USB Disk Tool

User's Guide

Version 1.21

Date: Nov 19, 2002

What's New

The version 1.21 enhances the stability of the driver and application software and adds the following features from version 1.01:

1. Auto Login: The user can choose to be prompted by a login dialog when inserting the flash disk into the USB bus if login is needed.
2. PC Lock: The user can now use the USB Disk as a key to lock his/her own PC to prevent un-authorized access.
3. Auto Backup: The application software will be automatically backed up to the USB Disk so the user does not need to carry the CD-ROM with him/her.
4. Special Disk Icon: The public and security partitions are now displayed in specialized icons so the user can distinguish the two partitions easily.
5. Hot swap: After install, the application software can start to work at once without reboot the system or re-plug the device.

System Requirements

The system requirements of the USB Disk and the application tool are listed below. The USB Disk can be operated under most commercial OS with default class driver. However, the application tool can only be run under Windows for now.

- Computer Model: IBM PC/AT compatible or Apple Macintosh, Power Macintosh, PowerBook, iMac or iBook
- OS: Windows 98 SE, Windows ME, Windows 2000, Windows XP, Linux kernel 2.4 or higher, Mac OS 8.6, 9.1.x or higher, OS X (the application tool only supports Windows)
- Interface: USB 1.1
- Free disk space: 5 MB or more

Basic functions

The USB Disk can support the following functions without installing the application tool.
- USB Hot Plug & Play
- File Read / Write
- On-the-Fly write protect switch
- Eject / Safe Remove & Hot Unplug

Application Tool functions

The USB Disk tool provides additional functions other than the basic ones.
1. Resizable & real time partitioning, either ZIP or HDD format can be

selected

2. Special designed disk icon to help user distinguish public and security partitions

3. Security area automatically popped out when login and disappear when logout or unplug

4. Password failure check to avoid brutal force password guessing

5. Direct file copy transfer between two partitions

6. Bootable disk creation under Windows 98 SE & ME

7. ROM type Flash Disk creation (medium lock)

8. The password and hint can be changed at anytime

9. Automatically login dialog prompt

10. Lock you PC from un-authorized access

11. Automatically back up drivers and application software to flash disk

Symbol used for the Application Tool

The following symbols are used to indicate different states of the application.

 : **Only public partition can be accessed**

 : **Both public and security partition can be accessed**

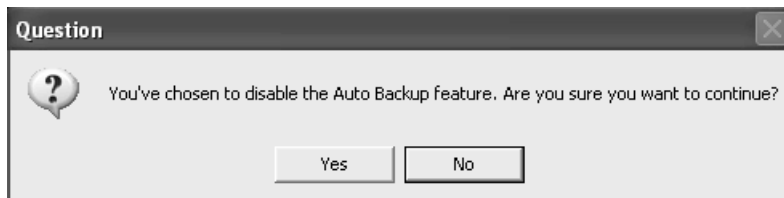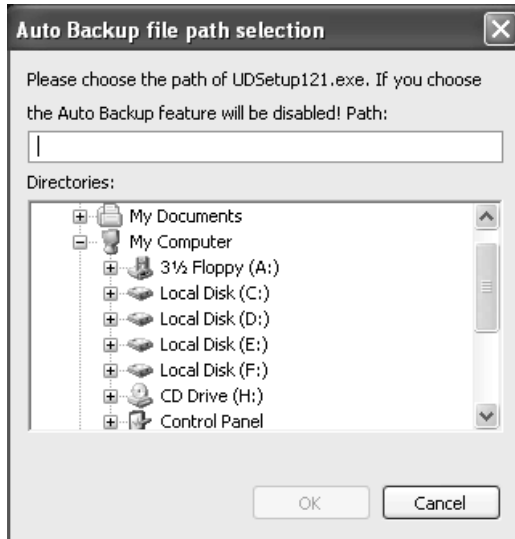 : **Transition state, no action should be performed to USB Disk**

 : **Only public partition can be accessed, but write is prohibited**

 : **Both partitions can be accessed, but write is prohibited**

Install procedure

You can find the "UDSetup121.exe" or "UDSetup121.zip"in the accompanied CD-ROM or on the USB Disk. Just click it and follow the instruction on the screen. If the user installs the AP from CD-ROM, flash disk or desktop, the auto-backup feature will be enabled automatically. If the AP is installed from other places, the install shield might ask for the path of the UDSetup121.exe to enable the auto-backup feature. If the user chooses to ignore, then the auto-backup will be disabled and the user has to backup the AP manually.

