.3 GB	○(96 KB)	○(92 KB)
	UDF2.0	1.3 GB	○(96 KB)	×
	FDISK FAT-16	1.3 GB	○	○
	FAT-32	1.3 GB	○(4 KB)	○(4 KB)

*3: This is the capacity if 4.7 GB / 9.4 GB DVD-RAM discs or 8-cm DVD-RAM discs manufactured by Panasonic are formatted using the formatting software included with this DVD-RAM drive.

Caution:

- **Do not format a DVD-RAM disc with the standard formatting software that starts if you click on [Yes] when the following window appears in Windows 98 or Windows Me.**

Formatting a DVD-RAM disc with the standard format program include in Windows 98 / Windows Me results in a FAT 16 format that exceeds the 2.0 GB limit, which can interfere with subsequent use.



- **Executing Format software on Windows 2000.**

1. When using the format software, you must login with the user name that belongs to "Administrator group".
2. You must close all applications used on a DVD-RAM disc prior to format.

Accessing DVD-RAM discs recorded on a DVD VIDEO Recorder

When you record onto a DVD-RAM disc with a DVD video Recorder, a DVD video camera, computer software that follows the “Video Recording Standards” developed by the DVD Forum, a folder labeled “DVD_RTAV”, in which all the relative video recording standard files are stored, is created. Do not access this folder and the files it contains with a computer.

Some of the files inside this folder exceed 2 GB. Due to limitations Windows 98, such files cannot be copied and their size may not be displayed correctly.

If any of the files are erased or changed, you may not be able to play the video on a DVD video recorder or with the video software for computers.

To access these files with a computer you will need special software.

When using MS prompts or applications in MS-DOS or Windows 3.1

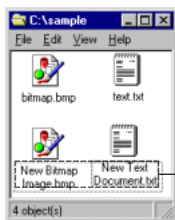
■ Displaying the folder name or file name written on the UDF-formatted DVD-RAM disc on Windows 98 / Windows Me

When you are at the MS-DOS prompt or in MS-DOS or Windows 3.1 application, if you display folder names or file names which are not 8.3 file (folder) names*1 on a DVD-RAM disc, the folder names or file names will be displayed as 8.3 file (folder) names*1 as show below.

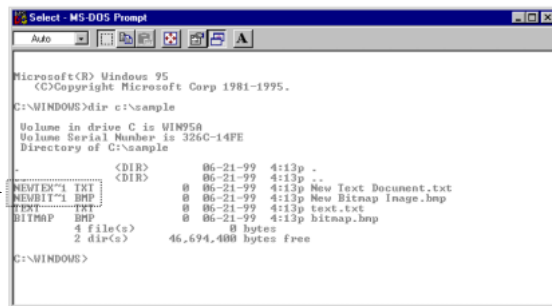
In case of FAT-formatted DVD-RAM disc

Displayed as 8.3 file (folder) names*1.

Display on Windows 98 / Windows Me



Display on MS-DOS prompt



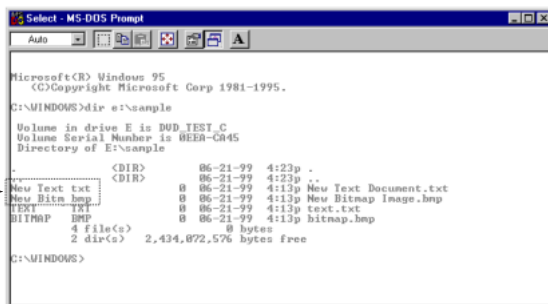
In case of UDF-formatted DVD-RAM disc

Up to eight characters are displayed.

In this case, you cannot copy, delete or perform other operations on these folders or files.



Display on MS-DOS prompt



■ Performing operations at the MS-DOS prompt or MS-DOS or Windows 3.1 applications on folders or files on the UDF-formatted DVD-RAM that are not 8.3 file (folder) names*1.

Use UDFTOOL.EXE in the [Start] → [Program] → [DVD-RAM] → [DVD-RAM driver] folder, and set this application to generate 8.3 file (folder) names*1.

[Select "Create MS-DOS file name according to UDF 1.02 specification." under "Select the creation method of MS-DOS name (8.3 type) for UDF".]

*1: An 8.3 file (folder) name is a file (folder) name in which the name part is eight characters or less and the extension is three characters or less. In file (folder) names following this convention, periods (.) are only used to separate the name part from the extension.

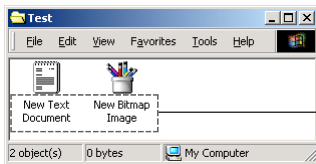
■ Displaying the folder name or file name written on the UDF-formatted DVD-RAM disc on Windows 2000

When you are at the MS-DOS prompt or in MS-DOS or Windows 3.1 application, if you display folder names or file names which are not 8.3 file (folder) names*1 on a DVD-RAM disc, the folder names or file names will be displayed as 8.3 file (folder) names*1 as show below.

In case of FAT-formatted DVD-RAM disc

Displayed as 8.3 file (folder) names*1.

