

# Silverlining Lite v2.1.1 Drive Management Software Online Documentation

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Silverlining Lite is a program which provides essential Macintosh drive management functions in a convenient control panel. Use Silverlining Lite to quickly mount and unmount volumes, change polling preferences, format drives, and erase volumes.

Silverlining Lite makes it easy to work with removable cartridge drives by automatically mounting an icon on the desktop when a cartridge is inserted. Without Silverlining Lite, you would need to use SCSI Probe, Silverlining, or some other similar program to manually mount an icon after each cartridge is inserted.

## Silverlining Lite v2.1.1 improvements

- Increases data transfer rates for drives mounted on internal "fast" busses up to 10 MB/sec. or higher by utilizing high speed synchronous bus data transfers.
- Supports installation of Silverlining driver on drives with other drivers, including Apple, FWB, APS and Anubis drivers. Silverlining Lite always replaces other drivers.
- Improved performance when ejecting cartridges. Silverlining Lite no longer waits for the mechanism to finish the cartridge eject after issuing an eject command.
- Driver does a more thorough job of error detection and retry. This avoids disk errors associated with Jaz drives and others.
- Driver now detects if a disk is removed from the bus with a volume mounted and asks the user to re-connect the device to prevent loss of data.
- Support of System 8.x. Silverlining Lite includes support of System 8 appearances in windows and dialog boxes.
- Silverlining Lite now features full support of individual volume passwords and drive master passwords. You can prevent users from mounting a volume or modifying a volume without the correct password. System administrators can use a drive master password as a backup in case users lose their individual passwords.

NOTE: The data stored in the Start Block has been changed slightly . Versions of Silverlining prior to 5.8 will report "Start block invalid" on any drive initialized with Silverlining 5.8 or Lite v2.1 or later. This is normal

and does not constitute a problem.

### Silverlining Lite compatibility

Silverlining Lite is fully compatible with all Macintosh models (including PowerBooks, AVs and PowerPCs), Macintosh system software versions 6.x, 7.x, and 8.x); SCSI Manager 4.3 (including Macintoshes that support multiple SCSI buses), Macintosh IDE drives, and Speed2 Drives. This includes IDE and SCSI hard drives, magneto-optical (MO) drives, Jaz, Zip, and MCD. Silverlining supports the Terabyte file system (64 bit addressing scheme) which was introduced in System 7.5.2. Also supported are 512, 1024, 2048, and 4096 byte per sector drives.

### Installing Silverlining Lite

1.

Start up from your primary drive.

2.

(Optional) Remove all copies of Silver Volumes and Silver Control from the System Folder of your startup drive before installing Silverlining Lite. Silverlining Lite replaces Silver Volumes and Silver Control so these two files are no longer needed.

3.

Copy the Silverlining Lite icon from the Silverlining Starter Kit folder or floppy disk to the System Folder icon of the startup drive. For System 7 users, the Silverlining Lite icon will be placed in the Controls Panel folder automatically.

4.

Restart the Macintosh

### Opening Silverlining Lite

1.

Choose Silverlining Lite from the Control Panels menu in the Apple menu. You can also open the Silverlining Lite window by double-clicking the Silverlining Lite icon.

Note: Once Silverlining Lite is installed, you may see a dialog box when you insert a new or uninitialized cartridge into your drive. Clicking on Initialize will automatically format and initialize the new cartridge into one Macintosh volume without running Silverlining Lite.

Silverlining Lite control panel overview

### . Buses, devices, and volumes

The portion of the window above the buttons lists all available buses, devices, and volumes. For each device, the type, address, and description appear. For devices on a SCSI bus, the SCSI address is shown. For devices on an IDE or SPEED2 bus, an address is mapped to each drive on the bus beginning with address 0. For each volume, the name, capacity, and free space appears. Unmounted drives and volumes appear dimmed. Click to select a bus, device or volume. Use the scroll bar to display additional entries.

### 2. Triangle

Click a triangle to the left of a bus or device name to display nested devices or volumes.