Auto Backup file path selection

Please choose the path of UDSetup121.exe. If you choose
the Auto Backup feature will be disabled! Path:

Directories:

- My Documents
- My Computer
  - 3½ Floppy (A:)
  - Local Disk (C:)
  - Local Disk (D:)
  - Local Disk (E:)
  - Local Disk (F:)
  - CD Drive (H:)
  - Control Panel

OK   Cancel

Question

? You've chosen to disable the Auto Backup feature. Are you sure you want to continue?

Yes   No

After the install process is finished, if the USB Disk is not on the USB port, then the task icon will be shown automatically when the USB Disk is inserted in and the special public disk icon shows up (the special disk icon can not work under WINXP).

2:34 PM

Pub
Removable
Disk (H:)

If the user choose not to reboot the system and the USB port, has already been on the USB port, the user has to wait until the "Wait" dialog disappeared to complete the installation process. After the dialog disappears, sometimes a message will pop out to ask the user to re-plug the device. After doing that, the USB Disk can be operated normally.

Wait

Please wait ....

After the software is installed, a program entry named "USB DISK TOOL" will be created in the "Programs" folder of the "Start" menu of Windows.

**Note:** If the user tried to install a newer version or a different language version of the

software, the old one has to be uninstalled first. Please refer to the following "Uninstall procedure" section. Directly installing the new software without uninstalling the old one might cause the system still using the old version.

Uninstall procedure

There are three ways to uninstall the software. The first one is to use the "Uninstall" entry in the "USB DISK TOOL" folder in the "Start" menu. The second one is to use the "Add/Remove Programs" function in the control panel and choose to uninstall the "USB DISK TOOL". The third one is to run the install program "UDSetup121.exe" again. After using one of the three ways, just follow the instruction on the screen. Sometimes the first two methods might fail. At this situation, using the method 3 can fix the problem. All three methods will remove the installed components completely. If the OS supports mass storage class driver (like Windows ME, 2000, and XP), the user has to plug out then plug in the USB Disk again for the system to load the default driver. After that, the USB Disk can be accessed. However, without the necessary software installed, only the basic functions are provided.

If the PC lock feature is enabled and the matched USB Disk is not inserted, the uninstall process can not be performed.
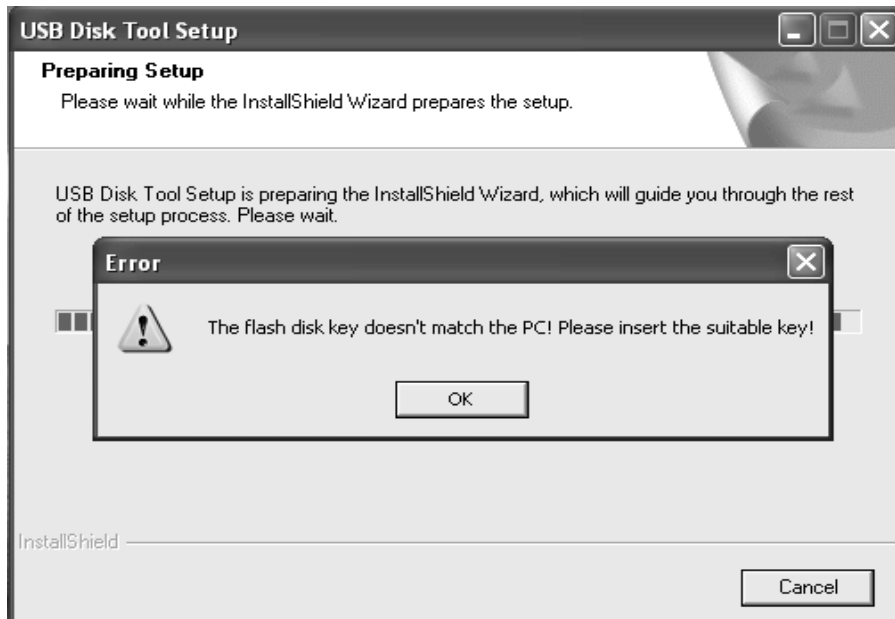

If the lock time has elapsed and there is no matched USB Disk inserted, uninstalling the application software will cause the PC Lock function of that USB Disk being disabled forever. The user has to return it to the manufacturer to fix it. Therefore, unless the USB Disk is lost, uninstalling is not recommended. The uninstall shield will remind the user several times during the process.
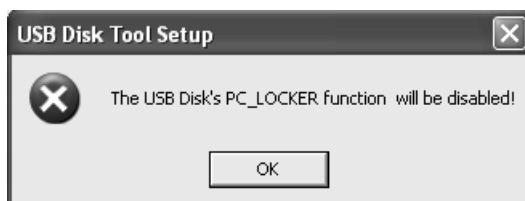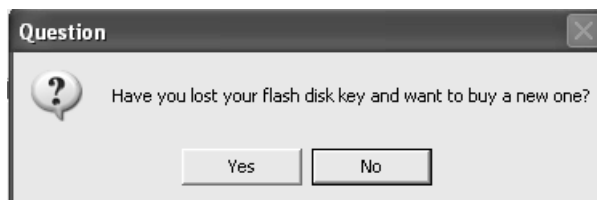
Basic Functions

