

USB Microscope

“Reel Eyes LE”

User’s Manual
For Macintosh

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Chapter 1 Introduction

1-1 About This Manual

Thank you for purchasing our Scalar USB Microscope.

This manual explains how to use the Reel Eyes application on your Macintosh computer when connected to the USB Microscope.

For those wishing to use the USB Microscope right away, read Section 1-3, "Installing Scalar USB Microscope," then install the necessary software.

After installing the software, read Chapter 2, "Basic Operations," for how to capture snapshots and movies with Reel Eyes.

After becoming familiar with the basic procedures, read Chapter 3, "Image Settings," and Chapter 4, "Preferences."

Chapter 3 explains the settings for hue and how to adjust images and settings for the capture process; Chapter 4 explains how to save captured images and set file formats for snapshots.

Chapter 5, "Preferences," explains the menu items in Reel Eyes. Refer to this chapter when using the software.

1-2 Operating Environment

The following environment is required for using Reel Eyes and the USB Microscope.

Machine	Power PC Macintosh
Video RAM	2 MB or more (8 MB recommended)
Memory	32 MB or more (80 MB recommended)
OS	Mac OS 8.6 / 9.0 / 9.04
QuickTime	Ver. 3.0 or later (Ver. 4.0 recommended)

The OS noted above must be installed when shipped from the factory.
(We do not guarantee operation of this software in upgraded machines.)

- When two or more USB units are connected to a single machine, the software may not operate properly depending on the other USB unit.
- We do not guarantee operation when the USB Microscope is connected to the machine through HUB units.
- We do not guarantee operation on all computers that operate in the environment above.
- The operating environment and specifications of this software are subject to change without notice.
- The names of products in this manual are registered names or trademarks of our company.

1-3 Installing Scalar USB Microscope

Insert the CD-ROM supplied with the USB Microscope into your CD-ROM drive. An icon for the CD-ROM should appear on the screen.

Double-click the icon to display a window containing the driver software folder (Scalar USB Micro1.0) and application folder (Reel Eyes).

Drag & copy the driver (Scalar USB Micro1.0) to the [Extensions] folder.

Drag & copy the application folder (Reel Eyes) to anywhere on your hard disk drive.

Restart your Macintosh to complete installation of the necessary software.

Chapter 2 Basic Operations

2-1 Connecting the USB Microscope

Plug in the USB Microscope cable into the USB port on your computer. Be sure to connect the USB Microscope to your computer before starting Reel Eyes. The application will not operate properly if the USB cable is plugged in or disconnected after starting Reel Eyes.

2-2 Starting Reel Eyes

Double-click the Reel Eyes icon (Figure 1) in the [Reel Eyes] folder to start Reel Eyes.



[Figure 1. Reel Eyes icon]

2-3 Displaying Capture Window

Select [Open Vid Window] from the [File] menu.

When the USB Microscope is properly connected to the computer, a capture window should appear on your screen.



[Figure 2. Capture window]

2-4 Capturing Snapshots

The image displayed in the capture window can be saved as a snapshot (still image) file. There are two ways of capturing images:

1. Capturing images using the [CAPTURE] button

Pressing the [CAPTURE] button on your USB Microscope causes the camera to click and saves the snapshot image displayed in the capture window as a file in the first hierarchical stage on the booted disk.

The booted disk is the hard disk that contains the system folder for starting your system.

2. Capturing images with the [SNAP] button

Pressing the [SNAP] button (Figure 2-A) at the lower-left corner of the capture window saves the image displayed in the window as a file in the [Reel Eyes] folder.

You can change the location where to save the file. (See Chapter 4, "Preferences," for details.)

The snapshot images are saved in PICT format (set when shipped from the factory).

You can change the format to JPEG by setting "Preferences." (See Chapter 4, "Preferences," for details.)

2-5 Capturing Movies

The image displayed in the capture window can also be saved as a movie file.

There are two ways of capturing images as a movie file:

1. Capturing images with the [REC] button

Press the [REC] button at the lower-left corner of the capture window (shown in Figure 2-B) to start recording. (The cursor should change to an R mark.)

Click the mouse in the capture window to quit recording. The recorded image should appear in a new window.