### 3. Lock Icon

Indicates whether or not the volume is locked. The lock's hasp appears closed when the volume is locked. Double-click the lock icon to change the lock status. See "Locking/Unlocking Volumes" for details.

### 4. About button

Displays version and copyright information.

Ⓔ Prefs button ^p Allows you to set general program preferences for startup icon, bus scanning, driver removal, and formatting specifications. See "Setting Preferences" for details.

### 5. Mount/Unmount or Lock/Unlock buttons

These buttons allow you to quickly mount/unmount or lock/unlock volumes

from the desktop. Unmounted volumes appear dimmed in the Silverlining Lite window. See “Mounting and Unmounting Volumes” or “Locking/Unlocking Volumes” for details.

#### 7. Options

Allows you to set preferences for the selected bus, device, or volume.

Options include driver installation at startup and ejection of cartridges. See “Bus, Device, and Volume Options” for details.

#### 8. Setup

Formats a drive or erases a volume. See “Setting up a Drive or Volume” for details.

#### 9. Info

Displays information about the selected drive’s firmware, drivers, and partitions, including “invisible” partitions. See “Displaying Bus, Device, and Volume Information” for details.

#### 10. Scan button

Rescans the busses and displays all available volumes.

### Mounting/Unmounting volumes

The Mount/Unmount button allow you quickly mount and unmount volumes from the desktop. Users will not be able to view or modify a volume unless it is mounted on the desktop.

To prevent users from mounting a volume without the correct password, see “Volume Security and Passwords” later in this document.

To mount/unmount volumes:

1.

Open the Silverlining Lite window.

2.

Click to select a volume or device.

You cannot mount or unmount CPUs, tape drives, and other devices that don’t mount an icon on the desktop. Select a device if you would like all volumes in the device mounted or unmounted.

Click Mount to mount the volume on the desktop.

If the volume has a Mounting password, you will be prompted to enter the password at this time. The volume will be mounted after you enter the correct password. If you mount drive with multiple mount-protected volumes, you will be asked to enter each password.

4.

Click Unmount to unmount the volume.

Unmounted volumes appear dimmed in the Silverlining Lite window.

Unable to get a cartridge icon to mount?

The Macintosh automatically loads the driver for available SCSI devices at startup. To force the loading of a cartridge's driver, shut down the Macintosh, insert a cartridge, wait for the cartridge to spin up, and then start up the Macintosh.

Shortcut: You can mount or unmount a volume by double-clicking its name in the Silverlining window.

### Locking/unlocking volumes

You can quickly lock and unlock volumes from the Silverlining window.

When a volume is locked, users can view the contents of the volume but can't modify data in it until the volume is unlocked.

To prevent users from unlocking a volume without the correct password, see "Volume Security and Passwords" later in this document.

To lock/unlock volumes:

1.

Open the Silverlining Lite window.

2.

Click to select a volume.

You can lock/unlock hard drives, cartridges, and other writable, desktop mountable volumes. You cannot lock/unlock CD-ROMs, tapes, or any volume that cannot be mounted on the desktop.

Look closely at the lock's hasp to the left of the volume name.

The lock's hasp indicates whether or not the volume is locked. When the lock's hasp is open, the volume is unlocked, and data can be modified. When the lock's hasp is closed, the volume is locked, and data cannot be added or changed.

4.

Click Lock or Unlock to toggle the lock/unlock status.

The volume will be locked/unlocked immediately. If the volume has a Unlocking password, you will be prompted to enter the password at this time. The volume will be unlocked after you enter the correct password.

**Silverlining Shortcut:**

Double-click the lock's hasp to toggle the lock/unlock status.

**Finder Shortcut:** You toggle a volume's lock/unlock status by holding down the Option key and dragging the volume to the Trash.

## Displaying Bus, Device, and Volume Information

Use Silverlining Lite to display information about a bus, device, or volume.

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SCSI bus: Includes information about the bus.