Display on Windows 2000



Display on MS-DOS prompt

```

C:\>dir /x test
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

C:\>dir /x test
Volume in drive C is 2000 Eng
Volume Serial Number is ACE5-2724

Directory of C:\test

05/29/2005  03:41a    <DIR>          .
05/29/2005  03:41a    <DIR>          ..
05/29/2005  03:41a    0 NEWBIT~1.BMP  New Bitmap Image.bmp
05/29/2005  03:41a    0 NEWTEX~1.TXT  New Text Document.txt
                2 File(s)      0 bytes
                2 Dir(s)      4,386,320,384 bytes free

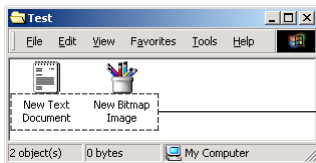
C:\>
  
```

In case of UDF-formatted DVD-RAM disc

Nothing is displayed.

This is a limitation of this device driver's specification.

Display on Windows 2000



```

D:\>dir /x test
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

D:\>dir /x test
Volume in drive D is PANA-UDF
Volume Serial Number is 32BD-1CFD

Directory of D:\test

05/29/2005  03:49a    <DIR>          .
05/29/2005  03:49a    <DIR>          ..
05/29/2005  03:41a    0          New Bitmap Image.bmp
05/29/2005  03:41a    0          New Text Document.txt
                2 File(s)      0 bytes
                2 Dir(s)      4,579,360,768 bytes free

D:\>_
  
```

■ When the folder name or file name other than 8.3 file (folder) name*1 by using MS-DOS prompts or Windows 3.1 application, please use the FAT formatted DVD-RAM disc.

*1: An 8.3 file (folder) name is a file (folder) name in which the name part is eight characters or less and the extension is three characters or less. In file (folder) names following this convention, periods (.) are only used to separate the name part from the extension.

Discs you can use

DVD-RAM discs

Once you have logically formatted a DVD-RAM disc, it can be used to read and write files just as you would with a hard disk or floppy disk.

For instance, if the “Removable Disk” icon assigned to this DVD-RAM/R drive is recognized as drive D, insert the DVD-RAM disc and perform the operations from D drive.

(The actual drive letter of the DVD-RAM/R drive will differ according to the environment of the system you are using.)

DVD-R discs

Using commercially available software designed for DVD-RAM/R drives allows a DVD-R disc to read and write.

For details, refer to the operating instructions for the software you use.

Other discs

The DVD-RAM/R drive can be used to play back music CDs, CD-ROMs, CD-Rs/RWs, DVD-ROMs and other discs just as you would with a CD-ROM drive or DVD-ROM drive.

For details, refer to the instruction manual supplied with the disc you wish to play back.

For instance, if the [CD-ROM] icon assigned to the DVD-RAM/R drive is recognized as the E drive, insert a CD-ROM or DVD-ROM and access it from E drive.

(The actual drive letter of the DVD-RAM/R drive will differ according to the environment of the system you are using.)

What you will need to play DVD-VIDEO discs.

- Your computer will need to have a DVD decoder board or DVD decoder software (not included).
- The region numbers on the DVD-RAM drive and DVD decoder board (or DVD decoder software) must match the region number on the DVD-VIDEO disc.
- Refer to the included operating instructions for the factory-setted region number of your DVD-RAM drive.
- Use DVDRgn to change the region number setting on the DVD-RAM drive (see page 19).

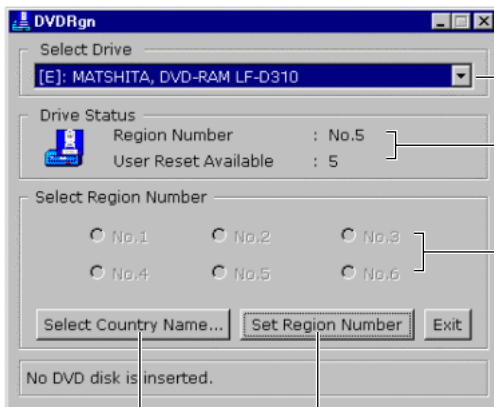
Using DVDRgn (region number setting utility)

DVDRgn

The regions where DVD-ROM and DVD-VIDEO discs can be played are specified by region numbers. In order to play a disc, the region number on the DVD-RAM/R drive must match the region number on the disc.

Starting the DVDRgn

From the Start menu, select [Programs] → [DVD-RAM] → [DVD-RAM Driver] → [DVDRgn].



Settings

① In [Select Drive] field, select the DVD-RAM/R drive.

② Insert a DVD disc with the desired region number setting in the DVD-RAM/R drive.

- If no disc is inserted, you cannot set the region number.

③ In [Drive Status] field, be sure to check the region number currently set and the number of times the region number can be changed.

- The region number can be changed a maximum of five times.

- If the number of times it can be changed is "0", the region number cannot be changed.

④ In [Select Region Number] field, select the region number for the inserted disc.

- The radio button(s) representing the region number(s) of the inserted DVD disc will be selectable.

