EZ Drive
USB Flash Disk

User Manual

Version 2.33

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1 Introduction

Thank you for purchasing our EZ Drive Flash Disk, it uses USB Mass Storage Disk (UMSD) technology and make digital data extremely portable. Choose from a wide array of storage sizes, from 8MB to 512MB. The USB plug & play makes connecting to your desktop or laptop much more easier. No power supply and no external cables are required. This guide explains how to use the UMSD and the Application Software bundled with your device.

1.1 Features

➢ Compliant to USB 1.1 specification with full-speed transfer up to 12 Mbps.

➢ Support capacity 16/32/64/128/256/512MB MB.

➢ Support PC Windows 98SE/2000/Me/XP; Mac OS 10.1.2 above.

➢ Memory chip write cycle time up to 100,000.

➢ Support write-protect switch like floppy disc.

➢ Optional security function provided.

➢ Truly plug & play connecting to USB, no need additional power.

➢ Easy to carry in your pocket.

➢ Data reserve up to 10 years.

1.2 Specification

➢ Description:

  EZ Drive USB Flash Disk

➢ Memory Capacity:

  16 / 32 / 64 / 128 / 256MB

➢ Transfer Rate:

  Sequential Read: 1MB/s

  Sequential Write: 800KB/s

➢ System Operational Voltage:

  3.3V +- 10%

➢ Power Supply: supplied by USB port

➢ Power Consumption:

Less than 100mA in operational mode

➢ Dimension: 73.5mm(L)×21.5mm(W)×11.5mm(H)

➢ Weight: 16g (typ.) Excluding USB cable

1.3 Accessories

➢ Driver CD x1

➢ Quick Card (with Warranty) x1

➢ USB Connector housing x1

2 Safe Precautions

Please read the safe precautions carefully before you using the UMSD and the application software (the product). Ensure that you use the product correctly according to the procedures described in this guide.

The following safety precautions are intended to remind you to operate the product safely and correctly. Please read and ensure that you understand them before you proceed to the other sections of this guide.

Warnings

This mark indicated topics that could lead serious injury of your body or damage of the product if ignored or handled incorrectly.

Warnings

- Do not attempt to disassemble or alter any part of the product that is not described in this guide.

- Do not allow the product to come into contact with water or other liquids. In the event that water or other liquids enter the interior, immediately unplug the product from the computer. Continued use of the product may result in fire or electrical shock. Please consult your product distributor or the closest support center.

- Do not handle the product to do the plug and unplug operation if your

hands are wet. Otherwise it will cause electrical shock.

- Do not place the product near a heat source or expose them to direct flame or heat.
- Never place the product in close to equipment generating strong electromagnetic fields. Exposure to strong magnetic fields may cause malfunctions or corrupt data.

3 System Requirements

The following system requirements must be met to install and operate the UMSD and the application software.

- Computer Model   IBM PC/AT Compatible, Power Macintosh, PowerBook, iMAC or iBook

- OS   Windows 98 , Windows Millennium Edition (Windows ME), Windows 2000, Windows XP, Linux 2.4 or higher, Mac OS 8.6 or higher

- Interface   USB

- Free Hard Disk Space 3 MB and more

- ➢ Windows 98 does not support default Mass Storage Driver. You have to install the driver bundled with the product.
- ➢ The product can use the default driver in most of the OS. However, once you want to run the application software bundled with the product. The "Setup.exe" program will install vendor driver automatically. Then, the application software will work properly.
- ➢ The application software only can run with Microsoft Windows OS. The version for Macintosh is under development right now. We will release it when available.

➢ However, the UMSD basic function could be supported in all OS listed above.

4 Guide to Components
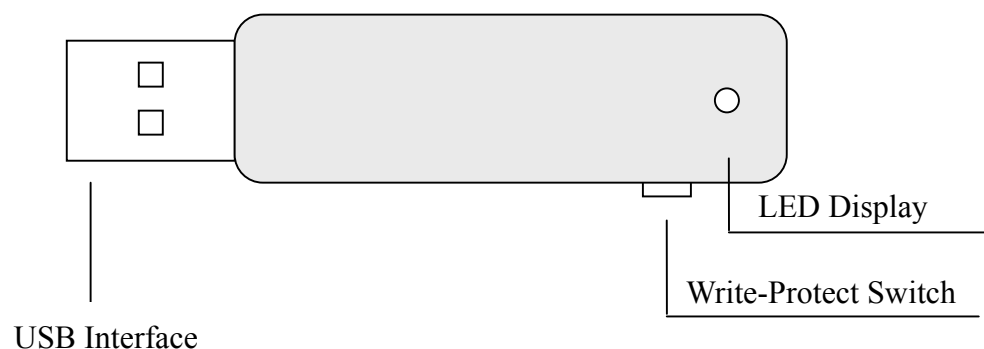
USB Interface: The interface connects to the USB port of the computer.

Write-Protect Switch: If you put the switch in "ON" position, the device will be in write protection mode. You can not write in any data, you still can read the files or data in the device.

LED Display: This LED Display will show the status of the device. Once the device is in operation, the LED will be flush quickly.

5 Basic Functions

5.1 Plug and Play
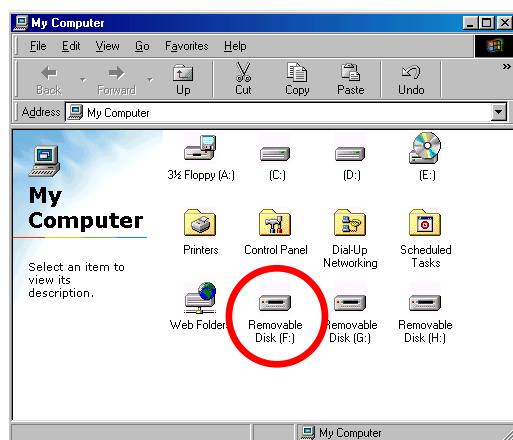
When you plug the device into the USB port of your computer, you will see a "Removable Disk" icon in the file manager window.