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Device: For drives, the information displayed is determined by the drive's firmware or is specified when the drive is formatted. For CPUs and other devices, Silverlining Lite displays configuration information. If the device is a hard drive or Displays information for all of the partitions on a drive, including "invisible" partitions.

- 

Volume: Shows information about volume file system, name, size, unused space, free space, total files, and fragmented files.

To display device information:

1. Open the Silverlining Lite window.
2. Click to select a device.
3. Click Info.

The following example shows drive and partition information for a Quantum Empire 1080S drive.

Manufacturer and Model: The manufacturer and model of the drive, as reported by the drive's firmware.

Version: The revision number of the firmware on the drive.

Total Sectors: The number of 512, 1024, 2048, or 4096-byte blocks available on the drive.

Bytes/Sector: The number of bytes in each sector.

Cylinders (tracks): The pair of tracks on opposite sides of the disk platter. If a hard disk contains multiple platters, a cylinder includes the pair of tracks directly above and below each other on each disk platter. On a hard disk containing four platters, each cylinder contains eight tracks.

Heads: The total number of read/write heads on the drive.

Sectors: The average number of sectors on each track.

Interleave: The number of revolutions required to read every sector on a track. Most hard drives use a 1:1 interleave factor.

Partition Number: Partitions are assigned numbers by Silverlining Lite. The first partition is assigned number 0, the second partition is assigned number 1, and so on.

Note about “Invisible” partitions: A drive normally contains a handful of partitions that are used to store drivers, directory files, and free space. They are called “invisible” partitions because they don’t appear as mounted volumes on the desktop. Examples are “Apple (partition\_map),” “Macintosh\_SL (Driver),” and “Extra(Free).”

**Partition Name:** The name that identifies the volume in Silverlining and on the desktop (for mountable partitions).

**Partition Type:** Identifies the structure and purpose of the partition. These descriptors are designated at the time Silverlining creates the partition. See “Partitioning the Easy Way” in Chapter 2 for details. For Macintosh HFS partitions, the partition type is “Apple\_HFS.”

**First Block:** Identifies the address of the first block on the selected partition.

**Block Count:** The total number of blocks on the partition.

To display SCSI Bus information

1.  
Open the Silverlining Lite window.
2.  
Click to select a device.
3.  
Click Info.  
See the documentation that came with your Macintosh for details.

To display volume information

1.  
Open the Silverlining Lite window.
2.  
Click to select a volume.
3.  
Click Info.  
The following example shows information for a SyQuest cartridge volume. See the previous section for a description of the items.

**Name:** The name of the volume.

**Drive:** A number assigned to the drive by Silverlining.

**Size:** The total number of kilobytes of storage space on the volume. Note



that normally this value is slightly higher or lower than the rated capacity of the drive.

Used: The number of kilobytes of storage space occupied on the volume.

Available: The number of kilobytes of storage space available on the volume.

Allocation Block Size: The smallest amount of storage space occupied by a single file on the volume. The allocation block size is determined when a volume is initialized or resized with Silverlining.

Creation and Modification Dates: Indicates when the volume was created and last modified.

Total Files: The total number of files on the volume.

Fragmented Files: The total number of fragmented files on the volume.

## Setting up a Drive or Volume

Silverlining Lite can format drives and erase volumes.

Formatting is a time-consuming process and should be performed only when absolutely necessary. Most drives come pre-formatted and should not require formatting for the life of the drive. Considering reformatting when Silverlining Lite indicates that it is unable to access data on the drive because the driver and directory files cannot be recognized or have been corrupted beyond repair. Formatting destroys the data on ALL volumes of the drive. Silverlining Lite will format only those drives that support 512, 1024, 2048, and 4096-byte sectors.

By default, Silverlining Lite creates a single large partition when you format a drive. You can use the "Custom" feature in Silverlining Lite to specify the number and size of partitions during formatting. If you resize or add partitions with Silverlining Lite, all existing data on the drive is lost. To resize or add partitions without losing data, use Silverlining Full Version.

