TOON BOOM HARMONY 14.0

ESSENTIALS EDITION

Reference Guide

Legal Notices

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Contents

Toon Boom Harmony 14.0Essentials EditionReference Guide 1
Contents **3**
Chapter 1: Reference **7**
Chapter 2: Dialog Boxes **9**
Add Column Dialog Box 11
Add Drawing Layer Dialog Box 13
Create Function Step On Dialog Box 14
Create Palette Dialog Box 17
Export to Easel JS Dialog Box 18
Export to QuickTime Movie Dialog Box 20
Export to Sprite Sheet Dialog Box 21
Extend Exposure Dialog Box 24
Fill Cells Randomly Dialog Box 25
Import Images Dialog Box 26
Movie Settings Dialog Box 28
New Scene Dialog Box 29
Paste Preset Dialog Box 31
Paste Special Dialog Box 33
Preferences Dialog Box 35
Scene Settings Dialog Box 36
Resolution Tab 36
Scripts Manager Dialog Box 40
Select Colour Dialog Box 41
Set Ease for Multiple Parameters Dialog Box 43
Sound Settings Dialog Box 45
Standard Video Compression Settings Dialog Box 46
Timeline Scene Marker Dialog Box 48
Tint Offset/Blend Dialog Box 49
Toolbar Manager Dialog Box 50
Vectorization Parameters Dialog Box 51
Options Tab 51

Help Tab 53
Chapter 3: Menus **59**
Main Menus 60
Animation Menu 61
Drawing Menu 64
Edit Menu 66
File Menu 68
Help Menu 70
Insert Menu 71
Play Menu 72
Scene Menu 73
View Menu 74
Windows Menu 77
Quick-access Menus 78
View Menus 79
Colour View Menu 80
Function View Menu 82
Library View Menu 84
Chapter 4: Nodes **87**
Combine Nodes 88
Cutter Node 89
Deformation Nodes 91
Bone Node 92
Deformation Composite Node 94
Game Bone Node 96
Kinematic Output Node 98
Filter Nodes 99
Blur Node 100
Colour-Scale Node 102
Glow Node 104
Shadow Node 107
Transparency 109
Generator Nodes 111

Colour-Card Node 112
Element / Drawing Node 113
Move Nodes 115
Camera Node 116
Peg Node 117
Transformation Tab 117
Quadmap Node 118
Sound Layer Properties 120
Chapter 5: Tools Properties 121
Brush Tool Properties 123
Size and Smoothness Tab 124
Close Gap Tool Properties 126
Contour Editor Tool Properties 127
Cutter Tool Properties 129
Ellipse Tool Properties 130
Envelope Tool Properties 133
Eraser Tool Properties 135
Size and Smoothness Tab 136
Line Tool Properties 137
Paint Tool Properties 140
Pencil Tool Properties 142
Perspective Tool Properties 144
Polyline Tool Properties 145
Rectangle Tool Properties 147
Reposition All Drawings Tool Properties 150
Rigging Tool Properties 152
Mode 152
Options 152
Operations 152
Select Tool Properties 153
Smooth Editor Tool Properties 158
Stroke Tool Properties 160
Text Tool Properties 161

Transform Tool Properties 164
Zoom Tool Properties 166
Chapter 6: Toolbars 167
Top Toolbars 168
Advanced Animation Toolbar 169
Deformation Toolbar 170
Edit Toolbar 172
File Toolbar 173
Game Toolbar 174
Playback Toolbar 175
Scripting Toolbar 176
Tools Toolbar 177
Workspace Toolbar 180
View Toolbars 181
Timeline View Toolbar 182
Xsheet View Toolbar 183
Chapter 7: Views 185
Camera View 186
Colour View 191
Drawing View 195
Function View 197
Integrated Help View 199
Layer Properties View 200
Library View 202
Message Log View 204
Script Editor View 205
Side View 207
Timeline View 209
Tool Properties View 216
Top View 217
Xsheet View 219

Chapter 1: Reference

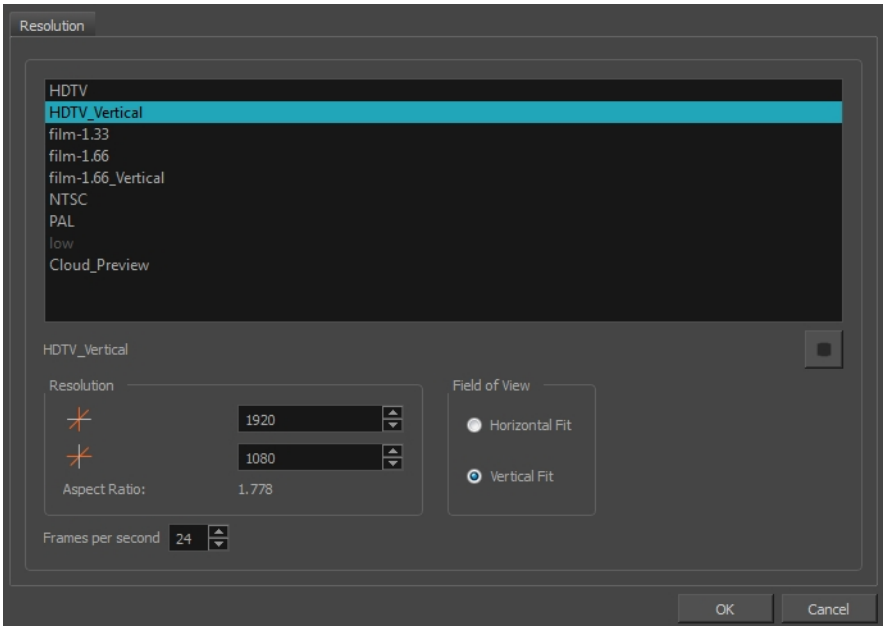
Harmony has several commands, dialog boxes, and buttons. The Reference section lists all of them along with the matching definition. To understand how to use these functions in a production context, read the User guide.

In the Reference guide, you will learn about the various parameters available in dialog boxes, menus, nodes, toolbars, views, and windows.

The Preferences guide provides additional details about each individual preference.

Chapter 2: 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 Column Dialog Box 11
Add Drawing Layer Dialog Box 13
Create Function Step On Dialog Box 14
Create Palette Dialog Box 17
Export to Easel JS Dialog Box 18
Export to QuickTime Movie Dialog Box 20
Export to Sprite Sheet Dialog Box 21
Extend Exposure Dialog Box 24
Fill Cells Randomly Dialog Box 25
Import Images Dialog Box 26
Movie Settings Dialog Box 28
New Scene Dialog Box 29
Paste Preset Dialog Box 31
Paste Special Dialog Box 33
Preferences Dialog Box 35
Scene Settings Dialog Box 36
Resolution Tab 36
Scripts Manager Dialog Box 40

Select Colour Dialog Box 41
Set Ease for Multiple Parameters Dialog Box 43
Sound Settings Dialog Box 45
Standard Video Compression Settings Dialog Box 46
Timeline Scene Marker Dialog Box 48
Tint Offset/Blend Dialog Box 49
Toolbar Manager Dialog Box 50
Vectorization Parameters Dialog Box 51
Options Tab 51
Help Tab 53

Add Column Dialog Box

The Add Column dialog box lets you add a column in the Xsheet view.

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.

How to access the Add Column dialog box

1. Do one of the following:

    - In the Xsheet menu, select **Columns > Add Columns**.
    - Click the Add Columns button.
    - Press Shift + C.

Parameter	Description
Name	Lets you give the new column a meaningful name.
Type	Lets you select a type of column to create. Choices include: Drawing, Timing, Sound, 3D Path, 3D Rotation, Bezier Curve, Ease Curve, Expression and Annotation.
Drawing Layer Options	
Line Art	Creates a vector or bitmap drawing column in the Line Art layer.
Colour Art	Creates a vector or bitmap drawing column in the Colour Art layer.
Element	
Create New Element	Creates an independent column with its own drawing folder.
Vector	Select this option if you want the layer to contain vector drawings. Deselect this option if you want the layer to contain bitmap images. Most of the time, the Vector option will be enabled.
Bitmap Format	Lets you select the type of bitmap image to insert in the column. Select **SCAN** from the list if you are planning to scan drawings using the Toon Boom Harmony Scan module.
Scan Type	If you chose **SCAN** from the Bitmap Format list, select the kind of scanning you want to achieve.
Field Chart	When importing traditional animation, lets you indicate the size of paper on which the animation or background was drawn. If you are not using perforated animation paper, leave the 12 field default value as is.
Use Existing Element	Uses drawings from an existing column in the new column. Both columns will be attached to the same set of drawings, but their timing will remain independent from one another. If you modify one of the drawings, it will be modified in both columns. This is the same principle as the Clone column.
Name	Lets you select the column to which you want to link your new column.

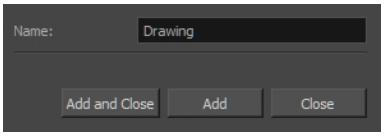
Add and Close	Adds the selected type of layers to the Timeline view and corresponding column in the Xsheet view and closes the dialog box. The names of the layers/columns are automatically numbered incrementally.
Add	Adds the selected type of layers to the Timeline view and corresponding column in the 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.

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.



How to access the Add Drawing Layer dialog box

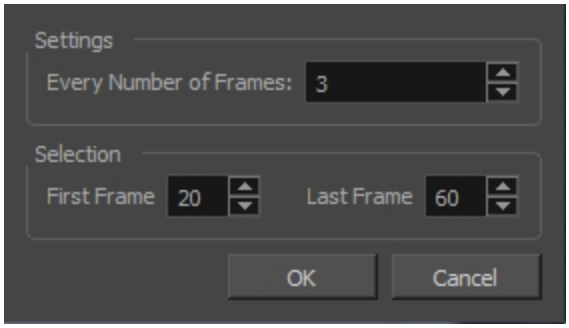
1. Do one of the following:

    - 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.
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 Function Step On Dialog Box

The Create Function Step On dialog box lets you hold the same value over a selected number of frames for multiple parameters (pos x, scale y, etc.). This works well when you are animating drawings on 2s or 3s, for example, and you want to hold the same value for a function over those two or three frames.

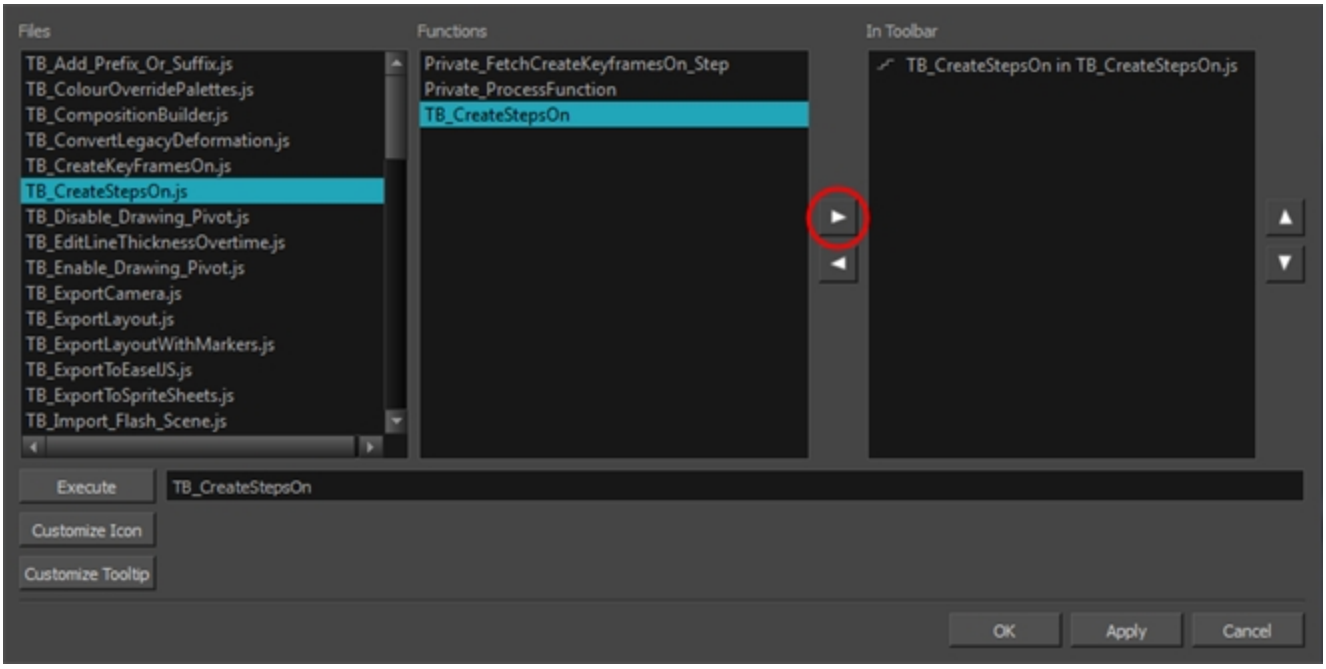


How to access the Create Function Step On dialog box

1. Add the Scripting toolbar to your interface:
   - Go to the top menu and select **Windows > Toolbars > Scripting**.
   - Right-click on the empty space near the top of the interface and from the quick-access menu selecting **Scripting**.
   - Right-click on the empty space near the top of a view and from the quick-access menu selecting **Scripting**.
2. In the Scripting toolbar, click on the Manage Scripts button to open the Scripts Manager window.
3. In the Scripts Manager, in the Files section, select the file **`TB_CreateStepsOn.js`**.

   The functions associated with that file appear in the Functions section.
4. In the Functions section, select **`TB_CreateStepsOn`**.

   The Add script to toolbar button becomes active.

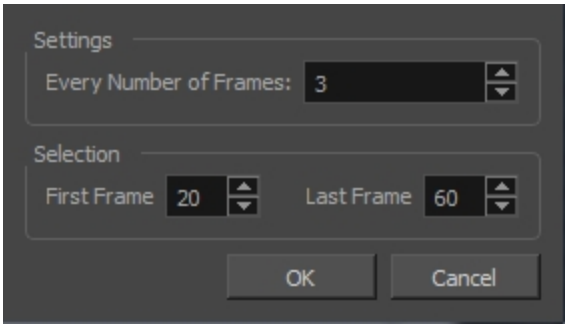


5. Click on the Add script to toolbar ▷ button.

   The TB_CreateStepsOn script button is added to the Scripting toolbar.

6. Click **Apply**.
7. Click **OK**.
8. In the Timeline view, select the layer whose parameter values you would like to hold.
9. In the Scripting toolbar, click on the TB_CreateStepsOn script button.

   The Create Function Step On dialog box appears.

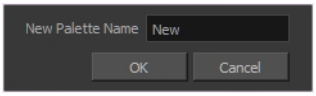


Parameter	Description
Settings	
Every Number of Frames	Enter in the number of frames you would like to hold your functions.
Selection	
First Frame	Enter in the frame number of where you would like the stepped holds to start. The playhead location determines the lowest value you can enter for the first frame. You need to move the playhead to frame one if you would like to set frame one as the lowest possible starting value.

Last Frame	Enter in the frame number of where you would like the stepped holds to stop.

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.



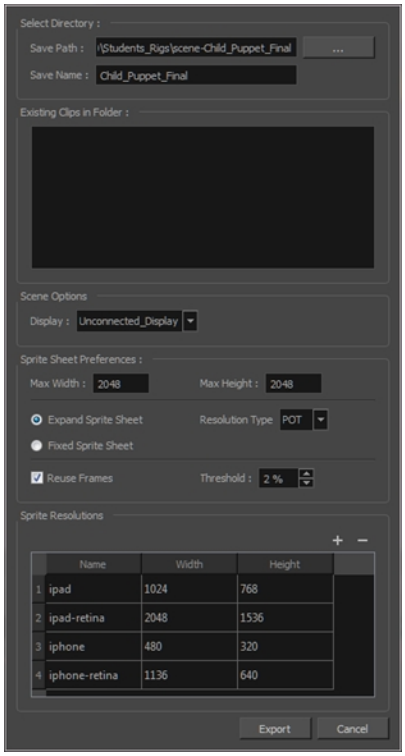
How to access the Create Palette dialog box

1. From the Colour view menu, select **Palettes** > **New** or click the New Palette + button.

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

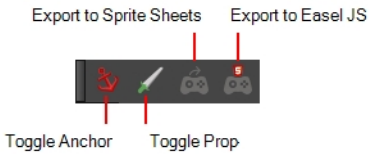
Export to Easel JS Dialog Box

The Export to Easel JS window lets you flatten an 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. Select **Windows > Toolbars > Game**.



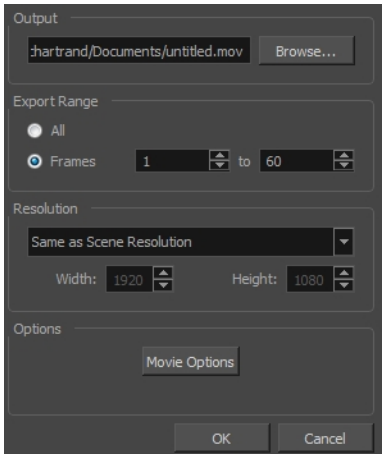
2. Click the Export to Easel JS button.

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 QuickTime Movie Dialog Box

The Export to QuickTime Movie dialog box lets you export your animation as a QuickTime movie. If you want to render a QuickTime movie with lossless compression and transparency, you can use the Animation video codec with the colour depth set to Millions of Colours +.



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.

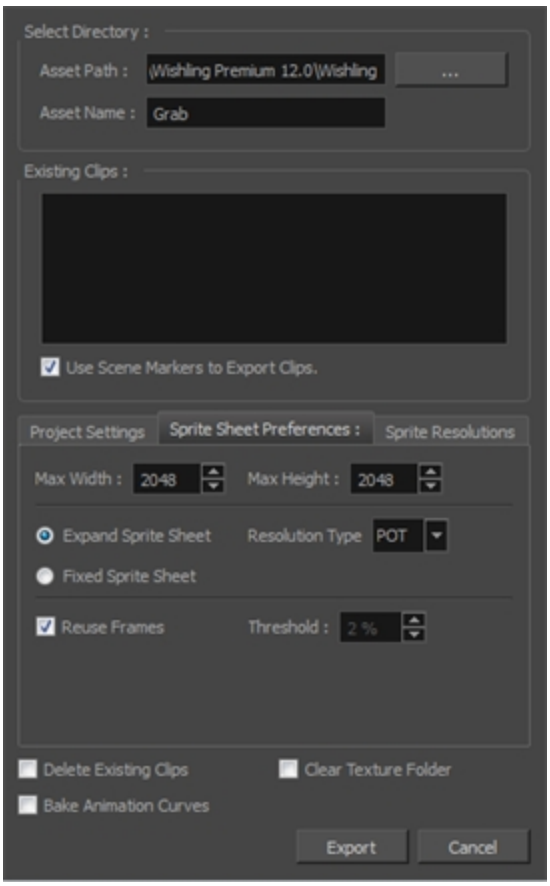
Export to Sprite Sheet Dialog Box

The Export to Sprite Sheets window export to multiple resolutions, generating multiple .xml files and one or multiple sprites sheets depending 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.

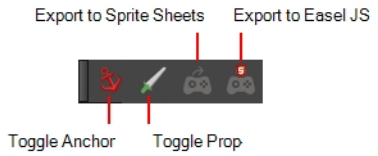
When you export an animation, only the drawings used in that scene are exported. All the drawings are exported individually first and then atlased together into a sprite sheet.

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. Select **Windows > Toolbars > Game**.



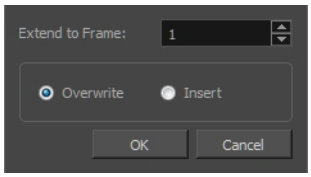
2. Click the Export to Sprite Sheets button.

Parameter	Description
Select Directory	
Asset Path	The folder path where you want to save your export.
Asset 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	
Preview Window	Displays a list of pre-existing clips in the same export folder location, most likely exported there from a previous time.
Use Scene Markers to Export Clips	Uses scene markers to define the export range, instead of exporting the entire scene.
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.
Preset	Lets you select the unit conversion from Harmony to Unity, by selecting one of 4 presets. Note: a field is a unit of measure in traditional animation grid.
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	**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.
Delete Existing Clips	Select this option to delete any pre-existing clips in the export location.
Bake Animation 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.
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.

Extend Exposure Dialog Box

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



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. You can expose the drawing in the frames and replace the drawings that were originally there or move the subsequent frames forward in time.
Overwrite	Lets you expose the drawing in the frames and replace the drawings that were orginally 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

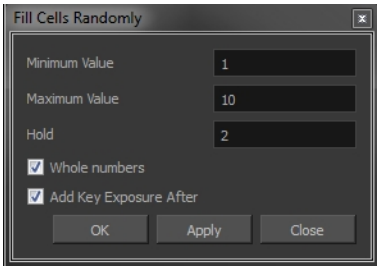
The Fill Cells Randomly dialog box lets you Lets you fill in random values over a selection. You can give a maximum and a minimum value and create a range for Harmony to choose the random values from. The selection can be over one cell or a cell range in one column or more or an entire column or many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

How to access the Fill Cells Randomly dialog box

1. 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 value to be used in the randomized exposure or keyframe value.
Maximum Value	The highest value to be used in the randomized exposure or keyframe 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 on the frame following the last cell of the selection.

Import Images Dialog Box

T-HFND-007-011

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.

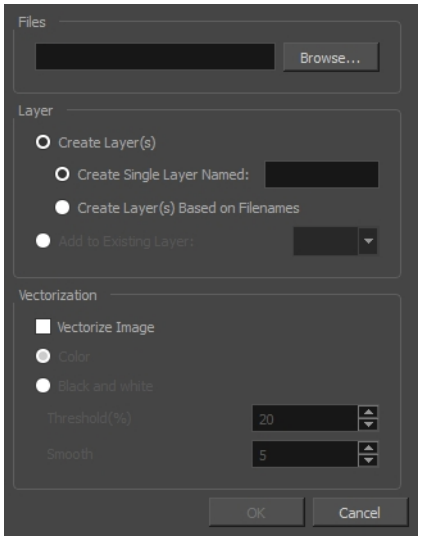
Also, you can choose to import bitmap images on bitmap or vector layers depending on your project..

How to open the Import Images dialog box

1. 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.

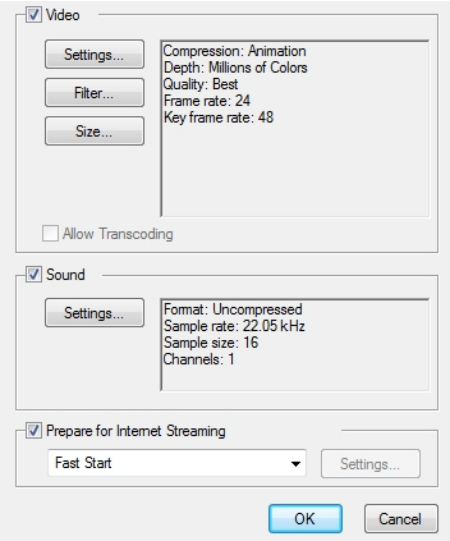


Parameter	Description
Files	
Browse	Lets you find and select images on your computer.
Layer	
Create Layers(s)	Create layers for imported images.
Create Single Layer Named	Creates a new layer with the specified name and imports the images into it.
Create Layer(s) Based on Filenames	Creates a layer based on each unique filename prefix. For example, if you import three files named a-1.tga, a-2.tga and b-1.tga, this will create two layers, one named "a" and one named "b". Layer "a" will contain the two first images and "b" will contain the third one.
Add to Existing Layer	Imports the images into the specified layer. Note that you can only import into

	layers that are compatible with your import options. For example, if you're importing images as vector drawings, you can only import them into vector drawing layers.
Vectorization	
Vectorize Image	Imports a drawing and converts it to a Toon Boom vector drawing.
Colour	Imports bitmaps as vector objects with their image as a texture.
Black and White	Vectorizes drawings with a solid black line. This creates a 100% vector-based drawing and paints it with the Vectorized Line colour swatch from your scene's palette.
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. The higher the value, the more polished and easy to edit the lines will be.

Movie Settings Dialog Box

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



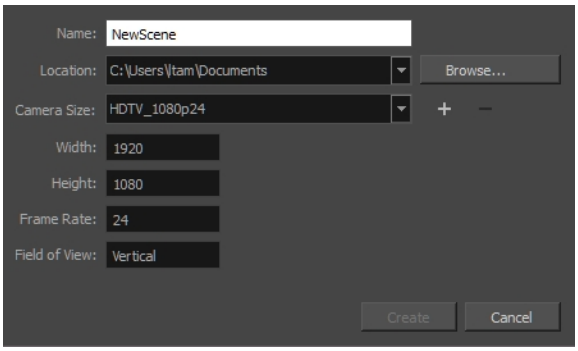
How to access the Movie Settings dialog box

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 46.
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 45.

New Scene Dialog Box

The New Scene window lets you create a new scene.

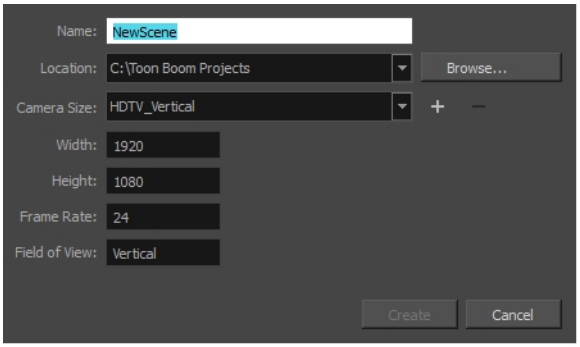


How to access the New Scene window

1. Do one of the following:

   - From the top menu, select **File > New.**
   - In the File toolbar, click the New button.
   - Press Ctrl + N (Windows/Linux) or ⌘ + N (Mac OS X).

   The New Scene dialog box opens.

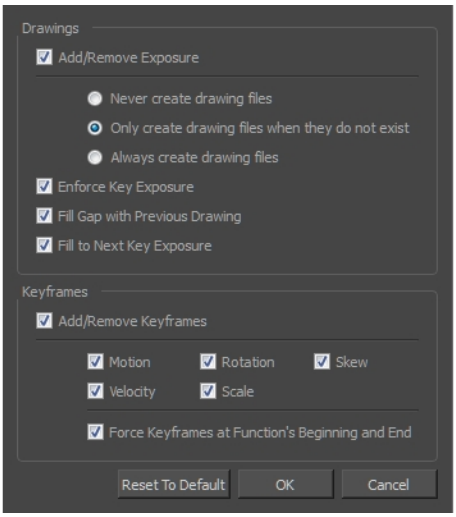


Parameter	Description
Name	Lets you type in a name for the new scene.
Location	Lists the locations you used most frequently for storing scenes.
Browse	Opens a browser in which you can specify a location for the new scene that is not listed in the Location list.
Camera Size	Opens a list of resolutions.
+ (Create Custom Resolution)	Opens the New Resolution window in which you can create a custom resolution that is added to the Camera Size list.
- (Delete Custom Resolution)	Lets you remove a custom resolution from the Camera Size list.
Width	Indicates the width of the resolution you chose from the Camera Size list.

Frame Rate	Indicates the frame rate of the resolution you chose from the Camera Size list.

Paste Preset Dialog Box

When pasting key frames and exposures, you can modify the existing presets to your liking. There are three presets you can modify: the default presets for both key frames and exposures, key frames only and exposures only.



Parameter	Description
Drawings	
Add/Remove Exposure	**Never create drawing files**: When adding exposures to a drawing layer, drawing files will not be created.
	Only create drawing files when they do not exist: When adding exposures to a drawing layer, new drawings will be created only when drawings with the same name do not already exist in the destination.
	Always create drawing files: When adding exposures to a drawing layer, new drawings will always be created. If drawing files with the same name already exist, Harmony will create a new name for the drawing.
Enforce Key Exposure	If there are key exposures that exist on copied drawings, they are preserved when pasting. No key exposures are added. This is the default behavior when pasting.
Fill Gap with Previous Drawing	Fills selected area in the Xsheet or Timeline view with the previous drawing.
Fill to Next Key Exposure	Fills selected area till the next key exposure.
Keyframes	
Add/Remove Keyframes	**Motion:** Copies the properties of the selected motion keyframe to the new frame.
	Velocity: Copies the properties of the selected velocity keyframe to the new frame.
	Rotation: Copies the properties of the selected rotation keyframe to the new frame.
	Scale: Copies the properties of the selected scale keyframe to the new frame.
	Skew: Copies the properties of the selected skew keyframe to the new frame.
	Force Keyframes at Function's Beginning and End: Adds a keyframe to the

	beginning and end of the pasted function, reproducing the source function.

Paste Special Dialog Box

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

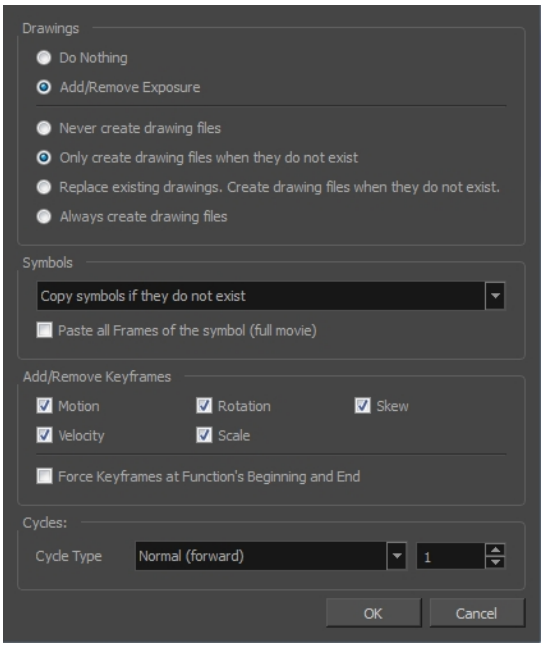
When you import a template in the Timeline view, all layers are created as well as drawings and keyframes. You can choose to import only the keyframes without the drawings or import only the drawings that are not already in your layers. You can adjust the behaviour using the Paste Special dialog box.When 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.

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.



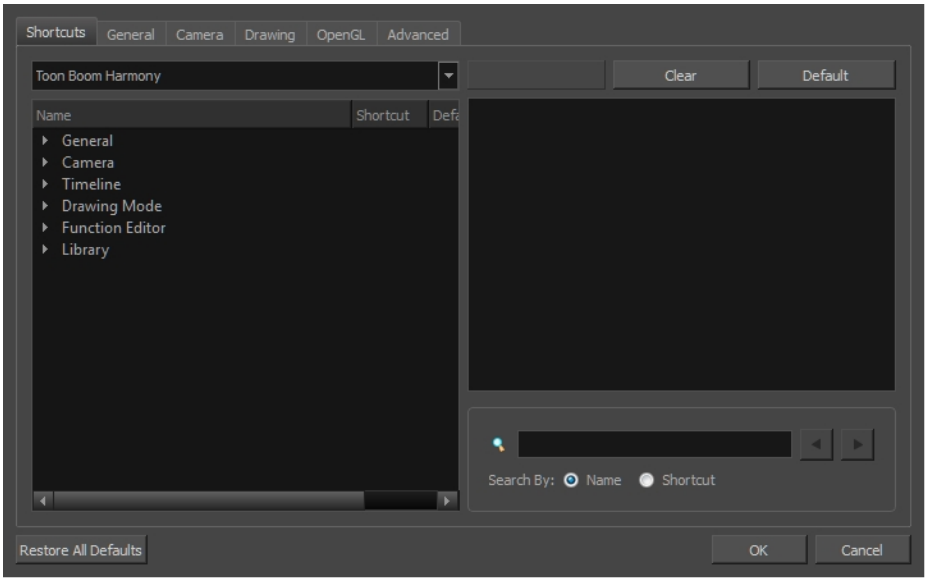
Parameter	Description
Drawings	
Do Nothing	Does not create or overwrite drawings.
Add/Remove Exposure	**Never create drawing files**: When adding exposures to a drawing layer, drawing files will not be created.
	Only create drawing files when they do not exist: When adding exposures to a

	drawing layer, new drawings will be created only when drawings with the same name do not already exist in the destination.
	Replace existing drawings. Create drawing files when they do not exist: Replace drawings with the same names to update a scene with new modified drawings and preserve the animation. **Tip**: If you don't want to lose the existing animation when pasting a template, such as when placing new drawings after the animation, then delete the template's animation. It will still have updated the drawings but not override the existing animation.
	Always create drawing files: When adding exposures to a drawing layer, new drawings will always be created. If drawing files with the same name already exist, Harmony will create a new name for the drawing.
Symbols	
Copy symbols if they do not exist	This is the default setting for this operation and will prevent Symbols in an Action template from being copied.
Duplicate symbols	Creates a duplicate of the symbol instead of linking the Symbol instance to the original one. The new Symbol is created in the Library.
Paste all Frames of the symbol (full movie)	When enabled, the Paste Special command exposes all the symbol's frames instead of only the first one.
Add Remove/Keyframes	
Motion	Copies the properties of the selected motion keyframe to the new frame.
Velocity	Copies the properties of the selected velocity keyframe to the new frame.
Rotation	Copies the properties of the selected rotation keyframe to the new frame.
Scale	Copies the properties of the selected scale keyframe to the new frame.
Skew	Copies the properties of the selected skew keyframe to the new frame.
Force Keyframes at Function's Beginning and End	Adds a keyframe to the beginning and end of the pasted function, reproducing the source function.
Cycles	
Cycle Type	**Normal (forward):** Pastes your selection as is, starting with the first cell and ending with the last.
	Reverse: Pastes your selection in reverse, starting with the last cell and ending with the first.
	Forward > Reverse: Pastes your selection as a yo-yo, starting with the first cell, going to the last one and ending with the first cell.
	Reverse > Forward: Pastes your selection as a reverse yo-yo, starting with the last cell, going to the first one and ending with the last cell.
Number of Cycles	Lets you set the number of cycles.

Preferences Dialog Box

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

NOTE: To learn more about the individual preferences, refer to the Preferences guide.



