# On-line User's Manual

## for DynaMO 2300U2

## English

January 28, 2002

C156-E208-04XA

# 1 Preface

Thank you for purchasing DynaMO 2300U2.

The DynaMO is a high-performance, high-reliability Magneto Optical (MO) disk drive unit that uses 2.3GB/1.3 GB (GIGAMO) disks and any ISO standard 128, 230, 540, and 640 MB 3.5" MO disk. Using Direct Over Write (DOW) MO disks you can improve the drive's performance. DOW disks, however, are only available in 540 and 640 MB capacity.

Before using your DynaMO, make sure that you have all the components printed on the packaging box. If any components are missing, please contact your reseller.

Notice:

- See Chapter 5 to get safety information about this product.
- Before using DynaMO, see also Getting Started.

## 1.1 System Requirements

PC:

- CD-ROM Drive (Required to install the device driver.)
- USB 1.1 compliant system or USB 2.0 compliant system

Operating System:

- Microsoft Windows 98
- Microsoft Windows 98 Second Edition
- Microsoft Windows Millennium Edition
- Microsoft Windows 2000 Professional
- Microsoft Windows XP Home Edition/Professional
    (Windows XP 64-Bit Edition is not supported.)

## 1.2 Getting started

Installing your DynaMO is fast and easy. Please refer to the following instructions to set up your DynaMO and install the appropriate software:

1.  Install the DynaMO software for your operating system. (Refer to Chapter 3.1 for details.)
2.  Connect the DynaMO drive to your PC. (Refer to Chapter 3.1 for details.)
3.  Using your MO drive is as easy as using a floppy disk drive. (Refer to Chapter 3 for details about using the MO drive.)
4.  Formatting MO disks. (Refer to Chapter 3.9 for details about the MO disk format.)

## 1.3 Helpful Notes:

Refer to Chapter 4.1 and Chapter 4.2 for additional information about your DynaMO.

## 1.4 Help information

Refer to Chapter 4.3 if you need help while using the DynaMO.

# 2   Installation

## 2.1   Installing the software

Before you install the software, you should save your work and quit any open programs.

**for Windows 98, Windows 98 Second Edition users Setup Installation**

Notice:

- Do not connect the USB cable before installing software.
- If the hardware wizard has started, click "Cancel" to close it.
- Although some installer messages are displayed in English, you can use the DynaMO in a non-English environment without any problems.

1. Place the DynaMO CD in the CD-ROM drive.
2. From Explorer, open the CD-ROM drive and double-click the following icon. Follow the displayed instructions.



*(CD-ROM Drive:*\Win9x\Setup.exe)

3. Restart your PC.

**for Windows Millennium Edition users**

Notice:

- Do not connect the USB cable first.
- If the hardware wizard has started, click "Cancel" to end it.
- Although some installer messages are displayed in English, you can use the DynaMO in a non-English environment without any problems.

1. Place the DynaMO CD in the CD-ROM drive.
2. From Explorer, open the CD-ROM drive and double-click the following icon. Follow the displayed instructions.



*(CD-ROM Drive:*\Win9x\Setup.exe)

3. Restart your PC.

## for Windows 2000 users

Notice:
- Log on with administrator privilege.
- Although some installer messages are displayed in English, you can use the DynaMO in a non-English environment without any problems.

1. Place the DynaMO CD in the CD-ROM drive.
2. From Explorer, open the CD-ROM drive and double-click the following icon. Follow the displayed instructions.



*(CD-ROM Drive:*\Win2000\MOSUPPLE.MSI)

3. Restart your PC.

## for Windows XP users

Notice:
- Log on with administrator privilege.
- Although some installer messages are displayed in English, you can use the DynaMO in a non-English environment without any problems.

1. Place the DynaMO CD in the CD-ROM drive.

2. From Explorer, open the CD-ROM drive and double-click the following icon. Follow the displayed instructions.



*(CD-ROM Drive:*\WinXP\MOUTY.MSI)

3. From Explorer, open the CD-ROM drive and double-click the following icon. Follow the displayed instructions.



*(CD-ROM Drive:*\WinXP\MOSUPPLE.MSI)

4. Restart your PC.

## 2.2　Uninstalling Software

**for Windows 98, Windows 98 Second Edition, and Windows Me users**

1. Click the [Start] button.
2. Select [Settings] and click [Control Panel].
3. Double-click [Add/Remove Programs].
4. Select "MO Supplement".
5. Click [Add/Remove] to uninstall.

**for Windows 2000 users**

1. Click the [Start] button.
2. Select [Settings] and click [Control Panel].
3. Double-click [Add/Remove Programs].
4. Select [Change or Remove Programs].
5. Select "MO Supplement".
6. Click [Remove] to uninstall.