- You can select the region number by country name. Click [Select Country Name...], and select your country.

⑤ Click [Set Region Number].

Note:

- When [User Reset Available] is "1", be sure to insert a DVD disc that only display one region number. If a disc displaying multiple region number is inserted, you will be unable to set/change the region number.
- When using DVDRgn on Windows 2000, login under the user name for the administrator group.

Troubleshooting

When this occurs	Possible cause	Refer to Page
DVD-RAM/R drive is not recognized on Windows.	<ul style="list-style-type: none"> • Is the device driver installed correctly? * If the device driver has not been installed correctly, Windows recognizes as a CD-ROM drive. Be sure to install the device driver. 	6-8
Cannot format DVD-RAM disc on Windows 2000.	<ul style="list-style-type: none"> • Did you login Windows 2000 by the user that belongs to "Administrator group"? • Did you finish all applications that use DVD-RAM disc? 	12-14
Cannot set/change the region number.	<ul style="list-style-type: none"> • Did you insert the DVD disc that has the region number you wish? • Did you login Windows 2000 by the user that belongs to "Administrator group"? 	19 19
Cannot display "8.3 type file name", which are written on the UDF formatted DVD-RAM disc on Windows 2000.	<ul style="list-style-type: none"> • This is a limitation of device driver. 	17
DVD-RAM disc cannot be read or written to.	<ul style="list-style-type: none"> • Did you initialize (format) the DVD-RAM disc? • Did you access the correct drive letter assigned to the drive? 	12 18
CD-ROM/DVD-ROM disc cannot be read.	<ul style="list-style-type: none"> • Only the discs supported by this drive can be used. • Is the disc inserted correctly and does the operation lamp turn green? • Did you access the correct drive letter assigned to the drive? • Have you set the drive's region number? 	*1 18 19
DVD-VIDEO cannot be played.	<ul style="list-style-type: none"> • Have you set the drive's region number? 	19

*1: Refer to the Operating Instructions that are contained in the DVD-RAM/R drives you purchased.

Uninstalling this driver software

Use the following procedure to remove the driver software from your computer.

■ In case of Windows 98 / Windows Me

1

From the Start menu, select [Settings], then [Control Panel].

- You may also open the [My Computer] window and then select [Control Panel].

2

Double-click [Add/Remove Programs] and select “DVD-RAM Driver”.

3

Click [Add/Remove].

- Follow the on-screen instructions to proceed.
- When you finish uninstalling, reboot your system.



■ In case of Windows 2000

1

From the Start menu, select [Settings], then [Control Panel].

- You may also open the [My Computer] window and then select [Control Panel].

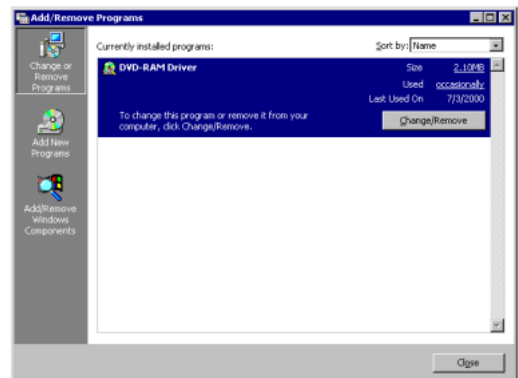
2

Double-click [Add/Remove Programs] and select “DVD-RAM Driver”.

3

Click [Change/Remove].

- Follow the on-screen instructions to proceed.
- Reboot the computer when you are finished.



Support Utilities

The following three utilities are included on the CD-ROM.

■ UDFTool – File System Utility

A utility that provides functionality to enable / disable the creation of MS-DOS file name and to change the priority of file system loading.

These utilities have been provided for use when you need support. You should not have to use them under normal circumstances.

■ RAMDiscTool – Software for use with non-cartridge discs

This software is for non-cartridge disc with 4.7GB DVD-RAM/R drive. This software enables you to take full advantage of the characteristics of non-cartridge discs. (see page 23)

■ ODDiag – DVD-RAM Support Tool

A utility that provides functionality to check the DVD-RAM/R drive and disc and to make copies of DVD-RAM discs. (see page 28)

These utilities have been provided for use when you need support. You should not have to use them under normal circumstances.

These utilities are installed with DVDform and DVDrgn.

They are installed in the following locations (unless you have specified another location).

In case of Windows 98 / Me:

“\Program Files\DVD-RAM\Win9x\DVD-RAM driver”

In case of Windows 2000:

“\Program Files\DVD-RAM\Win2K\DVD-RAM driver”

Using RAMDiscTool (Before using non-cartridge discs)

Software for use with non-cartridge DVD-RAM discs

This product includes software for non-cartridge DVD-RAM discs called RAMDiscTool. This software enables you to take full advantage of the characteristics of non-cartridge DVD-RAM discs.

■ Drive Setting for Non-cartridge DVD-RAM Disc

The drive can be set to “Enable to write” or “Disable to write” for non-cartridge DVD-RAM discs. The drive has been factory-set to “Enable to write”, so it is unnecessary to change this setting. It is usually unnecessary to change this setting.