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

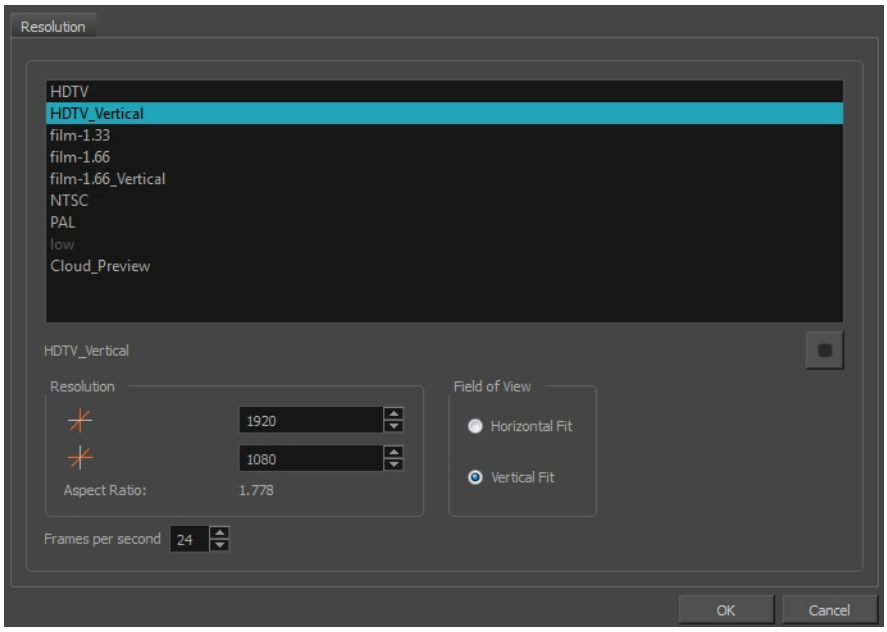
Do one of the following:

- Select **Edit > Preferences** (Windows/Linux) or **Harmony Essentials > Preferences** (Mac OS X).
- Press Ctrl + U (Windows/Linux) or ⌘ + U (Mac OS X).

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.



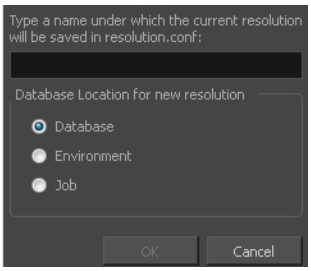
How to access the Scene Settings dialog box

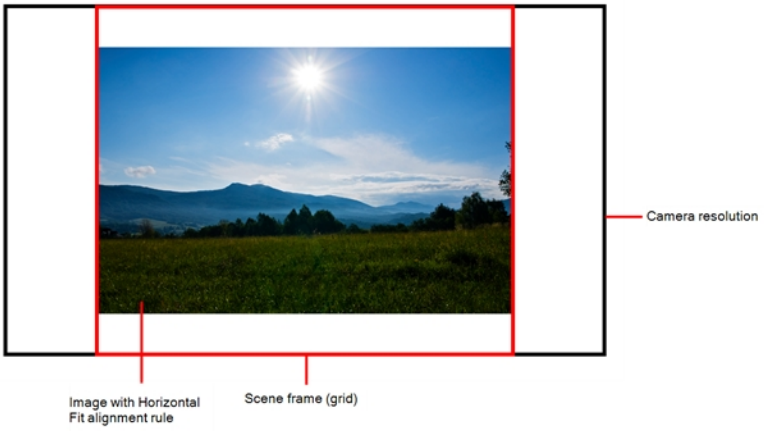
1. Select **Scene > Scene Settings.**

   The Scene Settings dialog box opens.

Resolution Tab

Parameter	Description
Resolution Presets	You can select your project's resolution (camera frame size) from this preset list. ▸ **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

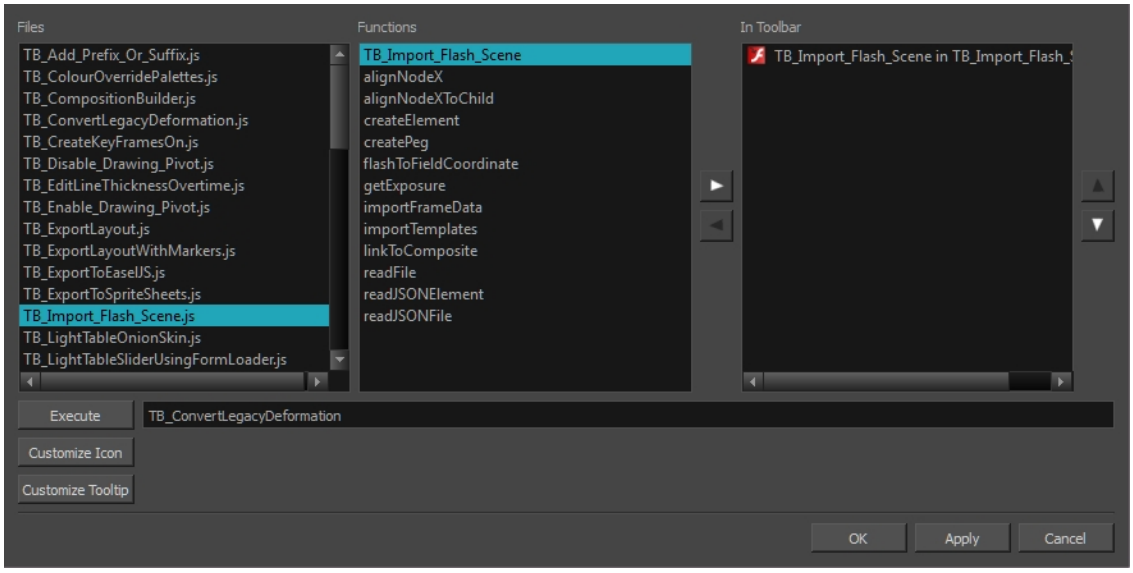
	grid is a different aspect ratio from the camera frame. When you fit vertically, you fit the images with the top and bottom of the scene grid. ▸ **film-1.33:** Use this resolution setting for the academy film format that conforms to the standard 4:3 aspect ratio. ▸ **film-1.66**: Use this resolution 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 of the scene frame. ▸ **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. If you are working in Harmony Server, you will be prompter a dialog box asking you to name the new resolution as well as the level at which you want to save the resolution,conf file. 
Pixel Dimensions	Displays the pixel dimensions for your project resolution. 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.
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	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. • **Horizontal Fit:** The camera resolution is set to fit the left and right edges of the scene grid.  • **Vertical Fit:** The camera resolution is set to fit the top and bottom edges of the scene grid.

NOTE: If you change your scene's alignment from 4:3 12 Fields to Square 12 Fields part way though your project, you may find that the animation grid becomes offset. To correct this, choose the following setting from the Layer Properties panel's Advanced tab: **Alignment > Alignment Rule > Centre First Page**.

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.



How to access the Scripts Manager Dialog Box

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

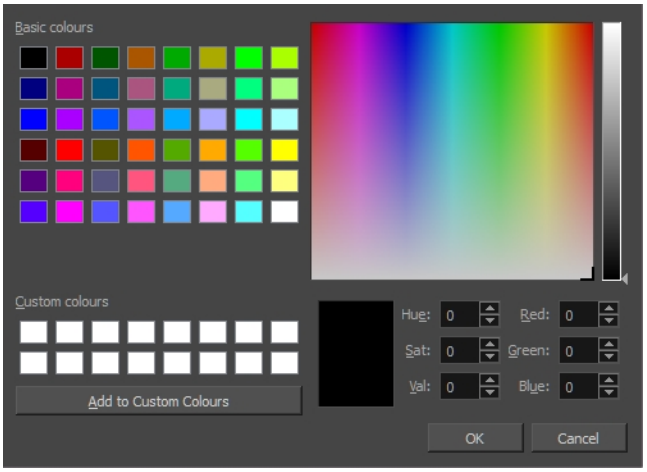
   The Scripts Manager dialog box opens.

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

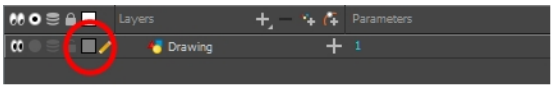
The Select Colour dialog box lets you set the colour of layers and columns. Using colours for layers and columns helps to differentiate them visually, making them easy to identify.

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.



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**.

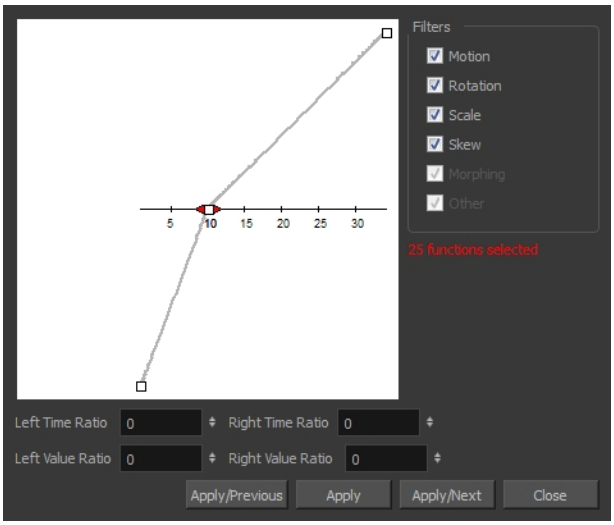
The Select Colour dialog box opens.

Parameter	Description
Basic colours	A basic set of colours to choose from.
Custom colours	Displays the custom colours you previously stored using the Add to Custom Colours button.
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.

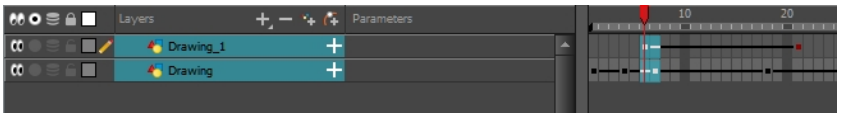
Set Ease for Multiple Parameters Dialog Box

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.



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.

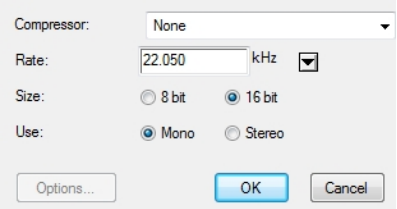
   The Set Ease For Multiple Parameters dialog box opens.

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.



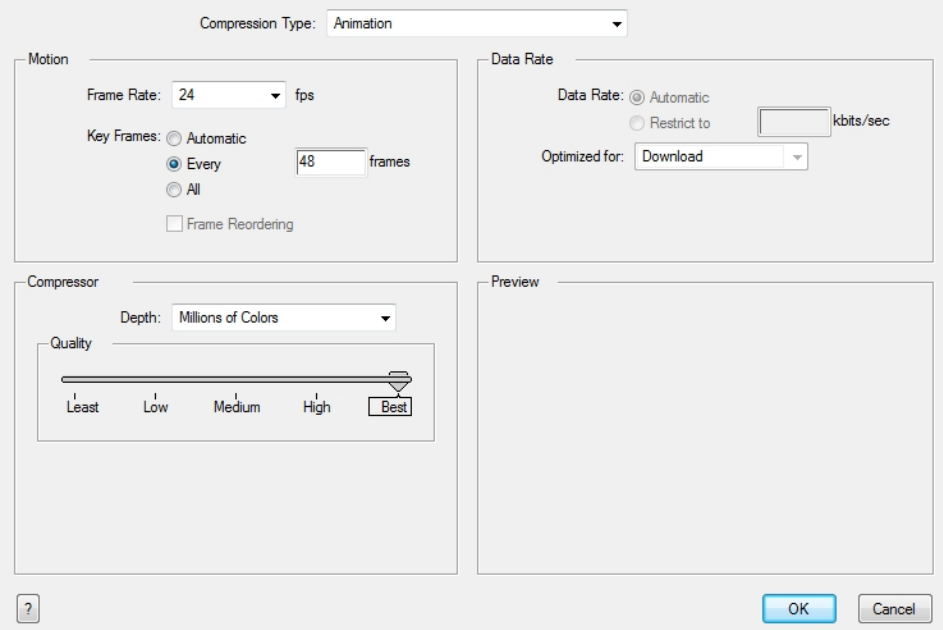
How to access the Sound Settings Dialog Box

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 exports your audio as is without performing any lossy compression or conversion, preserving its fidelity. Other compressors can be used if you need your movie's audio track to be exported in a specific format, or if disk space or download speed is critical, but they may impact the quality of your movie's soundtrack negatively.
Rate	Lets you select the audio rate at which to export. It is best to export your audio at a rate that matches the rate of your original sound files. 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 higher frequencies will be missing, making it sound muffled. For reference, the standard sound quality is **44.1 kHz** for films, and **48 kHz** for DVD. Lower rates are liable to impact the quality of your movie's soundtrack negatively, but they can be useful if disk space or download speed is critical.
Size	Lets you select the encoding size. Also known as *Bit Depth*, this determines the amount of precision used to record each wavelength in the soundtrack. The standard size is **16-bit**. If you choose **8-bit**, the amount of disk space your sound track requires is halved, but the audio will sound muffled.
Use	Lets you decide whether to use the **Mono** or **Stereo** channel mode. Stereo sound has a separate sound track for the left and the right speakers, allowing to make the origin of each sound realistically match the origin of their corresponding action. If you choose Mono, your sound track may use less disk space, but both the left and right channels will be merged into a single track.

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.



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.

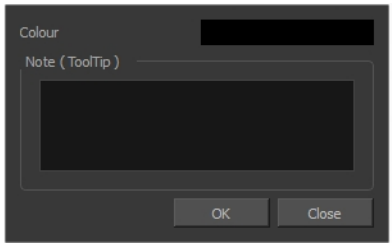
Compressor	
Depth	Lets you select a depth based on your movie's needs. For example, Millions of Colours+ houses an alpha channel.
Quality	Lets you choose a quality setting. The higher the quality of the export, the larger the resulting file.
Data Rate	
Date Rate	**Automatic**: Lets the system automatically 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.

How to access the Timeline Scene Marker dialog box

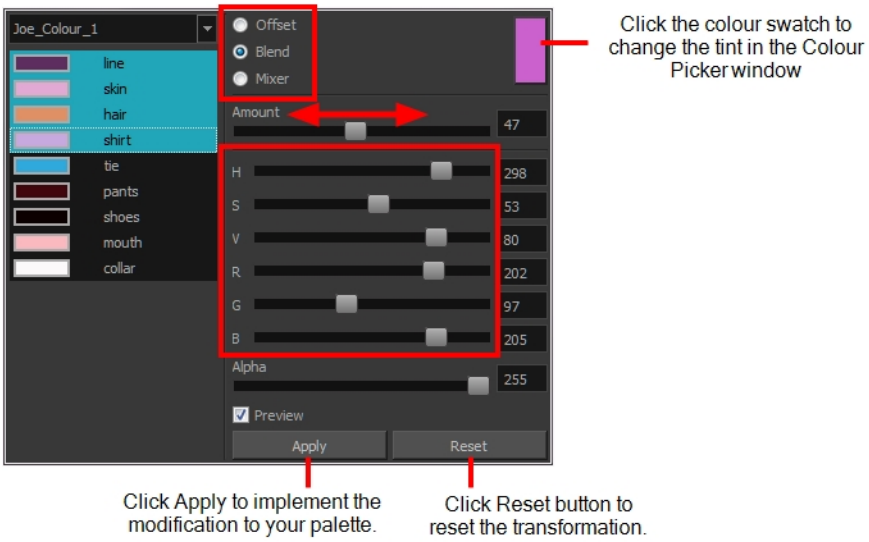
1. In the frame counter area of the Timeline view, do one of the following:
   - Drag to select the frame range to mark.
   - Right-click and select **Scene Markers > Mark Current Frame**.



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.

Tint Offset/Blend Dialog Box

You can offset, blend, or mix the colours in a colour palette using the sliders and increasing the Amount value.



How to access the Tint Offset/Blend dialog box

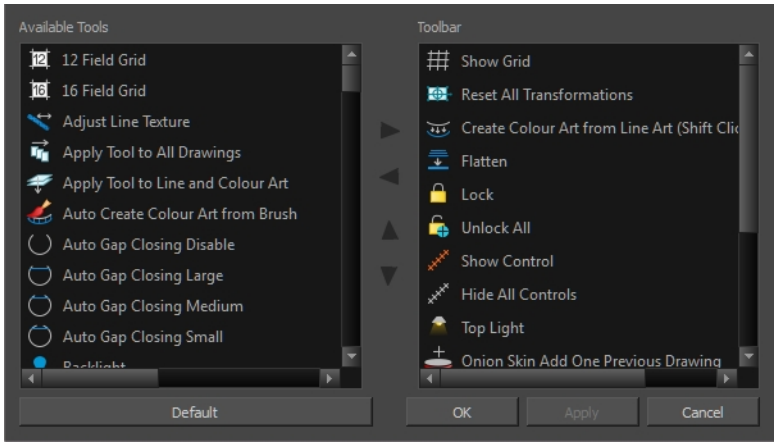
1. From the Colour View menu, select **Palettes > Tint Panel** or right-click and select **Tint Panel**.

   The Blend/Offset Tint panel opens.

Parameter	Description
Offset	Offsets the selected colours by the adjustments made using the HSB and RGB sliders. Use the Amount slider to adjust the degree of offset. Use the Alpha slider to adjust the opacity of the selected colour.
Blend	Blends the selected colours with the colour swatch in the top-right corner. Use the Amount slider to adjust the degree of blend. A blend of 100% turns the selected colours into the same colour as the swatch. Adjusting the HSB and RGB sliders affect the swatch colour, which in turn affects the selected colours on the left. Use the Alpha slider to adjust the opacity of the swatch.
Mixer	Select a Base and Tint colour to form a third colour swatch. Use the slider just beneath to mix the Base and Tint colours by different amounts. This will affect the mixed swatch whether it is selected or not. Select either the Tint or Base swatch and use the HSB and RGB sliders to adjust its colour. This will affect the mixed swatch colour, which in turn affects the selected colours on the left.

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.



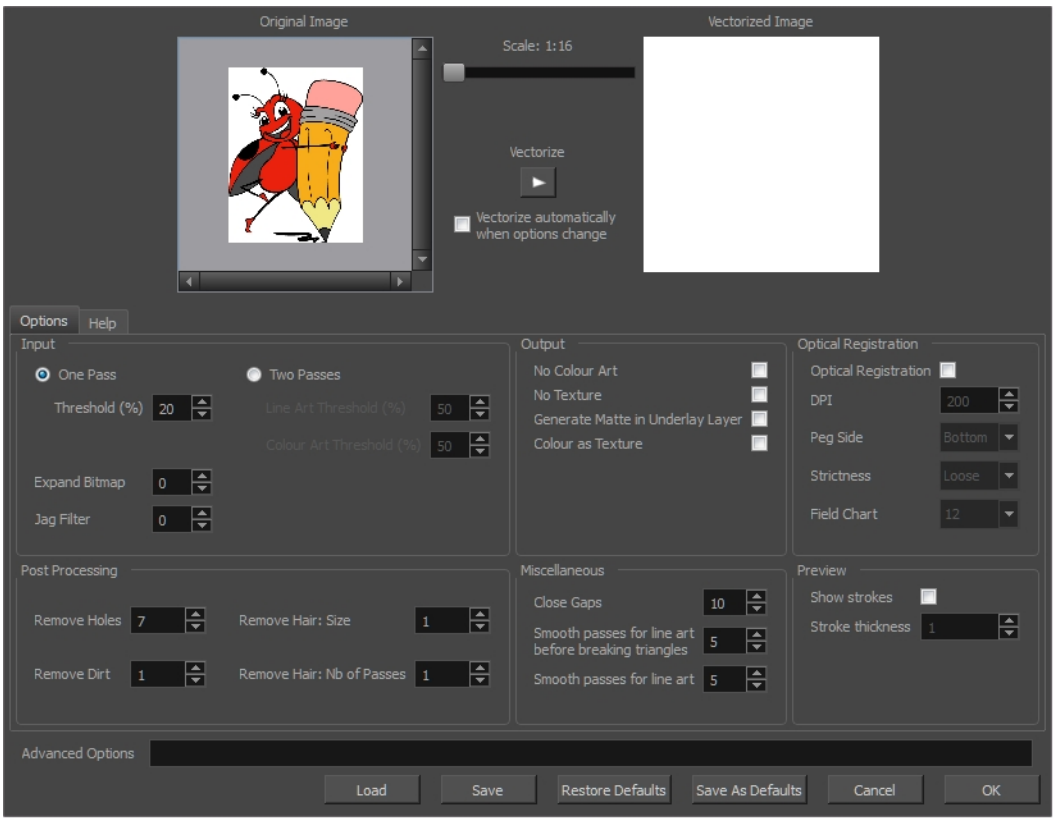
How to access the Toolbar Manager dialog box

1. Right-click on a toolbar in any view and select **Customize**. Note that the menu will not appear if you right-click on a disabled icon.

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.

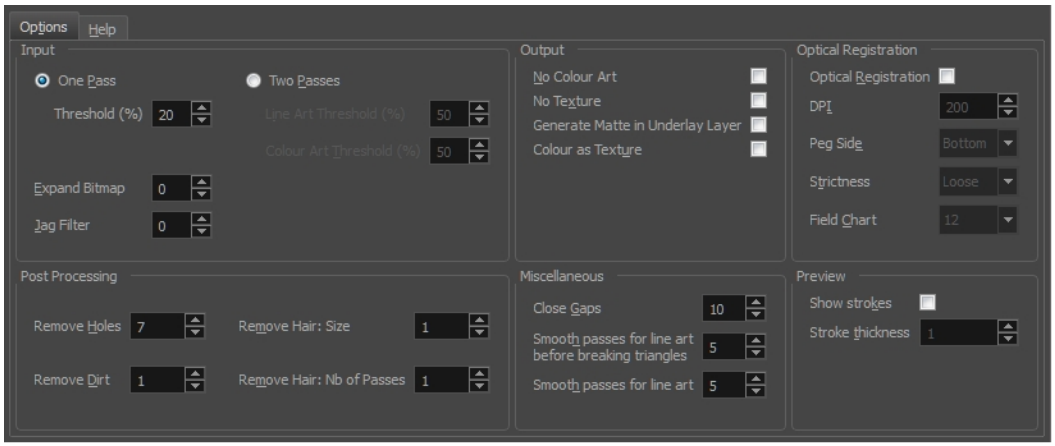


How to open the Vectorization Parameters dialog box

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.

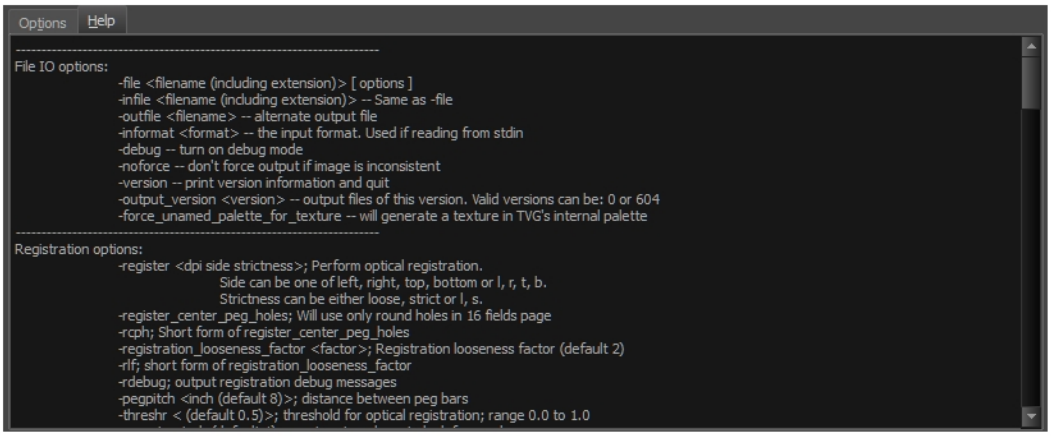


Parameter	Description
Input	The input filters are applied to the bitmap image before it is vectorized.
One Pass	One threshold value is applied to both the Line and Colour Art. For drawings with distinct vector-style lines of mattes, you only need one pass.
Two Passes	Applies a different threshold value 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 and 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 (%)	Determines which values in the scanned image are considered part of the Line 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.
Colour Art Threshold (%)	Determines which values in the scanned image are considered part of the 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.
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_unamed_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_errorc** <error (default 1.000000>; fitting error for the colour art

-**fit_errorl** <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_holesl** <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

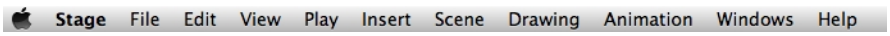
Chapter 3: Menus

The Menus section covers all the menu entries available in Harmony. There are several types of menus in Harmony: main menus, quick-access menus and view menus. Menus contains most of the functions available. They may also have a toolbar button or keyboard shortcut equivalent.

Main Menus 60
Animation Menu 61
Drawing Menu 64
Edit Menu 66
File Menu 68
Help Menu 70
Insert Menu 71
Play Menu 72
Scene Menu 73
View Menu 74
Windows Menu 77
Quick-access Menus 78
View Menus 79
Colour View Menu 80
Function View Menu 82
Library View Menu 84

Main Menus

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 Harmony Essentials category that contains the following commands: Preferences, About, and Quit.

Animation Menu 61
Drawing Menu 64
Edit Menu 66
File Menu 68
Help Menu 70
Insert Menu 71
Play Menu 72
Scene Menu 73
View Menu 74
Windows Menu 77

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 records the position, rotation, scale, skew, etc. of objects as keyframes in the Timeline view. Turn off the Animate mode to reposition objects for the entire scene. When the Animate mode is disabled, keyframes are not created when an object's parameters change.
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 keyframes.
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.
Flip Vertical	Flips the selection vertically.
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 whether 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 drawing.
Substitute Drawing Next	Replaces the drawing or cell's symbol on the current frame by the next drawing.
Go to Previous Keyframe	Goes to the previous keyframe.
Go to Next Keyframe	Goes to the 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 starting value. 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	Activates a drawing tool including: 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. These drawing tools are available on the Tools toolbar.
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	When a cell is selected in the Timeline or Xsheet view, displays the previous drawing.
Next Drawing	When a cell is selected in the Timeline or Xsheet view, displays the next drawing.
Previous Layer	When a cell is selected in the Timeline or Xsheet view, displays the previous layer.
Next Layer	Once a cell is selected in the Timeline or Xsheet view, you can navigate between the drawings, frames, and layers. Displays the previous drawing, next drawing, previous layer or next layer. When a cell is selected in the Timeline or Xsheet view, displays the 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.
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 it 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.
Edit Drawing Mode	When the Auto-Get Rights to Modify Drawings option is selected in the Preferences dialog box (General tab), the system automatically gets the rights to modify drawings when you select a drawing. Otherwise, you must manually get the rights to modify drawings.
Edit Palette List Mode	When the Auto-Get Rights to Modify Palette option is selected in the Preferences dialog box (General tab), the system automatically gets the rights to modify palettes and palette lists when you select a colour from a palette. Otherwise, you must manually get the rights to modify a palette or palette list.
Get Rights to Modify Drawing	Manually releases the rights to modify a selected drawing.
Release Rights to Modify Drawing	Manually releases rights to modify a selected drawing.
Force Release Rights to Modify Drawing	This option is always available even if the Get Rights to Modify All Scene Assets option is not selected in the Database Selector dialog box.
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.
Advanced Save	
Rights to Modify Scene Version	Allows you to modify the selected version of the scene and access the version manager during the opened session
Rights to Modify Scene	Allows you to modify the currently selected scene version, but locks access to the version manager during the opened session.
Read Changed Drawings	Determines which drawing files have been modified on disk since you loaded them. All updated drawings will be reloaded. **NOTE:** Reloading a locked drawing will discard unsaved changes.
Manage Versions	Allows you to manage all the versions of the current scene.
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.
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.
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).
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 Toon Boom website, which features a Support and Community > Forum section.
Customer Experience Improvement Program	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. 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.
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 view.
Side View	Plays back your animation in the Side view.
Perspective View	Plays back your animation in the 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 the beginning of the scene.
Add Frames at End	Adds the number of frames you specify to the end of the scene.
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	Cycles through the following display modes: • **Normal Full-Screen:** The main application window becomes full screen. • **View Full-Screen:** The selected view becomes full screen and all other views are collapsed. • **Normal:** The main application window is restored to its original size and collapsed views are expanded.
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 values 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, Camera View, Xsheet View and Timeline View.
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.
Integrated Help	Shows or hides the Integrated Help view.
Metadata Editor	Shows or Hides the Metadata Editor 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

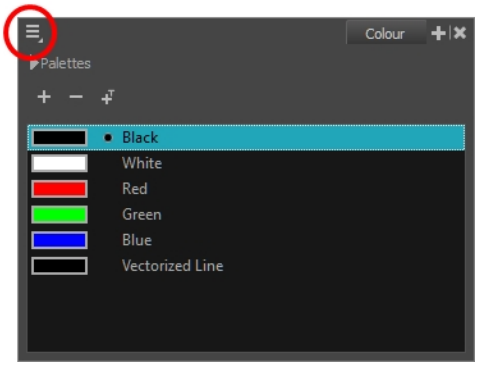
1. Right-click anywhere in a view.

View Menus

A view menu contains commands specifically related to that view.

How to access a view menu

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



Colour View Menu 80
Function View Menu 82
Library View Menu 84

Colour View Menu

The Colour View 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.
Import	Imports a colour palette located on your hard drive.
Remove	Deletes the selected colour palette.
Rename	Lets you five 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.
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 pick and edit colour swatches.
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.
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: `075cf5b552401130`.
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	Pastes a copied colour to a new palette as a clone of the original one. Both colour use the same colour ID. They have to be in different palettes.
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	Opens the browser to replace the texture used in a textured colour swatch. All zones using the swatch will be updated with the new texture.
Scale Down Texture	Lets you set a new maximum texture size or scaling factor.
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 selection is independent from the vector colour selection.
Bitmap Colour Sliders	
RGB	Displays the colour picking sliders as RGB (red, green, blue).
HSV	Displays the colour picking sliders as HSV (hue, saturation, value).

Function View Menu

The Functions View 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 View Menu

The Library View 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	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. 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. 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.
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	Places you inside the symbol where you can edit it. 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).
Remove Unused Files	Removes any files not in use in the selected template.
Rename Template	Lets you rename a selected template.
Import Files	Imports vector files such as AI, PDF, and SWF. You requires the right to modify the library in which you want to import the files.
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	Unlinks a library folder from your library list.

Chapter 4: Nodes

The Node view uses a visual set of connections (nodes) to show how each element in the scene is connected and brought to the final image. It allows you to add extra elements and effects, and to move beyond the possibilities offered by the Timeline and Xsheet views. Each node corresponds to a layer in the Timeline view. Very few nodes are only visible in the Node view.

The basic rules of the Node view are quite simple. Once you understand them, a lot can be accomplished.

Each node used to build a node system is available in the Node Library view as well as through the Insert menu in the Node view. In addition, each time you create a layer from the Timeline or Xsheet views, the corresponding node is created in the Node view.

Combine Nodes 88
Cutter Node 89
Deformation Nodes 91
Bone Node 92
Deformation Composite Node 94
Game Bone Node 96
Kinematic Output Node 98
Filter Nodes 99
Blur Node 100
Colour-Scale Node 102
Glow Node 104
Shadow Node 107
Transparency 109
Generator Nodes 111
Colour-Card Node 112
Element / Drawing Node 113
Move Nodes 115
Camera Node 116
Peg Node 117
Transformation Tab 117
Quadmap Node 118
Sound Layer Properties 120

Combine Nodes

The nodes found in the Combine category are used to take two or more elements are combine them into a new image.

Cutter Node 89

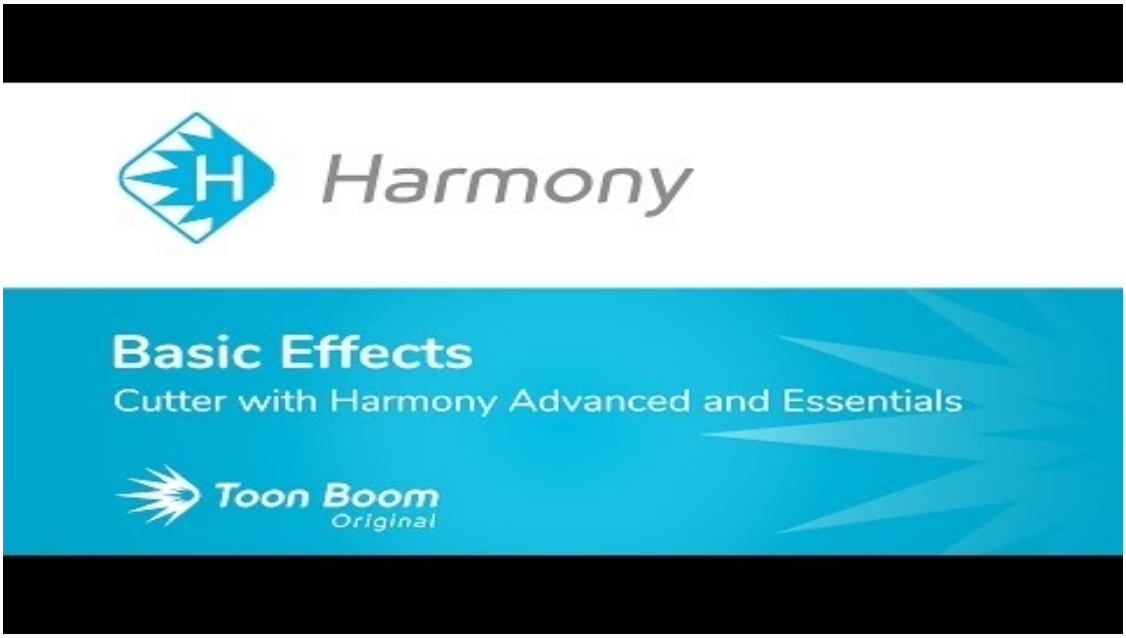
Cutter Node

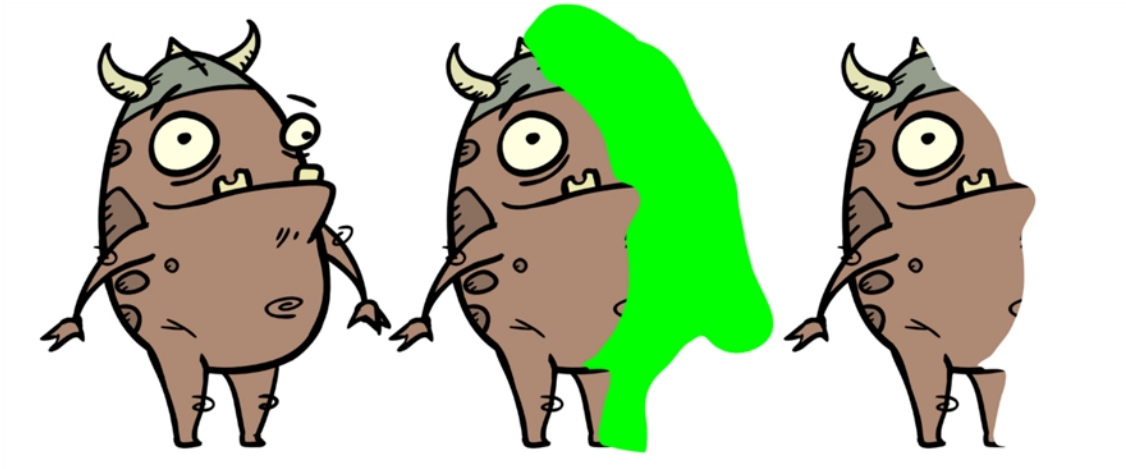
T-HFND-010-009

The Cutter effect cuts out a portion of an image. To accomplish this, it needs to be connected to the drawing it is intended to cut as well as to a matte layer. The cutter will take the shape of the drawing in its matte layer and cut this shape out of the drawing layer. This is especially useful if you want to make a character disappear between a background element, or if you want to cut out a hole in the middle of a character.

