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TOON BOOM HARMONY 12.1
Reference Guide

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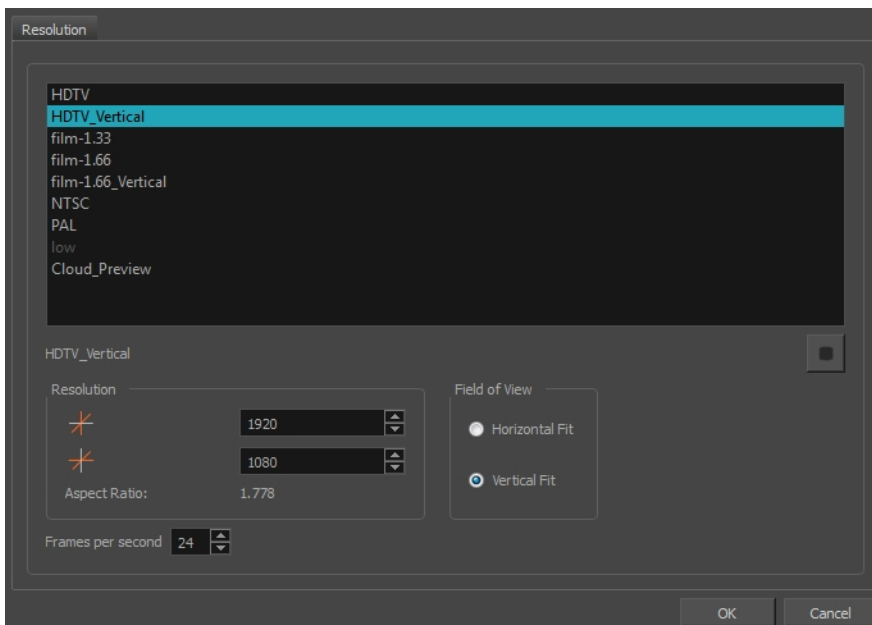
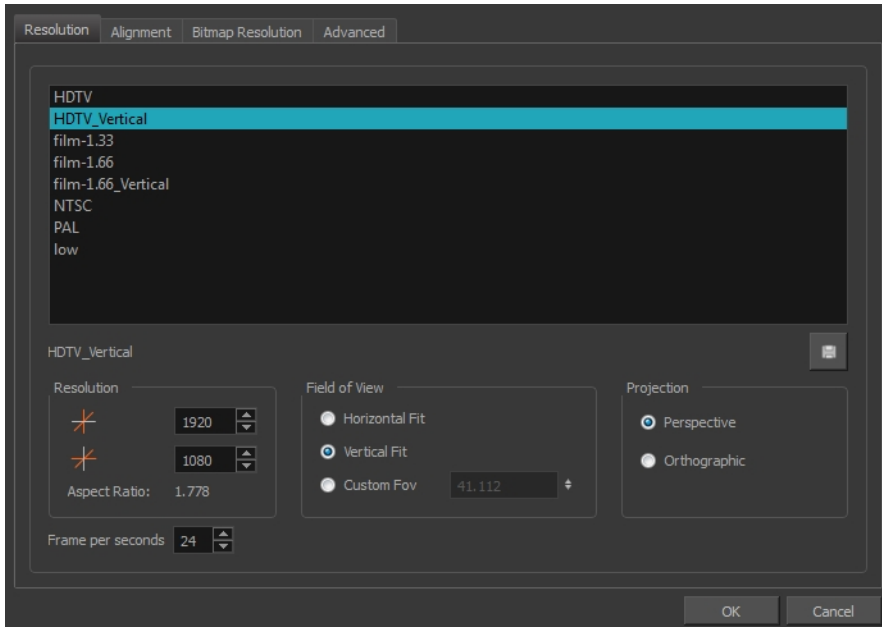
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Chapter 1: Dialog Boxes

Dialog boxes contain controls such as options and lists through which you can carry out a particular command or task. For example, in the Scene Settings dialog box, you must indicate the resolution and alignment. A typical dialog box looks as follows:

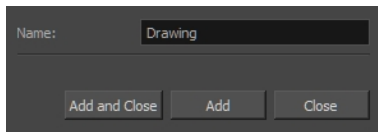


Add Drawing Layer Dialog Box

The Add Drawing Layer dialog box lets you add a drawing layer to your project.


By default, when you create a new scene, there is one drawing column in the Xsheet view and one corresponding drawing layer in the Timeline view.

You can add an element for each drawing and it will appear as a column in the Xsheet view, a layer in the Timeline view.



For tasks related to this dialog box, see [Adding New Drawing Elements on page 1](#).

How to access the Add Drawing Layer dialog box

1. Do one of the following:
 - ▶ In the Timeline view, click the Add Drawing Layer  button.
 - ▶ From the top menu, select **Insert > Drawing**.
 - ▶ Press Ctrl + R (Windows/Linux) or ⌘ + R (Mac OS X).


Parameter	Description
Name	Lets you give the new layer a meaningful name.
Line Art	Creates a vector or bitmap drawing layer in the Line Art layer.
Colour Art	Creates a vector or bitmap drawing layer in the Colour Art layer.
Add and Close	Adds the selected type of layers to the Timeline view and corresponding column in the Xsheet view and closes the dialog box. The names of the layers/columns are automatically numbered incrementally.
Add	Adds the selected type of layers to the Timeline view and corresponding column in the Xsheet view. The dialog box remains open for you to add as many layers/columns as needed. The names of the layers/columns are automatically numbered incrementally.
Close	Closes the dialog box.

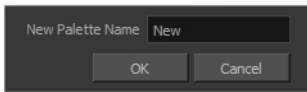
Create Palette Dialog Box

The Create Palette dialog box lets you create a palette in Basic mode. For simple productions, it is recommended to use the Basic mode. This setting stores the palettes automatically for you and saves them at the Scene level. When you use the Advanced Palette Lists mode, you can decide at which level you want to store your palettes: Environment, Job, Scene, or Element.

For tasks related to this dialog box, see [Creating a Colour Palette on page 1](#).

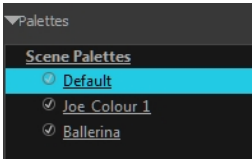
How to access the Create Palette dialog box

1. From the Colour view menu, select **Palettes > New** or click the New Palette  button.
The Create Palette dialog box opens.
2. Enter the palette name according to the model.



3. Click **OK**.

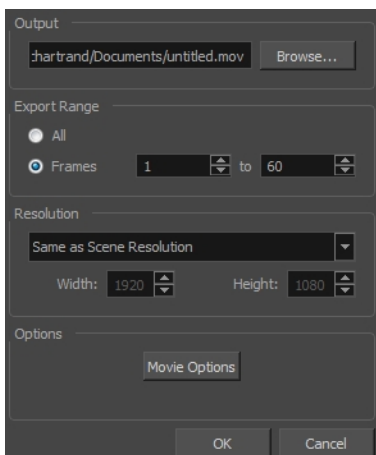
The palette appears in the drawing element's palette list.



Parameter	Description
New Palette Name	Lets you enter a name for the new palette.

Export to QuickTime Movie Dialog Box

The Export to QuickTime Movie dialog box lets you export your animation as a QuickTime movie. To render a QuickTime movie with transparency, you need to set the Depth to Millions of Colours +. You can set this when exporting a QuickTime movie.



For tasks related to this dialog box, see [Exporting a QuickTime Movie on page 1](#).

How to access the Export to QuickTime Movie dialog box

1. From the top menu, select **File > Export > Movie**.

Parameter	Description
Output	
Browse	Lets you select a folder in which to save your movie and give it a file name for the export.
Export Range	
All	Exports the entire frame range.

Frames	Lets you enter the frame range to export.
Resolution	
Resolution list	Lets you select a resolution ratio. If you select Custom, you can enter the width and height.
Width and Height	Lets you specify the width and height of the resolution.
Options	
Movie Options	Opens the Movie Settings dialog box in which you can set the the compression settings for the movie you will export—see Movie Settings Dialog Box .

Extend Exposure Dialog Box

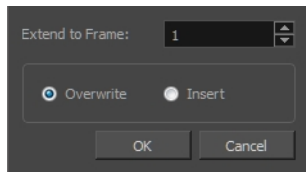
The Extend Exposure dialog box lets you extend the exposure of a selected cell in the Timeline or Xsheet.

For tasks related to this dialog box, see [Filling Exposure on page 1](#).

How to access the Extend Exposure dialog box

1. Select a cell and do one of the following:
 - ▶ From the top menu, select **Animation > Cell > Extend Exposure**.
 - ▶ Press F5.

The Extend Exposure dialog box opens.



Parameter	Description
Extend to Frame	Lets you enter the frame up to which you want to extend the exposure.
Overwrite	Lets you expose the drawing in the frames and replace the drawings that were originally there.
Insert	Lets you expose the drawing in the frames and move the subsequent frames forward in the Timeline view.

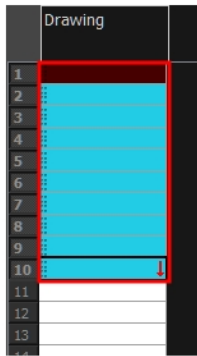
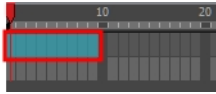
Fill Cells Randomly Dialog Box

The Fill Cells Randomly dialog box lets you fill in random values over a selection. You can give a maximum and a minimum value and create a range for Harmony to choose the random values from. The selection can be over one cell or a cell range in one column or more or an entire column or many entire columns.


For tasks related to this dialog box, see [Filling a Selection Randomly on page 1](#).

How to access the Fill Cells Randomly dialog box

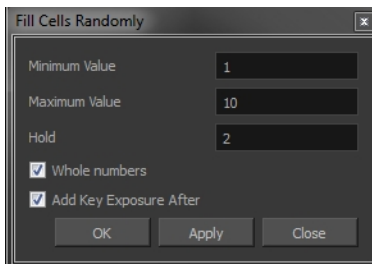
1. In the Timeline or Xsheet view, select a cell range.



2. Do one of the following:

- ▶ Select **Animation > Cell > Fill Cells Randomly**.
- ▶ In the Xsheet view, click the Fill Cells Randomly  button (you may have to customize the toolbar to display it).

The Fill Cells Randomly dialog box opens.



Parameter	Description
Minimum Value	The lowest acceptable value.
Maximum Value	The highest acceptable value.
Hold	The exposure holding value.
Whole Numbers	If you are applying this to a drawing column, this option lets you avoid having decimal points.
Add Key Exposure After	Inserts a key exposure after the frame following the last cell.


Import Images Dialog Box

The Import Images dialog box lets you import bitmap images and vectorize them, making the images editable. Then you can use a variety of drawing tools to edit the image. Or you can always keep the original bitmap image as is.

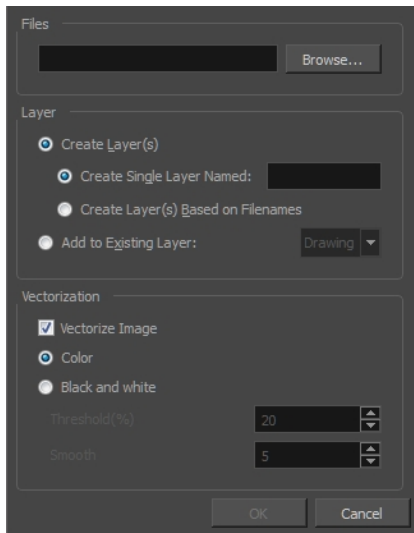
Also, you can choose to import bitmap images on bitmap or vector layers depending on your project..

For tasks related to this dialog box, see [How to Import Bitmap Images on page 1](#) and [Importing Bitmap Images on page 1](#).

How to open the Import Images dialog box

- Do one of the following:
 - From the top menu, select **File > Import > Images**.
 - In the File toolbar, click the Import Images  button.
 - In the Xsheet view, right-click anywhere in the frame area and select **Import > Images**.

The Import Images dialog box opens.

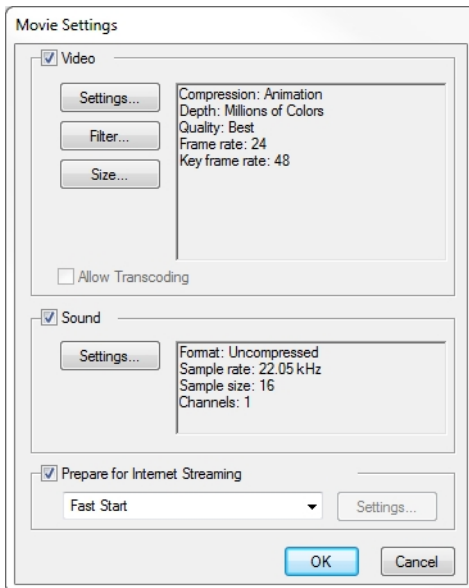


Parameter	Description
Files	
Browse	Lets you find and select images on your computer.
Layer	
Create Layers(s)	Lets you create layers for imported images.
Create Single Layer Named	Creates a layer you can name.
Create Layer(s) Based on Filenames	Creates a layer based on each unique filename prefix. For example, the filenames a-1.tga, a-2.tga and b-1.tga will create layers name "a" and "b", where "a" has two drawings and "b" has one. When creating a single layer from these three filenames, all three drawings will be inserted in the new layers.
Add to Existing Layer	Lets you select an existing layer to which imported images will be added.
Vectorization	
Vectorize Image	
Colour	Imports the bitmap image as a colour image.
Black and White	Vectorizes drawings as a solid black line; creates a 100% vector-based drawing.
Threshold	Determines what values in the scanned image will be considered as part of the drawing, and what will be ignored and eliminated in the vectorized drawing. The lower the value, the darker the image and vice versa.

Smooth	Determines how smooth the lines will be. The lower the value, the more detail will be retained and vice versa.
New Preset	Lets you create a new preset.
Delete Preset	Lets you delete any preset in the list.
Custom Vectorization	Lets you set custom vectorization parameters—see Creating a Vectorization Style on page 1.

Movie Settings Dialog Box

The Movie Settings dialog box lets you set the compression settings for the movie you will export.



For tasks related to this dialog box, see [Exporting a QuickTime Movie](#) on page 1.

How to access the Movie Settings dialog box

1. From the top menu, select **File > Export > Movie**.
2. In the Export to QuickTime Movie dialog box that opens, click **Movie Options**.

Parameter	Description
Video	
Settings	Opens the Standard Video Compression Settings dialog box. This is where you can set the video compression settings for the movie you will export—see Standard Video Compression Settings Dialog Box on page 32.
Filter	Opens the Choose Video Filter dialog box, where you can select from a range of filters to apply to your video export.
Size	Opens the Export Size Settings dialog box. The size settings are overridden by the Harmony's scene settings.
Sound	
Settings	Opens the Standard Video Compression Settings dialog box. This is where you

	can you set the sound compression settings for the movie you will export—see Sound Settings Dialog Box on page 31 .
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Paste Special Dialog Box

The Paste Special dialog box lets you determine how templates and symbols are imported in the Timeline view.

When you import a template in the Timeline view, all layers are created as well as drawings and keyframes. You can choose to import only the keyframes without the drawings or import only the drawings that are not already in your layers. You can adjust the behaviour using the Paste Special dialog box. When you import a symbol in your scene, its full length is exposed by default. If you import a symbol in the Timeline view's left side, all the frames will be exposed. However, if you import it into an existing layer, you can use the Paste Special dialog box to adjust the import behaviour to fit your requirements. Once you set the parameters, Harmony will reuse them each time you import a symbol in the Timeline view's right side until you set new parameters.

For tasks related to this dialog box, see [Using Paste Special on page 1](#).

How to access the Paste Special dialog box

1. In the Library view, select the symbol or template to import.
2. Press Ctrl + B (Windows/Linux) or ⌘ + B (Mac OS X) and drag the selection to the Timeline view.

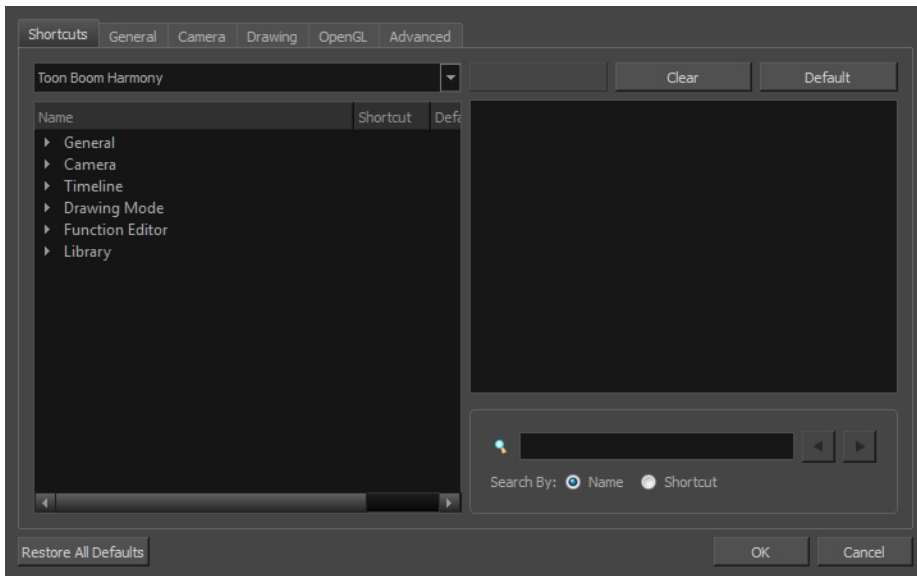
NOTE: Drop the selection in the Timeline view before releasing the keyboard shortcut key.

The Paste Special dialog box opens.

Preferences Dialog Box

The Preferences dialog box lets you adjust preferences to suit your work style, allowing you to work more efficiently.

NOTE: Some preferences require you to exit and restart the application, or close a view and reopen it.



How to access the Preferences dialog box

Do one of the following:

- ▶ From the top menu, select **Edit > Preferences** (Windows/Linux) or **Stage Essentials > Preferences** (Mac OS X).
- ▶ Press **Ctrl + U** (Windows/Linux) or **⌘ + U** (Mac OS X).

