

VideoGlide For Mac OS X 1.4

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QuickStart

Use these steps to start capturing quality video right away.

- 1) Connect a video source to the digitizer using an s-video cable or a composite cable.
- 2) Connect the audio output of the video source to your digitizer using a dual RCA cable. If the digitizer does not have audio inputs you can use the Macintosh microphone port instead, but an additional adapter cable will be required.
- 3) Plug the digitizer into a powered USB 2.0 port.
- 4) Start the video source playing.
- 5) Run /Applications/VideoGlide/VideoGlide Capture. You should see video in the window that appears and hear the audio.
- 6) Select Record from the Record menu and type the name you want to use for the new movie.
- 7) To stop recording, click the window that appears after recording has started.
- 8) Click "Open" in the dialog that appears, or locate and double-click the new movie to use QuickTime Player to view the movie.

Introduction

VideoGlide For Mac OS X allows you to use a variety of video digitizers to capture video, audio and snapshots under Mac OS X. The software that comes with VideoGlide provides a number of different ways to capture and export video, including duration-based recording, time-lapse photography, automatic naming, AppleScript support and so on.

Video can be captured at 640 x 480 at 29.97 frames per second for NTSC video sources, and 720 x 576 at 25 frames per second for PAL/SECAM sources.

Supported devices include:

- Kworld DVD Maker
- Daystar ProView USB,
- Pinnacle Dazzle DVC-90
- Grabee X,
- V-Stream Xpert DVD Maker,
- LinXcel Video Grabber,
- plus many similar devices.

A number of devices containing TV Tuners are also supported, however, only the video inputs are supported, not the tuners themselves. To determine if a given device is supported, install the software and run /Applications/VideoGlide/VideoGlide Capture. If you are asked for a serial number, then the device is recognized and will probably work. To be sure, click "Cancel" and proceed in demonstration mode. If you can see and capture video, then the device is supported.

VideoGlide movies are saved as QuickTime movie files and can be played back on any machine with QuickTime installed.

In addition to the software the comes with VideoGlide, virtually all QuickTime compatible digitizing applications are supported. See "VideoGlide and Third Party Software" below for a partial list of supported applications.

VideoGlide movies can be easily imported into Apple's iMovie multimedia editing package.

The VideoGlide software supports multiple digitizers. You may plug in and use several digitizers simultaneously. This is particularly useful with such applications as Econ Technologies' ImageCaster, Ben Bird's SecuritySpy, or SubRosaSoft's Home Guardian. Any combination of supported devices may be used.

System Requirements

The VideoGlide software requires Mac OS 10.3.9 or higher.

The VideoGlide software requires built-in USB 2.0 support on the computer on which it is being installed. Some third-party USB 2.0 upgrade cards may work, but Apple's support for these cards is not universal and results may be unpredictable. In general all Macs built in the second half of 2003 or later have built-in USB 2.0 support. If you are not sure, open "/Applications/Utilities/System Profiler", switch to the USB section and look for a "USB High-Speed Bus". If present, then the machine has either built-in USB 2.0 support or a USB 2.0 upgrade card installed.

Installing the Software

To install VideoGlide For Mac OS X, double-click the installer and follow the instructions.

The following components are installed:

- /System/Library/Extensions/VideoGlide.kext

Provides support for devices that have audio inputs and prevents the Classic environment from "grabbing" the digitizer when it starts up.

- /Library/QuickTime/VideoGlide.component
A QuickTime module that allows OS X native, QuickTime-savvy applications to use digitizers to capture video.
- /Library/StartupItems/VideoGlide Startup
Provides additional support for digitizers that have audio inputs.
- /Applications/VideoGlide/VideoGlide Capture
Run this to capture video from one or more digitizers. Read the section "Using VideoGlide Capture" for more details.
- /Applications/VideoGlide/VideoGlide Exporter
Exports VideoGlide movies to any other available QuickTime format. See the section "Using VideoGlide Exporter" for more information.
- /Applications/VideoGlide/VideoGlide ReadMe
This file.
- /Applications/VideoGlide/VideoGlide Tools/VideoGlide Toggle Audio
This software disables audio support if necessary for support of older non-universal binaries.
- /Applications/VideoGlide/VideoGlide Tools/VideoGlide Uninstall
This software removes the VideoGlide software from the system. See the accompanying ReadMe for more information.

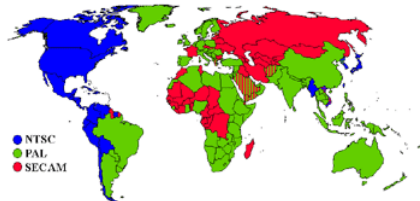
Connecting the Digitizer

To begin using the digitizer, first plug it into a powered USB 2.0 port. Powered USB ports can be found on the computer itself, on some monitors, or on hubs that have an external power supply. Non-powered ports are often found on keyboards. If you are not sure, just plug the digitizer in. If the port is not powered a message will come up telling you so.