In Macintosh, once you plug the UMSD into the USB port. You can see the disk icon in the "Desktop". For MAC OS 8.6, you can download the necessary USB mass storage driver from Apple's web site.

In Linux , you can follow the following instruction to "mount" the device,
· Execute cd /etc/sysconfig/ (cat /etc/sysconfig/hwconf | more)
· Check the device information in hwconf，write down the mount point.
· Make a directory in /mnt (ex: mkdir /mnt/usbHD)
· Then, execute mount /dev/sda1 /mnt/usbHD (if mount point was .dev/sda)

5.2 Read and Write

You can do the read, write, copy, and delete operations with the files and data as the same way with the files and data in the hard disk.

5.3 Write-Protect Switch

When you put the write-protect switch to "ON" position, you can not write any file or data into the device. You still can view and read the files and data in the device. You can switch the "Write-Protect" switch even you did not disconnect
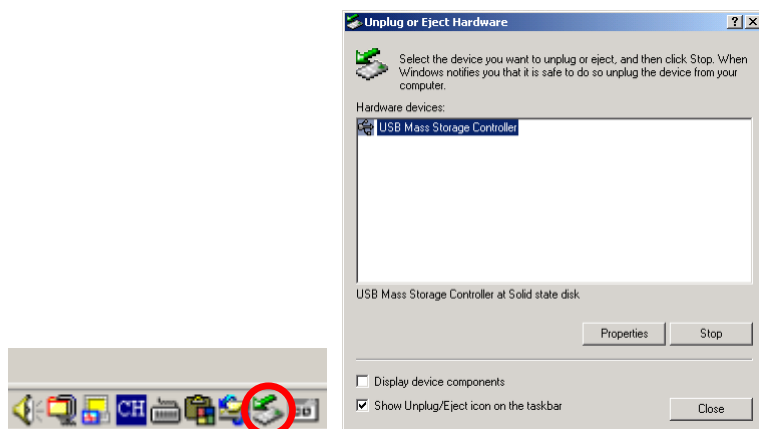
the device. Due to Linux OS limitation, the write protect switch will not work on-line.

5.4 Unplug

You can remove the device after you finished the action with the device. However, in Windows Me/2000/XP, please follow the safe removal procedure. You can find a safe removal icon in your computer's notification area.

Double click the "safe removal" icon; the "Unplug or Eject Hardware" window will be pop up. You can select the device you want to remove. Then, click the "Stop" button. After that you can unplug the device from the USB port of your computer.

Warnings   When you want to remove the UMSD, please make sure the LED is not flush quickly. If the LED flush quickly, that means there are some traffic on going between OS and UMSD. Don't remove the UMSD at this time. Otherwise, it will cause some damages of the data or files even the UMSD.

Warnings   If you do not follow the safe removal procedure in Windows Me/2000/XP system, it may cause data lost due to the write cache issue.

In Macintosh machine, you can drag the removable disk icon and put into the trash. This action will perform the "Eject" function.

In Linux OS, please follow the "umount" command procedure to un-mount the device.

6 Partition Type

We can partition the UMSD into three types of disk. We will use the following terminologies in this guide,

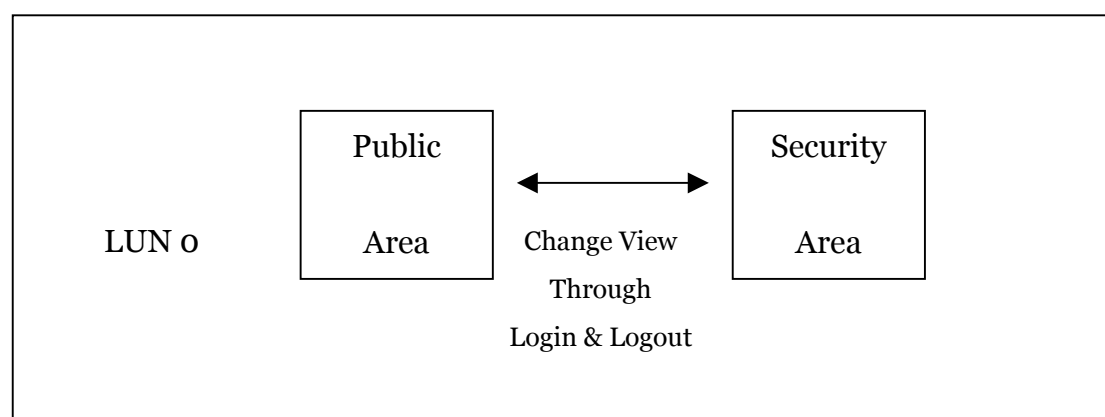|	
1. Public Area	There is no "Security" function at all. You can do any basic functions, described in the "Basic Functions" section, in this area.
2. Security Area	This area can not be viewed without the application software. Once you do the "Log In" action in the application software, you will switch view from "Public Area" to "Security Area". After switched successfully, you can do any basic functions, described in the "Basic Functions" section, also in this area.

☞   You can only view either of the "Public Area" or "Security Area" in the same disk logic unit number, LUN, at the same time.