2. Capturing images using the [Record] menu

Select [Record] (command key + R) from the [Digitizer] menu to start recording. (The cursor should change to an R mark.)

Click the mouse in the capture window to quit recording. The recorded image should appear in a new window.

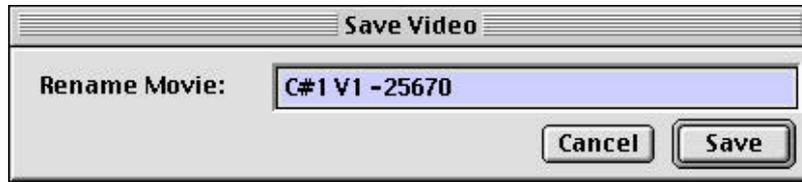
The number of colors and resolution of images can be specified in the compression dialog box. (See 3-2, "Data Compression" for details.)

2-6 Saving Movies

Select [Save] from the [File] menu to display the dialog box for entering the file name. (See Figure 3.)

Press the [Save] button to save the file in the [Reel Eyes] folder.

You can change the location where to save the file. (See Chapter 4, “Preferences,” for details.)

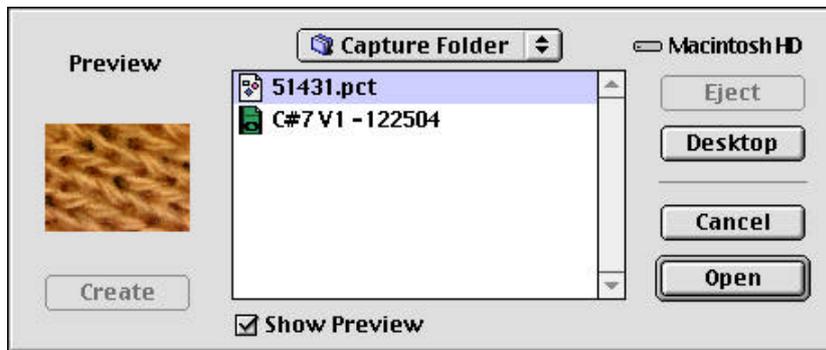


[Figure 3. Dialog box for saving movie files]

2-7 Displaying Snapshots

Select [Open Movie...] from the [File] menu. A dialog box will appear for selecting the file to open. (See Figure 4.)

Selecting a snapshot image displays the captured snapshot image in the window.



[Figure 4. Dialog box for selecting files]

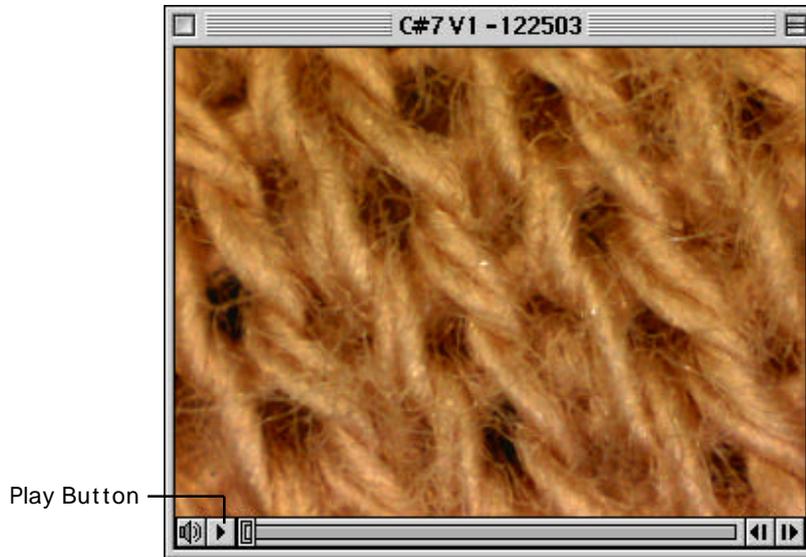
A captured image can also be displayed by using the “Picture Viewer” (included with the Mac OS) or other applications that can display PICT or JPEG format files.

2-8 Displaying Movies

Select [Open Movie...] from the [File] menu to open the dialog box for selecting files. (See Figure 4.)

Selecting a movie file displays the captured movie in a window.

Click the [PLAY] button at the bottom of the movie window to start the movie (Figure 5).