Capturing video requires significant bandwidth. If you plug another high-bandwidth device, for example a second digitizer, into the same USB chain, there is a high likelihood that one or both of the devices will fail to work. To resolve this problem, it may be necessary to adjust the video frame size and / or the bandwidth consumed by one or both devices. See the section "Using Multiple Devices" for more information.

Video Sources

VideoGlide supports NTSC, PAL or SECAM standard video sources. Generally speaking, NTSC is used in North America, Japan, Central America and Chile. SECAM is used in France, Eastern Europe and central and western Africa. PAL is used almost everywhere else. Standard selection is automatic so just plug the video source in and VideoGlide will determine which to use.



The resolution and frame rate of the captured video depends on the video standard. Video captured from NTSC sources is 640 x 480 at 29.97 frames per seconds. Video captured from PAL/ SECAM sources is 720 x 576 at 25 frames per second.

Video sources can be either composite or s-video format. If at all possible try to connect your video source via an s-video cable (the black connector on the digitizer). The quality of s-video is generally higher than that of composite.

Video sources that can be used include VCRs, cam-corders, DVD Players, video game consoles, etc. -anything that has composite or s-video outputs.

Using VideoGlide Capture

"VideoGlide Capture", located in the /Applications/VideoGlide folder is a Mac OS X native, QuickTime-savvy digitizing application. You can use this application to take snapshots and to view and record video from one or more digitizers.

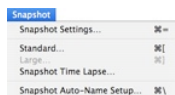
Double-click VideoGlide Capture to run it. A window will appear. If you have attached one or more digitizers, windows will appear containing the video from each device.

Instead of video the window may contain one of a number of solid colors. The most common color you will see is green: no video source is plugged in and playing. If you see any other color, refer to the trouble-shooting section for details. Note that some VCRs output a bright blue screen when not playing. Do not confuse this screen with a "problem" screen. Check the tape, and hit the play button to make sure the VCR is playing.

Once video is available you may take snapshots and you may view and record video.

Snapshots Menu

Use the "Snapshot" menu to take snapshots of the video.



Snapshot Settings...



Specifies the format to be used when taking a snapshot, whether manually, by time lapse, automatically or via AppleScript.

Standard...

Takes a snapshot at the current frame size. You will be asked where to save the resultant file. This option is available for all devices.

Large...

Certain devices offer a large snapshot mode. The device is reconfigured and a high quality, "large" snapshot is taken. Reconfiguring the device is time consuming, so the video frame that is captured will be one that occurs one or two seconds later. This option is unnecessary, and is not available for most digitizers.

Snapshot Time Lapse...



Use this option to take a snapshot every few seconds. You can optionally specify the length of time over which to take snapshots. Clicking "Snapshot Settings..." will open the Snapshot Settings dialog where the format of the snapshot files can be specified. After clicking "OK" you will be asked to specify the name for a new folder into which the snapshots will be saved.

Snapshot Auto-Name Setup...



If Auto-name is checked, you may specify a destination folder and a "base" file name for snapshots. This information will be used to save snapshots automatically, without the need to specify the location each time. The first snapshot taken will have the name "base-name_0000", the second will be "base-name_0001", etc.

Record Menu

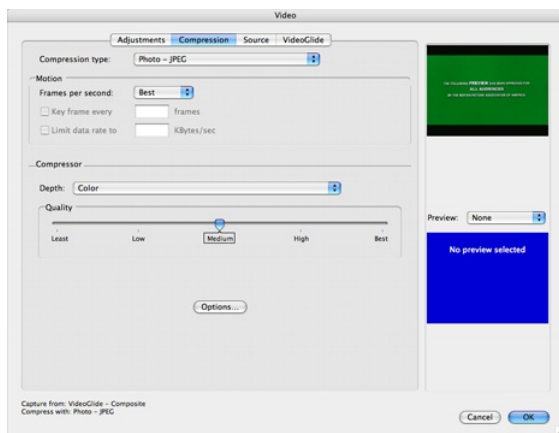
Use the "Record" menu to make recordings of the video.



Video Settings...

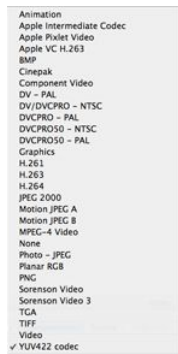
The Video Settings dialog has 4 or more panels. The panels may look somewhat different depending on the combination of system software installed, but all the information is basically the same.