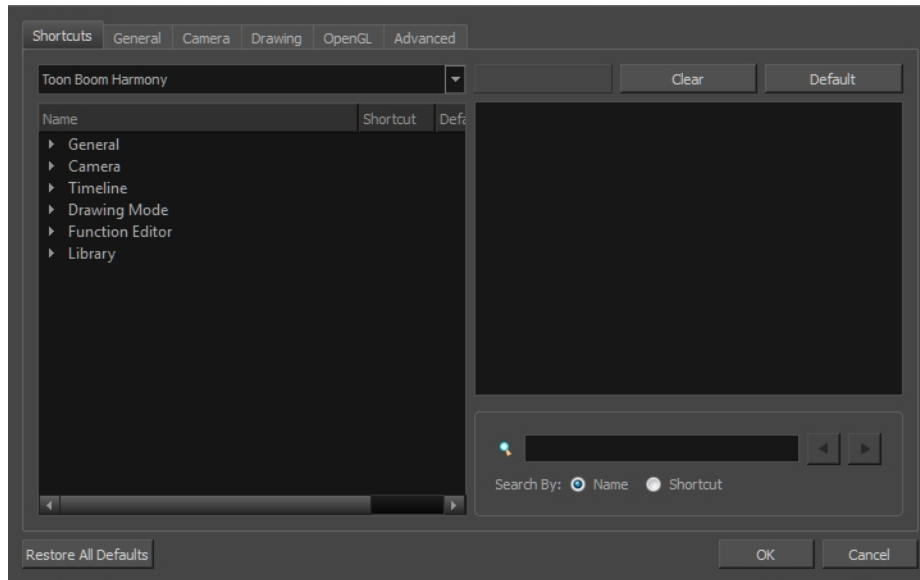
Shortcuts Tab

To speed up your work, all of the keyboard shortcuts can be customized. You can even choose other software keyboard shortcut sets.

In Toon Boom Harmony, you can choose a set of default keyboard shortcuts you are familiar with. You can choose between the following:

- Adobe Flash
- Toon Boom Harmony
- Toon Boom Studio

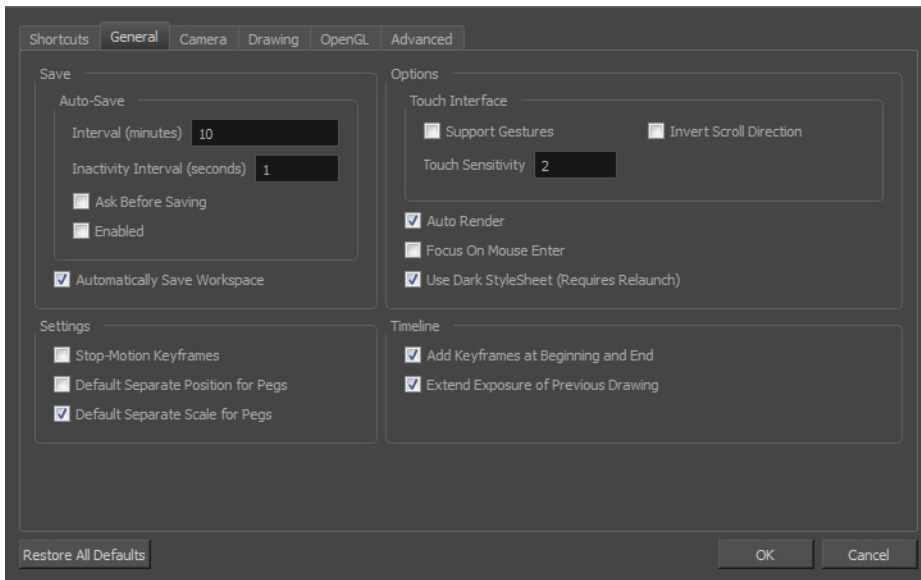
You can also customize most of the shortcuts and use the search feature to find particular shortcuts.



For tasks related to this dialog box, see [Shortcut Preferences on page 1](#).

Parameter	Description
Keyboard Shortcut List	Lets you choose a set of keyboard shortcuts to use, including Toon Boom Harmony, Adobe Flash and Toon Boom Studio.
Keyboard Shortcut Categories	Each category lists all the keyboard shortcuts. Some commands may not have a keyboard shortcut assigned to it. Selecting a shortcut displays its description on the right.
Restore All Defaults	Restores all the default keyboard shortcuts. This erases any custom shortcuts you made.
Press Shortcut Key	Displays the keyboard shortcut assigned to a command.
Clear	Lets you remove the keyboard shortcut assigned to a command.
Default	Lets you return a keyboard shortcut to its default.
Search	Lets you search for a command. The result is highlighted in the Keyboard Shortcut Categories on the left.
Search by Name/Shortcut	Lets you search for a command by its name or keyboard shortcut keys.

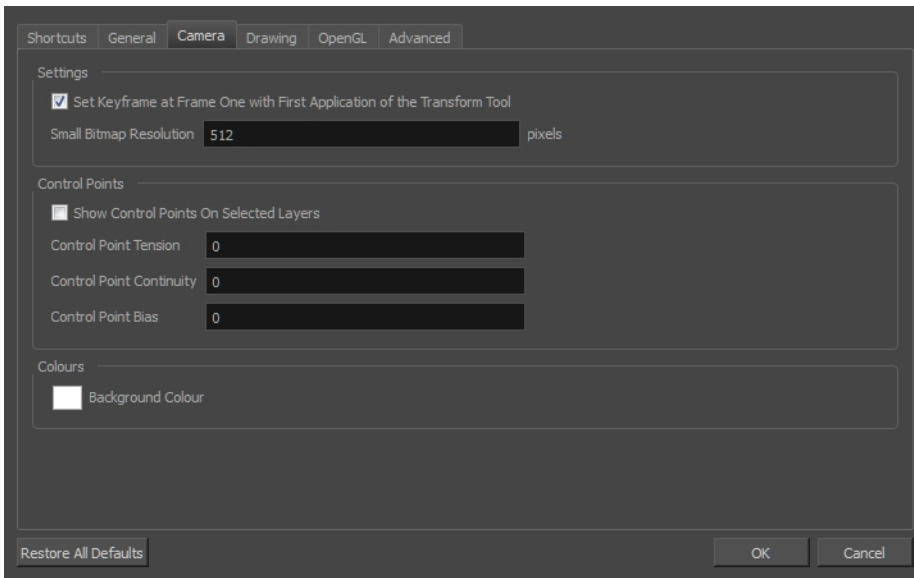
General Tab



Parameter	Description
Save	<p>Auto-Save:</p> <ul style="list-style-type: none"> • Interval (minutes): This is the frequency at which the auto-save takes place. • Inactivity Interval (seconds): When Auto-save is about to take place, it verify if you are drawing or doing anything in the application. If so, Auto-save waits this number of seconds before attempting another save. • Ask Before Saving: Before performing an auto-save, the system will prompt you with a message to confirm if you want to save or not. You can choose to turn off this option. • Enabled: This enables the Auto-save feature. If you do not want the system to automatically save your work, deselect this option. The auto-save is off by default. <p>Automatically Save Workspace: This option is enabled by default. Every time you add a view to your workspace, remove a toolbar or change a view's width, these modifications are saved when you quit the application. If you do not want the system to save these modifications, disable the preference. This preference does not require you to restart the application.</p>
Options	<p>Touch Interface:</p> <ul style="list-style-type: none"> • Support Gestures: Enable the gestural touch interface for the OpenGL views. Note, on Mac OS, this determines whether a 2 finger drag gesture is interpreted as a zoom or a pan. • Invert Scroll Direction: Invert the scroll direction.

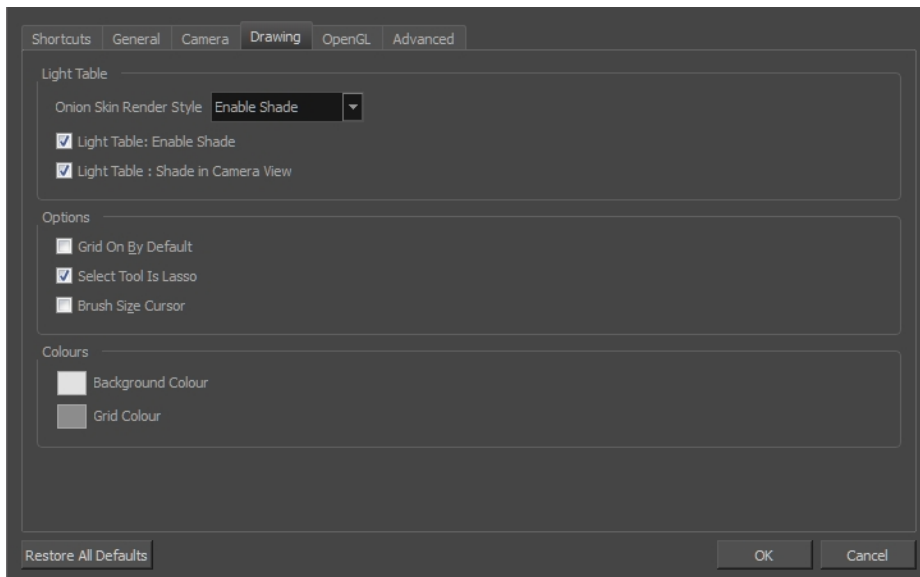
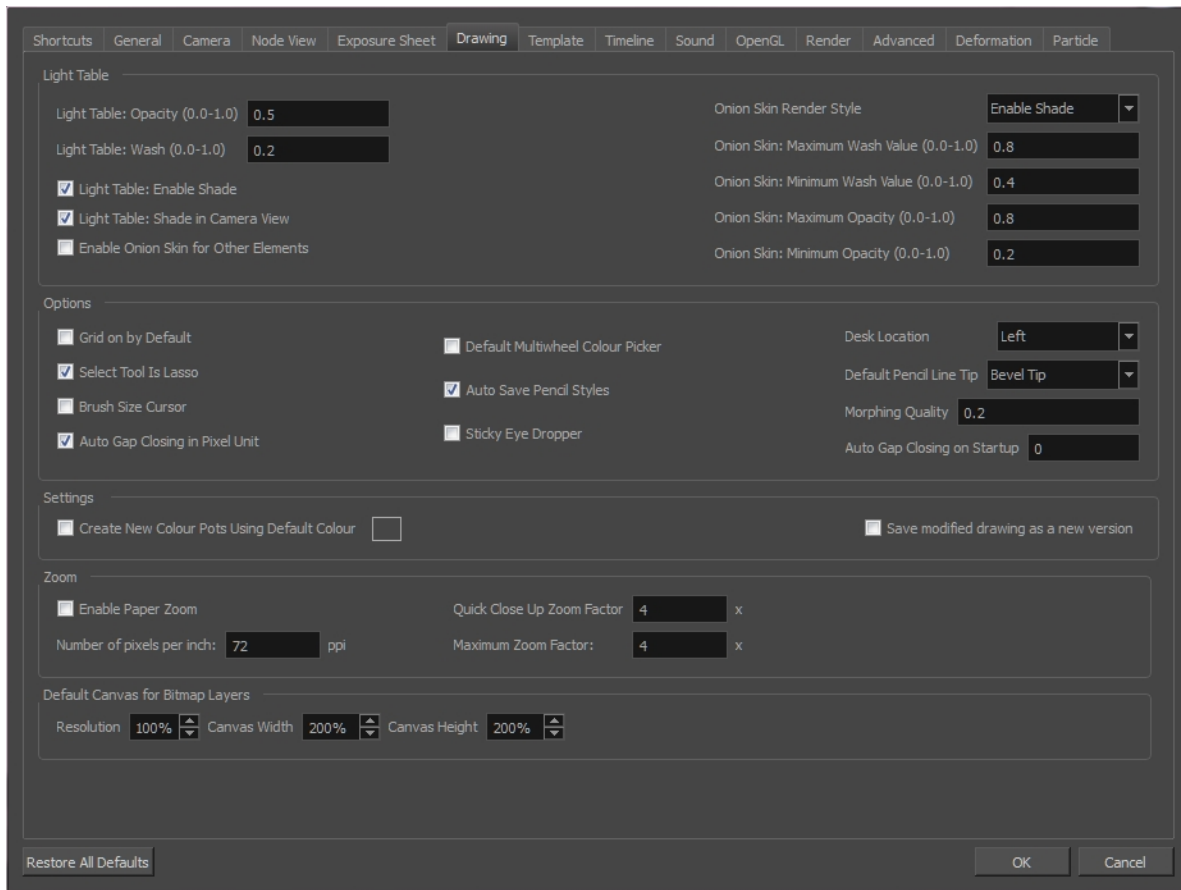
	<ul style="list-style-type: none"> • Touch Sensitivity: Control touch sensitivity. On Mac OS, higher numbers give a slower response to pans. On Windows, higher numbers favour scale/rotates over pans. <p>Focus on Mouse Enter:</p> <p>Disabled by default. In Toon Boom Harmony, for the operations or keyboard shortcuts to work in the view in which you are working, the focus must be in that view. When the focus is on a particular view, a red rectangle appears around its frame. You must click in the view or on the view's header for the focus to be done.</p> <p>If you enable the Focus on Mouse Enter preference, you will not need to click in the view to get the focus. It will be done as soon as your mouse enters the view.</p> <hr/> <p>NOTE: If you enable the Focus On Mouse Enter preference, certain operations from the top menu may not be available since the view focus may change as you make your way to the top menu. In this case use keyboard shortcuts and quick access menus (right-click menus).</p> <hr/> <p>Auto Render: Automatically enables the Auto-Render option.</p> <p>Use Dark StyleSheet (Requires Relaunch): Application loads a dark skin for the User Interface.</p>
Settings	<p>Stop-Motion Keyframes: New keyframes are created as stop-motion keyframes.</p> <p>Default Separate Position for Pegs: New pegs are created with separate position functions.</p> <p>Default Separate Scale for Pegs: New pegs are created with separate scale functions.</p>
Timeline	<p>Add Keyframe at Beginning and End: Add keyframes at beginning and end: Select this option to copy and paste a set of frames that includes an interpolated sequence between two keyframes, but only extracts a partial section. Under normal circumstances, cutting and pasting a function without either the start or end keyframe would render the function null. This option caps the partial function with a new keyframe when you perform the paste.</p> <hr/> <p>Extend Exposure of Previous Drawing: When drawing on a blank frame, a new drawing is created and the timing is extended from the previous exposed drawing.</p>

Camera Tab



Parameter	Description
Settings	<p>Set Keyframe At Frame One With First Application of the Transform Tool: When this option is selected, wherever you set a keyframe on a layer, a keyframe is added on your frame 1. If this options is deselected, a keyframe is only added to the current frame. If later on, you add a keyframe on your frame 1, it may modify the first keyframe you added.</p> <p>Small Bitmap Resolution: The size, in pixels, of the smaller bitmap version of your image. When you import a bitmap image into a scene, a smaller version of it is created in order to accelerate the compositing and playback processes.</p>
Control Points	<p>Show Control Points On Selected Layers: By default, when you select an element with the Transform tool, the motion path related to the object is displayed.</p> <p>Control Point Tension: The default Tension value for new keyframes and control points.</p> <p>Control Point Continuity: The default Continuity value for new keyframes and control points.</p> <p>Control Point Bias: The default Bias value for new keyframes and control points.</p>
Colours	<p>Background Colour: Lets you change the background colour.</p>

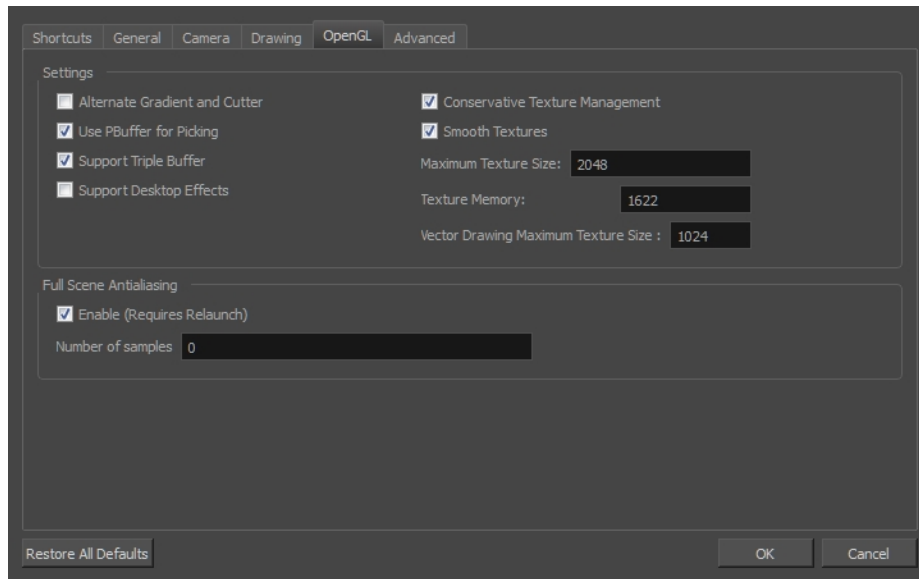
Drawing Tab



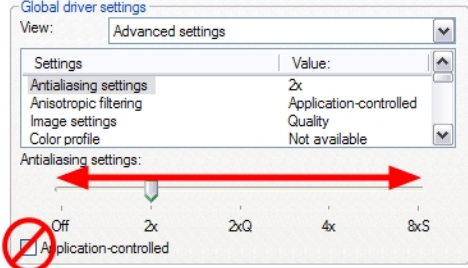
Parameter	Description
Light Table	Onion Skin Render Style:

	<ul style="list-style-type: none"> • Normal: The onion skinned drawings are displayed in washed out colours. • Enable Shade: The previous onion skinned drawings are displayed in washed out red shades and the next onion skinned drawings are displayed in washed out green shades. • Outlines Only: The onion skinned drawings are displayed as outlines only. <p>Light Table: Enable Shade: When enabled, the drawings appearing on the Light Table are displayed in washed out colours in the Drawing view. When this option is disabled, the drawings appearing in the Light Table are displayed using normal colours. This option is for the Drawing view only.</p> <p>Light Table: Shade in Camera View: When enabled, the drawings appearing on other layers are displayed in washed-out colours in the Camera view. When this option is disabled, the drawings appearing on other layers are displayed using normal colours. This option is for the Camera view only.</p>
Options	<p>Grid On By Default: When opening the Drawing view, the grid displays automatically.</p> <p>Select Tool is Lasso: When this option is enabled, the Select tool behaves as a lasso selector. When this option is disabled, the Select tool behaves as a rectangle selector.</p> <p>Brush Size Cursor: When this option is enabled, the brush tool displays the brush size as a circle around the cursor.</p> <p>Auto Gap Closing in Pixel Units: Disabling this option will cause your gap to be zoom dependent. Zoom dependent means that the more you zoom in, the smaller the gap you can close with the Close Gap tools. By enabling this option, you choose to make the gap display available in pixel units, which is not zoom dependent.</p> <p>Auto Gap Closing on Startup: The values for automatic gap closing while painting drawings are: 0 = Disabled, 1=Small, 2=Medium, 3=Big.</p>
Colours	<p>Background Colour: Lets you change the background colour.</p> <p>Grid Colour: Lets you change the colour of the grid.</p>
Zoom	<p>Enable Paper Zoom: Enabling this option allows you to set the 100% Zoom level onscreen, in order to physically match the measurements of your paper drawing.</p> <p>Number of Pixels per Inch: Enter the PPI for your monitor. To obtain the PPI of your screen, divide the height or width of your monitor's resolution setting by the corresponding physical height or width of your monitor screen (resolution height divided by physical height, or resolution width divided by physical width) in inches.</p> <p>Quick Close Up Zoom Factor: Sets the zoom level for the Quick Close up Zoom keyboard shortcut.</p> <p>Maximum Zoom Factor: Sets the maximum zoom level for the paper zoom.</p>

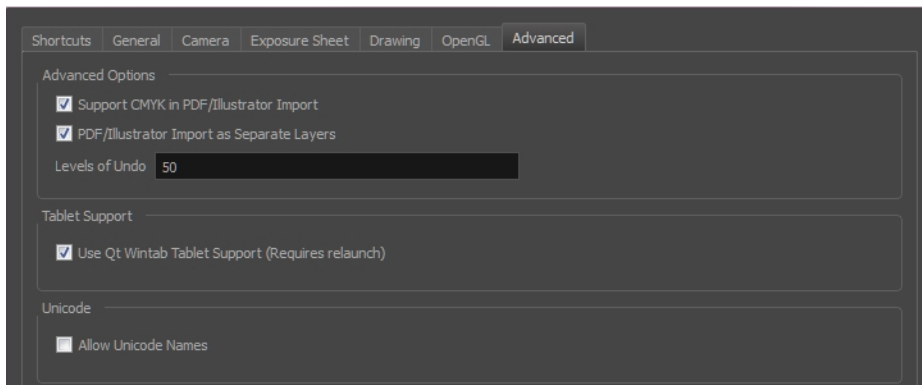
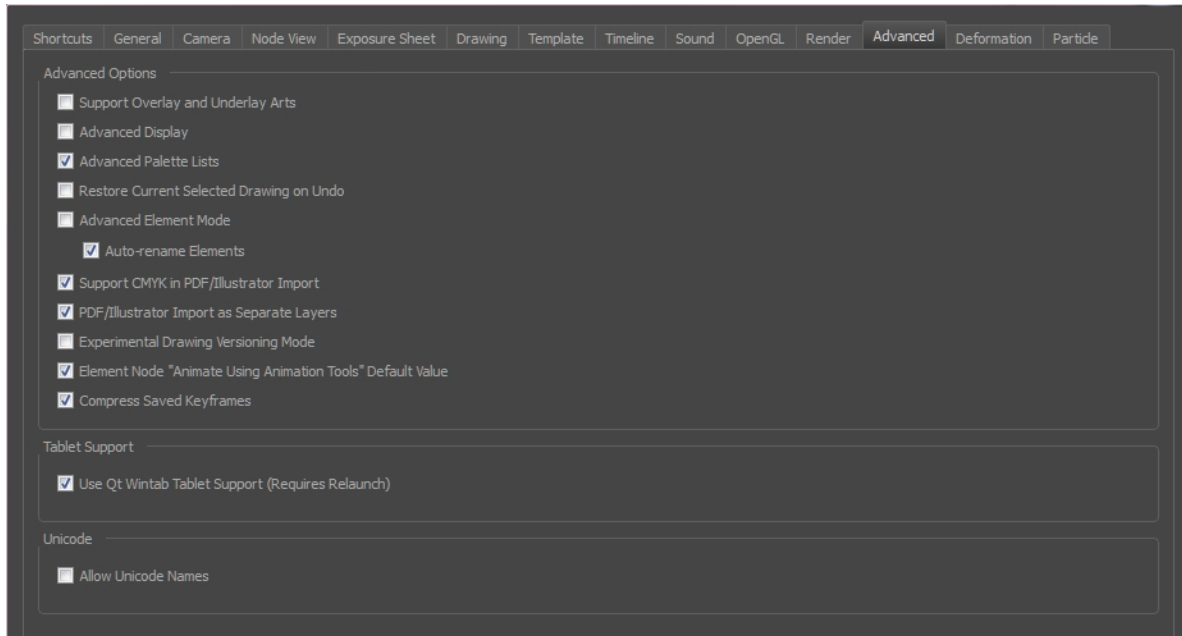
OpenGL Tab



Parameter	Description
Settings	<p>Conservative Texture Management: Turns on and off conservative memory management for bitmap texture files. Performance will improve when this is enabled. If disabled, you will have a better on-screen rendering of bitmap files at the expense of slower performance.</p> <p>Smooth Textures: Smooths out the pixels of bitmap images when zooming in; this improves bitmap image quality.</p> <p>Alternate Gradient and Cutter: This is an alternative way to disable write in the OpenGL Backbuffer, required for some video cards (i.e. GeForce FX5200). Do not enable this option unless you are experiencing problems with gradients and cutters in OpenGL.</p> <p>Use PBuffer for Picking: This will use an off-screen buffer for picking, resulting in a quicker response. This option should not be enabled if using a small capacity video card (32MB).</p> <p>Support Triple Buffer: Enable this option for a better compatibility with Windows Vista if your video card driver does not allow to disable the triple buffering option. Not enabling this option may result in a dashing line when drawing a brush stroke.</p> <p>Support Desktop Effects: Enable this option for better compatibility with Windows 7, Windows Vista and Mac OS X desktop effects. This will prevent graphic compositing problems from happening when the full-scene anti-aliasing option is enabled.</p> <p>Maximum Texture Size: The size that the bitmap file will be reduced to when using the Conservative Texture Management.</p> <p>Texture Memory: The amount of temporary memory used to store bitmap</p>

	<p>texture files.</p> <p>Vector Drawing Maximum Texture Size: This is the size that the .tvg file will be reduced to for better performance when in OpenGL render mode.</p>
Full Scene Antialiasing	<p>The Full Scene Antialiasing is generated by your computer's graphic card. It provides a smooth line display in OpenGL. This antialiasing will not only antialias your drawings but all the different views in the interface.</p> <p>This option lets you see smooth lines as you draw as well as an antialiased drawing area. You can change the value of the Full Scene Antialiasing using the Preferences dialog box to fit the current level used in the Camera or Drawing view.</p> <p>Enable (Requires Relaunch): By default, this option is off. Select to turn on the Full Scene Antialiasing option. You'll need to restart Toon Boom Harmony.</p> <p>Number of samples (For Mac OS): Enter the number of samples you want to be used for the antialiasing process. The number of samples is basically equivalent to the amount of time a pixel will be enlarged to calculate the antialiasing. This technique is called <i>supersampling</i>. The higher the number of samples, the better the antialiasing quality will be, but the longer it will take to calculate. The recommended value is 4.</p> <p>NOTE: If you are using Windows or Linux, you must enable your graphic card's antialiasing parameter. Refer to user guide of your graphics card. For example, the parameters for an NVIDIA GeForce card may look like this:</p> 

Advanced Tab



Parameter	Description
Advanced Options	<p>Support CMYK in PDF/Illustrator Import: Lets you import .pdf and .ai files that were created or exported in CMYK mode. The colours of the resulting imported image may still not look 100% faithful to its CMYK original due to the RGB conversion. It is recommended that you convert these files to RGB images before importing them into Toon Boom Harmony. Disabling this option will cause all the colours of the imported image to be displayed as red to indicate that the file was not converted to RBG before import.</p> <p>PDF/Illustrator Import as Separate Layers: Imports the different groups/elements of the .pdf or .ai file as separate layers. For Illustrator files, the import will use the top level group as separate layer names. Deselect this option to import pdf or .ai files as a single layer.</p>
Tablet Support	<p>Use Qt Wintab Tablet Support (Requires Relaunch): If you are using a tablet other than Wacom, deselect this option (and relaunch) if you are having</p>

	issues with offset or pressure sensitivity.
Unicode	Allow Unicode Names: Lets you use up to 120 ASCII characters for names of environments, jobs and scenes. This means you can use characters for languages, such as Japanese, Chinese, French, Spanish, and others, characters for names in your database setup—see Advanced Tips and Guidelines on page 1 .

Remove Dirt Dialog Box

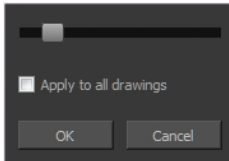
The Remove Dirt dialog box lets you select small dots and hairs on a drawing for removal.

When paper drawings are passed through a scanner, there can be some hair and dirt scattered across them. These lines and dots need to be cleaned. Harmony provides different tools to help get rid of them quickly.

For tasks related to this dialog box, see [Dirt Clean Up](#) on page 1.

How to access the Remove Dirt dialog box

- Do one of the following:
 - From the top menu, select **Drawing > Clean Up > Remove Dirt**.
 - From the Camera or Drawing View menu, select **Drawing > Clean Up > Remove Dirt**.
 - Press Shift + D.



Parameter	Description
Slider	Lets you adjust the amount of detail removed from the layer. Raising the Remove Dirt level will select bigger dots. When selecting larger dots, be careful not to lose small details like pupils and nostrils. Once you have chosen the level, you can apply it to the current drawing or the entire animation sequence. This is a quick way to get rid of most dirt and dust. During this process, the dirt that will be removed is highlighted in red.
Apply to all drawings	Applies the operation to all drawings in the layer.

Remove Hair Dialog Box

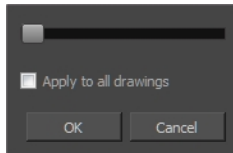
The Remove Hair dialog box lets you remove any small strokes created in the Colour Art layer from very thick lines or filled zones. Increasing the Remove Hair level value will select larger strokes for removal from the drawing.

When paper drawings are passed through a scanner, there can be some hair and dirt scattered across them. These lines and dots need to be cleaned. Harmony provides different tools to help get rid of them quickly.

For tasks related to this dialog box, see [Dirt Clean Up](#) on page 1.

How to access the Remove Hair dialog box

1. In the Timeline or Xsheet view, select the drawing containing the drawing to clean.
2. From the top menu, select **View > Show > Show Strokes** to display the invisible lines or press K.
3. In the top menu, select **Drawing > Clean Up > Remove Hair**.

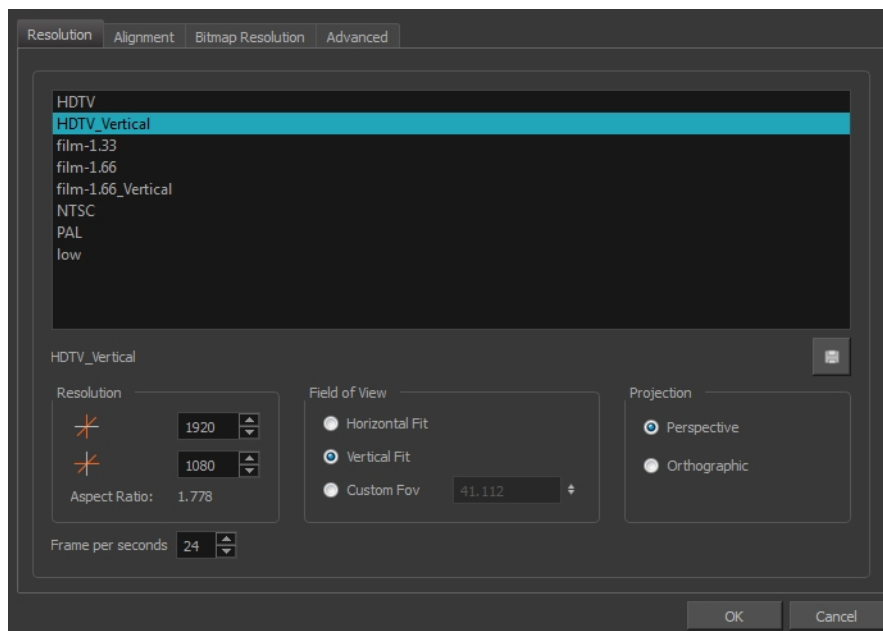


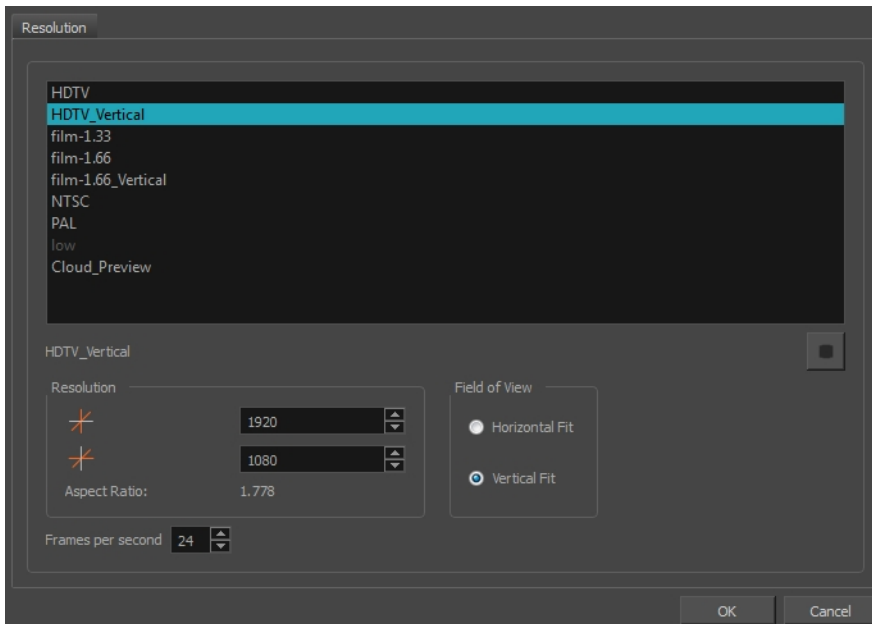
Parameter	Description
Slider	Lets you adjust the number of length of hairs selected.
Apply to all drawings	Applies the operation to all drawings in the layer.

Scene Settings Dialog Box

The Scene Settings dialog box lets you parameters for your scene.

When you created your new scene, you set up the resolution and the alignment. However, if you want to change these initial settings later, you can do it using the Scene Settings dialog box. The different Scene Settings options are separated into four tabs.





How to access the Scene Settings dialog box

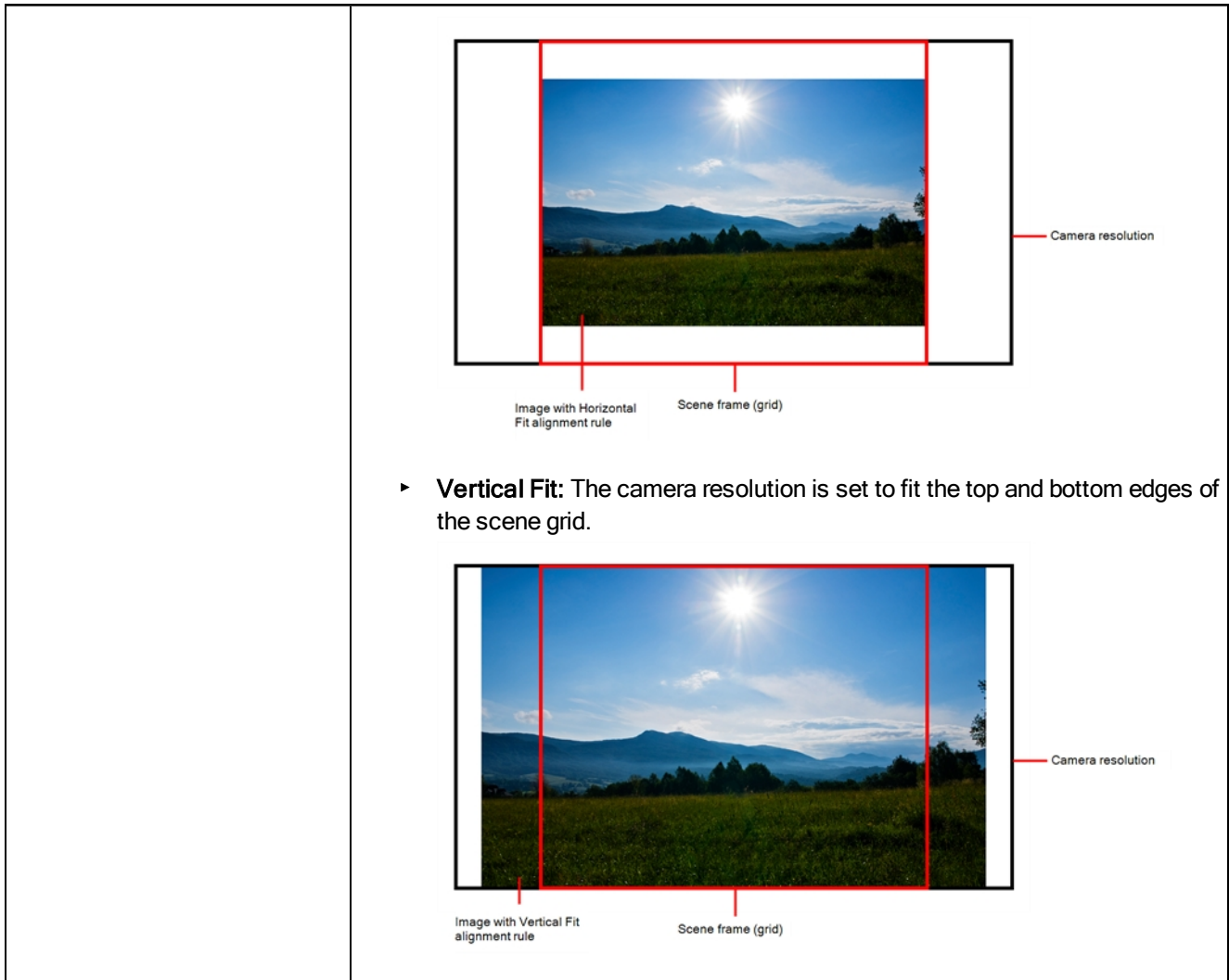
1. From the top menu, select **Scene > Scene Settings**.