■ Dust Check for DVD-RAM Disc

There are 3 levels of disc dustiness; level 3 is the dustiest. The results should only be used as a guide and should not be considered a guarantee of the disc's ability to read or write.

■ Write-Protect Setting for DVD-RAM Disc

With non-cartridge DVD-RAM discs, you are unable to use the write-protect tab on the cartridge to protect your data. This software allows you to protect data on non-cartridge DVD-RAM discs.

Once a DVD-RAM disc is set to the write-protected mode, it is valid until this setting is canceled by this software.

Note:

- This software can only be used with 4.7GB DVD-RAM/R drive.
- The Write-protect Setting is not applied to 2.6 GB DVD-RAM discs.

Starting RAMDiscTool

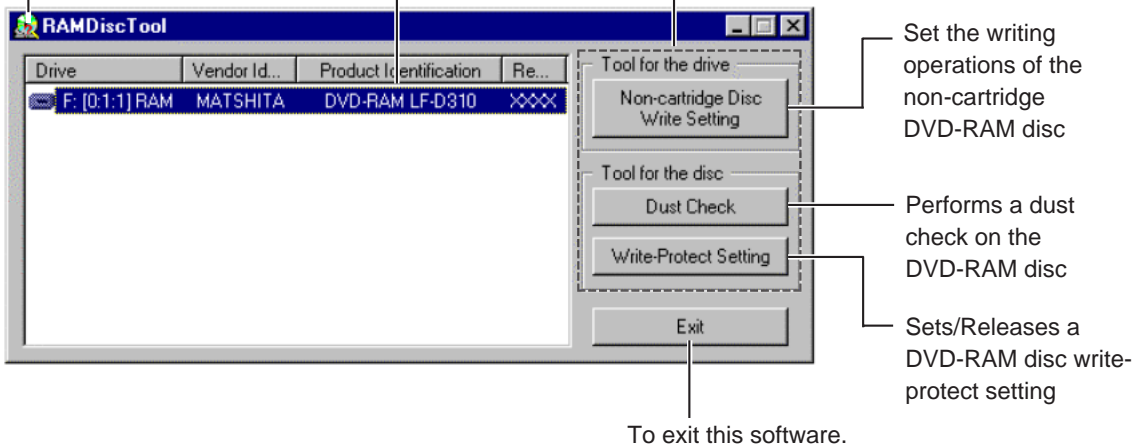
From the [Start] menu, select [Programs] → [DVD-RAM] → [DVD-RAM driver] → [RAMDiscTool].

- The following window for non-cartridge discs is shown.
- Select the drive and click on the buttons for the items you want to use.

The version number of the software is shown if you click here.

To select this drive

Item select buttons



- “DVD-RAM LF-D310” is displayed for the model number.

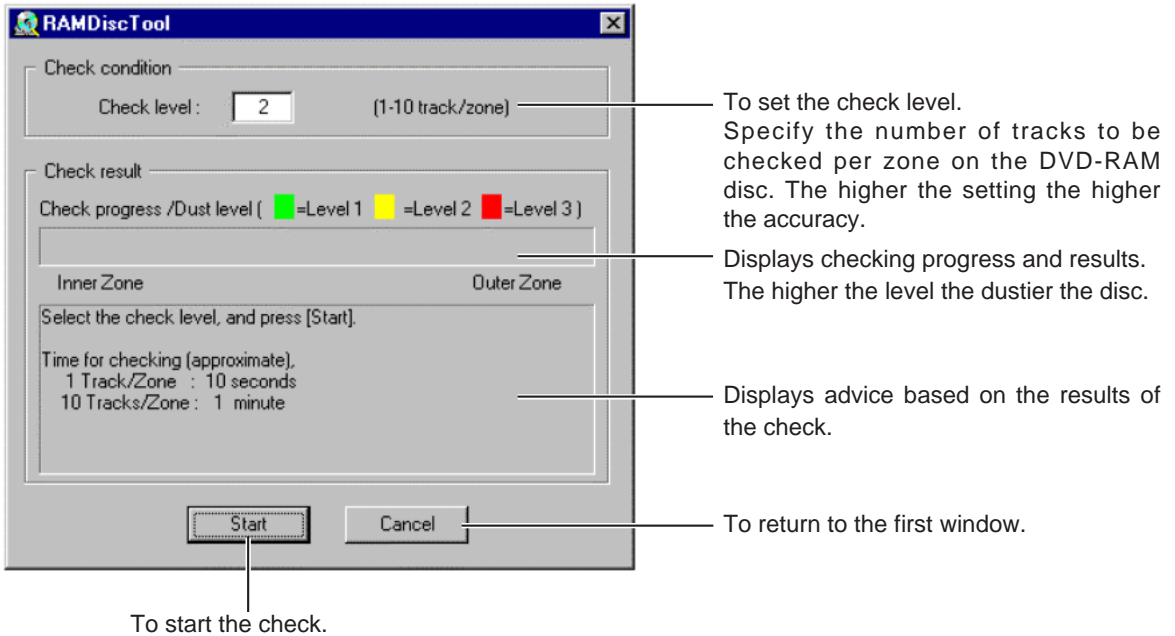
Note:

- The letters “xxxx” may be written for the version number in this manual, but each real version number appears on the display window. (On next page or later, this excuse sentence will not appear.)