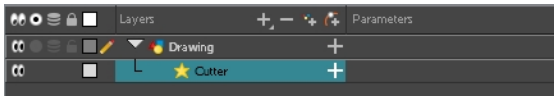
The Cutter effect has an Inverted parameter, which is disabled by default. When enabled, the Cutter will have the revert effect: Instead of cutting the matte's shape out of the drawing, it will cut everything outside of the matte's shape out of the drawing, leaving only the parts of the drawing that are covered by the matte.

The Cutter effect can be used with 2D-3D integration. Rendered 2D drawings, integrated with 3D models, display soft, anti-aliased edges, even where the Cutter effect is applied.

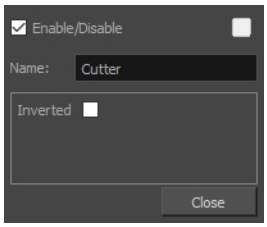




Refer to the following example to connect this node.



Properties



Parameter	Description
Enable/Disable	Enables or disables the selected node in the Camera, Timeline, and Node views.
Colour Swatch	Changes the layer colour.
Name	Allows you to change the node's name.
Inverted	When this option is enabled, the Cutter node will invert the matte shape to cut the drawing. Instead of cutting the image intersecting with the matte, it will cut any artwork outside of the matte shape.

Deformation Nodes

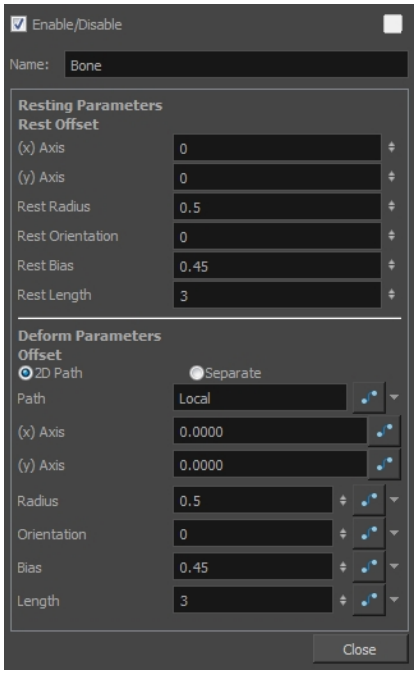
The deformation rigs are composed of several different types of nodes. Additional ones such as the Kinematic Output node can be used to enhance the results.

Bone Node 92
Deformation Composite Node 94
Game Bone Node 96
Kinematic Output Node 98

Bone Node

The Bone node is one of the main nodes used to build a deformation rig. Each Bone node consists of a bone and an articulation. You can chain Bone nodes to create a skeleton chain for your character. The Rigging tool can be used to create and connect those nodes automatically.

Properties

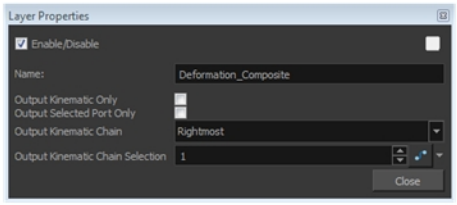


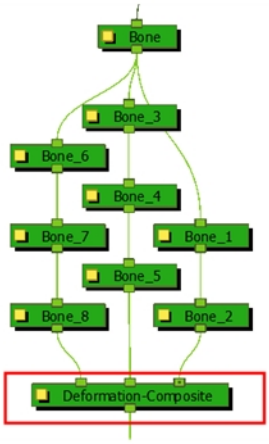
Parameter	Descriptions
Enable/Disable	Enables or disables the selected node in the Camera, Timeline, and Node views.
Colour Swatch	Changes the layer colour.
Name	Use this field to rename the node.
Resting Parameters Rest Offset	
(x) Axis	This is the bone x-axis (horizontal) coordinates for the resting position.
(y) Axis	This is the bone y-axis (vertical) coordinates for the resting position.
Rest Radius	This is the articulation's radius value (articulation size) for the resting position.
Rest Orientation	This is the bone's orientation angle for the resting position.
Rest Bias	This is the articulation's bias (roundness and smoothness) for the resting position.
Rest Length	This is the bone's length for the resting position.
Deform Parameters Offset	
2D Path	When this option is enabled, the X and Y-axis parameters are controlled by the same 2D path function.
Separate	When this option is enabled, the X and Y-axis parameters are individual one from another.

Path	When using a 2D Path, this field displays the name of the function.
(x) Axis	This is the bone X-axis (horizontal) coordinates for the animation position. This parameter can be linked to a function to be animated over time.
(y) Axis	This is the bone y-axis (vertical) coordinates for the animation position. This parameter can be linked to a function to be animated over time.
Radius	This is the articulation's radius value (articulation size) for the animation position. This parameter can be linked to a function to be animated over time.
Orientation	This is the bone's orientation angle for the animation position. This parameter can be linked to a function to be animated over time.
Bias	This is the articulation's bias (roundness and smoothness) for the animation position. This parameter can be linked to a function to be animated over time.
Length	This is the bone's length for the animation position. This parameter can be linked to a function to be animated over time.

Deformation Composite Node

Just like a standard Composite node, the Deformation-Composite node is used to bring together all the elements that are connected to it, allowing you to customize parameters that will influence the result of the output. The Deformation-Composite links the deformation chain to the graphic element to which it is related.





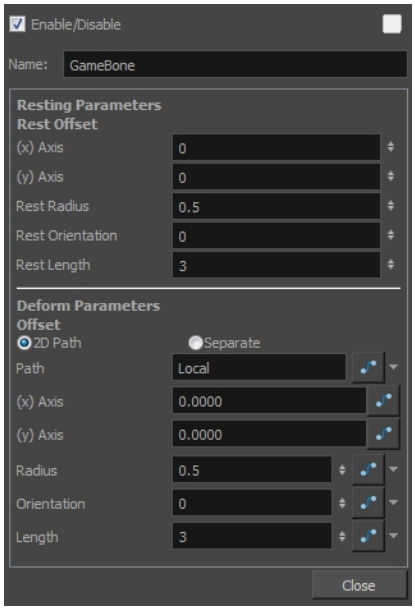
Properties

Parameter	Description
Enable/Disable	Enables or disables the selected node in the Camera, Timeline, and Node views.
Colour Swatch	Changes the layer colour.
Name	Use this field to rename the node.
Output Kinematic Only	This option is disabled by default, allowing the deformation chain to output deformation and position information. This option should be enabled in order to output the chain information position only. This will allow you to connect a part to the hierarchy without it undergoing the deformation applied to the rest of the chain.
Output Selected Port Only	This option is important if you have several deformation chains for one element.
Output Kinematic Chain	Lets you select a deformation chain option to use. This parameter is used when the Output Selected Port Only option is enabled.
	Rightmost: Only the first chain connected to the right of the composite node will be used.
	Leftmost: Only the first chain connected to the left of the composite node will be used.
	Select: If you select this option, you can define which chain to output according to the order they are connected from left to right.
	Use First Connected Element's Exposure as Key: Allows the deformation effect to automatically detect which deformation chain to use (subgroup) by detecting the exposure of the first element con-

	nected to the deformation. This option is used in the case of a multiple pose rig.
	Use Parent Composite's Connected Element Exposure: When the Output Kinematic Only option enabled, the information from the parent element's exposure is used to attach the child to the correct chain, following which pose is exposed–see
Output Kinematic Chain Selection	When the Output Selected Port Only option is selected AND the Select option is used as the Output Kinematic Chain setting, this field defines which deformation chain you want to use on your element. Select the number which corresponds to the left to right order that the chains are connected to the Deformation-Composite node. You can attach this value to a function and enable different chains over a period of time on specific frames. This value can be modified in the Timeline view by using the Deformation-Switch layer. Since the Deformation-Composite node is only visible in the Node view, the layer has a reference to this parameter enabling you to easily edit the value when working in the Timeline view.

Game Bone Node

The Bone node is one of the main node used to build a deformation rig. Each Bone node consists of a bone and an articulation. Chaining Bone nodes will create a skeleton chain for your character. The Rigging tool can be used to create and connect those nodes automatically.



Parameter	Descriptions
Resting Parameters Rest Offset	
(x) Axis	This is the bone X-axis (horizontal) coordinates for the resting position.
(y) Axis	This is the bone Y-axis (vertical) coordinates for the resting position.
Rest Radius	This is the articulation's radius value (articulation size) for the resting position.
Rest Orientation	This is the bone's orientation angle for the resting position.
Rest Length	This is the bone's length for the resting position.
Deform Parameters Offset	
2D Path	When this option is enabled, the X and Y axis parameters are controlled by the same 2D path function.
Separate	When this option is enabled, the X and Y axis parameters are individual from each other.
Path	When using a 2D Path, this field displays the name of the function curve.
(x) Axis	This is the bone X-axis (horizontal) coordinates for the animation position. This parameter can be linked to a function curve to be animated over time.
(y) Axis	This is the bone Y-axis (vertical) coordinates for the animation position. This parameter can be linked to a function curve to be animated over time.
Radius	This is the articulation's radius value (articulation size) for the animation position. This parameter can be linked to a function curve to be animated over time.
Orientation	This is the bone's orientation angle for the animation position. This parameter can be linked to a function curve to be animated over time.

Length	This is the bone's length for the animation position. This parameter can be linked to a function curve to be animated over time.

Kinematic Output Node

The Kinematic Output node lets you hook a separate element that you want to be linked to the deformation chain but not be part of the deformation, such as a hand to an arm or an arm to the body. These elements will follow the movement of the chain just like a regular cut-out character hierarchy piece without being influenced by the deformation of the arm. If you don't use the Kinematic Output, the piece's pivot will not follow the deformation.

Connect a Kinematic Output node below the deformation node you want your drawing to follow.

Filter Nodes

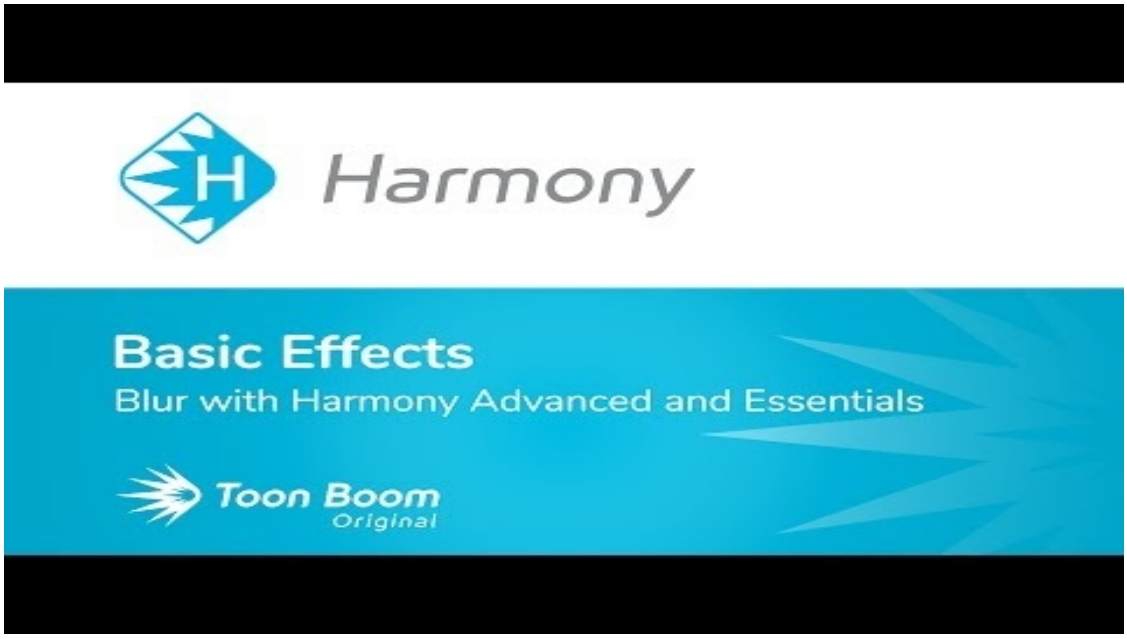
Here is the list of the main filter effects available in Harmony.

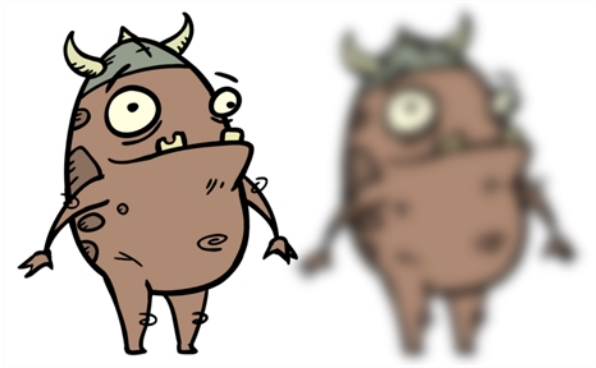
Blur Node 100
Colour-Scale Node 102
Glow Node 104
Shadow Node 107
Transparency 109

Blur Node

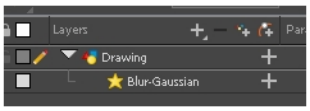
T-HFND-010-007

The Blur-Radial effect creates an effect that softens, fogs or obscures the image evenly in all directions. This effect is useful when you want to make cloudy images not realistically seen in detail, such as a drawing object that is farther back or in the background of your scene, usually blurry due to the laws of atmospheric perspective. Other uses include the general softening of objects such as snow, stars and shadows that do not naturally have a hard outline.

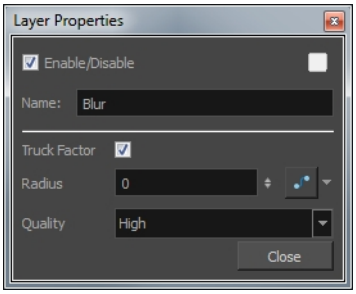




Refer to the following example to connect this node.



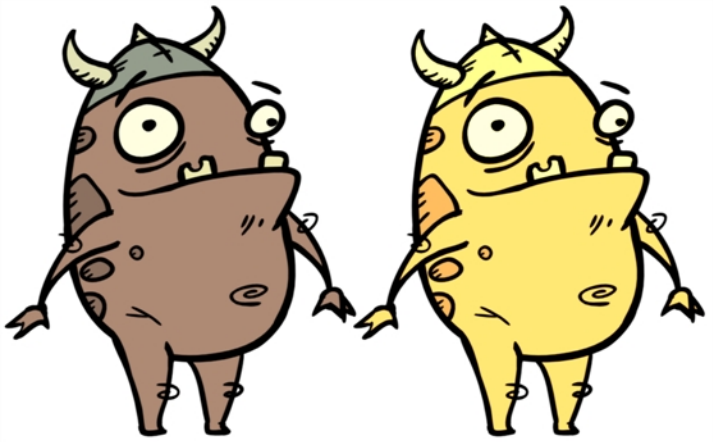
Properties



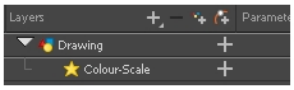
Parameter	Description
Name	Use this field to rename the node.
Truck Factor	Activated by default, this option readjusts the blur when the elements undergo a change of depth or scale. When this option is deselected, the effect's values remain unchanged regardless of any depth or scale changes. This option should be deselected when multiple drawings are composited and attached to this effect.
Radius	Size of the blur. The larger the value, the greater the strength or reach of the blur. The blur radius is affected by the drawing scale and camera position. Click the Edit Curve button to change these values over time by adjusting the function curve.
Quality	Select High for a slow and accurate operation or Low for a faster operation with a more raw look.

Colour-Scale Node

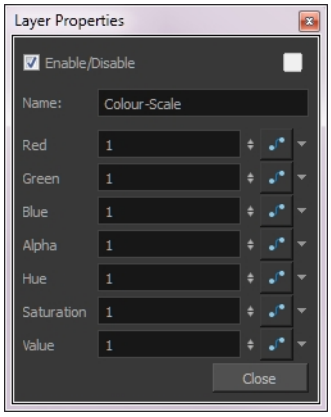
The Colour-Scale effect offsets an image's colours. This effect is useful in creating ambient transitions, such as from daytime to nighttime.



Refer to the following example to connect this node.



Properties



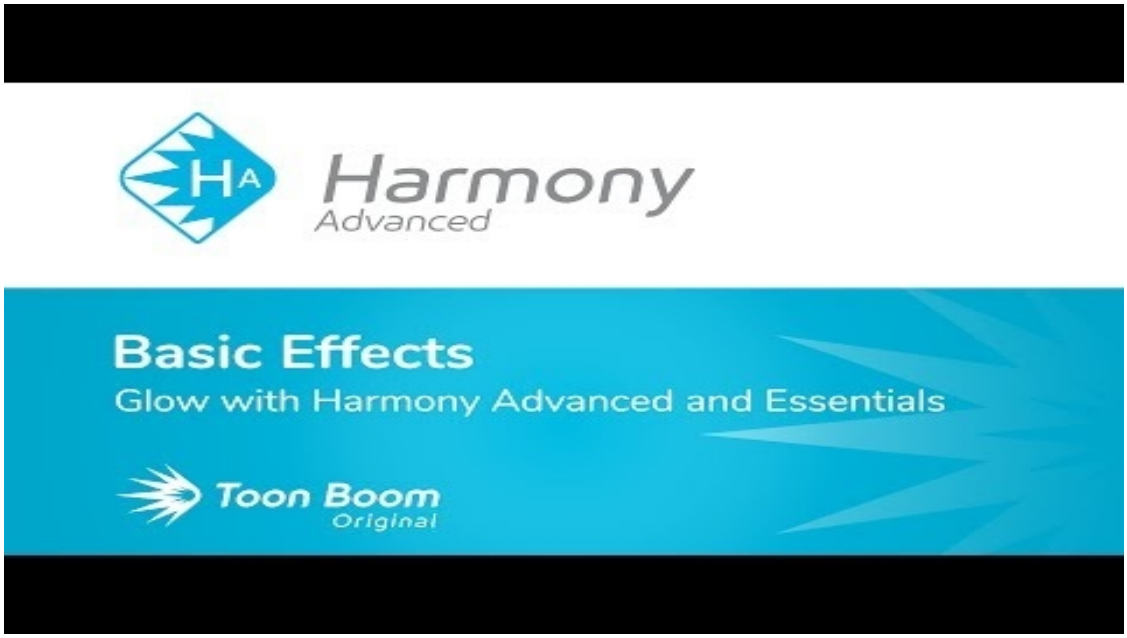
Parameter	Description
Name	Use this field to rename the node.
Red, Green, Blue, Alpha	The red, green, blue and alpha used to offset the image.
Hue	The colour or hue to offset the image.
Saturation	The amount of colour to offset the image.
Value	Enter the value for the colour to offset the image. The actual colour values of the image are not changed; instead, the channels are multiplied by a selected amount. For example:

	• A value of 1 does not change the colour values. • A value greater than 1 brings the colour channel value closer to 255 (or white). • A value less than 1 brings the colour channel value closer to zero (0 or black).

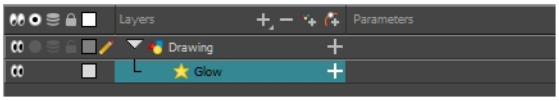
Glow Node

T-HFND-010-009B

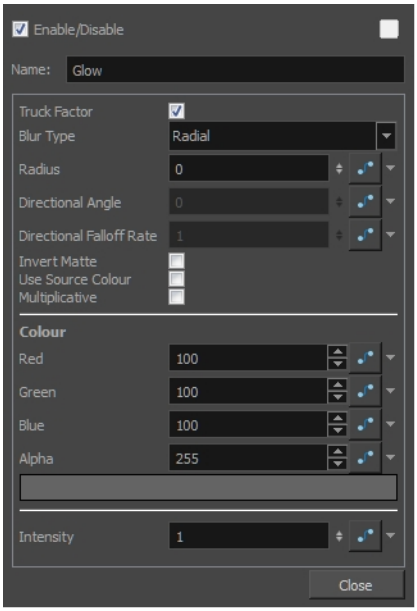
The Glow effect turns your image into a glow area with a bright soft-edged light or diffuse light region around an image. The Glow effect is useful for creating a shining rim around objects, such as the sun or stars. Clone your layer to display the original image on top of the glow.



Refer to the following example to connect this node.



Properties

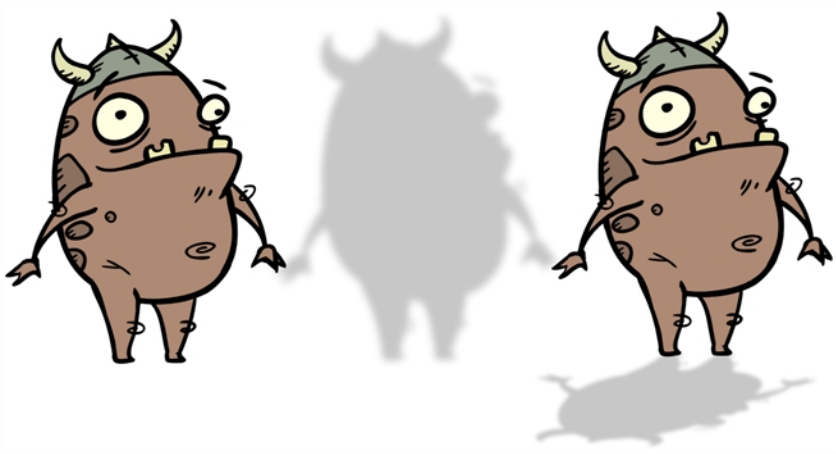


Parameter	Description
Enable/Disable	Enables or disables the selected node in the Camera, Timeline, and Node views.
Colour Swatch	Changes the layer colour.
Name	Use this field to rename the node.
Truck Factor	Activated by default, this option readjusts the blur when the elements undergo a change of depth or scale. When disabled, the effect's values will remain unchanged regardless of depth or scale changes. It is recommended that this option be disabled when multiple drawings are composited and attached this effect.
Blur Type	**Radial**: The edges of the matte are blurred evenly around points that make up the edge of the matte. **Directional**: The matte is blurred in the direction you select.
Radius	Enter a value for the size of the blur. The larger the value, the greater the blur effect. The blur radius is affected by the drawing scale and camera position.
Directional Angle	If you selected the Directional Blur type, you can set the direction of the blur by entering a value from 0 to 360 in this field. **0**: Blurs the image to the west. **90**: Blurs the image to the south. **180**: Blurs the image to the east. **270**: Blurs the image to the north.
Directional Falloff Rate	The distance where the blur fades from the edge of the image. Select a value between 0 and 1. **0**: Makes the blur fade out slowly, distributing the blur evenly from the edge of the character to the farthest edge of the blur.

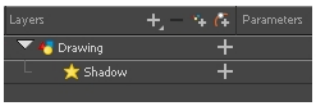
	1: Makes the blur fade out quickly. The blur is heaviest closer to the edge of the image.
Invert Matte	Inverts the matte used to create the tone, shadow, or highlight.
Use Matte/Source Colour	Creates the shadow or tone using the matte shape's colour. Be sure that you are in render mode to see this effect and that your background is **NOT** white and that you do **NOT** have a white colour card node attached to the composite. As the matte only gives colour information, but no alpha, the matte is automatically multiplied with the background colours. If there is no colour card attached and the background appears black, you will see the matte colour at full opacity. If it is multiplied with a white background, the colours disappear into the full 255.
Multiplicative	Multiplies the tone or shadow colours with the background.
Colour	
RGBA	Enter a value to add or subtract from the colour channels in the drawings or attach these values to function curves.
Colour Swatch	Opens the Colour Picker where you can specify the colour.
Intensity	Lets you set a value to determine the strength of the effect or attach a function to animate the effect.

Shadow Node

With the Shadow effect, you can turn a drawing into a shadow. It doesn't matter if the drawing layer is a fully coloured character. The Shadow effect will render it into a grey, semitransparent, slightly blurry silhouette. Clone your image or connect it a second time to the final Composite node to see the original image displayed on top of the shadow.



Refer to the following example to connect this node.



Properties

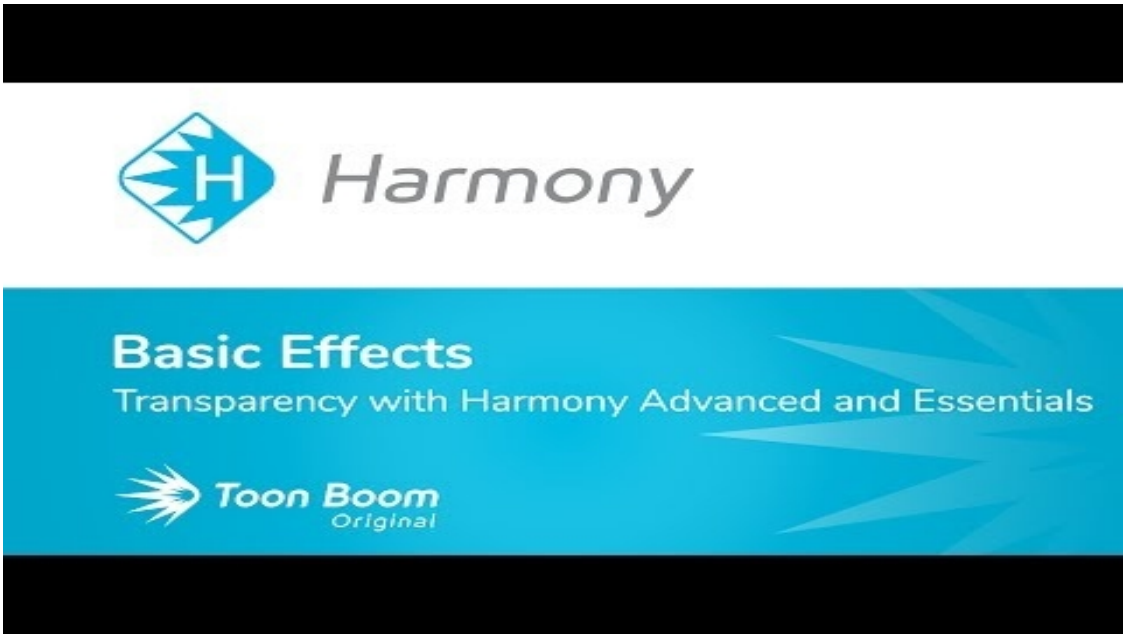
Parameter	Description
Enable/Disable	Enables or disables the selected node in the Camera, Timeline, and Node views.
Colour Swatch	Changes the layer colour.
Name	Use this field to rename the node.
Truck Factor	Activated by default, this option readjusts the blur when the elements undergo a change of depth or scale. When disabled, the effect's values will remain unchanged regardless of depth or scale changes. It is recommended that this option be disabled when multiple drawings are composited and attached this effect.
Blur Type	**Radial**: The edges of the matte are blurred evenly around points that make up the edge of the matte. **Directional**: The matte is blurred in the direction you select.
Radius	Enter a value for the size of the blur. The larger the value, the greater the blur effect. The blur radius is affected by the drawing scale and camera position.
Directional Angle	If you selected the Directional Blur type, you can set the direction of the blur by entering a value from 0 to 360 in this field. **0**: Blurs the image to the west.

	90: Blurs the image to the south. **180**: Blurs the image to the east. **270**: Blurs the image to the north.
Directional Falloff Rate	The distance where the blur fades from the edge of the image. Select a value between 0 and 1. **0**: Makes the blur fade out slowly, distributing the blur evenly from the edge of the character to the farthest edge of the blur. **1**: Makes the blur fade out quickly. The blur is heaviest closer to the edge of the image.
Invert Matte	Inverts the matte used to create the tone, shadow, or highlight.
Use Matte/Source Colour	Creates the shadow or tone using the matte shape's colour. Be sure that you are in render mode to see this effect and that your background is **NOT** white and that you do **NOT** have a white colour card node attached to the composite. As the matte only gives colour information, but no alpha, the matte is automatically multiplied with the background colours. If there is no colour card attached and the background appears black, you will see the matte colour at full opacity. If it is multiplied with a white background, the colours disappear into the full 255.
Multiplicative	Multiplies the tone or shadow colours with the background.
Colour	
RGBA	Enter a value to add or subtract from the colour channels in the drawings or attach these values to function curves.
Colour Swatch	Opens the Colour Picker where you can specify the colour.
Intensity	Lets you set a value to determine the strength of the effect or attach a function to animate the effect.

Transparency

T-HFND-010-008

The Transparency effect is used to make an image partially transparent. The Transparency effect is useful when fading images in and out, such as a phantom or to make something partially see-through, such as a window.



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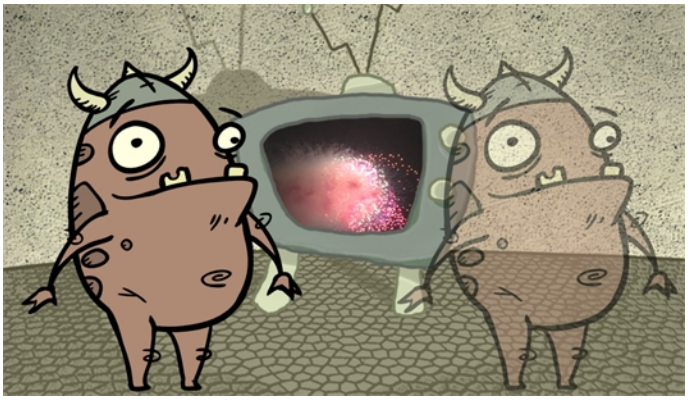
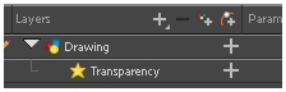
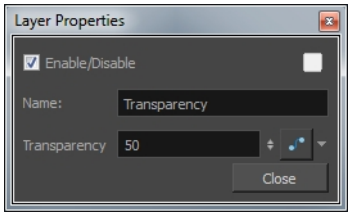


Refer to the following example to connect this node.



You can enter a value in the Transparency field or change the transparency value over time by linking it to a function curve. Entering a value of 100 in the Transparency field will make the element 100% transparent, in other words, invisible. Entering a value of 0 will render the element completely opaque.

Properties



Parameter	Description
Name	Allows you to change the node's name.
Transparency	Lets you set the opacity of an element. Values range from 0 to 100. A value of 100 will make the element 100% transparent and a value of 0 will render the element completely opaque.

Generator Nodes

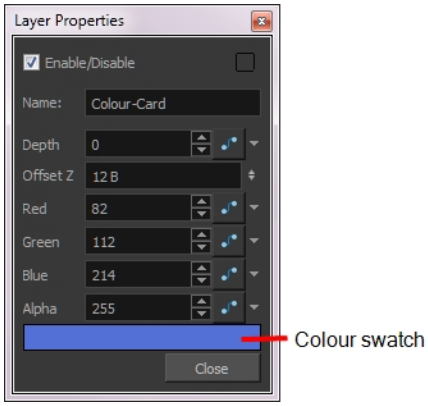
The nodes found in the Generator category are nodes that generate an image on their without using any external TVG or bitmap drawings. You can adjust the parameters to control the image outputted by these nodes.

Colour-Card Node 112
Element / Drawing Node 113

Colour-Card Node

The Colour Card is a solid background the same size as the camera. The Colour Card lets you fill the scene's background with a solid colour when there is no background image. If no background or colour card is added to the scene, the resulting export will appear with a black background.

By default, the Colour Card has a Z ordering value of **12 Backward**. This puts the Colour card behind all elements that have a value lower than **12 Backward**. Most of the time, the Colour card will appear automatically behind all the scene elements as they are all set to **0 Backward**, unless you have changed the Z ordering of the scene components. If so, the Colour Card will be in front of the elements that are pushed back to more than 12 fields backward.



Colour Card Properties

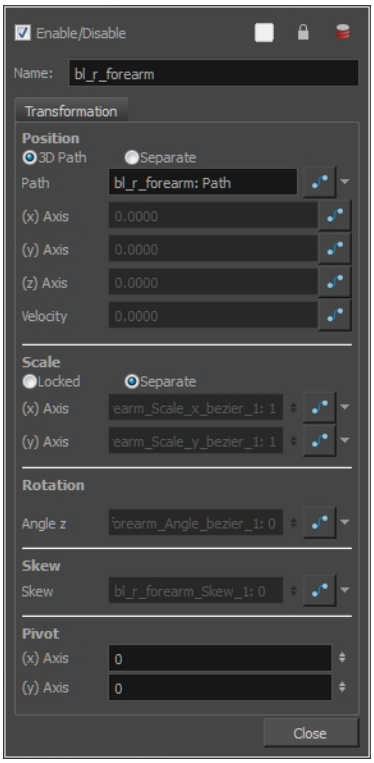
Parameter	Description
Depth	The value used to determine composition order when the Z value of two elements is the same.
Offset Z	The front-back position of the Colour Card layer in 3D space. This value can be verified in the Top view.
Red/Green/Blue/Alpha	The colour and transparency of the Colour Card. You can also attach these parameters to function columns to change their values over time. Click the colour swatch to open the Colour Picker window and select a colour.
Colour Swatch	Opens the Colour Picker window in which you can specify the colour.

