PanCanvasPro

User Guide

Version 1.0.0

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eNosis

PanCanvasPro

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http://www.enosis.net
Address questions, bugs, typos to support@enosis.net

PanCanvasPro

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Introduction

What PanCanvasPro Is

PanCanvasPro began in 1996 as PanCanvas, a software tool to create a movie by panning over a still image. The process, widely used in film documentaries, is known as motion-control, rostrum animation, and also the "Ken Burns" effect. Unlike other products on the market PanCanvasPro is reasonably priced, provides professional features and effects, and works on both Mac and Windows platforms. PanCanvasPro was originally designed as an in-house tool for video production. Since 1996 it has grown in complexity and power and is now used by video producers around the world. The output is easily imported into most video editing software for both Mac and Windows.

What PanCanvasPro Is Not

PanCanvasPro is not a video editing application. It does not include audio or titling features. It was designed by video and film producers for themselves. This means a simple and intuitive interface that replicates what the camera person has in mind as they look through the viewfinder. You see the entire move in one shot. It does not use keyframes. To some this may seem like a liability but, to us and others like us, it represents exactly what we would do behind the camera. It is capable of complex, sweeping, curving, and rotating moves. It provides tools for controlling speed, motion-blur, and basic image-processing. It allows the user to create any frame size.

Requirements

PanCanvasPro will use as much RAM as it can; the more the better. Depending on the type of pan and the size of the marquees, image sizes should be large for smooth movement. Typical image sizes are 4000 x 3000 pixels. We've had no problem loading 12,000 x 12,000 pixel images.

Processor speed should be at least 400 MHz for Mac G3, G4, or G5 running OS X 10.2 or later and 800 MHz for PC running either Windows 98, 2000, NT, or XP.

Minimum screen size is 1024 x 768. Optimum is 1280 x 1024 or larger.

PanCanvasPro relies on QuickTime for input and output. For the Mac this should be no problem but, Windows users need to have QuickTime installed.

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Features:

- Unlimited rotation of camera.
- Unlimited image size (limited to RAM only).
- Camera can track perpendicular to the path to simulate a fly-over.
- Unlimited user-defined frame size.
- Specify pan length in frames or seconds.
- Specify lead-in and/or lead-out (stationary pause).
- User-defined ease settings to control speed of camera along the path.
- Built-in image processing including, NTSC filter, image scaling, image padding, and image blur.
- Built-in motion blur effects including, linear blur, polar blur, and zoom blur. Blur effects can be linked to the ease settings which dynamically modify intensity according to velocity of camera.
- Grid snap for precise, repeatable camera positioning.
- Config file save option to save all aspects of current project. This allows the user to repeat a project at a later time.
- Control setting save option to save user favorite control settings. These are automatically loaded at startup.
- Can open any Quicktime capable image.
- Can be called from another application to accept and process an image. For example, iPhoto can use PanCanvasPro as an external processor allowing for efficient work flow.
- Bounce setting adds a reversed or loop rendering to output.
- Outputs a single QuickTime file or a directory of user defined sequential single images (JPEG, TIFF, BMP, PNG, PICT). These are easily loaded into video editing applications.
- Path is defined as either a straight line or Bezier curve.
- Real-time preview window with scrub slider.
- Standard pixel aspect settings including, NTSC DV, NTSC D1, NTSC Widescreen, PAL DV/D1, PAL Widescreen, and square.
- Output can be interlaced with odd or even field dominance.
- Can render any part of the entire sequence. This allows user to test parts of the project where anomalies might occur due to overly slow camera speed or undersized image.
- Suggested, optimum image size indicators to warn if image is too small for camera size.
- Available for Mac OS X, and Windows XP (should work with, but has not been tested with, other Windows versions).

About this Manual

On the surface PanCanvasPro seems relatively simple. This is as it should be. We have tried to keep PanCanvasPro as intuitive as possible while giving it powerful features. For this reason, below the surface, PanCanvasPro can become considerably more complex. This manual attempts to be as comprehensive as possible, addressing as many issues as we can think of. However, many aspects of use that we haven't thought of are bound to surface. Please address questions, concerns, and thoughtful suggestions to support@enosis.net. We will try to respond as quickly as possible.

The eNosis web site contains example movies and tutorials to help make the most of PanCanvasPro. They are updated as needed.

Installation

Macintosh OS X:

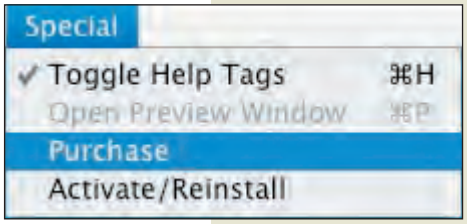
After unarchiving the PanCanvasPro application file simply drag the application to your Applications folder.

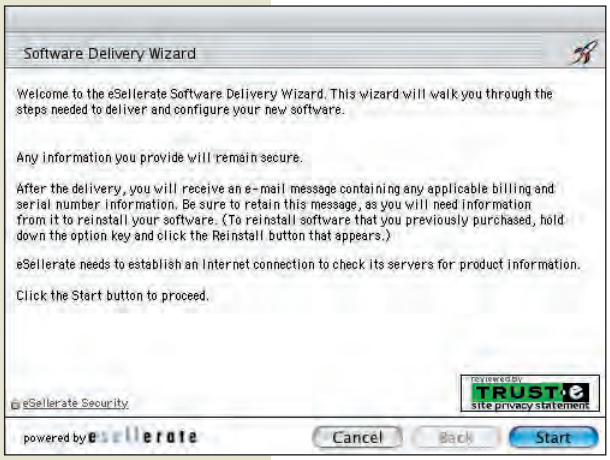
Windows:

Unarchive the installer application. Run the installer and follow the instructions. The installer will install the application and its shortcut on the desktop. The eSellerate sales engine is also installed and is necessary to purchase and activate PanCanvasPro.

Purchasing

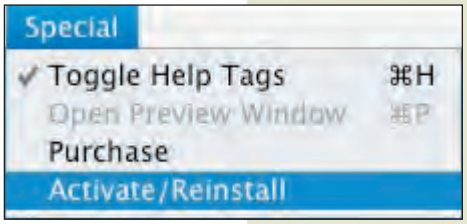
PanCanvasPro is fully functional in demo mode. Until activated, however, a red horizontal line will be rendered on all output. To purchase PanCanvasPro select the Purchase menu item under the Special menu category. Purchasing requires an active internet connection. Follow the instructions on the subsequent eSellerate windows. You will guided through the entire one-time process. Upon conclusion of the purchasing process PanCanvasPro will be automatically activated and you will receive a confirmation e-mail with your serial number.

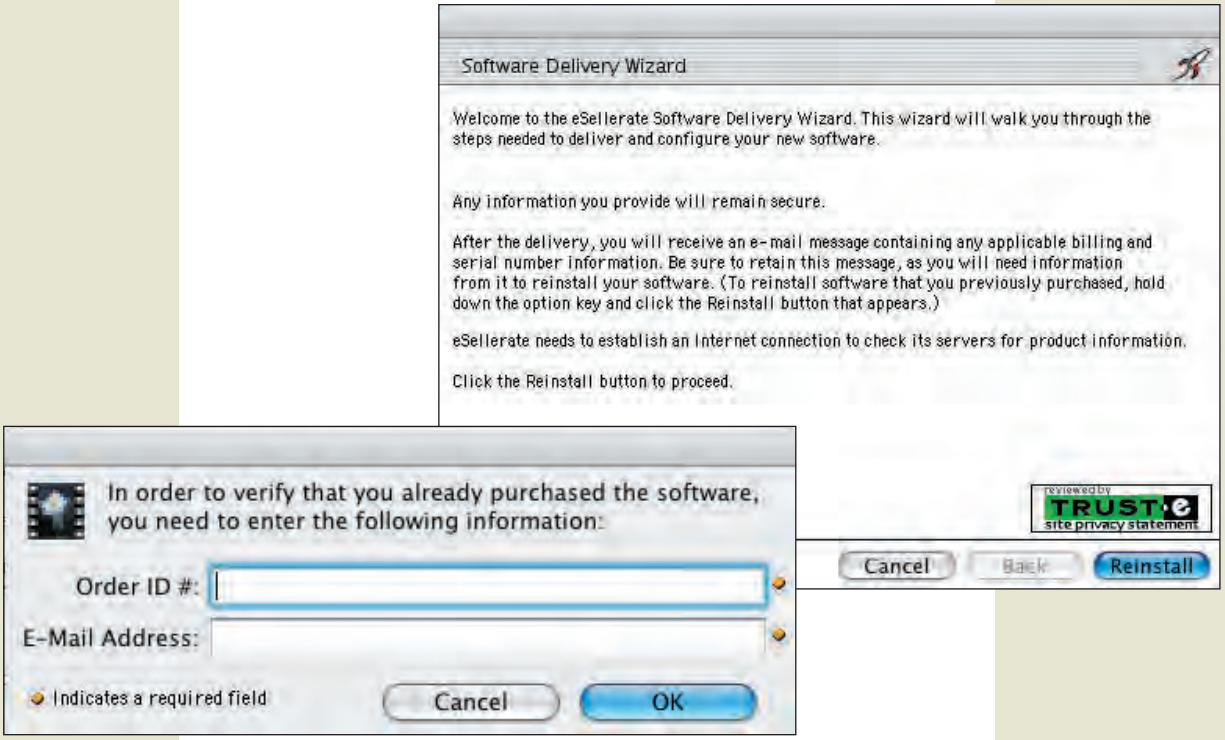




Reactivating / Reinstalling

There are instances when PanCanvasPro will need to be reinstalled and/or reactivated. The PanCanvasPro license allows you to use the application on more than one computer as long as you are the primary user. It is not necessary to purchase a new license. You will need to activate PanCanvasPro on the new machine. To do this select the Activate/Reinstall option under the Special menu category. Follow the instructions on the eSellerate Reinstall windows. You will be asked to enter the serial number you received when you purchased PanCanvasPro. Upon confirmation PanCanvasPro will be activated on the new machine. The same procedure is necessary if the encrypted key file should become corrupted or lost. The maximum number of reactivations is currently set at five. If you should need more than this either purchase a new license or contact us for special circumstances.





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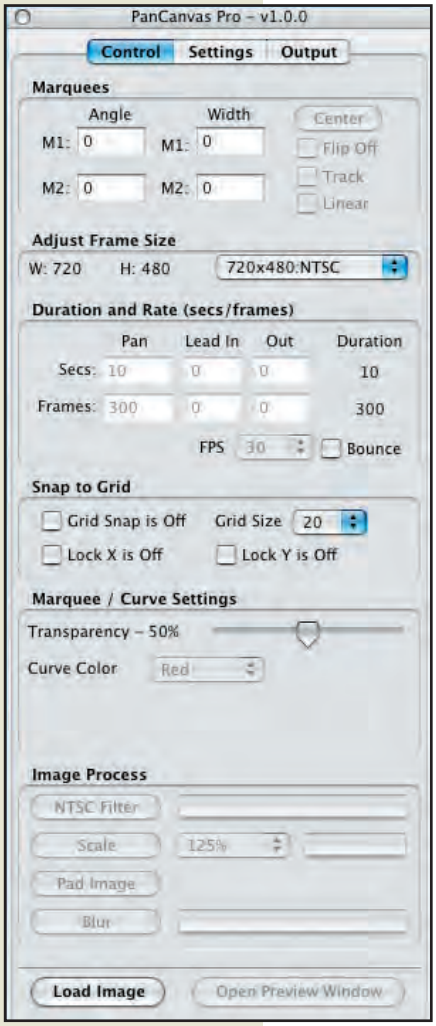
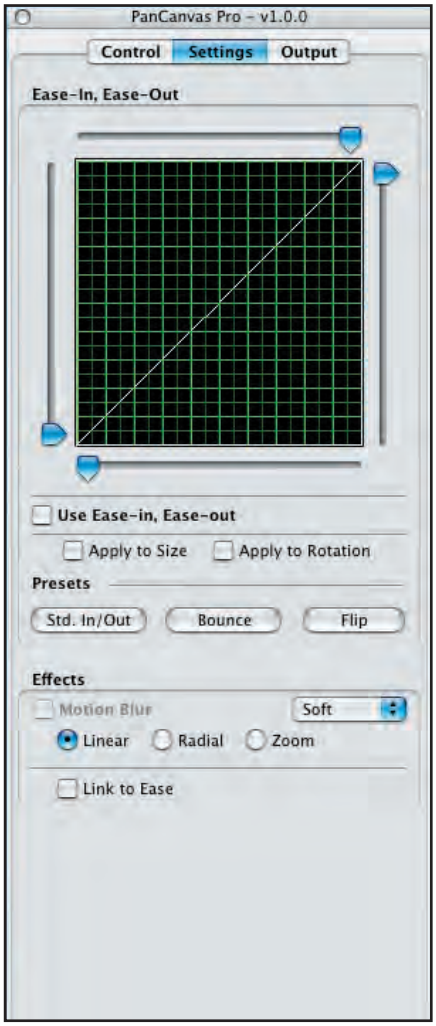
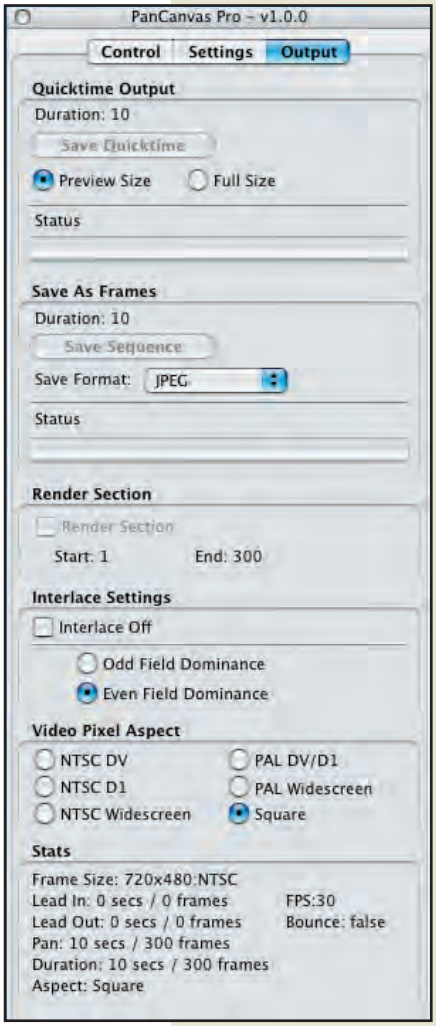
Interface

All controls are located on the Main Window. They are divided between three (3) tabbed panels. The first tab contains the general controls including: Marquee sizing, frame sizing, pan duration, basic image processing, and load image. The second tab contains motion ease and effects controls. The third tab contains controls responsible for generating the final output including: whether to save as a QuickTime movie or separate frames, rendering only a portion of the pan, interlace settings, and setting the aspect ratio of the output.

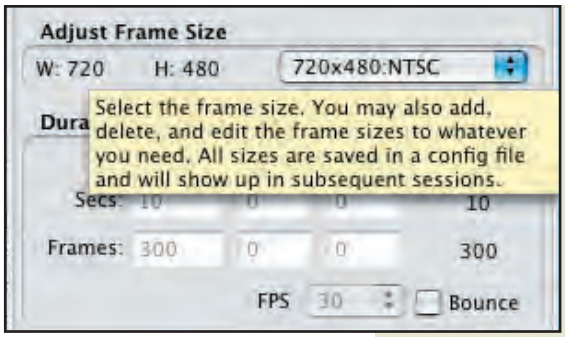


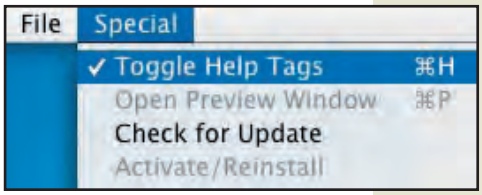




Help Tags

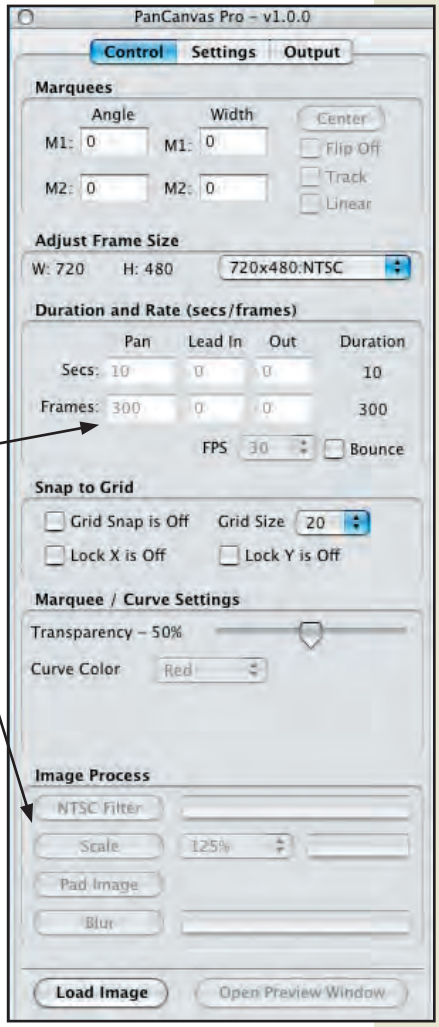
There are help-tags associated with almost every control on every panel. By moving your mouse cursor over a control and holding it a help-tag will appear explaining what that control does. Help-tags, however, may get in the way of productivity so, there is a menu item that allows the user to toggle the help-tags on or off.