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**for Windows XP users**

1. Click the [Start] button.
2. Click [Control Panel].
3. Double-click [Add/Remove Programs].
4. Select [Change or Remove Programs].
5. Select "MO Utilities for XP".
6. Click [Remove] to uninstall.
7. Select "MO Supplement for XP".
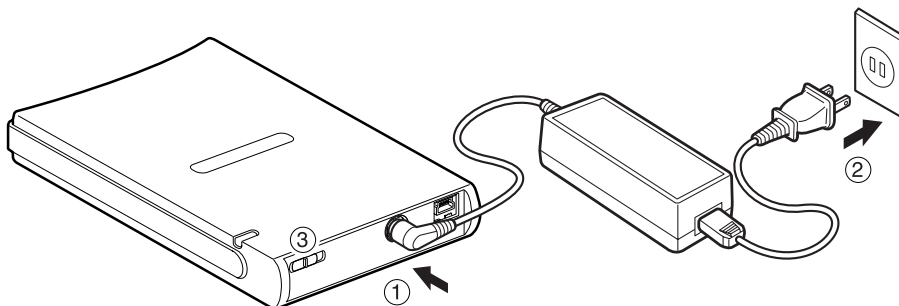8. Click [Remove] to uninstall.

# 3 Using your DynaMO

## 3.1 Connecting your DynaMO
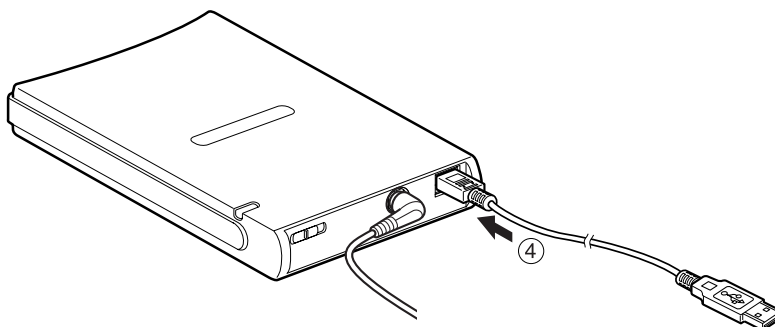
Notice:

● For PLUGGABLE EQUIPMENT, the socket-outlet shall be installed near the equipment and shall be easily accessible.
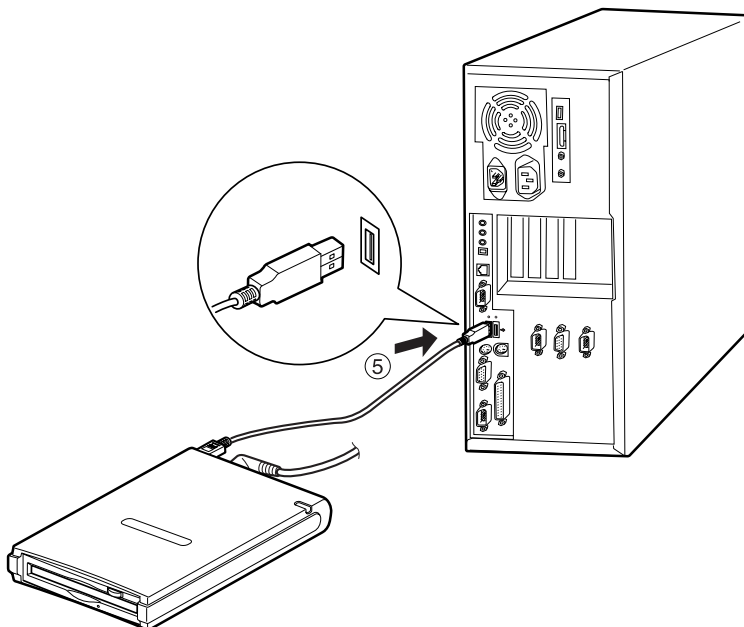
1. Connect the AC adapter to your DynaMO.
2. Connect the AC adapter to the power outlet.
3. Turn on the power switch. Make sure that the Power Indicator lights.

4. Connect the USB cable to your DynaMO.

5.    Connect the other end of the USB cable to the PC.

### 3.2 How to set up the DynaMO in an upright position

Important:

- You can use the DynaMO in an upright position. Be sure to use the stand provided with the DynaMO.
- When using the stand for mounting the DynaMO, orient the stand with the protrusions (1) facing the front, and place the DynaMO on the stand such that the RUBBER (2) attached to the stand faces the DynaMO side with the logo-label affixed to it.

Power Indicator

RUBBER(2)

Protrusions(1)
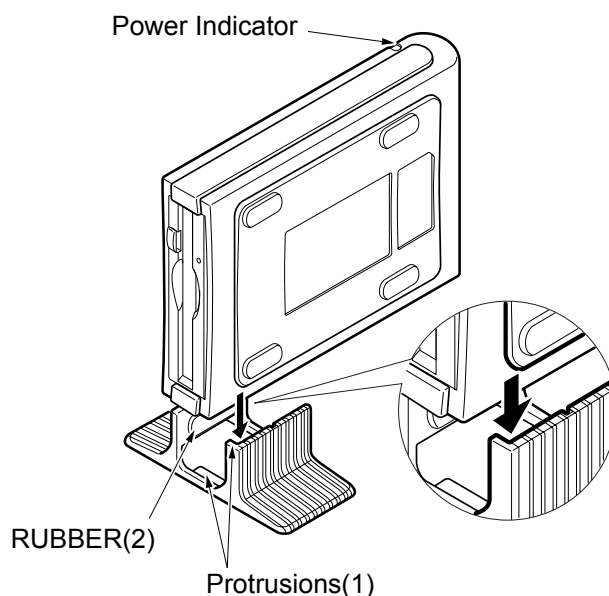
### 3.3 Inserting an MO Disk

Gently insert the MO disk with the label side up, as shown below, until the disk clicks into place. The busy indicator comes on when the MO disk is loaded. Wait for the busy indicator to go off before using the disk. A 1.3/2.3 GB MO disk takes a little longer to become ready after it is inserted.