Element / Drawing Node

The drawing layer's properties is composed of the following tabs:

Transformation Tab

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



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

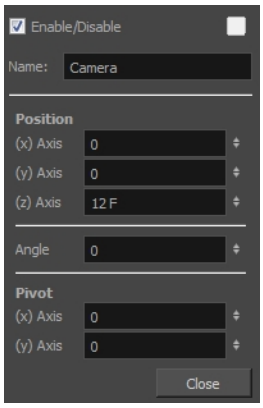
Move Nodes

The nodes found in the Move category are used to animate layers as well as camera motions.

Camera Node 116
Peg Node 117
Transformation Tab 117
Quadmap Node 118

Camera Node

You can setup the camera position by entering coordinates and values in the Layer Properties view.



Parameter	Description
Enable/Disable	Turns the camera layer on or off.
Change Track Colour	The Change Track Colour button lets you change the colour of the exposed frames; this helps you to quickly locate a layer in the Timeline view. Click the Change Track Colour button to open the Select Colour window and choose a new colour. You can modify the colour for any type of layer, such as group, peg, drawing, and effects.
Name	Displays the current layer name. You can rename the layer by typing in a new layer name.
Position	Displays the current position of the camera layer using X-axis (East/West), Y-axis (North/South) and Z-axis (Forward/Backward) coordinates. To reposition your camera frame, type in the new values corresponding to the desired position coordinates. You can also use the up and down arrows to set the value of each field.
Angle	Displays the current rotation value. To set a new rotation position, type in a new angle value. You can also use the up and down arrows to set the new angle value.
Pivot	Displays the current position of the rotation pivot of the camera layer. The camera will perform a rotation taking the position of the pivot as its angle centre. By default, the pivot is set at the centre of the camera frame. To reposition the pivot point, enter new X and Y coordinates values in the appropriate field. To see the pivot's position, the Rotate tool must be selected.

Peg Node

Find below a description of all the Peg node parameters.

Transformation Tab

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

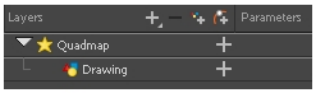
Quadmap Node

The Quadmap transformation layer lets you deform the shape of an element. For example, you can use it to create a drop-shadow effect on an element.

You can edit the Quadmap visually in the Camera view.

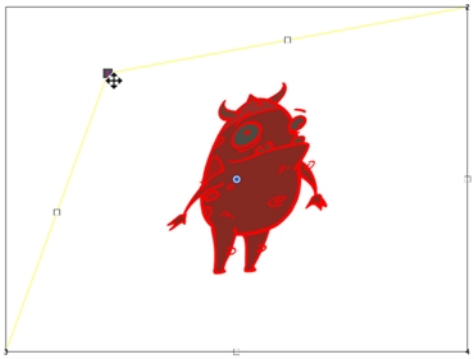
How to edit the Quadmap in the Camera view

1. In the Timeline view, click the Add Layer button and select **Quadmap**.
2. Connect the drawing you want to deformto the Quadmap.



3. In the Tools toolbar, disable the Animate mode to change the value for the Quadmap over the entire duration of the element.
4. In the Timeline view, click on the Quadmap layer to select it.
5. From the top menu, select **View > Show > Control** or pressShift + F11.

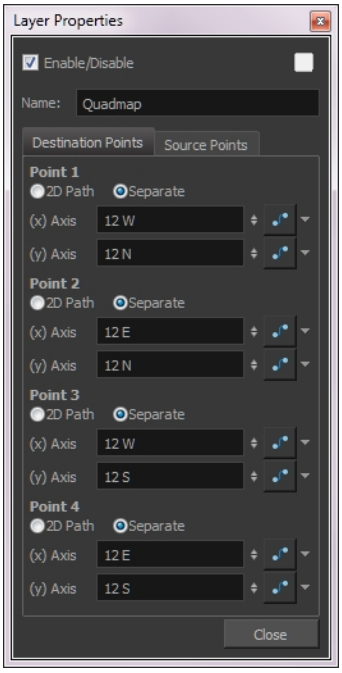
   The quadmap handles appear around the element in the window. There is also a pivot point at the centre of the quadmap frame that you can reposition.
6. In the Camera view window, use the Transform tool to move the points on the quadmap. Shift + click to select multiple points.



The value of each point on the quadmap can be changed gradually. To do this, use the Quadmap node Layer Properties to attach the points to function curves.

Only the X and Y values of each point in the quadmap can be changed.

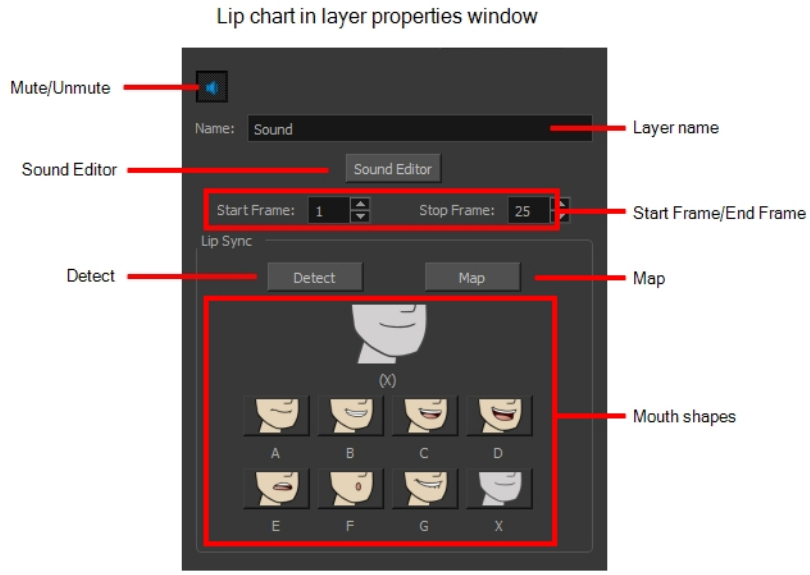
Properties



Parameter	Description
Name	Lets you rename the node.
2D Path	Changes the X and Y values simultaneously and control the velocity of the change.
Separate	Changes the X and Y values separately. Each one can be attached to separate function curves.

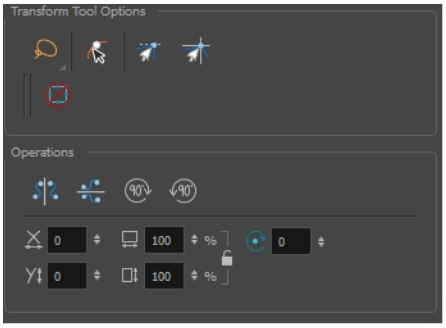
Sound Layer Properties

When you select a sound layer in the Timeline view, the options related to that layer appear in the Layer Properties view.



Chapter 5: Tools Properties

Harmony has a wide variety of drawing and manipulation tools and each one of them has a series of options and modes available in the Tool Properties view. This section covers these options.

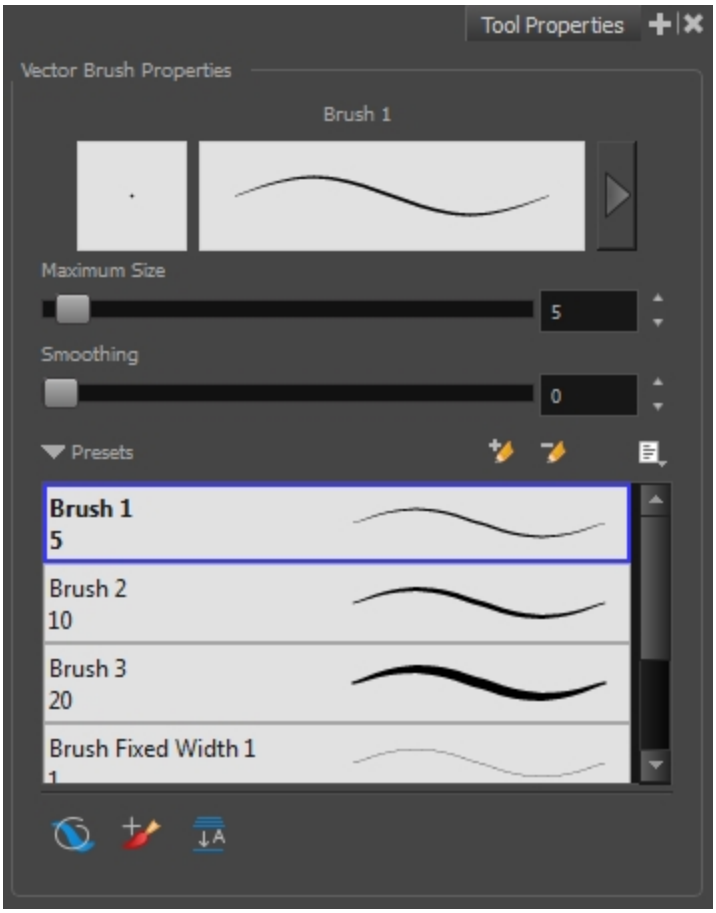


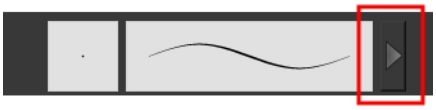
Brush Tool Properties 123
Size and Smoothness Tab 124
Close Gap Tool Properties 126
Contour Editor Tool Properties 127
Cutter Tool Properties 129
Ellipse Tool Properties 130
Envelope Tool Properties 133
Eraser Tool Properties 135
Size and Smoothness Tab 136
Line Tool Properties 137
Paint Tool Properties 140
Pencil Tool Properties 142
Perspective Tool Properties 144
Polyline Tool Properties 145
Rectangle Tool Properties 147
Reposition All Drawings Tool Properties 150
Rigging Tool Properties 152
Mode 152
Options 152
Operations 152
Select Tool Properties 153
Smooth Editor Tool Properties 158
Stroke Tool Properties 160
Text Tool Properties 161

Transform Tool Properties 164
Zoom Tool Properties 166

Brush Tool Properties

When you're drawing on a vector layer and select the Brush tool, its properties and options appear in the Tool Properties view.

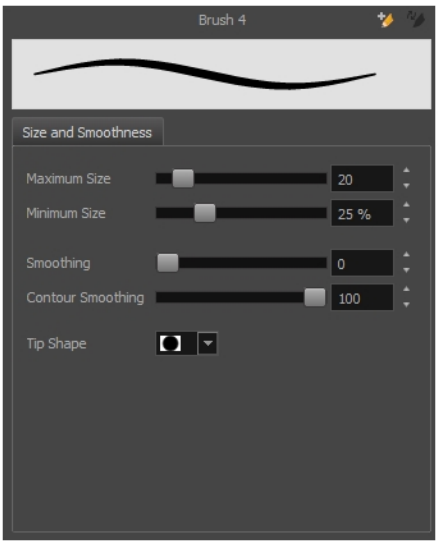


Icon	Tool Name	Description
	Previewing the Stroke	The Preview area lets you see a preview of the selected or customized stroke. You can click on the Show Extended Properties arrow to display advanced customization parameters. 
	Maximum Size	Defines the maximum size of your drawing tool. This parameter defines the width of the stroke.
	Smoothing	Defines the number of control points added to the centre line. The fewer the control points the smoother (but less faithful) the line.
	Brush Presets	Presets are created by saving the properties of the current tool to a new preset, which you can reuse for repeated tasks. You can create as many presets as you need.
	New Brush	Allows to create a new preset.

	New Dynamic Brush	Allows you to create a new dynamic brush to clone custom patterns.
	Delete Brush	Allows you to delete your custom presets.
	Rename Brush	Allows you to rename a custom preset.
	Import Brushes	Allows you to import a set of XML Harmony presets previously exported via the Export Brushes command.
	Export Brushes	Allows you to export Harmony presets to backup or import on a different computer.
	Small Thumbnail, Large Thumbnail, and Stroke View	Allows you to display the presets as small square thumbnails, large square thumbnails or a list of stroke preview.
	Draw Behind	When drawing on vector layers, the Draw Behind mode lets you paint behind existing art. By default, strokes appear over your work until you release the tool.
	Repaint Brush	The Repaint Brush is used to repaint zones that have already been painted, it will not affect empty zones or pencil lines. You can use this mode to paint tones or highlights onto your character.
	Auto-Flatten Mode	When enabled, the Auto-Flatten mode automatically flattens the new lines created with the existing artwork as you draw in the Drawing or Camera view. Brush strokes will flatten with brush strokes and pencil lines will flatten with pencil lines.

Size and Smoothness Tab

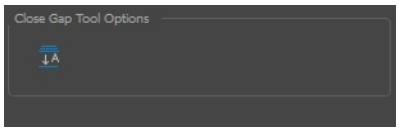
You can access advanced properties by clicking on the Previewing the Stoke button in the Tool Properties view.



Tool Name	Description
Maximum Size	Defines the maximum size of your drawing tool. This parameter defines the width of the stroke.
Minimum Size	Defines the minimum size of your stroke as a percentage of the maximum size. If you do not have pressure sensitivity from a pen table, the minimum size value will be ignored.
Smoothing	Defines the number of control points added to the centre line. The fewer the control points the smoother (but less faithful) the line.
Contour Smoothing	Defines the number of points on the contour share of your stroke. This will smooth out the bumps and waves on tour contour shape of your brush strokes.
Tip Shape	Lets you select a tip shape–from round and square ones to star shaped. This option is disabled when using a textured brush.

Close Gap Tool Properties

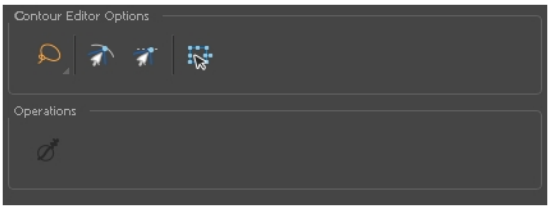
When you select the Close Gap tool, its properties and options appears in the Tool Properties view.

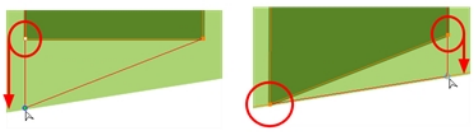
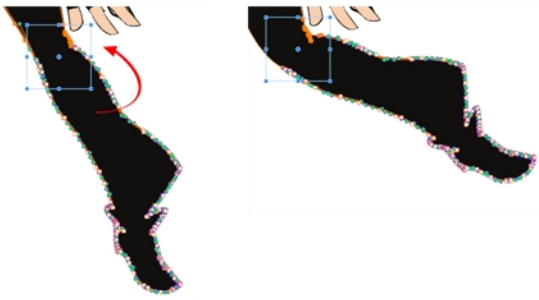


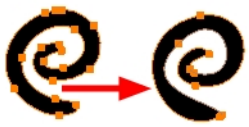
Icon	Tool Name	Description
	Auto-Flatten Mode	When enabled, the Auto-Flatten mode automatically flattens the new lines created with the existing artwork as you draw in the Drawing or Camera view. Brush strokes will flatten with brush strokes and pencil lines will flatten with pencil lines.

Contour Editor Tool Properties

When you select the Contour Editor tool, its properties and options appear in the Tool Properties view.

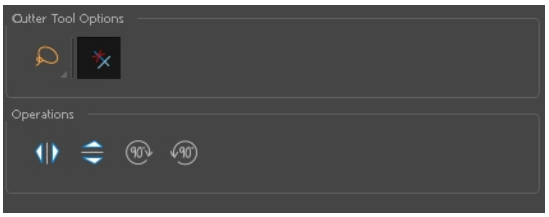


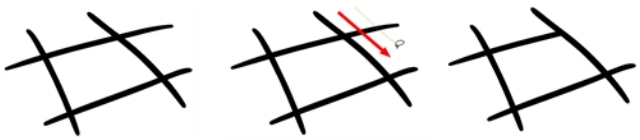
Icon	Tool Name	Description
	Lasso	Sets the selection mode to Lasso. Click and hold Alt to temporarily switch between the Marquee and Lasso modes.
	Marquee	Sets the selection mode to Marquee. Click and hold Alt to temporarily switch between the Marquee and Lasso modes.
	Snap to Contour	Snaps your selection or point to any line you position it on. As soon as you move it close enough to another line, your point or selection will snap to it. 
	Snap and Align	Snaps the selected anchor point to any existing line while displaying temporary rulers as a guide that you can also snap your anchor point to.
	Show Contour Editor Controls	Use the Show Contour Editor Controls option to show the contour editor controls. You can use these controls to scale, reposition and rotate the selected anchor points. 
	Smooth Selection	The Smooth operation lets you smooth out selected

		drawing strokes and remove extra points. • From the top menu, select **Drawing> Optimize > Smooth** or press Alt + Shift + S. 

Cutter Tool Properties

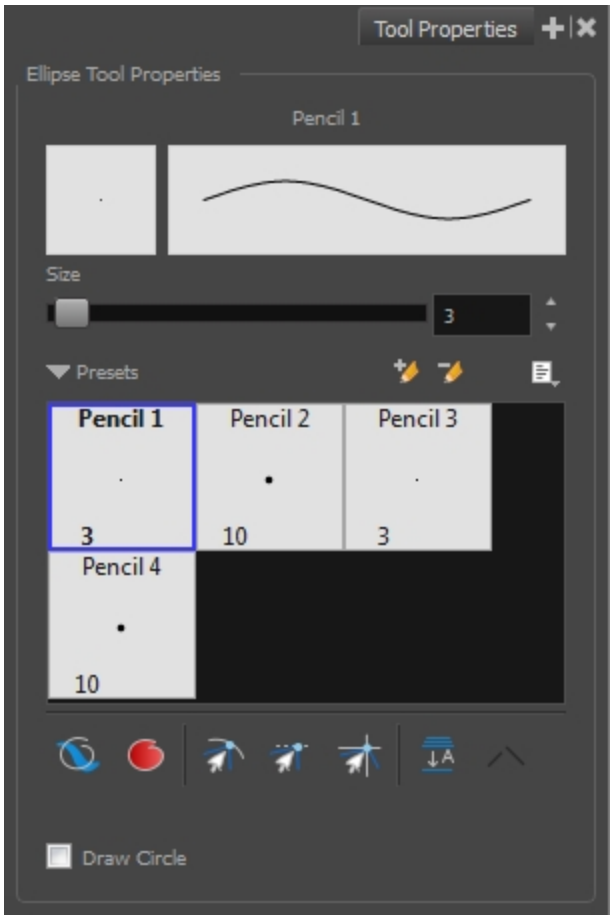
When you select the Cutter tool, its properties and options appear in the Tool Properties view.



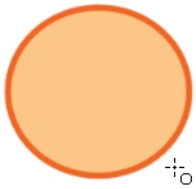
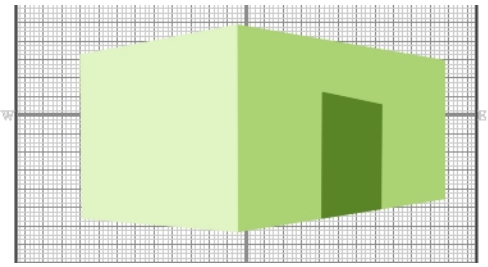
Icon	Tool Name	Description
	Lasso	Sets the selection mode to Lasso. Click and hold Alt to temporarily switch between the Marquee and Lasso modes.
	Marquee	Sets the selection mode to Marquee. Click and hold Alt to temporarily switch between the Marquee and Lasso modes.
	Use Mouse Gesture	When using the Lasso selection type, the Use Mouse Gesture option lets you automatically delete any extra sections of line in your artwork by simply dragging your mouse over it. **NOTE:** For this operation to work, you lines **CANNOT** be flattened. 
	Flip Horizontal	Flips the current selection horizontally.
	Flip Vertical	Flips the current selection vertically.
	Rotate 90 Degrees CW	Rotates the current selection 90 degrees clockwise.
	Rotate 90 Degrees CCW	Rotates the current selection 90 degrees counter-clock-wise.

Ellipse Tool Properties

When you select the Ellipse tool, its properties and options appear in the Tool Properties view.



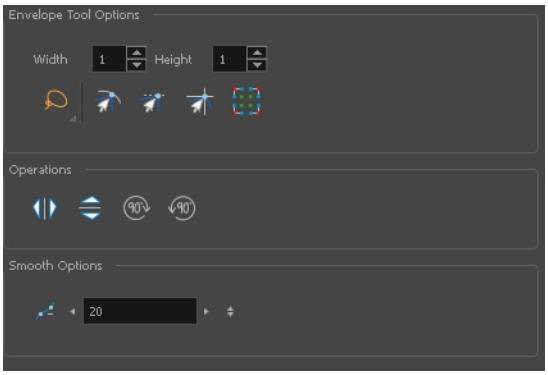
Icon	Tool Name	Description
	Size	Defines the maximum size of your drawing tool. This parameter defines the width of the stroke.
	Presets	Harmony provides a variety of presets and also lets you create and save your own. It is a good idea to create and save pencils with precise sizes and parameters when you draw and design for efficiency and consistency. All tools using pencil lines share the same preset list. Therefore, the Polyline, Line, Rectangle, Ellipse, and Pencil tools share the same preset list.
	New Brush	Allows to create a new preset.
	Delete Brush	Allows you to delete your custom presets.
	Rename Brush	Allows you to rename a custom preset.
	Import Brushes	Allows you to import a set of XML Harmony presets previously exported via the Export Brushes command.
	Export Brushes	Allows you to export Harmony presets to backup or import on a

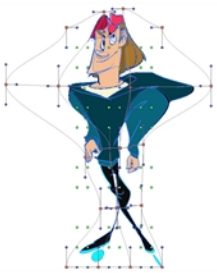
		different computer.
	Small Thumbnail, Large Thumbnail, and Stroke View	Allows you to display the presets as small square thumbnails, large square thumbnails or a list of stroke preview.
	Draw Behind	When drawing on vector layers, the Draw Behind mode lets you paint behind existing art. By default, strokes appear over your work until you release the tool.
	Automatic Filling	Use the Automatic Filling option to automatically fill your shape with the selected colour as you draw. By default, the Shape tool creates the outline of an empty shape that you can later fill using the Paint tool. This option is unavailable for the line tool. 
	Snap to Contour	Snaps your selection or point to any line you position it on. As soon as you move it close enough to another line, your point or selection will snap to it.
	Snap and Align	Snaps the selected anchor point to any existing line while displaying temporary rulers as a guide that you can also snap your anchor point to.
	Snap to Grid	Snaps your selection following the currently enabled grid. 
	Auto-Flatten Mode	When enabled, the Auto-Flatten mode automatically flattens the new lines created with the existing artwork as you draw in the Drawing or Camera view. Brush strokes will flatten with brush strokes and pencil lines will flatten with pencil lines.

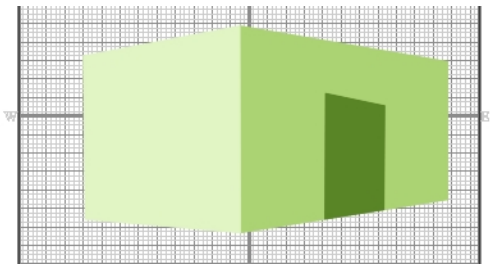
		NOTE: Using the Select tool, you can use select and remove a segment of flattened pencil lines. Overlapping pencil lines drawn with the Auto-Flatten mode are essentially cut into segments by the overlap and can be treated as individual lines.

Envelope Tool Properties

Selecting the Envelope tool displays its properties and options in the Tool Properties view.

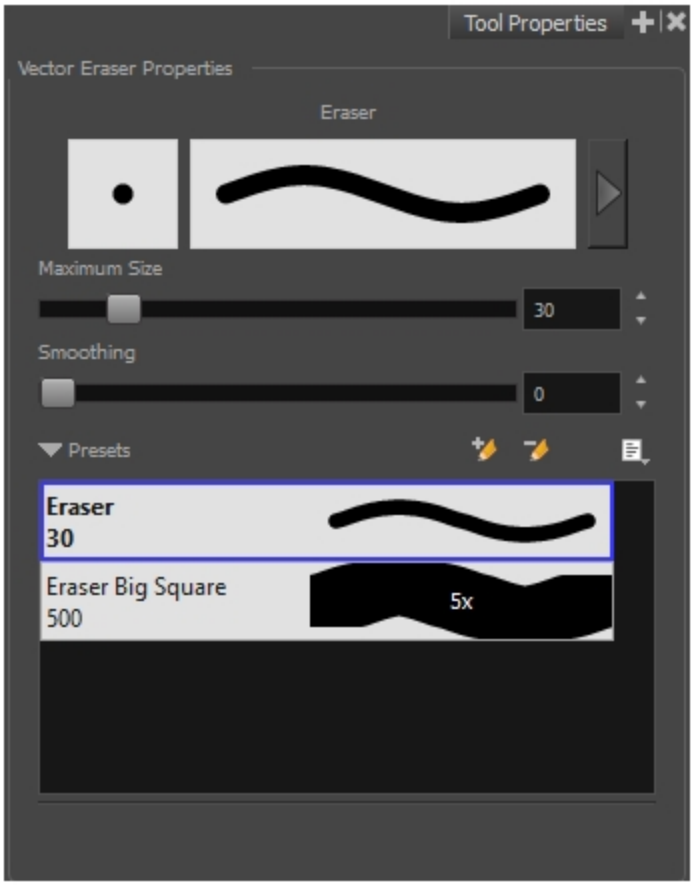


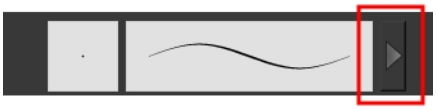
Icon	Tool Name	Description
	Width and Height	Increase the width and height values to add more columns and rows to the deformation grids. 
	Lasso	Sets the selection mode to Lasso. Click and hold Alt to temporarily switch between the Marquee and Lasso modes.
	Marquee	Sets the selection mode to Marquee. Click and hold Alt to temporarily switch between the Marquee and Lasso modes.
	Snap to Contour	Snaps your selection or point to any line you position it on. As soon as you move it close enough to another line, your point or selection will snap to it.
	Snap and Align	Snaps the selected anchor point to any existing line while displaying temporary rulers as a guide that you can also snap your anchor point to.
	Snap to Grid	Snaps your selection following the currently enabled grid.

		
	Show Advanced Controls	To display more controls,you can click on the Show Advanced Controls button.
	Flip Horizontal	Flips the current selection horizontally.
	Flip Vertical	Flips the current selection vertically.
	Rotate 90 Degrees CW	Rotates the current selection 90 degrees clockwise.
	Rotate 90 Degrees CCW	Rotates the current selection 90 degrees counter-clock-wise.
	Smooth	You can modify the central line smoothness of your line using this option. This parameter smooths the deformed lines. Increasing the value will result in a smoother line with fewer control points. The more you increase the value, the less details and curves you will get. Use the left and right arrows to increment the value by one full unit. Use the Up - Down slider to quickly increment the value.

Eraser Tool Properties

When you're drawing on vector layer and you select the Eraser tool, its properties and options appear in the Tool Properties view.

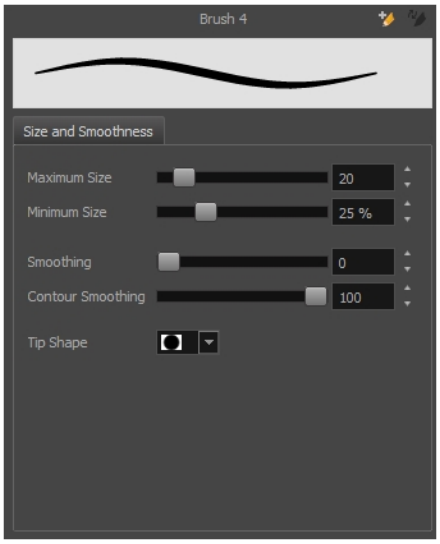


Icon	Tool Name	Description
	Previewing the Stroke	The Preview area lets you see a preview of the selected or customized stroke. You can click on the Show Extended Properties arrow to display advanced customization parameters. 
	Maximum Size	Defines the maximum size of your drawing tool. This parameter defines the width of the stroke.
	Smoothing	Defines the number of control points added to the centre line. The fewer the control points the smoother (but less faithful) the line.
	Eraser Presets	Presets are created by saving the properties of the current tool to a new preset, which you can reuse for repeated tasks. You can create as many presets as you need.

	New Brush	Allows to create a new preset.
	Delete Brush	Allows you to delete your custom presets.
	Rename Brush	Allows you to rename a custom preset.
	Import Brushes	Allows you to import a set of XML Harmony presets previously exported via the Export Brushes command.
	Export Brushes	Allows you to export Harmony presets to backup or import on a different computer.
	Small Thumbnail, Large Thumbnail, and Stroke View	Allows you to display the presets as small square thumbnails, large square thumbnails or a list of stroke preview.

Size and Smoothness Tab

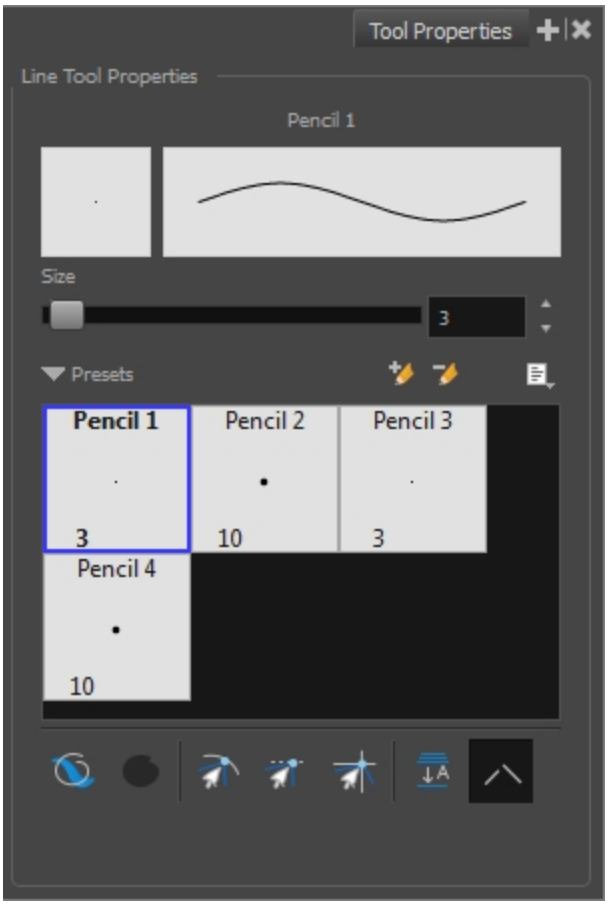
You can access advanced properties by clicking on the Previewing the Stoke button in the Tool Properties view.



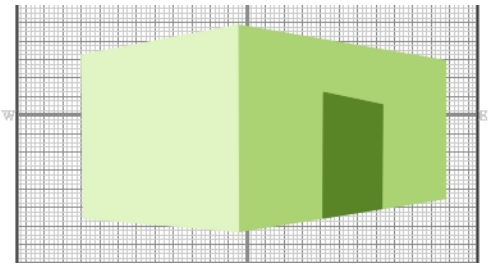
Tool Name	Description
Maximum Size	Defines the maximum size of your drawing tool. This parameter defines the width of the stroke.
Minimum Size	Defines the minimum size of your stroke as a percentage of the maximum size. If you do not have pressure sensitivity from a pen table, the minimum size value will be ignored.
Smoothing	Defines the number of control points added to the centre line. The fewer the control points the smoother (but less faithful) the line.
Contour Smoothing	Defines the number of points on the contour share of your stroke. This will smooth out the bumps and waves on tour contour shape of your brush strokes.
Tip Shape	Lets you select a tip shape–from round and square ones to star shaped. This option is disabled when using a textured brush.

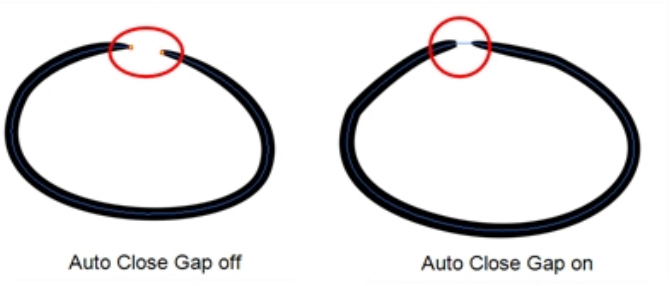
Line Tool Properties

When you select the Line tool, its properties and options appear in the Tool Properties view.



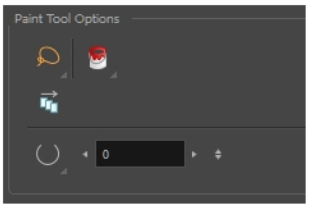
Icon	Tool Name	Description
	Size	Defines the maximum size of your drawing tool. This parameter defines the width of the stroke.
	Presets	Harmony provides a variety of presets and also lets you create and save your own. It is a good idea to create and save pencils with precise sizes and parameters when you draw and design for efficiency and consistency. All tools using pencil lines share the same preset list. Therefore, the Polyline, Line, Rectangle, Ellipse, and Pencil tools share the same preset list.
	New Brush	Allows to create a new preset.
	Delete Brush	Allows you to delete your custom presets.
	Rename Brush	Allows you to rename a custom preset.
	Import Brushes	Allows you to import a set of XML Harmony presets previously exported via the Export Brushes command.
	Export Brushes	Allows you to export Harmony presets to backup or import on a different computer.

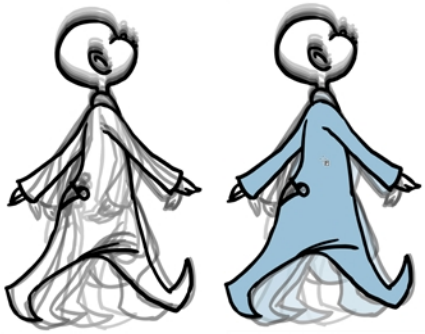
	Small Thumbnail, Large Thumbnail, and Stroke View	Allows you to display the presets as small square thumbnails, large square thumbnails or a list of stroke preview.
	Draw Behind	When drawing on vector layers, the Draw Behind mode lets you paint behind existing art. By default, strokes appear over your work until you release the tool.
	Snap to Contour	Snaps your selection or point to any line you position it on. As soon as you move it close enough to another line, your point or selection will snap to it.
	Snap and Align	Snaps the selected anchor point to any existing line while displaying temporary rulers as a guide that you can also snap your anchor point to.
	Snap to Grid	Snaps your selection following the currently enabled grid. 
	Auto-Flatten Mode	When enabled, the Auto-Flatten mode automatically flattens the new lines created with the existing artwork as you draw in the Drawing or Camera view. Brush strokes will flatten with brush strokes and pencil lines will flatten with pencil lines. **NOTE:** Using the Select tool, you can use select and remove a segment of flattened pencil lines. Overlapping pencil lines drawn with the Auto-Flatten mode are essentially cut into segments by the overlap and can be treated as individual lines.
	Auto-Close Gap	When using the pencil tool, you can automatically close strokes with an invisible stroke.

