

# TealMovie User's Manual



Program Version 2.55  
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## Table of Contents

Description .....	1
Contents .....	1
Installing .....	1
Using the Program .....	2
TealMovie .....	2
Media List Screen .....	2
External Media Devices .....	2
Managing Files .....	3
Information .....	4
Settings .....	4
Movie Controls .....	5
Audio Controls .....	6
.WAV Files .....	6
TealMovie Encoder .....	7
Main Window .....	7
Input Fields .....	8
Options .....	8
General Options .....	8
Encoding Options .....	10
Cropping Options .....	11
Audio Options .....	12
Encoding a Movie .....	13
Tricks and tips .....	13
Video .....	13
Audio .....	13
TealMovie Player .....	14
Appendix A – Common Questions .....	15
Appendix B – AVI Resources .....	16
Capturing movie footage .....	16
Downloading movie footage .....	16
Downloading music .....	16
AVI Information and Links .....	16
Video Processing/Conversion Software .....	16
Appendix C – Compatibility .....	17
AVI Compression Codecs .....	17
Appendix D - Revision History .....	18
Appendix E - Credits .....	19
Appendix F - Contact Info .....	19
Appendix G - Registering .....	19
Appendix H - Products .....	20
Appendix I - Disclaimer .....	22

## Description

Thank you for trying TealMovie. TealMovie enables any model Palm handheld running PalmOS 3.0 or higher to become a player of high-quality video and animation. It supports features previously unavailable, including smooth playback up to 25 frames per second, high-quality full screen color or grayscale imagery, and synchronized sound playback capability. In addition to providing entertainment, TealMovie greatly extends the usefulness of Palm handhelds for sales, marketing, training, service, and maintenance operations for a wide range of industries. TealMovie files can be easily created from any Windows AVI file using the TealMovie Encoder, which runs under Windows. Sound playback is available on all Palm handheld models above a Palm III.

## Contents

This archive contains the following files:

### Program files:

TEALMOVI.PRC	The TealMovie player program
MAKEMOVI.EXE	TealMovie Movie Encoder program
PLAYMOVI.EXE	Desktop PC TealMovie Player (Windows)
TPSETUP.EXE	Easy installer program (Windows only)

### Document files:

MOVIDOC.PDF	This document in Adobe Acrobat (PDF) format
MOVIDOC.HTM	This document in HTML format (sans images)
MOVIDOC.PRC	This document in TealDoc palm format
ASTRONUT.PDB	Sample movie file
REGISTER.HTM	TealPoint Registration form in HTML format
REGISTER.TXT	TealPoint Registration form in text format

## Installing



Use the Palm Install Tool in the Palm Desktop to install the program file **TEALMOVI.PRC**. For it to be useful, you'll also need to install some movie files, available on our web site or most software archive sites like MemoWare.com or PalmGear HQ (<http://www.palmgear.com/>). A sample movie file, **ASTRONUT.PDB**, is included in this package. You can also play movies on the desktop using **PLAYMOVI.EXE** or create your own movie files using the TealMovie Movie Encoder **MAKEMOVI.EXE**. These programs run on the PC, and do not need installation. To run either one, simply double-click on its icon.

This manual is provided in this archive as the PalmPilot document **MOVIDOC.PRC**. To read it, install it using the Palm Install Tool and read it with a Palm doc reader program like **TealDoc**.

Instructions on how to use the Palm installer are in the Palm Handbook that came with your Pilot, PalmPilot, or WorkPad. You can find the install tool either as a stand-alone program in your Palm install folder, in the Start Menu with the other Palm programs, or in the Palm Desktop program as an icon along the left-hand side.

On a Windows PC you can also use quick setup installer by double clicking on the **TPSETUP.EXE** installer program, and following the on screen prompts to install the Palm-format file into RAM.

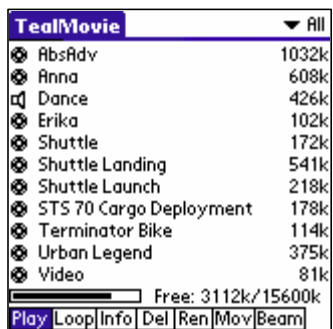
## Using the Program

The TealMovie package consists of two basic components that work together to form a full-featured multimedia system. The first component, TealMovie, runs on the Palm. It plays TealMovie multimedia files with optional sound. The second component, TealMovie Encoder, runs under Windows, and is used to create your own TealMovie files from standard AVI files, Quicktime (MOV) files, and WAV (wave) files. A third optional component, TealMovie Player, can be used to preview TealMovie files on the desktop before uploading them to a handheld device.

## TealMovie

Run the TealMovie by tapping its icon in the Palm applications launcher.

### Media List Screen

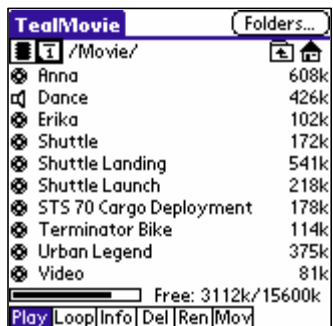


The TealMovie **Media List**, appears when you first run TealMovie. It lists all currently installed movie and audio files in the current category, along with their size in kilobytes. You can select or edit categories by tapping on the category selection button in the upper right hand corner of the screen. A dot indicator appears next to the file's name if the file has been placed in operating system flash memory in a Visor or using a third-party flash utility like FlashPro. External flash card storage devices, such as Memory Stick or SD/MMC cards are also supported, and are covered below.

When you click on a listed movie file, you can either **play** the file, **beam** it to another Palm, **move** it to another category or folder, **rename** it, or to **delete** it permanently from the PalmPilot memory. You can also bring up further **information** about the file, including author information and creation details. To change the action performed when you tap on a name, tap on the **Play**, **Loop**, **Beam**, **Cat**, **Del**, **Ren**, and **Info** action-selection buttons at the bottom of the screen. When playing a movie file with the **Loop** action selected, the movie file with cycle until the screen is tapped, even if the movie's information is not set to "looping."