Important:

- Never force the disk into the drive or insert an MO disk upside down, since this may damage the drive.
- Since a floppy disk is about the same size as an MO disk, never insert a floppy disk into your DynaMO.

- Do not insert foreign objects into the DynaMO.
- Before using the drive, connect the AC adapter to the drive, and turn on the power. The drive's shipping lock will be released.

Notice:

- If an MO disk has not been inserted properly, push the eject button and then try to insert the disk again.



Eject Button
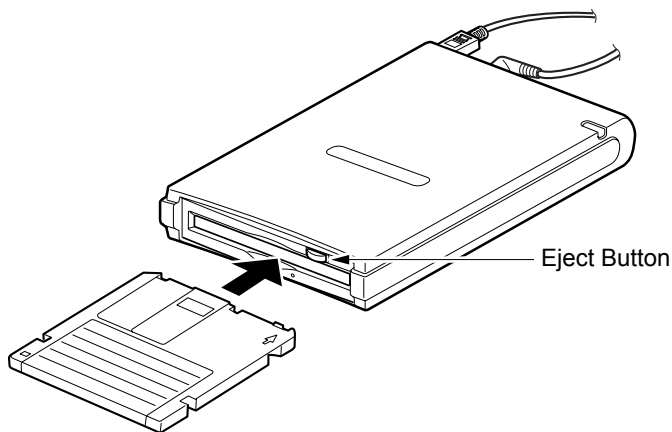
## 3.4   Ejecting an MO Disk

Right-click the removable disk icon and select "Eject" from the pop-up menu.

If the MO disk cannot be ejected properly as described above or appears to be jammed in the drive, the disk can be ejected using Emergency Eject.

Important:

- for Windows 2000 users

  When the MO disk cannot be ejected, see Chapter 3.11.

- for Windows XP users

  When the MO disk cannot be ejected, see Chapter 3.11.

### 3.5 Emergency Eject

Important:

● Never use emergency eject while your DynaMO is on.

1.  Remove all cables from your DynaMO.
2.  Straighten one end of a large paper clip.
3.  Insert the straightened end of the paper clip into the eject hole, and push gently but firmly until the MO disk is ejected.



Eject Hole
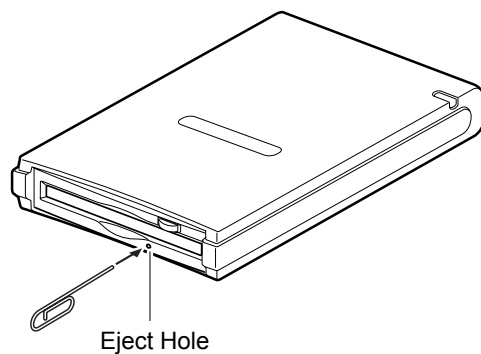
### 3.6 Write Protection

Enabling write protection on the MO disk prevents data from being accidentally lost or altered.
The write protect switch is located on the bottom of the MO disk (see the figure below). Move the write protect switch up for "write enable" or down for "write protect."



Write enable

Write Protect
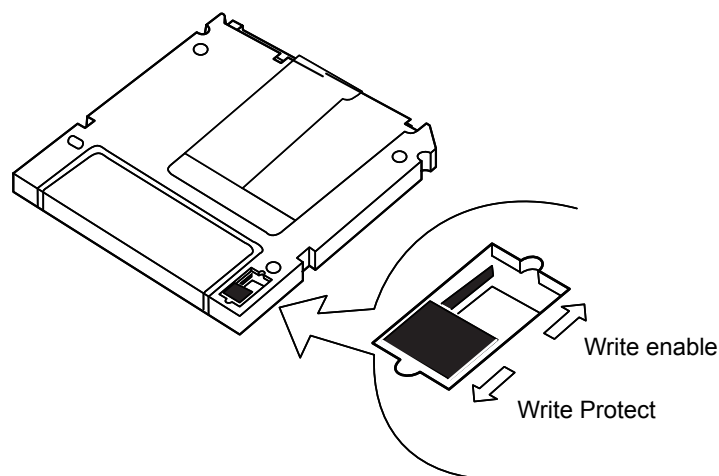
## 3.7   Cleaning the MO Disk

From time to time, dust may build up on the surface of the disk, making it necessary to clean.

If your MO disk appears dirty, use the MO disk cleaning kit (part number CA90003-0702) we offer or any MO disk cleaning kit on the market.

## 3.8   Cleaning Your Drive

In normal office environments, cleaning your DynaMO drive is not required. In some cases, however, dust may build up on the objective lens of the drive and cleaning may be required. To clean the objective lens, insert the optional head cleaner (part number CA90002-C980). Cleaning will take place automatically, and the head cleaner will be ejected after 15-30 seconds. Please contact your place of purchase for information on the DynaMO lens cleaning kit.

## 3.9   Formatting an MO Disk

Most new MO disks are not formatted. If your MO disk is not formatted, you will need to format it before you can use it.

Important:
- Formatting will delete all existing data on the MO disk.