Active and Inactive Controls

When you first start PanCanvasPro you will notice that many controls are grayed out. These controls are deactivated and will remain this way until an image is loaded.



Options such as setting the pan duration and basic image processing are deactivated until an image is loaded.

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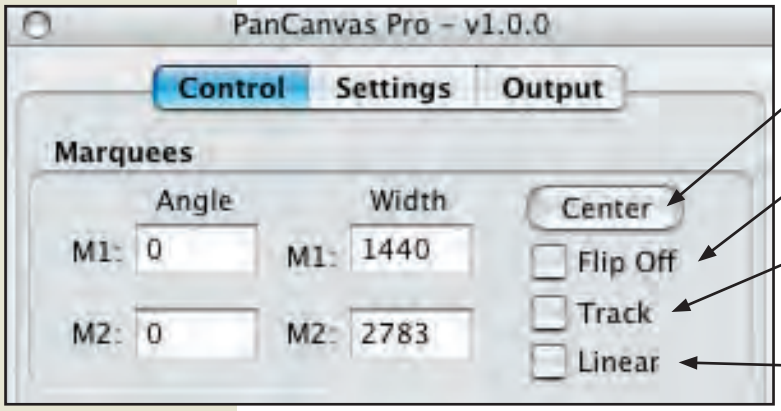
Basic Controls

The Marquee Panel

The marquee panel tells the "real" width of each marquee and their angle of rotation. It also contains four controls that effect how the marquees behave. The angle and width fields are read-only. The width numbers show the width of the marquee relative to the original image not the work-image that is in the visible work window. These numbers will change color to warn the user when the marquees get too small. Orange is a warning and red is danger. In either case the image should be scaled up to prevent pixilation and /or degradation in the smoothness of the pan.



The center button places the marquee in their default, centered position.

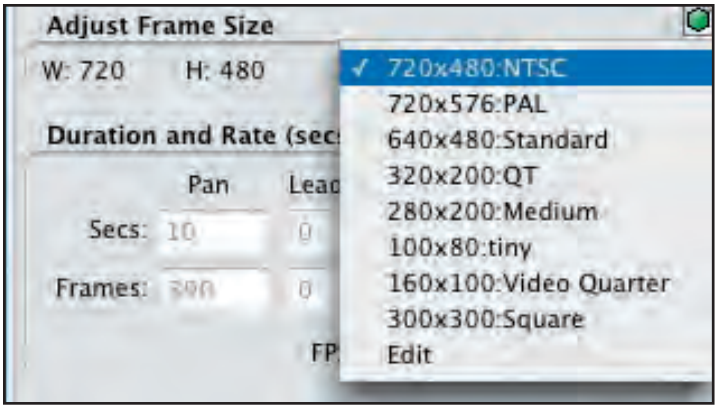
The flip check box swaps the start and end marquee.

The track check box locks the marquee to a perpendicular angle relative to the curve. Any rotations are ignored.

The linear check box makes the pan movement a straight line from center to center.

Adjust Frame Size

The Popup Menu control in the Adjust Frame Panel allows you to choose virtually any size for the final output. When you first install PanCanvasPro two default values should be present; 720 x 480 NTSC and 720 x 576 PAL. Selecting the Edit option will allow you to add or delete sizes. The following page will show you how this works.



Be aware that the aspect control settings on tab panel three will effect the shape of the marquees as they appear on the work window. For video work always check that the correct aspect setting is selected.

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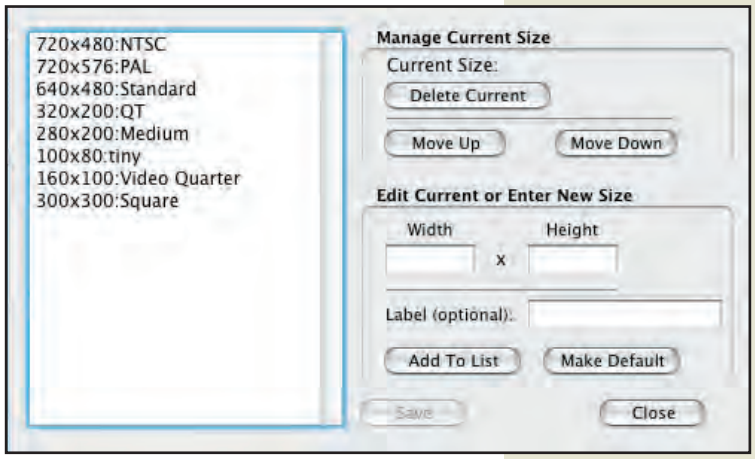
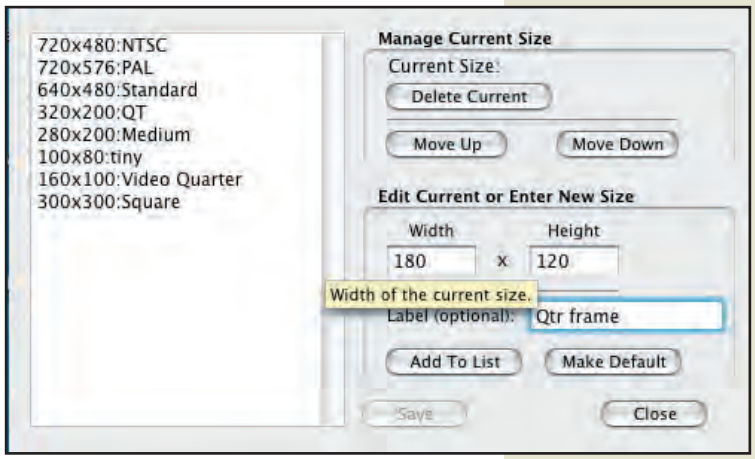
Adjust Frame Size (continued)

The Marquee Size Edit Window lets you create a new size or delete a current one. Here you will see how to add a new size.

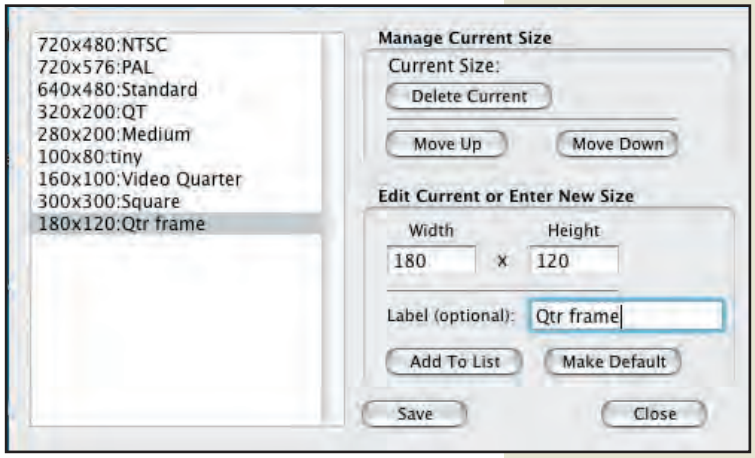
When the window first appears it shows all currently available sizes on the left with controls on the right. Notice that the width, height, and label fields are blank.



We are going to create a new size that is one quarter the size of an NTSC screen. Values of 180 and 120 have been entered in the width and height fields. In the optional Label field we have given this size a label: "Qtr frame."



Clicking the Add to List button will add the new size to the available sizes. To make the current list available to the program it is necessary to click on the Save button. The window will close and the new size will appear every time PanCanvasPro is launched.



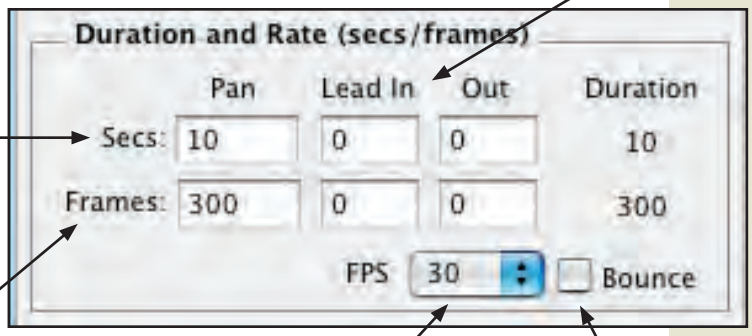
For any changes to take effect, you must exit the edit control by either using the tab key or simply clicking in another control with the mouse.

Setting the Duration and Rate

The duration of the pan can be adjusted by seconds or frames. When entering seconds, decimal values are allowed down to 0.1 seconds. Seconds are linked to the frame rate as indicated by the "FPS" drop-down control. Frames are calculated accordingly. When entering duration by frames only whole numbers are allowed down to one (1) frame. The seconds are calculated automatically to reflect changes in the frames.

Changes do not take effect until you tab out of the edit control. Illegal values are replaced by the minimum value. The minimums are one (1) for frames and 0.1 for seconds.

Lead-in and lead-out allows you to have the pan "sit" for a specified time at the beginning and end respectively.

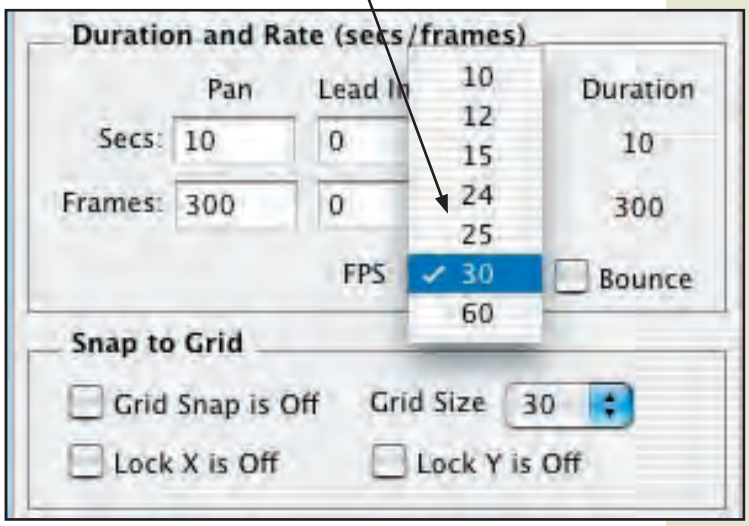


Enter duration in seconds. Allows decimal fractions of one second down to 0.1 second.

Enter duration as frames. Allows whole numbers only down to 1 frame.

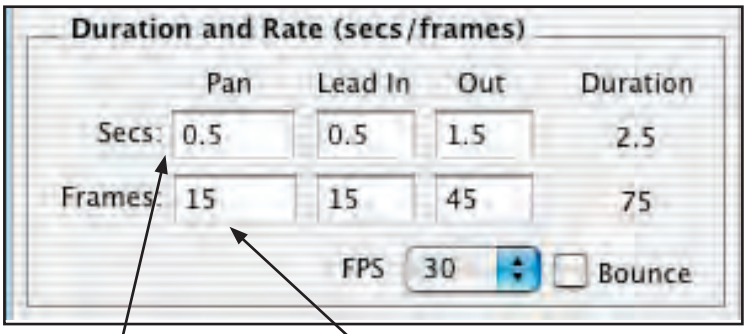
Drop-down control allows you to choose the frame rate. Changing this adjusts the values in the "Secs" edit boxes.

Bounce button doubles the length of the "Pan" by saving from the end back to the start.



Setting the Duration and Rate (continued)

The image below shows possible values and how they relate to one another with the current FPS setting.



Seconds are calculated by dividing the frames by the frame rate.

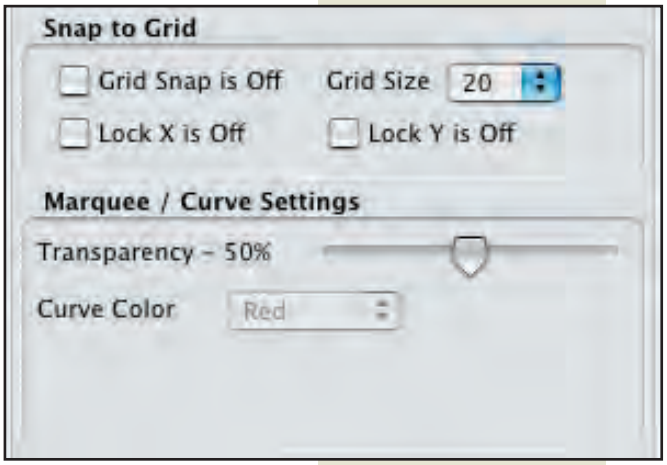
Frames are calculated by multiplying the seconds by the frame rate.

It is important understand that all internal functions in PanCanvasPro use frames only. Entering the duration in seconds is a convenience. This is reasonable when you consider what happens when entering 10 frames at an FPS setting of 30. The seconds value will appear as 0.33 which is an approximation.

Because of differences in Mac OS and Windows the Marquee / Curve Settings are different. OS X allows transparency whereas Windows does not – therefore a grid pattern is used in the marquees of the Win32 version.

Snap to Grid

This feature allows you to snap the marquee movement to a user-defined grid. This may be useful when wanting to repeat exact setups in subsequent pan sequences. You may also lock the horizontal and vertical axes.



Marquee and Curve Settings

This feature allows you to adjust the transparency of the marquees (Mac) or the grid fill pattern (Win32). This compensates for different image qualities and improves visibility of the marquees. The curve color may be adjusted (Mac) and the marquee grid color also (Win32).

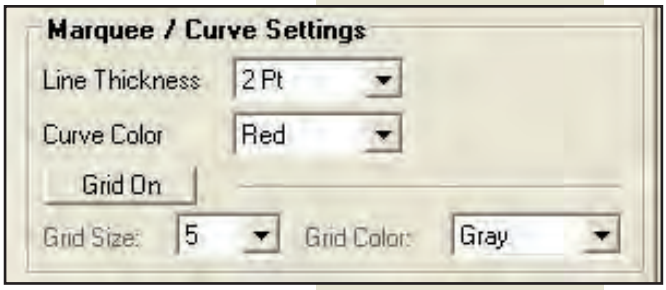


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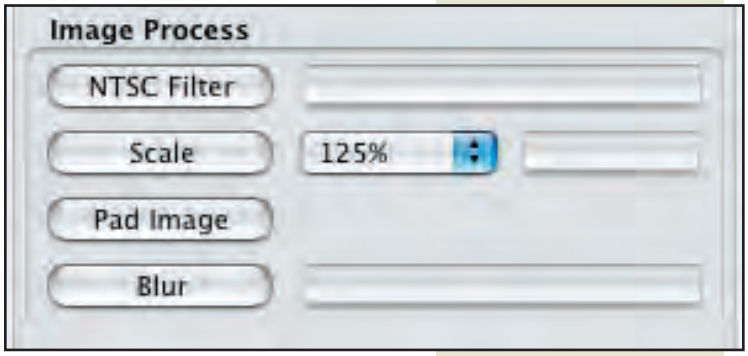
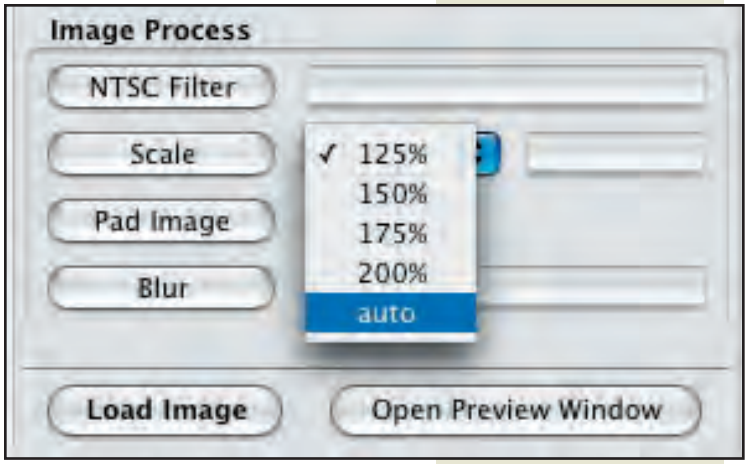
Image Processing

The Image Process section lets you perform some basic adjustments to the image. The NTSC filter performs a color limitation on the image so that it fits within the safe color range of NTSC television.

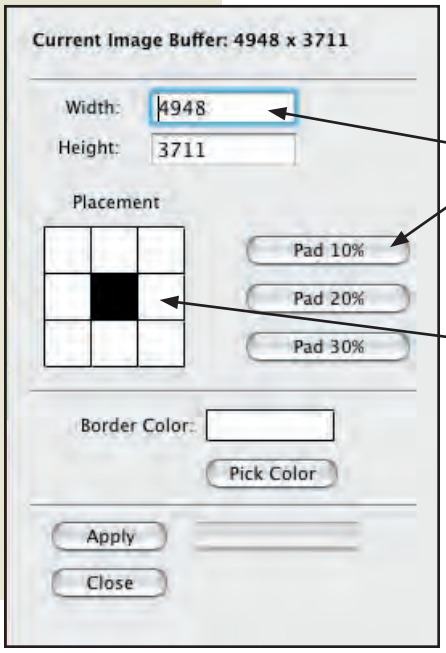
The Scale function allows you to scale up by four predefined percentages. It also contains the Auto scale function which will determine the optimum size of the image relative to the size of the marquees. Use this when either of the marquee width numbers is orange or red.



The Pad Image button lets you add a border around the image. Use this when you need more room for the curve handles. You may choose any color for the border and position the original image anywhere within the new canvas.