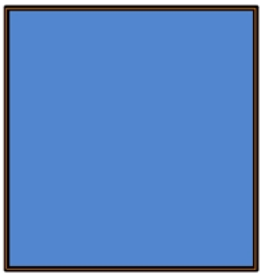
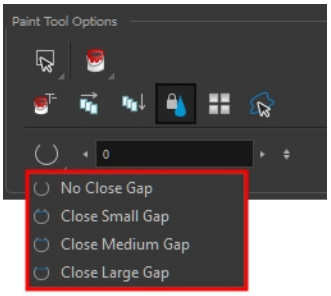
		 It is recommended to keep this option enabled when drawing with the Pencil tool.

Paint Tool Properties

When you select the Paint tool, its properties and options appears in the Tools Properties view.

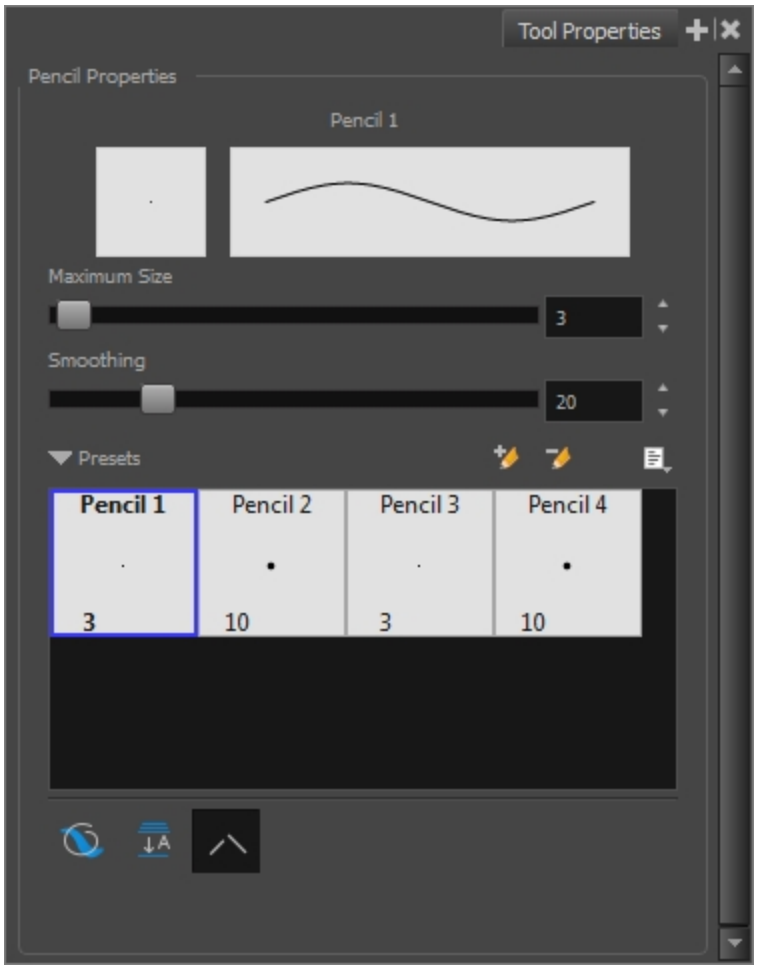


Icon	Tool Name	Description
	Lasso	Sets the selection mode to Lasso. Click and hold Alt to temporarily switch between the Marquee and Lasso modes.
	Marquee	Sets the selection mode to Marquee. Click and hold Alt to temporarily switch between the Marquee and Lasso modes.
	Paint Modes	The Paint tool has three different modes available: • The Paint mode paints everything it touches, including empty and filled zones. • The Paint Unpainted mode paints only empty zones. Any line or filled zone will remain unchanged. • The Unpaint mode unpaints everything it touches, including empty and filled zones.
	Apply to Multiple Drawings	The Apply to Multiple Drawings option is used for fast painting in hand-drawn animation. When you want to paint several drawings in a same layer at once, such as a walk cycle, you can enable this option and make a selection in the Camera or Drawing view. All the closed zones located within your Paint tool selection are painted with the selected colour swatch.  You do not need to enable the Onion Skin preview to

		use this option. The option will stay enabled only for the next action. If you want to use it again, you must click on the Apply to Multiple Drawings button again, or press Alt + A.
	Select Newly Painted, and Unpainted Contours/Lines	In the Paint tool properties, this option keeps a selection highlighted around the latest painted zone after using the Paint, Unpaint, or Paint Unpainted tool. 
	Close Gap	The Close Gap option has four modes available. When the option is enabled, Harmony will consume more resources while painting.  • No Close Gap: The moment a zone has a gap in it, the Paint tool will not fill the area. • Close Small Gap: If a zone has a small gap in it, the Paint tool will fill the area. You can zoom out to make the gap appear smaller and the Paint tool will paint. • Close Medium Gap: If a zone has a medium gap in it, the Paint tool will fill the area. You can zoom out to make the gap appear smaller and the Paint tool will paint. • Close Large Gap: If a zone has a large gap in it, the Paint tool will fill the area. You can zoom out to make the gap appear smaller and the Paint tool will paint.

Pencil Tool Properties

When you select the Pencil tool, its properties and options appears in the Tool Properties view.

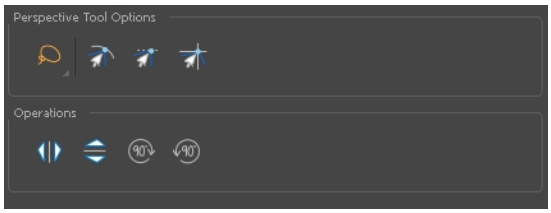


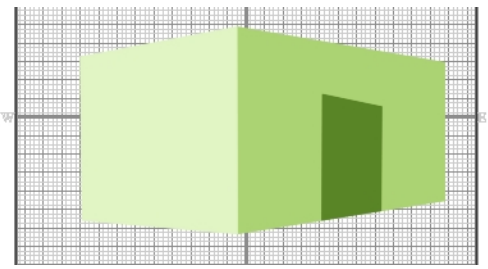
Icon	Tool Name	Description
	Maximum Size	Defines the maximum size of your drawing tool. This parameter defines the width of the stroke.
	Smoothing	Defines the number of control points added to the centre line. The fewer the control points the smoother (but less faithful) the line.
	Presets	Harmony provides a variety of pencil presets and also lets you create and save your own. It is a good idea to create and save pencils with precise sizes and parameters when you draw and design for efficiency and consistency. You can export the pencil presets that you have created and import those that others have created. This is a good way for you and project collaborators to keep a consistent look for the project.
	New Brush	Allows to create a new preset.
	Delete Brush	Allows you to delete your custom presets.
	Rename Brush	Allows you to rename a custom preset.

	Import Brushes	Allows you to import a set of XML Harmony presets previously exported via the Export Brushes command.
	Export Brushes	Allows you to export Harmony presets to backup or import on a different computer.
	Small Thumbnail, Large Thumbnail, and Stroke View	Allows you to display the presets as small square thumbnails, large square thumbnails or a list of stroke preview.
	Draw Behind	When drawing on vector layers, the Draw Behind mode lets you paint behind existing art. By default, strokes appear over your work until you release the tool.
	Auto-Flatten Mode	When enabled, the Auto-Flatten mode automatically flattens the new lines created with the existing artwork as you draw in the Drawing or Camera view. Brush strokes will flatten with brush strokes and pencil lines will flatten with pencil lines. **NOTE:** Using the Select tool, you can use select and remove a segment of flattened pencil lines. Overlapping pencil lines drawn with the Auto-Flatten mode are essentially cut into segments by the overlap and can be treated as individual lines.

Perspective Tool Properties

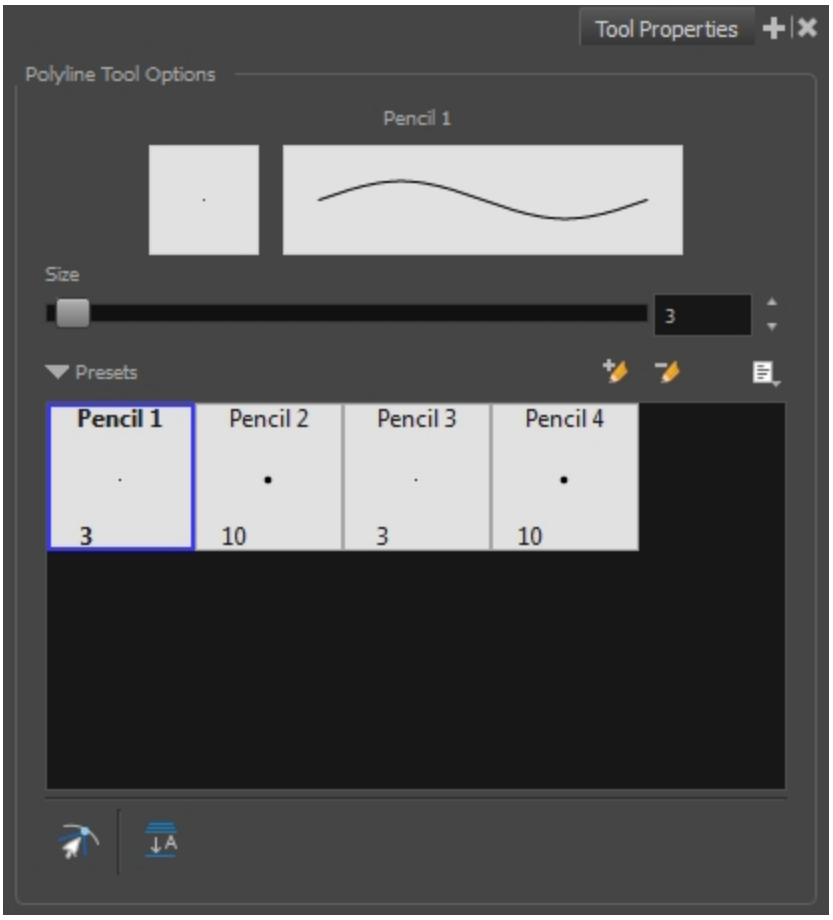
Selecting the Perspective tool displays its properties and options in the Tool Properties view.



Icon	Tool Name	Description
Selection Tool Options		
	Lasso	Sets the selection mode to Lasso. Click and hold Alt to temporarily switch between the Marquee and Lasso modes.
	Marquee	Sets the selection mode to Marquee. Click and hold Alt to temporarily switch between the Marquee and Lasso modes.
	Snap to Contour	Snaps your selection or point to any line you position it on. As soon as you move it close enough to another line, your point or selection will snap to it.
	Snap and Align	Snaps the selected anchor point to any existing line while displaying temporary rulers as a guide that you can also snap your anchor point to.
	Snap to Grid	Snaps your selection following the currently enabled grid. 
	Flip Horizontal	Flips the current selection horizontally.
	Flip Vertical	Flips the current selection vertically.
	Rotate 90 Degrees CW	Rotates the current selection 90 degrees clockwise.
	Rotate 90 Degrees CCW	Rotates the current selection 90 degrees counter-clockwise.

Polyline Tool Properties

When you select the Polyline tool, its properties and options appear in the Tool Properties view.

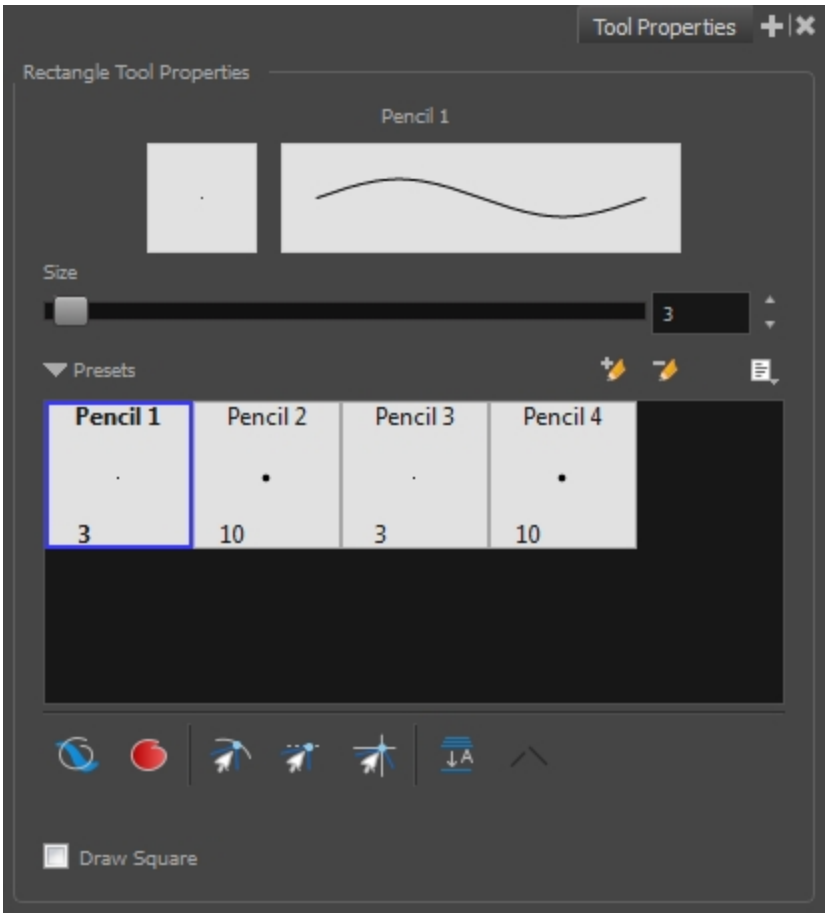


Icon	Tool Name	Description
	Size	Defines the maximum size of your drawing tool. This parameter defines the width of the stroke.
	Presets	Harmony provides a variety of presets and also lets you create and save your own. It is a good idea to create and save pencils with precise sizes and parameters when you draw and design for efficiency and consistency. All tools using pencil lines share the same preset list. Therefore, the Polyline, Line, Rectangle, Ellipse, and Pencil tools share the same preset list.
	New Brush	Allows to create a new preset.
	Delete Brush	Allows you to delete your custom presets.
	Rename Brush	Allows you to rename a custom preset.
	Import Brushes	Allows you to import a set of XML Harmony presets previously exported via the Export Brushes command.
	Export Brushes	Allows you to export Harmony presets to backup or import on a different

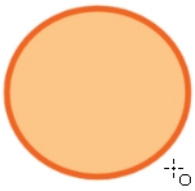
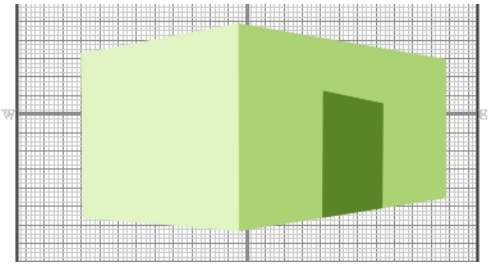
		computer.
	Small Thumbnail, Large Thumbnail, and Stroke View	Allows you to display the presets as small square thumbnails, large square thumbnails or a list of stroke preview.
	Snap to Contour	Snaps your selection or point to any line you position it on. As soon as you move it close enough to another line, your point or selection will snap to it.
	Auto-Flatten Mode	When enabled, the Auto-Flatten mode automatically flattens the new lines created with the existing artwork as you draw in the Drawing or Camera view. Brush strokes will flatten with brush strokes and pencil lines will flatten with pencil lines. **NOTE:** Using the Select tool, you can use select and remove a segment of flattened pencil lines. Overlapping pencil lines drawn with the Auto-Flatten mode are essentially cut into segments by the overlap and can be treated as individual lines.

Rectangle Tool Properties

When you select the Rectangle tool, its properties and options appear in the Tool Properties view.



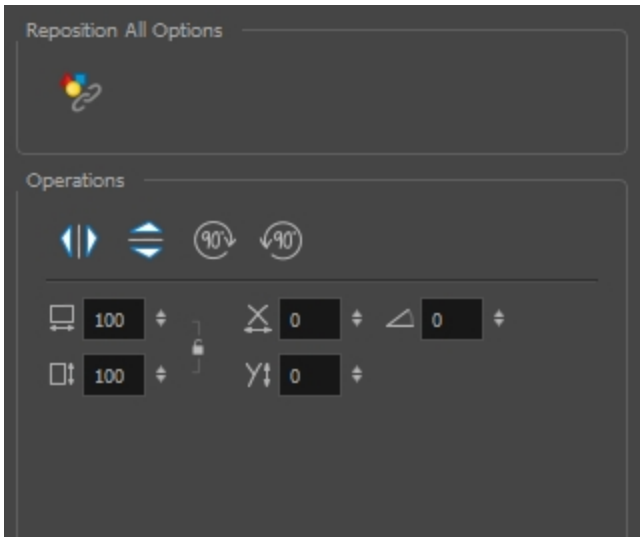
Icon	Tool Name	Description
	Size	Defines the maximum size of your drawing tool. This parameter defines the width of the stroke.
	Presets	Harmony provides a variety of presets and also lets you create and save your own. It is a good idea to create and save pencils with precise sizes and parameters when you draw and design for efficiency and consistency. All tools using pencil lines share the same preset list. Therefore, the Polyline, Line, Rectangle, Ellipse, and Pencil tools share the same preset list.
	New Brush	Allows to create a new preset.
	Delete Brush	Allows you to delete your custom presets.
	Rename Brush	Allows you to rename a custom preset.
	Import Brushes	Allows you to import a set of XML Harmony presets previously exported via the Export Brushes command.
	Export Brushes	Allows you to export Harmony presets to backup or import on a different computer.

	Small Thumbnail, Large Thumbnail, and Stroke View	Allows you to display the presets as small square thumbnails, large square thumbnails or a list of stroke preview.
	Draw Behind	When drawing on vector layers, the Draw Behind mode lets you paint behind existing art. By default, strokes appear over your work until you release the tool.
	Automatic Filling	Use the Automatic Filling option to automatically fill your shape with the selected colour as you draw. By default, the Shape tool creates the outline of an empty shape that you can later fill using the Paint tool. This option is unavailable for the line tool. 
	Snap to Contour	Snaps your selection or point to any line you position it on. As soon as you move it close enough to another line, your point or selection will snap to it.
	Snap and Align	Snaps the selected anchor point to any existing line while displaying temporary rulers as a guide that you can also snap your anchor point to.
	Snap to Grid	Snaps your selection following the currently enabled grid. 
	Auto-Flatten Mode	When enabled, the Auto-Flatten mode automatically flattens the new lines created with the existing artwork as you draw in the Drawing or Camera view. Brush strokes will flatten with brush strokes and pencil lines will flatten with pencil lines. **NOTE:** Using the Select tool, you can use select and remove a segment of

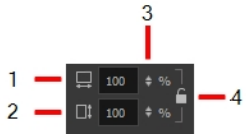
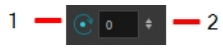
		flattened pencil lines. Overlapping pencil lines drawn with the Auto-Flatten mode are essentially cut into segments by the overlap and can be treated as individual lines.

Reposition All Drawings Tool Properties

When you use the Reposition All Drawings tool, its properties and options appear in the Tool Properties view.

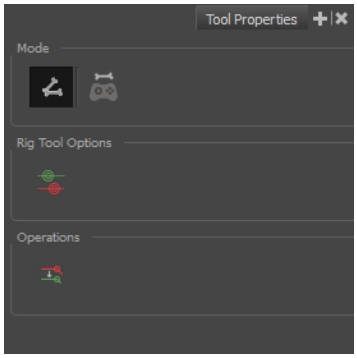


Icon	Option	Description
	Flip Horizontal	Flips the current selection horizontally.
	Flip Vertical	Flips the current selection vertically.
	Rotate 90 Degrees CW	Rotates the current selection 90 degrees clockwise.
	Rotate 90 Degrees CCW	Rotates the current selection 90 degrees counter-clockwise.
	Offset X and Y	Use the Offset X and Offset Y operation fields to enter specific values and precisely reposition the selected shape. 1. **X**: Type a value in this field to reposition your selection along the X-axis. 2. **Y**: Type a value in this field to reposition your selection along the Y-axis. 3. **Up/Down arrows:** Use the up and down arrows to modify the value in the X or Y value field.
	Width and Height	Use the Width and Height operation fields to enter specific values to resize the selected shape with precision.

		 1. **Width**: Type a value in this field to resize the width of your selection. 2. **Height**: Type a value in this field to resize the height of your selection. 3. **Up/Down arrows:** Use the up and down arrows to modify the value in the Width or Height fields. 4. **Lock icon**: Click the lock icon to lock or unlock the ratio between the Width and Height values.
	Angle	The Angle operation lets you to enter specific values and accurately rotate the selected shape.  1. **Angle**: Type a degree value in this field to rotate your selection. 2. **Up/Down arrows:** Use the up and down arrows to modify the value in the Angle value field.

Rigging Tool Properties

In the Tool Properties view, you can customize not only the behaviour of the tool but also the settings of the deformers that you will create.



Mode

Name	Button	Description
Bone Mode		Sets the Rigging tool to create Bone deformers.
Game Bone Mode		Sets the Rigging tool to create Game Bone deformers.

Options

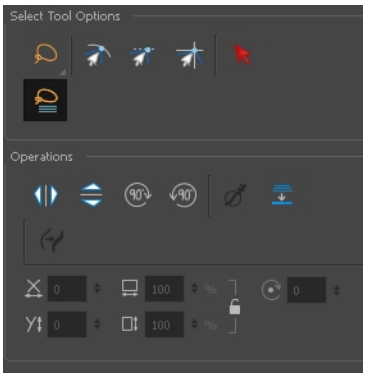
Parameter	Button	Description
Show All Manipulators (Show All Controls)		Lets you immediately see the resting position in red (Setup) and the animated position in green.

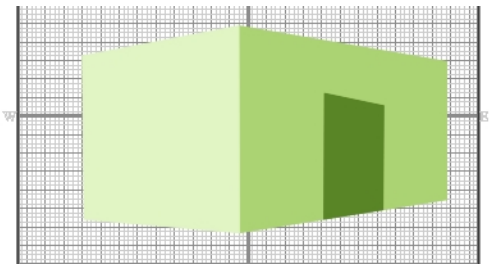
Operations

Name	Button	Description
Reset Deform (Reset Current Keyframe)		Copies the resting position of the deformation skeleton to the current frame.

Select Tool Properties

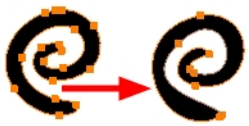
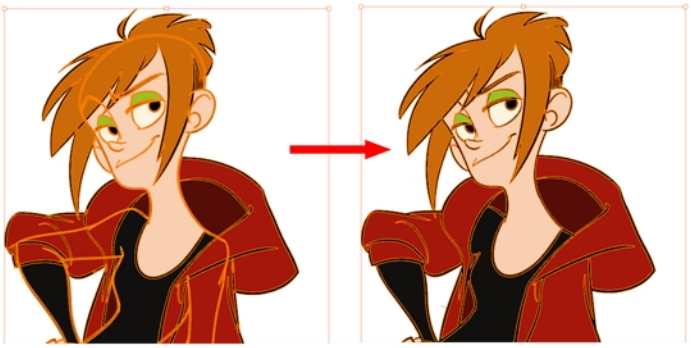
When you use the Select tool, its properties and options appear in the Tool Properties view.

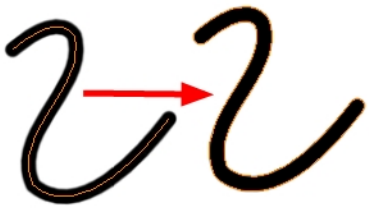
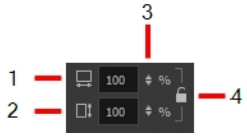
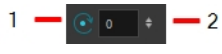


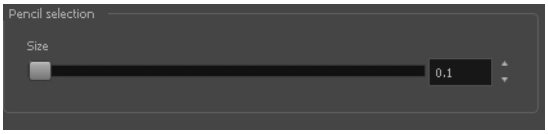
Icon	Tool Name	Description
Selection Tool Options		
	Lasso	Sets the selection mode to Lasso. Click and hold Alt to temporarily switch between the Marquee and Lasso modes.
	Marquee	Sets the selection mode to Marquee. Click and hold Alt to temporarily switch between the Marquee and Lasso modes.
	Snap to Contour	Snaps your selection or point to any line you position it on. As soon as you move it close enough to another line, your point or selection will snap to it.
	Snap and Align	Snaps the selected anchor point to any existing line while displaying temporary rulers as a guide that you can also snap your anchor point to.
	Snap to Grid	Snaps your selection following the currently enabled grid. 
	Select by Colour	Lets you select all the zones and lines in your drawing painted with the same colour swatch.

		 In the Camera or Drawing view, click on any zone or line in your drawing. All zones and lines of the same colour are selected. Click the Select tool again to return to the regular Select mode. **NOTE:** Only the zones painted with the **SAME** colour swatch will be selected. If another zone is coloured with the exact same RGB value (same colour), but not painted with the same colour swatch, it will not be selected.
	Works on Single Drawing	By default, when you draw a selection box in the Camera view, the Select tool will select only the drawing strokes of the current drawing. If you prefer the Select tool to select all the strokes on all layers, you can disable the Works on Single Drawing option in the Tool Properties view or disable the Select tool Works on Single Drawing preference. To do this, go to the top menu, select **Edit > Preferences > Camera** (Windows/Linux) or **Harmony Essentials > Preferences > Camera** (Mac OS X) and uncheck the Select tool Works on Single Drawing option.

Icon	Tool Name	Description
Selection Tool Operations		

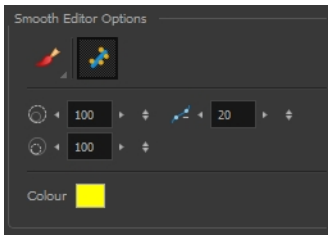
	Flip Horizontal	Flips the current selection horizontally.
	Flip Vertical	Flips the current selection vertically.
	Rotate 90 Degrees CW	Rotates the current selection 90 degrees clockwise.
	Rotate 90 Degrees CCW	Rotates the current selection 90 degrees counter-clockwise.
	Smooth	Smooth out selected drawing strokes and remove extra points. 
	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. 
	Create Colour Art from Line Art	Lets you use the outline you traced on one of the four embedded layers (line art, colour art, overlay, underlay) and create invisible strokes to paint your drawings on separate layers. This provides more inking and painting flexibility. You can also configure this option to create the invisible strokes on any of the four embedded layers.
	Distribute to Layers	The Distribute to Layers option is used to separate the selected art strokes and send them to new drawing layers. In the Camera view, once you have drawn your artwork, you can select the strokes you want to distribute using the Select tool and click on the Distribute to Layers button; you can also select **Drawing > Distribute to Layers**. It will automatically take every stroke from the drawing selection made in the Camera view and separate them into a different layer for each. If an artwork is composed of several strokes, you must group them using **Edit > Group > Group** before using the Distribute to Layers option. This option cannot be done from the Drawing view.

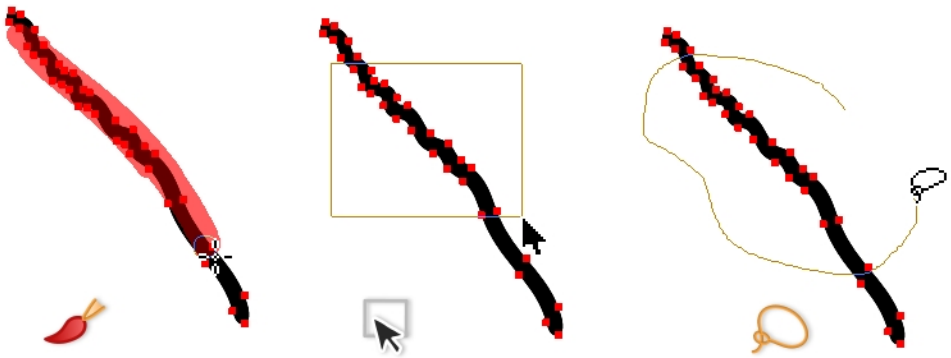
	Pencil to Brush	Converts the selected centre line pencil strokes into contour strokes brush lines. 
	Offset X and Y	Use the Offset X and Offset Y operation fields to enter specific values and precisely reposition the selected shape. 1. **X**: Type a value in this field to reposition your selection along the X-axis. 2. **Y**: Type a value in this field to reposition your selection along the Y-axis. 3. **Up/Down arrows:** Use the up and down arrows to modify the value in the X or Y value field.
	Width and Height	Use the Width and Height operation fields to enter specific values to resize the selected shape with precision.  1. **Width**: Type a value in this field to resize the width of your selection. 2. **Height**: Type a value in this field to resize the height of your selection. 3. **Up/Down arrows:** Use the up and down arrows to modify the value in the Width or Height fields. 4. **Lock icon**: Click the lock icon to lock or unlock the ratio between the Width and Height values.
	Angle	The Angle operation lets you to enter specific values and accurately rotate the selected shape.  1. **Angle**: Type a degree value in this field to rotate your selection. 2. **Up/Down arrows:** Use the up and down arrows to modify the value in the Angle value field.

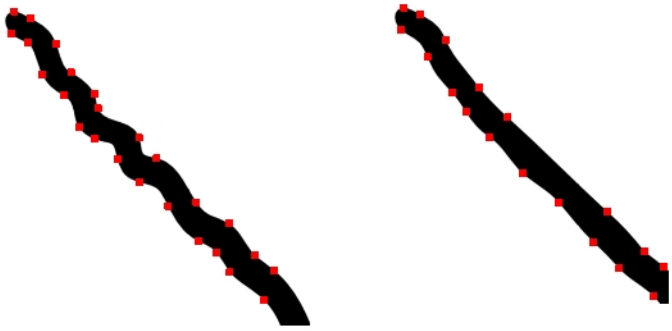
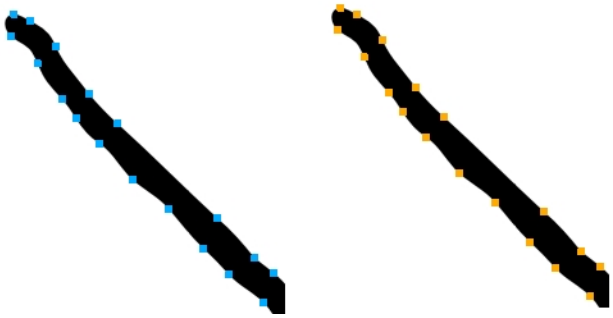
	Adjusting the Pencil Line Thickness	When you select a pencil line with the Select tool, additional options appear in the Tool Properties view. Use the Adjusting the Pencil Line Thickness operation field to resize the selected centreline strokes. This operation is not permitted on contour line shapes, such as brush strokes or shape fills. 
	Adjusting the Text Selection	When you select text with the Select tool, the tool properties will display the Text tool options on the bottom of the view. You can also press Alt + 9 to display only the Text properties in the Tool Properties view–see *Text Tool Properties* on page 161.

Smooth Editor Tool Properties

When you select the Smooth Editor tool, its properties and options appear in the Tool Properties view.

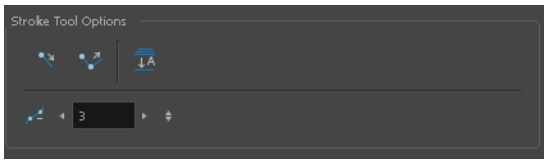


Icon	Tool Name	Description
	Smoothing Style	The Smoothing Style options allow you to smooth a portion of your drawing by tracing a smoothing stroke over the zone to optimize or by selecting an area of the drawing with the Marquee or Lasso. Note that by default, the Smooth Editor tool colour is yellow, it was changed to orange for screen grab clarity. 
	Show Control Points	The Show Control Points option allows you to show or hide the Bezier points around lines. When the Bezier points are displayed, you can see the result of your smoothing and the number of points left on the curve. When it is turned off, only the original artwork is displayed.
	Minimum Size and Maximum Size	This is where you set the minimum and maximum sizes of your drawing tool which will produce the thick and thin effect on your stroke. This works with the pressure sensitivity of a pen tablet. This options is available while using the Brush Smoothing style. • **Maximum and Minimum Size:** Defines the maximum and minimum width of the stroke. • **Up/Down arrows:** Use the up and down arrows to set the minimum and maximum size value.
	Smoothness	The Smoothness impacts the strength of the smoothing result. The higher the value, the more points are removed and the smoother the curve. The Smoothness range is from 0 to 100; the default value is 20.

		 Smoothness = 2 Smoothness = 10
	Colour	You can modify the colour of the control points displayed on the artwork while working with the Smooth Editor tool by double-clicking on the colour swatch. 

Stroke Tool Properties

When you select the Stroke tool, its properties and options appears in the Tool Properties view.

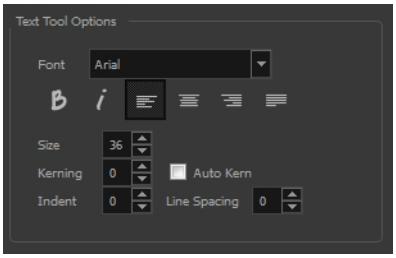


Icon	Tool Name	Description
	Draw Stroke as Straight Lines	Enable the Draw Stroke as Straight Lines option if you want the new strokes you draw to be a perfect straight line. Disable the option if you want the stroke to follow the mouse gesture.
	Connect Line Ends	Enable the Connect Line Ends option if you want the start or end point of your new stroke to connect to your existing strokes to make sure no gaps are left in your drawing.
	Auto-Flatten Mode	When enabled, the Auto-Flatten mode automatically flattens the new lines created with the existing artwork as you draw in the Drawing or Camera view. Brush strokes will flatten with brush strokes and pencil lines will flatten with pencil lines.
	Smoothness	You can modify the central line smoothness of your line using this option. This parameter smooths the initial movement of your line. Increasing the value will result in a smoother line with fewer control points. Use the left and right arrows to increment the value by one full unit. Use the Up - Down slider to quickly increment the value.