**for Windows 98, Windows 98 Second Edition, and Windows Millennium Edition users**

1. Close any open program which may access your DynaMO.
2. Insert the MO disk then run the MO Disk Formatter. The following dialog box will appear.
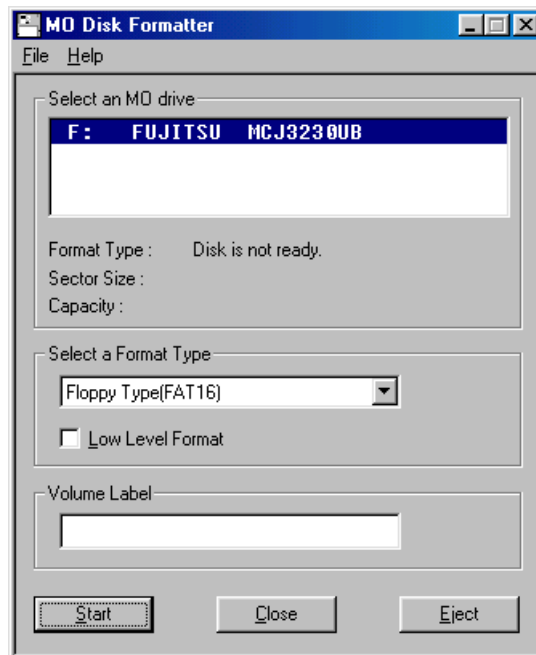


3. Select the DynaMO 2300U2 in the [Select an MO drive] list box.
4. Select an appropriate format type in the [Select a Format Type] combo box.
5. Type an arbitrary volume label in the [Volume label] edit box. (Use only English alphabet (A - Z) and/or numeric number (0-9) and/or underscore (_).)
6. Press the [Start] button to continue formatting. Confirm the message and click [OK]. Formatting will start.

**for Windows 2000 users**

Important:
● When you format an MO disk with non-administrator privilege, see Chapter 3.11.

1. Open [My Computer].
2. Right-click the Removable Disk icon corresponding to the DynaMO and select [Format...].
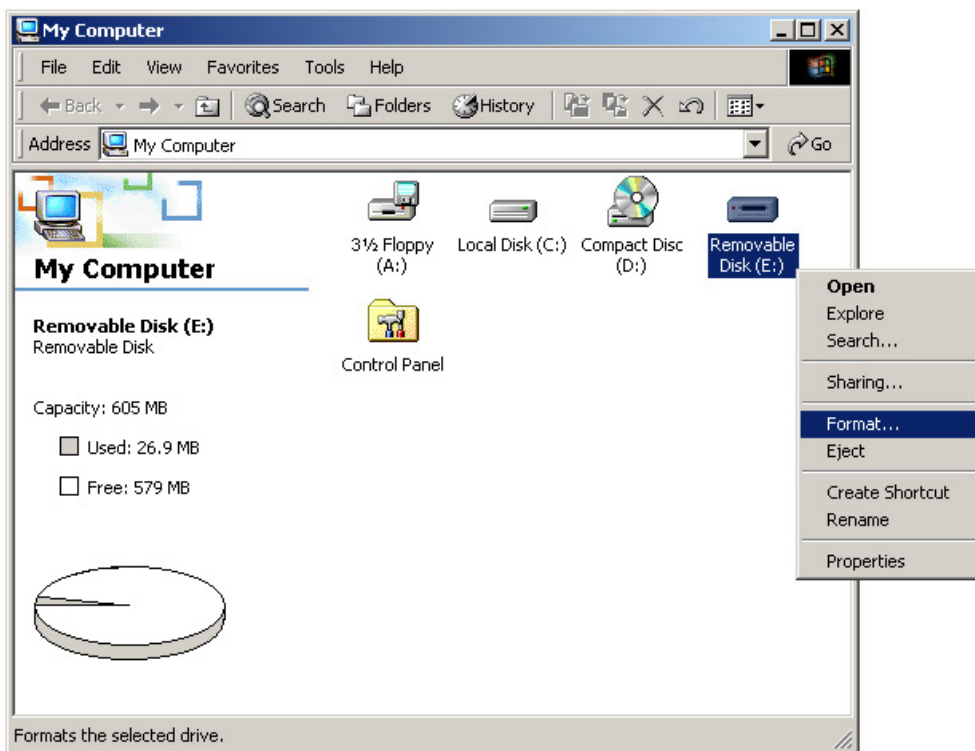
3. Set the required items in the dialog box and click the [Start] button

**for Windows XP users**

Important:

● When you format an MO disk with non-administrator privilege, see Change eject and format privilege.