The Blur button performs a subtle blur on the entire image. Use this when the original image is very busy with high contrast details. Blurring the image will reduce the chance of moire patterns and other undesirable television artifacts.



You may enter the new width and height manually or choose the quicker percentage buttons.

The black square represents the original image and where it is relative to the border. Currently the border is equal on all sides.

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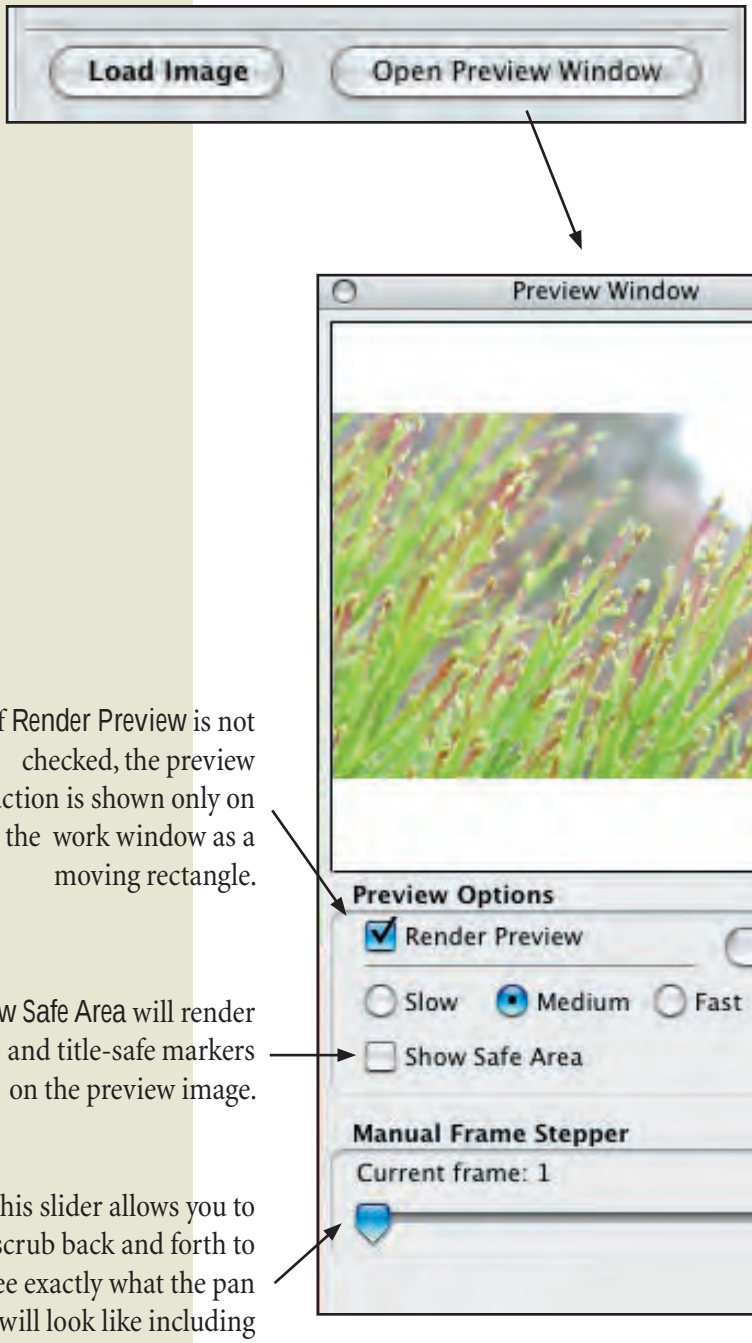
Open Preview Window

The Open Preview Window button brings up one of the most powerful features of PanCanvasPro. The Preview Window allows you to scrub back and forth from the start to the end of the entire pan movement. You see the entire pan as a reduced size preview. Any and all ease and effects settings are also reflected in the preview window.



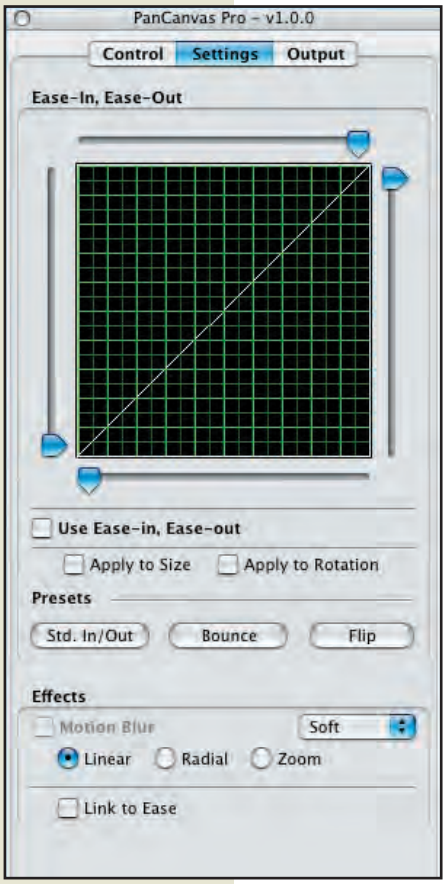
If Render Preview is not checked, the preview action is shown only on the work window as a moving rectangle.

Show Safe Area will render action- and title-safe markers on the preview image.

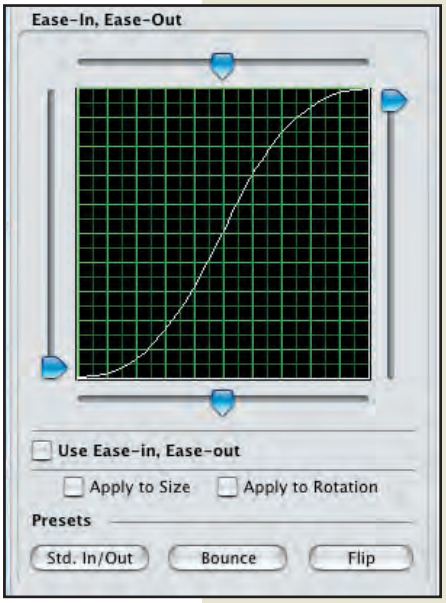
This slider allows you to scrub back and forth to see exactly what the pan will look like including any and all ease and effects settings.

The Start button begins an active preview process; it attempts to show in real-time what the pan will look like. Unfortunately, real-time is almost never achieved due to the requirements of processing the various effects. However, by turning off the Render Preview check box it is possible to get real-time speeds using the blue status marquee on the work window.

Ease Settings - Adjusting Speed

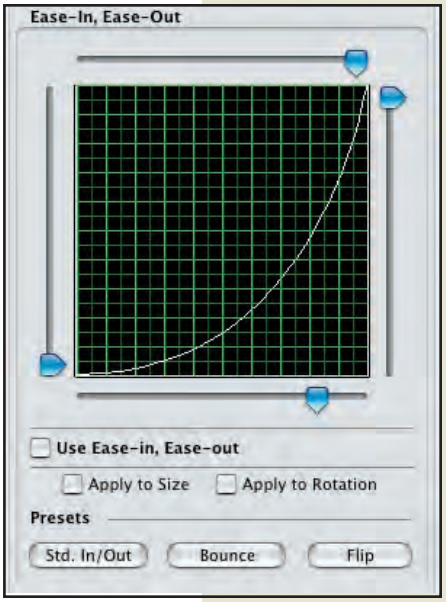


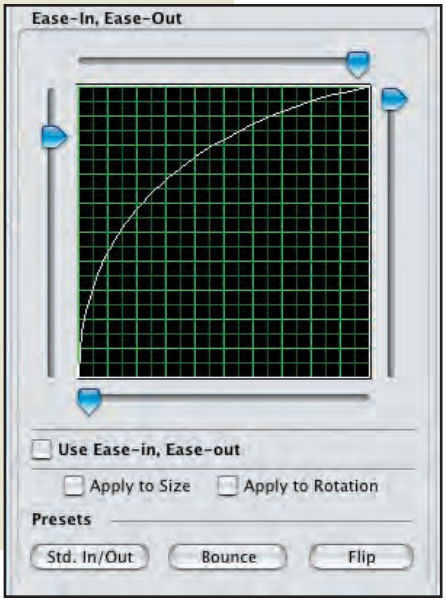
The speed along the path of the pan is adjusted by using the Ease-In, Ease-Out panel. The default movement is one of equal speed along the entire path. Typical camera movement, however, uses an ease in and an ease out to remove any abruptness. By adjusting this curve standard real-life camera movements may be simulated plus many other more unique effects may be applied.



The curve at the top right is the result of clicking on the Std. In/Out button. This is generally a safe setting and will probably be used for most situations. Notice that the flatter sections of the curve represent areas where the camera is moving slowly. As the slope increases toward vertical the speed increases. This curve may be adjusted, of course, by moving the sliders to the left and right, and top and bottom.

The curve at the bottom right represents a "bounce" and was created by clicking on the Bounce button. This is not a typical camera move but is fun in some situations. One result of using the Bounce setting , in conjunction with the Bounce setting on the Control Tab Panel, is to simulate a bouncing camera. It is as though you attached the camera to a bouncing ball.



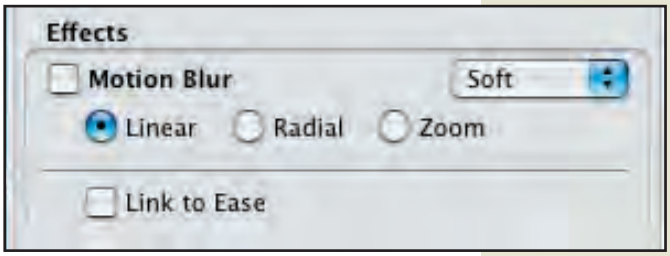


The Flip button simply reverses the current curve as is shown to the left.

More important to the overall effect are the Apply to Size and Apply to Rotation check boxes. Selecting these applies the ease setting to the change in size of the marquees and the change in angle respectively. And of course, none of these settings will be applied unless the Use Ease-in, Ease-out check-box is selected.

Applying Motion Blur

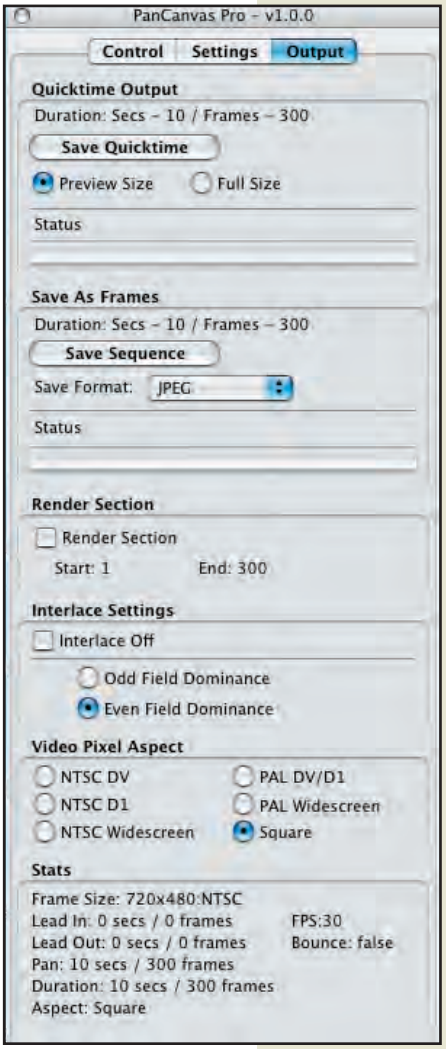
The Effects portion of the Settings Tab Panel allows you to apply motion blur to your pan. Three different blur effects may be applied: Linear, Radial, and Zoom. Rather than go into detail about these effects here, please refer to the extensive blur tutorials later in this manual.



Saving Your Masterpiece

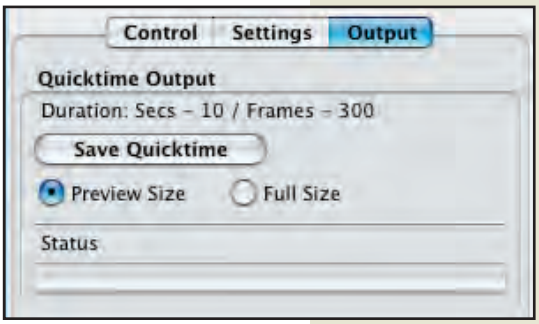
The Output Tab Panel contains a number of settings that control how you save your pan and adjust for the final application of it.

You have two modes of saving your pan sequence: as a self-contained QuickTime file and as a directory of individual frames. QuickTime movie files are a standard method of getting film clips into movie editing software. For instances where this isn't practical you have the option of saving every frame individually as a sequentially numbered set of image files.



Saving QuickTime

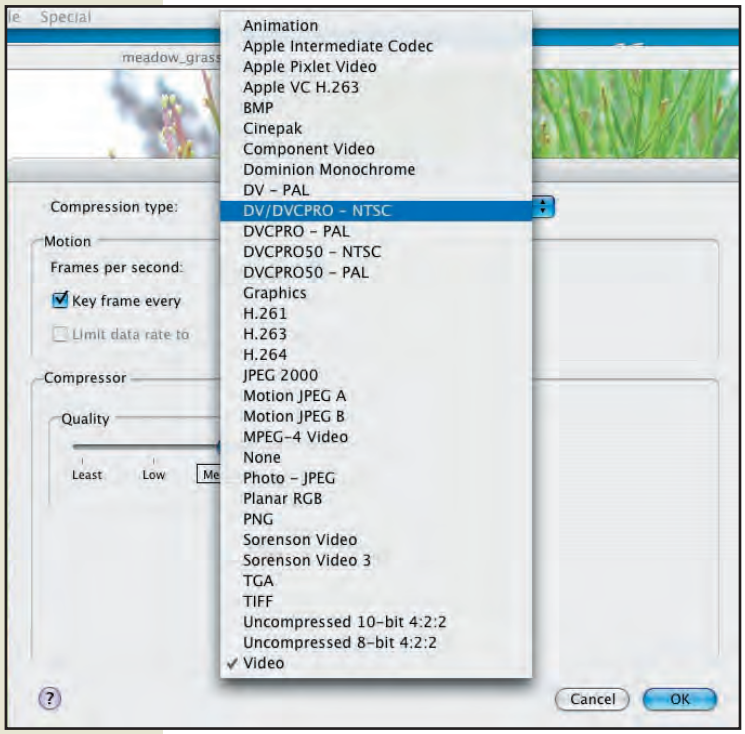
There are two ways to save a QuickTime file. The Preview Size option is very fast and gives a quick way to study timing and effects before committing to the more time consuming final render. The Full Size option is for final output and, depending on the overall settings and effects used, will take considerably longer.



Clicking on the Save Quicktime button will do one of two things. If the image is dangerously small relative to the marquees, in which case you are likely to suffer image degradation during the output, you will be presented with a warning that will allow you to abort. This will give you the opportunity to re-scale the image to safe proportions.

If the image-size to marquee ratio is safe then you will get the save QuickTime menu. Below is the save window showing the selection of compression. In this case the final output is for NTSC DV to be edited in Final Cut so DV/DVCPRO NTSC is being selected.

There is currently no AVI output option. Windows users so far have had no problems using the QuickTime save formats.



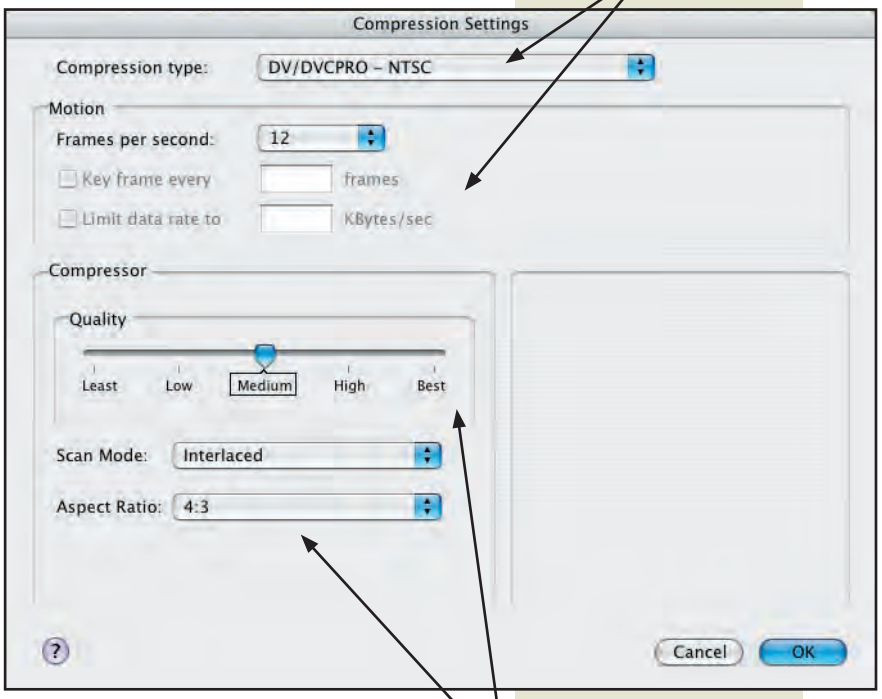
PanCanvasPro

Saving QuickTime (cont.)

Certain options within the Compression Settings dialog are non-functional. This is due to a bug in the QuickTime module that PanCanvasPro uses to create the movie file. The only settings to worry about are: Compression type and Compressor Quality. Frames per Second, Scan Mode, and Aspect Ratio are controlled by PanCanvasPro directly.