Erasing a volume removes the directory files on the volume. This process usually takes less than a minute, even for larger volumes. You can erase one volume of a drive without affecting the data on other volumes of the same drive.

Warning! Be sure to back up the data on all volumes before formatting a drive or initializing a volume. Formatting erases all of the data on all volumes of the drive; the information is gone forever and recovery programs cannot bring it back. Erasing removes the directory files on a volume, making it difficult to locate file data even with a data recovery program.

To format a drive to one partition:

1.  
Back up the data on all volumes of the drive.
2.  
Restart from a floppy disk or separate drive that contains Silverlining Lite.
3.  
Open Silverlining Lite.
4.  
Click the name of the device you wish to format.
5.  
Click Setup.

If you selected the preference "Expert options for Drive Setup," additional boxes appear. Select the desired boxes.

Format: Select this option to format the drive.

Test Media: Select this option to test all sectors of the drive media.

Create File System: Select this option to create a new file system on the drive. This option is automatically selected when you select Format.

Update Driver: Installs a new driver. This option is automatically selected when you select Format.

6.

Click Format.

A final warning appears indicating that all information on the selected volume will be destroyed.

7.

Click OK to continue with the format.

Silverlining Lite will format the volume.

### To format a drive with multiple partitions

1.

Back up the data on all volumes of the drive.

2.

Restart from a floppy disk or separate drive that contains Silverlining Lite.

3.

Open Silverlining Lite.

4.

Click the name of the device you wish to format.

5.

Click Setup.

If you selected the preference "Expert options for Drive Setup," additional boxes appear. Select the desired boxes.

Format: Select this option to format the drive.

Test Media: Select this option to test all sectors of the drive media.

Create File System: Select this option to create a new file system on the drive. This option is automatically selected when you select Format.

Update Driver: Installs a new driver. This option is automatically selected when you select Format.

6.

Click Custom to partition the drive.

Brief partitioning instructions follow. See "Custom Partitions dialog box" for details. To specify the number of partitions, type in a value in the #Partitions box, or click on the arrow keys.

Each partition is represented by a wedge. The darkened wedge indicates the selected partition. Click to select a partition wedge.

To modify the size of a partition, select it and type a value in the Size box. You can also modify the size by dragging the partition divider clockwise or counterclockwise.

To rename a partition, select it and type in a new name. When you finished specifying partitions, click OK to continue.

7.

Click Format.

A final warning appears indicating that all information on the selected volume will be destroyed.

8.

Click OK to continue with the format.

Silverlining Lite will format the volume.

## Custom Partitions dialog box

#### -Number of partitions

Specifies the number of partitions on the drive. Type a number or click on the arrows to change the number of partitions.

#### 2-Size

The size of the selected partition in Megabytes. Type in a new value to resize the partition.

#### 3-Name

The name of the selected partition. Type in a new name to rename the partition.

#### 4-Partitions

Each partition is represented by a wedge. The darkened wedge indicates the selected partition. Click to select a partition.

#### 5-Partition dividers

Drag a partition divider clockwise or counterclockwise to change the size of the partition.

#### 6-Partition line

Drag this line counterclockwise to add a partition. Drag a partition divider clockwise into this line to delete it.

#### 7-Drive information

Displays drive manufacturer, model, and size as specified in the drive's firmware.

#### 8-Partition Info

Indicates the type of partition (HFS or IDE), percentage of disk capacity occupied by the partition, and the allocation block size (minimum size a single file will occupy on the partition). The partition percentage and minimum file size change dynamically as you modify the number and size of partitions on the drive.

#### 9-Cancel

Discard changes and exit.

10-OK

Save changes and exit.

To initialize a volume

1.

Back up the data on the volume that you wish to erase.

2.

Restart from a separate volume that contains Silverlining Lite.

3.

Open Silverlining Lite.

4.

Click the name of the volume you wish to initialize.

5.

Click Setup.

6.

Click Erase.

A final warning appears indicating that all information on the selected volume will be destroyed.