1. Open My Computer from [Start] button.
2. Right-click the Removable Disk icon corresponding to the DynaMO and select [Format...].
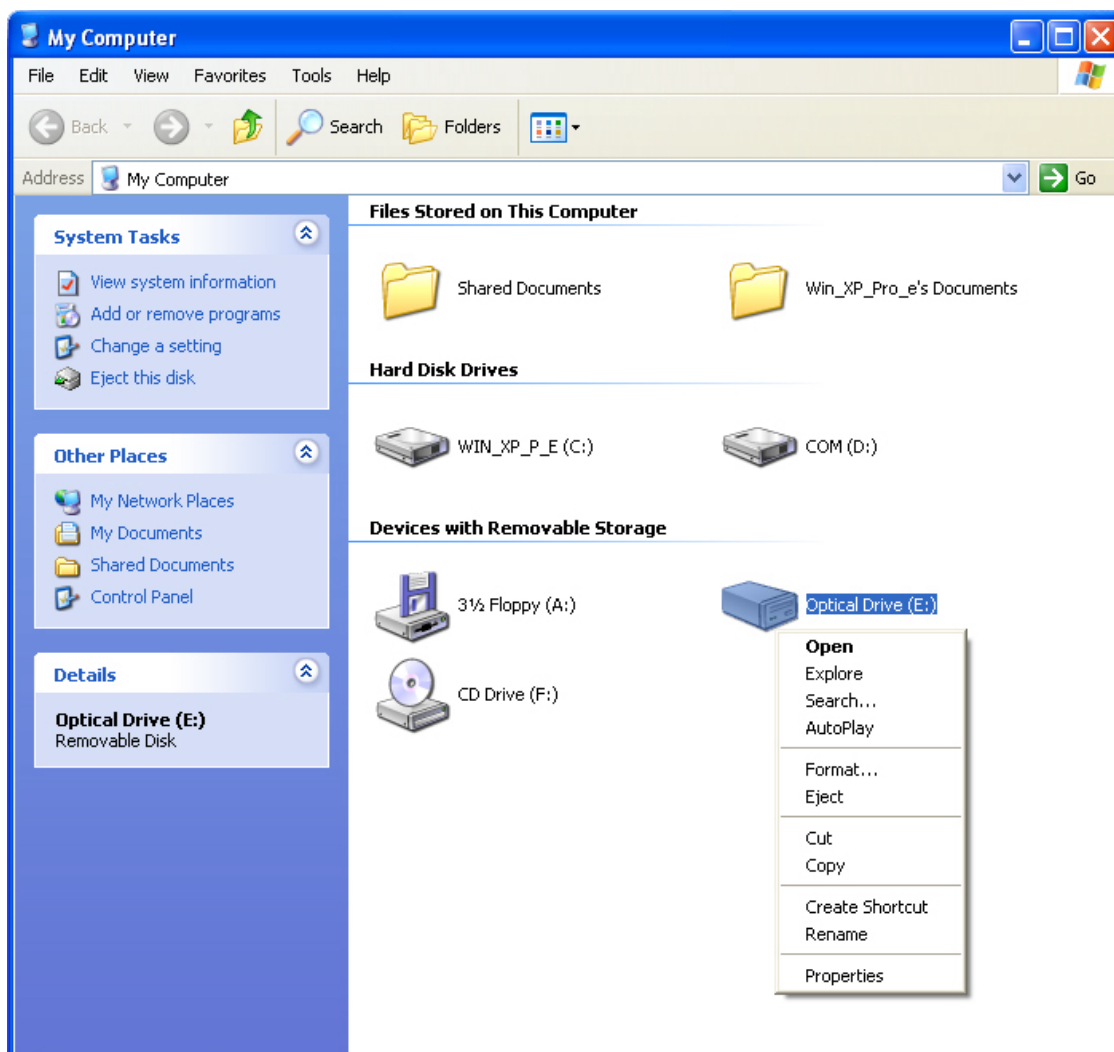
3. Set the required items in the dialog box and click the [Start] button

## 3.10 Removing your DynaMO

To remove the DynaMO, use the procedure below.

Important:
- If the icon shown in the figure below is on the task bar, follow the procedure below. If it is not, skip steps 4 to 6 of the procedure.

1. Close all applications that are using the MO disk or open files on the MO disk.
2. Make sure that the Busy Indicator is off.
3. Eject the MO disk from the DynaMO.

4.  Click the "Unplug or Eject Hardware" icon on the taskbar.



5.  Stop the DynaMO. From the list of devices, select your DynaMO to stop.



The Removable Disk icon disappears.

6.  The "Safe To Remove Hardware" dialog box opens. Click [OK]. You can now safely remove your DynaMO.
7.  Disconnect USB cable from the system.
8.  Turn off the power switch.
9.  Disconnect the AC adapter from the power outlet.
10. Disconnect the AC adapter from your DynaMO.

Important:
- Never disconnect the USB cable while the busy indicator is on.
- Before removing the DynaMO from the USB bus, we recommend that:
  - you close all applications that are using the MO disk or files on the MO disk.
  - you eject the MO disk from the DynaMO.
- Never transport your DynaMO with an MO disk loaded, since this may damage the drive.

## 3.11   Changing eject and format privilege

**for Windows 2000 users**

As the default setting of Windows 2000, only the administrator is allowed to eject or format MO disks. If you want to allow all users to be able to eject and format MO disks, change the local security policy settings.