In UMSD, you can select the following partition combinations:
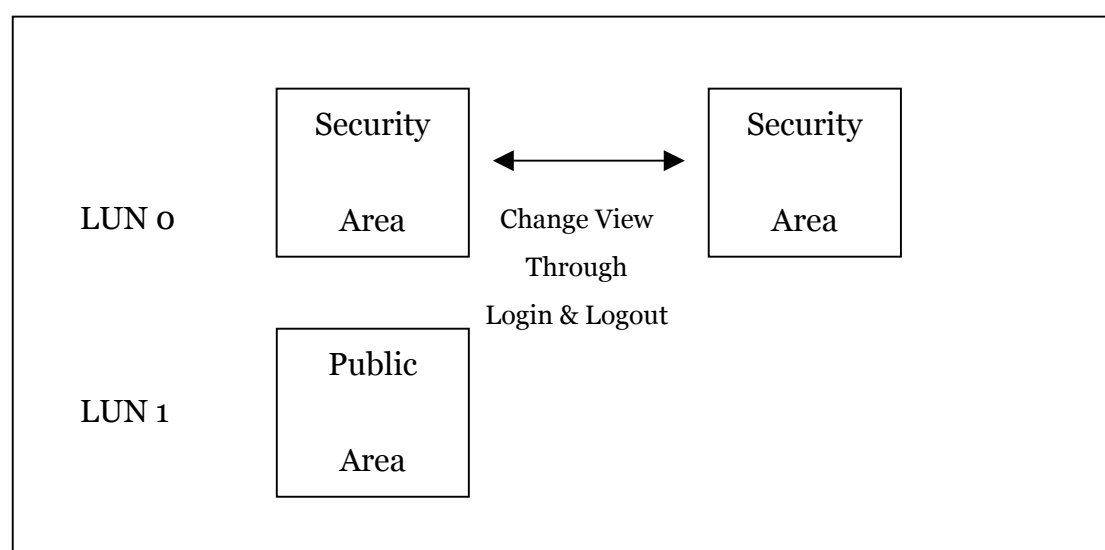
1. Single Public Area	Make all the device area accessible by everybody.
2. Security Area	Make the device area into two partitions in the same LUN, Public Area and Security Area. The Public Area can be accessed by everybody. The Security Area can be accessed "Only" with a password.

3. Public Area Plus Security Area   Make the device area into three partitions in two LUNs, Public Area and Security Area in LUN0, and Public Area in LUN1. It has to use multiple LUNs driver to operate. The partition status was showed in the following figure. The partitions in LUN 0 will perform as described in the above item 2. The partition in LUN 1 will perform as described in the above item1.

```
+-----------------------------------------------------------+
|                                                           |
|        +-----------+                    +-----------+     |
|        |  Public   |  <------------->   | Security  |     |
| LUN 0  |           |   Change View      |           |     |
|        |   Area    |    Through         |   Area    |     |
|        +-----------+   Login & Logout   +-----------+     |
|                                                           |
+-----------------------------------------------------------+
```

This figure shows the detail operation of single LUN.

```
+-----------------------------------------------------------+
|                                                           |
|        +-----------+                    +-----------+     |
|        | Security  |  <------------->   | Security  |     |
| LUN 0  |           |   Change View      |           |     |
|        |   Area    |    Through         |   Area    |     |
|        +-----------+   Login & Logout   +-----------+     |
|        +-----------+                                      |
|        |  Public   |                                      |
| LUN 1  |           |                                      |
|        |   Area    |                                      |
|        +-----------+                                      |
+-----------------------------------------------------------+
```

This figure shows the detail operation of multiple LUNs.

Function Type	Security	Password	Disk Logical Unit Number	Disk Letters in OS
1. Public Area Only	No	No	1 (LUN0)	1
2. Security Area	Yes	Yes	1 (LUN0)	1
3. Public Area Plus Security Area	Yes	Yes	2 (LUN0 & LUN1)	2

This table shows the function description of the three partition types.

7 Using the Software On the Windows Platform

7.1 Installing/Uninstalling the Application Software

7.1.1 Installing the software

If you are installing the application software onto Windows OS, you must first log on as the administrator and then install the application software.

Precaution about the USB Interface
➢ Please connect the device to the USB port of your computer when you install the application software.
➢ If you do not connect the device to the USB port and install the application software in Win XP OS, when you plug in the device you have to install the UMSD driver again.
➢ In Windows 98 and Win Me, after install the driver you need to unplug the UMSD and plug again in order to use the correct driver.

1. Find the "UMSDTools.exe" program.
   You can find the program in the UMSD, CD-ROM, or Floppy.
2. Double-click the [UMSDTools.exe] icon.
3. Follow the on-screen instructions to proceed.

7.1.2 Uninstalling the Software

To remove the installed software, you can click the windows [Start] menu and select [Setting], [Control Panel] and [Add/Remove Programs]. The application software can also be uninstalled by clicking the [Start] menu and selecting [Programs], [UMSD], [Uninstall UMSD].

Notes:

➢ The USB driver only needs to be installed the first time the UMSD is connected via the USB port. Installation is not required from the second time onward.

➢ Do not cancel the installation during the procedure. The UMSD may not operate correctly if the installation is incomplete.

➢ Read the "Troubleshooting" Section if the installation cancels itself during the procedure, if the installation did not proceed as described, or if you feel that the driver are not properly installed.

7.2 Installing the USB Driver

In some Windows system, users should log on as the Administrator before installation. Once you have attached the UMSD to the computer. The OS will find the appropriate driver or the "Add New Hardware Wizard" dialog will appear after a moment. You can do the installation of the Driver manually. Or just find out the "Setup.exe" program to do the driver installation.

During the installation procedure, if the "Digital Signature Not Found" message displays, just click the [Yes] button in the showing window.

7.3 Using UMSD.exe Program the First Time

Warnings Due to the UMSD.exe can only handle one UMSD device at the same time. If you will not use the function of the UMSD.exe, like "Resize", "Change Password", or "Log In", etc., you can insert more than two UMSD devices. If you want to use the

function of the program, please remove all other UMSD device. Otherwise, the UMSD.exe may perform not properly even cause data lost.