1. **USB Hot Plug & Play:** After the USB Disk is inserted into the USB port (driver needs to be installed first under Windows 98 SE), the disk icon will be shown on the file manager window (Windows) or Desktop (Mac OS).
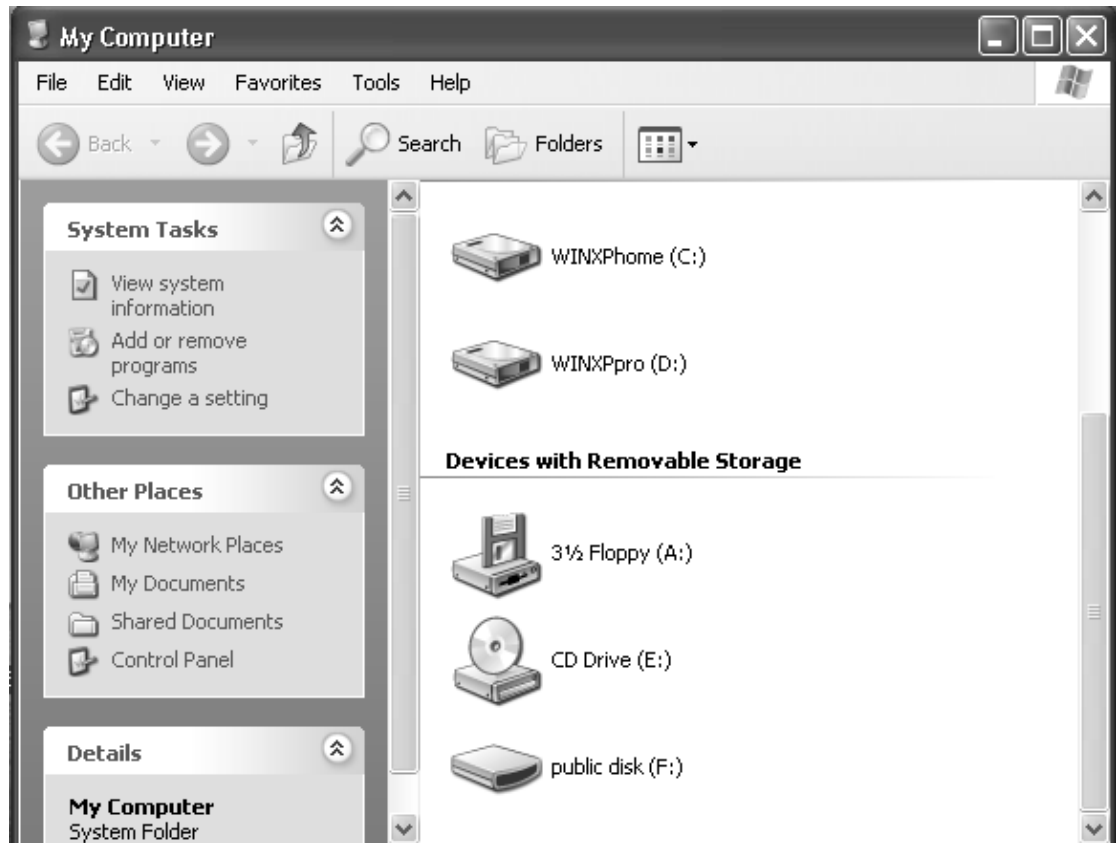

For Linux, you can use the following instructions to mount the USB disk on.

- Execute cd /etc/sysconfig (cat /etc/sysconfig/hwconf |more)
- Check the device information in hwconf and write down the mount point (e.g. /dev/sda)
- Make a directory in /mnt (e.g. mkdir /mnt/flashdisk)
- Mount the device on (e.g. mount /dev/sda/mnt/flashdisk if mount point is /dev/sda)

2. **File read / write:** After Plug in, the USB Disk can be read and written as floppy or hard disks.

3. **On-the-Fly write protect switch:** The write protect switch provides the ability to protect the data from accidentally erased. It can be turned on and off on the fly without unplug the USB Disk. When turned on, the data in the

USB Disk is protected and cannot be altered. Once turned off, the USB Disk can be accessed normally. Please be noted that if you turn on the write protect switch after moving / copying files to the device, the data you just copied might not be moved / copied completely. This is because the write cache of Windows might delay the actual write operation even the screen shows the write process is finished. Therefore, such an operation should be avoided. Under Mac OS, the disk icon will disappear s short period then show up again if the write protect switch status is changed. This is normal. During this period, please do not perform any action until the icon shows up again.