The Scene Settings dialog box opens.

Resolution Tab

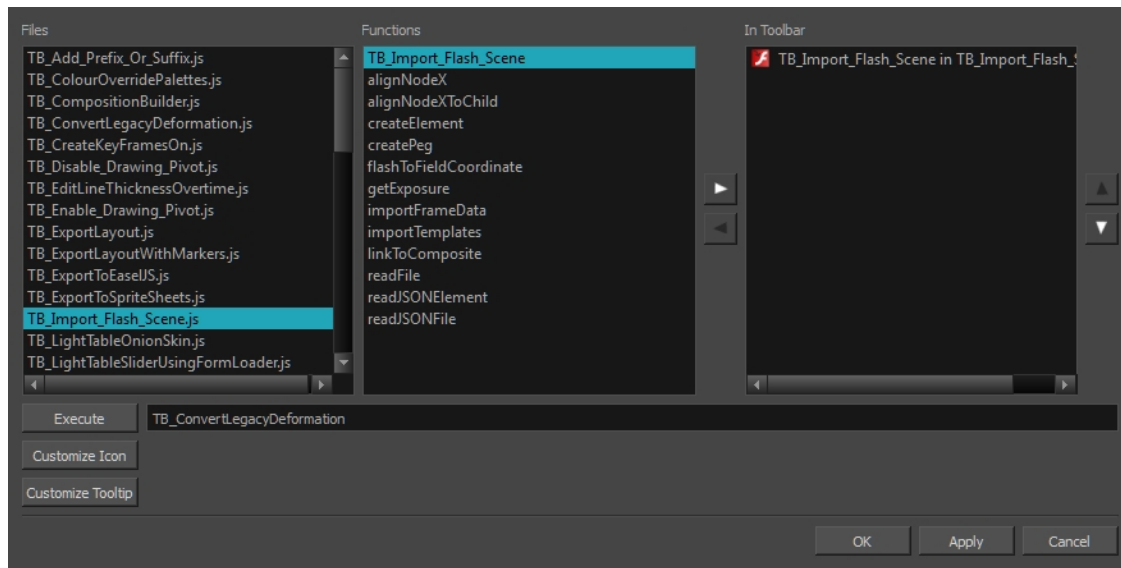
Parameter	Description
Resolution Presets	<p>You can select your project's resolution (camera frame size) from this preset list.</p> <ul style="list-style-type: none"> ▶ HDTV: High definition television delivers a higher quality image than standard television (4:3) does, because it has a greater number of lines of resolution. To take advantage of the superior quality your output device must be compatible with HDTV technology to make this resolution setting useful. ▶ HDTV_Vertical: The "vertical resolution" of HDTV_Vertical refers to how the images will be aligned in relation to the actual scene frame (default 4:3 grid). Note that the camera resolution and the scene frame are not the same. When working with 12 or 16 field drawing grids, the grid is a different aspect ratio from the camera frame. When you fit vertically, you fit the images with the top and bottom of the scene grid. ▶ film-1.33: Use this resolution setting for the academy film format that conforms to the standard 4:3 aspect ratio. ▶ film-1.66: Use this resolution setting for the widescreen film format that conforms to the 16:9 aspect ratio. ▶ film-1.66_Vertical: This is essentially the same as film-1.66. Refers to how the drawing is fit into the scene frame. When working with 12 or 16 field drawing grids, the grid is a different aspect ratio from the camera frame. When you fit vertically, you fit the images with the top and bottom

	<p>of the scene frame.</p> <ul style="list-style-type: none"> ▶ NTSC: This is the standard analogue television broadcasting system used in North America and conforms to the North American standards on how rectangular pixels are displayed for computer and television screens. ▶ PAL: This resolution works best with the European format for television and computer screens, as the rectangular pixels are displayed at a different orientation. ▶ Low: This format is ideal for videos destined for the web, where size and fast download of a video file might take precedence over quality. ▶ Cloud Preview: This is the resolution used by Web Control Center to create its preview.
Selected Resolution Preset	Displays the selected resolution preset.
Save Resolution Setting	Click the Save Resolution button after you define your new resolution to save it as a preset.
Pixel Dimensions	<p>Displays the pixel dimensions for your project resolution.</p> <p>If you decide to type in the pixel dimensions, or use the up and down arrows to change the pixel increments, you will have to save your custom selection in order to save it as a new preset. It will then appear in the resolution selection list. It doesn't modify the current resolution preset.</p>
Aspect Ratio	Displays the ratio between the horizontal and vertical dimensions of the camera framing. Each resolution setting has a preset aspect ratio that cannot be changed.
Frame per second	Sets the frame rate for your project. The higher the frame rate, for example 30 fps, the faster the animation will play. The lower the frame rate, for example 12 fps, the slower your animation will play. Avoid going under 12 frames per second as your animation will have a choppy playback. The human eye requires a minimum of 12 frames per second to perceive a fluid animation.
Field of View	<p>Use these options to define the FOV (field of view) of the camera (angle of the camera cone) and how the drawing elements (and drawing grid) align to the scene grid. The drawing grid is always scaled proportionally to a 4:3 ratio (unless you change the scene alignment), therefore changing the Field of View setting may not show a visible difference if your project resolution is also 4:3, such as NTSC.</p> <ul style="list-style-type: none"> ▶ Horizontal Fit: The camera resolution is set to fit the left and right edges of the scene grid.




Scripts Manager Dialog Box

The Scripts Manager dialog box lets you link a script to a toolbar button for quick and easy access. Once you select a script, you can add it to the toolbar, load a custom icon and add a tooltip.



For tasks related to this dialog box, see [Linking a Script to a Toolbar Button](#) on page 1.

How to access the Scripts Manager Dialog Box

1. In the Scripting toolbar, click the Manage Scripts  button.

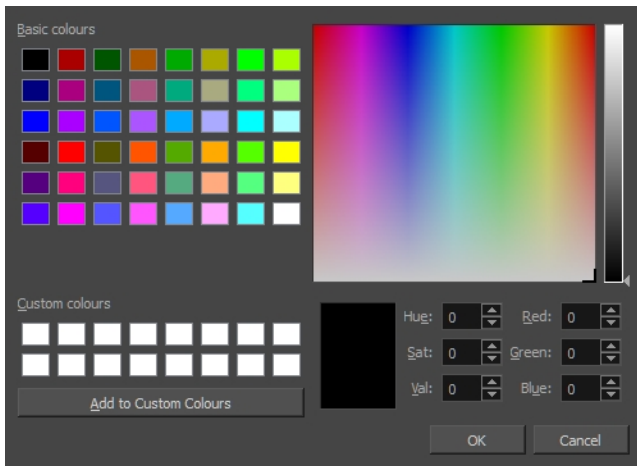
The Scripts Manager dialog box opens.

Parameter	Description
Files	A list of the available JavaScript files.
Functions	A list of the available functions for the selected script.
In Toolbar	Adds the selected script to the toolbar.
Execute	Runs the script you selected. Press Esc to interrupt the execution of the script.
Customize Icon	Lets you load a custom icon for the function. You can browse for a *.png, *.jpg or *.xpm file.
Customize Tooltip	Lets you type in a tooltip for the function. When you hover over the button in the toolbar, your tooltip will appear.

Select Colour Dialog Box

The Select Colour dialog box lets you set the colour of layers and columns. Using colours for layers and columns helps to differentiate them visually, making them easy to identify.

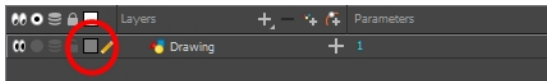
You can select a colour by choosing from a basic set of colours, using the colour wheel or by specifying the HSV or RGB values. Once you have selected a colour, you can adjust its intensity and save it as a custom colour that you can reuse.



For tasks related to this dialog box, see [Changing the Colour of a Layer or Column on page 1](#).

How to access the Select Colour dialog box in the Timeline view

1. In the Timeline view, click the Change Track Colour button of the layer you want to modify.



The Select Colour dialog box opens.

How to access the Select Colour dialog box in the Xsheet view

1. In the Xsheet view, select one or more columns to modify.
2. Right-click on the column's header and select **Colour > Change Columns Colour**.

The Select Colour dialog box opens.

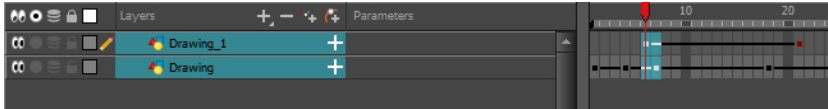
Parameter	Description
Basic colours	The basic set of colours in the system?
Custom colours	Displays the custom colours you created.
Add to custom colours	Lets you add the selected colour to the Custom colours list above.
Colour wheel	Lets you select a colour by dragging the T-shaped pointer.
Value slider	Once you select a colour, you can drag the slider to change the intensity and see it previewed in the Colour Preview window below..
Colour Preview	Displays the colour you are currently selecting. To apply the colour, click OK.
Hue, Saturation, Value	Lets you set the hue (colour), saturation (amount of colour) and brightness (value) of the colour.
Red, Green, Blue	Lets you set the red, green and blue values.


Set Ease for Multiple Parameters Dialog Box

The Edit Set Ease for Multiple Parameters dialog box lets you apply ease to multiple functions and keyframes. You can display the function curve and modify the Bezier or Ease curve—see [Adjusting the Velocity](#) on page 1.

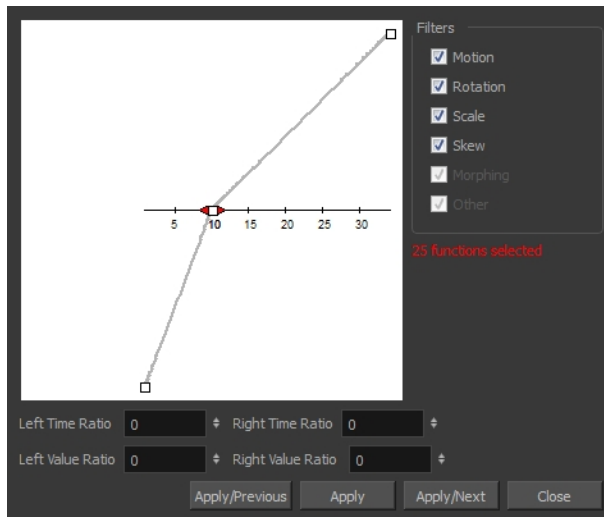
How to access the Set Ease for Multiple Parameters dialog box

1. In the Timeline view, select a keyframe on one or more layers.



2. Do one of the following:
 - ▶ In the Timeline view, right-click and select **Set Ease For Multiple Parameters**.
 - ▶ In the Timeline toolbar, click the Set Ease For Multiple Parameters  button.

The Set Ease For Multiple Parameters dialog box opens.



Parameter	Description
Filters	
Motion	Motion: Applies the easing parameters to the selected Position X, Position Y, Position Z and 3D Path functions.
	Rotation: Applies the easing parameters to the selected Angle functions.
	Scale: Applies the easing parameters to the selected Scale functions.
	Skew: Applies the easing parameters to the selected Skew functions.
	Morphing: Applies the easing parameters to the selected Morphing Velocity functions. Note that it applies to the Morphing velocity function found in the Layer Properties window, not the basic morphing ease in the Tool Properties view.
	Other: Applies the easing parameters to all the other the selected functions, such as all functions created to animate effect parameters.

Left and Right Time Ratio	Lets you type the percentage value corresponding to the length of time you want the easing to last. Stay between 0% and 100%. If you go beyond 100%, your motion will overshoot.
Left and Right Value Ratio	Lets you type the percentage value of how strong you want the easing out to be. Stay between 0% and 100%. If you go beyond 100%, your motion will overshoot.
Apply/Previous	Applies the easing parameters to the selected keyframes and then selects the previous keyframe in the timeline.
Apply	Applies the easing parameters to the selected keyframes.
Apply/Next	Applies the easing parameters to the selected keyframes and then selects the next keyframe in the timeline.
Close	Close the dialog box. If you did not apply the modifications, they will be cancelled.

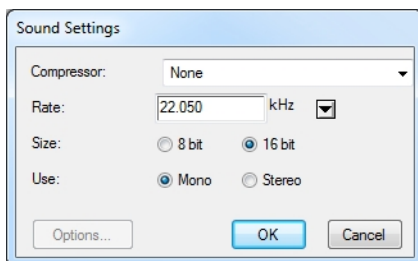
Sound Settings Dialog Box

The Sound Settings dialog box lets you set the compression settings for the movie you will export.

For tasks related to this dialog box, see [Exporting a QuickTime Movie on page 1](#).

How to access the Sound Settings Dialog Box

1. From the top menu, select **File > Export > Movie**.
2. In the Export to QuickTime Movie dialog box that opens, click **Movie Options**.
3. In the Movie Setting dialog box that opens, click **Settings** in the Sound section.

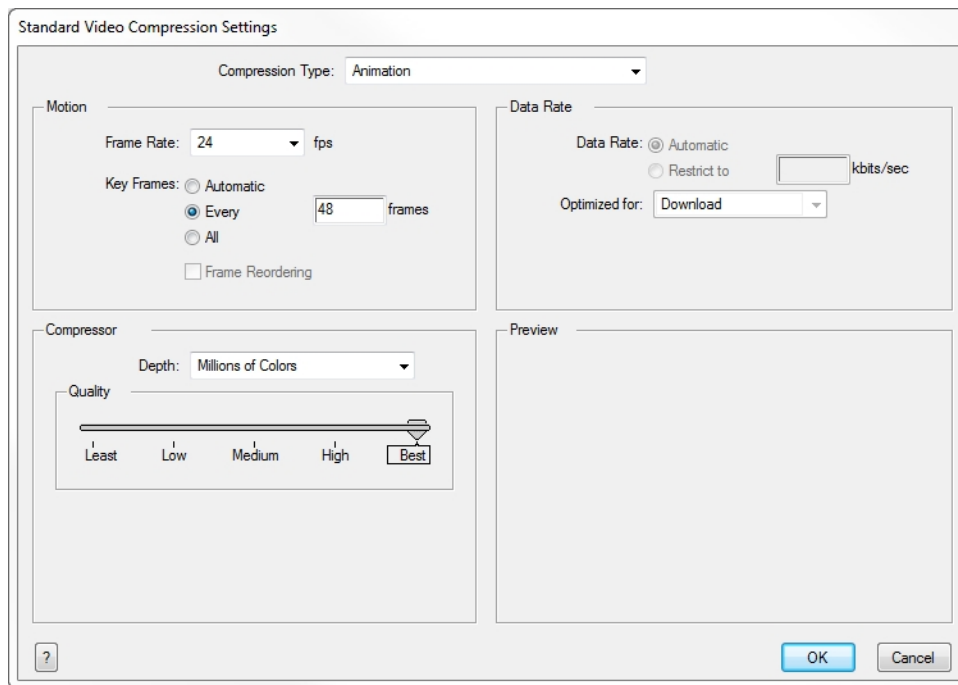


Parameter	Description
Compressor	Lets you select a compression type. The default setting is None. This will preserve your original sound file without the loss of information. However, an uncompressed sound file will inevitably add “weight” to the overall size of your video export.
Rate	Lets you select a rate. It is best to check and match the original properties of your sound file. For example, if your file has an audio sample rate of 48 kHz and you choose a conversion rate of 22.05 kHz, the sound will play at the same speed, but with higher frequencies missing. For a standard film sound quality, choose 44.1 kHz , or 48 kHz for DVD quality. Anything less will make the sound “dull” or less bright. For things like recorded voice, this doesn't matter so much, but for music it can make an audible difference. If file size is a consideration, such as with videos for the

	Internet, then a lower rate might be more practical.
Size and Use	Size and Use are related. It is advisable to check your original sound file properties. If the file was recorded in one channel (mono), there is no point in choosing the two channel (stereo) option. Although Mono can support a 16-bit channel, the extra information is unnecessary. Mono is generally paired with 8-bit and Stereo with 16-bit.

Standard Video Compression Settings Dialog Box

The Standard Video Compression Settings dialog box lets you set the compression settings for the movie you will export.



For tasks related to this dialog box, see [Exporting a QuickTime Movie on page 1](#).

How to access the Standard Video Compression Settings Dialog Box

1. From the top menu, select **File > Export > Movie**.
2. In the Export to QuickTime Movie dialog box that opens, click **Movie Options**.
3. In the Movie Setting dialog box that opens, click **Settings** in the Video section.

Parameter	Description
Compression Type	Lets you select a codec. The availability of certain compression settings depends on the Compression Type selected. For example, Animation is the default compression type and as a result the Data Rate option is greyed out.
Motion	
Frame Rate	Lets you select a frame rate. By default, it is set to match the frames-per-second (fps) of your Harmony project. If you choose a lower frame rate, your

	export playback will be faster than your actual project. The reverse is also true for a higher frame rate.
Key Frames	Automatic:
	Every: Inserts keyframes. This is the option is recommended by QuickTime. For further details, refer to the QuickTime documentation.
	All:
	Frame Rendering:
	Frames: Lets you set the number of keyframes to insert.
Compressor	
Depth	Lets you select a depth based on your movie's needs. For example, Millions of Colours+ houses an alpha channel.
Quality	Lets you choose a quality setting. The higher the quality of the export, the larger the resulting file.
Data Rate	
Date Rate	Automatic: Lets the system automatically select the most optimal bit rate.
	Restrict To: Lets you enter a rate to save space and allow for faster downloading at a cost to the quality of the export.
	Optimized For: Lets you select the intended viewing method.
Preview	Displays a preview of the movie to be exported.