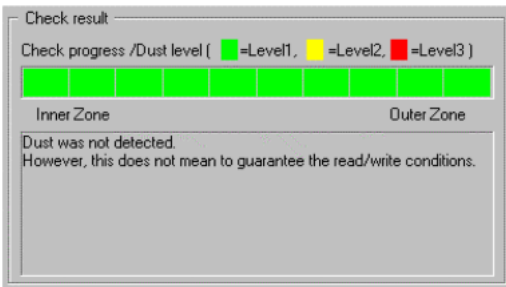
Dust Check

Insert a DVD-RAM disc to be checked to the DVD-RAM drive and click on the “Dust Check” button in the first window of the software.

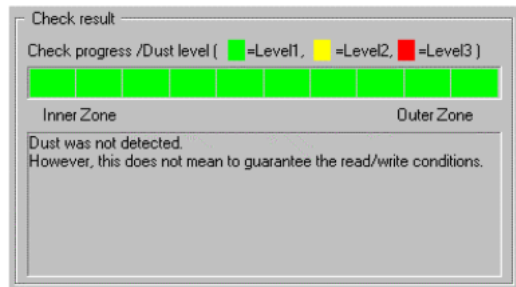
The following window is shown.



An example of the results if dust was not detected



An example of the results if dust was detected



Note:

The result should only be used as a guide and should not be considered a guarantee of the disc's ability to read or write.

Caution:

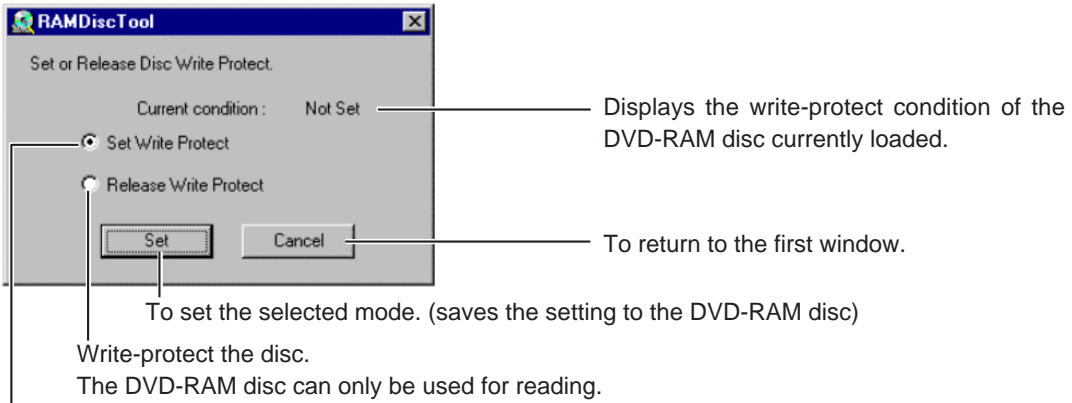
If level 2 or 3 is displayed even after cleaning the DVD-RAM disc and drive, there may be scratching or persistent dust.

Use the disc for read only.

Disc Write Protect

Insert a 4.7GB/9.4GB DVD-RAM disc or 8-cm DVD-RAM disc to be set or released to the DVD-RAM/R drive and click on the “Write Protect Setting” button in the first window of the software.

The following window is shown.



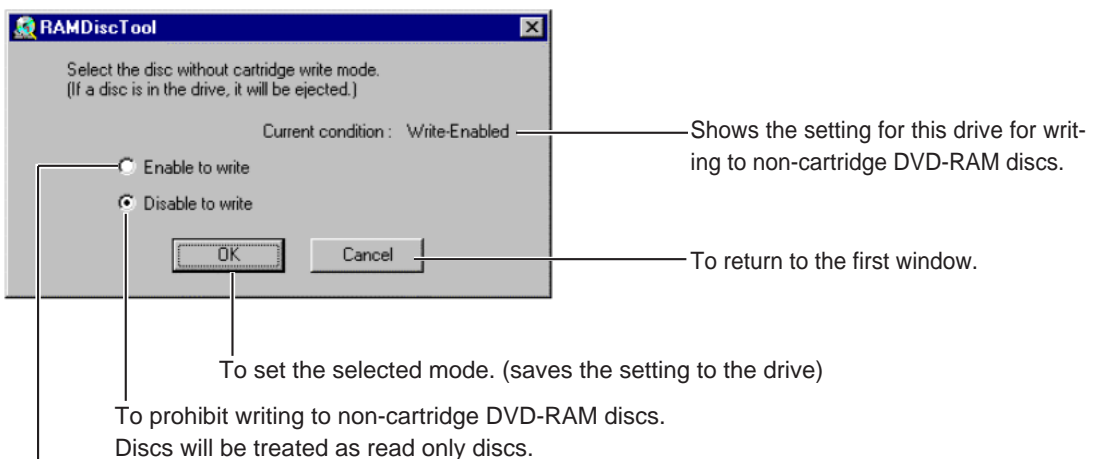
Write-enables the disc.