4. **Eject / Safe Remove and Hot Unplug:** The USB Disk can be hot unplugged if no write action is performed to it. However, if data has been moved to the USB Disk, then Eject or Safe removal action is needed to prevent the data loss. Eject can be used to ensure the data integrity. Under Windows, select the disk icon and click the right button of the mouse then select "eject". This will empty the write cache. The LED will be turned off to indicate now it is safe to remove the device. Under some conditions (especially in Windows 2000), the LED might not be turned off automatically after eject. At this moment, click the disk icon again will turn off the LED. After the LED is off, the USB Disk can be removed safely. Under Mac OS, dragging the removable disk icon and put it into the trash can, this will complete the "eject" function and the LED will be turned off.
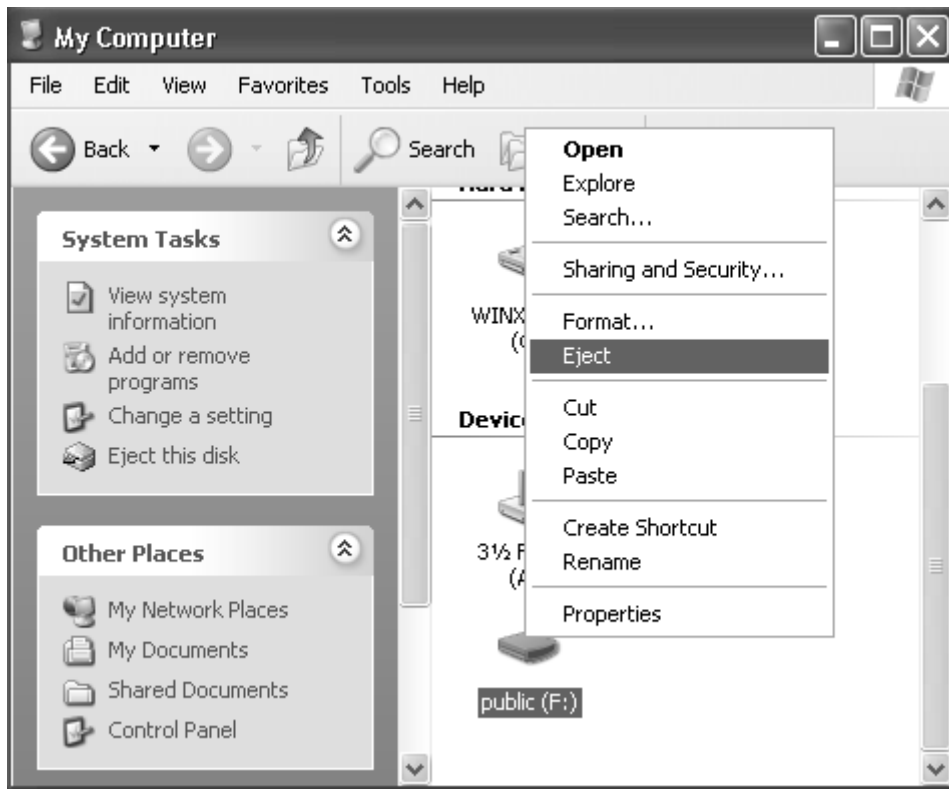
The safe removal icon can be found in the Windows' notification area (except Win98 SE). Double click the "safe removal" icon and the "Unplug or Eject Hardware" window will be popped up. After selecting the device to be removed and slick "Stop" button, the LED will be turned off and the device can be unplugged from the USB port safely.

Under Linux, please use the "umount" command and follow the unmount procedure to disconnect the device.

Application Tool functions

1. **Resizable & real time partitioning, either ZIP or HDD format can be selected:** There are 2 types of partitions, the public partition and the security partition that can be created in the USB Disk by using "Resize" function from them menu. The size of each is set in the resize window. When performing the resize operation, all the data in the USB Disk will be erased, so the user has to back up all the important data before doing this.
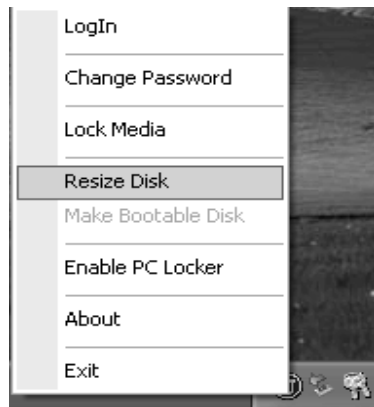
The user can use the sizing bar to adjust the size of each partition and the volume label for each partition can be assigned optionally. If a security partition has existed, the correct password has to be checked successfully first.