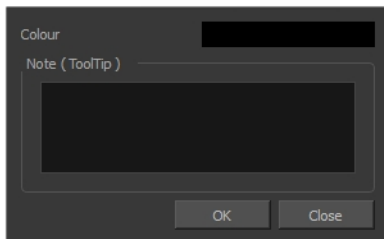
Timeline Scene Marker Dialog Box

The Timeline Scene Marker dialog box lets you create and manage scene markers in the Timeline view. Scene markers are visual indicators displayed at the top of the Timeline view in the frame counter area. You can use it to denote anything relevant to your work. You can indicate the frames you want to clean up, a change in action, an impact, or where you intend to apply an effect. You can also add a note to a scene marker, which is displayed when you hover over the scene marker.

For tasks related to this dialog box, see [Setting Scene Markers](#) on page 1.

How to access the Timeline Scene Marker dialog box

1. In the frame counter area of the Timeline view, do one of the following:
 - ▶ Drag to select the frame range to mark.
 - ▶ Right-click and select **Scene Markers > Mark Current Frame**.



Parameter	Description
-----------	-------------

Colour swatch	Opens the Mark Colour dialog box where you can select a colour for the scene marker.
Note (Tooltip)	Lets you type in a name for your scene marker. Making the name meaningful will help you to quickly identify scene markers especially when there are many of them in the frame counter area of the Timeline view.

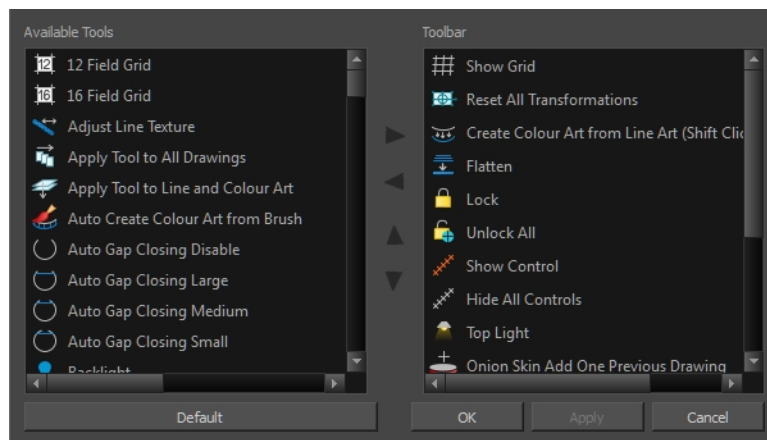
Toolbar Manager Dialog Box

The Toolbar Manager dialog box lets you customize the toolbar in any of the views. You can add your favourite tools to a toolbar for an efficient workflow.

For tasks related to this dialog box, see [Managing the Toolbars on page 1](#).

How to access the Toolbar Manager dialog box

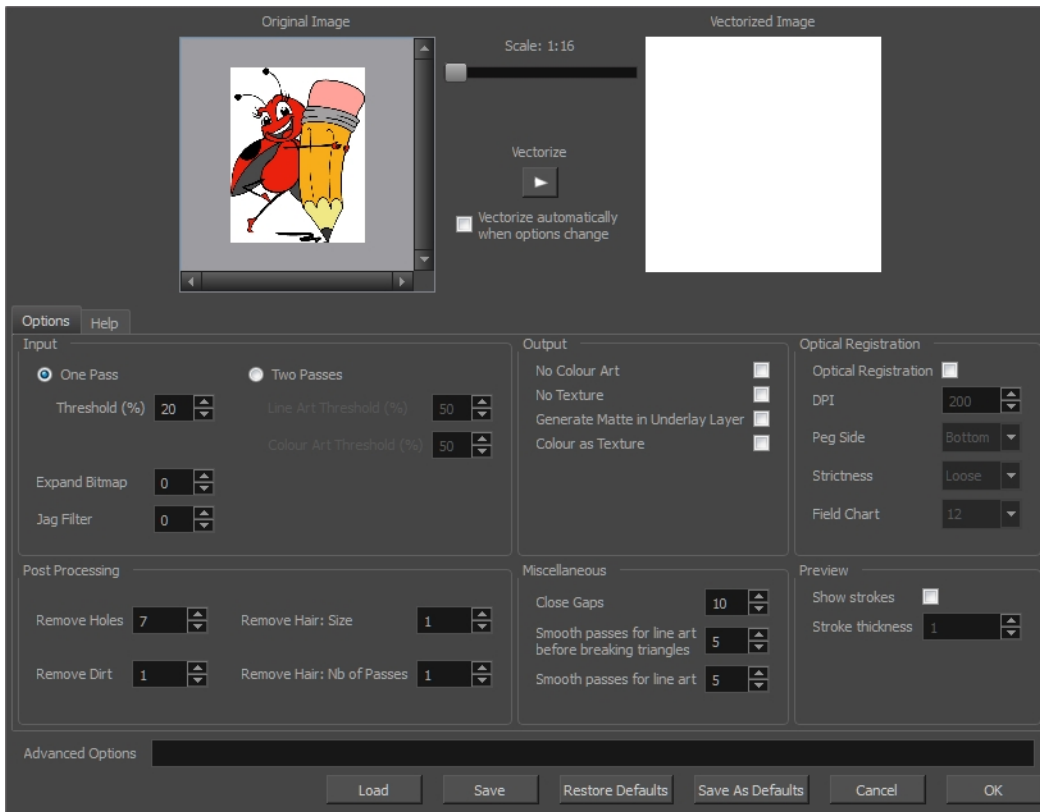
1. Right-click on a toolbar in any view and select **Customize**.



Parameter	Description
Available Tools	Displays the complete list of tools available for customizing a toolbar.
Toolbar	Displays a list of the tools currently available on the toolbar.
Default	Restores the toolbar with its default items.


Vectorization Parameters Dialog Box

The Vectorization Parameters dialog box lets you vectorize pencil drawings, along with any red, blue or green pencil marks you may have used to indicate highlights and shadows. The drawing will be vectorized into pure red, blue, green and black (RGB values), while creating colour art zones wherever lines connect. After painting in your tones and highlights, change your pure RGB colours to transparent (0 Alpha) in the Colour Picker window and watch the indicator colour zone lines disappear.



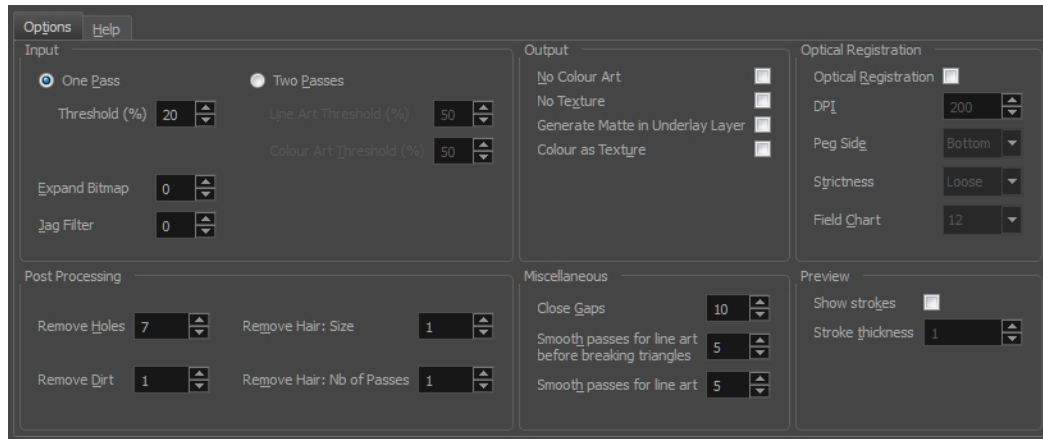
For tasks related to this dialog box, see [Custom Vectorization Parameters](#) on page 1.

How to open the Vectorization Parameters dialog box

1. From the top menu, select **File > Import > From Scanner**.
You can also open it from any other import option that allows you to customize the vectorization parameters (i.e. from the scanner).
2. In the Scan Drawings window, do the following:
 - ▶ In the Layer section, decide on the layer options.
 - ▶ In the Import Options section, select the **Convert to Toon Boom Vector Drawing** option
 - ▶ Click **Preview**.
3. In the Vectorization section, click the Vectorization Parameters  button.

Options Tab

The Options tab contains the main vectorization settings. More settings are available in the Help tab.

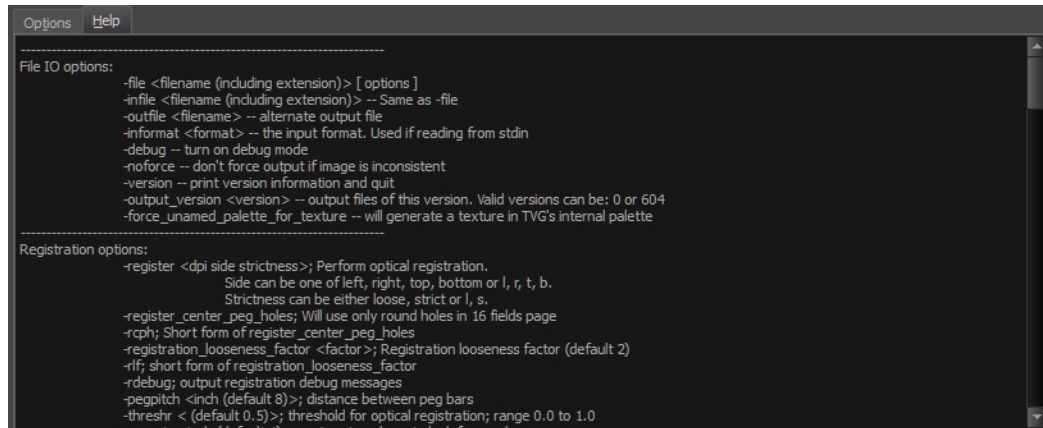


Parameter	Description
Input	The input filters are applied to the bitmap image before it is vectorized.
One Pass	One threshold value is applied to both the Line and Colour Art. For drawings with distinct vector-style lines of mattes, you only need one pass.
Two Passes	Applies a different threshold value to each layer. For greyscale drawings, you may want to perform the vectorization process twice to apply different threshold values to the Line and Colour Art layers.
Threshold	Determines which values in the scanned image are considered part of the Line or Colour Art layer and what will be eliminated from the vectorized drawing; 0% is white and 100% is black. The threshold is between these two values.
Expand Bitmap	Lets you enter a value to scale the bitmap to detect small variations in the line. Use this option if you scanned a greyscale image and want to preserve small variations in the texture to apply to the line art.
Jag Filter	Lets you enter a value to scale back the bitmap to remove some of the line's roughness. This is useless when you have a drawing that appears quite rough; the Jag filter will eliminate excess strokes in the final drawing.
Line Art Threshold (%)	
Colour Art Threshold (%)	
Output	The output filters are applied during the vectorization process.
No Colour Art	Does not generate filling zones in the Colour Art layer.
No Texture	Does not generate texture in the Line Art layer in the final images. Select this option to create solid lines in the final line art.
Generate Matte in Underlay Layer	Creates an opaque zone behind your drawing's lines to avoid seeing through the layers.
Colour as Texture	Converts colour values into a texture layer.
Optical Registration	The optical registration options are used to automatically align drawings based on the position of the peg holes on the animation paper. The peg holes must appear in the scanned drawings for the optical registration to work.
DPI	Lets you enter the dots-per-inch value of your image. You must enter the same

	value as the DPI used to scan the image.
Peg Side	Lets you select the position of the peg holes on your drawings. Identify whether they are on the top, bottom, left or right.
Strictness	Determines how exact the location of the peg holes must be for the software to recognize them. There are two values to choose from: Strict: The peg holes must be in a tightly defined area to be recognized. Loose: The peg holes can be recognized somewhere in a larger area. This is the recommended setting.
Field Chart	Lets you indicate the size of the animation paper, 12 or 16.
Post Processing	The Post Processing filters are applied to the final vector images.
Remove Holes	Removes holes of a specified value that might make painting difficult.
Remove Dirt	Removes stray marks and dirt of a specified value. Try a value around 500.
Remove Hair Size	Removes small strokes that have no line art.
Remove Hair: Number of Passes	The number of times the drawing will be analyzed to identify hair marks.
Miscellaneous	
Close Gaps	Closes gaps in the Colour Art so you can paint it.
Smooth Passes for Line Art Before Breaking Triangles	The number of times the smoothing operation runs before creating the triangles that break lines in the drawing. If unnecessary triangles are appearing in the drawing, increase this value.
Smooth Passes for Line Art	The number of times the smoothing operation is performed after the triangles have been created. This further smooths the line art.
Preview	
Show Strokes	Shows the strokes in the Vectorized Image panel.
Stroke Thickness	Shows the size of the strokes.

Help Tab

The Help tab contains the most advanced vectorization settings which you type in the Advanced Option fields at the bottom of the Vectorization Parameters dialog box.



File IO Options

-file <filename (including extension)> [options]

-infile <filename (including extension)>; same as -file

-outfile <filename>; alternate output file

-informat <format>; the input format. Used if reading from stdin

-debug; turn on debug mode

-noforce; don't force output if image is inconsistent

-version; print version information and quit

-output_version <version>; output files of this version. Valid versions can be: 0 or 604

-force_unnamed_palette_for_texture; will generate a texture in TVG's internal palette

Registration Options

-register <dpi side strictness>; perform optical registration.

- Side can be one of left, right, top, bottom or l, r, t, b.
- Strictness can be either loose, strict or l, s.

-register_center_peg_holes; will use only round holes in 16 fields page

-rcph; short form of register_center_peg_holes

-registration_looseness_factor <factor>; registration looseness factor (default 2.000000)

-rlf; short form of registration_looseness_factor

-rdebug; output registration debug messages

-pegpitch <inch (default 8.000000)>; distance between peg bars

-threshr <(default 0.500000)>; threshold for optical registration; range 0.0 to 1.0

-rmargin <inch (default 1)>; region size where to look for peg bars

-peg_distance_from_center <inch (default 5.25)>; peg distance from centre of the image

-pdfc; short form of `-peg_distance_from_center`

-out_peg_position <side (default same)>; wanted position of the peg on the drawing.

- Can be one of right, left, top, bottom (or r, l, t, b) or same.
- A rotation will be performed if it is different from the side passed to `-register`.

-output_peg_matrix; output the peg transformation matrix on standard output.

-scanner_calibrate; < (default 1.0000 1.0000) > x and y scale factors to be applied to scanner image.

Filtering Options

-pixel <pixel_shape (default '4x3')>; Valid values: 4x3

-gap <worldUnits (default 10)>; close gaps up to this big

-pencil; generate line art only

-keep_dirt; don't filter out dirt

-thresh <threshold (default 0.2)>; range 0.0 to 1.0

-rmv_hairs <worldUnits (default 1)> <passes (default 1)>

- remove hairs of size smaller than "size" in "passes" passes

-rmv_holes <area (default 7)>; remove holes smaller than "area"

-rmv_dirt <area (default 1)>; remove dirt smaller than "area"

- try values between 100 and 500 for `rmv_holes` and `rmv_dirt`. The area is in world units squared

-rmv_triangles <worldUnits (default 30.000000)>; remove triangles at "pixels"

- distance from each other. Use `-no_break` to remove all triangles

-no_texture; don't generate textured strokes

-color_as_texture; will vectorize the alpha channel and put the RGB colour in a textured colour

-noclosegap; disable all gap closing algorithms

-no_break; disable the breaking of line art

-jag_filter <pixels (default 0)>; expand the pixels in the vectorization bitmap

-expand_bitmap <pixels (default 0)>; expand the pixels in the vectorization bitmap

-fit_errorrc <error (default 1.000000)>; fitting error for the colour art

-fit_errorrl <error (default 1.000000)>; fitting error for the line art

-smoothl <passes (default 1)>; number of smooth passes for line art

-smoothc <passes (default 1)>; number of smooth passes for colour art

-first_smooth <passes (default 0)>; number of smooth passes for line art before breaking triangles

-first_smoothl <passes (default 0)>; number of smooth passes for line art before breaking triangles

-first_smoothc <passes (default 0)>; number of smooth passes for line art in colour art pass (needs -2pass)

-2pass; specify two sets of parameters; one for line art "l", one for colour art "c"

(-thresh, -rmv_holes and -rmv_dirt will be overridden by -threshl, threshc, -rmv_holesl, -rmv_holesc, -rmv_dirtl and -rmv_dirtc)

-threshl <threshold for line art (default 0.5)>; range 0.0 to 1.0

-threshc <threshold for color art (default 0.5)>; range 0.0 to 1.0

-jag_filterl <pixels (default 0)>; expand the pixels in the vectorization bitmap for line art

-jag_filterc <pixels (default 0)>; expand the pixels in the vectorization bitmap for colour art

-expand_bitmapl <pixels (default 0)>; expand the pixels in the vectorization bitmap for line art

-expand_bitmapc <pixels (default 0)>; expand the pixels in the vectorization bitmap for colour art

-rmv_holesl <area (default 7)>; remove line art holes smaller than "area"

-rmv_holesc <area (default 7)>; remove colour art holes smaller than "area"

-rmv_dirtl <area (default 1)>; remove line art dirt smaller than "area"

-rmv_dirtc <area (default 1)>; remove colour art dirt smaller than "area"

try values between 100 and 500 for rmv_holesl, rmv_holesc, rmv_dirtl and rmv_dirtc. The values are in world units squared

-margins <inch (default 0.25)>; remove margin around bitmap

-top_margin <inch (default 0.25)>; remove margin at top of bitmap

-bottom_margin <inch (default 0.25)>; remove margin at bottom of bitmap

-left_margin <inch (default 0.25)>; remove margin at left of bitmap

-right_margin <inch (default 0.25)>; remove margin at right of bitmap

-remove_peg_bars; remove the peg bar holes

-field_size <fields (default 12 or use value in scan file)>; set the drawing to this field size

-fs; short hand for -field_size

-peg_bar_size <inch (default 1)>; the size of the peg bar region

-noframe; do not put a frame around the colour art

-frame_fields <default -1.000000>; put a frame of the specified dimension around the colour art

-downscale_input <default 1>; downscale the raw input by this integer factor

-downscale_texture <default 1>; downscale the output texture by this integer factor

-buildmatte; generate a matte on underlay for line test

-buildmatte_colourart; generate a matte on colour art for line test

NOTE: -buildmatte and -buildmatte_colourart are mutually exclusive

-copystrokes; copy original strokes when building matte.