If you choose to display the media list (under settings), you can scroll through a long list of movie files starting in a particular letter by entering the graffiti stroke for that letter.

### External Media Devices



TealMovie supports playing TealMovie movie and audio files and standard .WAV files directly from any external storage card supporting the Palm Virtual File System (VFS). VFS-compatible devices include the Sony Memory Stick, Palm SD/MMC cards, and both the Compact Flash (CF) and SD/MMC slots on HandEra organizers. In addition, support has been added for Portable Innovation MemPlug Springboard modules and Kopsi Engineering's add-on VFS library.

When a VFS-compatible card is detected, an extra row of icons will appear along the top of the Media List Screen for navigating to folders on the external device. On the left are the device icons, used to select the current card or location to list files. The first icon is the memory icon, and is followed by a numbered

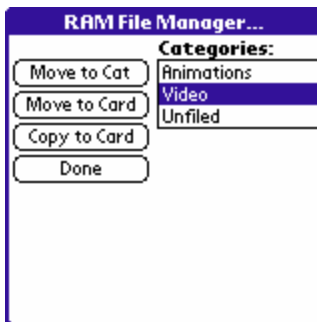
card icon for every expansion card found. Most devices will support at most one external storage card, and will thus only have one card icon. The Handera 330, however, can support two simultaneous data cards; so two card icons can be present if both slots are occupied.

To show the files on an external card, simply tap on the corresponding card icon. External file devices support a hierarchical folder system, which replaces the Palm category system. Thus, the “category” selector in the upper right corner disappears and is replaced with a “folder” button when an external card is selected.

If sub-folders are present in the current folder, simply tap on them to move “down” into the sub-folder to see its contents. To the right of the device icons is a display showing the current directory on the card, followed by two folder navigation buttons. Use the first **parent** icon to move up one level to the folder that contains the current folder. Tap on the last **root** icon to move all the way back up to the topmost folder.

## Managing Files

To copy or move files between categories in RAM, or to move them between RAM and an external card or between folders on the same card, tap on the **Move** pushbutton and tap on the name of the file to move or copy. Either the **RAM File Manager** or **Card File Manager** window will open, depending on your current device.

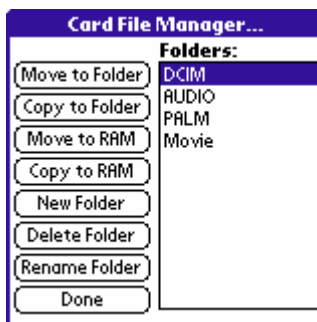


### RAM File Manager

The RAM file manager allows you to change the category of a Movie or Audio file stored in RAM. If the expansion device supports VFS, then you can also copy or move the file to the external card. When either option is selected, the file is moved to the last card and sub-folder viewed.

At this time, the MemPlug system software does not support the VFS-standard interface for moving of files between Card and RAM, so the card options will not be available.

On the Sony CLIE, moving files is permitted, but under PalmOS 3.5, the Sony VFS library prohibits copying files to any folders outside the standard MSSONY folder. Subfolders can be made and used within the MSSONY folder however.



### Card File Manager

The card file manager window is similar to the RAM File Manager, except that the list of categories is replaced with a list of folders in the current location. If the current location is not the Root of the card, then additional parent (..) and root (\) folders also appear in the list. These folder entries not only allow you to select a location in which to copy or move the selected file, but allow “navigating” to other directories by **double-tapping** (tapping twice quickly) on a folder name or root or parent entry.

On VFS-systems, **Move to RAM** and **Copy to RAM** options appear. The MemPlug system software does not support these. Also the Sony CLIE version of VFS does not support copying files outside the MSSONY folder. Also, only Palm-format files can be copied or moved to RAM. .WAV files cannot be stored in RAM.

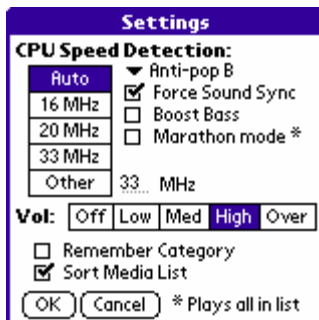
An additional three buttons for creating, deleting, and renaming folders is also present. These three options can also be reached by tapping on the **folders** button on the Media List screen. Care should be used when deleting folders, as if non-movie files are present in the folder, they will not be listed in TealMovie. Some VFS implementations will delete a folder even if it is not empty, while others will simply not delete the folder.

## Information



The **Media Information Screen** shows the creation information and details for a selected movie or audio file. Open it by selecting the “Info” option on the media list and tapping on a file to view. If the file is in writable memory, you can set whether the movie always **loops** when played, whether the player should halt on the last frame, whether it should be **backed up** at the next HotSync after changing options, and whether it should be considered a **private** movie, meaning that it will be hidden from the Media List when the Palm’s secret records are set to be hidden in the “Security” app. Only Palm-format files support the backup and private record features. The four options are not available for .WAV files.

## Settings



To adjust various settings, choose “**Settings**” from the Options menu available by tapping on the silkscreened menu button on the Palm to the left of the graffiti input area.

### CPU Speed

The first items on the settings window help TealMovie identify the speed and model of your Palm. This is necessary for correct sound reproduction but not necessary on a base Palm III on which sound is not supported. For most devices, “Auto” is the recommended setting. If sounds play back erratically or at the wrong rate, you may wish to explicitly set the CPU speed

here for better results. This is particularly true if you are running Afterburner or another turbo utility that alters the default CPU speed. Note, however, that when over-clocking to very high speeds, your actual clock speed may be less than the speed requested in the turbo program due to missed CPU cycles, and that “Auto” may actually give better sound-reproduction.

### Sound Volume

On supported Palms, there are four basic sound levels, from “**Off**” to “**High**”, and one special level “**Over**” which overdrives the Palm speaker for extra volume. The latter is particularly useful for amplifying quieter movie files or playing on devices with poor speakers.