If there is only public partition, the resize window will pop out without password check.

- ■ **Public partition:** The data in this area can be accessed by anyone, just like the data in a normal floppy disk or HDD. The size of public partition can be as large as the size of the USB Disk.
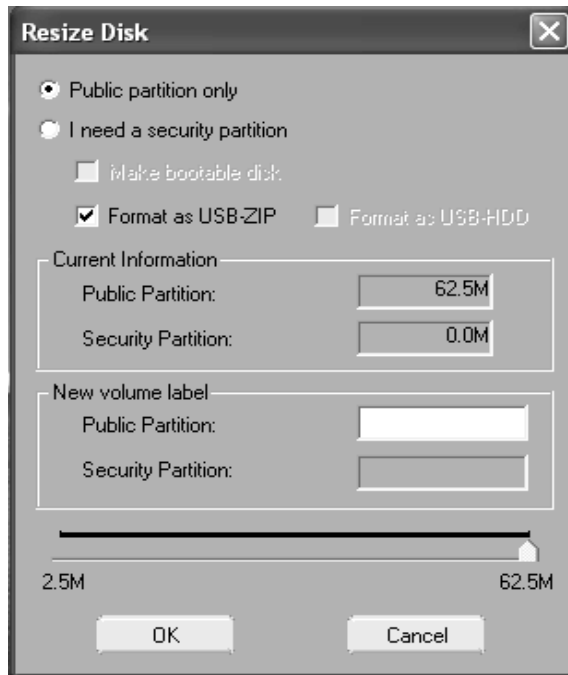
- **Security partition:** The data in this area is protected by a 4 to 12 characters of password. Unless the password check is succeeded, the data in the security area can never be read or written. Even if someone wants to destroy the data in the security area, this attempt can never succeed except the password is known. A security area can not exist along on the USB Disk. A public area must coexist with the security area. The minimum size of the public area is 2.5 Mbytes. Therefore, the maximum size of the security partition is the total size of the USB Disk minus 2.5 Mbytes. The minimum size of the security partition is 1Mbytes.
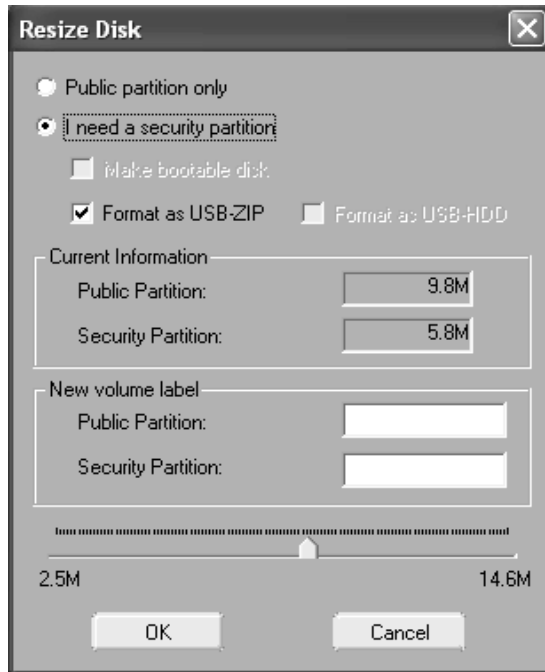
Under Win98 SE, the user can select to format as HDD (fixed disk) if the "Make Bootable Disk" option is chosen. If this option is not selected, then the USB Disk will be formatted as ZIP (removable disk). For all other version of Windows, only the ZIP format can be selected. Under Windows, the eject function is not workable for the HDD disk and the OS does not accept HDD to be locked as write protect. Therefore, unless the user needs to use "USB HDD" bootable device function, formatting as HDD is not recommended. For Windows 2000 or XP, the disk icon of a HDD format USB Disk is shown the same as the local disk. For Windows 98 SE and ME, some systems might still display it as removable disk. This is the issues of the OS and does not mean the format failed.

Once the user clicks OK, if there is no old password exists and a security partition is selected, a new password window will be popped out to ask for new password and the optional password hint.


If a security partition has already existed, the application tool will not ask

password again. After resize if finished, the USB Disk will automatically be logged in to show up two disk icons.

2. **Special designed disk icon to help user distinguish public and security partition:** The disk icons for the public and security partitions are specially designed to help the user to distinguish the two partitions.