Compression Panel



Compressor menu:

Choose the QuickTime format of the captured file here. "YUV422 Video" is the native format of your digitizer. However, the files generated using this format are enormous: approximately 1 gigabyte per minute. Many hard drives may not be able to keep up with the pace of the data, even if there is sufficient space available. Using any compressed format can dramatically lower the amount of space required. A good choice is "Photo - JPEG" -this offers fairly high compression rates, excellent quality and low processing requirements. For higher compression rates MPEG-4 or H.264 are good choices -however, these require very powerful processors to keep up with the video data. Be sure to check the frame rates being obtained in a few test samples before capturing important material. Note that if Final Cut Pro is installed, "YUV422 codec" is not listed and "Uncompressed 8-bit 4:2:2" is shown in its place.



Quality:

This setting affects the compression rate of the incoming video frames. The lower the quality setting, the higher the compression rate. Lower quality results in smaller file sizes, "noisier" video and higher frame rates. Higher quality results in bigger file sizes, "cleaner" video and lower frame rates.

Frames per second:

Leave this blank to capture the maximum frame rate possible for your video standard. Web cam operators, and web-conferencers may find it useful to lower the frame rate to reduce the network bandwidth required. Web publishers may wish to lower the frame rate to reduce the size of the files involved.

Key frame rate:

If the selected compressor supports it, key framing can be used to lower the overall data rate of the captured video. Key frames contain enough information to display an entire frame. Non-key frames only contain the differences between a given frame and the previous frame. Non-key frames are much smaller than key-frames, thus reducing the overall data size significantly. Web cam operators and web-conferencers may wish to leave this field blank -some web-cam applications handle non-key frames very poorly.

Limit data rate:

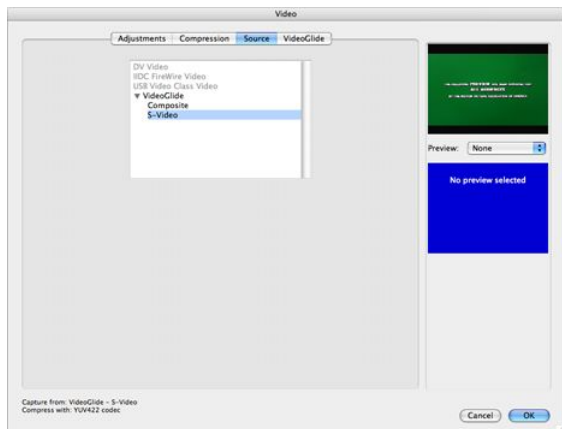
Some compressors will allow the compressed data rate to be capped at a specific level. This is usually accomplished by dynamically increasing or decreasing compression rates on the fly. It is better to leave this blank unless you are sure that this is what you need.

Adjustments Panel



The sliders in here control various video parameters including hue, saturation, brightness, contrast and sharpness. Note that black level and white level are not supported by some digitizers.

Source Panel



Digitizer menu or list:

This lets you select which digitizer to use. If you have more than one supported digitizer, the second device and higher will have a number at the end of the name to help

distinguish them.

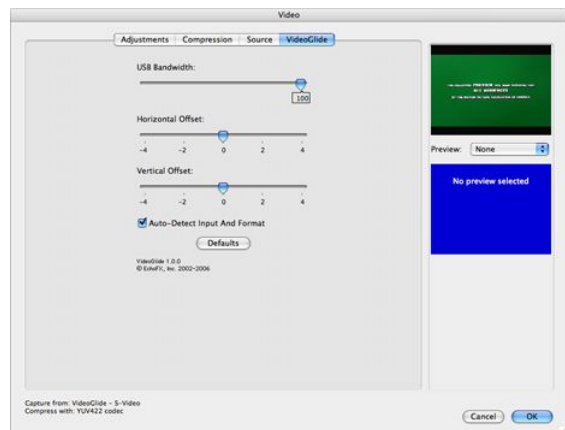
Input menu or sub-list:

This lets you select which input to digitize from: s-video or composite. The VideoGlide software is smart enough to auto-select the input if there is only one active video source. However, if you have active video sources attached to both the s-video connector and the composite connector, it will be necessary to use this menu or sub-list to choose between them.

Format menu:

This menu lets you choose between the PAL, SECAM or NTSC standards. The VideoGlide software chooses the standard automatically and you should never need to use this menu. However, QuickTime will occasionally become confused when using a non-NTSC standard for the first time, or when switching from one standard to another. It will be necessary to open this panel at least once, click OK, and relaunch the application so that QuickTime can be made fully aware of the standard in use. This should only be necessary the first time a new standard is used. It will not be necessary at all if only NTSC is ever used. To see and manipulate the Format menu, uncheck the "Auto-Detect Input And Format" box in the digitizer panel.

Digitizer Panel



USB Bandwidth:

Use this slider to reduce the USB bandwidth consumed by the digitizer. Reducing the bandwidth too far may disable the video stream. If this happens, increase the bandwidth until video is restored. When using multiple digitizers it may be necessary to use this slider to get all the devices working. See the section "Using Multiple Devices" for more information.