Silverlining Lite will erase the volume and create a new volume.

## Updating the Silverlining driver

A drive must have a valid Silverlining driver in order for you to perform most actions on the drive. You may want to update the driver should it become out of date or corrupted.

To update the Silverlining driver

1.  
Back up the data on the drive.
2.  
Open Silverlining Lite.
3.  
Click the Preferences button.
4.  
Select Expert Options for Drive Setup.
5.  
Click OK.
6.  
Select the drive that you wish to update.
7.  
Click Setup.

.  
Leave the Update Driver box selected.  
Do not select any other boxes.

9.  
Click Update.  
A confirmation appears indicating that the driver will be updated.

10.

Click Update to update the driver.

## Volume Security and Passwords

Silverlining Lite offers two levels of security: you can prevent users from mounting a volume without the correct password, or you can prevent users from modifying a volume without the correct password. For example, to restrict access for a particular volume to a single user, assign a Mounting password and give the password the user. All other users will not be able to view or modify the volume. To make a volume available for read-only, assign a Lock password. All users will be able to view the volume but won't be able to unlock the volume and modify its contents without the password.

Once you've set passwords for a volume, users will be automatically prompted to enter passwords the next time they attempt to mount or unlock the volume. Note that any Silverlining Lite user can still reformat the drive without a password.

**Warning: Memorize your password!** If you forget the password, you must initialize the entire drive and you will lose everything. Consider setting a Master Password and writing it down in a secret place in case you (or a user) forget the volume password. Passwords are case-sensitive: ROME and RoMe are different passwords.

To assign a password to a volume

1. Open Silverlining Lite

2. Click a volume entry

3. Click Options.

4. Click Password to assign a password.

The password you assign will apply to both mounting and unlocking this volume.



. Type in the password and click OK

Silverlining does not allow the following keys from the 10-key Key Pad to be used in volume passwords: = / + - . \*

Silverlining ignores the Option, Control and Command keys when typing passwords.

6.

Retype the password and click OK.

Now that you assigned a password to the volume, the volume is not secure until you lock-protect or mount-protect the volume as described below.

To mount-protect a volume

1.

Password-protect the volume.

2.

Select Password to Mount.

This prevents users from mounting the volume without the correct password. Users will be automatically prompted to enter passwords the next time they attempt to mount the volume with Silverlining. If the Mount at Startup option is selected, users will be automatically prompted to enter passwords at startup time.

ote: If you later return to this dialog box and deselect the Password to Mount setting, you will be prompted to enter the correct password.

3.  
Click OK to return to the main window.

To lock-protect a volume

1.  
Password protect the volume.

2.  
Choose Password to Unlock.

This prevents users from unlocking the volume without the correct password. Users will be automatically prompted to enter passwords the next time they attempt to unlock the volume in Silverlining or at the Finder.

ote: If you later return to this dialog box and deselect the Password to Unlock setting, you will be prompted to enter the correct password.

3. Click OK to return to the main window.

## Master Passwords

Silverlining Lite offers two types of passwords: individual volume passwords and a single Master Password for all volumes on a drive. Once a Master Password is set, it can be used in place of any volume password on the selected drive. System administrators find this feature useful as a backup in case a user forgets his or her password.

To set a Master Password for all volumes on a drive

1.  
Open Silverlining Lite.

2.  
Click a volume entry for any volume on the desired drive.

3.  
Click Options.

4.

Hold down the Option key and click Password.

Note: If individual volume passwords have been set, you will be prompted to enter them at this time. You must know all of the individual volume passwords for the drive in order to assign a master password.

Type in the Master Password and click OK.

Silverlining does not allow the following keys from the 10-key Key Pad to be used in volume passwords: = / + - . \*

Silverlining ignores the Option, Control and Command keys when typing passwords.

6.

Retype the password and click OK.

The Master Password can be used in place of any volume password on the selected drive.

## Volume, Device and Bus Options

Allows you to change options for volumes, devices and buses.