3. **Security area automatically popped out when login and disappeared when logout or unplug:** By using the "Login" function from the menu, the security partition (if there is any) will show up automatically after typing in the correct password.
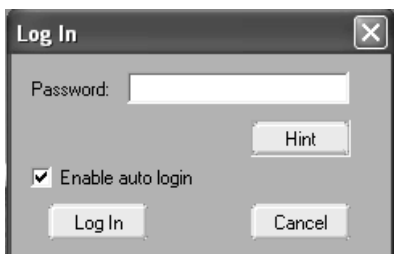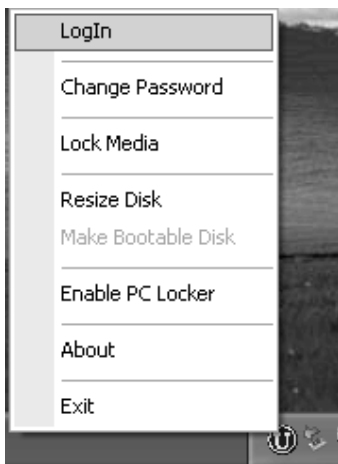
If there is no security partition, an error message will be displayed.

By using the "Logout" function from the menu, the security partition will hide automatically to prevent unauthorized access.
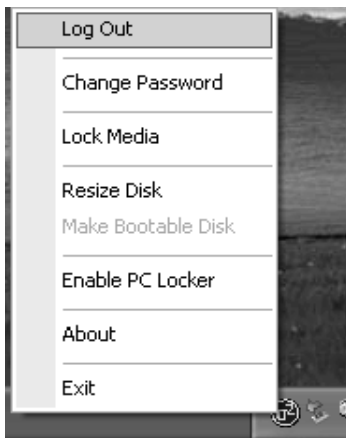
4. **Password failure check to avoid brutal force password guessing:** If the password check has failed 3 times, the USB Disk will stop functioning and the user has to unplug the USB Disk to resume operation.

USB Disk tool provides a maximum of 12 characters of Password and a maximum of 32 characters of password hint. The user can type password hint to remind him the password. The password hint is saved / changed when the new password is saved or changed.

When the password needs to be checked, the user can read the hint by click the hint button in the login / check password window.
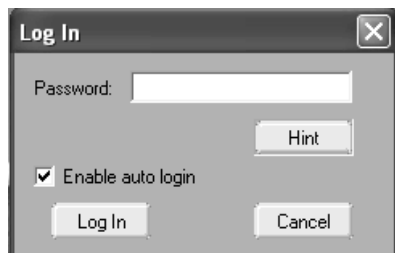