After you installed the software and driver correctly, the UMSD icon will appear in the notification area automatically.

Or

The display will depend on the status of the device.

➢ You can use the right button of your mouse to pop up the selection menus as the following figures. Then, you can select the function you want.

➢ Or you can double click the icon in the notification window. The UMSD manager window will be popped up as,

By default, the device is non-security. So, the "Resize" function will be active when you run this software first time.

7.4 UMSD - Resize

As described in the "Partition Type" section, you can do the "Resize" action to your UMSD.

Warnings The "Resize" action will erase all the data or files existing in UMSD. The action is not reversible. You have to backup all the important files or data. Also, please close all the active program and windows on the screen of your computer.

1. Click the Resize button in the UMSD manager window. The following "Resize Partition" window will be popped up.

2. Select the partition type you want.

3. If you select the "Public Area Only", then click the [OK] button. The "Confirmation" window will be popped up. Please make sure you already backup all the important files or data.
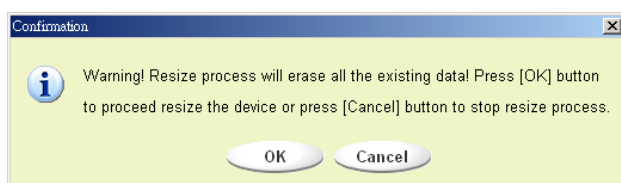

4. If you select the "Security Area", then the following "Security Area Resize" window will be popped up. You can drag the scroll bar in the middle of the window to set the size of the "Public Area" and "Security Area". Or you can

type in the size of each Zone you want in the "Size" window. You can set the password for accessing the security area in the "New Password" window. The maximum size of the password is 8 characters. You can key in the hint of your new password in the "Password Hint" window. This hint will be displayed when you click the "Hint" button in the "Unlock Protect" window. The maximum size of the Hint is 32 characters. After you finished the setting, click the [OK] button. The "Confirmation" window will be popped up. Please make sure you already backup all the important files or data.
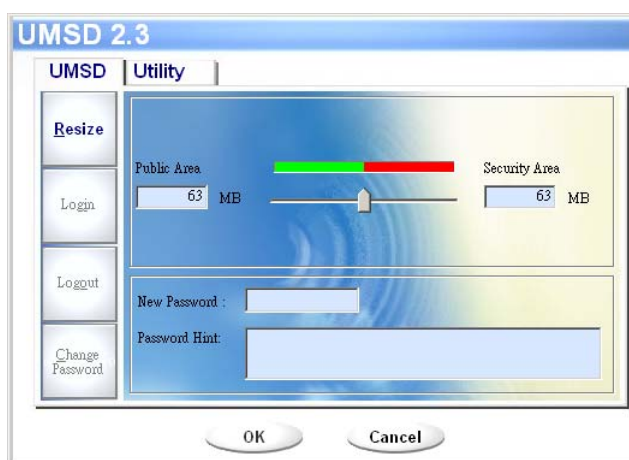
5. If you select the "Public Area + Security Area", then the following "Public/Security Area Resize" window will be popped up. You can drag the scroll bar in the window to set the size of each area. First, please set the size of the "Public Area" of LUN1. The minimum size for each area is 1MB. Once the size of the "Public Area" of LUN1 was set, the scroll bar of the "Public Area" and "Security Data Zone" of LUN0 will be set in the middle automatically. Or you can type in the size of each Zone you want in the "Size" window. You can set the password for accessing the security area in the "New Password" window. The maximum size of the password is 8 characters. You can key in the hint of your new password in the "Password Hint" window. This hint will be displayed when you click the "Hint" button in the "Unlock Protect" window. The maximum size of the Hint is 32 characters. After you finished the setting, click the [OK] button. The "Confirmation" window will be popped up. Please make sure you already

backup all the important files or data.
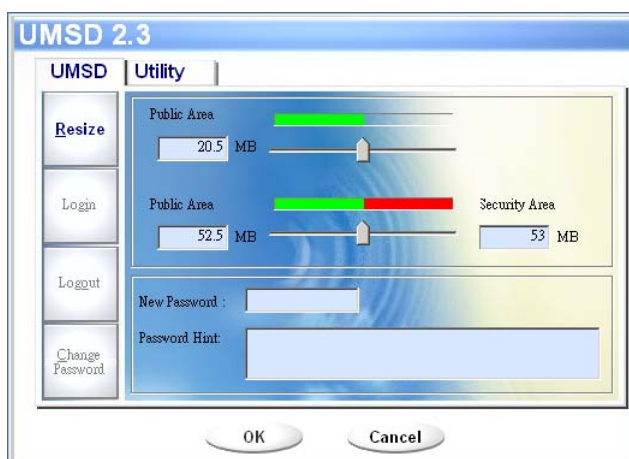
6. Once the resize finished, the following message will be popped up.
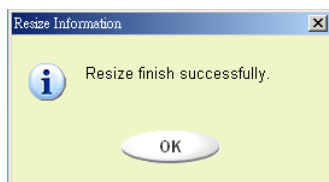
7. After you finished the "Resize", the "Setup.exe" program will be copied into the "Public Area" (in LUN 0) automatically. It's removable. However, it is needed when you insert your device into another computer. It will install the UMSD software for you in the computer.

7.5 Login the Security Area

If you partition the device with security, you can execute the following "Login" function to access the security Area.

1. Double click the UMSD icon in the notification window or click the [Login] button in the UMSD manager window. The "Unlock Protect" window will be popped up.

Warnings When you do the login and logout action with the device. Please make sure there is no application or program running or document open connection on the device. If so, it will cause data lose or damage.