The DVD-RAM disc can be used for reading and writing.

Non-cartridge Disc Write Setting

Click on the “Non-cartridge Disc Write Setting” button in the first window of the software.

The following window is shown.



Enables writing to non-cartridge DVD-RAM discs.

Discs will be treated as read-write discs.

Note:

Occasionally, the drive may not allow you to copy to a DVD-RAM disc or reformat it. The following describes possible causes and solutions for when this occurs.

Cause	Solution
The tab on the cartridge is set to write-protect.	Set the tab to write-enable.
Software has been used to write-protect the non-cartridge DVD-RAM disc.	Use the software to write-enable the disc.
The drive has been set to prohibit writing to non-cartridge DVD-RAM discs.	Use the software to enable writing to non-cartridge discs. Some discs cannot be used for writing.
You are using a DVD-RAM disc that cannot be used for writing.	Try returning the disc to its cartridge.
Drive has used most of the DVD-RAM disc's spare sectors for defect management. This symptom typically occurs when the drive lens and/or disc are dusty. In this condition, the inserted disc will be write-protected.	Either use the disc for reading only, or clean the disc, back-up the data, and physical format it.

Using ODDiag (Drive/Disc Diagnostic Utility)

ODDiag

A utility that provides functionality to check the DVD-RAM/R drive and disc and to make copies of DVD-RAM discs.

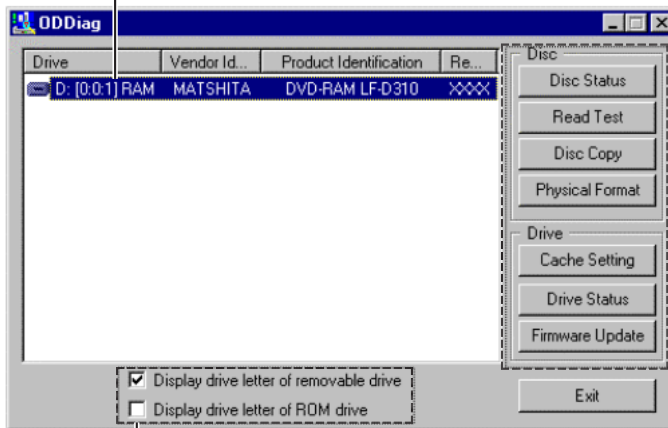
Starting ODDiag

From the Start menu, select [Programs] → [DVD-RAM] → [DVD-RAM Driver] → [ODDiag].

The ODDiag main dialog at below is shown.

Selecting Drive

- Select the drive to test from drive list.



Select the function to use from either [Disk] or [Drive] related functions.

Changing Drive Letter Display Mode

- Checking [Display drive letter of removable drive] displays drive letter of removable drives such as DVD-RAM.
- Checking [Display drive letter of ROM drive] displays drive letter of ROM drive for CD-ROM and DVD-ROM.

Note:

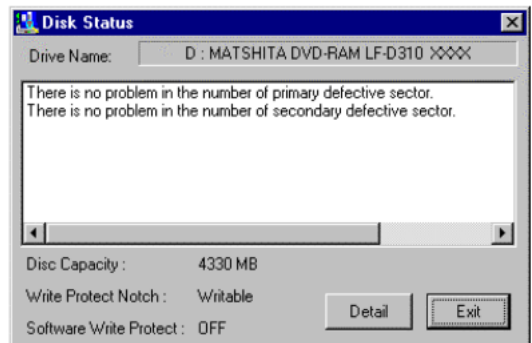
Note that only Panasonic made DVD-RAM/R drive is displayed in the list.

Disk Related Functions

■ Disk Status Check

Click on the “Disc Status” button in the first window of the utility.

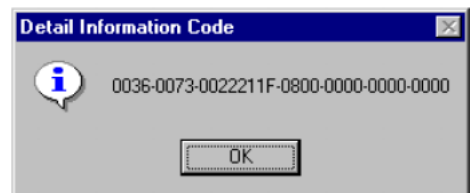
Check defective sectors in use, defect sector control data filed and displays the result.



- In some case, the message of “Cleaning of Disk and Drive” is displayed. In this case, follow the message and its instruction.

Clicking [Detail] displays detail information.

Use this data when you contact technical support.



Note:

Software Write Protection by the drive:

Even if the Write Protect notch of the cartridge is not set, the drive automatically sets software write protect.

This is because disk is dusty, shortage of spare area sectors on the disk and so on.

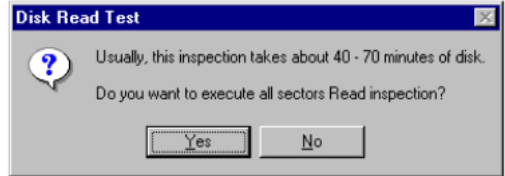
If [Software Write Protect] field is displayed as “On”, then this is the case.