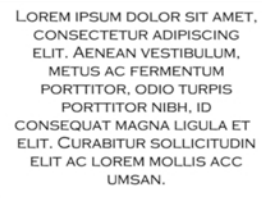
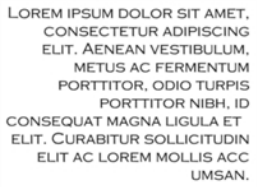
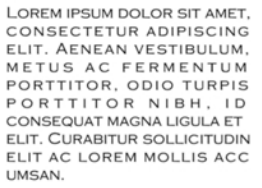
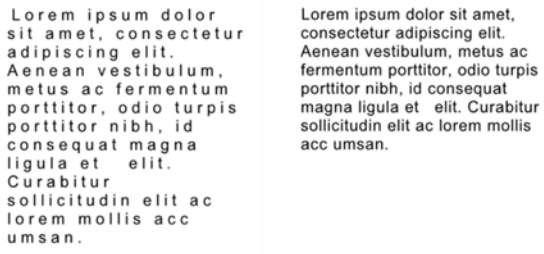
Text Tool Properties

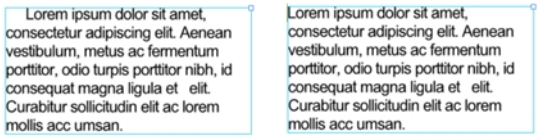
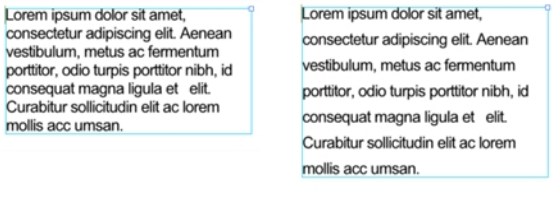
Use the Text tool's properties to select the font type and other formatting options you want to apply to the text.

If you already wrote your text, you must first use the Text tool and select the text portion you want to format. You can modify the parameters of an entire text box using the Select tool.



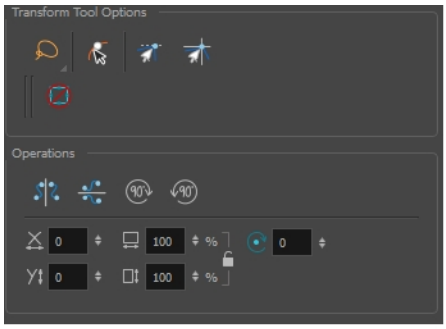
Icon	Tool Name	Description
	Font Type	Use the Font drop-down menu to select a font. OTF fonts are supported. Vivaldi Copperplate Gothic Light
	Bold	Use this option to bold your text selection. **My Project**
	Italic	Use this option to italicize your text selection. *My Project*
	Left Alignment	Use this option to left align the paragraph. LOREM IPSUM DOLOR SIT AMET, CONSECTETUR ADIPISCING ELIT. AENEAN VESTIBULUM, METUS AC FERMENTUM PORTTITOR, ODIO TURPIS PORTTITOR NIBH, ID CONSEQUAT MAGNA LIGULA ET ELIT. CURABITUR SOLLICITUDIN ELIT AC LOREM MOLLIS ACC UMSAN.
	Centered Alignment	Use this option to center align the paragraph.

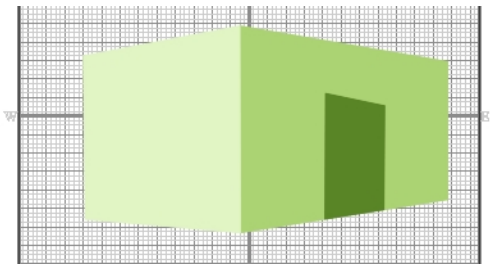
		
	Right Alignment	Use this option to right align the paragraph. 
	Justified Alignment	Use this option to justify align the paragraph. 
	Font Size	Enter a size for the text.
	Kerning	Use the kerning field to modify the spacing between letters and characters. You can select the Auto Kern option to set the kerning automatically based on the font's predefined standard. A negative value decreases spacing between each character, creating a letter overlap and a positive value increases it. 
	Indent	Enter a value in the Indent field to increase or decrease the indentation on the first line of your text. A positive value sets the first line of your paragraph farther to the right and a negative value sets it farther to the left.

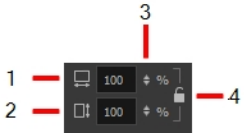
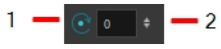
		
	Line Spacing	Enter a value in the Line Spacing field to decrease or increase the space between each line of text. 

Transform Tool Properties

When selecting the Transform tool, several options are available in the Tool Properties view.

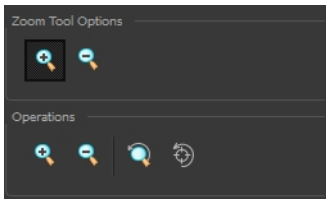


Icon	Tool Name	Description
	Lasso	Sets the selection mode to Lasso. Click and hold Alt to temporarily switch between the Marquee and Lasso modes.
	Marquee	Sets the selection mode to Marquee. Click and hold Alt to temporarily switch between the Marquee and Lasso modes.
	Peg Selection Mode	In the Camera view, the Peg Selection Mode limits the selection to peg layers instead of drawing layers. This mode is useful when you have created a character rig using peg layers for each drawing. That way, you do not accidentally select the drawing layer when you want to animate on the peg. When disabled, the Transform tool selects the drawing layers.
	Snap and Align	Snaps the selected anchor point to any existing line while displaying temporary rulers as a guide that you can also snap your anchor point to.
	Snap to Grid	Snaps your selection following the currently enabled grid. 
	Hide Manipulator Controls	The Hide Manipulator Controls button lets you hide the bounding box and manipulator controls from the Camera view when an element is selected.
	Flip Horizontal	Flips the current selection horizontally. You can also select **Animation > Flip > Flip Horizontal** from the top menu or press 4 or 5.
	Flip Vertical	Flips the current selection vertically. You can also select **Animation > Flip > Flip Vertical** from the top menu or press 4 or 5.

	Rotate 90 Degrees CW	Rotates the current selection 90 degrees clockwise.
	Rotate 90 Degrees CCW	Rotates the current selection 90 degrees counter-clockwise.
	Offset X and Y	Use the Offset X and Offset Y operation fields to enter specific values and precisely reposition the selected shape. 1. **X**: Type a value in this field to reposition your selection along the X-axis. 2. **Y**: Type a value in this field to reposition your selection along the Y-axis. 3. **Up/Down arrows:** Use the up and down arrows to modify the value in the X or Y value field.
	Width and Height	Use the Width and Height operation fields to enter specific values to resize the selected shape with precision.  1. **Width**: Type a value in this field to resize the width of your selection. 2. **Height**: Type a value in this field to resize the height of your selection. 3. **Up/Down arrows:** Use the up and down arrows to modify the value in the Width or Height fields. 4. **Lock icon**: Click the lock icon to lock or unlock the ratio between the Width and Height values.
	Angle	The Angle operation lets you to enter specific values and accurately rotate the selected shape.  1. **Angle**: Type a degree value in this field to rotate your selection. 2. **Up/Down arrows:** Use the up and down arrows to modify the value in the Angle value field.

Zoom Tool Properties

When you select the Zoom tool, its properties are displayed in the Tool Properties view.



Parameter		Button	Description
Zoom Tool Options	Zoom In		Zooms in
	Zoom Out		Zooms out
Operations	Perform Zoom In		Zoom in the Camera or Drawing view. The keyboard shortcut is 2.
	Perform Zoom Out		Zoom out the Camera or Drawing view. The keyboard shortcut is 1.
	Reset Zoom		Restores the current zoom level to 100%.
	Reset View		Restores the original display by resetting any pan, rotation or zoom actions.

Chapter 6: 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.

Top Toolbars 168

Advanced Animation Toolbar 169

Deformation Toolbar 170

Edit Toolbar 172

File Toolbar 173

Game Toolbar 174

Playback Toolbar 175

Scripting Toolbar 176

Tools Toolbar 177

Workspace Toolbar 180

View Toolbars 181

Timeline View Toolbar 182

Xsheet View Toolbar 183

Top Toolbars

Harmony has a series of toolbars that are added by default at the top of the interface. These toolbars can be moved on the sides of the interface as well as within specific views.

All top toolbars can be added through the top menu **Windows > Toolbars >** ***desired toolbar***.

Advanced Animation Toolbar 169
Deformation Toolbar 170
Edit Toolbar 172
File Toolbar 173
Game Toolbar 174
Playback Toolbar 175
Scripting Toolbar 176
Tools Toolbar 177
Workspace Toolbar 180

Advanced Animation Toolbar

The Advanced Animation toolbar contains tools to position and animate layers. The Scale, Translate and Rotate tools can be used to reposition the permanent pivot position of a layer. Unlike the Transform tool, each tool in the Advanced Animation toolbar performs a single operation, either rotate, scale, translate or scale in relation to the camera distance.

How to access the Advance Animation toolbar

1. Select **Windows > Toolbars > Advanced Animation**.

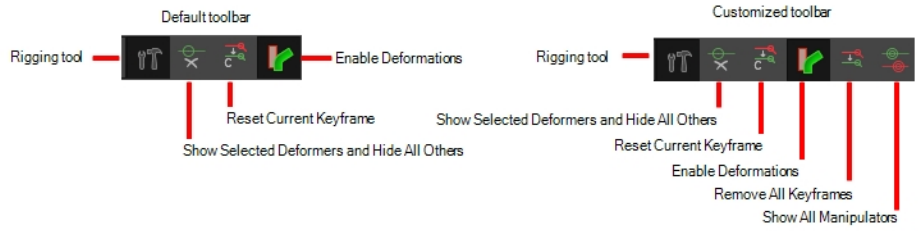
Icon	Tool Name	Description
	Translate	Lets you move the selected element along the X and Y axes.
	Rotate	Turns a selected element around its pivot point.
	Scale	Increases or decreases the size of a selected element. You can scale an object up to make it larger or down to make it smaller. Press Shift 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.

Deformation Toolbar

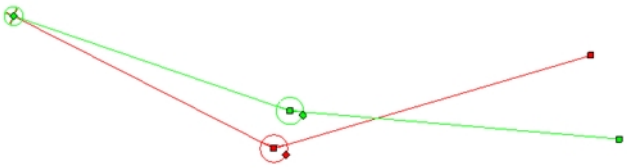
T-RIG-007-009

The Deformation toolbar contains the various tools and options used to create a deformation rig. This toolbar is displayed in the default interface.

By default, the Deformation toolbar only contains the essential options. If you right-click on the toolbar and select **Customize**, you can add additional buttons.



Icon	Tool Name	Description
	Rigging Tool	The Rigging tool is used to create a Bone deformation chain. You also use it to set up the resting position. To learn more about the Rigging tool's properties, see *Rigging Tool Properties* on page 152.
	Show Selected Manipulators and Hide All Others	The Show Selected Manipulators and Hide All Others button hides all manipulators displayed in the Camera view. Only the manipulators of the selected deformation node are displayed
	Reset Current Keyframe	The Reset Current Keyframe copies the resting position, the original setup of your skeleton before undergoing any deformation, to your current frame. Once you have created a deformation chain, you can use the Rigging tool to adjust the position and appearance of the rig to fit the element. When the skeleton is in place, you can use the Reset Current Keyframe button to reset the current frame position to the resting position.
	Enable Deformations	The Enable Deformations button allows you to display your drawings in their original state or with deformations while creating additional drawings. Depending on the artwork you need to create, you might need to refer to the other images either deformed or in their original position. **NOTE:** Disabling deformations is only a display mode. Although drawings will not appear deformed in the Camera view, even in Render View mode, they will still be deformed in the rendered images.
	Remove All Keyframes	The Remove All Keyframes option removes all keyframes

		on the selected deformation chain.
	Show All Controls	The Show All Controls button lets you visualize the resting position in red (Setup mode) and the active position (Animation) in green at the same time 

Edit Toolbar

The Edit toolbar contains common operations such as Copy, Paste, Cut, Undo and Redo. These options can also be found in the Edit menu.

How to access the Edit toolbar

1. Select **Windows > Toolbars > Edit**.

Icon	Tool Name	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.
	Create Symbol	Creates a symbol from selected drawing elements in the Drawing or Camera view or a layer or cells in the Timeline view.

File Toolbar

The File toolbar contains the common file operations such as New, Save and Open. These options can also be found in the File menu.

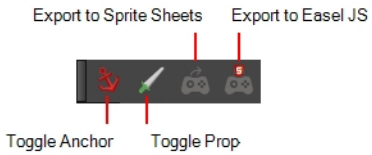
How to access the File toolbar

1. Select **Windows > Toolbars > File**.

Icon	Tool Name	Description
	New (Harmony Stand Alone)	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.
	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.
	Import Images	Imports bitmap images which you can choose to vectorize.

Game Toolbar

The Game toolbar contains tools for setting anchors and props, as well as exporting to sprite sheets and Easel JS.



How to access the Game toolbar

1. Select **Windows > Toolbars > Game**.

Icon	Tool Name	Description
	Toggle Anchor	Adds the Anchor parameter to the selected layer.
	Toggle Prop	Adds the Prop parameter to the selected layer.
	Export to Sprite Sheets	Opens the Export to Sprite Sheets window where you can export your animation as sprite sheets .
	Export to Easel JS	Opens the Export to Easel JS window where you can export your animation as Easel JS.

Playback Toolbar

The Playback toolbar 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.

Name	Button	Description
Play		Plays and stops the animation. You can also select **Play > Play Scene Forward** or **Stop**.
Render and Play		Creates a render of your scene to play back the final result including the effects.
Loop		Repeatedly plays back your animation indefinitely. You can also select **Play > Loop.**
Sound		Enables sound in the playback. You can also select **Play > Enable Sound.**
Sound Scrubbing		Enables sound scrubbing in the playback. You can also select **Play > Enable Sound Scrubbing.**
Jog Frames		Lets you scroll through the playback's frames.
Frame	---	Lets you move the playhead by entering a frame number.
Start	---	Lets you change the start frame by entering a new value in the Start field. You can also click on Start button to set the start frame at the current frame.
Stop	---	Lets you change the end frame by entering a new value in the Stop field. You can also click on Stop button to set the end frame at the current frame.
FPS	---	Lets you enter a new value to change the speed of the playback.

Scripting Toolbar

The Scripting toolbar lets you import and access scripts for automating actions and operations.

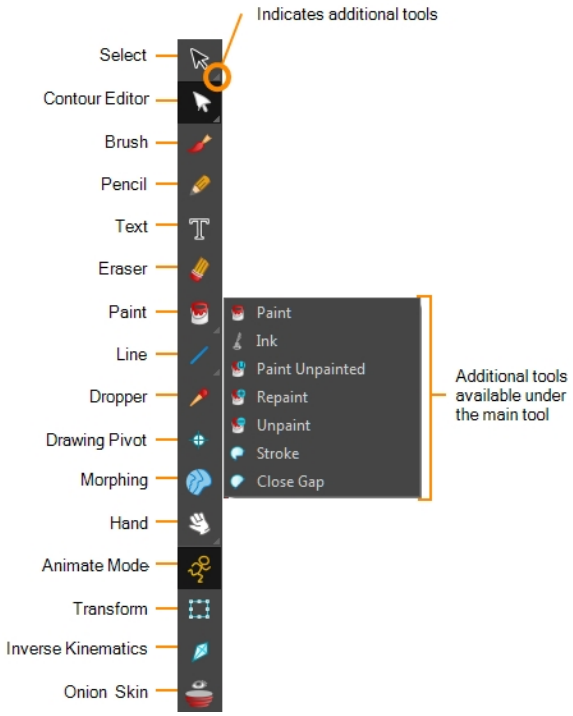
How to access the Scripting toolbar

1. Select **Windows > Toolbars > Scripting**.

Icon	Tool Name	Description
	Manage Scripts	Opens the Scripts Manager dialog box where you can add scripts and functions to your Scripting toolbar.
	Stop Script	Stops the execution of a script launched from the Scripting toolbar.

Tools Toolbar

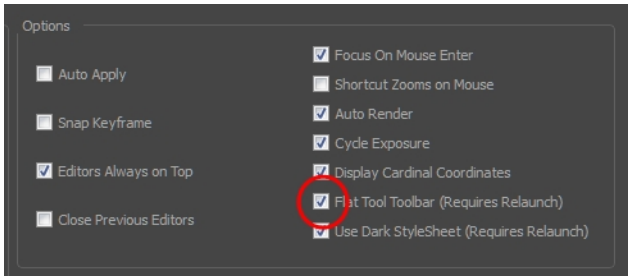
The Tools toolbar contains all the main tools you need to work in Harmony. In the default workspace, this toolbar located on the left-most side of the interface. A small triangle at the lower-right corner of a tool indicates additional tools under the main tool. To access these tools, hold down the left mouse button until the additional tools appear, then select one.



You can display the Tools toolbar horizontally if you find it more efficient for your workflow. Be sure to restart Harmony in order to see the new position of the Tools toolbar.

How to display the Tools toolbar as a flat (horizontal) toolbar

1. Do one of the following:
   - Select **Edit > Preferences** (Windows/Linux) or **Harmony Essentials > Preferences** (Mac OS X).
   - Press Ctrl + U (Windows/Linux) or ⌘ + U (Mac OS X).
2. Select the **General** tab.
3. In the Options section, select the **Flat Tool Toolbar** option.



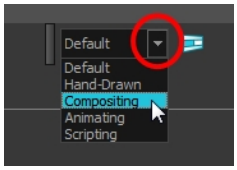
4. Click **OK** and restart Harmony.

Tool Name	Icon	Description
Select		Lets you select elements from the Camera and Drawing views.
Cutter		Lets you cut a drawing area to move, copy, cut or delete it.
Reposition All Drawings		Lets you reposition, scale, rotate or skew all drawing strokes on every drawing included in a layer.
Contour Editor		Lets you add, remove or modify points on a vector line and control them.
Pencil Editor		Lets you modify the thick and thin contours of a pencil line.
Smooth Editor		Lets you optimize contours and reduce the number of points on a line.
Perspective		Lets you deform a drawing selection and alter its perspective.
Envelope		Lets you deform and warp part of a drawing using a grid envelope and Bezier handles.
Edit Gradient/Texture		Lets you modify the position of a gradient or texture colour within a specific zone.
Brush		A pressure-sensitive tool for creating a contour shape with a thick and thin line effect, as if created with a paint brush.
Pencil		A pressure-sensitive tool for drawing the final images, such as character nodes, cut-out puppet and clean animation. Creates a central vector shape.
Text		Lets you type text in your project using various fonts and text attributes.
Eraser		A pressure-sensitive tool for precisely erasing parts of a drawing.
Paint		Lets you paint both empty and filled zones.
Ink		Lets you paint only the segment you clicked on between two intersections to be painted.
Paint Unpainted		Lets you paint only empty zones. Lines and filled zones remain unchanged.

Repaint		Lets you paint zones except empty zones. Any zone that is not painted remains intact.
Unpaint		Lets you unpaint empty and filled zones.
Stroke		Lets you draw stokes, connect line ends and flatten lines.
Close Gap		Lets you close small gaps in a drawing by creating small, invisible strokes between the two closest points.
Line		Lets you draw straight lines which you can then edit.
Rectangle		Lets you draw rectangles which you can then edit.
Ellipse		Lets you draw ellipses which you can then edit.
Polyline		Lets you draw polylines lines which you can then edit.
Dropper		Lets you pick a colour directly from a drawing.
Drawing Pivot		Lets you set pivots on a characters, drawings and symbols.
Morphing		Lets you control a morphing sequence by placing different types of hints to help Harmony morph the animation the way you want it.
Hand		Lets you pan the Drawing or Camera view.
Zoom		Lets you zoom in and out of the Drawing or Camera view.
Rotate View		Lets you rotate the Drawing or Camera view just like with a real animation disc. Can also be used in Perspective view.
Animate Mode		Automatically creates a keyframe on the drawing layer. Used to animate layers over time.
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.
Inverse Kinematics		Lets you pull on a character's extremities, such as the hands and feet, and have the rest of the body follow. Can be used on any piece connected in a hierarchy.
Onion Skin		Displays the previous and next frames of an animation. Useful when animating cut-out characters.

Workspace Toolbar

The Workspace toolbar lets you load other workspaces. The first time you start Harmony, the default workspace is loaded. Other workspaces are available such as the Hand-Drawn Animation and Compositing workspaces; these display different views and toolbars. You can access these workspaces and any you create, from the Windows menu and the Workspace toolbar.



How to access the Workspace toolbar

1. Select **Windows > Toolbars > Workspace**.

Icon	Tool Name	Description
	Workspace List	Allows you to select an existing workspace.
	Workspace Manager	Opens the Workspace Manager where you can organize, display, and remove workspace from your list.
	Save Workspace	When the Automatically Save Workspace preference is disabled, the Save Workspace button becomes available. This allows you to manually save your new workspace configuration.

View Toolbars

Harmony has a series of view specific toolbars that are only available in a given view. These toolbars can be moved only within their view.

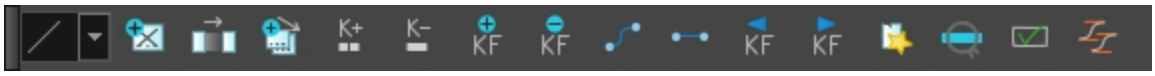
All view toolbars can be added, as long as the view is visible, through the top menu **Windows > Toolbars > *desired toolbar***.

Timeline View Toolbar 182

Xsheet View Toolbar 183

Timeline View Toolbar

The 3D Graph toolbar works in conjunction with the elements in the 3D Graph view.



Button	Name	Description
	Set Ease Type	
	Create Empty Drawing	
	Duplicate Drawing	
	Insert Keyframe	
	Delete Keyframes	
	Set Motion Keyframe	
	Set Stop-Motion Keyframe	
	Go to Previous Keyframe	
	Go to Next Keyframe	
	Add Key Exposure	
	Delete Key Exposure	
	Centre On Selection	
	Set Ease for Multiple Parameters	
	Fill Empty Cells	
	Paste Special	
	Enable/Disable	

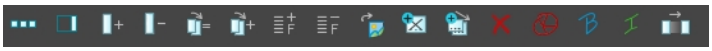
How to access the Timeline view toolbar

You can add the Timeline view toolbar to the Timeline view by:

- Going to the top menu and selecting **Windows > Toolbars > Timeline view.**
- Right-clicking on the space at the top of the Timeline view and selecting **Timeline view**.

Xsheet View Toolbar

The Xsheet toolbar contains the common timing operations such as Add Column, Delete Column, Clone Column, and so on. These options can also be found in the top menu.



Chapter 7: Views

The Harmony interface is composed of different views, each one designed for a specific purpose. You can modify the location of the views by adding a new view as a tab or as a window. You can also swap the location of a view.

When a view is active, a red rectangle appears around the view. Keyboard shortcuts and top menu options are associated with the active view. If a menu option is greyed out, it means it does not apply to the layer, drawing or other type of selection or the option does not apply to the active view.

Camera View 186
Colour View 191
Drawing View 195
Function View 197
Integrated Help View 199
Layer Properties View 200
Library View 202
Message Log View 204
Script Editor View 205
Side View 207
Timeline View 209
Tool Properties View 216
Top View 217
Xsheet View 219

Camera View

The Camera view is the centre of operations in Harmony. In this view, you will draw, paint, animate, create animation paths and see your results. You can also move through your symbol's hierarchy.

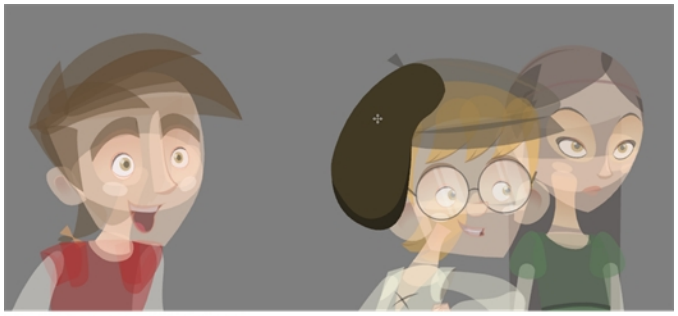
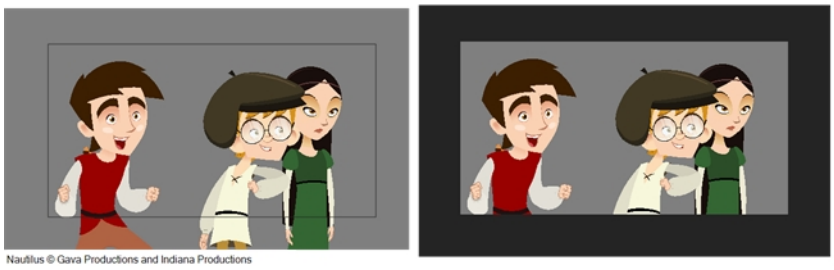
The Camera view has a top and bottom toolbar that you can use to navigate in the view, change the display mode, or go back up your symbols hierarchy.

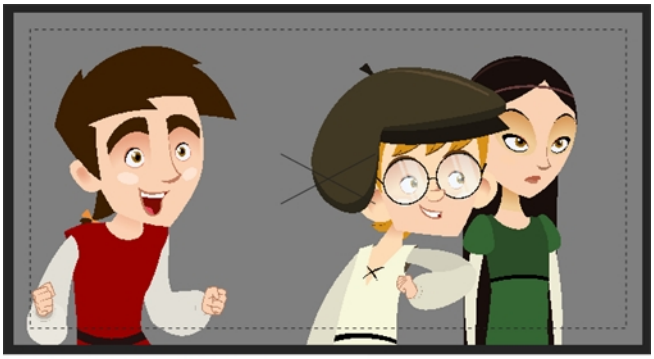
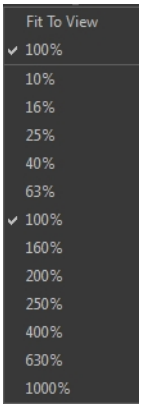
How to access the Camera view

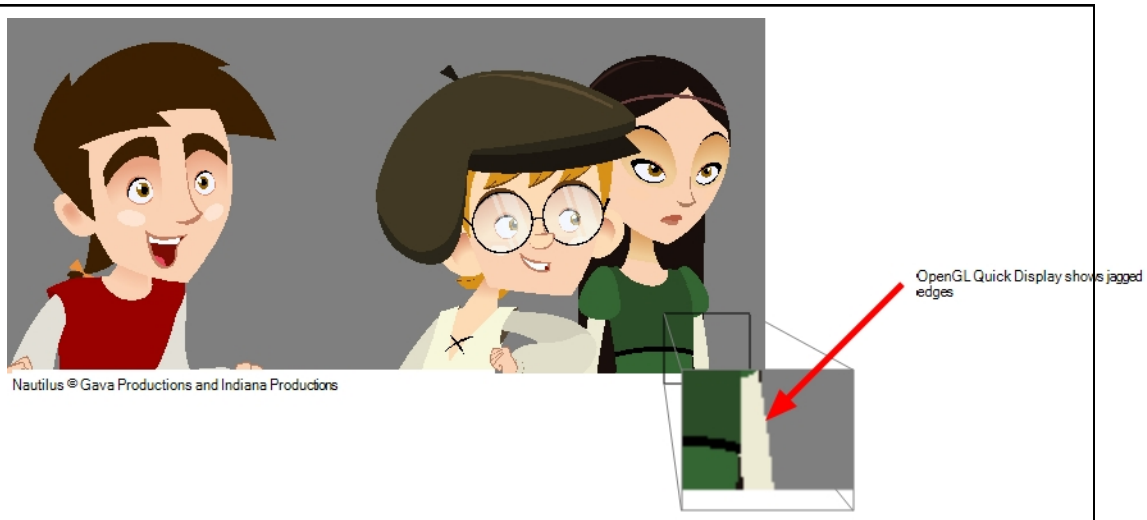
Do one of the following:

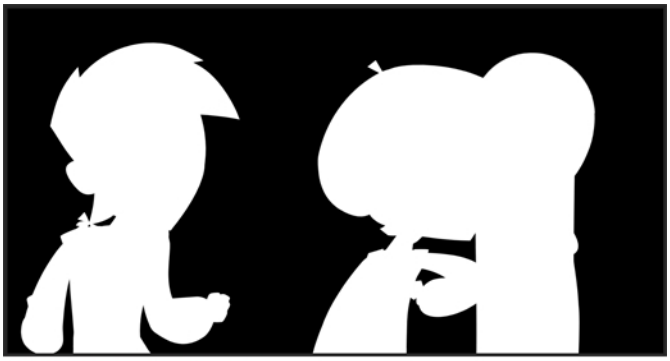
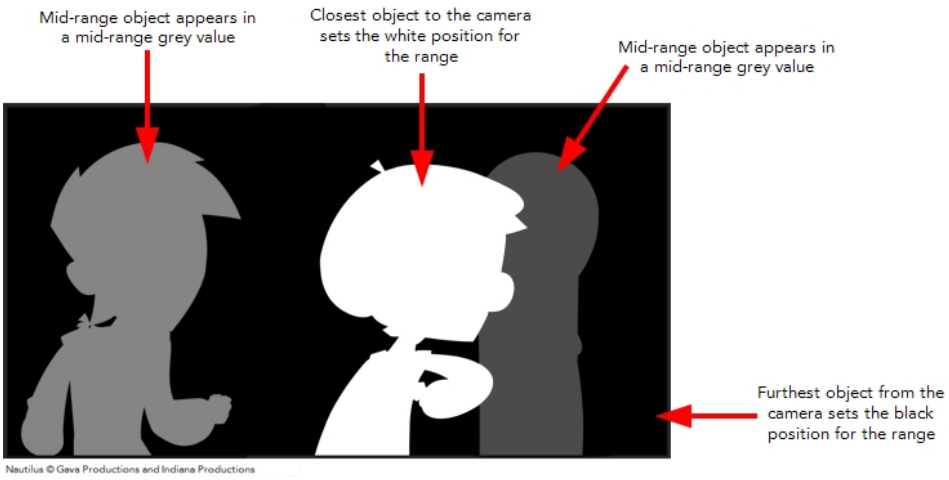
- From the top menu, select **Windows > Camera**.
- From any of the other views, click the Add View button and select **Camera**.

Icon	Section	Description
	Editing Stack	The Editing Stack menu displays the names of the symbols and their hierarchy when you are editing a symbol. You can click on the different names to go back up to the different parent symbols or the top/current project.
	Camera View Toolbar	The Camera View toolbar contains all the tools and options you can use in the Camera view to draw, animate or set up the scene. The toolbar can be displayed or hidden by right-clicking on it and selecting or deselecting the Camera View toolbar–see Camera View Toolbar.
	Light Table	When you have a drawing layer or drawing selected, the Light Table button button allows you to fade the colours of the other layers so you can see the current artwork better as you edit with a

		drawing tool. Note that the light table does not work when using a layer editing tool, such as the Transform tool.  Nautilus © Gava Productions and Indiana Productions
	Current Drawing on Top	When this button is enabled, the drawing that you are currently editing with a drawing tool is temporarily displayed in front of all the other elements. The actual scene is not modified. Nautilus © Gava Productions and Indiana Productions
	Camera Mask	The Camera Mask button shows or hides 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. You can also access this from the top menu by selecting **View > Show > Camera Mask**.  Nautilus © Gava Productions and Indiana Productions
	Safe Area	The Safe Area button shows or hides 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. You can also access this feature from the top menu by selecting **View > Show > Safe Area**.

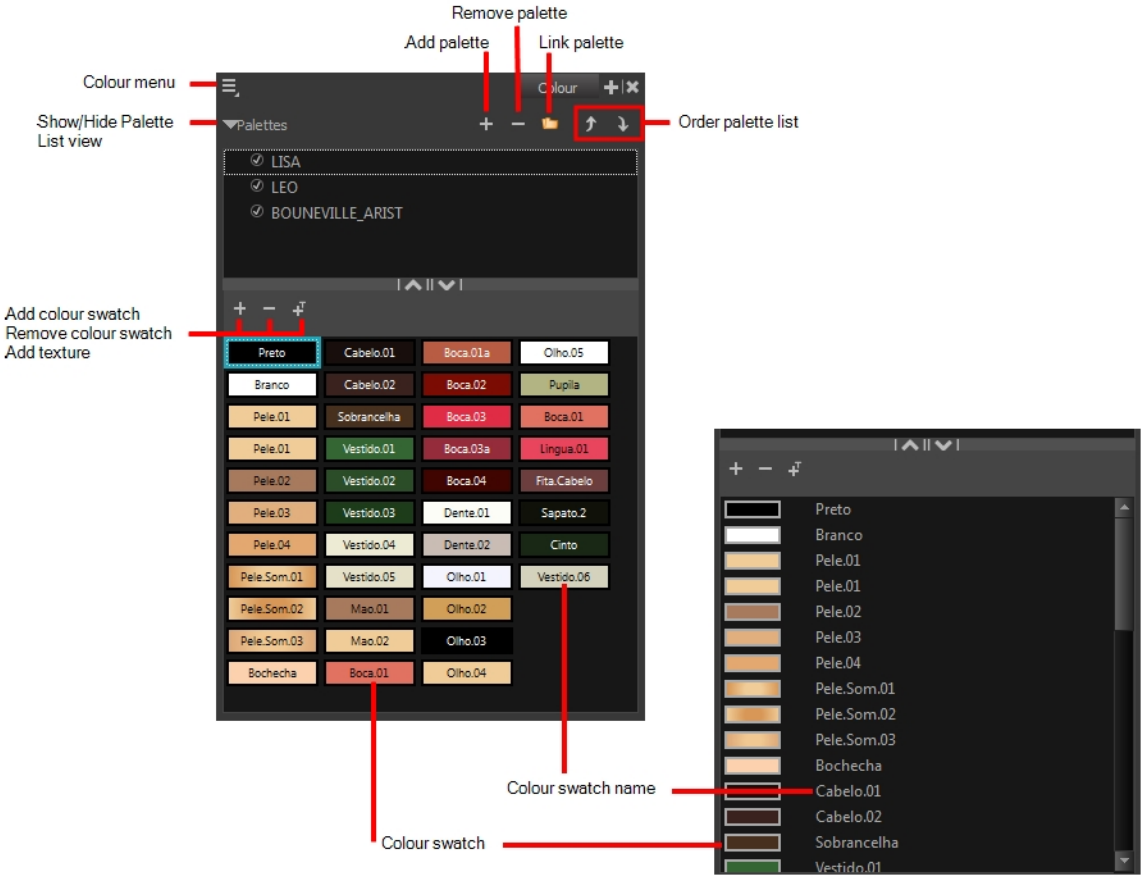
		
	Outline Locked Drawings	Drawings that are locked in the Timeline view (cannot be selected in the Camera view) are displayed as wireframes.
	Reset View	The Reset View button resets any panning, zooming or rotation done in the Camera view and returns the display to the initial settings. You can also press Shift + M.
	Zoom Menu	The Zoom menu lets you enlarge or reduce the Camera or Drawing view display. To make the camera frame size always match the size of your view, select the **Fit to View** option. Click the drop-down arrow and select a zoom level or press 1 and 2. 
	OpenGL View Mode	The OpenGL View Mode button switches the Camera view to fast display, letting you see your animation play in real time. The OpenGL display requires less memory. The final look of your effects is not shown in the OpenGL View Mode. You must switch to the Render View Mode to see your effects.