Horizontal Offset, Vertical Offset:

Use these sliders (or the arrow keys for better precision) to make adjustments to the horizontal and vertical placement of the video frame. Watch the preview on the left to see how far the image has moved. If the video is nudged too far, it may stop playing altogether. Nudge it back until it starts playing again.

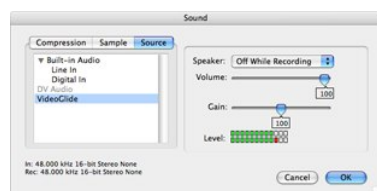
Auto-Detect Input and Format:

The VideoGlide software has the ability to detect when video is present, what format it is (s-video or composite), and what standard it is (NTSC or PAL/SECAM). It should never be necessary for the user to have to directly manipulate these settings. However, if auto-detection is not desired, then clear this checkbox. Once it is cleared, it will be necessary to return to the Source Panel to select the desired settings.

Sound Settings...

The Sound Settings dialog has 3 panels. Generally speaking, the only adjustment that will have to be made is to the source device and the gain level (described below). All other settings will usually remain the same.

Source Panel



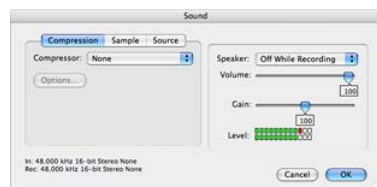
Device menu or list:

Choose the device from which sound is to be captured. If you have a digitizer with sound inputs, it will be displayed as either the digitizer name, or as "Unknown USB Audio Device". To use the digitizer for sound input, connect the audio output of your video source to the sound inputs of the digitizer and select the digitizer here. If your digitizer does not have audio inputs, you can select the "Line In" source to use the Mac's built-in microphone port present on the vast majority of Macs. You may need an additional adapter cable to connect audio to your Mac. If your Mac does not have a microphone port either, and you need audio support, consider acquiring a Griffin USB iMic. This device is inexpensive and is fully compatible with the VideoGlide software.

Input menu or sub-list:

Choose the input associated with a specific device from which sound is to be captured. Note that most devices have only one input. It will be sufficient to just select the device in that case.

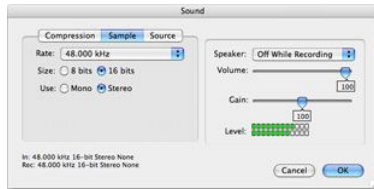
Compression Panel



Compressor menu:

Choose the QuickTime format for the captured sound here. Choosing "None" will result in the best sound quality and will put the least strain on the processor. If data size is critical you may wish to experiment with some of the other compressors.

Sample Panel



Rate menu, Size, Use:

Choose the highest rate, 16 bits and Stereo for general use. If data size is critical, lower quality settings can be used.

In addition to the three panels described above, the following sound settings are always available on the right hand side of the Sound Settings dialog:

Speaker menu:

Controls when sound is played. The recommended choice is "Off While Recording". Sound will still be captured during recording, it just won't be played during capture in order to reduce the strain on the processor.

Volume:

Controls the speaker volume any time sound is being played.

Gain:

It is a good idea to check this setting before capturing. If sound is coming in loud and distorted, or too faintly, adjust this setting accordingly. Ideally, input sound should occasionally peak at one red light in the left and/or right channels as shown in the illustration.

Record video

When "Record Video" is checked, video will be captured during recording. If you only wish to capture sound, uncheck this item.

Record sound

When "Record Sound" is checked, sound will be captured during recording. See the description of the Sound Settings dialog above for more information about capturing sound.

Quarter Size

Half Size

Full Size

Double Size

These sizes are aligned with the devices natural video frame size. For NTSC the natural frame size is 640 x 480. For PAL/SECAM the natural frame size is 720 x 576.

80 x 60

160 x 120

320 x 240

640 x 480

360 x 288

720 x 576

Check one of these sizes to set a specific video resolution. The full size for NTSC is 640 x 480. The full size for PAL is 720 x 576. The appropriate size will be selected when VideoGlide Capture launches.

Custom Size...



Use this option to define an arbitrary frame size. Some capture hardware may not support every size, and video may disappear or be clipped in unexpected ways.

Full Screen

Use this option to switch to full screen viewing mode. Note that a fast processor and a supported graphics card will be required to achieve acceptable frame rates. Type command-F, escape, or hit the space-bar to exit full screen mode.

Wide Screen

Use this option to switch to wide screen viewing mode. This is similar to Full Screen mode, but expands the video to fill the available horizontal screen space. The top and bottom of the video are discarded. This is useful when viewing wide screen format DVDs.

Record...

Once all the settings have been selected, select "Record" to record a QuickTime movie. A dialog will be presented asking where the movie is to be saved. The movie will be recorded until the mouse button is clicked or the hard drive becomes full. If a movie is particularly long, greater than 30 minutes for example, it may take some time to stop the recording. Be patient. It will eventually finish.