To change volume startup options:

1. Open Silverlining Lite.

2. Click a volume entry.

### 3. Click Options.

By default, volumes on a drive formatted with Silverlining Lite are mounted on the desktop at startup for reading and writing.

### 4. Choose one of the following options:

**Mount at Startup:** Select to have the volume mounted at startup. This option is enabled only if the device has the Silverlining driver installed. If this option is deselected, the volume will not appear on the desktop until you run Silverlining Lite or Silverlining to mount it.

**Startup Volume:** Select this option to make the volume the startup volume. This option is available only when the volume contains a valid System Folder.

**Lock at Startup:** When selected, the volume will be automatically locked at startup. This prevents the data on the volume from being modified. A lock icon appears alongside any locked volume's name in the Silverlining Lite window. You can easily unlock a volume (without a password) using Silverlining Lite or Silverlining.

**Password to mount:** Prevents users from mounting the volume without the correct password. Users will be automatically prompted to enter passwords the next time they attempt to mount the volume with Silverlining. If the Mount at Startup option is selected, users will be automatically prompted to enter passwords at startup time.

Password to unlock: Prevents users from unlocking the volume without the correct password. Users will be automatically prompted to enter passwords the next time they attempt to unlock the volume in Silverlining or at the Finder.

5. Click OK to return to the main window.

To change device options:

1.  
Open the Silverlining Lite window.
2.  
Click to select a Device entry.
3.  
Click Options.

.  
Check the option:

Any Drive on SCSI port ?: Select this box to make Silverlining Lite load a driver for the device at startup. If the device is a removable device, Silverlining Lite periodically polls this SCSI address for removable cartridges.

Auto Eject Select this option if you wish to have a cartridge automatically ejected when all of its volume are unmounted. This option is only available if the cartridge drive has a motorized mechanism to eject the disk.

To change bus options:

1.

Open the Silverlining Lite window.

2.

Click to select a SCSI Bus entry.

For example, select "Bus 0: Internal SCSI bus" to select the Macintosh built-in SCSI bus.

3.

Click Options.

Select the drives that you want installed on the selected SCSI addresses at startup.

Removable Drive on Any SCSI Port: When this box is selected, Silverlining Lite loads a driver for each removable device it finds at startup time and periodically polls all SCSI addresses for removable cartridges. When a cartridge is inserted in the drive, the cartridge icon will appear on the desktop.

If you want Silverlining Lite to load a driver and poll only specific SCSI IDs, deselect this option and select the box labeled Any Drive on SCSI Port for the desired port. See the next option.

Any Drive on SCSI port: Select a box to make Silverlining Lite load a driver for the device at startup. If the device is a removable device, Silverlining Lite periodically polls this SCSI address for removable cartridges.

5.  
Click OK to save the settings.

#### Setting Preferences

Use this command to set general program preferences for startup icon, SCSI bus scanning, driver removal, and formatting specifications.

To set preferences:

1.  
Open the Silverlining Lite window.
2.  
Click the Preferences button.

.  
Select the desired preferences:  
Use Factory Defaults: Resets the preferences to the factory default settings.

Enable Driver Installation at Startup: Select to have the Silverlining driver loaded at startup.

Dynamic Scan of Disk Buses: Select to have the Macintosh periodically poll

the bus for new devices. When selected, Silverlining Lite automatically updates the list of devices found on the bus.

**Remove Drivers when Cartridge Unloaded:** Select this option if you want the Silverlining driver removed when a cartridge is ejected. Leave this option selected if you use cartridges formatted with different utilities. You may want to deselect this option if all your cartridges are initialized with the same drivers. For example, leave this option deselected if you initialize all your cartridges with Silverlining Lite and Silverlining.

**Expert Options for Drive Setup:** Select this to have detailed options appear when you format a drive.

**Use system appearance :** Determines the appearance of the Silverlining Lite windows and dialog boxes. When selected, windows and dialogs are displayed in the currently selected system appearance. When deselected, windows and dialog are displayed in the built-in program appearance.

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