There is a bug in the QuickTime module that interfaces PanCanvasPro with QuickTime itself. The save menu that appears has save options that are not implemented.

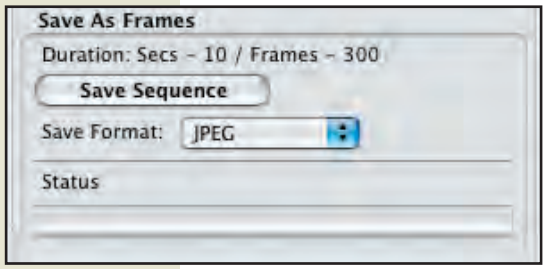
Choosing the Compression type works but the Motion section has no effect. Ignore the Motion settings and rely on PanCanvasPro to set the FPS number.

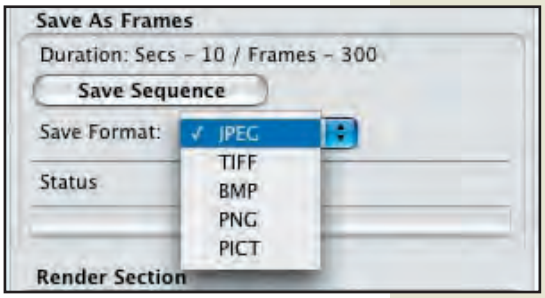


The Quality setting appears to work but ignore the Scan Mode and Aspect Ratio settings; these are taken care of by PanCanvasPro.

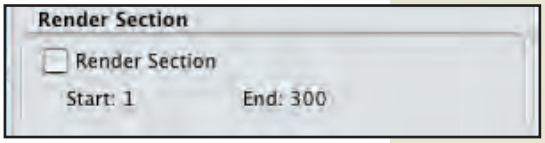
Saving Frames

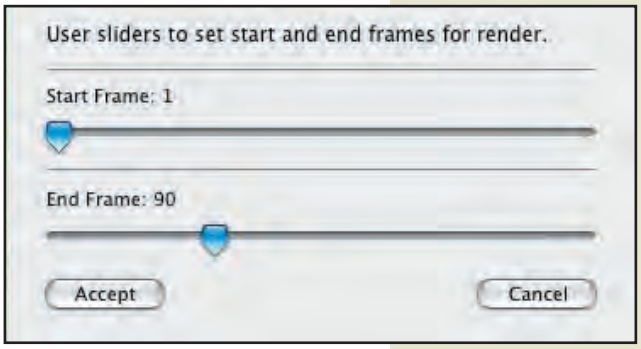
If you choose the Save As Frames option a directory will be created containing individual, sequentially numbered frames in a format of your choice. The directory and each frame will have the name that you choose. Five different file formats are available: JPEG, TIFF, BMP, PNG, and PICT.





Rendering a Section





You have the option of only rendering a portion of the entire pan sequence. The Render Section checkbox allows you to do this. Selecting Render Section brings up a frame set selection window that lets you set the start and the end of the section. To the right the user has chosen to render only the beginning three seconds (assuming 30 fps) of the pan sequence. Using this option lets you test sections of the pan that may be troublesome due to extremely slow movement or other complicated sets of effects being applied at the same time. Much time can be saved by checking out smaller portions of the pan sequence before committing to rendering the whole thing.

Rendering just a section of the entire pan sequence is valuable for testing possible problem areas before committing to the complete render.

PanCanvasPro

Interlace Settings

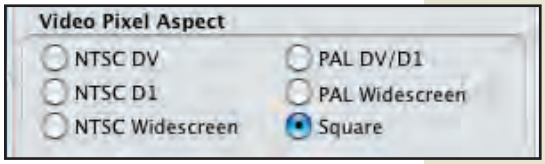
If television is the target platform for your pan then using interlaced output is probably a must. Standard NTSC television is going to be around for a while so interlacing the output is necessary to avoid the shaking associated with animating still images. North American NTSC should use Even Field Dominance.

Whether you really need interlacing turned on can only be determined by testing on your equipment. The best test is to create two versions of the same pan and compare them side by side as seen on a real video monitor, not an RGB computer screen. The difference in quality can be startling.

Setting the Video Pixel Aspect at the outset will save time later. If this setting is one you use consistently you can make it the default by using the Save Settings menu option.

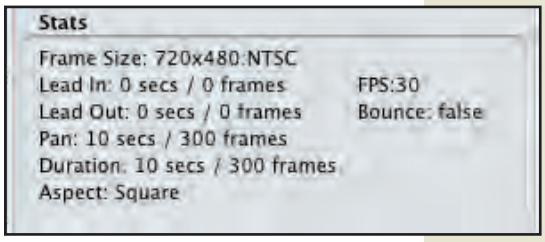
Video Pixel Aspect

Unlike computer screens, television does not use square pixels. For this reason images taken directly from a computer application will appear either stretched or compressed. Selecting the appropriate video pixel aspect ratio is necessary to prevent this distortion. Six options are given that should cover every video format. It is important that you make this choice at the beginning of your panning session to avoid having to reset the marquees later since each aspect will change the shape of the marquees.



Statistics

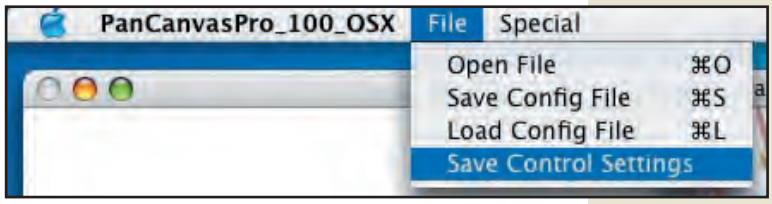
The Stats section reflects the current and most important settings at a glance. It is a convenience to let you review the settings before saving your pan sequence.



Menu Options

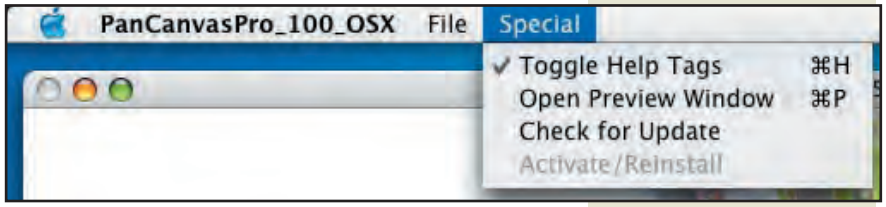
Two menus are available: the File menu and the Special menu. The file menu allows the loading of an image file, saving and loading of configuration files, and saving the current application settings as the default.

Save Config File lets you save all the settings relative to the current project. It records the path to the image including scale settings, if any, and all effects settings. Use this option if you need to recreate a setup at a later time.



When loading a saved config file using the Load Config File menu item, there is no need to have an image loaded – the image is automatically loaded.

The Special Menu allows you to toggle on and off the Help Tags, open the Preview Window, and check for an update to PanCanvasPro. The Check for Update gadget requires a current connection to the internet.



The configuration file looks for a specific image file in a specific location. You may move the image file but do not change its name or its size. If a file can't be found you have the option of manually locating it. Once you find it, re-save the config file which will now contain the proper file address.

PanCanvasPro

Your First Pan

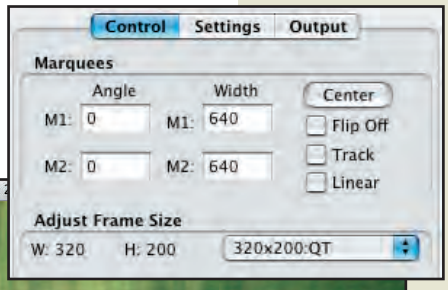
These simple tutorials will show you the basics of how to use PanCanvasPro. They require image files that are available on the eNosis web site.

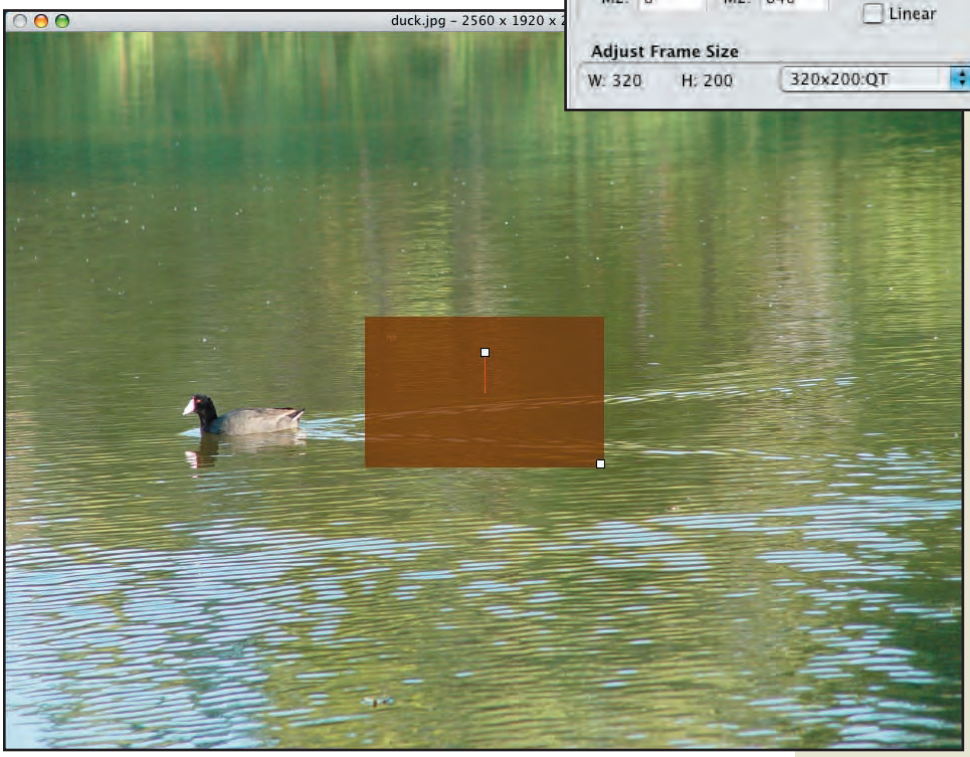
This and subsequent tutorials require the separate Tutorials file which may be downloaded from www.enosis.net/pcpro_downloads.shtml. Sample movies are also available separately on the same page.

Tutorial 1: Linear Pan

This requires the tutorial files available for download at www.enosis.net/pcpro_downloads.shtml.

With PanCanvasPro running, change the frame size to 320x200: QT as at the right. Next find and load the file named duck.jpg. Your work window should look like the one below.



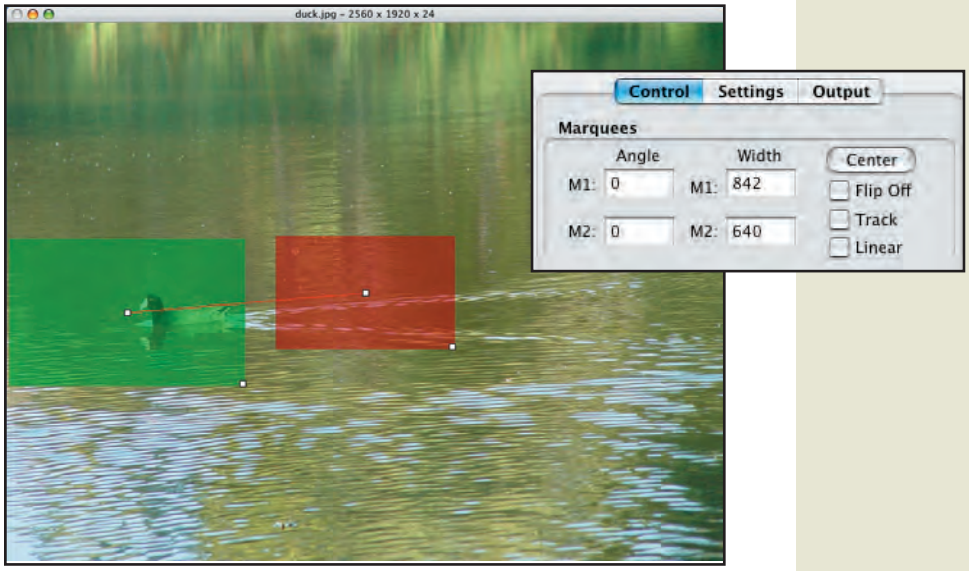


Tutorial 1: Linear Pan (cont.)

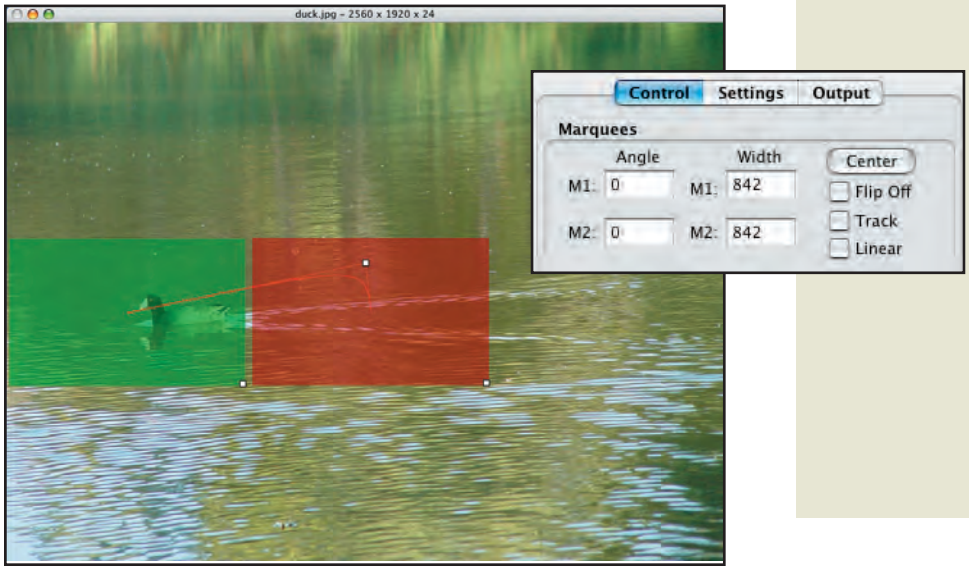
Our goal is to produce a ten second pan that moves slowly from left to right so that the duck appears to swim off the left edge of the frame.

With the mouse grab the bottom right corner of the topmost marquee and drag it out so that its size is approximately 842. You'll notice that when first loading an image the start and end marquee are stacked on each other. The start marquee (green) always takes precedence over the end marquee. So, in this case, when you click on both marquee handles simultaneously you are only effecting the start marquee.

Next move the start marquee to the left edge of the image with the duck centered vertically as shown in the snapshot below.

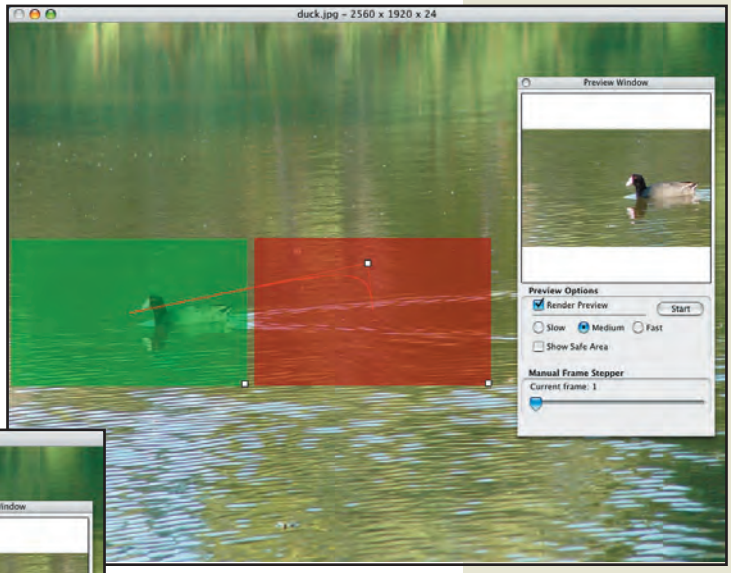


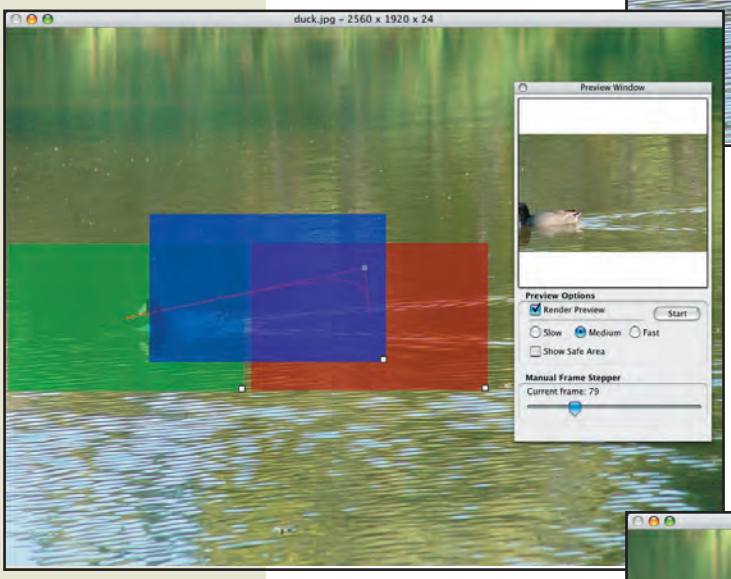
Repeat this with the end marquee so that it is the same size as the start and positioned to the right and leveled horizontally as shown below.