2. Key in the password in the "Password" area.

➢ You can create the password hint in the "Resize" or "Change Password" functions. Once you had created the password hint, you can click on the "Hint" button in the "Unlock Protect" window to prevent you forget the password. The Hint will be showed for three seconds.
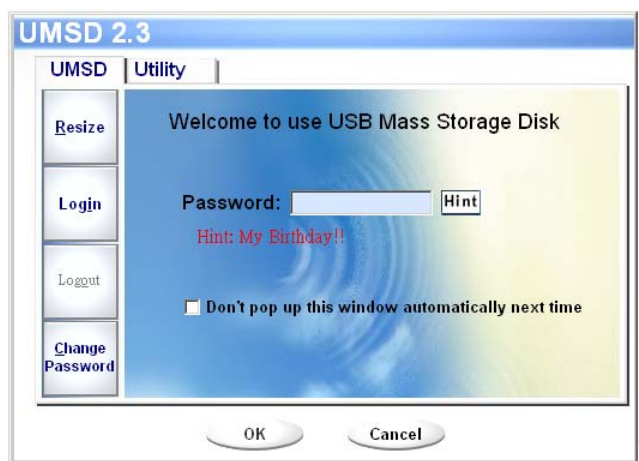
➢ If you key in the wrong password, the following message will be showed.
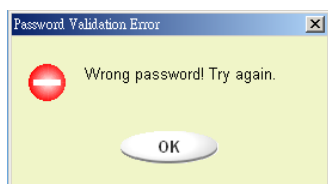
➢ You have three tries to input the password. After three tries, the following message will popped up. And you have to unplug and plug the device in order to do future action.
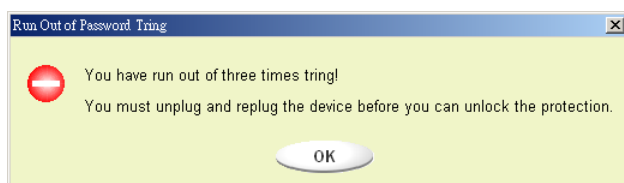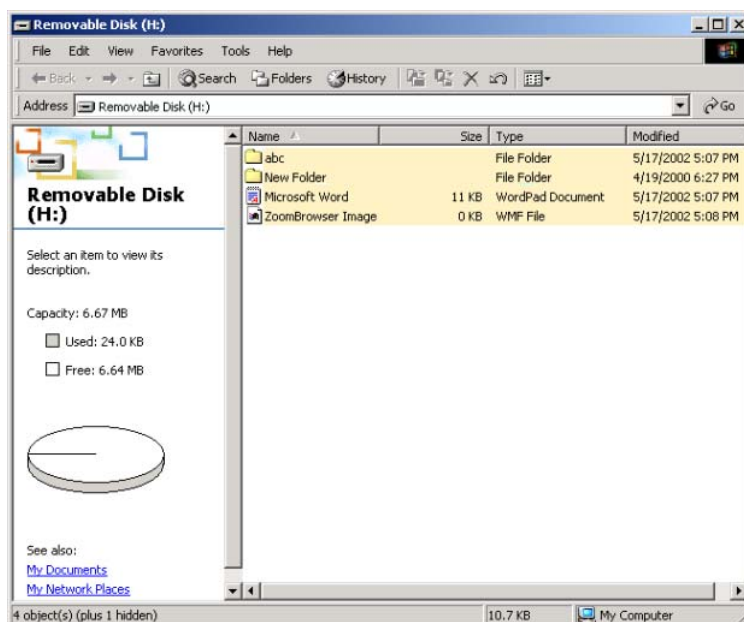

➢ When you do the login or logout action, please make sure you close all the programs or documents open connection on the device. If there is some application program is running or document open connect on the device, the following message will be popped up. In Win2000, even the "file manager" has accessed the device it will be treated as "busy". You have to close the file manager in order to do the "Login". However, not all the connection could be checked in all kind of OS.
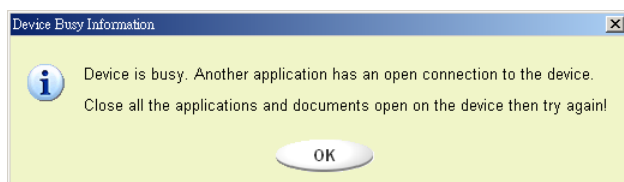
3. Click on the "OK" button.
4. Once the file manager window contains the "Security Area" was popped up, you can do the operation you want with the Security Area. The file manager window will be like the following figure. The background is colorful.

7.6 Logout the Security Data Zone

1. Double click the UMSD icon in the notification window or select the [Logout] button in the UMSD manager window.

Warnings   When you do the login and logout action with the device. Please make sure there is no application or program running or document open connection on the device. If so, it will cause data lose or damage.

➢ When you do the login or logout action, please make sure you close all the programs or documents open connection on the device. If there is some application program is running or document open connect on the device, the following message will be popped up. In Win2000, even the "file manager" has accessed the device it will be treated as "busy". You have to close the file manager in order to do the "Login". However, not all the connection could be checked in all kind of OS.

2. Once the file manager window contains the "Public Area" was popped up, you can do the operation you want with the Public Area.

7.7 Change Password

User can change password and key in the password hint using the "Change Password" selection in the UMSD menu. You can only select this item in "Security AP Zone".