Options for bitmap that has no registration information

-pixel_margins <inch (default 0)>; remove margin around bitmap
-top_pixel_margin <inch (default 0)>; remove margin at top of bitmap
-bottom_pixel_margin <inch (default 0)>; remove margin at bottom of bitmap
-left_pixel_margin <inch (default 0)>; remove margin at left of bitmap
-right_pixel_margin <inch (default 0)>; remove margin at right of bitmap
-dpi <(default -1)>; dpi information of input bitmap

RGB Keying Options

-rgb; generate separate zones for red, green and blue lines
-rgb_alpha <value (default 255)>; generate red, green and blue colour with alpha of this value
-no_red; ignore red colour in vectorization
-no_green; ignore green colour in vectorization
-no_blue; ignore blue colour in vectorization
-flatten; flatten the drawing after generating colours
-rmv_rgb_dirt <threshold area default 0.0>; remove red, green and blue regions smaller than area
-expand_bitmap_rgb <pixels (default 0)>; expand the pixels in the vectorization bitmap for rgb
-threshrgb <value> <threshold for rgb vectorization default 0.200000>;
-thresHSV <saturation threshold default 0.500000> <value threshold default 0.500000>; thresholds on saturation and value to consider a pixel to be grey

Colour Vectorization Options

-color_vectorize; perform a colour vectorization
-file2 <colour art filename>; specify the colour art bitmap
-penstyle <center alpha (0.0-20.0)> <edge alpha (0.0-20.0)> <gamma (0-10)><centre pressure effect (0.0-1.0)>
<edge pressure effect (0.0-1.0)><texture bitmap downscaling (0.2-20)> <texture bitmap file (valid filename or "" if no file)>; generate brush texture for the line art
-pressure_variation <strategy (0, 1 or 2)> <min pressure (0.0-1.0)> <max pressure (0.0-1.0)> <max variation (0.0-1.0)>; specify a pressure strategy for the centre line.
-blur_radius <pixels (default 0)>; blur the penstyle texture generated
-color_contour_smooth_passes <times (default 3)>; perform number of smooth passes on contour before computing texture
-ccsp <times (default 3)>; short for -color_contour_smooth_passes
-color_rmv_holes <world units (default 0.000000)>; remove holes of this size when computing texture

-color_fill_holesl <world units (default 0.000000)>; fill holes of this size for colour line art

Bubble Usage (implemented only for colour vectorization's line art)

-create_bubbles; add bubbles into the LineArt. Implemented for colour vectorization only

-bubble_gap <value (default 3)>; max number of colour art points between 2 bubbles

-bubble_length <value (default 10)>; max number of circles in a bubble

-min_radius <value (default 1.5000)>; min radius of a circle in a bubble relative to the line thickness (must be >= 1.0)

-max_radius <value (default 3.5000)>; max radius of a circle in a bubble relative to the line thickness (must be >= 1.0)

-uniform_gap; the space between bubbles is constant

4 Colour Vectorization

-4colours [key:value] ... [key:value] ; The key value list can be empty. The list of keys is:

rgbdiff:value ; between [0.0-1.0] or [0-255]

dark:value ; between [0.0-1.0] or [0-255]

grey:value ; between [0.0-1.0] or [0-255]

white:value ; between [0.0-1.0] or [0-255]

dirt:value ; dirt area. 200 is a good value

rt:value ; between [0.0-1.0] or [0-255]

gt:value ; between [0.0-1.0] or [0-255]

bt:value ; between [0.0-1.0] or [0-255]

NOTE: There must be no space between the colon and the key/value. For example: `-4colours rgbdiff:20 dark:20 grey:120 white:250 dirt:200 rt:240 gt:240 bt:240`

Chapter 2: Layer Properties

Intro...

Drawing Layer Properties

The Layer Properties editor or view lets you adjust the properties of a layer in the Timeline view. The Layer Properties can be viewed as a floating window or as a view (docked).

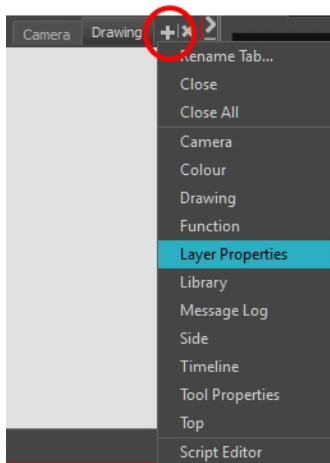
Each layer has its own set of properties that can be modified, including effect and peg layers. Display the Layer Properties editor or view if you want to modify some of the layer's properties, such as the name or the antialiasing quality.

How to access the Layer Properties editor

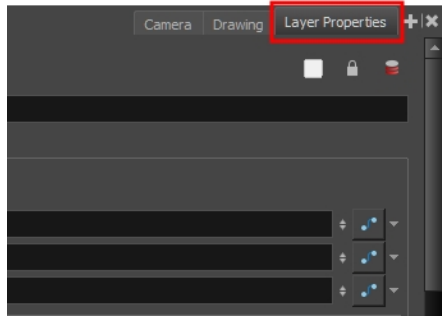
- ▶ Double-click on a layer in the Timeline view
- ▶ Right-click on a layer in the Timeline view and select **Layer Properties**.
- ▶ Select a layer in the Timeline view and press Shift + E.

How to access the Layer Properties view

1. Do one of the following:
 - ▶ Select the view you want to add from **Windows > Layer Properties**.
 - ▶ In the top-right corner of a view, click the Add View **+** button and select Layer Properties from the list.

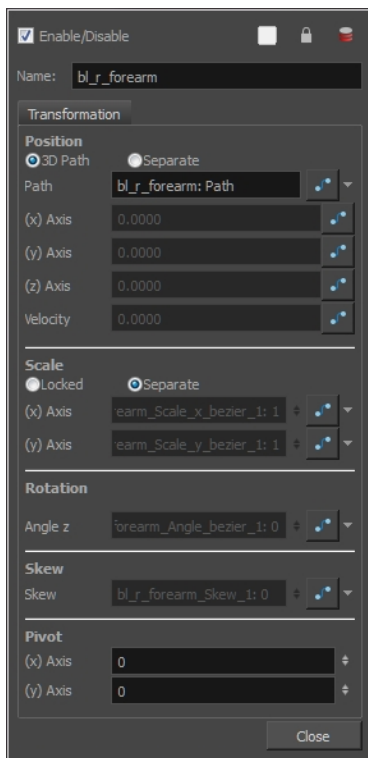


By default, the Layer Properties view appears as a tab.



Transformation Tab

The Transformation tab contains parameters for adjusting the position, scale, rotation, skew and pivots of an element.



Parameter	Description
Position	<p>3D Path: Lets you use a 3D path function to animate an element.</p> <p>Separate: Lets you independently edit the different coordinate fields.</p> <p>Path (x) Axis: Lets you type in a new East/West coordinate corresponding to the desired position.</p> <p>Path (y) Axis: Lets you type in a new North/South coordinate corresponding to the desired position.</p> <p>Path (z) Axis: Lets you type in a new Forward/Backward coordinate corresponding to the desired position.</p>

	Velocity: When the 3D Path option is selected, lets you set the speed at which
Scale	Locked: Resizes the element while keeping its ratio. The X and Y axes scale proportionally Separate: Resizes the element allowing to modify the ratio (squash and stretch). (x) Axis: Lets you type in the horizontal scale value. (y) Axis: Lets you type in the vertical scale value.
Rotation	Angle z: Lets you type in a degree value for the rotation angle. Note that you can enter values greater than 360 and -360 degrees. If you enter 720, the object will rotate twice.
Skew	Skew: Lets you type in a degree value between -90 to 90 for the skew angle.
Pivot	(x) Axis: Lets you type in a new East/West coordinate corresponding to the desired position. (y) Axis: Lets you type in a new North/South coordinate corresponding to the desired position.

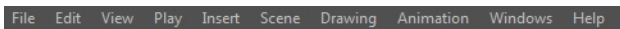
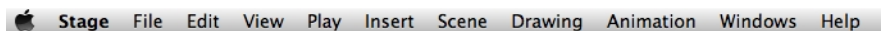
Chapter 3: Menus

There are several types of menus in Harmony: main menu, quick-access menu and view menus.

- [Main Menu](#) on page 47
- [Quick-access Menu](#) on page 60
- [View Menu](#) on page 61

Main Menu

The main menu contain most of the commands. Depending on the view you're working in and the element, some commands are available and others not. The main menu is always located at the very top of the interface.



On Mac OS X, there is also a Stage Essentials category that contains the following commands:

- Preferences
- About
- Quit

Animation Menu

The Animation menu lets you access tools, adjust animation timing, set and parameters, lock or unlock layers, and select elements in the Xsheet and Timeline views.



How to access the Animation menu

- At the top of the interface, select **Animation**.

Command	Description
Animate	Enables the Animate mode which lets you keyframe drawing layers to create computer-generated animation. When working in the Animate mode, you can animate a layer's position and then turn off the mode to reposition a layer for the entire scene. When the Animate mode is disabled, keyframes are created on selected layers at the current frame. Depending on what transformations were performed (rotation, translation, skew), the new keyframes are added on the corresponding parameters (function curves).
Stop-Motion Keyframe	Sets a stop-motion keyframe which there is no computer-generated motion between two keyframes. The segment is constant or flat. The drawing remains still until the playback reaches the next keyframe, then the drawing pops to its new location.
Delete Keyframe	Deletes the selected keyframe.
Tools	
Transform	Lets you create a global selection so you can reposition, scale, rotate and skew as one unit, which is useful for cut-out characters.

Translate	Lets you move the selected element along the X and Y axes.
Rotate	Turns a selected element around its pivot point.
Scale	Increases or decreases the size of a selected element. You can scale an object up to make it larger or down to make it smaller. Press Shift to scale the element while maintaining its proportions.
Skew	Slants the selected element.
Maintain Size	Keeps elements the same size aspect ratio in the Camera view as you move them towards or away from the camera.
Spline Offset	Lets you reposition the visual trajectory without offsetting or modifying your animation. By default, the trajectory is located at 0,0,0 fields. If your elements were drawn in a different location than the centre of the drawing area, it will look like the trajectory is not aligned with your drawing. Also, if you have several elements attached to one trajectory, you might want your trajectory to be at a different location to represent the group's motion better.
Cell	
Increase Exposure	Adds one more exposure to a selected cell; repeating this action adds an extra cell each time. This is an efficient way to extend a drawing's exposure and is always set in Insert mode. Increasing an exposure pushes the existing exposure forward.
Decrease Exposure	Decreases exposure of a selected cell by one; repeating this action decreases one exposure adds an extra cell each time. This is an efficient way to shorten a drawing's exposure. Decreasing an exposure pulls in the existing exposure.
Set Exposure to	Lets you set the exposure to 1, 2, 3 or a custom exposure.
Extend Exposure	Lets you enter the frame up to which you want to extend the exposure. You can expose the drawing in the frames and replace the drawings that were originally there or move the subsequent frames forward in time.
Add Key Exposure	Adds a key exposure to the selected cell.
Remove Key Exposure	Removes only the key exposure (key frames) not all the exposures. The existing key exposure is replaced by the preceding exposure.
Remove Duplicate Key Exposure	When working with drawings to adjust the timing of a mouth in a lipsync, for example, and forcing the use of specific key exposures, unnecessary key exposures will be created. You can delete these duplicates without affecting the rest of the drawing. The first drawing of the selection will be used for the range. NOTE: Duplicate key exposures may occur when pasting with the Enforce Key Exposure option selected.
Fill Empty Cells	Lets you fill empty cells to extend the exposure of single frame drawings to fill the range of empty cells after each one. When creating drawings on cells that are not side-by-side, the exposure of the first drawing no longer fills automatically. You must select the frame range

	where you want your drawings to hold their exposure up to the next drawing and use the Fill Empty Cells command.
Insert Blank Cell	Adds an empty cell between other cells.
Clear Exposure	Removes the exposure from the selected cell.
Clear Exposure and Pull	Replaces the exposure from the selected cell with exposures that follow it.
Fill Selection	Lets you fill the same value over an entire selection. The selection can be over one cell, a cell range in one column, a cell range over many columns, an entire column, or many columns. You can use numbers, words, letters, or any alphanumeric value.
Sequence Fill	Lets you create a numbered sequence over a selection. The sequence can be forward, backward, single, double or higher increment, as a cycle, and so on. The selection can be over one cell or a cell range in one column or more or an entire column or many entire columns.
Lip-Sync	
Auto Lip-Sync Detection	Generates a sound detection for lip-sync.
Map Lip-Sync	Automatically maps drawings in an element to the mouth chart you have generated for a sound. This can save time when you are lip-synching a voice track.
Flip	
Flip Horizontal	Flips the selection horizontally or vertically.
Flip Vertical	
Flip Scale X	Once your drawing layer is rotated, the original horizontal and vertical axes change. The Flip Scale X and Flip Scale Y will perform a flip on your drawing layer following its original axis. Remembers the original X-axis of the layer and flips the element following it.
Flip Scale Y	Remembers the original Y-axis of the layer and flips the element following it.
Lock in Time	Indicates if the point is locked to a specific frame (keyframe) or only locked to a specific position and the curve can flow through it freely as other points are being added, moved, or adjusted (control point).
Substitute Drawing Previous	Replaces the drawing or cell's symbol on the current frame by the previous or next drawing.
Substitute Drawing Next	
Go to Previous Keyframe	Go to the previous or next keyframe.
Go to Next Keyframe	
Select Child	Lets you select the first element parented to the selected peg element in the Timeline view.
Select Children	Lets you select all elements parented to the selected peg element in the Timeline view.
Lock	
Lock	Locks one or a multiple selection of layers.

Unlock	Unlocks one or a multiple selection of locked layers.
Lock All	Locks all the layers in the Timeline view.
Unlock All	Unlocks all the layers in the Timeline view.
Lock All Others	Locks every layer except the selected ones.
Reset	Returns the value of the selected element to the initial value of the active tool. For example, if the Rotate  tool is active, the transformation angle will be reset to 0 and if the Transform  tool is active, all the transformation values will be reset.
Reset All	Resets all transformations on the current frame in a selected layer. Your keyframe will remain, but all the values will return to the default position. All transformations are reset regardless of the tool you're using.

Drawing Menu

The Drawing menu lets you access many tools related to drawing, painting, dirt removal, optimizing strokes, and more.

How to access the Drawing menu

- At the top of the interface, select **Drawing**.

Command	Description
Drawing Tools	<p>Activates a drawing tool including:</p> <p>Select, Contour Editor, Cutter, Smooth Editor, Perspective, Envelope, Reposition All Drawings, Brush, Pencil, Text, Eraser, Dropper, Line, Rectangle, Ellipse, Polyline, Paint, Ink, Repaint Brush, Close Gap, Stroke, Edit Gradient/Texture, Hand, Zoom and Rotate View.</p> <p>These drawing tools are available on the Tools toolbar.</p>
Convert	
Pencil Lines to Brush Strokes	Converts the selected centreline pencil strokes into contour strokes brush lines.
Brush Strokes to Pencil Lines	Converts selected contour strokes into centreline pencil strokes. The brush stroke thickness will be lost.
Strokes to Pencil Lines	Converts the selected invisible line to a pencil line.
Break Apart Text Layers	Text is treated as a single drawing object. This separates the text so each character becomes an individual drawing object you can select and modify independently.
Optimize	
Flatten	Merges drawing objects and brush strokes into a single layer. If you draw new lines to fix a drawing or line with many brush strokes, it can be useful to flatten them all into a single shape. By default, lines are drawn one on top of each other. If you intend to repaint the lines

	or modify their shape, it will be easier if they are flattened.
Smooth	Smooths selected drawing strokes and removes extra points.
Optimize	Reduces the number of layers, such as overlapping brush strokes, in the selected drawing objects. Drawing objects will only be flattened and optimized if the selected objects do not change the appearance of the final image when they are merged.
Transform	
Flip Horizontal	Flips the current selection horizontally.
Flip Vertical	Flips the current selection vertically.
Rotate 90 CW	Rotates the current selection 90 degrees clockwise.
Rotate 90 CCW	Rotates the current selection 90 degrees counter-clockwise.
Rotate 180	Rotates the current selection 180 degrees.
Arrange	
Bring to Front	Moves the selected art to the front (on top).
Bring Forward	Moves the selected art one level forward (closer to the front).
Send Backward	Moves the selected art one level lower (behind).
Send to Back	Moves the selected art behind everything (bottom / back).
Create Empty Drawing	Creates a drawing in the selected cell, replacing any drawing that may already be exposed in that cell and the following ones until it meets another drawing, key exposure or a blank cell.
Duplicate Drawings	Lets you duplicate the drawing and work on a copy of it. This lets you modify an existing drawing but retain the original. When duplicating a drawing, the selected cell is replaced with the new drawing. The exposure of the original drawing that was on the current cell is removed. The original drawing is not deleted from the project folder or other cells in which it is exposed.
Delete Selected Drawings	Permanently removes selected drawings. Once you save your project, these drawings cannot be recovered.
Rename Drawing	Lets you give a selected drawing a new name.
Select Strokes with Current Colour	Lets you select drawing elements and painted areas with the same colour as the currently selected colour in your colour palette.
Previous Drawing	Once a cell is selected in the Timeline or Xsheet view, you can navigate between the drawings, frames, and layers.
Next Drawing	
Previous Layer	Displays the previous drawing, next drawing, previous layer or next layer.
Next Layer	

Edit Menu

The Edit menu lets you repeat and undo actions, cut/copy/paste selected objects, select and manipulate objects, work with symbols, and access the Preferences dialog box.

How to access the Edit menu

- From the top menu, select **Edit**.