Tutorial 1: Linear Pan (cont.)

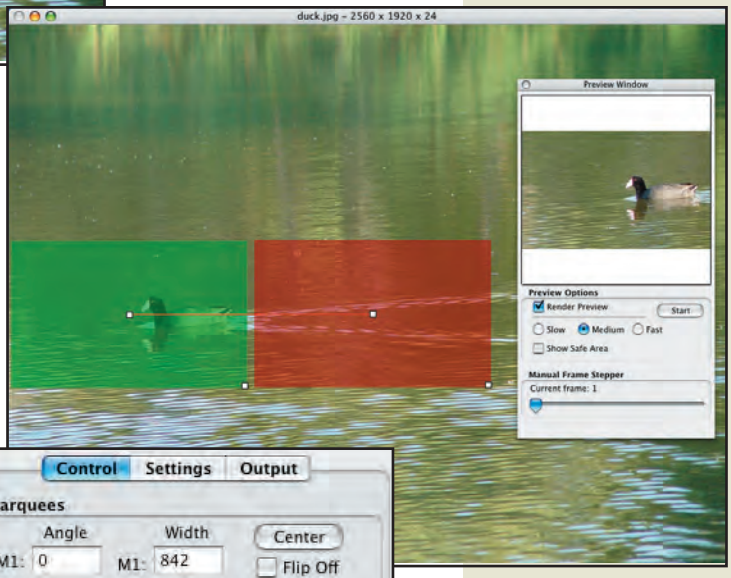
The handles that control the path of the movement are still positioned on top of each other at the center of the image. The path goes up from the start marquee and then makes a relatively sharp downturn when it reaches the end marquee. To see what this really looks like open the Preview Window and select the Render Preview check box. Using your mouse drag the slider at the bottom of the Preview Window back and forth to see how this pan will appear in the final output. Since our goal is to have the duck swim off to the left, the up and down





movement of the camera is not what we want. The camera movement needs to be straight and level. There are two ways we can do this. The first is to carefully drag the curve handles to create a straight horizontal line.

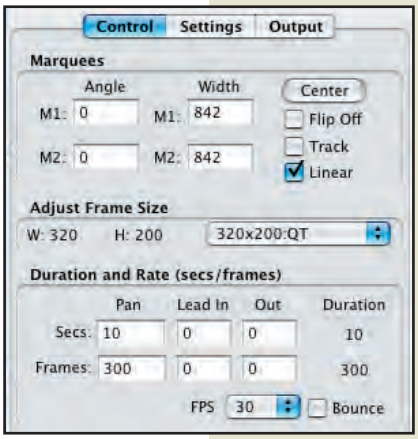
The second is much simpler and is to select the Linear option in the Marquee Settings area of the Control panel. This eliminates the curve and snaps a straight line between the centers of both marquees as shown in the snapshot at the bottom right.

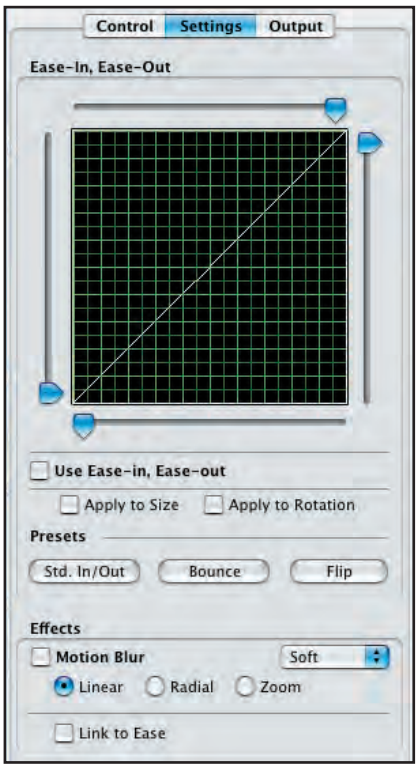


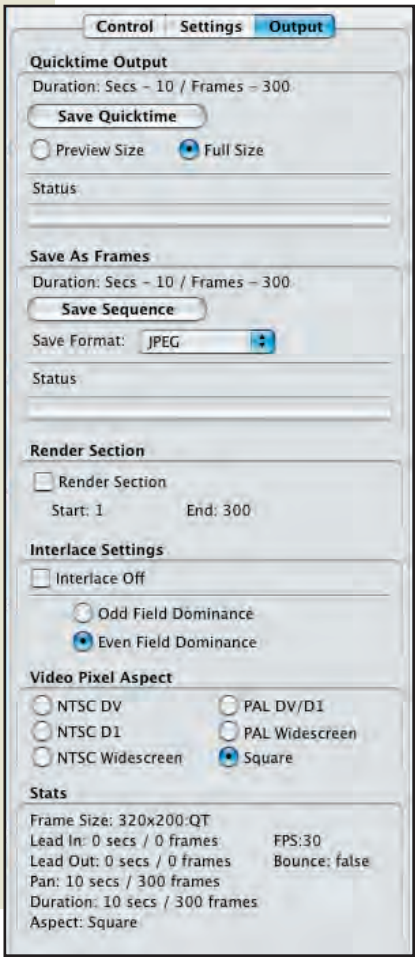
Tutorial 1: Linear Pan (cont.)

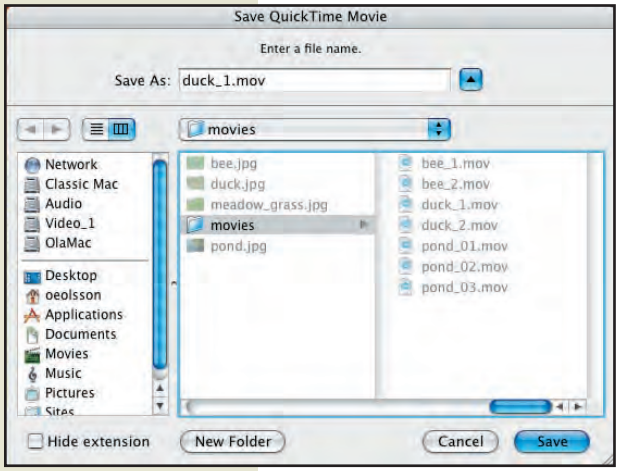
We are ready to produce our first pan. Just before we output the movie file, however, make sure that all the other settings are as follows.

- The Frames-per-second (FPS) setting is 30
- The duration is set to 10 seconds (300 frames) with no lead-in or lead-out.
- On the Settings tab panel:
  – the Use Ease-In, Ease-out checkbox should be unchecked.
  – The Motion Blur check box is unchecked.
- On the Output tab panel:
  – Full Size is selected
  – Interlace is off
  – Video Pixel Aspect is square

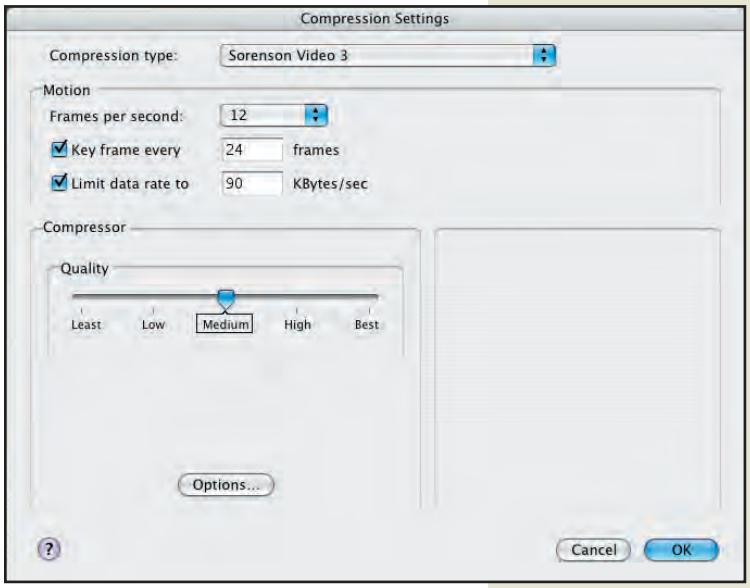






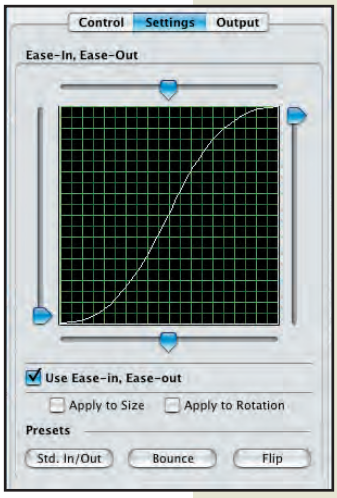


Now click on the Save Quicktime button. You will be presented with a save requester. Navigate to where you want to save your movie and give it a name like duck_1, for example. Click save. Next the Compression Settings dialog will appear which allows you to specify Quicktime options. For general computer playback we find that Sorenson Video 3 is a good choice. Do not worry about the Motion settings, they are ignored. For this tutorial leave the Quality setting at the default Medium. Click OK and you are off to the races!



View your movie to see what it looks like. Notice that the movement begins immediately and stays the same speed to the end. A more pleasing result would be to start slowly, increase speed, and then slow down at the end. For the next movie we will apply Ease-in and Ease-out.

Leave all the settings as they are. The only thing we will change is located on the Settings tab panel. Select the Settings tab and locate the Ease-in, Ease-out controls. Click the Std. In/Out button. The curve will change to an "S" as is depicted to the right. Wherever the curve is flat indicates slower movement. Increases in speed are indicated by vertical sections of the curve. Next, select the Use Ease-in, Ease-out check box to apply these settings to the output.



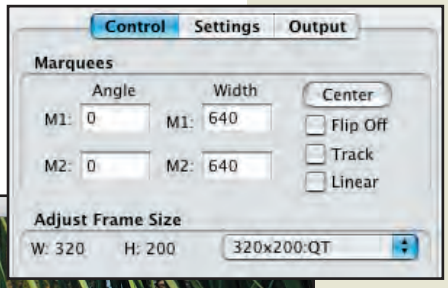
Repeat the procedure above to save a new movie but name it something different like duck_2. Compare the two movies.

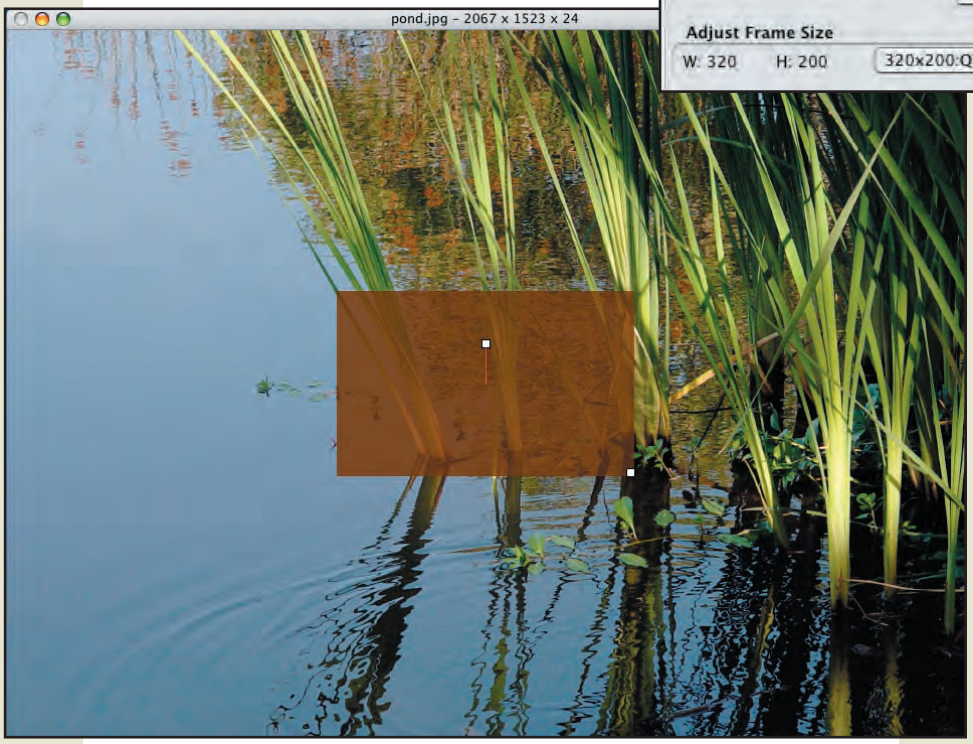
PanCanvasPro

Tutorial 2: Rotate on a Curve

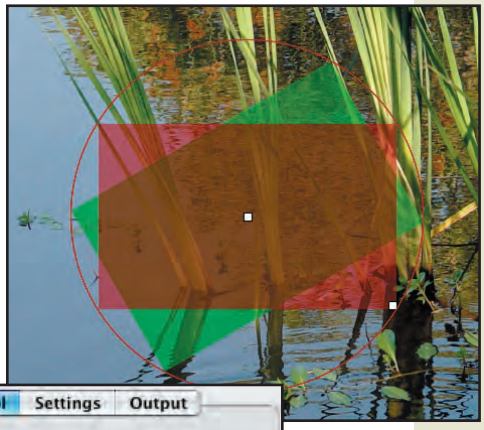
As with tutorial 1 this requires the tutorial files available for download at www.enosis.net/pcpro_downloads.shtml.

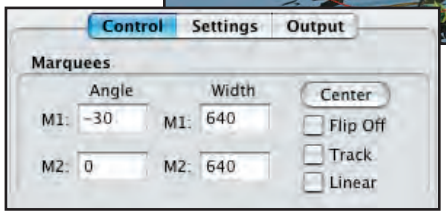
With PanCanvasPro running, change the frame size to 320x200: QT as at the right. Next find and load the file named pond.jpg. Your work window should look like the one below.





For this movie we will rotate the start marquee -30 degrees. To rotate the marquee first hold down the "r" key then click and drag the corner handle of the marquee. Drag your mouse to the left to rotate the start marquee counter-clockwise until the angle reads -30.

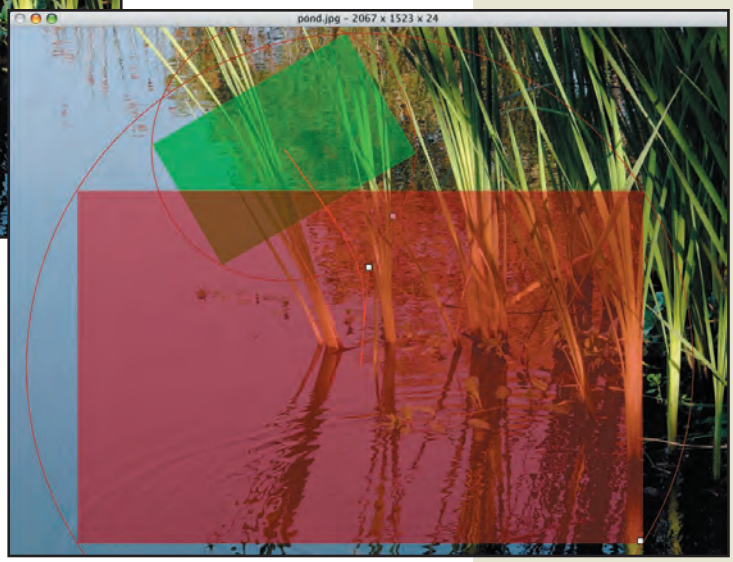




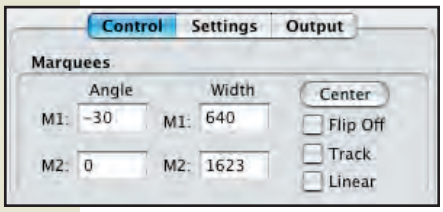
Tutorial 2: Rotate on a Curve (cont.)

Next move the start marquee up and to the left as shown in the screen-capture. Notice that a circle appears around both marquees once either one is rotated. These are clipping guides to help you see where a marquee may rotate off the edge of the image.

In this case part of the clipping circle for the start marquee is off the top of the image. Since this is a nominal rotation and the movement is down this should not be a problem.



Now enlarge the end-marquee as shown to the right by dragging its handle. Position the end-marquee as indicated. The marquee settings should be approximately as shown below.

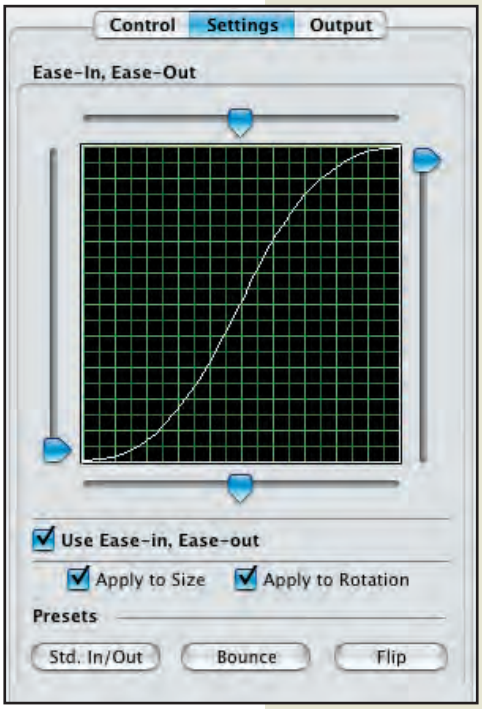


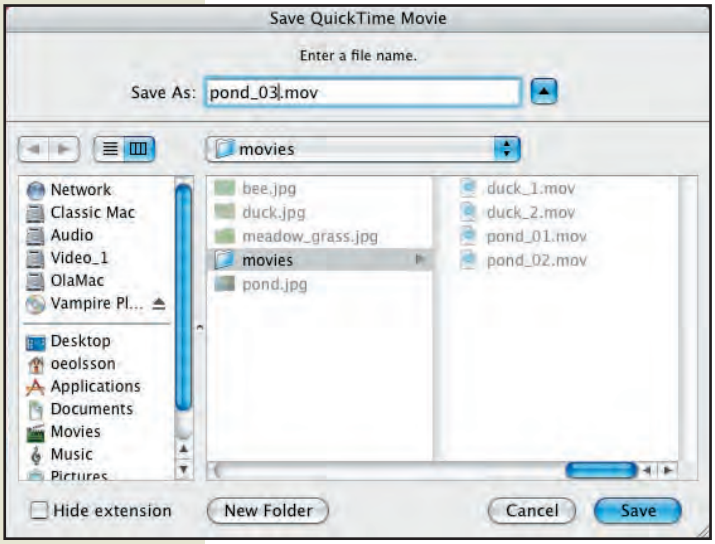
The last thing to do is fine tune the curve. Adjust the curve handles so they match the curve of the plants. The image at the bottom left is about what we want. This is good time to open the preview window to see what the final product will look like.