1. Click the UMSD menu in the notification window using the right button of your mouse and select the [Change Password] selection of the UMSD menu. The following "Change Password" window will be popped up.
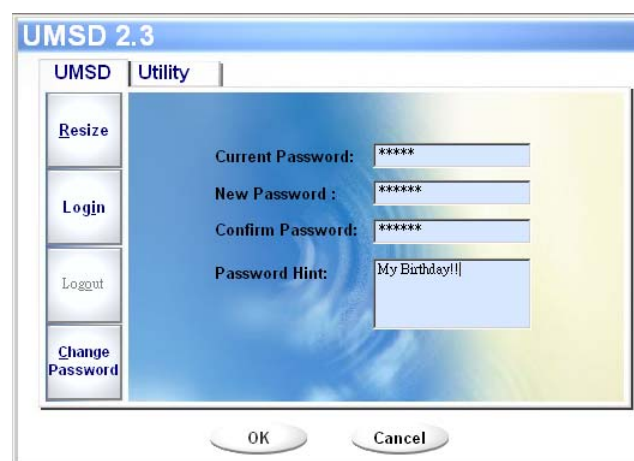
2. Make sure the "Write Protect" switch is in "OFF" location.
3. Key in your current password in the "Current Password" area.
4. Then, key in your new password and confirm in the "Confirm Password" area.
➢ The maximum size of the password is 8 characters.
5. You can key in the hint of your new password in the "Password Hint" window. This hint will be displayed when you click the "Hint" button in the "Unlock Protect" window.

8 Boot Up Function

The BootUp program in "Utility" manager window will build up the device as a bootable disk. Before you run the program, please do the following

preparations,

1) This program can run under Windows 98 SE, ME, and XP. (The program can't be supported in Windows 2000.)

2) Please turn off the anti virus program during the procedure.

3) Make sure your Windows system was located in C Disk.

4) Make sure the "write-protect" switch is in "OFF" position.

5) This program only deals with one device at the same time.

6) Make sure your UMSD is in "Public Area" if it is with "Security" function.

7) If you want to make your device as a bootable USB HDD, you can't make the device as a "Security" one. This option is only supported in Windows 98 SE.

Warnings   If you performed the "Log In" action with your UMSD and located in "Security Area" and run the BootUp function, it will do the "Log Out" and erase all the data in "Public Area". located in "Security Area" and run the BootUp function, it will do the "Log Out" and erase all the data in "Public Area".

When you are ready to process, follow the following procedures, the procedures for Windows XP is different from Windows 98 and ME. This program can not be run in Windows 2000.
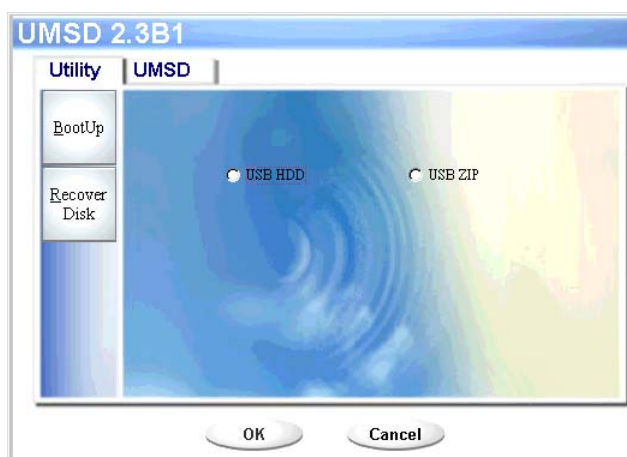
8.1 Windows 98 SE and Windows ME

1) You can click the [Utility] button in the UMSD manager window to execute the BootUp utility.

2) The following window will be showed up.

3) You can select the type of the boot up method, USB ZIP or USB HDD. The USB HDD is only for Windows 98.

   ➢ If you select "USB HDD", the computer will get the "C:\>" prompt after you booted from the UMSD.

   ➢ If you select "USB ZIP", the computer will get the "A:\>" prompt after you booted from the UMSD.

   ➢ If your device was with "Security" function, only USB ZIP can be selected.

4) After the selection, please click on the "OK" button. The following warning message will be showed up. The data in the "Public Area" will be lost. If it is OK, click on the "OK" button to continue the process.

   Warnings   The program will do the format. The existing data in the

"Public Area", which you want to make, will be lost.
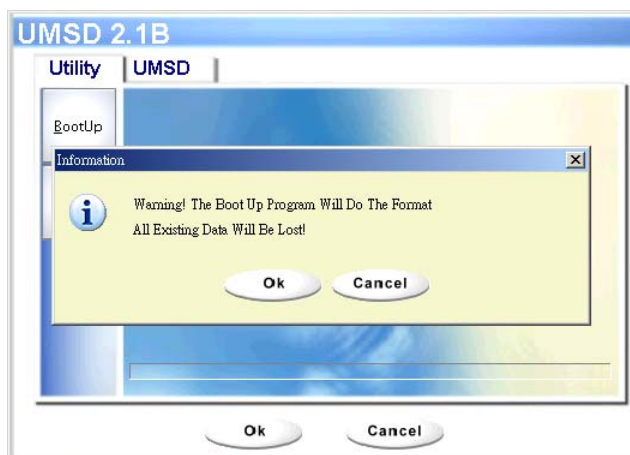
5) After the process was done, the finish message will be showed.

8.2 Windows XP

1) Please make a bootable floppy first. You can insert a floppy into the floppy drive. Then, click on the icon of 3.5" floppy in the "My Computer" window by using the right button of the mice. Select the "Format" item.

2) Select the item for build up a bootable floppy in the format options. Then, click on the "Start" button.

3) Make a directory called XP_Bootable in the root directory of your computer system disk.

4) Copy all the files in the floppy to the XP_Bootable directory.