### Sound Anti-pop

Some PalmOS handhelds that support high-quality sound output are sensitive to the timing of the sound playback engine. The Anti-Pop setting can be used to adjust the playback timing to minimize or eliminate regular “popping” sounds that can occur when this is the case.

### Force Sound Sync

Occasionally, particularly when playing high-bitrate movies from external expansion cards instead of internal memory, video playback cannot keep up with a movie’s soundtrack. When

this option is set, TealMovie will slow down the sound playback or temporarily stop it altogether in order to maintain synchronization between the video and sound.

### **Bass Boost**

The "Bass Boost" control tweaks low frequencies to give better sound from the Palm's small speakers on some models.

### **Marathon Mode**

Normally, when a movie is done playing, TealMovie will either return back to the media selection screen or restart the movie if the "loop" option is set. In "marathon mode" however, TealMovie will play all of the media files in the current media list in sequence, looping the entire list if the "loop" playback option is used. This allows a whole collection of movies to be used as a looping demo, or a long movie to be broken down into individual scenes and played together as a sequence of sequential movies.

### **Simultaneous Start MP3**

On CLIE handhelds with MP3 support only, this option allows sound to be used in a separate MP3 file to be used in place of imbedded TealMovie audio. To use this feature, cue up the appropriate album and track externally in the CLIE AudioPlayer program before starting the movie. You may also specify a track number to be associated with a particular movie in the "Info" screen for each movie, though the correct album will still need to be specified first in AudioPlayer.

### **Remember Category**

The "Remember Category" option saves the current viewing category when you quit TealMovie instead of resetting it to "All" each time.

### **Sort Media List**

Lastly, a "Sort Media List" option forces the Media List screen to be sorted alphabetically.

## **Movie Controls**

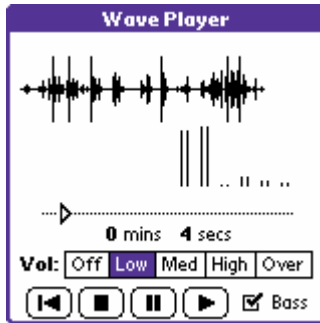
When you play a selected movie file, you can pause the movie at time by pressing one of the Palm's hardware buttons or briefly holding the pen on the screen.



The Pause Window will appear, showing you the current position in the file along with elapsed time. This position indicator is not drag-able, however, due to nature of the movie compression used. Volume controls appear on all Palms above a Palm III, and contrast controls will appear on all monochrome Palms.

Four playback control buttons at the bottom of the screen, and resemble VCR control buttons. From left-to-right, these respectively restart the movie, continue playing from the last position, single-step forward through the animation, or stop playing and return to the Media List screen. When in single-step mode, the animation will advance one frame every time the page-down scroll button is pressed. Pressing the page-up button instead will return back to the Pause screen.

## Audio Controls



When playing a TealMovie audio or .WAV audio file, a control screen appears showing the position and waveform of the file as it plays, as well as volume and play controls. Buttons for restart, stop, pause, and continue appear at the bottom of the control screen.

## .WAV Files

TealMovie supports direct playback of standard uncompressed .WAV files stored on external storage cards. These files cannot be installed or stored in main memory, however, as they are incompatible with the PalmOS file system. To install .WAV files to an SD card, use the Palm Install Tool, selecting the SD card as the file's destination.

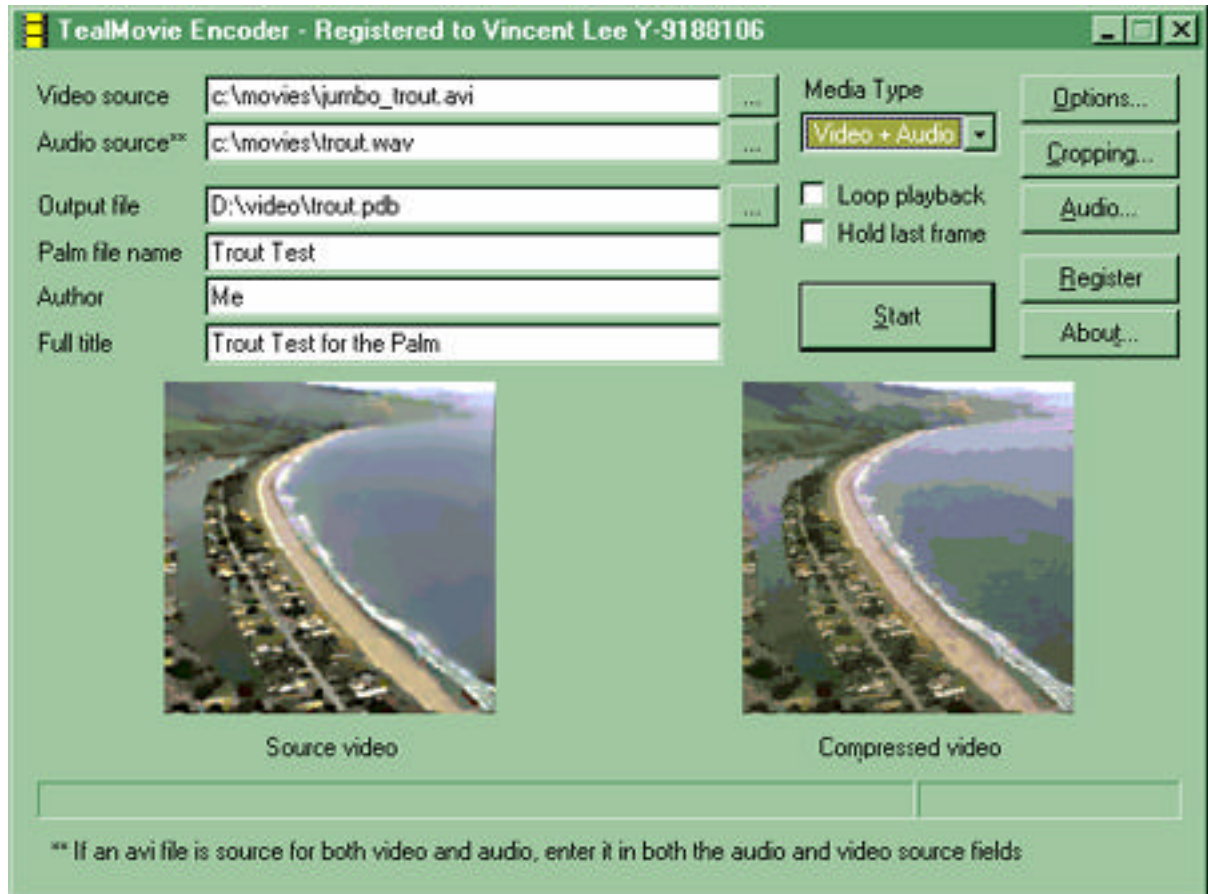
The .WAV files can be any sample rate or bit depth, but will always play at 10Khz, and 8-bit. Thus, using a higher data rate, 16-bit depth, or stereo will only waste card space. Furthermore, external data cards are slow to read from, so large files may not play at full speed.