PanCanvasPro

Tutorial 2: Rotate on a Curve (cont.)

Save two Quicktime movies as in tutorial 1 with and without the ease settings turned on. Notice that different options come into play this time. The ease settings can be applied not only to the movement from beginning to end but also to the rotation and the change in size from start to end marquees. The result of using these other options can be subtle or dramatic depending on the dynamics of the particular setup. We encourage you to save different versions of this same pan with different combinations of these ease options. The only way to know how they effect the movie is to compare them side by side.





PanCanvasPro

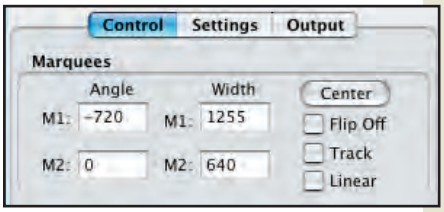
Tutorial 3: Spinning

As with tutorials 1 and 2 this requires the tutorial files available for download at www.enosis.net/pcpro_downloads.shtml.

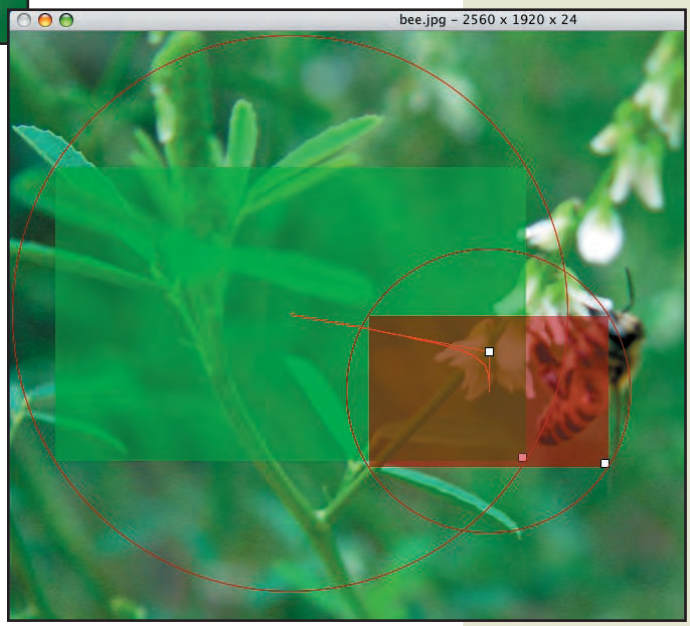
Find and load the file named bee.jpg.

For this movie we will rotate the start marquee two full rotations to -720 degrees. As in tutorial one, hold down the "r" key dragging your mouse to the left to rotate the start marquee counter-clockwise until the angle reads -720. You will find that you will have to do this in more than one step. When the cursor gets to the left edge of the image the rotation will stop. Release the mouse, move it to the right and repeat the procedure until the correct angle is reached.

Next enlarge the start-marquee to about 1255. The work window should look like the image to the left and the marquee settings like below.

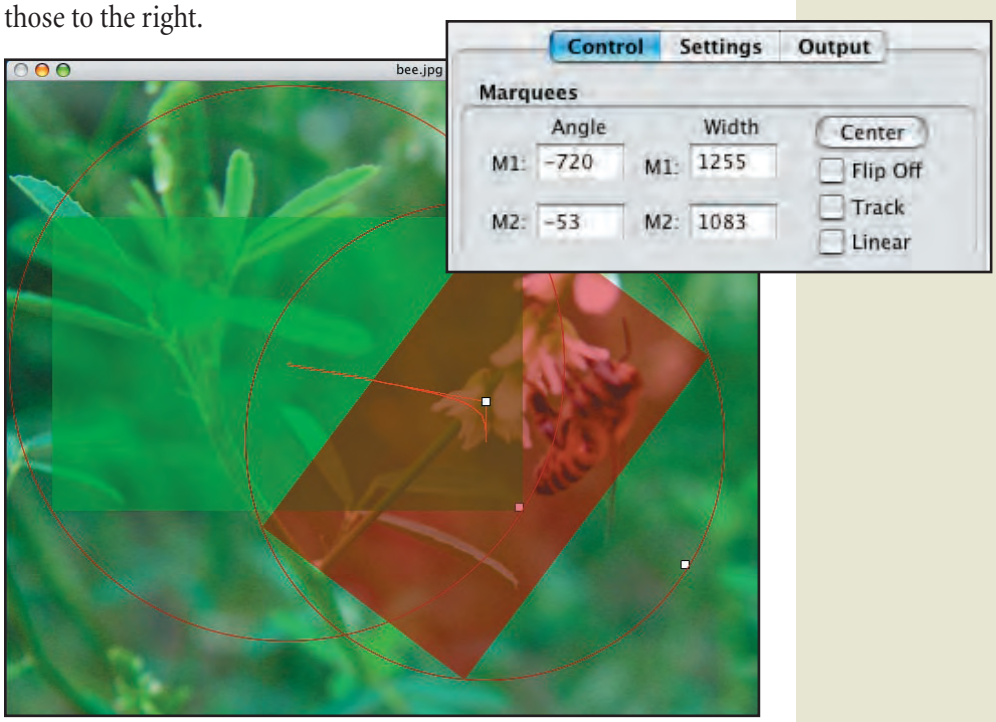


Move the start marquee up and to the left as depicted to the right. Make sure the bee is out of the marquee and the clipping circle is completely within the image bounds.

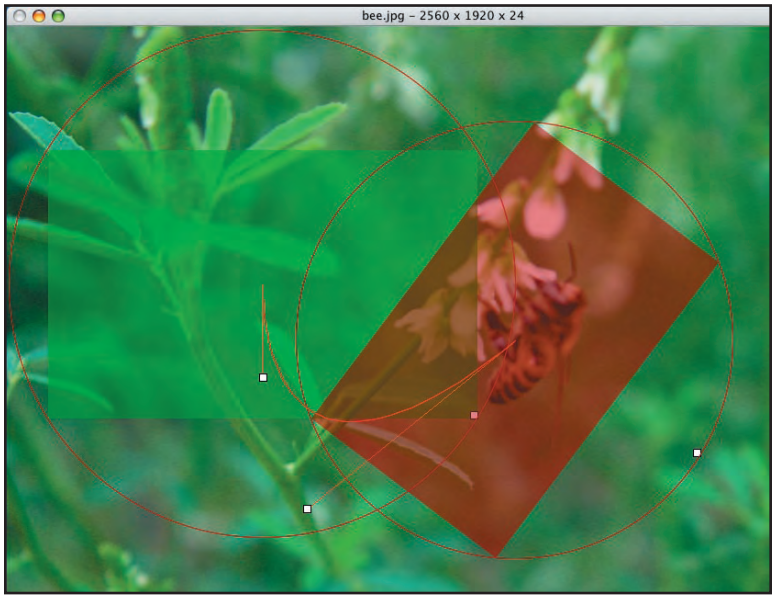


Tutorial 3: Spinning (cont.)

Now enlarge and rotate the end-marquee as shown in the screen capture below. Marquee settings should now approximate those to the right.

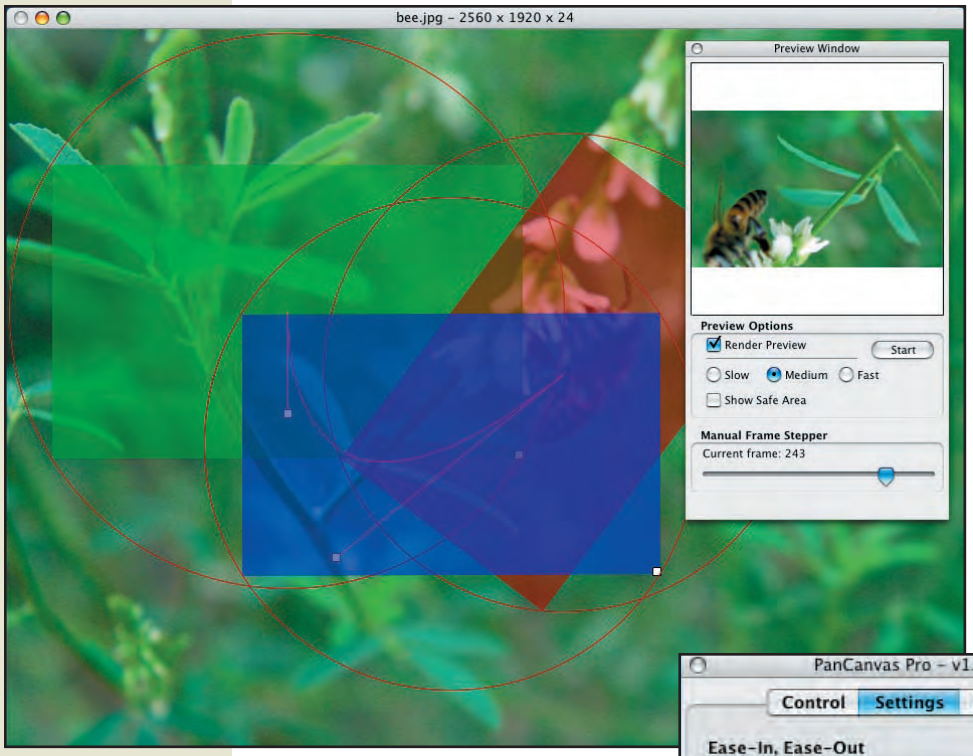


The final adjustment will be to move the end-marquee to center the bee within it. This shown below.

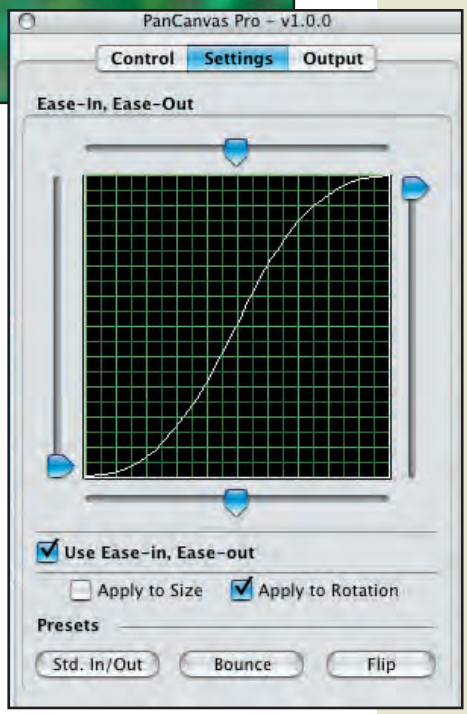


Tutorial 3: Spinning (cont.)

This is a great opportunity to open the preview window and see what this pan looks like. The preview window not only lets you easily tune the effect but also shows you where the movement ends up clipping the frame.



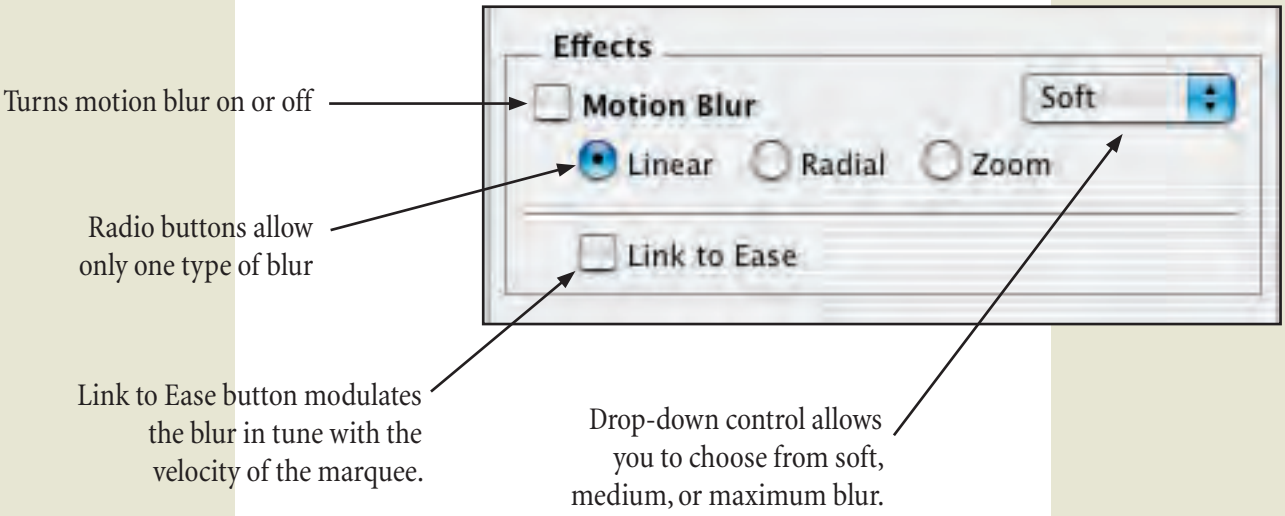
Save this movie with and without the ease settings turned on. Since the marquees remain the same size there is no need to select the Apply to Size checkbox. Experiment with the Apply to Rotation checkbox turned on and off and compare the difference.



PanCanvasPro

Motion Blur

Like Valor, the better part of motion blur is discretion. A little bit goes a long way. The motion-blur feature has many options rendering it confusing at first. Here we will try to simplify the process. Motion blur is best understood visually. Please study the controls that appear in the Effects palette.



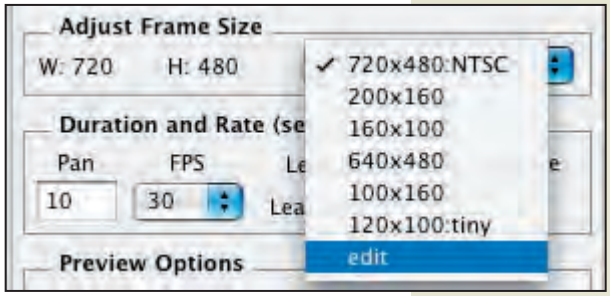
Motion blur, in PanCanvasPro, is dynamic. A linear blur is always tangent to the curve, for example. Also, and perhaps most important, the intensity of the blur effect can be, and in most cases should be, linked to the velocity of the panning motion; that is, when moving slowly there is little or no blur but, when moving quickly there is a proportionate increase in the blur effect. This dynamic link is different for the three blur types. Linear blur monitors movement along the curve. Radial blur analyzes the rotation angles of the marquees. Zoom blur adjusts itself according to the difference in width between marquees.

With this in mind, a linear blur linked to a standard ease-in and ease-out, would show no effect at the start or end but rather an increasing effect from start to middle and then gradually decreasing from middle to end. Radial blur behaves in a similar way but adjusts itself to the amount of "twist" from one marquee to the other. And lastly, zoom is affected by the change in size from start to end marquee.

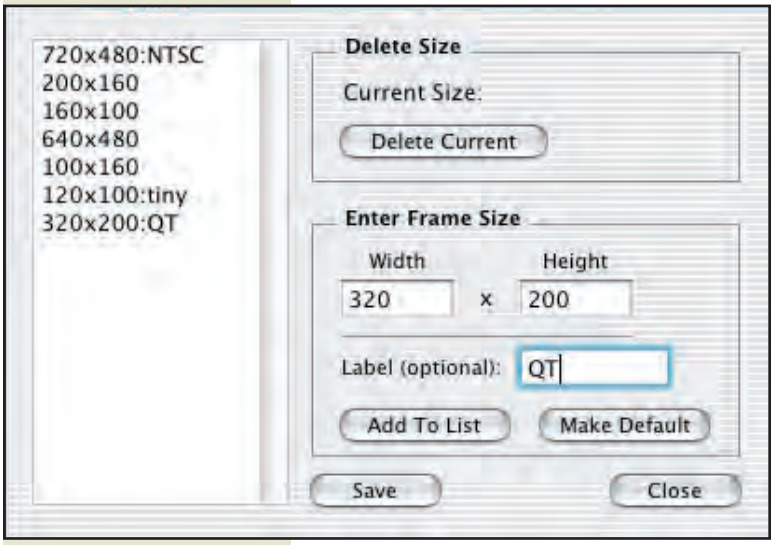
Rather than attempt to explain this in words, let's see it in action.