		
	Render View Mode	The Render View Mode button swithes the Camera view to a fully rendered display showing the final image of the current frame. If a modification is done to your current frame or if you move to a different frame, click the **Update Preview** button to update the display if your preview does not update automatically.The Render View Mode display lets you see the final look of your frames including effects and antialiasing. You cannot play back your scene in Render View Mode. To see your scene fully rendered and to play it back, you must press the Render and Play button in the Playback toolbar.
	Matte View Mode	The Matte View Mode button switches the Camera view to a matte display showing the alpha channel of the elements in your scene. The transparency level ranges from 0 to 100 percent. Zero percent is completely transparent and represented by black and 100 percent is completely opaque and represented by white. Everything in between these extremes has a transparency level somewhere between 1 and 99 percent and is represented in various shades of grey. • To access the Matte View mode, click on the Render View button and select Matte View from the drop-down menu.

		 Nautilus © Gava Productions and Indiana Productions
	Depth View Mode	The Depth View mode displays images in a relative white to black gradient scale. The object(s) closest to the camera are displayed in white and the object(s) furthest from the camera are displayed in black. If the position of the last object changes along the z-axis, that object will still remain black, so long as it retains its position as the object the farthest back. It does not matter where that object is in 3D space, it just matters what its position is relative to the other object in the same space. The objects closest and farthest from the camera set the range of the white to black scale. All the other objects fall somewhere in between.  • To access the Depth View mode, click on the Render View button and select Depth View from the drop-down menu.
	Drawing Name	The Drawing Name field displays the name of the selected drawing, as well as the layer containing it. If the cell does not contain any drawing, an **`Empty Cell`** text is shown in the field.
	Tool Name	The Tool Name field displays the name of the selected tool. If you temporarily override a drawing tool using a keyboard shortcut, the tool's name will be highlighted in red. You can temporarily override a tool by holding its keyboard shortcut without the Alt key. For example, the Select tool shortcut is Alt + S. If you hold down the S key, you will switch to the Select tool. When you release the key, you will return to the tool you were using.
	Frame Number	The Frame Number field displays the number of the current frame.
	Selected Colour	The colour swatch displays the currently selected colour in the Colour view.

Colour View

The Colour view is where you create colours and palettes and import existing palettes into your project. The Colour view is also necessary for drawing, painting and creating colour styling.

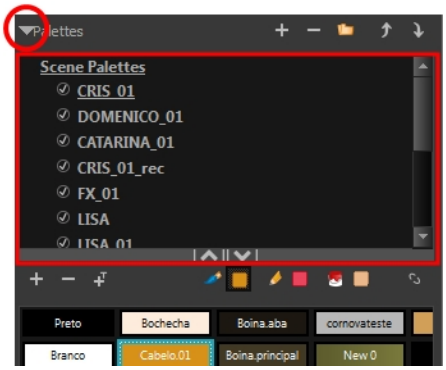


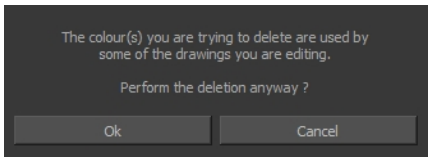
How to access the Colour view

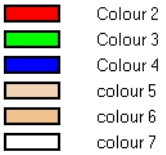
Do one of the following:

- From the top menu, select **Windows > Colour**.
- From any of the other views, click the Add View button and select **Colour**.

Icon	Section	Description
	View Menu	The View menu contains all the commands and options that you can use in the Colour view to manage colours and palettes.
	Show/Hide Palette List View	The Show/Hide Palette List View button lets you display the Palette List view in the Colour view. This option is for the advanced user who wants to create colour palettes for their props and characters.

		
+	Add Palette	The Add Palette button lets you add a new palette to the bottom of your palette list.
−	Remove Palette	The Remove Palette button lets you delete the currently selected palette. If the colour swatch is used in your project, zones painted with colour swatches which have been deleted will turn red, easily identifying them so you can repaint them with another colour swatch.
	Link Palette	The Link Palette button lets you access other palettes created in the project and link them to your scene.
	Order Palette List	The Up and Down arrows let you reorder the selected palette. When using clone palettes (colour styles), the highest palette is the list will override its clone located lower in the list.
+	Add Colour	The Add Colour button lets you add a new colour swatch to the bottom of your colour list.
−	Remove Colour	The Remove Colour button lets you delete the currently selected colour swatches. If the colour swatch is used in your project, the Delete Colour dialog box will appear asking you to confirm the operation. Click **OK** to confirm the operation or Cancel to cancel it.

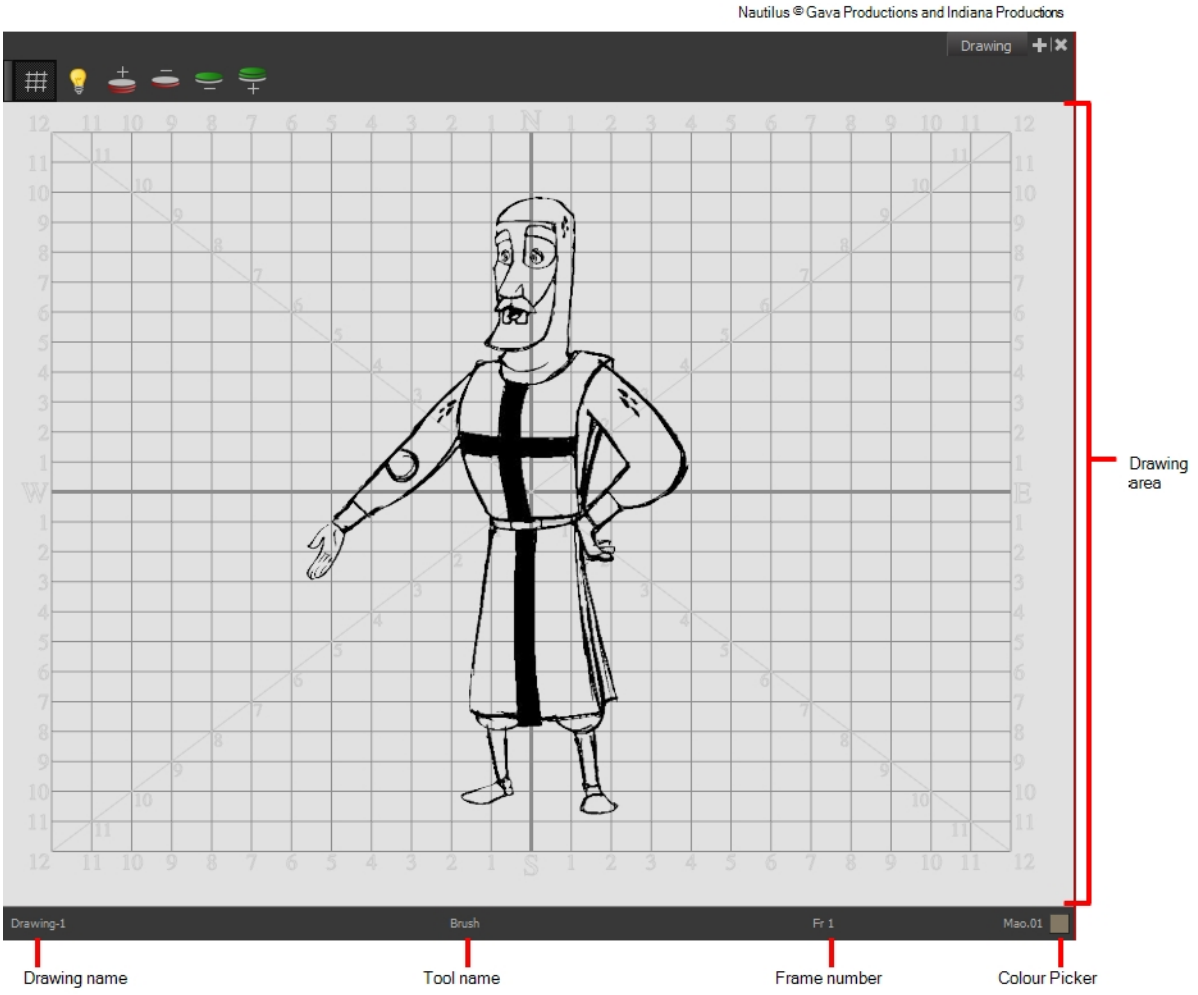
		 Zones painted with colour swatches which have been deleted will turn red, easily identifying them so you can repaint them with another colour swatch.
	Add Texture	The Add Texture button lets you add a bitmap colour swatch to your palette. You can load photos and textures and paint your drawings with it. The bitmap image must be a .tga or .psd file format.
	Colour Swatch Name	Each colour swatch available in the Colour view can have its own name, making it easy to identify which colour is used to paint what part of your character or background. Two colours can have the same name.
	Colour Swatch	A colour swatch is a specific colour used to paint a certain zone of a character or background. Colour

		palettes are composed of colour swatches. They can also be called *colour pots*. When you paint a zone with a colour swatch, the zone is linked to the swatch. So if you update the swatch's tint, the zone will be updated along with it. This allows you to modify your animation colours even after it is completely painted. 

Drawing View

In Harmony, you can draw in the Drawing or Camera view. Although the two views are similar, when it comes to drawing, there are some differences.

Only the selected drawing is displayed by default in the Drawing view. You can use features, such as the light table to display the current drawing of all the enabled layers of your scene in washed-out colours, or the Onion Skin to display the previous and next drawings of the currently selected drawing layer.

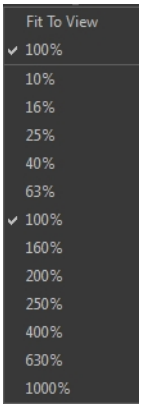


How to access the Drawing view

Do one of the following:

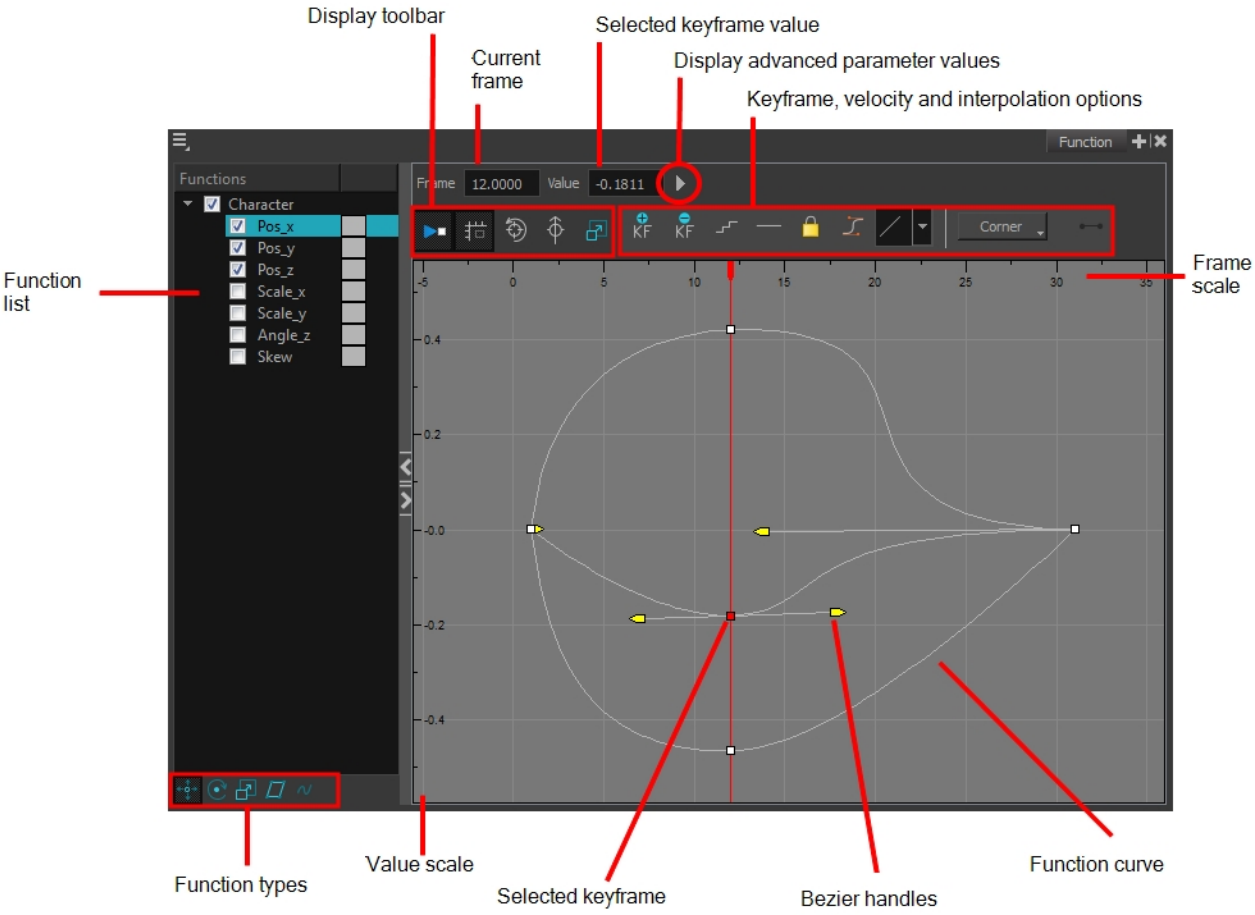
- From the top menu, select **Windows > Drawing** .
- From any of the other views, click the Add View button and select **Drawing**.

Icon	Section	Description
	Drawing Area	This is the main space in the Drawing view. It is where

		you draw and where the drawings are displayed.
	Zoom Menu	The Zoom menu lets you enlarge or reduce the Camera or Drawing view display. To make the camera frame size always match the size of your view, select the **Fit to View** option. Click the drop-down arrow and select a zoom level or press 1 and 2. 
	Drawing Name	The Drawing Name field displays the name of the selected drawing, as well as the layer containing it. If the cell does not contain any drawing, an **`Empty Cell`** text is shown in the field.
	Tool Name	The Tool Name field displays the name of the selected tool. If you temporarily override a drawing tool using a keyboard shortcut, the tool's name will be highlighted in red. You can temporarily override a tool by holding its keyboard shortcut without the Alt key. For example, the Select tool shortcut is Alt + S. If you hold down the S key, you will switch to the Select tool. When you release the key, you will return to the tool you were using.
	Frame Number	This field displays the current frame of the animation you are working on.
	Cursor Coordinates	This indicates the position of the your pointer in the drawing area.
	Colour Picker	The Colour Picker allows you to select a colour for drawing.

Function View

The Function view lets you edit function curves and parameters. It contains a visual graph for adding, removing, and editing keyframes, as well as adjusting the velocity. The Function view allows you to display multiple functions in the background as a reference.



How to access the Function view

Do one of the following:

- From the top menu, select **Windows > Function**.
- From any of the other views, click the Add View button and select **Function**.

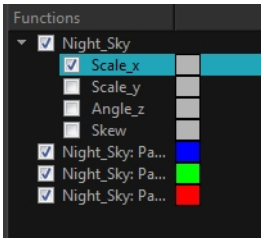
How to display functions in the Function view

1. Open the Function view.

   The Function view is blank until you select the layer containing the functions you want to display.

2. To display a function in the Function view, click on the layer containing the functions to adjust in the Timeline view.

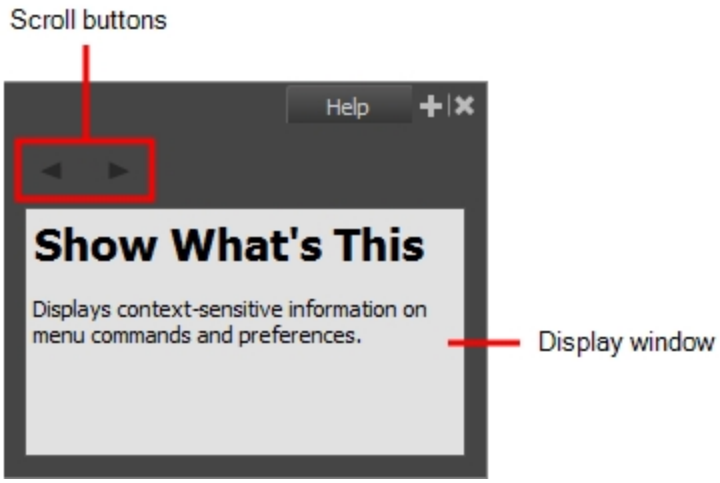
3. To select the functions you want to edit, select them in the Function list.

Parameter	Description
Function List	 When selecting a layer in the Timeline view, all the corresponding functions are displayed (if any). Select the functions you want to see and edit, and hide the ones you don't.
Display Toolbar	Allows you to modify how the editing area is displayed. You can hide the grid, disable the synchronization with the current frame, reset the zoom level and normalize the function display by stacking them one over the other to compare them regardless of their value range.
Current Frame	Displays the current scene frame.
Selected Keyframe Value	Displays the value of the selected keyframe.
Display Advanced Parameter Values	 Displays the Projection, Bias, Tension and Continuity parameters to adjust the curve around the selected keyframe.
Keyframe, Velocity and Interpolation Options	This toolbar lets you add and delete keyframes, adjust the velocity curve, adjust the segments to motion or stop-motion keyframes and set the velocity to create steps instead of a constant progression.
Function Types	This toolbar lets you click on the different function types to enable or disable all the listed functions of that type.
Value Scale	Displays the value range for the displayed editing area. It can be referenced to know the value of a keyframe.
Selected Keyframe	The selected keyframe is displayed in red. When selected, the keyframe values are displayed in the corresponding fields.
Bezier Handles	The Bezier handles let you adjust the ease in and ease out of each keyframe. The more the handle is pulled out horizontally, the slower the animation will be. The more the handle is pulled out vertically, the faster the animation will be.
Function Curve	The thin line going from keyframe to keyframe is the actual curve. The section of a curve located between two keyframes is called a segment.
Frame Scale	The Frame Scale displays the frame range for the displayed editing area. It can be referenced to know the current frame of a keyframe.

Integrated Help View

Use the Integrated Help when you are unsure about what a certain menu item is or the function of a specific preference in the Preferences panel,

If you keep the Integrated Help window open for the entire duration of your work session, then you can use the forward and backward arrows to scroll through a history of the help information that you called up during your session.



How to access the Integrated Help view

1. Do one of the following:

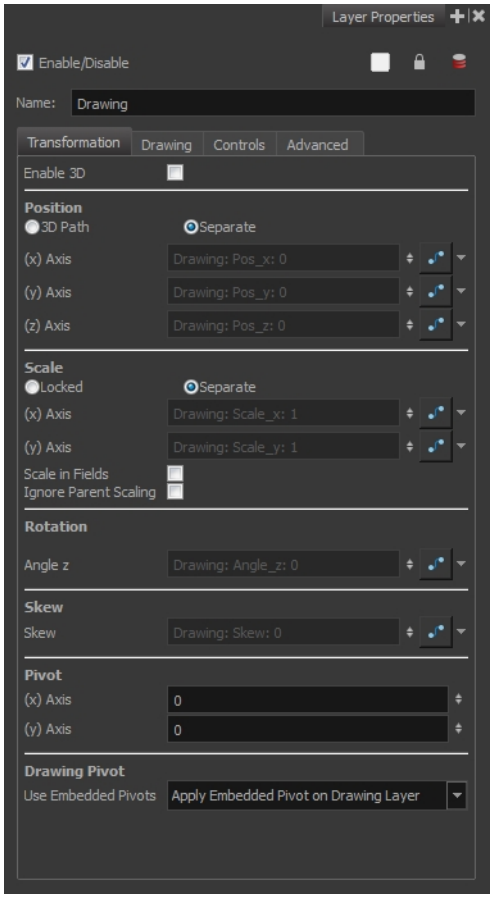
- From the top menu, select **Windows > Integrated Help**.
- From any of the other views, click the Add View + button and select **Integrated Help**.

Layer Properties View

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.

NOTE: To know more about the parameters displayed in the Layer Properties view, see Nodes.



How to access the Layer Properties view

Do one of the following:

- From the top menu, select **Windows > Layer Properties**.
- From any of the other views, click the Add View + button and select **Layer Properties**.

How to access the Layer Properties editor

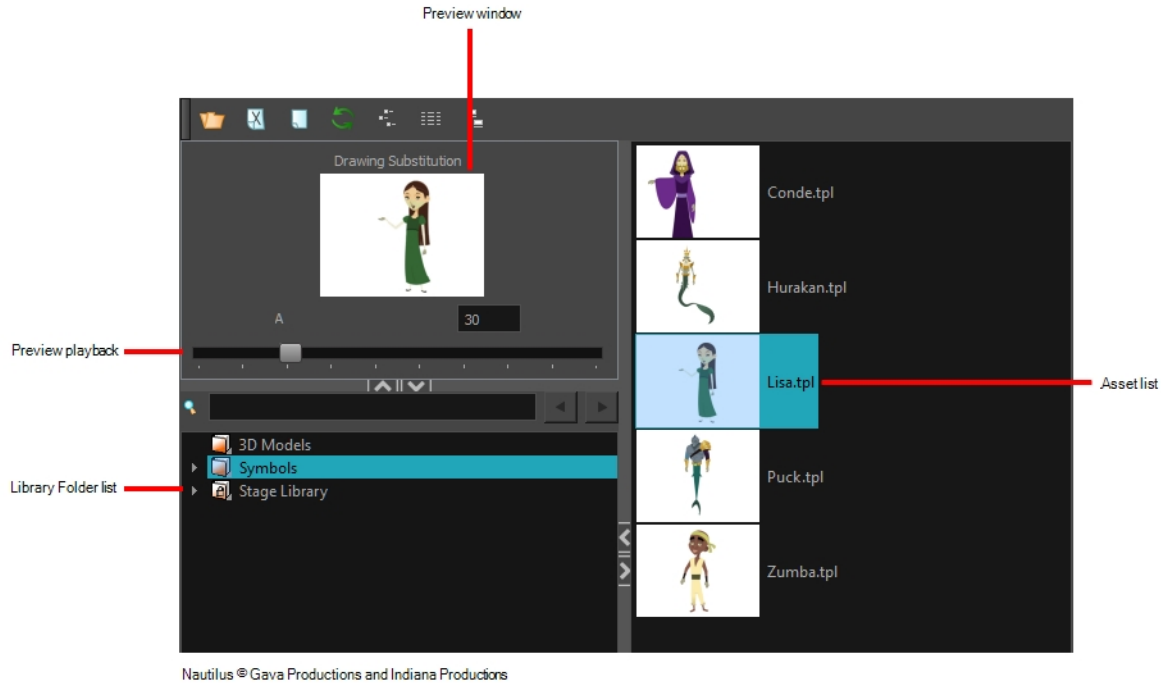
- Double-click on a layer in the Timeline view
- Right-click on a layer in the Timeline view and select **Layer Properties**.
- Select a layer in the Timeline view and press Shift + E.

Library View

The Library view is used to store elements such as animation, drawings, backgrounds and puppets to reuse in different projects. You can also use the Library view to create and store symbols.

To reuse an element from another project, you must create a template from your drawings. A template is a mini scene that you import in other projects. A template has no link to the original scene. When you create a template, the full content of your selection is copied in the template.

Additionally, the Library view's Drawing Substitution panel allows you to quickly change the current frame's exposure to one of the existing drawings in a layer. This is especially useful for animating a cut-out character's mouths, hands, eyelids and other such body parts which typically contain several drawings to choose from.

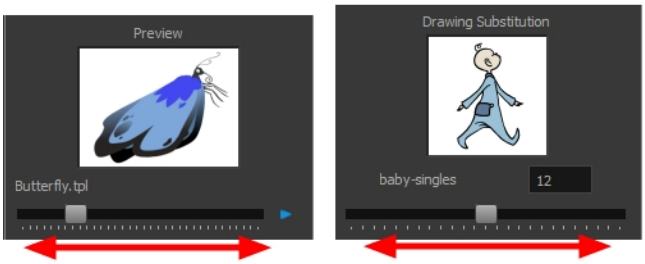
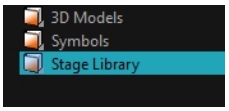


How to access the Library view

Do one of the following:

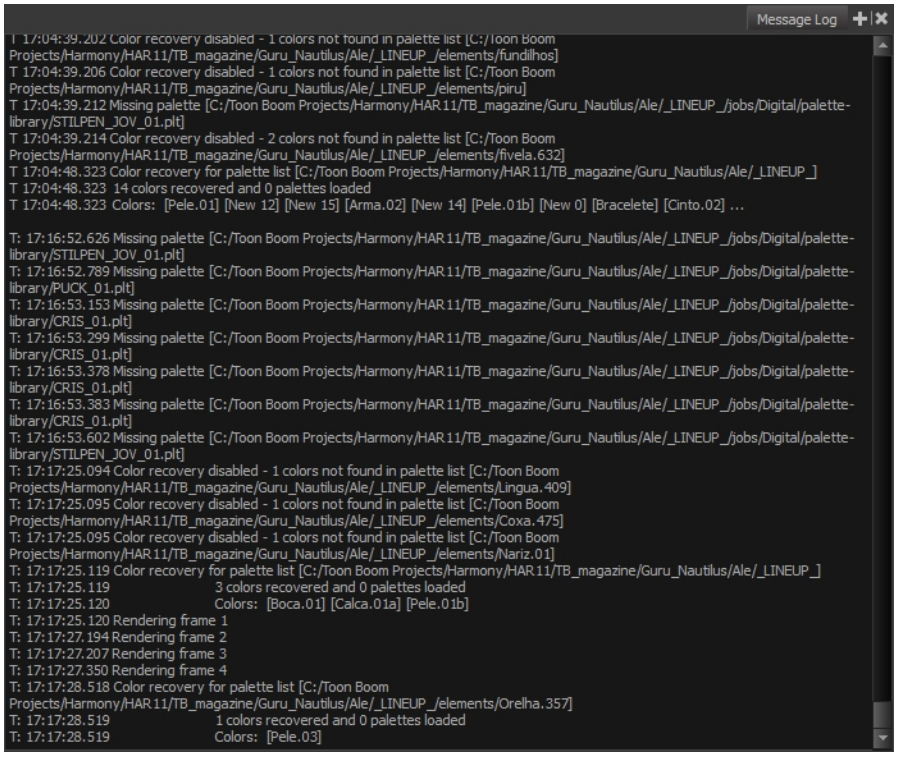
- From the top menu, select **Windows > Library**.
- From any of the other views, click the Add View button and select **Library**.

Icon	Section	Description
	View Menu	The Library menu lets you access commands related to the Library view, importing .swf movies and Illustrator files, add a new folder, and refresh the library's content.
	Preview Window	The Preview window lets you see the content of the currently selected template or symbol in the Template/Symbol list.

		
	Preview Playback	The Preview Playback button lets you play back the content of the selected template or symbol if it contains more than one frame. Press the Play button to play back the preview.
	Library Folder List	The Library Folder List displays all the folders linked to the Library view.  There are two default folders: • **Symbols:** This folder is the only folder containing symbols. You can organize it by adding subfolders inside. • **Harmony Essentials Library:** This is a default folder found on the hard drive in your user documents. This folder can contain templates, but no symbols. You can link new library folders to the Library view and organize them with subfolders.
	Library Search tool	When working on a movie or series, you will probably end up with many templates and symbols in your library. Using the Search tool, you can quickly find the templates and symbols in your folders.
	Template/Symbol List	The Template/Symbol list displays the templates or symbols contained in the selected library folder. You can display the templates by right-clicking the symbols' thumbnails and selecting **View > Thumbnails**.

Message Log View

The Message log view displays information gathered during a render task, such as which frames and at what time they were each rendered. The view also contains a list of the colour recovery operations.



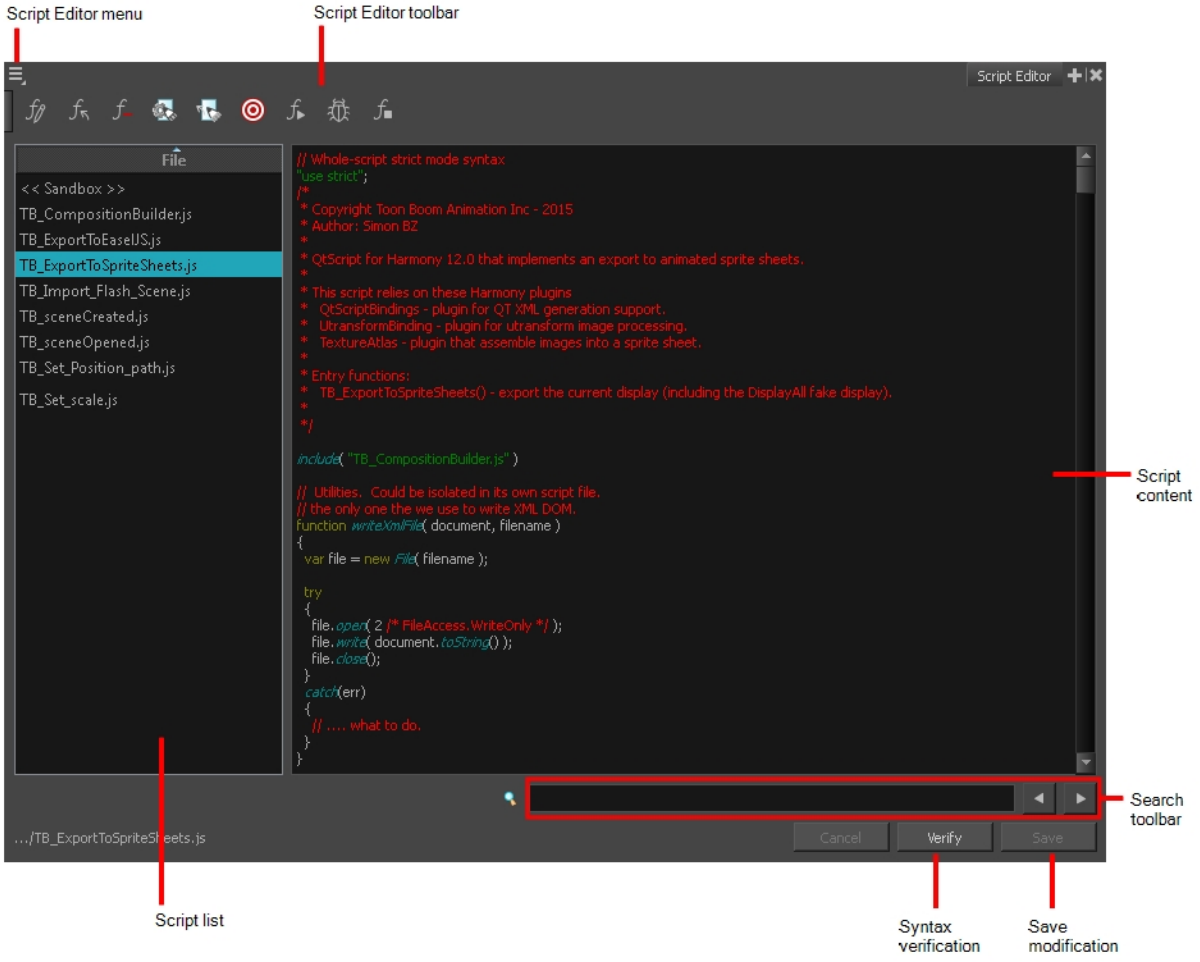
How to access the Message Log view

Do one of the following:

- From the top menu, select **Windows > Message Log**.
- From any of the other views, click the Add View + button and select **Message Log**.

Script Editor View

Qt Script provides access to many of the functions supported in the interface. With Qt Script, you can automate a number of Harmony functions to speed the completion of various repetitive tasks. The Script Editor view allows you to edit existing scripts and create new ones. Refer to the Scripting guide to learn more about scripting with Harmony.



How to access the Script Editor view

Do one of the following:

- From the top menu, select **Windows > Script Editor**.
- From any of the other views, click the Add View button and select **Script Editor**.

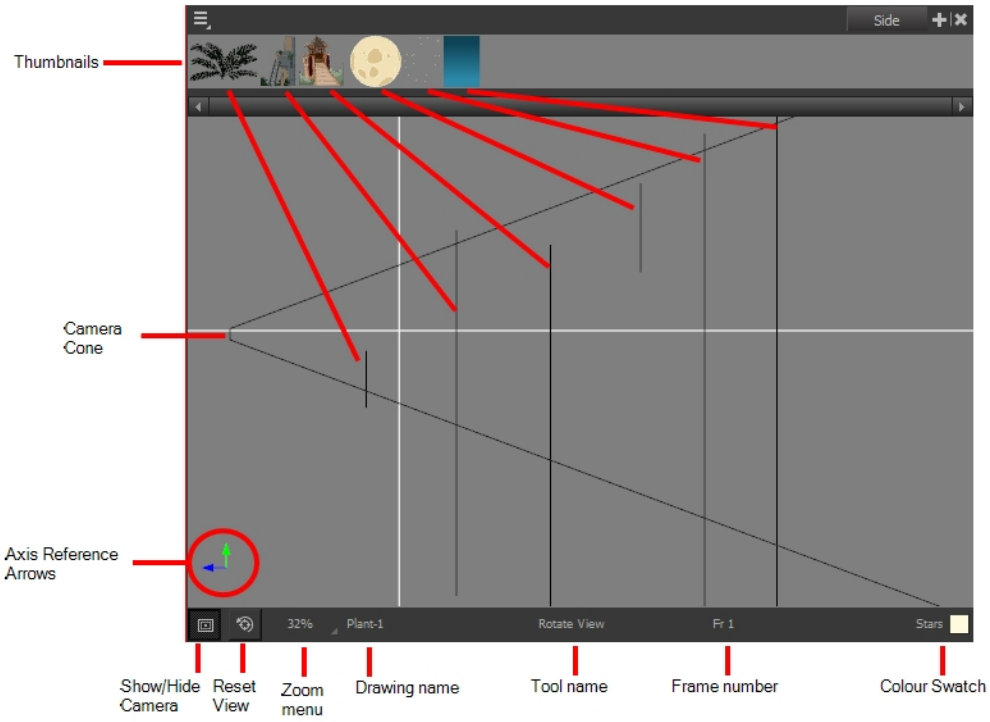
Parameter	Description
Script list	On the left side of the Script Editor view, all existing script files are listed and can be modified in this view. The script format is JavaScript. Click on a file to display its content in the Script Content window of the view.
Script content	On the right side of the Script Editor view, the contents of the selected script are displayed and can be edited.