[Figure 5. Movie window]

The captured movie can also be viewed by using "QuickTime Player" (included with the MAC OS) or other applications with functions for viewing movie files.

2-9 Changing the Capture Window Size

Change the size of the capture window by choosing "160x120", "240x180", "320x240", or "640x480" from the [Digitizer] menu.

Fewer images are displayed per second for larger capture windows (depending on your machine's processing capability).

If you consider the display speed too slow, reduce the size of the capture window.

2-10 To Quit Reel Eyes

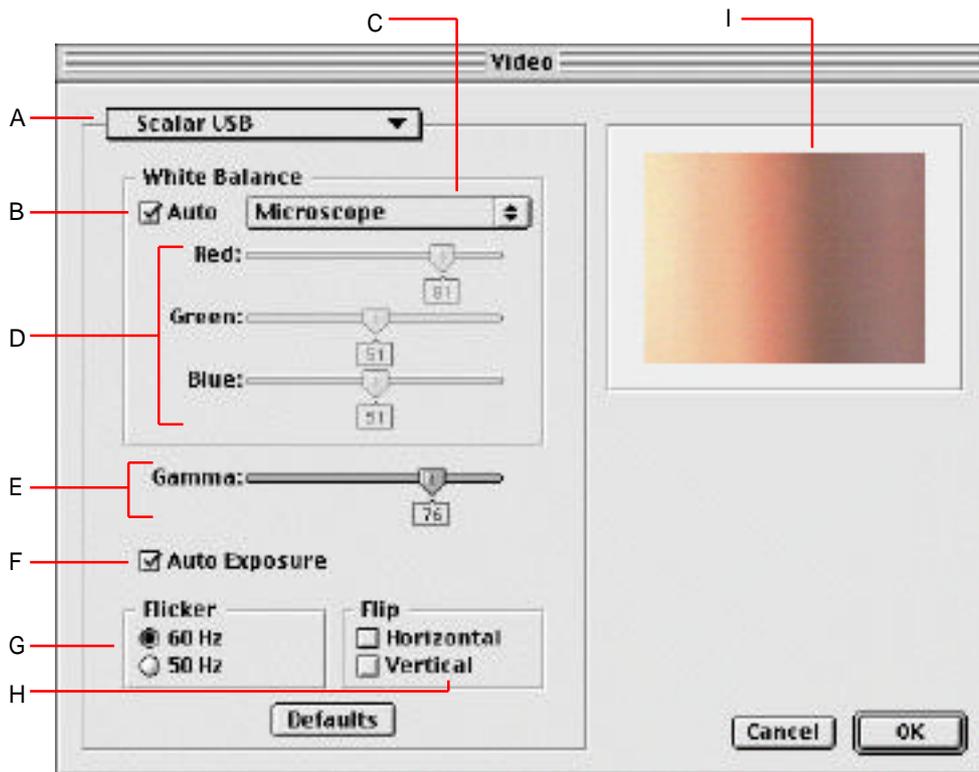
Select [Quit] from the [File] menu to quit Reel Eyes.

Chapter 3 Image Settings

Select [Video Settings] from the [Digitizer] menu to open the settings dialog box. (See Figure 6.)
 Select items from the pop-up menu (shown in Figure 6-A) at the upper-right corner of the dialog box, then set the method of image compression, image hue, and other settings regarding capture conditions.

3-1 Scalar USB Microscope

Adjustments can be made to images, such as white balance and gamma correction.



[Figure 6. Dialog box for microscope settings]

- White Balance (See Figure 6-B, -C, and -D.)

Adjusts the white balance or hue of the image.

Deselect the [Auto] button (shown in Figure 6-B), then select an item from the pop-up menu (shown in Figure 6-C). The optimum Red-Green-Blue value (as shown in Figure 6-D) will be set for the item.

The values for each color can also be set independently by clicking the slider (shown in Figure 6-D) and dragging it to the desired point.

The items in the pop-up menu are as follows:

- Microscope Optimum value for USB Microscope using lens unit with light source.
- Fluorescent Optimum value for capturing images under fluorescent light using lens unit without light source.
- Incandescent Optimum value for capturing images under incandescent light using lens unit without light source.
- Outdoors Optimum value for capturing images outdoors using lens unit without light source.