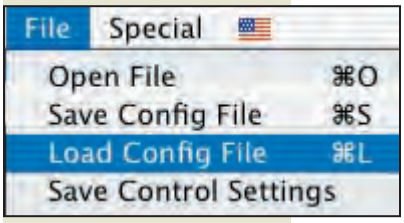
Linear Blur Tutorial

Before starting this tutorial make sure that your frame-size drop down control has a 320x200 entry. If not, you need to create one as follows. Select the "edit" option of the frame-size drop down control.



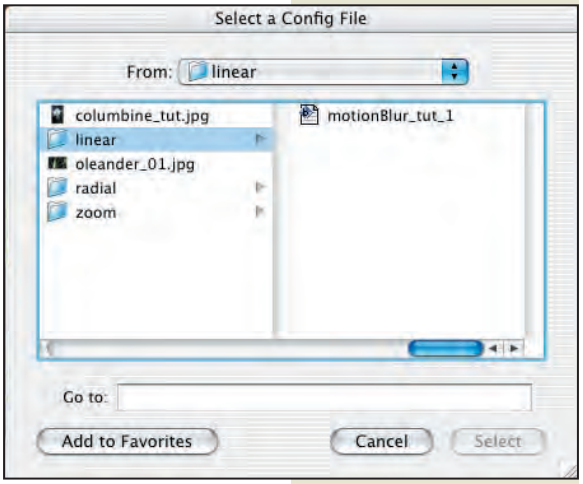
An edit window will appear. Enter 320 in the width text box and 200 in the height text box. If you like you may enter an optional label. In the example "QT" is entered to indicate that this size is a typical Quicktime movie size. Next click the "Add to List" button to place the new frame size in the list to the left. Lastly select "Save" to save the sizes. The new size will now appear in the frame-size drop down.





Loading the Config File

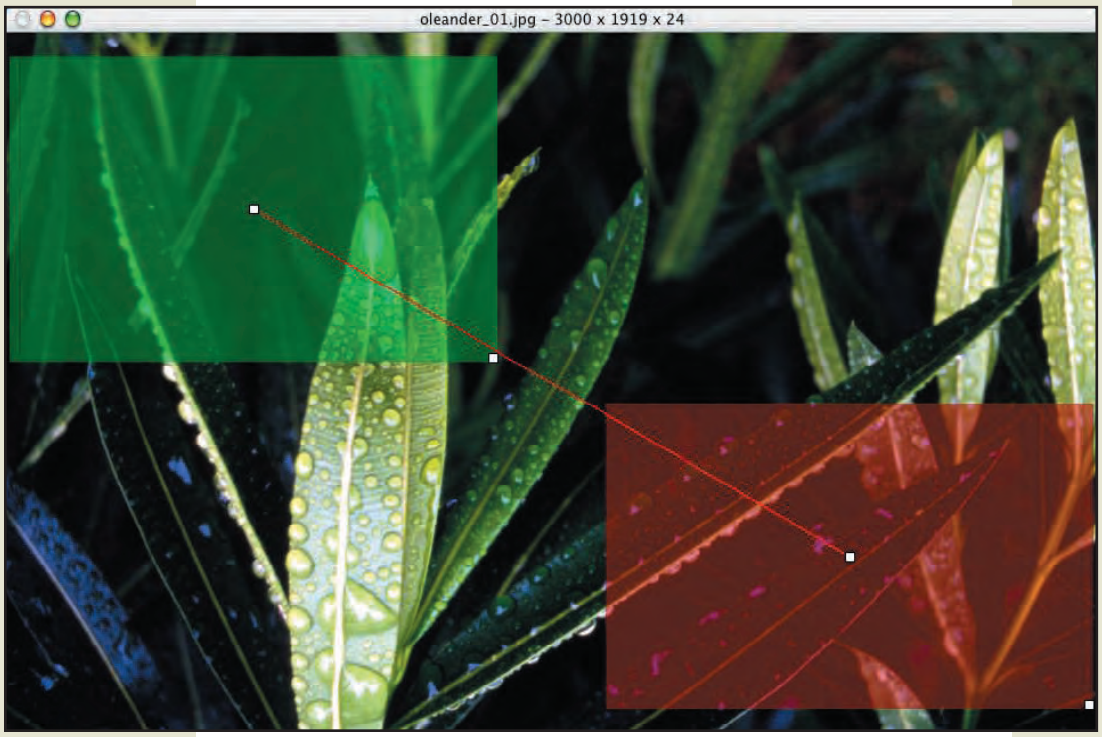
From the "file menu" select "Load Config File." Please note that the "Load Config File" and "Save Config File" menu options always default to the PanCanvasPro preferences directory. For normal use this is where all config files should be stored. For this tutorial you will have to navigate to wherever you saved the tutorial folder. Select the motionBlur_tut_1.cfg file inside the "linear" folder and click the "select"



PanCanvasPro

The first time you load this config file it will complain that the oleander_01.jpg file is missing. This is normal. The config file stores the absolute path information for the image file. Since this configuration was not created on your machine it can't find the file. Use the file requester that comes up to navigate to and select the oleander_01.jpg file inside the tutorial folder. If you now save this config file it will know where to find this file for future use.

The marquees and curve should look like the image below. At this point open the preview window and scrub back and forth to get an idea of the pan motion.



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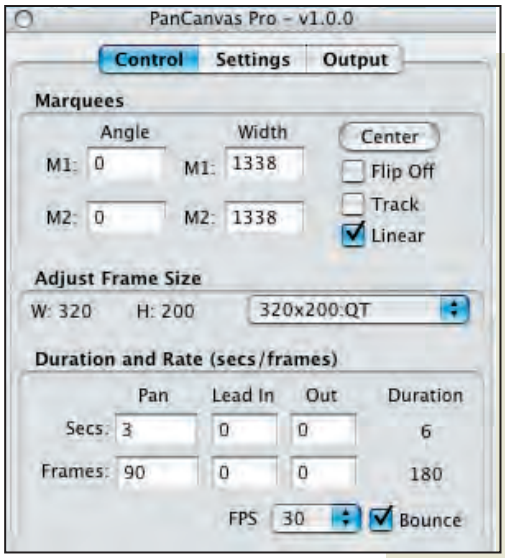
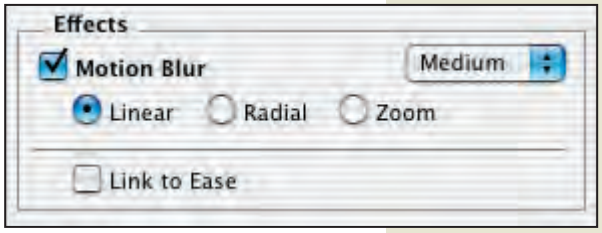
Make a note of the marquee and pan parameters. We are currently set for a three second pan that bounces back, for a duration of six seconds at 30 frames per second. Note that the "Linear" checkbox is selected making this a straight pan. Don't change anything here.



Simple Linear Blur

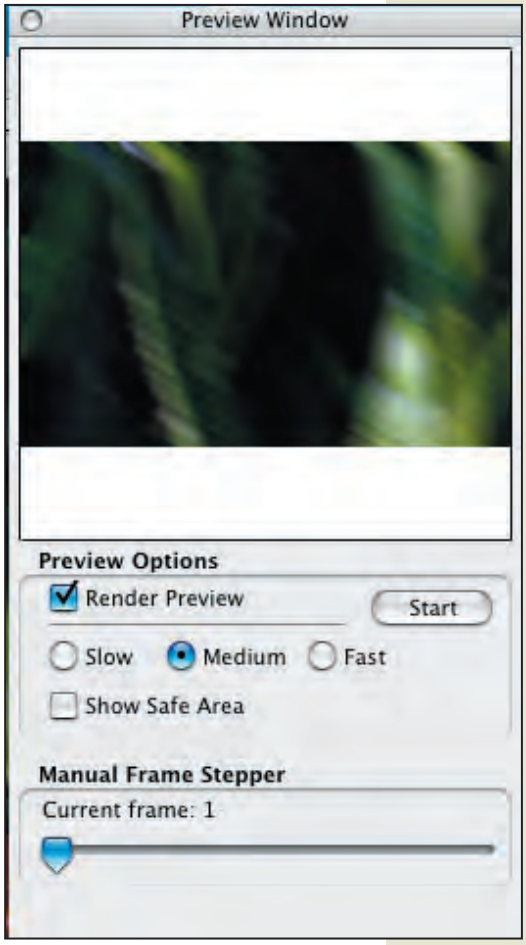
Change tabs to the "Settings" panel. In the "Effects" box select the "Linear' blur button, "medium" in the drop-down control, and finally select the "Motion Blur" checkbox.



Play with the scrub bar in the preview window and you will notice that the blur effect is applied to every frame. No attempt is made to modulate the effect.

Note that all effects are rendered to the preview window. This gives you valuable insight into how the final product will appear. Using the preview window will save you a lot of time down the road.

If you wish, go ahead and render a QuickTime movie (full size) to see what the effect looks like. More than likely, this is not an effect that you will use often. The next section delves into the more powerful and more often used settings for motion blur.



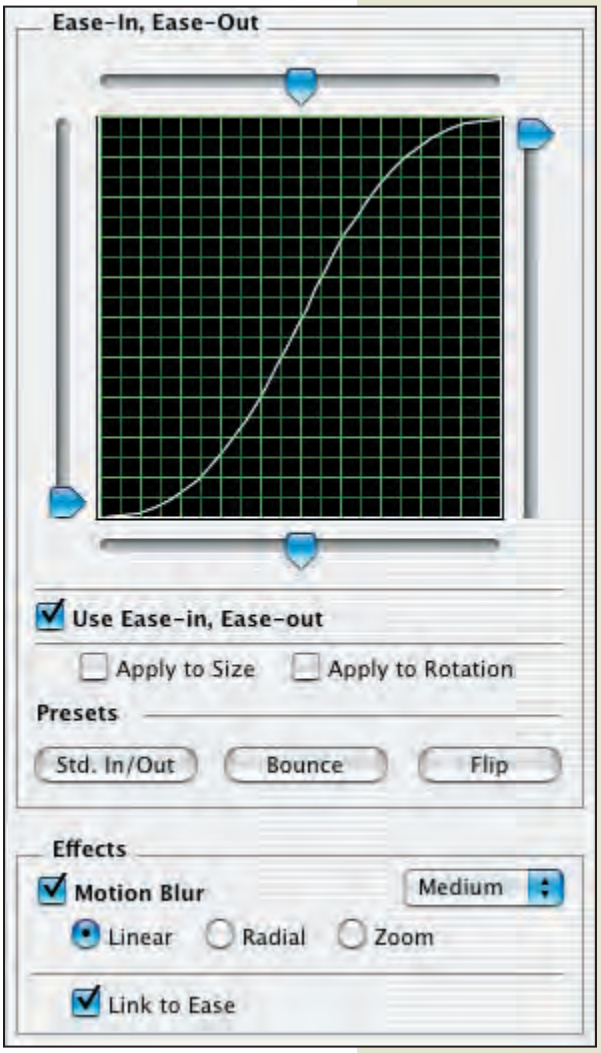
PanCanvasPro

Integrating the Ease Settings

In this section we will experience the full dynamics of linear motion blur when it is linked to the ease settings.

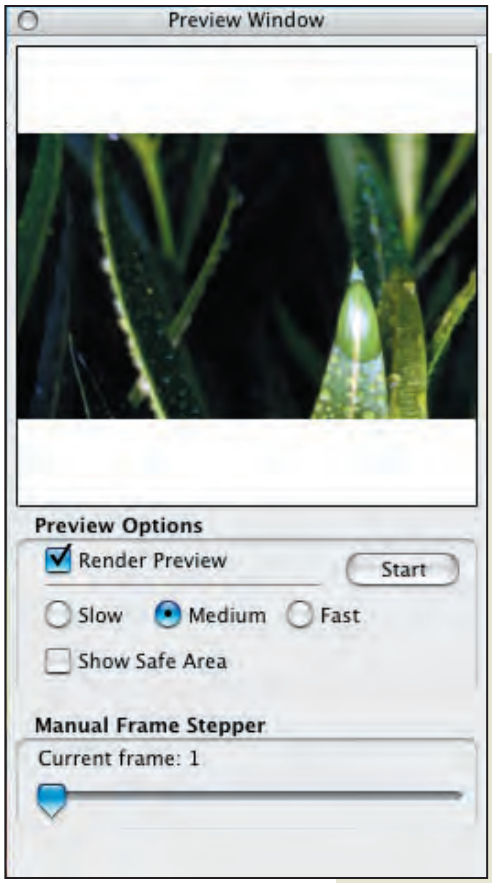
Change the Effects settings to reflect the image below. It should be the same as before except we have now activated the "Link to Ease" checkbox. Select the "Std. In/Out" button in the "Ease-In, Ease-Out" box. The curve will change to look like one shown. Next, select the "Use Ease-in, Ease-out" checkbox.

This is a standard camera move. It will start slowly, gradually increase speed to the middle, then gradually decrease speed to the end. Since our linear blur is linked to the ease setting it's effect should grow and shrink in tune with the marquee movement.



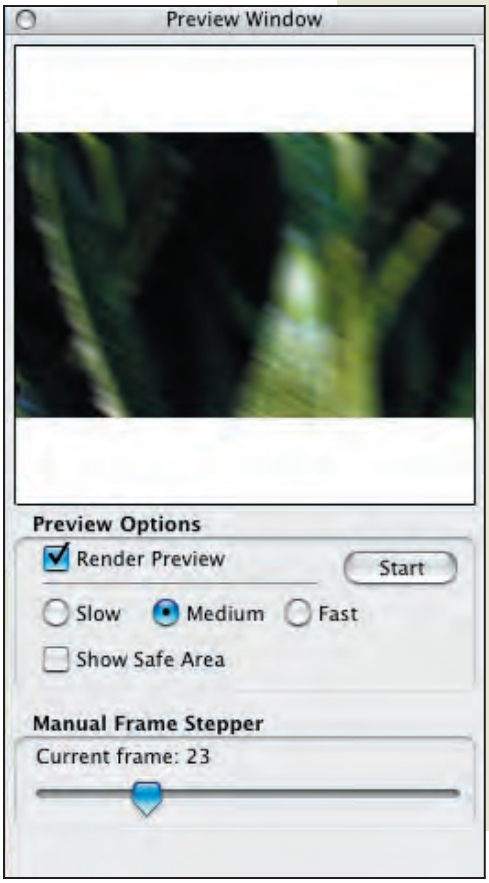
PanCanvasPro

Move to the Preview Window and you can verify that this is true. Scrub back and forth and watch the linear motion blur change. At frame one there should be no blur at all. As you scrub to the right the blur will increase until it peaks at frame 45. Continue scrubbing to the right and the effect decreases to nothing at frame 90. If you look closely, you may also notice that the angle of the blur is always tangent to the curve at that frame. It is important that the effect should always look as natural as possible. PanCanvasPro does it's best to accomplish this. Continue to render a full-frame QuickTime movie to see the true effect.



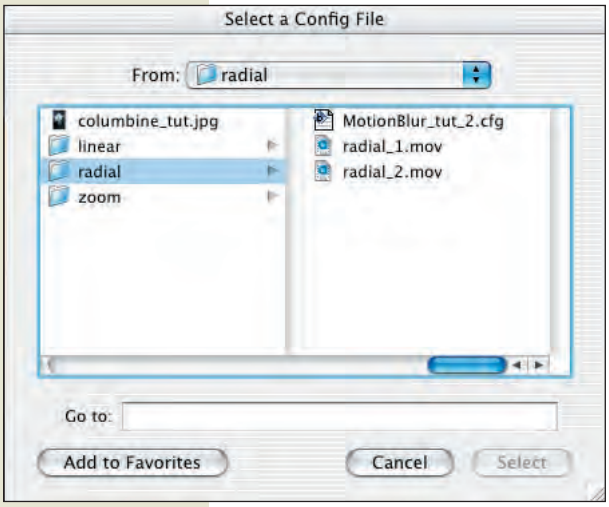
When rendering a test movie the quickest is to use the "Preview Size" option. However, to get a higher quality test render that is still relatively quick, create a small frame size and render with the "Full Frame" option instead.

At this time consider modifying the ease settings to see how the blur effect changes. For example, flip the ease curve to produce a motion that is quick at the start and end, but slow in the middle. Render another movie and you will see how the blur accommodates itself to these changes.



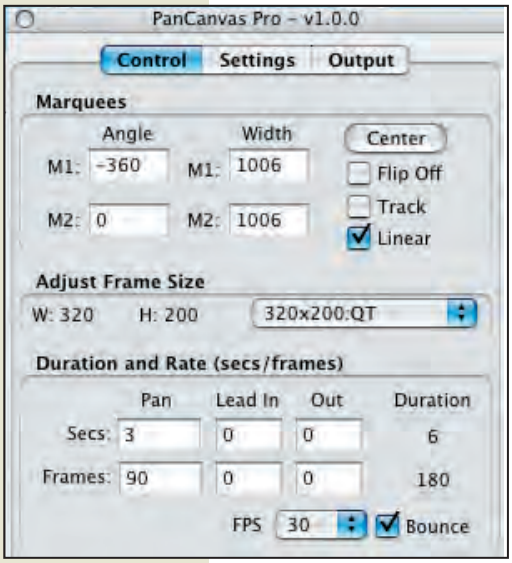
As simple as linear blur seems on the surface, there are many options that produce many different results. We don't make any assumptions about how you should implement them. Keep in mind however, that most "successful" linear blurs are produced with relatively short durations. Using linear blur over a long pan may produce undesirable results but then, that is up to you. What is undesirable to some may be just the effect you need. This is more apparent when using the radial and zoom blurs where you can really go crazy!