5. **Direct file copy transfer between two partitions:** Because both the public and security partition can be accessed at the same time, users can transfer the data between the two partitions easily, just like moving / copying files between normal disks.
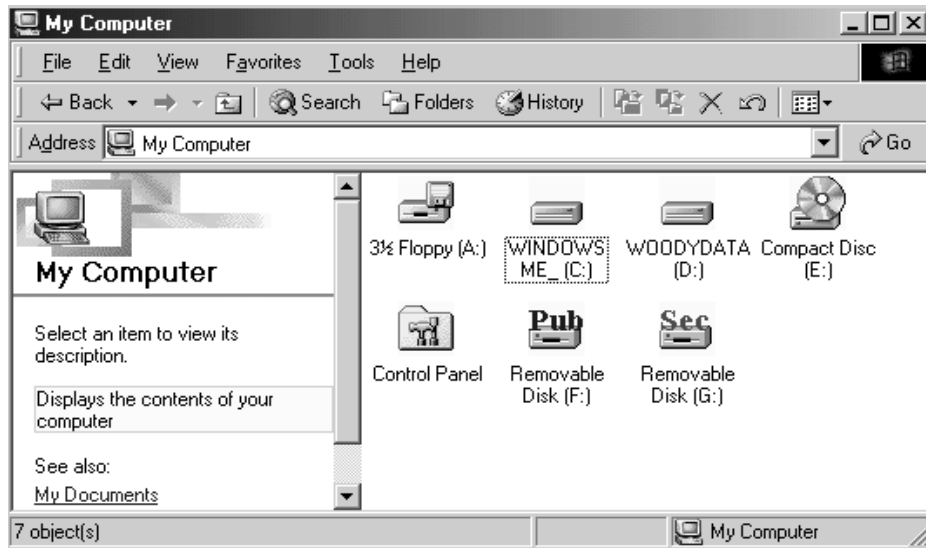
6. **Bootable disk creation under Windows 98 SE & ME:** The USB Disk can be used to boot a PC if the system's BIOS supports boot from USB ZIP or HDD. There are two methods can be used to create a bootable disk. The first one is the "Make Bootable Disk" entry in the menu.
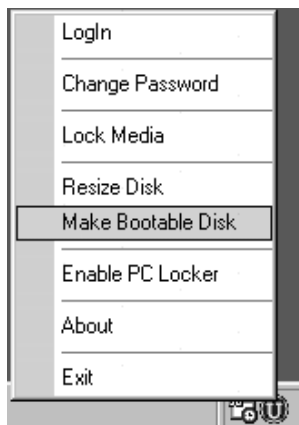
This function does not change the format of the disk so the data in the disk is not lost. However, since it only copies the necessary files to the disk, if the format of the USB Disk is changed by using Windows format or fdisk function, this function might not be able to create a correct bootable device. The second method is to use the "Make bootable disk" option in the "Resize" function. Resize will remake the format of the disk, so all the data in the disk will be lost, but this also guarantees the format will be correct. Both USB ZIP and USB HDD are supported under Windows 98 SE. The USB HDD can not be selected unless the "Make bootable disk" option is selected. Under WinME, only USB ZIP is supported.
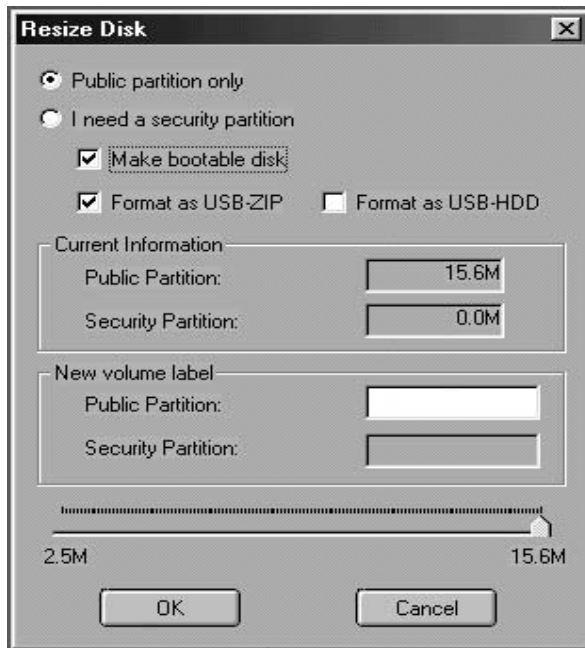
7. **ROM type Disk creation (medium lock):** Except the hardware write protect switch, the USB Disk provides a more advanced software lock function to prevent unauthorized change to the data stored in the disk.
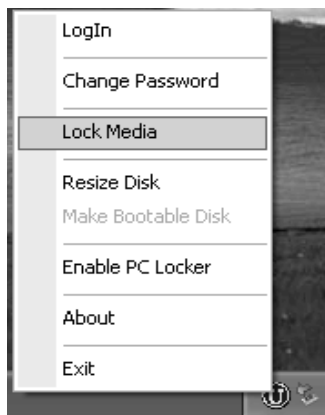

Once the disk is locked, all data in it is not allowed to be changed. This is done by using the "Lock Media" function in the menu. The disk can be locked no matter a security partition exists or not. Both public and security (if any) partitions will become permanent write protected once the lock is activated, no matter the write protect switch is on or off. The password will need to be verified to perform either lock or unlock. By doing this, user can have double protection to the data being stored. If no password exists, the application will ask for the new password, just like the resize.

If a security partition has already existed, a check password window will be popped out. The password required for lock media is the same as the one used to access the security partition.

Once the media is locked, the corresponding information message window will be shown and the task symbol on the bottom right corner will be changed into lock status.
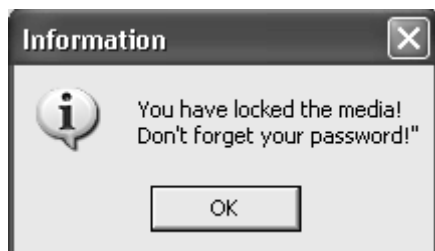
To disable the permanent write protect to the disk, select the "Unlock Media" entry in the menu.

The password check has to be performed successfully first to unlock the media.

After the media is unlocked, the corresponding information message window will show up and the task symbol will return to the normal state. If no security partition exists, the password will be cleared and no longer exist.

If the USB Disk has been formatted as HDD, then it can not be locked. The "Lock media" selection will disappear from the menu. This is because the windows can not handle the idea that a local disk (HDD) can be in write protect status. The Windows will show the "Blue Screen" if a write operation is attempted to a write protected HDD. Some Windows (e.g. Windows ME) will

perform some "secret" write operations unperceivable by the users when it first detects a HDD plugged in. For these OS, even there is no write operation performed by the user, the "Blue Screen" will still occur. Therefore, the "Lock Media" function is disabled for a disk that is formatted as HDD. If the user turn on the write protect switch while the device is formatted as HDD format, then the same phenomena described above will also occur.