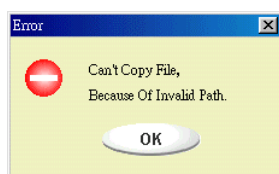5) Click on the [Utility] button in the UMSD manager window. Then, select the USB ZIP. Click on the "OK" button.
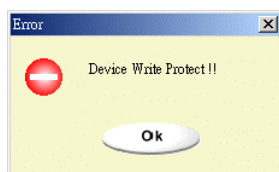
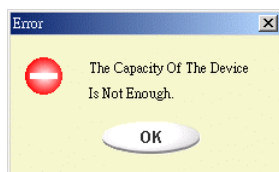6) After the process was done, the finish message will be showed.
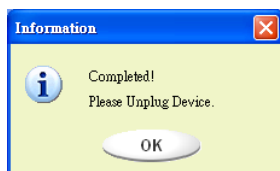
Error Messages:

When this message shows up, the possible reason is your Windows OS installation was not completed. (Please make sure the path \WINDOWS\COMMAND\EBD in Windows 98, \WINDOWS\COMMAND\EBD in Windows ME, or \XP_Bootable in Windows XP is exists)

When this message shows up, please make sure the "Write-Protect" switch is in "OFF" position.

When this message shows up, please make sure the capacity of the "Public Area" is enough.

Notes:

➢ After you finished the program, you will see different disk property when you select different disk type. For example, if you select it as "USB HDD", you will see the hard disk icon in the file manager window. If you select it as "USB ZIP", you will see the removable disk icon in the file manager window. However, only Windows 2000 and above can identify the difference. In Windows 98, you just can see the "Removable Disk".

➢ After you finished the program, the device contains the files necessary for boot up function. Please don't remove any file in this area. Otherwise it will cause failure when you do the boot up procedure of your computer.

➢ When you want to use the UMSD to boot up your computer, please select the appropriate setting of the BIOS. Please refer to the user manual of the mother board.

➢ Due to the BIOS design of each motherboard is quite different; we can not guarantee the boot up device is suitable for every computer.

➢ Because Award changed his BIOS spec. since March, 2002, the boot up procedure is different from before. We can not identify if the BIOS is new or old. So, this boot up utility is not suitable for Award's new BIOS if you using USB ZIP boot up option.

9   Recover Disk

Once your device was damaged, you can use this utility to recover the device. It will make the device back to its initial status. However, if there are some bad blocks in the flash memory, after you run this utility with scan option, its size maybe less than its initial size.

1) After you click on the [RecoverDisk] in [Utility] portion of UMSD manager windows, the following window will be popped up.
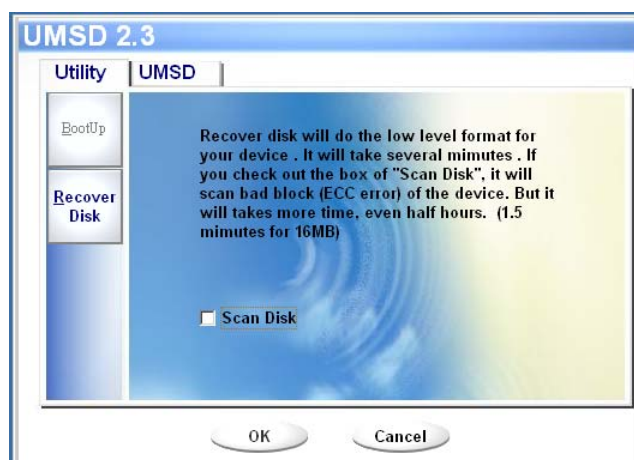

Warnings   The "Recover Disk" action will erase all the data or files existing in UMSD. The action is not reversible. You have to backup all the important files or data.

2) You can check out the check box of "Scan Disk" for the "Read/Write" testing for each block. It will take a long time for scan each block. You can estimate the time will be taken. It will take about 1.5 minutes for each 16 MB.

3) After you click the [OK] button in the window, the low level format process will be started.

If you check out the check box of the "Scan Disk", the "Scanning Disk" process will follow the "Low Level Format".
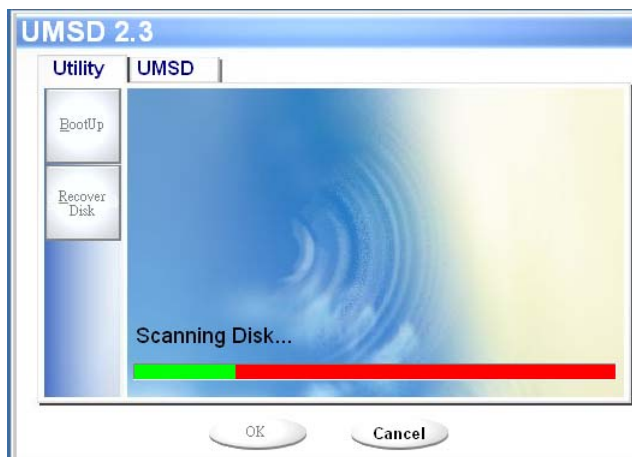
4) Once the job was finished, the complete message will be show up as the following figure.

10 Using EZ Drive On the MAC Platform

## 10.1 Installing and activating

10.1.1   Installing USB Mass Storage Support in Mac OS 8.6

Note: *You can ignore chapter10.1.1 if you use Mac OS 9.X above. Mass Storage Support requires Mac OS 8.6. You do not need to install this software and continue form chapter 10.1.2 if you have installed Mac OS 9.X.*

Note: *By default, Mac OS 8.6 does not have "USB Mass Storage Support" released by Apple Computer. The Mac system driver supplied with the card reader must, therefore, be installed.*

Note: *You can find out the latest "USB Mass Storage Support" on*
http://www.info.apple.com/support/downloads.html
If you cannot find out the "USB Mass Storage Support" on Apple website, you can find the USB Mass Storage Support version 1.3.5 on your driver CD-ROM.

1. Turn on your computer.

2. Insert the Setup CD into your CD-ROM drive.

3. Find the latest "USB Mass Storage Support" driver from

    a) http://www.info.apple.com/support/downloads.html

    b) Your driver CD-ROM.