At this time MP3 files are not supported as current Palm models are not fast enough to decompress MP3 file in real time without special hardware assistance.

## TealMovie Encoder

Use the TealMovie Encoder to create your own TealMovie files from standard AVI files, Quicktime files, and WAV files. Most software that comes with video-capture cards, web cameras, and other creators of video files support exporting into AVI or Quicktime format. In order to read Quicktime movies, Quicktime version 5.0 or higher must be installed. Visit [www.apple.com](http://www.apple.com) to download the latest version of Quicktime. See references later in this document for converting files from other formats. Run The TealMovie Encoder by double-clicking on the MAKEMOVI icon. The main open window will appear.

### Main Window



At the bottom of the window are two preview panes used to show both the source and compressed image of the current frame during compression. To the right are buttons for setting **cropping**, **audio** or general **options** or to start the encoding process. At the top of the main window are text input fields for the following:



## **Input Fields**

### **Video File**

Locates the source video file for the animation to convert. Currently, the TealMovie Encoder supports AVI format files and Quicktime files. Quicktime 5.0 or later must be installed to read Quicktime format files. This field is required unless making an audio-only file.

### **Audio File**

Locates the source audio file to be used as a soundtrack for the video. The source file can be a WAV format sound file, or an AVI or Quicktime video file can be selected, in which case only the audio track will be extracted and used. The file specified here can be the same as the **Video File** specified in the field above. If the soundtrack is longer than the specified video file, the sound file will be truncated. This field may also be left blank. If no sound source is specified, the movie will be silent. The audio **must be in an uncompressed format** to be properly decoded, as TealMovie cannot decode compressed audio.

### **Output File**

Specifies the output TealMovie file to create. It should be given a .PDB file extension (e.g. MyMovie.PDB), which stands for "Palm Database", the standard for all program data files for the Palm. Note that while all TealMovie files have a .PDB extension, the reverse is not true; so not all .PDB files are necessarily TealMovie files, as any Palm-format data file will have a .PDB extension.

### **Palm Name**

Specifies the name of the file as it will appear on the Palm and in the TealMovie Media List. This does not necessarily have to match the **Output File**, which is the name as it appears on the desktop. This field is mandatory, and must be 1 to 31 characters long.

### **Author**

Specifies the author's name as shown in the "info" screen for the movie. This field is optional.

### **Full Title**

Specifies the movie's full title as shown in the "info" screen for the movie. This field is optional.

## **Options**

### **General Options**

#### **Media Type**

Choose Video+Audio, Video Only, or Audio Only.

#### **Loop Playback**

If set, the resulting movie or sound file will loop until the Palm screen is tapped.

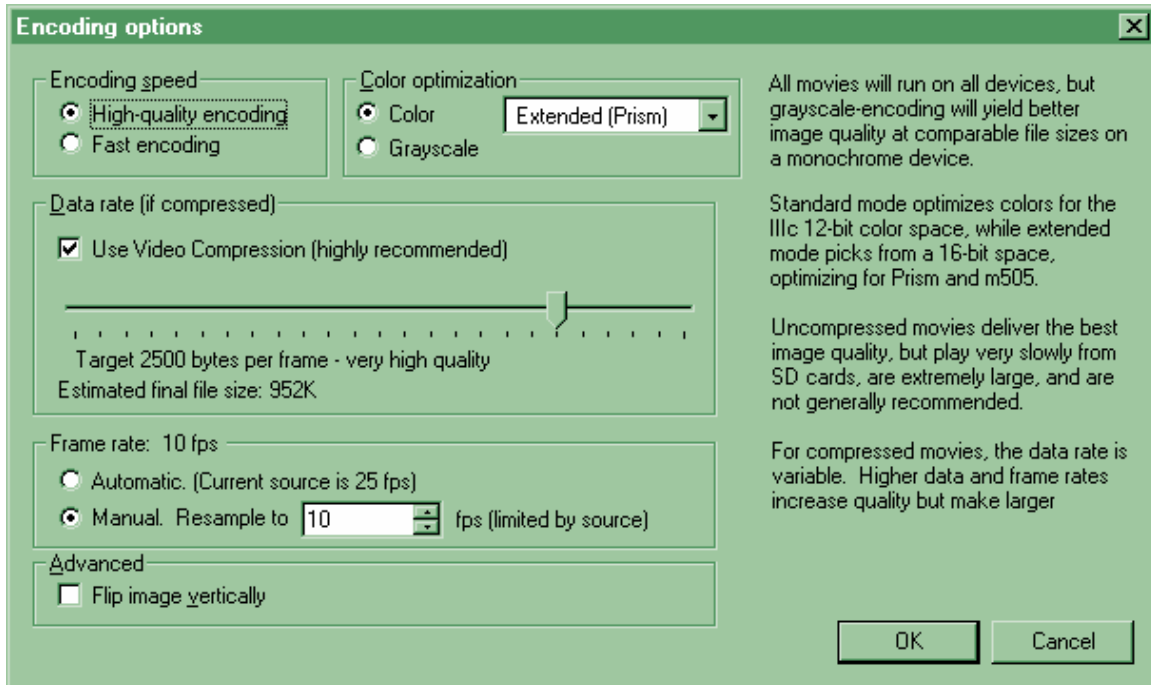
#### **Hold Last Frame**

If set the resulting movie or sound file will pause at the end until the screen is tapped.