In this case, make backup of the disk and do the cleaning of disk and drive by using cleaners available as optional accessories.

■ Disk Read Test

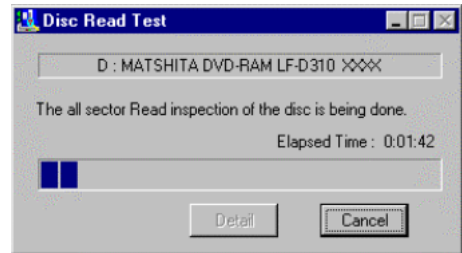
Click on the “Read Test” button in the first window of the utility.

When Disk Read Test dialog at right is displayed, click [Yes].
Then Disk Read Test will begin.



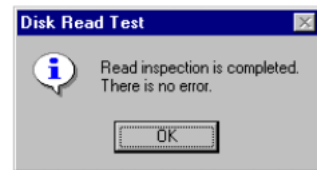
This test executes All Sectors Read test.

During the test, progress dialog at right is displayed.



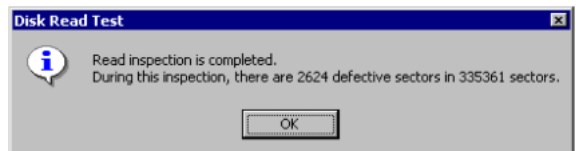
After the test, result is displayed.

- When there is no error, the dialog at right is displayed. Click [OK] to close.

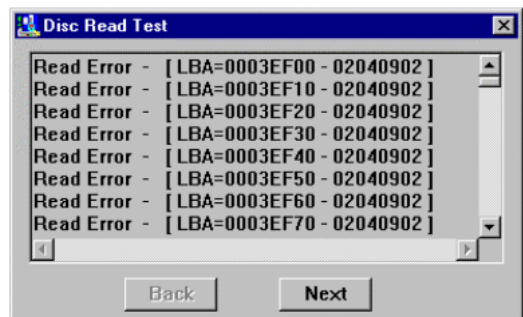
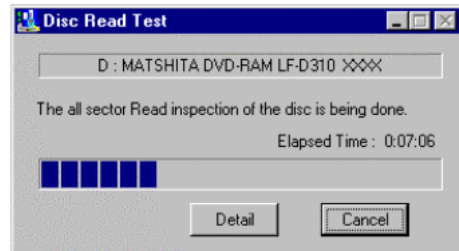


When there are error sectors, the dialog like at right is displayed, click [OK]

Since this disk may have a chance of causing Read/Write problem, it is recommended to make a back up of the disk and do the cleaning of disk and drive by using cleaners available as optional accessories.



Clicking [Detail] displays read error sector information.



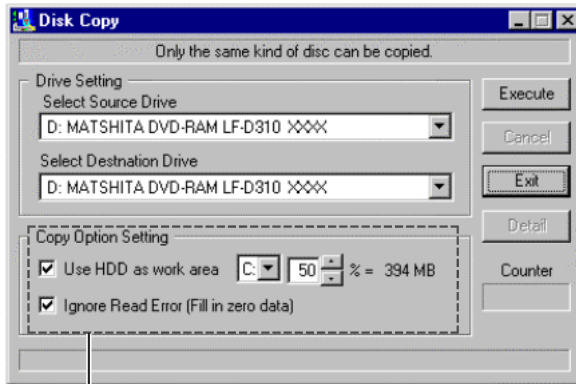
■ Disk Copy

Click on the “Disk Copy” button in the first window of the utility.

Disk Copy dialog at right is displayed.

Select Source and Destination drive to copy.

Click [Execute]



Copy Option Setting

- [Use HDD as work area]

When single drive is connected, free space of HDD can be used as temporary work area. If the temporary work area is larger, then disk exchange times will reduce. The default setting of HDD work area is a half of free space.

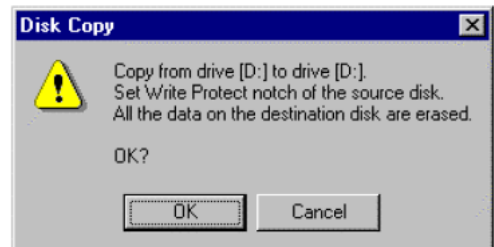
- [Ignore Read Error (Fill in zero data)]

Checking this option fill zero (0x00) data in case read from source drive encounters an error and continues copy operation.

Not checking this option terminates with error when it encounters a read error.

When the dialog at right is displayed, click [OK].

- Disk Copy dialog is displayed and starts sector image copy operation.
- When Source and Destination drive is set as same drive, Disk Exchange message is displayed during the copy. Follow the message. Number of disk exchange times is displayed in Count filed as a data of “Changed count / Total count”.
- When read error of source drive occurs and “Ignore Read Error” option is enabled, read error sector information dialog is displayed after disk copy completes.