The files recorded by VideoGlide Capture can be imported into any QuickTime savvy video-editing package.

Record Duration...



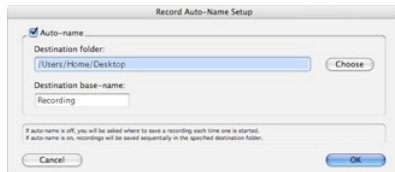
The same as Record except that you will be asked to specify the duration of the recording session. This is handy if you know how long a piece of video lasts and don't want to have to return to the machine to halt the recording.

Record Time Lapse...



Use this option to capture a frame of video every few seconds. You can optionally specify the length of time over which to capture frames. You can set the playback frame rate using the "Movie playback rate" field. Clicking "Video Settings..." will open the Video Settings dialog where the format of the movie file can be specified. After clicking "OK" you will be asked to specify the name of the movie file to save. Note that setting the key frame rate in the Video Settings dialog will have no affect -all frames in time-lapse movies will be key frames. Similarly, setting the frame rate in the Video Settings dialog will have no affect on time lapse movies either -the frame rate is set in this dialog instead.

Record Auto-Name Setup...



If Auto-name is checked, you may specify a destination folder and a "base" file name for recordings. This information will be used to save recordings automatically, without the need to specify the location each time. The first recording made will have the name "*base-name_0000*", the second will be "*base-name_0001*", etc.

Digitizers Menu

Use the "Digitizers" menu to control which digitizer is the frontmost. If you close a digitizer's window, it will stay closed until it is selected again in this menu, even if you quit VideoGlide Capture and relaunch it.



Preferences

Select "Preferences..." in the "VideoGlide Capture" menu to set global preferences.



Check "Keep display awake while digitizers are open" to prevent the computer from going to sleep while you are watching the preview window or while you are in full-screen mode.

Check "Turn sound off while in background" to make VideoGlide Capture silent when it is not the foreground application.

Check "Add captured videos to iTunes" to automatically import movies into iTunes when each capture completes.



The Snapshot Button menu setting determines what happens when the snapshot button menu on certain devices is pressed. The first two settings, Snapshot and Record, will behave as if Snapshot or Record were selected from the menus. If either of the "Auto-name" items are selected, then snapshots or recordings will proceed immediately without further input from the user. Use the "Auto-Name Setup..." button to configure the base name and destination of files created using the Auto-Name options.

AppleScript

VideoGlide Capture has AppleScript support. Here are the available commands and parameters, and examples of their use:

Basic commands:

```
open
close
start recording
stop recording
take snapshot
```

Parameters:

```
window "device name"
e.g. window "device name"
```

Specifies which device by name, to open or close, or from which to start recording, stop recording or take a snapshot. If this parameter is not specified, the front-most window is used (with the exception of the open command).

```
as [file] "filename"
e.g. take snapshot as ((path to desktop as string) & "picture1")
start recording as ((path to desktop as string) & ".movie1")
start recording as file "Hard Drive:Movies:movie2"
```

Specifies the destination for a recording or snapshot.

In the examples above, picture1 will be saved to the desktop, movie1 will be saved one folder above the desktop, i.e. your personal folder, movie2 will be saved to the folder "Pictures" on the hard drive "Hard Drive". Note that ':'s are required to separate folders not '/'s. Inserting an extra "." means "up one level". If this parameter is not specified, VideoGlide Capture will ask for the file name, or auto-name the file if auto-name is enabled.

```
with large
e.g. take snapshot window "device name" with large
```

If the digitizer supports it, take the largest picture possible.
If this parameter is not specified, the current frame size is used.
Most digitizers ignore this parameter.

duration *duration*
e.g. start recording **duration** 20

Specifies the length of time to record a movie in seconds.
If this parameter is not specified, the movie will be recorded until stopped.

Examples:

Open the application /Applications/AppleScript/Script Editor.

Example 1:
Type in the following and click Run:

```
tell application "VideoGlide Capture"
    take snapshot window "device name" as ((path to desktop as string) & "picture1")
    start recording as file "40GB:movie1.mov" duration 20
end tell
```

VideoGlide Capture will launch, a snapshot will be acquired, and "picture1" will be saved to the desktop.
VideoGlide Capture will then record 20 seconds of video to the file movie1.mov on the hard disk named "40GB".

Example 2:
Type in the following and click Run:

```
tell application "VideoGlide Capture"
    open window "USB Video Class Video"
    take snapshot as ((path to desktop as string) & "picture1")
end tell
```

VideoGlide Capture will launch, and the built-in iSight camera preview window, if available, will be opened.
A snapshot named "picture1" will be saved to the desktop.

Using VideoGlide Exporter

Warning -do not attempt to replace an existing movie when exporting. A bug in QuickTime will prevent this from working, even though the export runs to completion.