4. Double-click on "USB Storage 1.3.5.smi" (or newer version) and it will bring forth the "USB Mass Storage Support" on the desktop.
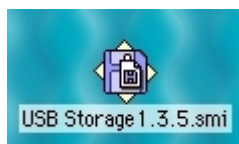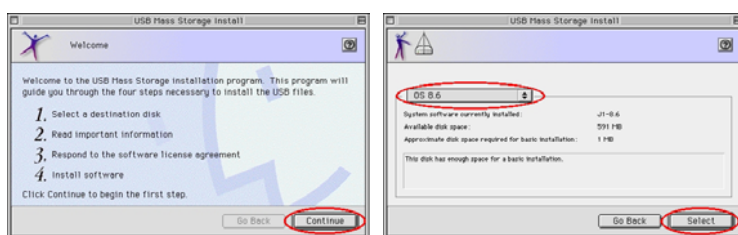

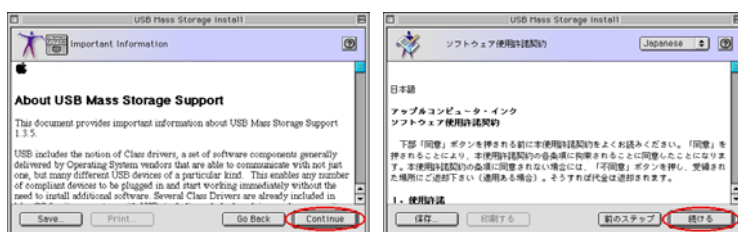5. Double click the "Apple SW Install" and then click the "agree" button.
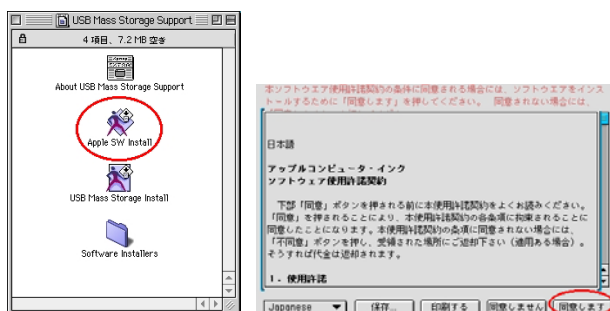
6. Click the "Continue" button and then select the partition that was installed the Mac OS 8.6 and click the "Select" button.
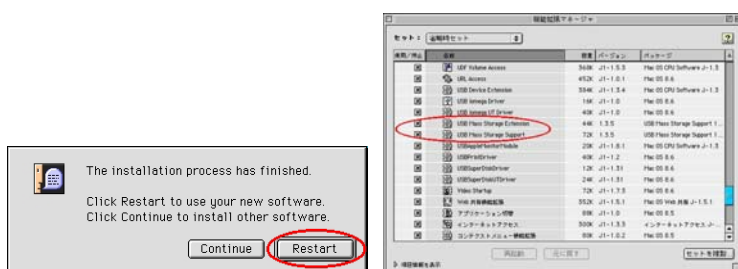

7. Click the "Continue" button and then click the "Continue" button again.

8. Click the "agree" button and then click the "Start" button.

9. Click the "Restart" button and after reboot the OS, the "USB Mass Storage Support" and "USB Mass Storage Extension" will be installed into the system\extension folder.

10. Continue from chapter 4.1.2.

10.1.2 Activating in Mac OS

1. Start your computer and connect EZ Drive to USB port.

2. The disk icon will pop up on the "Desktop".

3. EZ Drive is now ready for use.

10.2   Use

10.2.1 Connecting EZ Drive

The LED on EZ Drive will be lit when has been connected correctly.   The disk icon will pop up on the "Desktop" and EZ Drive is now ready for use.

10.2.2 Using EZ Drive

No extra drive letters are created in Mac OS. However, an icon will appear on the desktop when EZ Drive is connected to USB port. EZ Drive can then be accessed in the same way as a hard disk.

10.2.3 Disconnecting EZ Drive

Drag the icon on your desktop to the Trash before physically removing EZ Drive. When removing EZ Drive, first check whether any LED's are flashing. If they are, wait until the LED no longer flashes before removing EZ Drive. If you do not wait, data may be lost from EZ Drive.

10.3   Note

Note: For the sake of system stability, please DO drag and drop the drive icon into the Trash before disconnecting EZ Drive.

Note: When the system hangs due to improper operation, please unplug EZ Drive then restart the system.

Note: Owing to Mac OS's unique characteristic, EZ Drive may NOT work correctly when being attached before system boot-up. If you had attached it during boot-up process, system wouldn't detect EZ Drive correctly after boot-up process. You just need to unplug EZ Drive from USB port and plug it again then Mac OS will detect it and show the drive icons correct

11 Using EZ Drive On the Linux Platform

11.1 System Requirement

Linux kernel versions 2.2.7 and later contain the USB code.

11.2 Installing and activating

In Linux OS, you can follow the following instruction to "mount" the device

1. Execute cd /etc/sysconfig/ (cat /etc/sysconfig/hwconf | more)

2. Check the device information in hwconf, write down the mount point.

3. Make a directory in /mnt (ex: mkdir /mnt/usbHD)

4. Then, execute mount /dev/sda1 /mnt/usbHD (if mount point was .dev/sda)

11.3 Unplug EZ Drive

In Linux OS, please follow the "umount" command procedure to un-mount the device.

12 Known Problems

Problem: The "Write-Protect" switch can not work on-line on Macintosh computer with Mac OS 10.1.4.

Warnings If you switch the "Write-Protect" on-line with Mac OS 10.1.4, it will cause the computer system hang when you do the read or write operation.

Workaround: Disconnect the device when you need to switch the "Write-Protect" with Mac OS 10.1.4. We will solve the system hang problem in the near future. However, due to the OS operation issue, we don't recommend you switch the "Write-Protect" on-line.

EZ Drive USB Flash Disk User Manual

Disclaimer

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