Note:

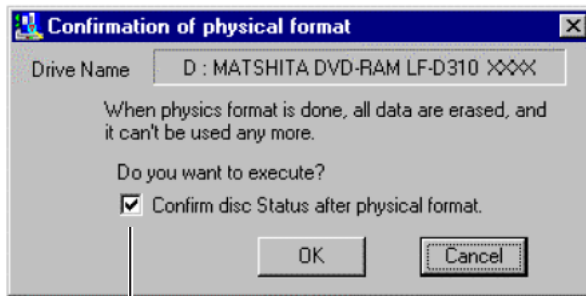
Since this Disk Copy is sector image copy, only the same capacity of disk can be copied.

■ Physical Format

Click on the “Physical Format” button in the first window of the utility.

The Confirmation of physical format dialog at right is displayed.

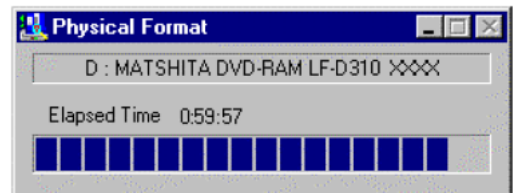
- To do physical format with Certify, click [OK]. Physical format is being done.
- To cancel, click [Cancel].



Physical Format Option

Checking [Confirm disk status after physical format] will confirm Disk status and displays its result after physical format.

During physical format, the progress dialog at right is displayed).



When physical format is completed normally, the dialog at right is displayed. Click [OK].



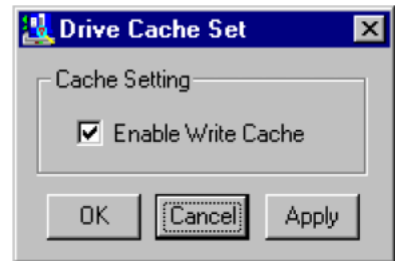
Drive Related Functions

■ Drive Cache Enable/Disable

Click on the “Cache Setting” button in the first window of the utility.

The Drive Cache Set dialog at right is displayed.

- To set Drive Write Cache, check “Enable Write Cache” and click [Apply].
- To disable Drive Write Cache, un-check “Enable Write Cache” and click [Apply].
- To cancel, click [Cancel].

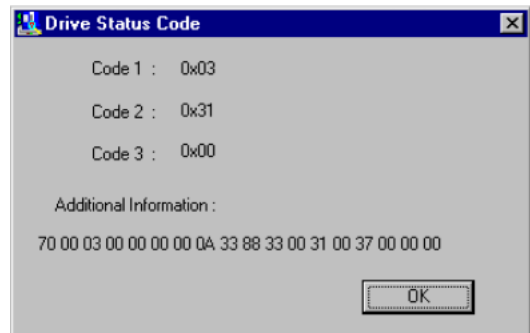


■ Drive Status Check

Click on the “Drive Status” button in the first window of the utility.

The Drive Status Code dialog at right is displayed.

Use this data when you contact technical support.

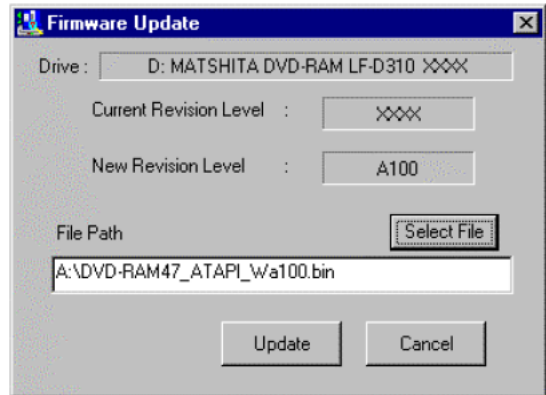


■ Drive Firmware Update

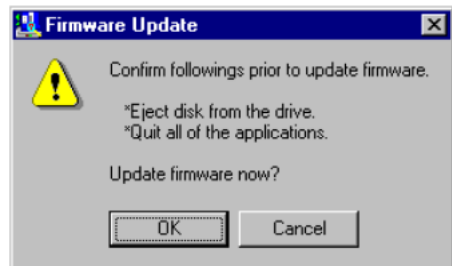
Click on the “Firmware Update” button in the first window of the utility.

The “Firmware Update” dialog at right is displayed.

- To Update Firmware
Select the firmware file to update and click [Update].
- To Cancel
Click [Cancel].

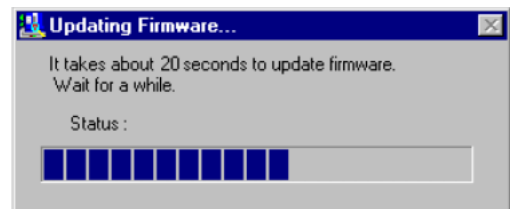


The confirmation dialog at right is displayed. Click [OK].



Firmware of the drive is now being updated.

- During update, the progress dialog at right is displayed.



When Firmware Update is completed, the dialog at right is displayed. Click [OK]