Exporting Movies

The files captured by VideoGlide Capture are saved in QuickTime files using the format specified in the Video Settings compression panel. Occasionally it may be desirable or necessary to alter the format of a movie. This could be for space reasons, e.g. H.264 uses less hard drive space than YUV422, or for deployment reasons, e.g. you would like to scale a movie down to 320 x 240 and optimize it for web-playback.

To export your VideoGlide movie, open it in the application VideoGlide Exporter. The current movie format and frame size will be noted underneath the movie. Select "Export..." from the File menu. Choose a location for the exported movie and select "Movie to QuickTime Movie" from the Export pop-up menu. Click the "Options" button. In the Video section click the "Settings" button. Select a compressor to use from the "Compressor" menu. All the compressors in this list are supported by recent versions of QuickTime. However, the best choices are going to be "Photo - JPEG", "H.264" or "MPEG-4 Video". These produce very high-quality, very small files. The various JPEG formats will provide some of the greatest compatibility overall.

As you can see there are many other settings available when exporting your movie, however the compressor choice is the most important. Once the compressor has been selected, click OK, and then click the "Save" button. When the movie has finished exporting, it will be opened.

If you have QuickTime Pro, it is possible to export movies using QuickTime Player and the technique described above. BTV Pro and some other applications also allow movies to be exported without the need for QuickTime Pro.

Exporting Movies to iTunes / iPods / iPhones

VideoGlide Exporter can be used to export any movie to the iTunes / iPod / iPhone format.

If you have not done so already, install QuickTime 7.0.3 or higher.

Open the movie to be exported in VideoGlide Exporter. Select "Export..." from the File menu. Choose a location for the exported movie and select "Movie to iPod", "Movie to iPhone", or "Movie to iPhone (Cellular)" from the Export pop-up menu. Click the "Save" button. To add the new movie to iTunes, drag it to an iTunes playlist. To add the new movie to an iPod or iPhone, synchronize your iPod or iPhone with iTunes.

Importing Movies into iMovie

Using QuickTime movies in recent versions of iMovie is very easy. Open an iMovie project and drop the movie into the project window. It will be converted to the required iMovie format and made available in your clips tray.

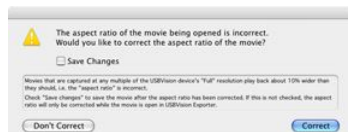
Older versions of iMovie do not support standard QuickTime file formats. In order to import QuickTime movies (not just those created using the VideoGlide software), it is necessary to use VideoGlide Exporter to export the movie as a "DV Stream" -the same format produced by FireWire cameras.

Open the movie to be exported in VideoGlide Exporter. Select "Export..." from the File menu. Choose a location for the exported movie and select "Movie to DV Stream" from the Export pop-up menu. Click the "Save" button. The movie will be expanded to full screen and can be imported using "Import File..." in iMovie's File menu. However, it is much quicker to drop the exported movie into an iMovie project Media folder.

If you have QuickTime Pro, it is possible to export movies as DV Streams using QuickTime Player and the technique described above. BTV Pro and some other applications also allow movies to be exported as DV Streams without the need for QuickTime Pro.

Correcting The Width To Height Or "Aspect Ratio" Of Movies

VideoGlide Exporter will check the width to height ratio, also known as the "aspect ratio", of the source movie. If the movie is not in the correct 4 to 3 proportion, you will be given an opportunity to correct the problem. You can correct the problem temporarily, i.e. only while VideoGlide Exporter remains open, or permanently by checking "Save Changes", i.e. the original movie on the disk will be updated. Note that this only changes the movie scaling. It does not reduce the amount or nature of the data in the movie.



To correct large numbers of movies, drag and drop all of them at the same time on to the VideoGlide Exporter icon. You will only be asked once what to do.

Only movies at one of the following sizes will be corrected:

width = 704 and height = 480 or height = 576
width = 352 and height = 240 or height = 288
width = 176 and height = 120 or height = 144
width = 88 and height = 60 or height = 72

However, if the option key is held down while opening the movie, any movie can be made 4 to 3.

Under some circumstances, it may be desirable to deliberately record movies at the largest natural size, and then use VideoGlide Exporter to scale the movie. This will ensure that the largest amount of data possible is retained within the movie. For most purposes however, capturing the movie at a 4 to 3 ratio in the first place is the simplest thing to do.

Note that VideoGlide movies are already at a 4 to 3 ratio at the largest natural size. The ability to correct aspect ratio is intended for other kinds of less-conformant digitizers.

VideoGlide and Third Party Software

The VideoGlide For Mac OS X software presents a standard QuickTime "Video Digitizer" interface to the system. This means that any OS X native QuickTime-savvy application that supports video digitizers will allow the digitizer to be selected and will allow video to be captured from it. Video-editing packages as well as web streaming and video-conferencing packages are examples of the kinds of applications that support video digitizers.