When the [Auto] button (Figure 6-B) is selected, information is obtained from the USB Microscope to automatically adjust the Red-Green-Blue values (as shown in Figure 6-D). This automatic setting function will not operate, however, when the “Microscope” item is selected from the pop-up menu.
Among the initial settings made when shipped from the factory, the [Auto] button is set ON with the “Microscope” item on the pop-up menu selected.

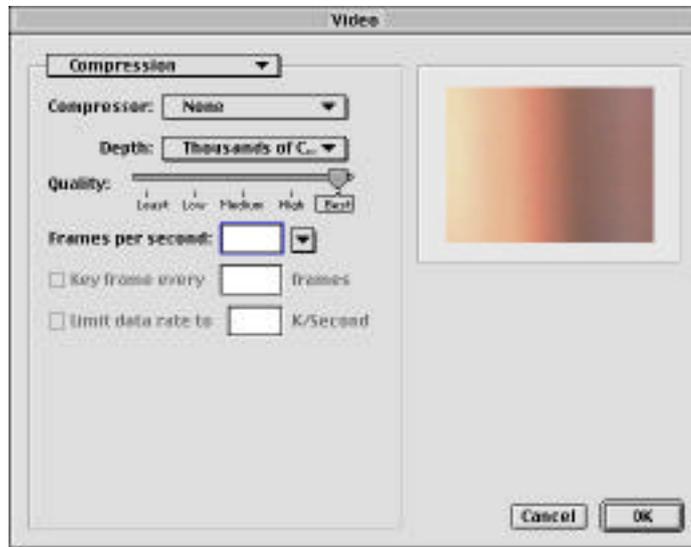
- Gamma (See Figure 6-E.)
Sets the response characteristic (gamma correction value) of image gradation. (Set to “30” when shipped from the factory.)
- Auto Exposure (See Figure 6-F.)
Check this item to adjust automatic exposure. (Initially set ON when shipped from the factory.)
- Flicker (See Figure 6-G.)
Selects the frequency (50 or 60 MHz) for vertical synchronicity. (Set to 60 MHz when shipped from the factory.)
- Flip (See Figure 6-H.)
Select [Horizontal] to invert the image horizontally. (Initially set OFF when shipped from the factory.)
Select [Vertical] to invert the image vertically. (Initially set OFF when shipped from the factory.)
- Preview (See Figure 6-I.)
Displays a preview image of the USB Microscope based on the values set.

3-2 Data Compression

Data compression sets the method of image compression.

From the [Compression program] pop-up menu, select the method of compression and set each item.

Compressing images effectively may result in coarser images, but less memory will be required to save the movie file.

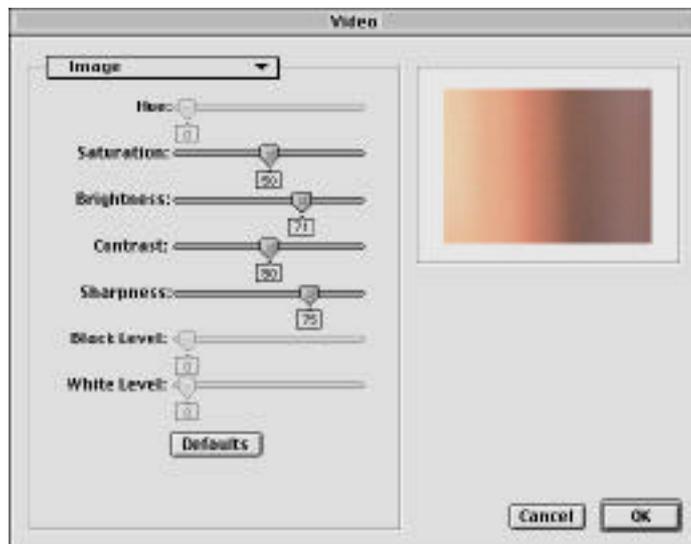


[Figure 7. Dialog box for setting method of compression]

3-3 Images

Sets the saturation, brightness, and contrast of images.