Command	Description
Undo	Removes the last change made to your project. Harmony supports multiple undo, so you can undo changes you made in the order you made them.
Redo	Redoes an operation you have undone. This command is active only after you use the Undo command.
Cut	Removes selected objects. You can then paste the object or its properties to another object.
Copy	Copies selected objects and properties.
Paste	Places an object you cut or copied into the location you select in a view.
Paste Special	Opens the Paste Special dialog box which lets you determine how templates and symbols are imported in the Timeline view. There are advanced paste options for drawings, timings, keyframes, layers, as well as palettes and symbols.
Paste Special Again	Pastes new drawings with the previous Paste Special settings.
Delete	Removes selected objects.
Select All	Selects all drawing objects in the current drawing window in the Drawing, Timeline and Camera views. This helps you manage multiple objects as one when moving them.
Deselect All	Deselects all selected objects in the Drawing and Camera views.
Invert Selection	Deselects the currently selected items and selects all other items that were not selected. For example, if some lines are selected in a drawing, this command will deselect them and select any other lines in the drawing that were not selected. Not clear for me. Missing information: This however unselects the currently selected drawing (e.g. unselect current selected lines and select everything else that is unselected).
Create Symbol	Creates a symbol from selected drawing elements in the Drawing or Camera view or a layer or cells in the Timeline view.
Expand Symbol	Extracts a symbol's contents and places it on the root timeline. Its contents will be copied and inserted into the root timeline. The symbol will not be removed from the Timeline view once it is expanded. The symbol's layers will be parented to it in case you created motions and transformations on the drawing layer that contain the symbol. Breaking the hierarchy could result in the loss of any scaling and animation you may have created.
Duplicate Selected Symbol	Creates a duplicate of a selected symbol. If other symbols are nested inside the new symbol, they are not duplicated. If you modify them, the original and other instances will also be modified.

Clone: Drawings Only	Creates a copy of the drawings in the selected layer in the Timeline view or column in the Xsheet view. The timing is not copied.
Clone: Drawings and Timing	Creates a copy of the drawings and their timings in the selected layer in the Timeline view or column in the Xsheet view.
Duplicate	Duplicates a layer to have a copy of the drawings that are independent from the original ones, as well as an independent timing (exposure). When you need the drawings to be modified independently, you will want to duplicate the layer instead of cloning it.
Merge	Combines all drawings. Unused columns and layers will be deleted, but the original drawing files are still accessible.
Group	
Group	Groups selected drawing objects in the Camera or Drawing view.
Ungroup	Ungroups a selected group of drawing objects in the Camera or Drawing view.
Preferences	Opens the Preferences dialog box where you can set your preferences for Harmony.

File Menu

The File menu lets you open, close, save, scan, print, and import and export files.

How to access the File menu

- ▶ From the top menu, select **File**.

Command	Description
New	Creates a new scene while closing any scene already open. The New Scene dialog box opens, asking for directory, name, and resolution information.
Open	Displays the Open Scene dialog box where you can browse for a scene file. You can open a new scene from the current one and the previous scene will close.
Open Recent	Displays a list of the most recently opened scenes.
Clear	Clears the list of recently opened scenes.
Close	Closes the currently opened scene, but does not close the Harmony application.
Save	Saves all changes made to the opened scene, drawings, palettes, and palette lists.
Save As	Saves the current file with a different name and at a different location. Saves the current state of a scene as another scene. The Save As window prompts you for a new name and a different location for this scene before saving it. This will create a complete scene directory for the new scene.

	NOTE: The scene name cannot exceed 23 characters.
Save as New Version	Saves the current scene as another version. The Save Version dialog box prompts you to give a name for this new version. This will create a new .xstage file in your current project directory.
Acquire	
From TWAIN	Opens the Acquire from Scanner window from which you can set parameters before scanning.
Import	
Images	Imports bitmap images which you can choose to vectorize—see Importing Bitmap Images on page 1.
Movie	Lets you convert a QuickTime movie to an image sequence and audio file.
Sound	Lets you import sound files into your project.
SWF, Illustrator Files to Library	Lets you import SWF files into your project.
Export	
Images	Exports a scene as a bitmap image sequence. If there is sound in your scene, it will not be exported with the images.
Movie	Exports animation as a QuickTime movie—see Exporting a QuickTime Movie on page 1.
SWF	Exports a Flash movie file. The SWF export supports some bitmap effects (which can be previewed in Render View mode) and SWF Blend Modes (vector effects which can be previewed in OpenGL View mode). See Exporting an SWF Movie on page 1.
Quit	Closes the application.

Help Menu

The Help menu lets you display the Harmony documentation, Welcome screen and end user license agreement, as well as access the Toon Boom website, and identify the product name and version number.

How to access the Help menu

- ▶ At the top of the interface, select **Help**.

Command	Description
Online Help	Opens the Harmony Help system, complete with instructions on how to use the system. This requires an internet connection.
Getting Started	Opens the Harmony Getting Started Guide (in PDF format) in a browser window. Requires Acrobat Reader.
Toon Boom on the Web	Opens the Harmony website, which features a Support and Community > Forum section.

Customer Experience Improvement Program	<p>The Customer Experience Improvement Program allows Toon Boom to collect usage information. The data does not contain any personally identifiable information and cannot be used to identify you. The data will consist of a basic hardware description, a project summary and usage information. The information is used only for software improvement purposes, as well as for sharing with third parties for the same reason.</p> <p>This program is enabled by default but is voluntary. If you prefer not to participate, you can opt out when you first launch the software, by using a global preference, or by a command line argument.</p>
About	Identifies the product name and version number.
Show Welcome Screen	Displays the Harmony Welcome screen.
Show End User License Agreement	Displays the End User License Agreement.
Command	Description
Online Help	Opens the Harmony Help system, complete with instructions on how to use the system. This requires an internet connection.
Getting Started	Opens the Harmony Getting Started Guide (in PDF format) in a browser window. Requires Acrobat Reader.
Toon Boom on the Web	Opens the Harmony website, which features a Support and Community > Forum section.
Customer Experience Improvement Program	<p>The Customer Experience Improvement Program allows Toon Boom to collect usage information. The data does not contain any personally identifiable information and cannot be used to identify you. The data will consist of a basic hardware description, a project summary and usage information. The information is used only for software improvement purposes, as well as for sharing with third parties for the same reason.</p> <p>This program is enabled by default but is voluntary. If you prefer not to participate, you can opt out when you first launch the software, by using a global preference, or by a command line argument.</p>
About	Identifies the product name and version number.
Show Welcome Screen	Displays the Harmony Welcome screen.
Show End User License Agreement	Displays the End User License Agreement.

Insert Menu

The Insert menu lets you create empty symbols in the Library view, different types of layers in the Timeline view, keyframes and control points.

How to access the Insert menu

- At the top of the interface, select **Insert**.

Command	Description
Create Empty Symbol in Library	Creates an empty symbol in the Library view to which you can edit (add content).

Bone	Adds a new Bone layer to the Timeline view.
Camera	Adds a new Camera layer to the Timeline view.
Colour-Card	Adds a new Colour-Card layer to the Timeline view.
Drawing	Adds a new Drawing layer to the Timeline view and a column in the Xsheet view.
Game Bone	Adds a new Game Bone layer to the Timeline view.
Kinematic Output	Adds dd a new Kinematic Output layer to the Timeline view.
Peg	Adds a new Peg layer to the Timeline view.
Quadmap	Adds a new Quadmap layer to the Timeline view.
Effects	Adds a new layer in the Timeline view with the effect you select: Blur, Brightness-Contrast, Colour-Scale, Cutter, Glow, Shadow, or Transparency.
Keyframe	Adds a keyframe to the selected cell in the Timeline view.
Keyframe and Duplicate Drawing	Adds a keyframe to the selected drawing layer cell in the Timeline view and creates a duplicate of the drawing, which sits on top of the original drawing.
Control Point	Adds a control point to the trajectory of the selected element or peg in the Camera view when the element or peg is in a 3D path. Note that you must have a 3D path in the peg portion in order to add a control point.

Play Menu

The Play menu lets you play back animation and sound. Use it to scrub the sound to create your lip-sync, loop the playback, navigate through frames, and change the playback range and speed.

How to access the Play menu

- At the top of the interface, select **Play**.

Command	Description
Play	Plays and stops the animation.
Render and Play	Creates a render of your scene to play back the final result including the effects.
Test SWF Movie	Creates a SWF format movie and a report to test your result before proceeding to the final movie.
Stop	Stops playback.
Playback Speed	Opens the Set New Frame Rate dialog box where you can set the frame rate at which the playback plays.
Loop	Repeatedly plays back your animation indefinitely.
Enable Sound	Turns on sound during playback.
Enable Sound Scrubbing	Turns on sound scrubbing during playback.
Start Frame	Opens the Set Playback Start Frame dialog box where you can set

	the frame number on which to start playback.
Stop Frame	Opens the Set Playback Stop Frame dialog box where you can set the frame number on which to stop playback.
First Frame	Moves the red playhead to the first frame.
Previous Frame	Moves the red playhead to the previous frame.
Next Frame	Moves the red playhead to the next frame.
Last Frame	Moves the red playhead to the last frame.
Go to Frame	Opens the Go to Frame dialog box where you can enter the frame number on which the red playhead to be positioned in the Timeline view.
Enable Playback	
Top View	Plays back your animation in the Top, Side or Perspective views.
Side View	
Perspective View	

Scene Menu

The Scene menu lets you set the scene length, add frames to the scene, view different displays of the scene, set render options, access the Scene Settings dialog box and Elements Manager window, and verify the drawing and palette files in your project.

How to access the Scene menu

- At the top of the interface, select **Scene**.

Command	Description
Scene Length	Lets you set the length of the scene in frames.
Frame	
Add Frames at Start	Adds the number of frames you specify to be added at the beginning or end of the scene.
Add Frames at End	
Add Frames Before Selection	Adds the number of frames you specify before or after your selection.
Add Frames After Selection	
Remove Selected Frames	Deletes the selected frames from your scene.
Camera	
Default Camera	Lets you select a camera. If you only add one camera to your scene, you will only see Default Camera in your list.
Scene Settings	Opens the Scene Settings dialog box where you can set the resolution, alignment, bitmap resolution and many other parameters.
Render	
Auto Render	Automatically recalculates the preview image whenever you modify a parameter. If your scene is heavy and you do not want the preview rendered automatically, deselect the Auto-Render option and do the pre-

	view update manually. Note that this will slow down Harmony as it takes resources to update every frame.
Cancel Preview Render	Cancels a render that was started.

View Menu

The View menu lets you manipulate the view by zooming, panning, or rotating. You can also display the grid and change its size, use the onion skin feature to help with drawing, and set the preview resolution.

How to access the View menu

- At the top of the interface, select **View**.

Command	Description
Toggle Full Screen	Enlarges the selected view to full screen which is done in three stages. First, the selected view enlarges to the maximum width or height, but keeps the tool views such as Colour or Tool Properties view. Second, the view enlarges to full screen. Third, the view returns to its original size.
Zoom In	Zooms in the view.
Zoom Out	Zooms out the view.
Rotate View CW	Rotates the Camera view 30 degrees clockwise, like an animation table.
Rotate View CCW	Rotates the Camera view 30 degrees counter-clockwise, like an animation table.
Reset Zoom	Resets the view's zoom to its default position.
Reset Rotation	Resets the view's rotation to its default position.
Reset Pan	Resets the view's pan to its default position.
Reset View	Resets the view to its default position.
Grid	
Show Grid	Displays the grid.
Underlay	Displays the grid under the drawing elements.
Overlay	Displays the grid over the drawing elements.
Square Grid	Displays a standard square grid.
12 Field Grid	Displays a 12-field size grid.
16 Field Grid	Displays a 16-field size grid.
Onion Skin	
Show Onion Skin	Lets you preview the previous and next drawings. By default, the previous drawings appear in a shade of red and the next drawings are displayed with a shade of green. You can change these colours in the Preferences dialog box.

Add to Onion Skin	Adds a series of selected elements to the onion skin preview.
Remove from Onion Skin	Removes a series of selected elements from the onion skin preview.
Remove Unselected from Onion Skin	Removes all elements except the ones selected from the onion skin preview.
Add All to Onion Skin	Adds all of the scene's elements to the onion skin preview.
Remove All from Onion Skin	Removes all of the scene's elements from the onion skin preview.
Onion Skinning by Drawing	In Camera view, the onion skin by default is per frame, this option lets you set it by drawing so you don't see any exposure's onion skin from the same drawing.
Reduce One Previous Drawing	Reduces the number of previous visible drawings by one.
Add One Previous Drawing	Adds one drawing to the number of previous visible drawings.
Reduce One Next Drawing	Reduces the number of next visible drawings by one.
Add One Next Drawing	Adds one drawing to the number of next visible drawings.
Light Table	Turns on the light table so you can see the previous and subsequent active layers in washed-out colours. It is useful for seeing the other layers when designing, animating or cleaning up your animation.
Show	
Safe Area	Displays the TV safety zone and the centre of the camera frame. The safe area adapts to the scene resolution, as well as the safety zone and frame's centre.
Camera Mask	Displays a black mask around the scene's frame to avoid seeing the unnecessary artwork. This option is handy when you're animating and setting up the scene. It allows you to see your scene's composition better.
Control	Displays the controls of the selected element.
Current Drawing on Top	Displays the selected drawing on top of everything while you draw. By enabling this option, each time you select a drawing tool, the selected drawing is displayed in front of everything in the Camera view. The Timeline view ordering remain unchanged. You only need to enable this option once, it is not necessary to do it each time you select a drawing tool.
Show Strokes	Displays the strokes in your drawings so that the invisible lines stand out.
Hide All Controls	Hides the controls of the selected element.
Preview Resolution	
Same as Scene Resolution	Lets you choose a resolution for previewing a scene.
3/4 of Scene Resolution	
1/2 of Scene Resolution	
1/3 of Scene Resolution	
1/4 of Scene Resolution	
Custom	Lets you select a resolution from a list of presets or enter X and Y val-

	ues for a custom preview resolution.
Bitmap File Quality	Lets you change the quality of the preview of the bitmap file in the Camera view. It will not affect the final render.

Windows Menu

The Windows menu lets you customize your workspace to suit your working style, save it as a new workspace, and load it from the Workspace toolbar. You can also show or hide the different toolbars and views in Harmony.

How to access the Windows menu

- From the top menu, select **Windows**.

Command	Description
Restore Default Workspace	Returns modified workspaces to their original default layout if you do not like the current modifications or inadvertently closed some windows.
Workspace	
Workspace Manager	Opens the Workspace Manager where you can modify, create, delete, rename and reorder your workspaces.
Workspace	Lets you open workspaces designed specifically for animating, compositing, hand drawing, scripting and the default workspace.
Toolbars	Lets you show or hide these toolbars: Playback, File, Edit, Advanced Animation, Scripting, Tools, Workspace, Deformation, Xsheet View and Timeline View—see Toolbars on page 1 .
Camera	Shows or hides the Camera view.
Colour	Shows or hides the Colour view.
Drawing	Shows or hides the Drawing view.
Function	Shows or hides the Function view.
Layer Properties	Shows or hides the Layer Properties view.
Library	Shows or hides the Library view.
Message Log	Shows or hides the Message Log view.
Side	Shows or hides the Side view.
Timeline	Shows or hides the Timeline view.
Tool Properties	Shows or hides the Tool Properties view.
Top	Shows or hides the Top view.
Xsheet	Shows or hides the Xsheet view.
Script Editor	Shows or hides the Script Editor view.

Quick-access Menus

A quick-access menu lets you open a list of the commands you will use most often.

How to access a quick-access menu

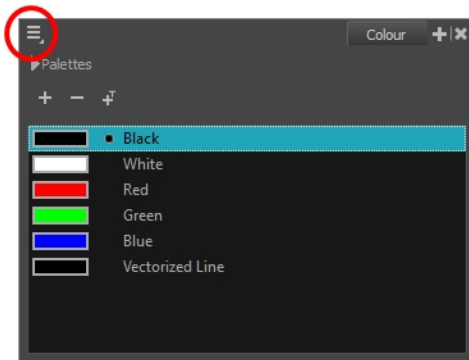
1. Right-click anywhere in a view.

View Menus

A view menu contains commands specifically related to that view.

How to access a view menu

In the top-left corner of a view, click the Menu  button.



Colour Menu

The Colour menu lets you access commands related to the Colour view such as creating new palettes, adding new colour swatches, and displaying the Tint panel.

How to access the Colour menu

- ▶ In the upper-left corner of the Colour view, click the menu  button.

Command	Description
Palettes	
New	Creates a new colour palette. By default, Toon Boom Harmony is set to the Basic mode. For simple productions, it is recommended to use the Basic mode. This setting stores the palettes automatically for you and saves them at the Scene level. When you use the Advanced Palette Lists mode, you can decide at which level you want to store your palettes: Environment, Job, Scene, or Element.
Link	Lets you access other palettes created in the project and link them to your scene—see Importing and Linking Palettes on page 1 .
Import	Imports a colour palette located on your hard drive.
Remove	Deletes the selected colour palette.
Rename	Lets you give the selected colour palette a new name.
Duplicate	Creates a copy of the original palette, using the same names and colour values, but has a different ID and is independent from the original palette. This ensures

	that both the duplicate and original palettes are completely independent.
Clone	Creates a copy of the master palette. The colours in each palette have the same properties. The colours have the same identification number pointing to the same colour zones, but they can have different names and RGBA values.
Pencil Texture Palette	
Move Up	Moves the selected colour palette up one level.
Move Down	Moves the selected colour palette down one level.
Colour Editor	Opens the Colour Editor where you can
Tint Panel	Opens the Tint panel where you can modify a series of colours to blend a tint in them or offset their RGBA values.
Current Palette Overrides	
Display Colour Values	Display the colour values beside their colour swatches in the palette list.
Colours	
Cut	Cuts the selected colour swatch from the palette.
Copy	Copies the selected colour swatch which you can paste in a different palette.
Copy Colour ID	Copies a colour swatch's colour ID so you can keep a reference file of colour IDs or use them with custom plug-ins. Example of a colour ID: <code>075c1f5b552401130</code> .
Paste Colour Values	Pastes the colour value of the copied swatch over an existing colour swatch.
Paste As New Colours	Creates a new colour swatch from the colour value of the copied swatch.
Paste As Clones	
New	Creates a new colour swatch from the colour swatch that was last selected.
Edit	Opens the Colour Picker window in which you can edit the selected colour swatch.
Delete	Deletes the selected colour swatch from the palette.
New Texture	Lets you add a bitmap colour swatch to your palette. You can load photos and textures and paint your drawings with it. The bitmap image must be a .tga or .psd file format.
Edit Texture	
Scale Down Texture	Lets you set a new maximum texture size or scaling factor.
New Default Colour	
Protect Colour	Locks a selected colour, so if you ever paint over it accidentally, the work already done will not be affected. You can also block the filling colours if you painted all of the animation in Line Art and plan to repaint the lines.
Swatch Mode	Displays the colour swatches with its corresponding name inside the swatch. When this option is not selected, the names of the colour swatches are displayed beside the swatch.
Independent Bitmap Colour	
Bitmap Colour Sliders	

RGB	
HSV	

Function Menu

The Functions menu lets you do many things in the Camera view, including selecting and editing objects in different views, changing the display, setting morphing parameters, accessing tools and many more.