Any QuickTime-savvy application that can play back or edit QuickTime movies, can make use of the movies captured using the VideoGlide software.

VideoGlide movies can be easily imported into Apple's iMovie multimedia editing package. Information about how to do this is provided in the section "Importing Movies into iMovie".

The following is a list of just a few of the compatible third party applications. For a more detailed description of compatible third-party applications please visit the EchoFX website. Note that as the Mac OS, QuickTime, and these applications evolve over time it is possible that incompatibilities may arise. If problems are encountered, please contact EchoFX and we will endeavor to resolve them.

Apple Computer, Inc.	QuickTime Broadcaster, Final Cut Pro	www.apple.com
ArKaos S.A.	ArKaos VJ	www.arkaos.net
Ben Bird	bTV, bTV Pro, SecuritySpy	www.bensoftware.com
Boinx Software	iStopMotion	www.boinx.com
Channel Storm Ltd.	Live Channel Pro	www.channelstorm.com
cycling '74	MaxMSP / Cyclops and Jitter	www.cycling74.com
Econ Technologies, Inc.	ImageCaster	www.econtechnologies.com
iVisit, LLC.	iVisit	www.िवisit.com
Manfred Schubert	Video Viewer	www.schubert-it.com
MCH	iChalk	www.mathgamehouse.com
Poubelle Software, Inc.	Oculus	www.poubelle.com
SubRosaSoft.com Ltd.	HomeGuardian	www.subrosasoft.com
Vara Software Ltd.	Wirecast, Videocue	www.varasoftware.com
Wave Three Software, Inc.	Session	www.wave3software.com
Yahoo! Inc.	Yahoo! Messenger	www.yahoo.com

Using Multiple Devices

The VideoGlide software will allow up to eight digitizers to be run simultaneously on one computer. Individual serial numbers for each digitizer must be provided.

Multiple digitizers are primarily useful in applications that can handle multiple video streams. Two applications that do this are Ben Bird's SecuritySpy and SubRosaSoft's HomeGuardian. Both of these applications provide monitoring of multiple video streams with a security focus. Another application that can handle multiple video sources is Econ Technologies ImageCaster webcam software which allows you to upload images from multiple video sources to a website or websites accessible from anywhere via the Internet.

When using more than one digitizer, keep in mind that the devices consume considerable amounts of bandwidth. Careful arrangement will be required in order to maximize the performance of each device. The remainder of this section is an in-depth, technical look at USB bandwidth issues and how to arrange multiple devices optimally. If you do not plan to run more than one device you may safely skip to the next section.

A USB 2.0 controller can support one or more USB ports on a computer. A USB 2.0 controller provides a fixed pool of bandwidth, from which "isochronous" devices can draw. Many USB 2.0 equipped Macs come with only one USB 2.0 controller, which is shared by all the USB ports built in to the machine. All digitizers that plug directly, or indirectly, into a machine's built-in USB 2.0 port, must share from the fixed pool of bandwidth offered by that Mac's single USB 2.0 controller. If you see a purple display in any VideoGlide video preview window, that means that there is insufficient bandwidth remaining in the pool to drive the device using its current settings. One or more device settings will have to be adjusted to allow all the devices to work within the available bandwidth of the USB 2.0 controller.

A USB 2.0 controller can provide approximately 190 megabits of isochronous bandwidth. All digitizers plugged into a Mac's built-in USB 2.0 ports must draw from this pool. A single 640 x 480 stream at 30 frames per second consumes 140 megabits of bandwidth. There is no way to have two streams of this size running at the same time when there is only 190 megabits of bandwidth available. Either one or both streams need to be reduced in size. A stream reduced to 320 x 240 will consume only 35 megabits of bandwidth. If this is done to every stream, it is theoretically possible to drive up to 4 devices at 30 frames per second. However, due to device design constraints, it will generally only be possible to run 2 devices per USB 2.0 controller.

Changing the frame size for a digitizer reduces the amount of bandwidth the device needs. It does not however, reduce the amount it consumes. Even after reducing all the frame sizes to 320 x 240, all the devices, except one, will still display a purple screen. To change the bandwidth being consumed by each device, open the Video Settings panel for each one, switch to the digitizer panel and reduce the bandwidth to about 50%. After all devices have been set to the lowest bandwidth necessary, they should all start streaming video.

It is possible to use PCI-based USB 2.0 cards to increase the number of USB 2.0 controllers available in the system. However, a great many USB 2.0 cards exist that are either not implemented correctly or not supported correctly by the Mac OS, so the options are somewhat limited. Please contact support@echofx.com for information about resellers that have pre-validated cards that will support digitizers correctly.