## Encoding Options

Before encoding a movie, you should check the current options and make any necessary adjustments.



### Encoding Speed

While the encoding process is quite fast anyway, operating almost in real time on a fast machine. Occasionally it might be desirable to encode a movie even faster. When set to “Fast Encoding”, instead of “High Quality Encoding”, this option sacrifices some image quality for faster encoding by bypassing some time-consuming compression methods, and is not generally recommended.

### Color Optimization

All TealMovie files can play on both color and grayscale Palms; so most files should be encoded in color if they are for general distribution. If a movie need only play on monochrome devices, or if playing in grayscale even on a color device is not a problem, then selecting the **grayscale** option can result in better looking movies at comparable file sizes, or smaller file sizes for comparable quality when compared to **color** encoding.

Two color modes are supported: **Standard** and **Extended**. In Standard color mode, colors are optimized to display from the 12-bit color space of the Palm IlIc. While the IlIc can only display 256 different colors (8 bit) at a time, the selected colors are chosen from a larger range of 4096 colors (12-bit) the display hardware is capable of generating. It is this limit which sometimes leads to noticeable color quantizing, or “banding” in movies. The Visor Prism and m505 are capable of displaying colors from a 15-bit color space, leading to slightly smoother color gradients and less banding. In Standard mode, colors are displayed to best use a 12-bit color space, while in Extended mode they are allowed to take advantage of a 15-bit color space. In either setting, the effects are not drastically different, but have the effect of improving the appearance of movies on one class of devices compared to the other.

### Use Video Compression

Rarely, when encoding a short video a specific application, it might be desirable to turn off video compression when creating that file. This will result in very high quality imagery that does not exhibit artifacts from video compression. On the downside, turning off compression will result in very large files roughly 15 times larger than a comparable compressed movie. These large files can very quickly fill up main memory on a device, and may not play at full speed from an external expansion card due to the high overhead of moving so much data through an external data port. Though not generally recommended, it may be useful in specific applications.

### Data Rate

Unlike some video compressors, TealMovie gives you complete control over the compression quality and file size. The two are linked. Normal video encodes at 1600 about bytes per frame, but you can adjust this amount upwards to achieve better image quality or adjust it down to shrink a movie file down to a more manageable size. Note that while the natural tendency might be to data rate up to its maximum, this might make the movie files too unwieldy, and can affect the playback rate, especially when playing from external media cards. Movies should be compressed with the total viewing experience in mind, including file size and frame rate. For good playback on all devices, we recommend a data rate **at or below 2000 bytes per frame** for most purposes.

### Frame Rate

AVI files grabbed from video typically run 30 (NTSC) or 25 (PAL) frames per second (fps). Film is often 24 fps. Both these speeds are usually faster than necessary for Palm playback and use memory that might instead be used to hold more or longer clips. In fact, due to persistence of the LCD display, increasing the frame rate higher than 10fps isn't noticeable on a monochrome Palm, but will simply use more memory and CPU horsepower. They are also usually too fast to play back directly off external media cards due to the extra overhead of shuttling data from the external device. In general, we recommend encoding NTSC video at 10 or 15 fps, and film at 12 fps.

When set to **Automatically Select** the frame rate, the TealMovie Encoder selects a frame rate from about 10-15 fps that evenly divides into the source frame rate. For finer control, the **Encode up to...** option can be used, which specifies a frame rate to use, but won't encode at a higher rate than the source video, of course.

## ***Cropping Options***

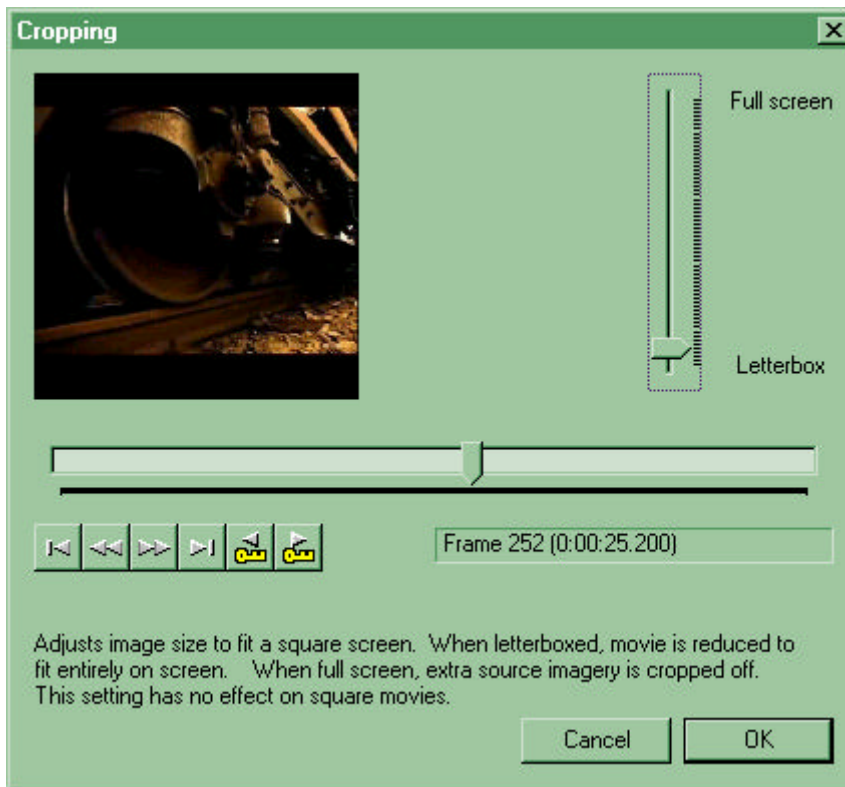
The standard Palm's display screen is a 160x160-pixel square. This size and shape is unusual for video, so most source video must be sized or cropped to fit the available space.