1. Logon with administrator privilege.

2. Click [Start] - [Settings] - [Control Panel] to open the Control Panel.

3. Double-click [Local Security Policy] in [Administrative Tools.]
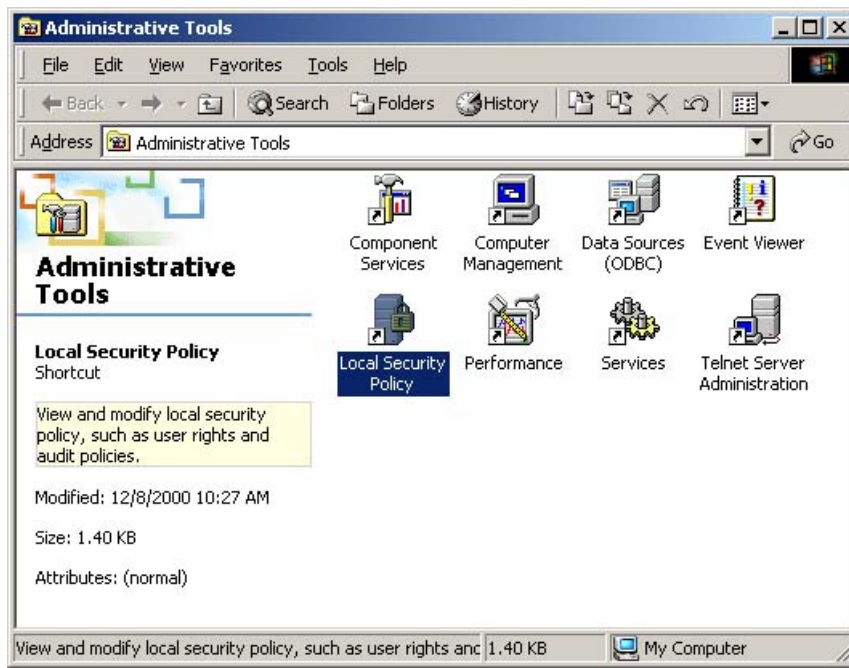
4. In the left pane, select [Security Options] under [Local Policies], then double-click on [Allowed to eject removable NTFS Media.]



5. The following dialog box opens. Select [Administrators and Interactive Users] under [Local policy setting.], and press [OK].
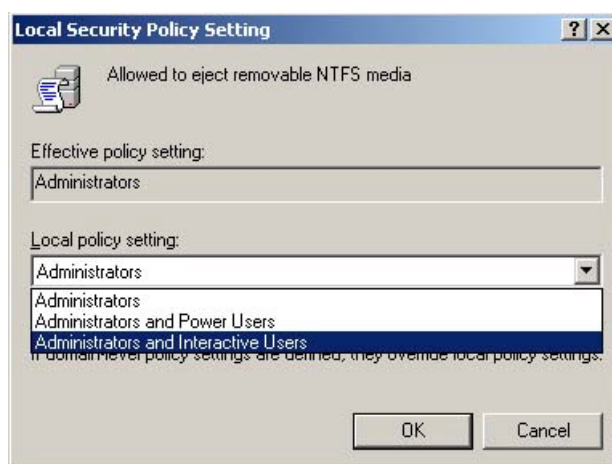
**for Windows XP users**

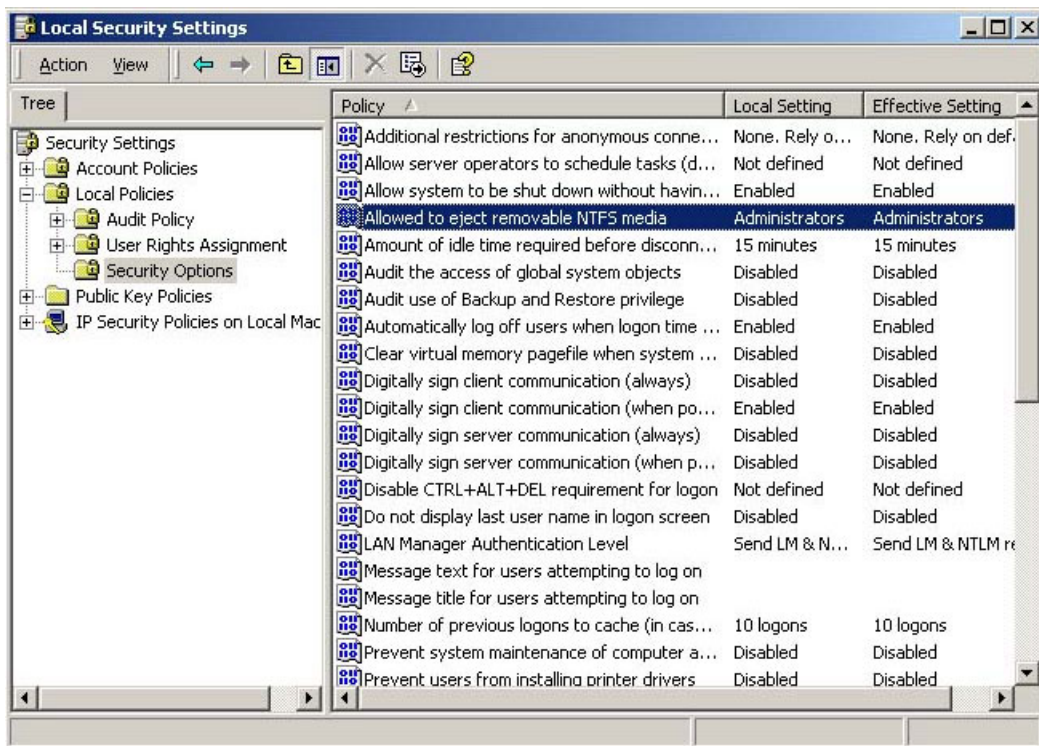As the default setting of Windows XP, only the administrator is allowed to eject or format MO disks. If you want to allow all users to be able to eject and format MO disks, change the local security policy settings.