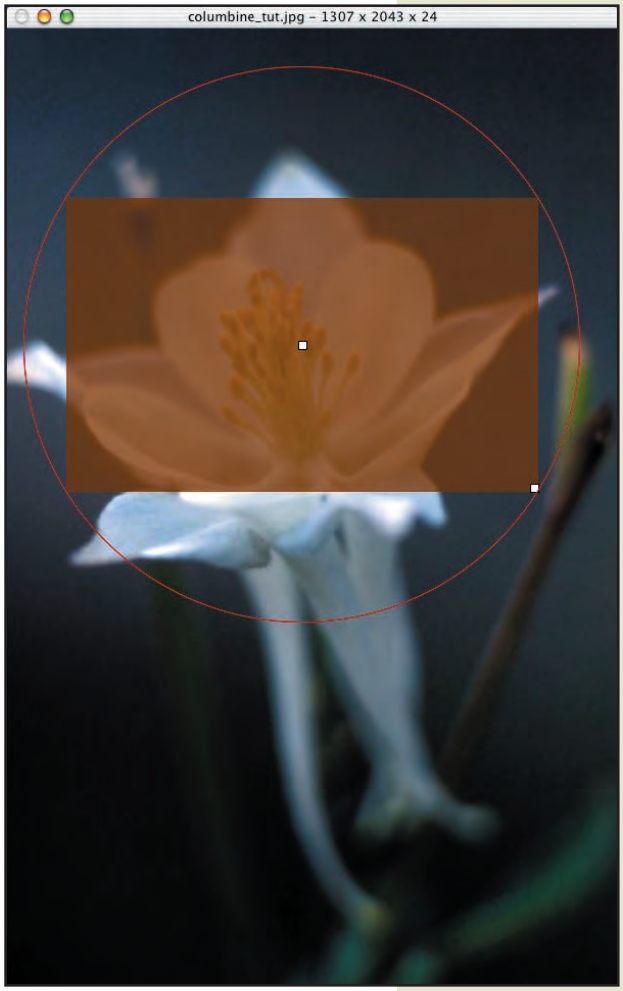
Radial Blur Tutorial



Prerequisites

As with the previous tutorial use the "Load Config File" menu option to load MotionBlur_tut_2.cfg inside the radial folder. Again, for this first time, you will have to find and load the columbine_tut.jpg file manually.





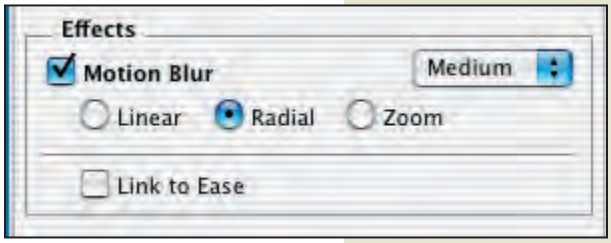
The work window should look like the screen capture to the right and the control settings are pictured above. Notice that "linear" is selected. This snaps the curve handles to the center of their respective marquees.

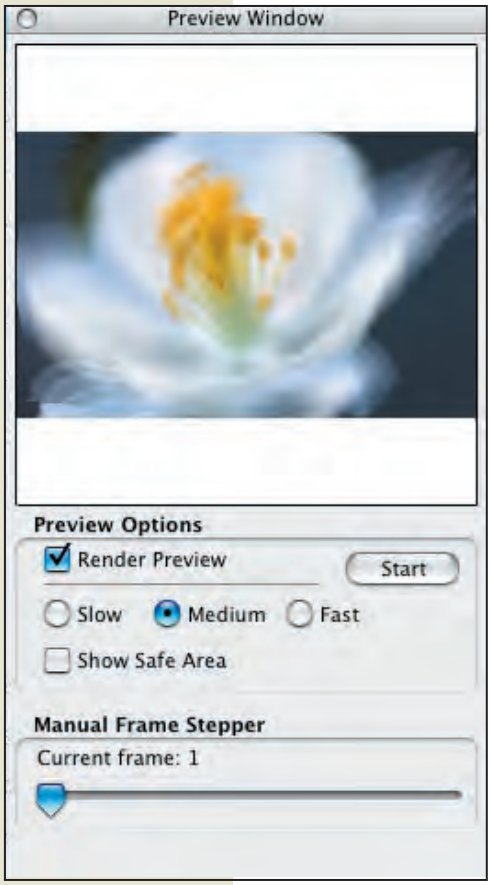
The end result will be the virtual camera spinning 360° on it's own center.

PanCanvasPro

Simple Radial Blur

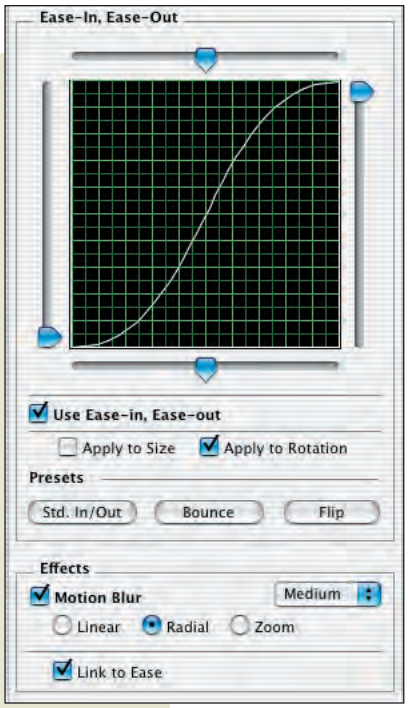
Select the "Settings" tab to reveal the ease and effects controls. Make sure that the "Motion Blur" checkbox is selected and the "Link to Ease" checkbox is off. Next select the "Radial" radio button and if not already selected, select "Medium" as the blur degree. The correct settings are depicted to the right.





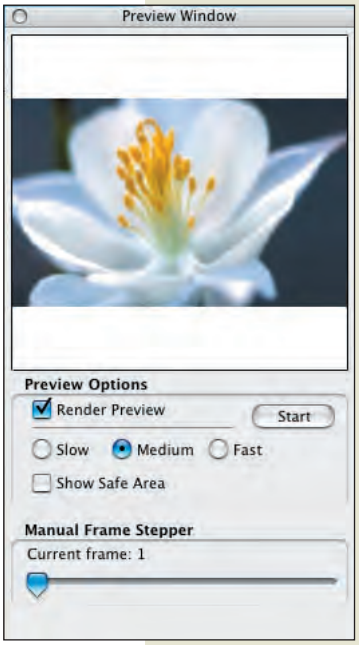
Open the Preview Window if not already open. With the "Render Preview" checkbox selected scrub back and forth. Like the simple linear blur all frames receive the same degree of radial blur. You may also notice an increased time lag between frames. Radial blur is more processor intensive than linear blur and will take longer to render.

At this point you can render a QuickTime movie to see what the radial blur really looks like.

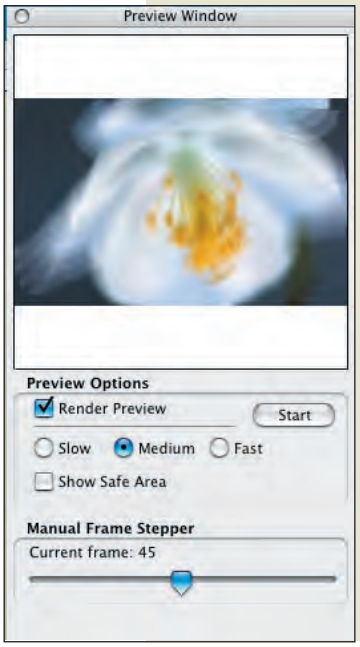


Linked Radial Blur

Unlike linear blur, radial blur does not rely on the curve to define the effect. Therefore, the "Link to Ease" checkbox will only have an effect when ease is turned on. For this portion of the tutorial make sure all settings are as in the screen capture to the left. Notice that "Apply to Rotation" is selected. Without this there would be no change in rotation speed and the final result would be no different than the simple radial blur.



Go to the Preview Window to see what the effect will be. Similar to the linked linear blur, scrubbing back and forth will show that the radial blur effect is off at the beginning and the end and peaks gradually in the middle. Render a QuickTime movie to get a better view. Flip the ease curve and render again to see the opposite effect.



The radial blur is probably the most difficult to control. It can easily get out of hand. It is also the slowest to process. For this reason preview often and render small tests before committing to a final large render. Experience will be the best teacher.

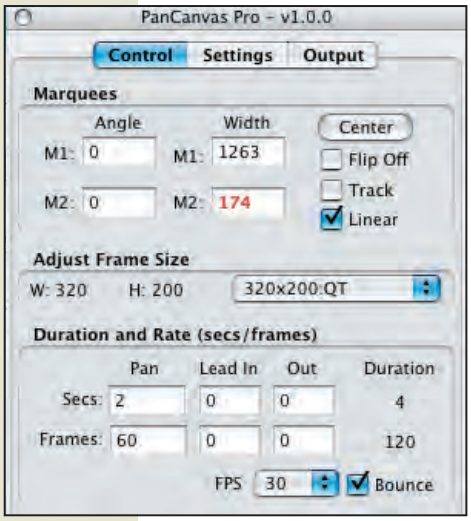
When testing complex and/or slow renders use the Render Section option in the output tab. This allows you to render only the portion that is in question.

PanCanvasPro

Zoom Blur Tutorial

Prerequisites

As with the previous tutorial use the "Load Config File" menu option to load MotionBlur_tut_3.cfg inside the zoom folder. As before, you will again have to manually find and select the columbine_tut.jpg file for the first time.



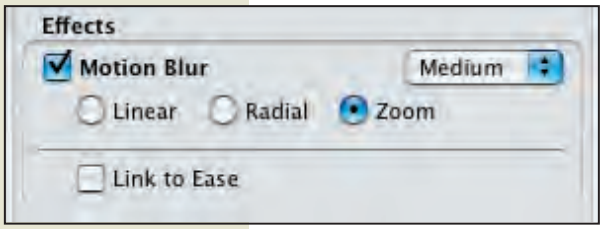
The work window should look like the screen capture below and the control settings are pictured to the left. Notice that "linear" is selected. This snaps the curve handles to the center of their respective marquees.

The end result of this tutorial will be to "bounce" the camera.

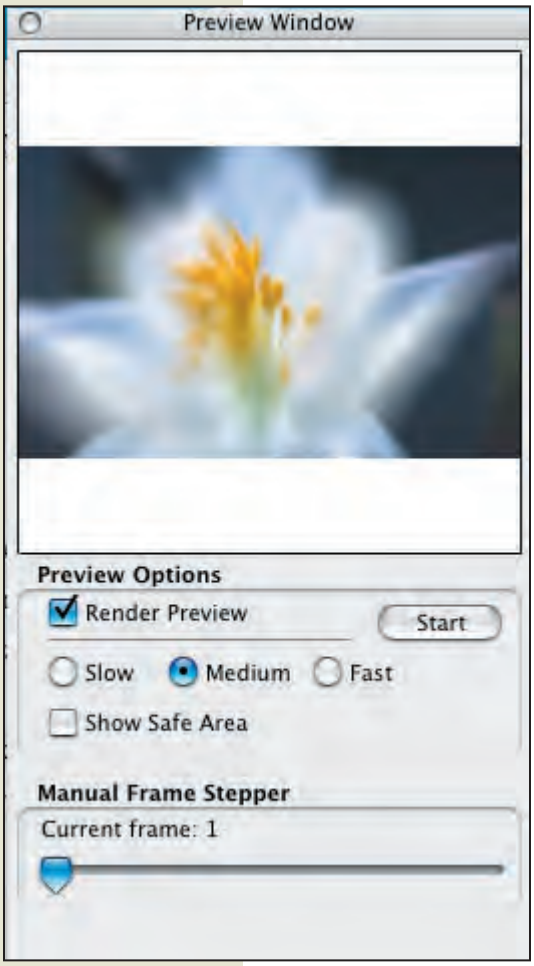
Notice also that the width number for marquee 2 is red. This indicates that the marquee is too small relative to the size of the image. Normally you would scale up the image to fix this and avoid possible jitters and image degradation. In this case, however, the speed and blur involved will hide these problems.

Simple Zoom Blur

Select the "Settings" tab to reveal the ease and effects controls. Make sure that the "Motion Blur" checkbox is selected and the "Link to Ease" checkbox is off. Next select the "Zoom" radio button and if not already selected, select "Medium" as the blur degree. The correct settings are depicted to the left.



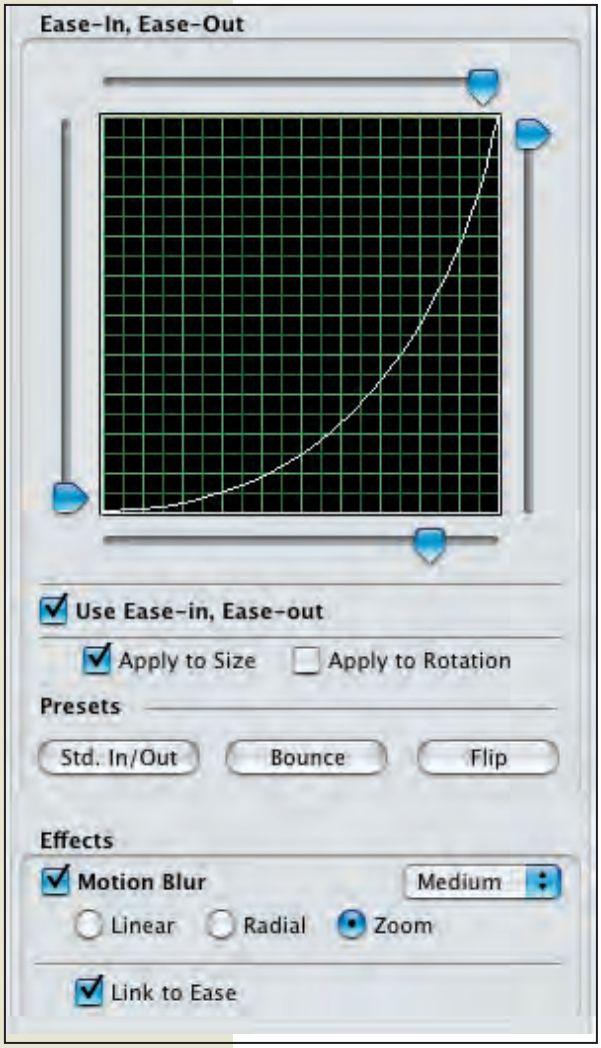
Open the Preview Window if not already open. With the "Render Preview" checkbox selected scrub back and forth. Like the simple linear blur all frames receive the same degree of zoom blur.

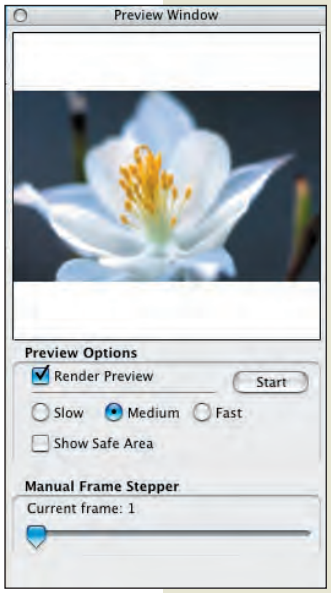


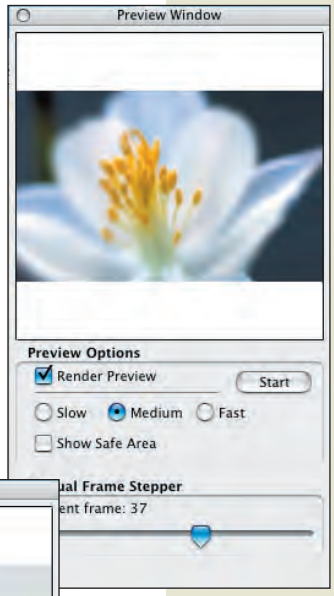
At this point you can render a QuickTime movie to see what the radial blur really looks like.

Linked Zoom Blur

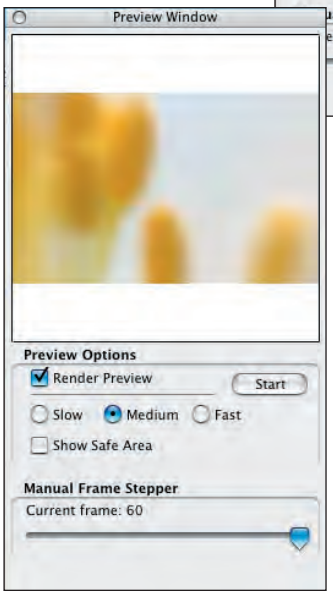
Similar to radial blur, zoom blur does not rely on the curve to define the effect. Therefore, the "Link to Ease" checkbox will only have an affect when ease is turned on. Select the "Bounce" option this time. Settings should look like the screen capture to the right. Notice that "Apply to Size" is selected. Without this the rate at which the marquees "shrink" or "grow" would remain constant and the final result would be no different than the simple zoom blur. This ease setting starts slowly but rapidly increases speed at the end.







Go to the Preview Window to see what the effect will be. Similar to the linked linear blur, scrubbing back and forth will show that the zoom blur effect is off at the beginning but rapidly increases to the end. Render a QuickTime movie to get a better view. Flip the ease curve and render again to see the opposite effect.



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