If an image is square, it is automatically scaled to fit completely on screen. If it's rectangular, however, TealMovie's cropping screen allows you to adjust how the image is scaled to fit on screen. To use the cropping option, valid input AVI files must first be specified on the Main window. Then click on the **Cropping...** button to continue.

At one end of the slider, the **Letterbox** option sizes down the movie so that it fits entirely on screen, with two black bars added to cover up the extra "un-square" bits.

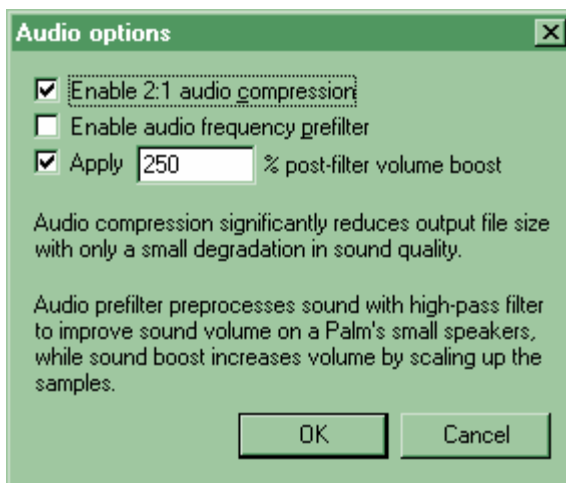
At the other end of the slider, the **Full Screen** option zooms up the movie so that it just fills the entire screen and the two ends along the longer dimension are cropped off.

The cropping option, however gives you full flexibility by letting you choose a size anywhere in between the two end options. To preview your changes, a horizontal frame preview slider lets you see how any frame in the final movie will appear.



### **Audio Options**

Most Palm handheld computers have small speakers that do not reproduce sound well. Notable exceptions are the TRGpro, Handera 330, and newer Sony CLIE handhelds. To make the best of the limited hardware, a few audio options are available.



**Audio Compression** reduces file sizes, leading to significantly smaller movie files. The tradeoff is a reduction in sound quality, however.

**Audio Pre-filter** improves output volume on a Palm's small speakers by using a high-pass filter on the incoming wave data. This feature is often useful, but probably should not be used when the important sounds are low pitched, such as a male narrator on a movie.

**Volume Boost** boosts the volume of quieter sound files to be better heard on a Palm's small speakers.

## ***Encoding a Movie***

To encode a movie file, first obtain an AVI or Quicktime file to convert. Consult Appendix A for resources and hints on capturing, converting, or downloading AVI files. Fill in the input fields on the main window with the source, target, and authorship information. Make sure to set the options properly, and click "**Encode**" to start creating a movie. Encoding takes only a few minutes for even a moderately long movie. You can watch the progress in the preview panes at the bottom of the window.

When done, use the Palm Install tool to install the completed movie file for playback in the TealMovie Player. As some movie files can be large, make sure you have a stable HotSync setup that can sustain the extended connection needed to install the file.

## ***Tricks and tips***

### ***Video***

The TealMovie Encoder works best with clean, high quality source material. AVI files with noise, blurriness, or compression artifacts can create poor TealMovie files even if the effects in the source AVI seem acceptable.

For best results, use clean source material larger than the final size on the Palm. The source material should have dark darks and light lights to best make use of the Palm's color space. The Palm IIIc can only reproduce a small number of colors in the dark end of the spectrum, so adjusting the gamma level of an AVI in a movie manipulation program can greatly help create better-looking movies, as can a slight sharpening of the image to bring out important details

### ***Audio***

Audio is particularly tricky on a Palm, whose small speakers do not reproduce audio well, except on a TRGpro, Handera, or Sony CLIE. Until sound hardware improves, have realistic expectations. When deciding on a soundtrack for a Movie, note that music reproduces better than speech, and female voices better than male ones due to the small Palm speakers. It's usually useful to boost the sound on a file when recording to make it intelligible on the Palm. Third party sound manipulation programs like SoundForge XP by Sonic Foundry Inc, can be particularly useful in manipulation WAV files. With any source, make sure that the imported audio is in an uncompressed format, as MakeMovie does not current support importing compressed audio.

## TealMovie Player

Use the TealMovie Player to play TealMovie files on your desktop PC. It's an invaluable tool for previewing the results of various compression settings without having to HotSync them to a PDA. To play a file, choose "Load" from the "File" menu and press the play button. The player window is sizeable, and will automatically scale the playback image to fit.



## Appendix A – Common Questions

### **Is there a MPEG Encoder available?**

Not currently. The TealMovie encoder currently relies on AVI decompression services provided by Windows and the external Quicktime library. Supporting additional formats and operating systems would require some development outside our core expertise. We're constantly exploring ways to add additional support externally, and will make them available as we find feasible and economical ways to accomplish them.

### **Is there a Mac Encoder available?**

Yes. A basic command line converter which reads Quicktime files should be available shortly after the release of TealMovie 2.50.

### **Can TealMovie play AVI/Quicktime files directly?**

No. The enormous processing power problems aside, there are two basic problems. First, the PalmOS file system cannot store linear files like unconverted AVI and Quicktime files in memory. While they can be stored in an external VFS device, there is a more fundamental problem. AVI and Quicktime files are standards which rely on external proprietary plug-in modules to perform the compression and decompression of movies. As most of the compression formats used by these plug-ins are not published, the only way a native AVI/Quicktime solution could play standard files would be if the manufacturers of the codecs (like Microsoft) were to write versions of their plug-ins compiled specifically for PalmOS, which is not likely to happen anytime soon.

### **Movies play slowly, getting out of sync with the sound**

For smooth playback, be sure to use a reasonable data rate. Too high a data rate can make a movie too slow to play back on a slower Palm. First try the default middle setting. Using audio compression adds additional overhead as well, as does playing back from an external storage device. The PalmOS VFS system also seems to have a problem sustaining data rates as code progresses further from the beginning of the file, which can slow down playback for large video files when played from an external storage card.