1. Start the "Eject and format privilege."
2. Select an account enabling MO disks to be formatted or ejected from [Group]. To enable only computer administrators to format or eject MO disks, click the [Computer Administrators] radio button.
3. Click the [Apply] button.
4. To change the privilege, all users who are currently logged on to Windows must log off.

# 4  Notes

This Product is designed, developed and manufactured for general use, and is suitable without limitation for use in

- general office environments,
- for personal use and
- for household use.

It is NOT designed, developed and manufactured for use in environments bearing extremely high risk potentials like fatal risks or dangers, which require extremely high safety measures, and which could otherwise lead to death, personal injury, severe physical damage or other similar losses (hereinafter called "Use in High Safety Environments"). Such environments include without limitations, the:

- nuclear power core control,
- airplane control,
- air traffic control,
- mass transport operation control,
- life support, and
- weapon launching control.

You should NEVER use this product without making sure that all necessary safety measures have been sufficiently taken, to comply with the necessary requirements for its Use in High Safety Environments.

## 4.1  Hardware Notes

Important

- Always make sure that the Busy Indicator is off before ejecting an MO disk.
- Eject the MO disk before moving your DynaMO.
- Never disassemble the DynaMO under any circumstances.
- Do not drop or turn over the DynaMO. Avoid any physical shocks.

- Never force the disk into the drive or insert an MO disk upside down, since this may damage the drive.
- Since a floppy disk is about the same size as an MO disk, be careful never to insert a floppy disk into the DynaMO.
- Do not insert foreign objects into DynaMO.
- Do not use your DynaMO in areas where dust, dirt, extreme temperatures, or moisture is present.
- Always use the stand when you use the DynaMO in an upright position.
- Only use the AC adapter for the DynaMO Ux series delivered with the product.

    FUJITSU CA05955-3411

- Use a USB cable having the following model number:

    FUJITSU CA05955-3403

- No operation warranty applies to connections to USB Keyboard.
- Do not touch the MO disk while it is in use.
- If your DynaMO does not operate properly while connected via a USB hub, try connecting it using the USB port on your personal computer.
- Disconnect and then re-connect the USB cable in the following situations:
  o the DynaMO drive icon does not appear on the screen after you connect your DynaMO to your personal computer; or
  o the DynaMO drive icon does not re-appear after your PC resumes operation from the standby state.
- Do not disconnect or connect your USB cable while drive is operating.
- Using a USB device, such as your DynaMO while music and/or motion pictures are being played back (real-time playback) by another USB device on the same bus might disturb the operation of such playback devices and cause jerky playback.
- When you choose to position the DynaMO vertically (on its narrow side), never allow it to fall to the wide side. If does, this will seriously damage the DynaMO, also making the guarantee void.

## 4.2  Software Notes

Important:

- Use only the device driver provided by Fujitsu with this drive.

- Do not use the [Copy Disk...] command.

- Do not remove the MO drive or turn off the power of the MO drive or remove the MO disk from the drive while a file is being accessed or a disk is being formatted.

- Do not shut down the OS or place the system in standby or suspend mode while a file is being accessed or a disk is being formatted.

## 4.3  Q & A

Although the DynaMO is designed to be highly reliable, you may occasionally experience problems. This section describes problems you could encounter when using your DynaMO. If you experience any problems other than those outlined below, contact your dealer or Fujitsu subsidiary.

Q1:  The PC hangs.
A1:
- Be sure not to connect or disconnect a USB cable while the Busy Indicator of the DynaMO is on.
- Install the Fujitsu device drivers.
- If an error occurs during system startup, disconnect the DynaMO, then restart the system and reconnect the DynaMO.

Q2:  I connected the DynaMO but the removable disk icon does not appear.
A2:
- Disconnect the USB cable and then connect it again.
- Disconnect the USB cable, and then power off the drive. Next, power on the drive, and then re-connect the USB cable
- Make sure that the DynaMO and the USB interface card are recognized in Device Manager. From the Control Panel, select System click the Device Manager tab. Check whether the DynaMO and the USB interface card are recognized.
- Make sure the DynaMO is connected correctly. Refer to "Connecting your DynaMO".

Q3:  I cannot access the MO disk.
A3:
- Make sure that the MO disk is properly formatted for your PC.
- Check that the MO disk is properly inserted. If it does not work properly, eject the disk and insert it again.
- If the Busy Indicator stays on for a long time (1 minute) after you insert the MO disk, your disk may be dirty or your DynaMO drive may be defective. Try another MO disk.
- Make sure that the DynaMO and the USB interface card are recognized in Device Manager. From the Control Panel, select System, click the Device Manager tab, and check whether the DynaMO and the USB interface card are recognized.

Q4:    I cannot eject a disk.

A4:
- Make sure that no other application is using your DynaMO drive.
- Your PC may have a locked MO disk. Check your computer applications to make none of them has locked your MO disk.
- Power off the drive, then power on again and try to eject the disk.
- Power off the drive and use emergency eject.
- You may reboot the system and try to eject the disk again.

Q5:    I cannot eject or format an MO disk with user priviledge in Windows 2000 or Windows XP.