How to access the Function menu

- ▶ In the upper-left corner of the Function view, click the menu  button.

Command	Description
Edit	
Cut	Removes selected objects. You can then paste the object or its properties to another object.
Copy	Copies selected objects and properties.
Paste	Places an object you cut or copied into the location you select in a view.
Delete	Removes selected objects.
Select Next Keyframe	Selects the next keyframe.
Select Previous Keyframe	Selects the previous keyframe.
Select Left Handle	Selects the left handle of the selected keyframe.
Select Right Handle	Selects the right handle of the selected keyframe.
Select All	Selects all objects in the Function view. This helps you manage multiple objects as one.
Deselect All	Deselects all selected objects in the Function view.
View	
Show Current Frame	Displays the current frame
Toggle Grid	Enables the display of the grid.
Reset Zoom	Resets the view's zoom to its default position.
Reset Pan	Resets the view's pan to its default position.
Reset View	Resets the view to its default position.
Function List	
Auto Load Selection	
Clear	
Load Selection	
Add Selection	
Remove Selection	
Show	Show Motion:


	Show Rotation:
	Show Scale:
	Show Skew:
	Show Other:

Library Menu

The Library menu lets you access commands specific to the Library view, such as opening a Library or getting the rights to modify a library folder.

How to access the Library menu

- In the upper-left corner of the Library view, click the menu  button.

Command	Description
View	
List	Displays the contents of the selected folder as a list.
Thumbnails	Displays the contents of the selected folder as a thumbnails.
Details	Displays the details of the selected file.
Generate Thumbnails	Creates a thumbnail to display in the preview window.
Edit	
New Symbol	<p>Creates a new symbol from a drawing or part of a drawing in the Drawing or Camera view, or a layer in the Timeline view.</p> <p>If your selection is in the Timeline, the new symbol appears in the Symbol folder. The current selection is not replaced by the new symbol. The new symbol only appears in the library. You must drag it into your scene to use it.</p> <p>If your selection is in the Drawing or Camera view, the new symbol appears in the Symbol folder and in the Timeline view as a new layer.</p>
Cut	Cuts the selected file in the Library view.
Copy	Copies the selected file in the Library view.
Paste	Pastes the selected file in the Library view.
Delete	Deletes the selected file in the Library view.
Delete Thumbnails	Deletes any thumbnails that were generated for display in the preview window.
Edit Symbol	<p>Places you inside the symbol where you can edit it.</p> <p>To return to the project's timeline, click the Top  button in the Camera view's top-left corner, press Ctrl + Shift + E (Windows/Linux) or ⌘ + Shift + E (Mac OS X).</p>
Remove Unused Files	Removes any files not in use in the
Rename Template	Lets you rename a selected template.
Import Files	Opens the

Folders	
New Folder	Creates a new folder in the Library view. Before you can create a new folder, you must have the right to modify the folder in which you are creating the new folder.
Refresh	Updates the view and its contents.
Open Library	Lets you open a library on your computer.
Close Library	

Chapter 4: Toolbars

Harmony contains toolbars which, by default, are located at the top of the interface. Some views also have a toolbar which you can reposition to suit your work style. You can show or hide toolbars, as well as customize it with the tools you use most often and hide the ones you don't.

Main Toolbars

View Toolbars

Chapter 5: Views

Intro...

Layer Properties

The Layer Properties editor or view lets you adjust the properties of a layer in the Timeline view. The Layer Properties can be viewed as a floating window or as a view (docked).

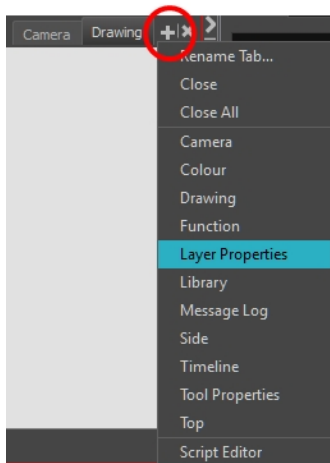
Each layer has its own set of properties that can be modified, including effect and peg layers. Display the Layer Properties editor or view if you want to modify some of the layer's properties, such as the name or the antialiasing quality.

How to access the Layer Properties editor

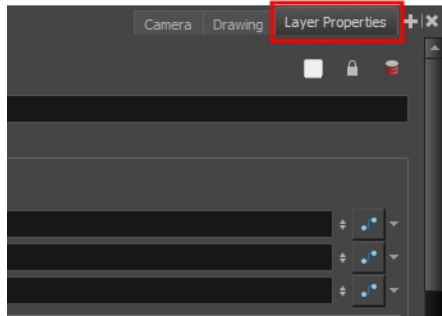
- ▶ Double-click on a layer in the Timeline view
- ▶ Right-click on a layer in the Timeline view and select **Layer Properties**.
- ▶ Select a layer in the Timeline view and press Shift + E.

How to access the Layer Properties view

1. Do one of the following:
 - ▶ Select the view you want to add from **Windows > Layer Properties**.
 - ▶ In the top-right corner of a view, click the Add View **+** button and select Layer Properties from the list.

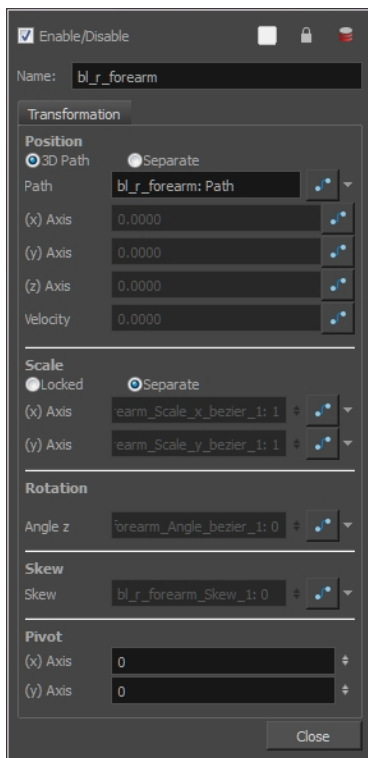


By default, the Layer Properties view appears as a tab.



Transformation Tab

The Transformation tab contains parameters for adjusting the position, scale, rotation, skew and pivots of an element.



Parameter	Description
Position	<p>3D Path: Lets you use a 3D path function to animate an element.</p> <p>Separate: Lets you independently edit the different coordinate fields.</p> <p>Path (x) Axis: Lets you type in a new East/West coordinate corresponding to the desired position.</p> <p>Path (y) Axis: Lets you type in a new North/South coordinate corresponding to the desired position.</p> <p>Path (z) Axis: Lets you type in a new Forward/Backward coordinate corresponding to the desired position.</p>

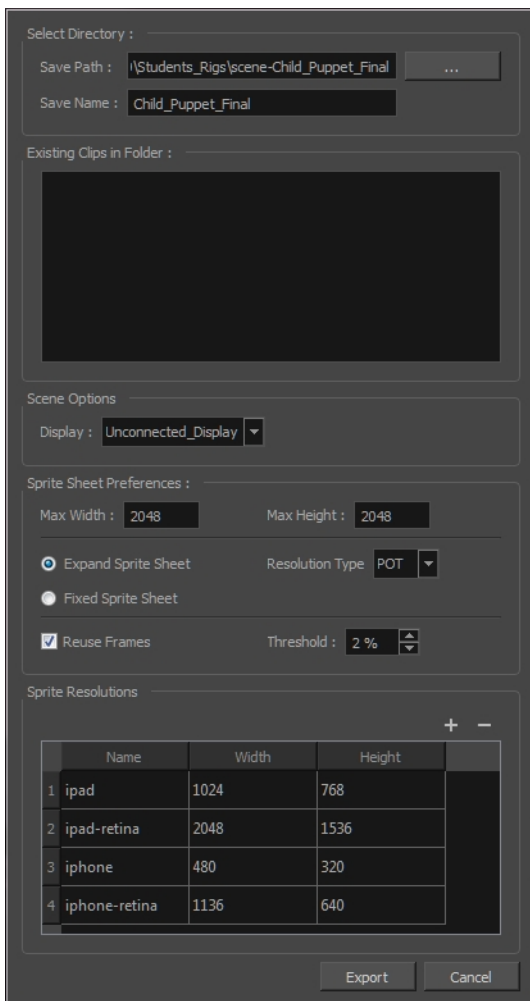
	Velocity: When the 3D Path option is selected, lets you set the speed at which
Scale	<p>Locked: Resizes the element while keeping its ratio. The X and Y axes scale proportionally</p> <p>Separate: Resizes the element allowing to modify the ratio (squash and stretch).</p> <p>(x) Axis: Lets you type in the horizontal scale value.</p> <p>(y) Axis: Lets you type in the vertical scale value.</p>
Rotation	Angle z: Lets you type in a degree value for the rotation angle. Note that you can enter values greater than 360 and -360 degrees. If you enter 720, the object will rotate twice.
Skew	Skew: Lets you type in a degree value between -90 to 90 for the skew angle.
Pivot	<p>(x) Axis: Lets you type in a new East/West coordinate corresponding to the desired position.</p> <p>(y) Axis: Lets you type in a new North/South coordinate corresponding to the desired position.</p>

Chapter 6: Windows

Intro...

Export to Easel JS

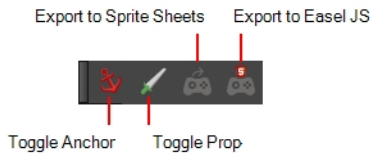
The Export to Easel JS window lets you a flattened image sequence of your animation. Even if you have a fully rigged puppet or a single drawing layer with your animation sequence, the outcome will still be a flattened output of each frame, grouped together in your sprite sheet. This allows for more flexibility and freedom of work as you have access to any tools or effect modules you want to use. However, this can result in heavier files depending on the length, complexity and export size of your animation.




How to access the Export to Easel JS window

1. From the top menu, select **Windows > Toolbars > Game**.

The Game toolbar appears above the Camera view, to the left.



- Click the Export to Easel JS  button.

Parameter	Description
Select Directory	
Save Path	The folder path where you want to save your export.
Save Name	The folder name in which you will save your export. This will also be the name of your asset in Unity. Your scene file name will be used as the clip name.
Existing Clips in Folder	Displays the clips in the folder.
Scene Options	
Display	Here, you must select the Display of your character. This is the one that will be used to render out all of the information attached to that Display node. If the Unconnected_Display option is selected, all of the visual information in your scene will be rendered out.
Sprite Sheet Preferences	
Max Width	This is a value, in pixels, for the maximum width and height the exported sprite sheet should be. By default, both values are set to 2048 pixels.
Max Height	
Expand Sprite Sheet	Uses the minimum size necessary up until it reaches the maximum resolution.
Fixed Sprite Sheet	Creates a texture of the specified size (Max Width and Max Height) even if it does not fill it up completely by all the drawings in your scene.
Resolution Type	POT: Exports to sprite sheets with sizes that are a power of 2. For example: 1024 x 1024. This is optimized for many graphics cards, but consumes more memory. NPOT: Some game engines are optimized specifically to render to non powers of two, so that it will avoid those numbers. Example: 1000 x 1000.
Reuse Frames	This option works in tandem with the Threshold option. The export will compare the drawings in your project to reuse a maximum of similar drawings and reduce the amount of information found in the sprite sheet, making it lighter. The export will omit the creation of new drawings if the difference is less than the threshold percentage.
Threshold	Calculates the differences between multiple drawings. A 2% threshold will prevent the creation of a new drawing if the drawing is too similar to an existing drawing. For instance, with a 2% threshold, and my drawing is 100 pixels big, only 2 of those pixels need to be different from my other drawing in order to create a new one. The higher the threshold, the fewer similar drawings you will have.
Sprite Resolutions	Size of the render of the individual sprite, when it exports each drawing out.

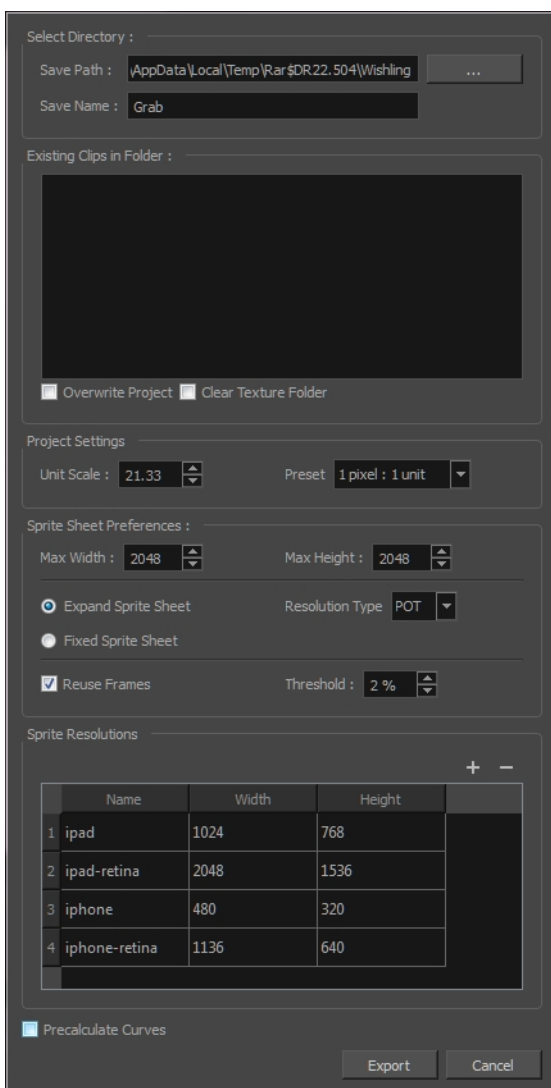
Export to Sprite Sheets

The Export to Sprite Sheets window exports to multiple resolutions, generating multiple .xml files and one or multiple sprite sheets depending on how many sprite resolutions you defined.

This saves different animations of the same character into the same name. For example, if there's an idle, run, and jump animation, these should all share the same Save Name. You can think of it as the overall collection of animations. Inside are the different saved scene versions whose drawings you can reuse for all the animations in that character set. Each scene version will be displayed as an item in the list.

When you export an animation, only the drawings used in that scene are exported. All the drawings are exported individually first and then atlased together into a sprite sheet.

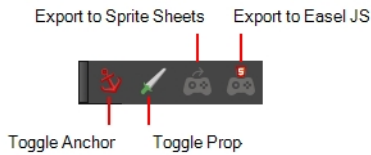
If you saved multiple animations to the same Save Name (i.e. SpaceDuck: run, idle), then it will reatlas the sprite sheet to include all the drawings from all the animations in that folder, creating a new animation file, but reusing the same skeleton.



How to access the Export to Sprite Sheets window

1. From the top menu, select **Windows > Toolbars > Game**.

The Game toolbar appears above the Camera view, to the left.



2. Click the Export to Sprite Sheets  button.

Parameter	Description
Select Directory	
Save Path	The folder path where you want to save your export.
Save Name	The folder name in which you will save your export. This will also be the name of your asset in Unity. Your scene file name will be used as the clip name.
Existing Clips in Folder	
Overwrite Project	The folder name in which you will save your export. This will also be the name of your asset in Unity. Your scene file name will be used as the clip name.
Clear Texture Folder	Removes any information from the texture folder within the Harmony file. This has no incidence towards the Unity export but contributes to a lighter Harmony file.
Project Settings	
Unit Scale	Lets you change the scale when exporting to Unity to accommodate the size of the export without it affecting the Harmony scene. This helps you resize assets properly for Unity without having to resize them in Harmony. The basic scale is one Animation Field for one Unity unit.
Sprite Sheet Preferences	
Max Width	This is a value, in pixels, for the maximum width and height the exported sprite sheet should be. By default, both values are set to 2048 pixels.
Max Height	Makes linear values for interpolation. This increases the amount of memory used but frees up the calculation so it is not done on the fly.
Expand Sprite Sheet	Uses the minimum size necessary up until it reaches the maximum resolution.
Fixed Sprite Sheet	Creates a texture of the specified size (Max Width and Max Height) even if it does not fill it up completely by all the drawings in your scene.
Resolution Type	<p>POT: Exports to sprite sheets with sizes that are a power of 2. For example: 1024 x 1024. This is optimized for many graphics cards, but consumes more memory.</p> <p>NPOT: Some game engines are optimized specifically to render to non powers of two, so that it will avoid those numbers. Example: 1000 x 1000.</p>

Reuse Frames	This option works in tandem with the Threshold option. The export will compare the drawings in your project to reuse a maximum of similar drawings and reduce the amount of information found in the sprite sheet, making it lighter. The export will omit the creation of new drawings if the difference is less than the threshold percentage.
Threshold	Calculates the differences between multiple drawings. A 2% threshold will prevent the creation of a new drawing if the drawing is too similar to an existing drawing. For instance, with a 2% threshold, and my drawing is 100 pixels big, only 2 of those pixels need to be different from my other drawing in order to create a new one. The higher the threshold, the fewer similar drawings you will have.
Sprite Resolutions	Size of the render of the individual sprite, when it exports each drawing out.
Precalculate Curves	Makes linear values for interpolation. This increases the amount of memory used but frees up the calculation so it is not done on the fly.

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