Trouble-shooting

Capture window shows a solid color instead of video

Interpret the color as follows:

-  Red: no digitizer
- make sure a digitizer is plugged in and that it is not being used by another application.
-  Yellow: low-power
- digitizer needs a USB powered port in order to operate.
-  Orange: need USB 2.0 port
- digitizer needs a USB 2.0 port in order to operate.
-  Green: no video
- plug a video source into the digitizer and make sure it is playing.
-  Purple: USB error
- This will occur if the digitizer is unable to allocate the USB bandwidth that it wants. See the trouble-shooting section "I get a purple screen instead of video" for more information.

Note that some VCRs output a bright blue screen when not playing. Do not confuse this screen with a "problem" screen. Check the tape, and hit the play button to make sure the VCR is playing.

I get a red screen instead of video

This is usually the result of unplugging the device while using it, or trying to connect to the device while it is use by another application. But it can also happen when using a non-native, emulated PowerPC application on Intel-based equipment with a device that has audio inputs. Please see the file /Applications/VideoGlide/VideoGlide Tools/VideoGlide Toggle Audio ReadMe for more information about this problem and some possible solutions. If you do not have this file, then this is not the problem you are seeing.

My digitizer does not have audio inputs. My Mac does not have a microphone port . How can I capture audio?

Apple made a number of machines without microphone ports. The most cost-effective way to capture audio on these machines is to use a Griffin iMic. This inexpensive device captures the same quality sound as Apple built-in audio and is supported natively by Mac OS X.

There are thin black bands around the video picture

Many video sources do not play frames in precisely the right place. Use the Video Settings digitizer panel to "nudge" the video into the correct place and eliminate the black bands. You can use the arrow keys instead of the sliders if you wish for more precise placement. Note that nudging the video too far may stop it altogether. If that happens you will have to nudge it back until it starts again.

**I can't capture at 29.97 frames per second (25 fps for PAL/SECAM)
A.K.A. The frame rate is awful!**

If captured movies appear to be missing significant numbers of frames, it may be due to the format selected in the Video Settings Compression panel. If YUV422 is selected, QuickTime may simply be unable to record the data to the disk fast enough. This can happen even on a dual 2.5 GHz G5 machine. On the other hand if H.264 is selected on a slower processor, there may not be enough time to compress all the data, and again, frames will be dropped. In the latter case, try using a faster compressor, like JPEG. This should strike a balance between the amount of space consumed, and the amount of CPU power needed to compress the data on the fly.

Also, be aware that the frame rate displayed by QuickTime Player includes lag times at the start of a capture, and rarely shows a completely accurate frame rate, even if the vast majority of the movie is captured without any frame loss (which it usually will be). QuickTime Player will usually under-report the frame rate by 0.1 or 0.2 frames per second.

Video Settings won't "take". They return to their original values each time I launch an application

This is almost always due to a corrupted preference file for the host application. For "VideoGlide Capture", throw out the file "yourHomeFolder/Library/Preferences/EchoFX Preferences/VideoGlide Capture Preferences". Don't throw out the other file in that folder or you will have to reinstall the VideoGlide software. The preference file for other applications is likely to be in the ""yourHomeFolder/Library/Preferences" folder.

Captured sound sounds bad

Check the gain setting in the Sound Settings dialog. It should be set approximately 100. Note that early versions of QuickTime occasionally reset the gain value to 150 causing obvious distortions in captured sound.

Recordings stop automatically after about 30 minutes but I have ample disk space available for more footage

Versions of QuickTime earlier than 6.5 limited captured movie sizes to 2 GB. Upgrade to the latest version of QuickTime to overcome this problem.

Stopping recording takes a very long time

Movies in excess of 15 minutes can take a significant amount of time to close. QuickTime is writing large amounts of movie data to the file during this interval. Be patient, it will finish. It takes about 30 seconds for each hour of footage captured.

I get a purple screen instead of video

A purple screen indicates that the digitizer could not obtain the bandwidth it requested. The most common reason for this is that some other device, typically another video digitizer, is using the same USB controller. In general, it will be necessary to reduce the bandwidth consumed by one or more of the offending devices. The guidance in the "Using Multiple Devices" section should be helpful in accomplishing this.

Movie playback is jerky

If the movie plays back well on faster equipment, you can export the movie to an alternative format for faster playback performance on the affected equipment. See the section "Exporting QuickTime Movies" for more information. But be aware that the problem could be that frames are being dropped during recording. See the item "I can't capture at 29.97 frames per second..." for advice on this issue.

I can't see video unless I fast-forward my VCR

Try nudging the video slightly up or down in the Video Settings panel. This can help synchronize the signal with the decoder in the device. If the problem persists please contact EchoFX technical support.

Trying to open the Video Settings panel causes a crash

This is almost always due to the presence of "Maccam" drivers in the /Library/QuickTime folder. Remove these drivers and try again.

The Video Settings Panel and Audio Settings Panel Keep Getting Smaller And Smaller

This is a bug in QuickTime. Holding down the option key while opening the panels will fix the problem.

Contact Information

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