A5:    With the standard OS settings, the MO disk cannot be ejected or formatted without administrator privilege. To eject or format an MO disk with user priviledge, enable the setting as explained at Changing eject and format privilege.

Note: If the OS is not rebooted, the new setting may not take effect. If they do not take effect, reboot the OS.

Q6:    I can't access an MO disk formatted for NTFS in Windows 2000.

A6:    The disk may be write-protected.

Q7:    I pressed the eject button, but the MO disk was not ejected from the MO drive.

A7:    An MO disk formatted for NTFS cannot be ejected by pressing the MO drive's eject button. Select the eject option from the pop-up menu displayed by right-clicking the MO drive icon.

Q8:    The MO disk is formatted for NTFS with user rights, but I can't access it with user rights.

A8:    Windows 2000 SP2 solves this limitation. Or make sure you format NTFS with administrator privilege.

Q9:    I can't use an MO disk formatted for NTFS in Windows 2000 or WindowsNT 4.0.

A9:    This happens because of an OS specification.

Q10:    My DynaMO 2300U2 appears to be slow transferring data.

A10:    The DynaMO may be connected to USB1.1 port, instead of USB2.0 port. USB1.1 connection is slower than USB2.0. Consult the manufacture of your PC to verify the USB port.

# 5   Specifications

## 5.1   Drive Specifications

DynaMO 2300U2

| Drive | MDG3230UB |
|---|---|
| Interface | USB 2.0 |
| Data transfer rate (Drive) | 1.65 MB/s (128 MB)<br>2.00 - 3.16 MB/s (230 MB)<br>3.54 - 5.94 MB/s (540 MB)<br>3.52 - 5.87 MB/s (640 MB)<br>3.92 - 6.70 MB/s (1.3 GB GIGAMO)<br>4.69 - 8.38 MB/s (2.3 GB GIGAMO) |
| Data transfer rate (Interface) | 480 Mbps (USB 2.0) |
| Average seek time | 19 ms (typ.) |
| Average latency time | 5.5 ms (ISO-standard MO disks)<br>8.2 ms (GIGAMO disks) |
| Rotational speed | 5455 rpm (ISO-standard MO disks)<br>3637 rpm (GIGAMO disks) |
| Buffer | 7.6 MB |
| Input power | 100 - 240 VAC, 50/60 Hz |
| Dimensions | 122 mm (W) x 162 mm (D) x 34 mm (H) |
| Power Consumption (Operating) | 15 W (max) |
| Weight (Drive) | 630 g |
| Temperature (In Operation) | 5 – 35 ° C |
| Temperature (Not in Operation) | 0 – 50 °C |

## 5.2   MO Disks

Only 3.5" MO disks that comply with ISO or GIGAMO standards can be used for the DynaMO.

The following is a list of 3.5" MO disk capacities. These 3.5" MO disks are manufactured and distributed by several manufacturers.

### 5.3 ISO standard:

| Disk type | Sector size(bytes/sector) |
|---|---|
| 128 MB | 512 |
| 230 MB | 512 |
| 540 MB | 512 |
| 540 MB (OW) | 512 |
| 640 MB | 2048 |
| 640 MB (OW) | 2048 |

### 5.4 GIGAMO:

| Disk type | Sector size(bytes/sector) |
|---|---|
| 1.3 GB | 2048 |
| 2.3 GB | 2048 |

### 5.5 What Is a Direct Over Write (DOW) MO disk?

A standard MO disk requires three rotations of the disk to record data (erase, write, and verify). DOW disks allow your DynaMO to reduce the number of the rotations to two (write and verify). Eliminating one rotation improves the recording speed by 30%. DOW disks are only available in 540 MB and 640 MB capacities.

# 6 Further Information

## 6.1 Fujitsu Subsidiaries

For further information about Fujitsu products or customer support, please contact your local dealer or one of the following Fujitsu subsidiaries.

| Country | Phone | Web site |
|---------|-------|----------|
| Australia | 61-2-9776-4555 | http://www.fujitsu.com.au/ |
| Canada | 1-905-602-5454 | http://www.fujitsu.ca/ |
| France | 33-1-41-80-38-80 | http://www.fujitsu-europe.com/ |
| Germany | 49-89-32-378-0 | http://www.fujitsu-europe.com/ |
| U.K. | 44-20-8606-4444 | http://www.fujitsu-europe.com/ |
| Italy | 39-26294-1 | http://www.fujitsu-europe.com/ |
| Korea | 82-2-3787-6000 | http://www.fujitsu.co.kr/ |
| Philippines | 63-2-812-4001 | |
| Singapore | 65-777-6577 | http://www.fujitsu-computers.com.sg/ |
| Spain | 34-91-784-9000 | http://www.mo.fujitsu.es/ |
| Sweden | 46-8-626-4500 | http://www.fujitsu-europe.com/ |
| Taiwan | 886-2-2545-7700 | http://www.fujitsu.com.tw/ |
| Thailand | 66-2-512-6066 | |
| U.S.A. | 1-408-432-6333 | http://www.fcpa.com/ http://MOstorage.com/ |
| Brazil | 55-11-245-0880 | http://www.fujitsu.com.br/ |

The following web site also contains the related information:

http://mo.fujitsu.com/global/

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