### **I can't copy files to folders on my Sony CLIE**

The Sony VFS library prohibits copying files outside the MSSONY folder under PalmOS 3.5. You must copy files inside this folder, but you can make as many sub-folders as you need inside.

### **I can't copy files between RAM and my MemPlug Smartmedia adapter**

The MemPlug system software does not support the VFS library interface need to translate the files between RAM and the Card. Use the PiMover utility instead.

### **The encoder complains that a codec can't be found**

The TealMovie encoder uses the Video for Windows (VFW) subsystem to decompress the AVI files, not the DirectShow system used by the Windows Media Player. Make sure you have the appropriate 16-bit codecs installed for the compression used in the AVI file. If this does not work, try using VirtualDub ([www.virtualdub.org](http://www.virtualdub.org)) to load the AVI file and save it back out as an uncompressed AVI.



## Appendix B – AVI Resources

### ***Capturing movie footage***

Most video capture cards and web cameras come with software which is capable of exporting imagery in AVI format. When choosing a web camera, be sure to find one capable of capturing images at a sustained frame rate of at least 15fps and with software that supports AVI files.

### ***Downloading movie footage***

There are many sources for AVI files on the Web that you can view and convert. For most of these, however, you cannot redistribute the files without permission. There are a few sources of free downloadable AVI files that you can legally use and distribute. The term "Public Domain" is used loosely and usually incorrectly on the Web, so don't necessarily trust what a web or ftp site says. Clips from commercial movies and TV shows are almost never usable. Governmental agencies are funded by your taxes, though, so they may be a source of movie files. A number of companies also sell tapes of video footage that has been placed or fallen into the public domain.

### ***Downloading music***

When looking for music for a soundtrack to a movie you'd like to distribute, the situation is similar to that of video footage. Most songs are copyrighted, and you can't use them for free, even if you record yourself performing them. Some songs have fallen into the public domain, but almost none are contemporary in nature. Even if you do find a song that you can use, you can't use someone else's recording of a particular performance without getting permission and often paying fees to the recording owner and performers. Virtually no recordings are free. Instead, there are many composers who sell recordings of their original music for use with a one-time fee of about \$10-\$30. To find them, search for "royalty free music" on the web.

### ***AVI Information and Links***

The AVI Overview by John F. McGowan, Ph.D., is an excellent document describing AVI the file format, tools, and links. Available at <http://www.jmcgowan.com/>

### ***Video Processing/Conversion Software***

Many AVI files can benefit from a little preprocessing to achieve better results, such as color correction, saturation adjustment, or levels adjustment. Most videos work best with the truly black blacks, completely white whites, and saturation turned down slightly. To perform such operations, commercial software such as **Adobe Premiere®** is available, which also imports and exports other video formats including MPEG and Quicktime.

For a free solution, try **VirtualDub**, a freely downloadable (\$30 suggested donation) powerful conversion and effects program at [www.virtualdub.org](http://www.virtualdub.org). It also converts files from MPEG format to AVI and performs video capture and simple editing functions, though the interface could be more intuitive at points and support is limited.

The book "How to Digitize Video" by Nels Johnson, ISBN 0-471-01440-0, includes a CD-ROM with the program TRMOOV.EXE, which can convert between AVI and Quicktime files, though the audio does not translate properly from some files. The software author website at <http://www.sfcanyon.com> wasn't reachable at the time of this writing, but copies of the

program can be found on various download sites on the web, including the Download Recordings web page at <http://www.downrecs.com>.

AVI files can also be converted from Quicktime files by SmartVid, which can be found on the Intel Corp. Web page at <http://www.intel.com>.

## Appendix C – Compatibility

### ***AVI Compression Codecs***

The AVI standard supports an extensible plug-in structure of new compression methods. When converting AVI files created by others, make sure you have the appropriate plug-in compression/decompression modules (codecs). The base set of codecs comes with Microsoft Video for Windows. Other codecs are available directly from their manufacturers. If you encounter an error reading or opening a specific AVI file, you may be able to find the appropriate plug-in. Some may be found on Microsoft's web site (<http://www.microsoft.com>). When saving your own AVI files, it's safest in such cases to use an uncompressed AVI file if your software supports this.

## Appendix D - Revision History

Version 2.55 – September 25, 2002

- Fixed Sony CLIE T6xx sound under 2.53

Version 2.53 – September 17, 2002

- Fixed restoring of audio volume when running Sony AudioPlayer after running TealMovie

Version 2.51 – August 21, 2002

- Fixed crash in encoder importing 32-bit movies

Version 2.50 – August 8, 2002

- Added option uncompressed video mode to encoder and player
- Added Quicktime support to TealMovie Encoder program
- Added TealMovie Player; Windows player/previewer for TealMovie files
- Added support for sound on CLIE T615
- Added additional 'Anti-pop' options for T615 sound playback
- Added option to start pre-cued MP3 files on CLIE's with MP3 support
- Added "marathon" mode for sequentially playing all files in ram or an SD card
- Added hiding of file extensions on SD cards
- Added color icons for media list items and VFS controls
- Added high-resolution icons for hires devices under OS 5.0
- Added variable sound rates to "force sync" audio option so audio stays active more often
- Added alternate GoTo launch code (30000) to play a movie externally, exiting on tap
  
- Improved headphone sound on CLIE N710C
- Increased playback efficiency (slightly) from SD card
- Changed external card library to remove MemPlug-direct disk icon when VFS is present
  
- Fixed beaming of files with periods and slashes in name
- Fixed double tapping of directories on card file manager
- Fixed free space bar overflow on large SD cards

Version 2.20 - December 21, 2001

- Improved sound on Sony CLIE
- Fixed sound playback through headphone jack of Sony CLIE
- Added automatic conversion of Palm filenames to valid VFS filenames
- Added calling mechanism for external apps to launch TealMovie files on SD cards
- Added code for future PalmOS compatibility

Version 2.10 – October 26, 2001

- Added support for copying VFS files to arbitrary folder (double-tap on folder name to change location)
- Added support for beaming directly from VFS cards
- Added support for masked movie entries under OS 3.5+
- Added security menu
- Increased VFS load speed
- Fixed glitches playing high-bandwidth movies from SD cards
- Fixed reported free space on CLIE

Version 2.02 – July 19, 2001

- Added workaround for bug in Handera VFS library for card-to-card file copying

## Appendix E - Credits

Manual by Vince Lee and Tex Tennison

## Appendix F - Contact Info

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Portions of code from VirtualDub code library by Avery Lee ©1999-2001 All Rights Reserved. Used under license. Audio compression code ©1992 by Stichting Mathematisch Centrum, Amsterdam, The Netherlands.