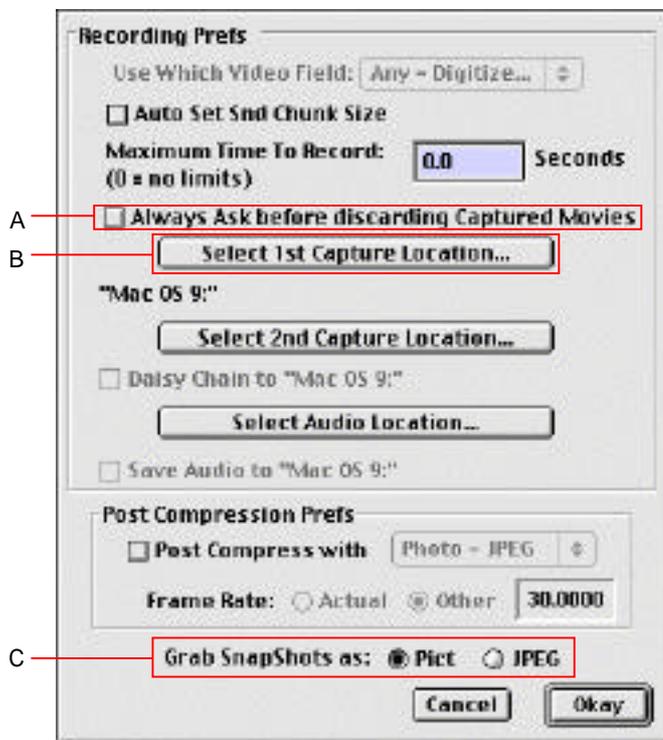
Click and drag the adjuster slider to make such color adjustments as saturation and brightness.



[Figure 8. Dialog box for setting image enhancement]

Chapter 4 Preferences

Selecting [Preferences] from the [Digitizer] menu displays the dialog box below.



[Figure 9. Dialog box for setting "Preferences"]

- Always Ask before discarding Captured Movies (See Figure 9-A.)
Check this box to display a dialog box reminding you to save the movie each time you close a window of the captured movie.
- Select 1st Capture Location (See Figure 9-B.)
Press the button to display the dialog box (shown in Figure 10) asking you where (which folder) the snapshot or movie file should be saved.



[Figure 10. Dialog box for specifying save location of file]

- Grab SnapShots as (See Figure 9-C.)
Select PICT or JPEG as the file format of snapshots (still images).

Chapter 5 Menu References

5-1 [File] Menu

- Open Vid Window
Opens a capture window.
If the USB Microscope is not properly connected to your computer, you cannot use this item.
- Open Movie...
Opens the movie or snapshot selected from the dialog box for display in the window.
- New Pasted Movie
Opens a new window displaying the movie saved as a clipboard file.
- Close
Closes the active capture window.
- Save...
Saves snapshots and videos as files.
- Save As...
Saves snapshots and videos as files with new names.
- Use NavServices
Makes Navigation Services effective or ineffective.
Navigation Services is a new dialog box format used to open and save files incorporated from Mac OS 8.5.
This item can be used for Mac OS 8.5 and later.
- Quit
Quits Reel Eyes.

5-2 [Movie] Menu

- Loop
Automatically restarts playback from the beginning after a movie ends.
- Loop Back & Forth
Automatically plays a movie (when it ends) backward to the beginning, then replays the movie when it reaches the beginning.
- Selection Only
Plays only the selected portion of the movie.
You can specify what portion of a movie to be played by holding down the [shift] key while dragging the button at the bottom of the window.
- Half Size
Reduces the movie window to half the original size.
- Normal Size
Returns the movie window to its original size.
- Movie Info...
Displays a dialog box showing information about the movie.
- Analyze...
Analyzes the movie and displays information in a dialog box.

5-3 [Digitizer] Menu

- Video Settings...
Displays a dialog box containing settings necessary for capturing with the USB Microscope.
(See Chapter 3 for details.)
- Play During Record
Displays the image in the main window during video capture.
- Show Megs Left
Displays the amount of remaining hard disk space at the lower- left corner of the window during movie capture.
- 160x120, 240x180, 320x240, 640x480
Changes the size of the capture window.
- Record
Begins movie capture.
- Pause Video
Pauses image display in the capture window.
- Preferences...
Displays a dialog box for settings regarding the save format of the snapshot or movie. (See Chapter 4 for details.)

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