8. **The password and hint can be changed at anytime:** When the user needs to change the password or the password hint, the entry "Change Password" in the menu should be used.

The correct password has to be entered first before the password can be changed. The new password must be between 4 to 12 characters.


If no password existed, then an error message will be shown.

The password hint can be changed the same as the password changed. It can not be changed alone. However, user can type the new password the same as the old one but just change the hint. This will achieve the same effect as change password hint alone. The minimum length of the password hint is not restricted.

9. **Automatically login dialog prompt:** If there is a security partition existing, the login in window will automatically pop out if the auto login option is checked in the login window.
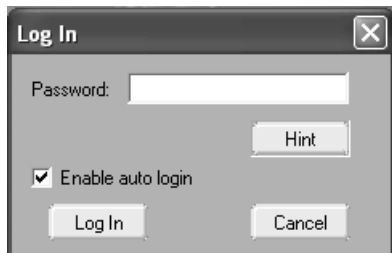
10. **Lock you PC from un-authorized access:** The new PC lock feature can turn the USB Disk into a key of your PC from unauthorized access. The keyboard and the mouse will be locked if the matched USB Disk is not on the PC's USB bus.
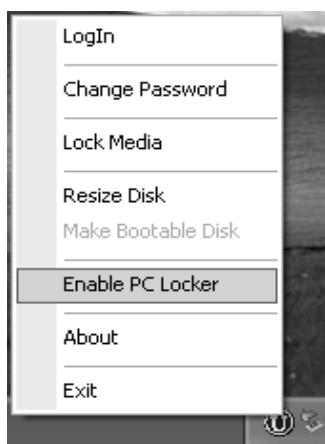

There are three types of PC Lock options:

A. **Always Lock:** Without the matched USB Disk, the PC will be locked forever. Therefore, a warning message will show up if the user chose this

option. If the matched USB Disk is lost, the user has to re-format the entire disk. The user can backup the necessary files under safe mode or DOS mode first before formatting the disk.


B. **Lock by "System Time":** The PC will be locked by the selected interval of time. After the time is passed, the PC will be unlocked automatically even the matched USB Disk is not inserted. "System Time" means the absolute time passed after the PC Lock is enabled, no matter the system is turned on or off during that period. The longest time can be locked is 31 days and 23 hours.
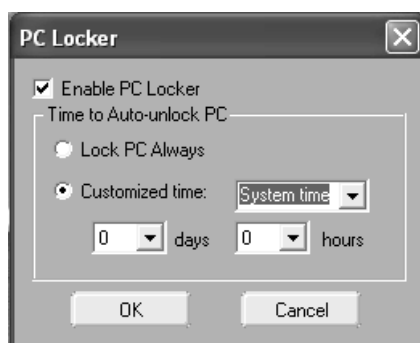
C. **Lock by "Power ON Time":** Same as "Lock by System Time" but the PC can not be turned off during the lock period. If it is, the time will be recalculated. The longest time can be locked is 31 days and 23 hours.
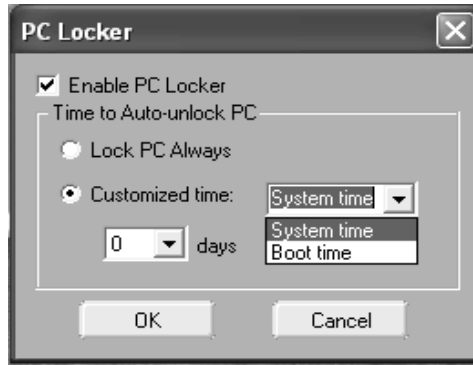
D. To disable the PC lock, choose the "Disable PC lock" entry and un-check the "Enable PC lock" box. If the matched USB Disk is not inserted, then the PC lock function can not be disabled.
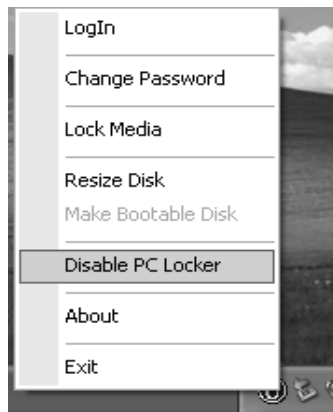
11. **Automatically back up drivers and application software to flash disk:** When the auto backup feature is turned on during the installation, the install shield will be backup to the USB Disk automatically so the user can install the necessary drivers and application software without copying them manually.

Disclaimer

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Revision History

1.0: first release

1.01: add Revision History and modified few places

1.21: add features of version 1.21