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TealMovie Registration  
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San Rafael, CA 94903-3618  
We look forward to hearing from you.

Please visit us at [www.tealpoint.com](http://www.tealpoint.com), or email us at [contact@tealpoint.com](mailto:contact@tealpoint.com).

## Appendix G - Registering

Currently, you may register by snail mail, electronically through our website at [www.tealpoint.com](http://www.tealpoint.com) with a credit card and a secured server, or through PalmGear HQ at 1-800-741-9070. For the first option, the enclosed registration form is provided for your convenience. You may use this form or simply send the following to the address above.

- Product Name
- E-Mail Address
- HotSync User ID (Pilot Name Required for Passkey generation. It can be found on the main screen of the HotSync application on the Pilot as "Welcome \_\_\_\_\_" or in the corner on a PalmIII or higher)
- Check (drawn off a US Bank) or Money Order for (\$19.95 US) to TealPoint Software

## Appendix H - Products

Visit us online for our complete product line, including:

**TEALAGENT ( <http://www.tealpoint.com/softagnt.htm> )**

A PC-based Palm data converter, installer, and web clipper which formats local, network, and web-resident data into standard Palm formats.

**TEALAUTO ( <http://www.tealpoint.com/softauto.htm> )**

The complete automobile mileage, service, and expense tracking program, TealAuto, supports unmatched features and customization options.

**TEALDOC ( <http://www.tealpoint.com/softdoc.htm> )**

Powerful reader for Palm documents, e-books, and newspapers, supporting advanced features such as pictures, links, and flash cards.

**TEALECHO ( <http://www.tealpoint.com/softecho.htm> )**

Digital "ink" lets you see what you write, vastly increasing graffiti writing speed and accuracy. No more writing blind!

**TEALGLANCE ( <http://www.tealpoint.com/softglnc.htm> )**

Pop-up utility shows time, date, appointments and to-dos, and other useful information at power-up. See your day at a glance.

**TEALINFO ( <http://www.tealpoint.com/softinfo.htm> )**

A system for creating and displaying interactive databases, reference works, and mini-application folios; a handheld reference library.

**TEALLAUNCH ( <http://www.tealpoint.com/softlnch.htm> )**

A pop-up application launcher and mapping utility for launching apps and special functions from pen taps, graffiti strokes, or button presses.

**TEALLOCK ( <http://www.tealpoint.com/softlock.htm> )**

Secure automatic locking program with optional data encryption and numerous activation and customization options.

**TEALMAGNIFY ( <http://www.tealpoint.com/softlens.htm> )**

An ever-ready magnifying glass that works with most any program, TealMagnify saves your eyes when looking at tiny text.

**TEALMASTER ( <http://www.tealpoint.com/softmstr.htm> )**

A supercharged Hackmaster replacement with 100%-compatibility and enhanced stability, configuration, diagnostic and activation features.

**TEALMEAL ( <http://www.tealpoint.com/softmeal.htm> )**

A personal restaurant database and selection wizard. Keep a database of your favorites and easily find them by type or category.

**TEALMEMBRAIN ( <http://www.tealpoint.com/softmemb.htm> )**

Memory monitor and stack manager which helps identify conflicts and greatly improves stability running multiple hacks and drivers.

**TEALMOVER ( <http://www.tealpoint.com/softmovr.htm> )**

File management utility for beaming, deleting, renaming, and copying files both in memory and on VFS-compatible storage cards.

**TEALMOVIE ( <http://www.tealpoint.com/softmovi.htm> )**

High-quality multimedia system with video and synchronized sound. Includes audio/video player and Windows AVI converter program.

**TEALNOTES ( <http://www.tealpoint.com/softnote.htm> )**

Insert freehand graphic "Sticky Notes" into memos, to-do lists, address book entries--almost anywhere you currently have editable text.

**TEALPAINT ( <http://www.tealpoint.com/softpnt.htm> )**

The most powerful paint and sketch app on Palm OS handhelds, featuring 16 tools, 16 patterns, 12 brushes, color, and desktop image conversion.

**TEALPHONE ( <http://www.tealpoint.com/softphon.htm> )**

A powerful Address Book replacement with superior interface, display, search, and indexing options.

**TEALPRINT ( <http://www.tealpoint.com/softprnt.htm> )**

The all-in-one text and graphic printing solution for Palm OS, supporting infrared, serial, and HotSync printing to any Windows printer.

**TEALSCRIPT ( <http://www.tealpoint.com/softscrp.htm> )**

An improved, tuneable, Graffiti text recognition system that lets you modify the handwriting recognition to suit your handwriting.

**TEALTOOLS ( <http://www.tealpoint.com/softtool.htm> )**

Six pop-up desk accessories, including a calculator, clock/stopwatch, preferences panel, editing panel, memopad, and a file/backup manager.

## Appendix I - Disclaimer

We at TealPoint Software are committed to providing quality, easy-to-use software. However, this product is provided without warranty and the user accepts full responsibility for any damages, consequential or otherwise, resulting from its use.

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- Accompanying a magazine, book or other publication for sale.
- Distribution with "Media", "Copying" or other incidental costs.
- Available for download with access or download fees.

This program may be used on a trial basis for 30 days. The program will continue to function afterwards. However, if after this time you wish to continue using it, please register with us for the nominal fee listed in the program.

Thank you.