Search toolbar	The Search toolbar allows you to search a string within the selected script content. You can use the Previous and Next buttons to navigate through the results.
Verify	This function verifies the syntax of the currently displayed script and lists any errors found.
Save	Once you are satisfied with the modifications made to the script, click **Save Changes** to save the modifications.

Side View

T-HFND-008-015

The Side view is used mainly for multiplane scenes and to position elements in 3D space. It allows you to see a scene's stage from the side. This lets the camera cone and spacing between the elements to be seen.

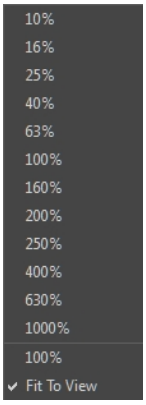


How to access the Side view

Do one of the following:

- From the top menu, select **Windows > Side**.
- From any of the other views, click the Add View button and select **Side**.

Icon	Section	Description
	Thumbnails	A thumbnail of each drawing layer in the scene. The order of the thumbnail images is based on each element's FB position in the scene space. You can see a representation of the FB position of each layer in the camera cone.
	Camera Cone	The camera cone represents the camera's position and field-of-view (FOV).
	Axis Reference Arrows	The axis reference arrows let you maintain your orientation when navigating in the view.
	Show/Hide Camera	Shows or hides camera frame in the Perspective view.

	Reset View	Resets the pan, rotation, and zoom of the Perspective view.
	Zoom Menu	This field displays the current zoom level in the Perspective view. You can use the Zoom level drop-down menu to select a specific zoom level from the list. Zoom levels from 2.5% to 6400% are available; you can also select Fit To View to automatically use a zoom level that lets you see all your scene layers and information in the Perspective view at once. 
	Layer Name	This field displays the currently selected layer and drawing name.
	Tool Name	This field displays the currently selected tool.
	Frame Number	This field displays the currently selected frame of your animation.
	Colour Swatch	This field displays the currently selected colour in the palette.

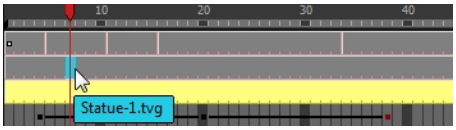
Timeline View

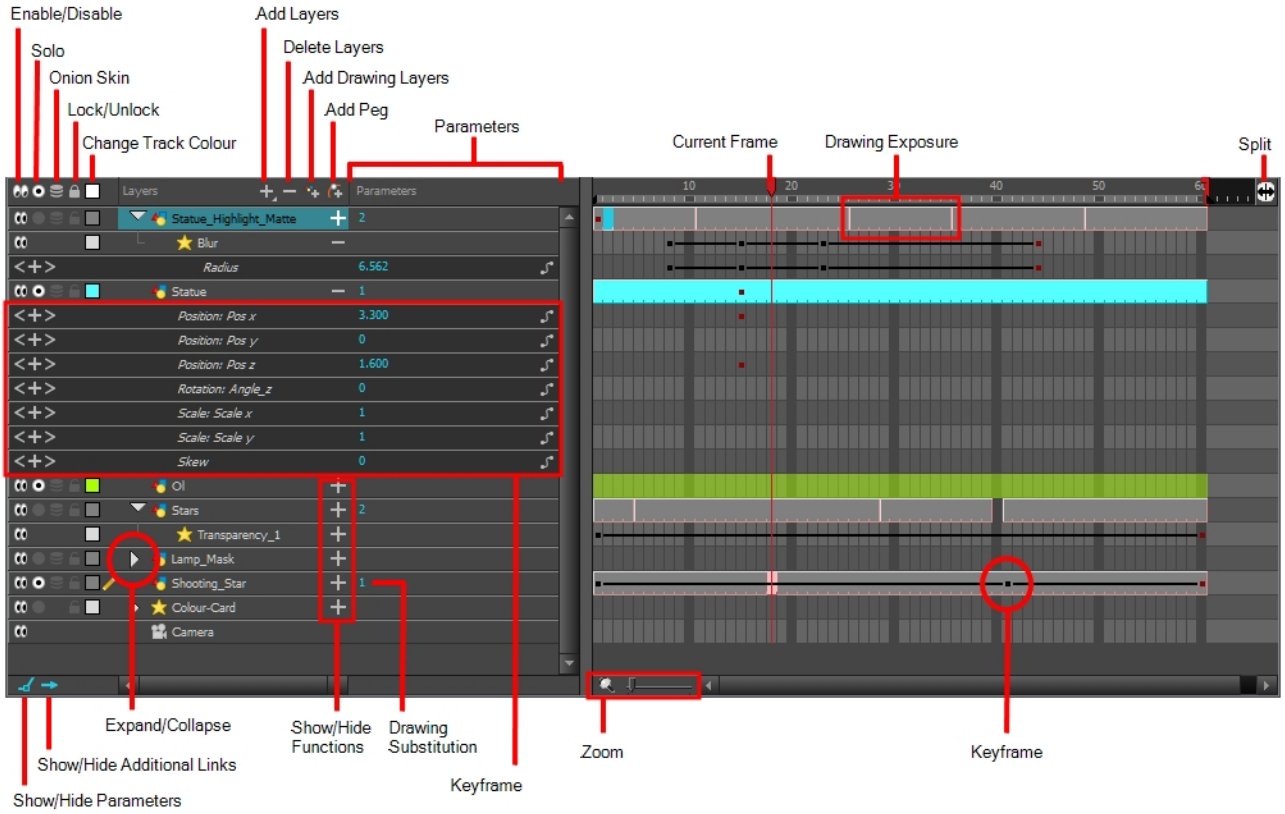
T-HFND-006-002

To set your animation timing, you will mostly work with the Timeline and Xsheet views. It's extremely useful to become familiar with the Timeline view, how it works, and its interface.

The Timeline view is the main view used when adjusting the timing of drawings, adding keyframes and ordering layers. The Timeline view displays layers, effects, sounds, keyframe values, scene length, layer names, drawings, keyframes, timing, and frames.

The Timeline view allows you to read your timing from left to right. It represents the scene's elements in their simplest form. You can also see the layers and their names, as well as the drawing's exposure. The drawing name is displayed when you place your pointer over the drawing's exposure.

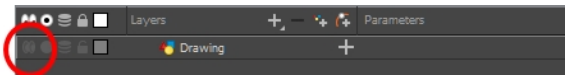
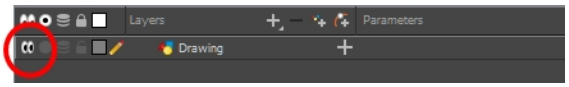
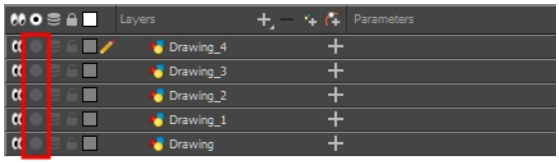
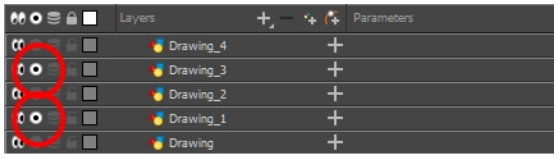


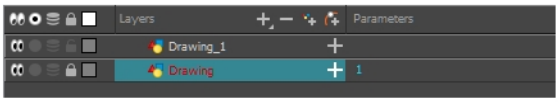
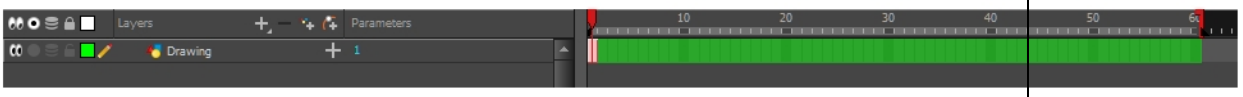


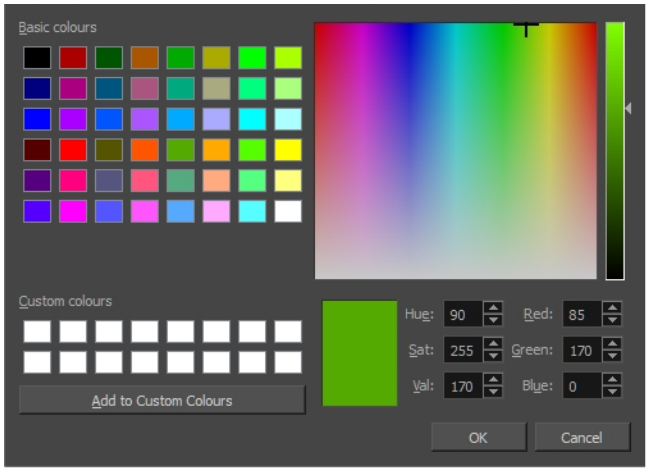
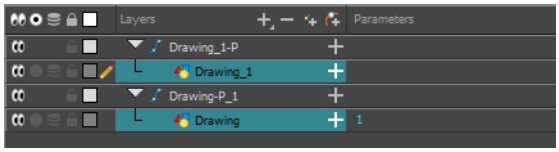
How to access the Timeline view

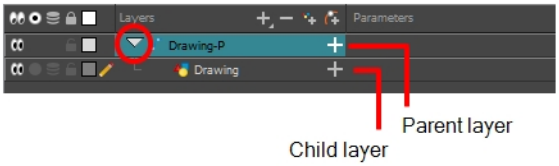
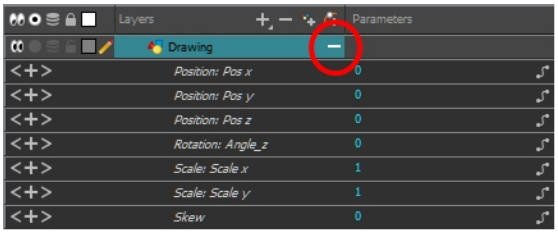
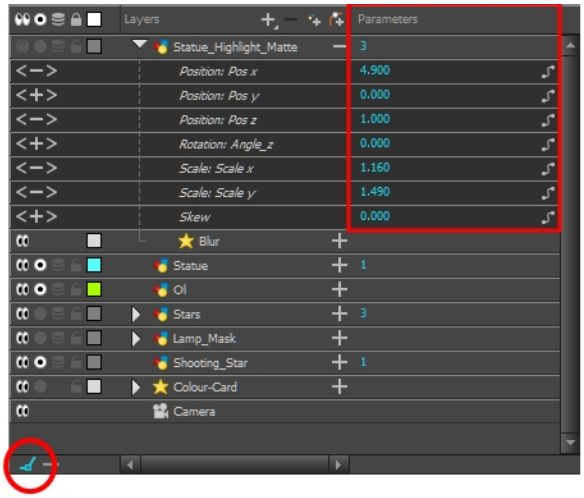
Do one of the following:

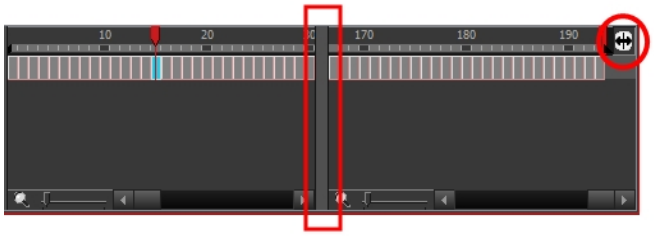
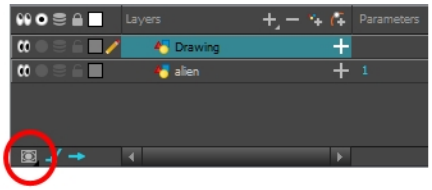
- From the top menu, select **Windows > Timeline**.
- From any of the other views, click the Add View button and select **Timeline**.

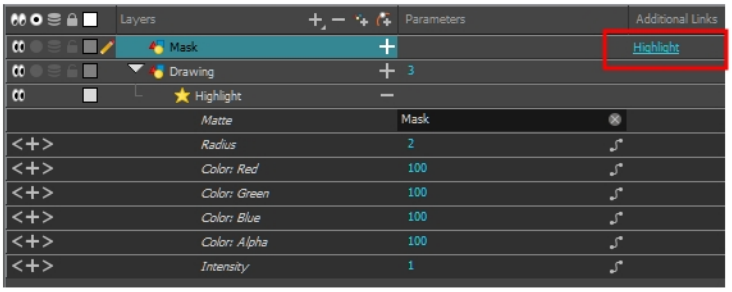
Icon	Section	Description
	Model View Toolbar	The Model View toolbar contains all the tools and options you can use in the Model view to navigate through and manage models.
	Enable/Disable All	The Enable/Disable All button lets you show or hide layers. When you deselect a layer in the Timeline view, the corresponding column is hidden in the Xsheet view. When a column is hidden in the Xsheet view, the corresponding layer is disabled in the Timeline view. To disable a layer, click the layer's Enable/Disable All button or press D.  To enable a layer, click the layer's Enable/Disable All button or press A. 
	Solo	The Solo button lets you view drawing or sound layers in the Camera view. You can enable this mode on multiple layers. When the Sole mode button is deselected, everything is visible in the Camera view. When one or more layers are soloed, only those layers appear in the Camera view.  All layers are visible in the Camera view  Only soloed layers are visible in the Camera view
	Onion Skin	The Onion Skin button enables the Onion Skin option on a particular layer. If you want to see the previous and next frames of a specific layer, go to the Timeline view and click the Onion Skin button for that particular layer. Blue arrows appear on both sides of the play head. Drag the blue arrows to add more frames to the onion skin display. To activate the general Onion Skin preview, in the Tools toolbar, click the Onion Skin button.

	Lock/Unlock Layer	The Lock/Unlock Layer button lets you prevent the selection or editing of a layer in the Camera view. To select some of the layers without selecting others, in the Timeline view, lock the layers you do not want to select. When a layer is locked, its name is displayed in red.  In the top menu, there is a series of locking options. Select **Animation > Lock >** *select one of the following*: • **Lock**: Locks the currently selected element. • **Unlock**: Unlocks the currently selected element. • **Lock All**: Locks all the elements in the Camera view. • **Unlock All**: Unlocks all the elements in the Camera view. • **Lock All Others**: Locks all the elements in the Camera view except the currently selected one. You can display the locked drawings as outlines in the Camera view to quickly find out which drawings are locked.
	Change Track Colour	The Change Track Colour button lets you change the colour of the exposed frames; this helps you to quickly locate a layer in the Timeline view. Click the Change Track Colour button to open the Select Colour window and choose a new colour. You can modify the colour for any type of layer, such as group, peg, drawing, and effects. 

		
	Add Layers	The Add Layers button lets you add new layers to the Timeline view. When you click the Add Layers button, a menu appears displaying the layer types available. You can add several different types of layers: • Camera • Deformation • Drawing • Generator • Group • Transformation • Effects • Sound
	Delete Layers	The Delete Layers button lets you delete the currently selected layers in the Timeline view.
	Add Drawing Layer	The Add Drawing Layer button lets you automatically add a new drawing layer to the Timeline view. By default, the layer is named **`Drawing`**.
	Add Peg	The Add Peg button lets you add a peg layer to the timeline. If several layers are selected, a peg is added and parented to each layer. 
	Expand/Collapse	The Expand/Collapse button is used to display the children layers of a parent layer. Once a layer is parented to another layer, it is indented to the right and the Collapse/Expand Children button appears on the parent layer allowing you to show or hide the child layer.

		
	Show/Hide Functions	The Show/Hide Functions button lets you display the functions embedded in each layer. The functions are the different coordinates and values used to record a layer's parameters at each frame. This information is stored on the function curves using keyframes. 
	Parameters	The Parameters section lets you add, remove or modify a keyframe at the current frame. You can show or hide the Parameters section by clicking the Show/Hide Parameters button. 
	Add Keyframe	Adds a keyframe at the current frame.
	Delete Keyframe	Removes an existing keyframe at the current frame.
	Hand Cursor	Lets you change the current keyframe or drawing exposure. When you hover the cursor over the value, the hand cursor appears. Drag left or right to change the value. Or double-click on the keyframe value and enter a new value.
<	Previous Keyframe	Lets you navigate through the previous keyframes.
>	Next Keyframe	Lets you navigate through the next keyframes.

	Show Function Menu	Displays the Function menu where you can link a layer to an existing function or create a new function.
	Keyframe	A black or red square is displayed in the Timeline view when a keyframe exists. You can select these keyframes and drag them wherever you want on the timeline. You can also copy, cut, and delete them. **NOTE:** To delete a keyframe without deleting the drawing exposure, go to the Timeline view and select the keyframe to be deleted and then select **Animation > Delete Keyframe** from the top menu or press F7. When a parent layer is collapsed and a child layer contains a keyframe, a white square will be displayed.
	Split	The Split button lets you split the Timeline view in two sections, allowing you to see two different portions of the Timeline view. This way, if your scene length is very long, you can see the beginning and the end at the same time. 
	Drawing Exposure	In the Timeline view, when a drawing is exposed, it is represented as a grey block. If the drawing is exposed for several frames, the block is extended. When a second drawing is exposed, a new grey block is displayed. The exposure's colour can be changed. To pick a new colour, click the Change Track Colour button in the corresponding layer.
	View Modes	The View Modes button lets you streamline the process of working with elements in the Timeline view. There are three different view modes you can choose to work in. With each mode you select, certain elements may or may not be visible in the Timeline view. Depending on your workflow, this can be useful for quickly hiding elements when you want to focus on specific ones. To select a view mode, use the drop-down menu in the bottom-left corner of the Timeline view. 
	Show/Hide Additional Links	The Show/Hide Additional Links button lets you display links associated with a layer. For example, if you connect a mask to more than one effect such as a Tone and a Highlight, you can see these connections in the Additional Links section.

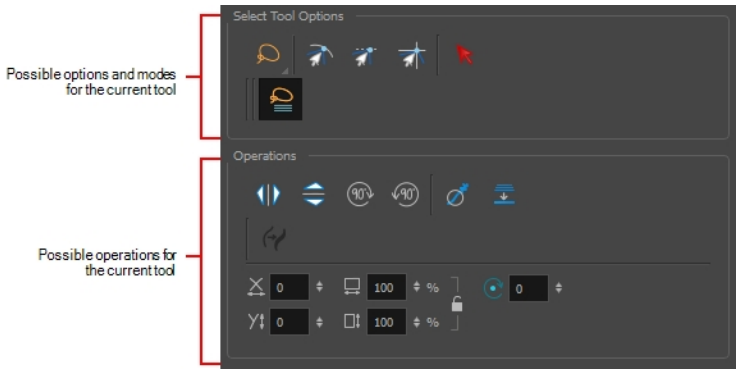
		   The Mask layer is associated with the Highlight effect.
	Zoom	The Zoom tool increases or reduces the width of the frames in the Timeline view. Move the slider right to increase the width or left to reduce it. You can also press 1 and 2. Reset the zoom by click the Reset Zoom button.

Tool Properties View

T-HFND-004-002

The Tool Properties view contains the most common options and operations related to the currently selected tool. When you select a tool from the Tools toolbar, the Tool Properties view updates.

For example, if you choose the Select tool, the Tool Properties view will display the options and operations related to it, such as Snap to Contour, Apply to All Drawings, Flip Horizontal, and Flatten.



NOTE: To learn more about the options appearing in the Tool Properties view, see *Tools Properties* on page 121.

How to access the Tool Properties view

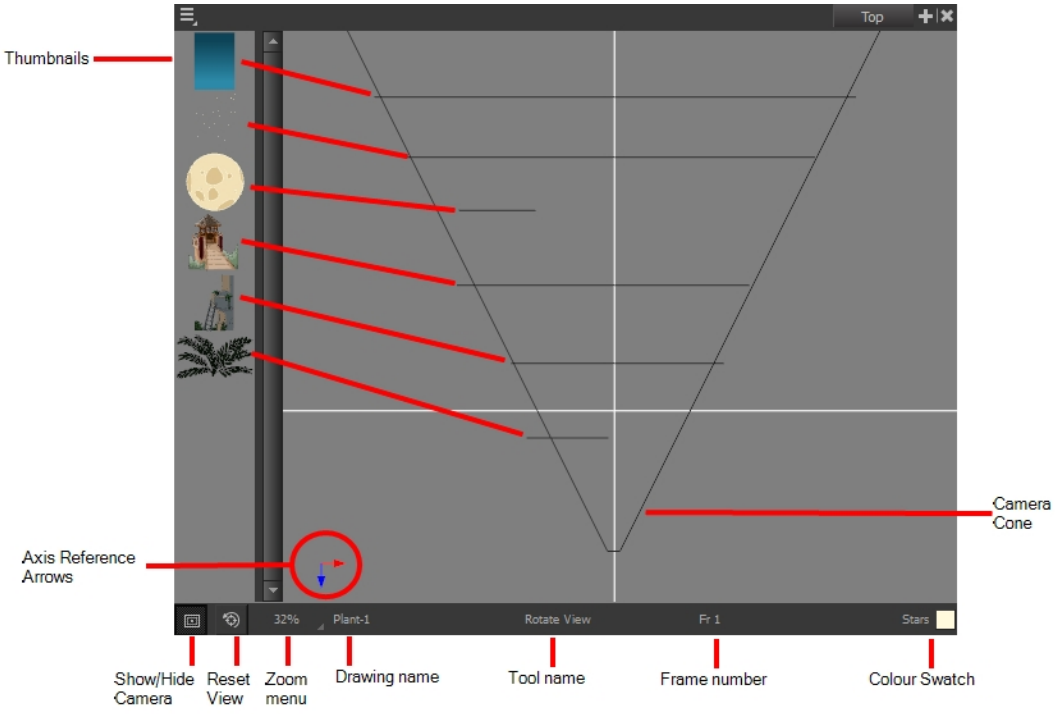
Do one of the following:

- From the top menu, select **Windows > Tool Properties**.
- From any of the other views, click the Add View button and select **Tool Properties**.

Top View

T-HFND-008-014

The Top view is used mainly for multiplane scenes and to position elements in 3D space. It allows you to see the scene's stage from above. This lets the camera cone and the spacing between the elements be seen.

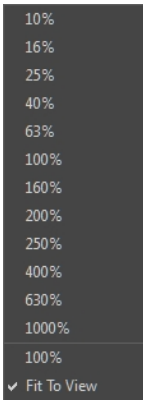


How to access the Top view

Do one of the following:

- From the top menu, select **Windows > Top**.
- From any of the other views, click the Add View button and select **Top**.

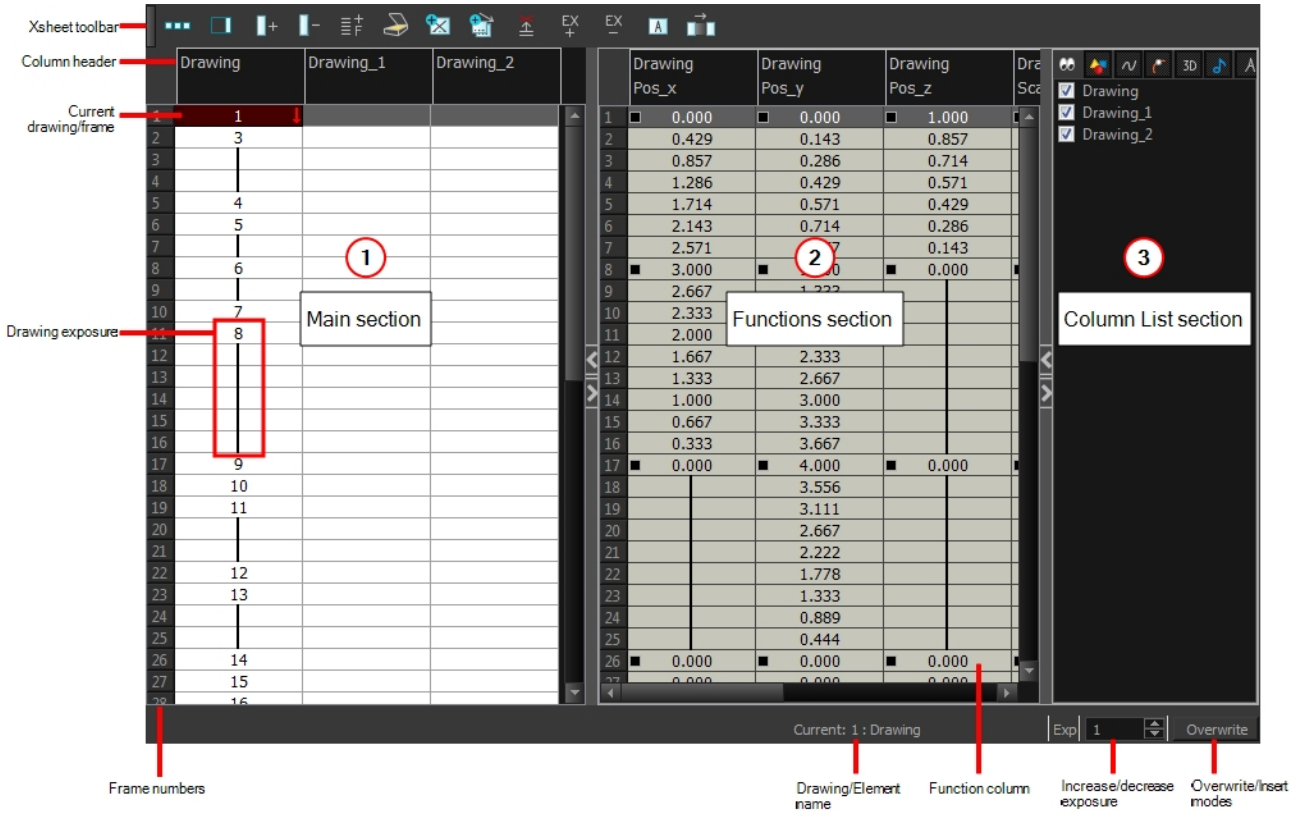
Icon	Section	Description
	Thumbnails	A thumbnail of each drawing layer in the scene. The order of the thumbnail images is based on each element's FB position in the scene space. You can see a representation of the FB position of each layer in the camera cone.
	Camera Cone	The camera cone represents the camera's position and field-of-view (FOV).
	Axis Reference Arrows	The axis reference arrows let you maintain your orientation when navigating in the view.
	Show/Hide Camera	Shows or hides camera frame in the Perspective view.

	Reset View	Resets the pan, rotation, and zoom of the Perspective view.
	Zoom Menu	This field displays the current zoom level in the Perspective view. You can use the Zoom level drop-down menu to select a specific zoom level from the list. Zoom levels from 2.5% to 6400% are available; you can also select Fit To View to automatically use a zoom level that lets you see all your scene layers and information in the Perspective view at once. 
	Layer Name	This field displays the currently selected layer and drawing name.
	Tool Name	This field displays the currently selected tool.
	Frame Number	This field displays the currently selected frame of your animation.
	Colour Swatch	This field displays the currently selected colour in the palette.

Xsheet View

T-HFND-006-003

The Xsheet view lets you read the timing vertically, displays the drawing layers as columns, and shows the drawing's name. You can also see the functions and keyframes of the motion paths in the Xsheet's function columns. The value of each keyframe is shown in the Xsheet view; these are displayed as black squares in the Timeline view. The Xsheet view contains more detail than the Timeline view, and is faster and easier to read.

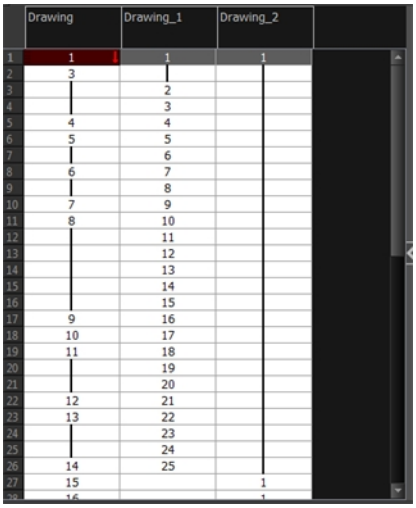
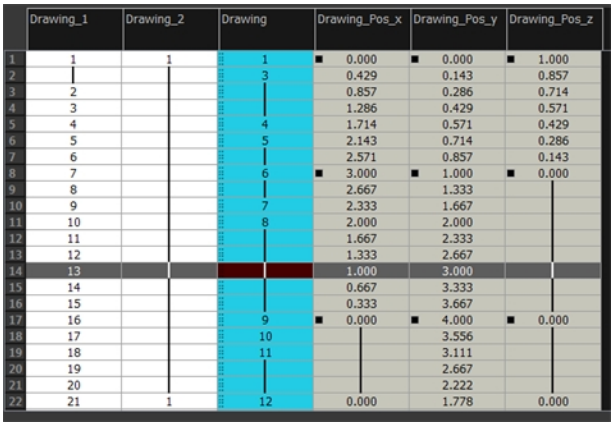


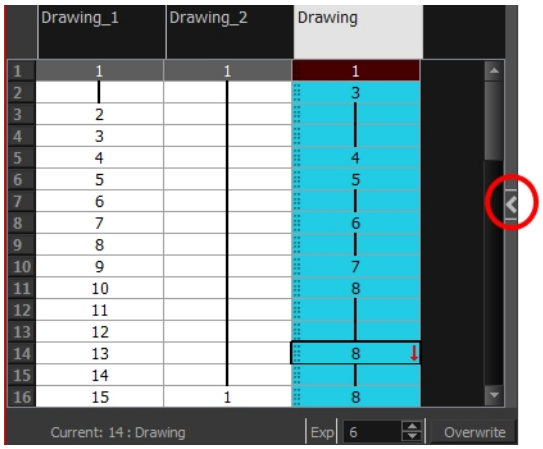
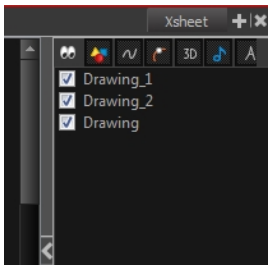
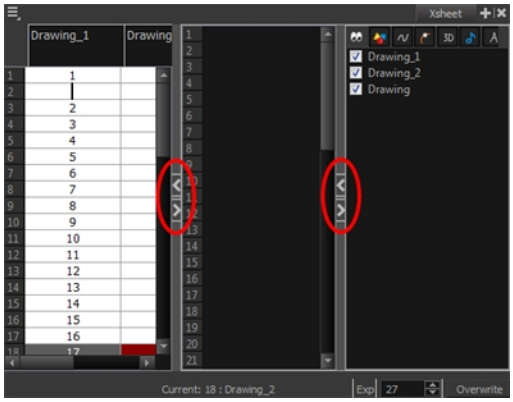
How to access the Xsheet view

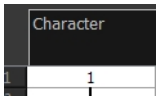
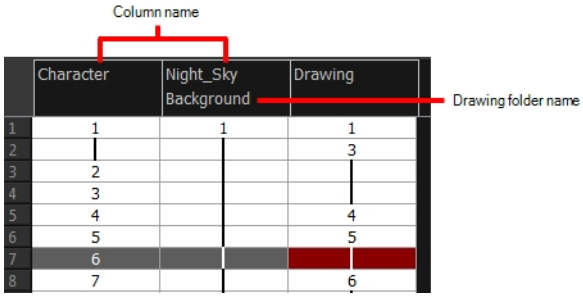
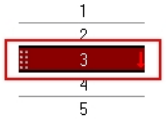
Do one of the following:

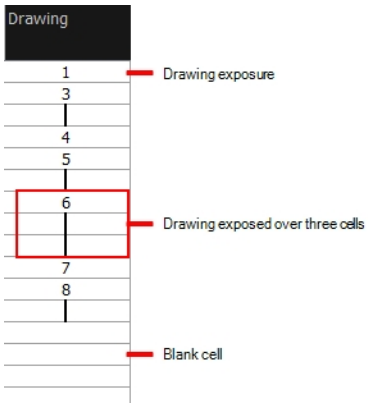
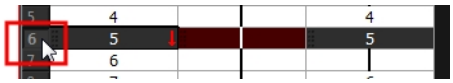
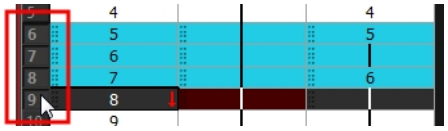
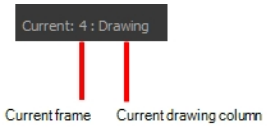
- From the top menu, select **Windows > Xsheet**.
- From any of the other views, click the Add View button and select **Xsheet**.

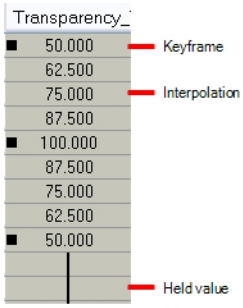
Icon	Section	Description
	View Toolbar	The view toolbar contains all the tools and options you can use in the Xsheet view to manage columns and timing.
	Xsheet Main Section	The Xsheet view has three sections. By default, only the main section is visible. It displays the drawing layers, also known as *drawing columns*.

		 When using advanced compositing and animation techniques, unconnected functions (motion paths) also appear in the main section. Unconnected functions mean that some motion paths are not attached to any particular layer. When you reconnect functions to a layer, they are still visible in the main section. 
	Functions Section	The Functions section is used for more advanced techniques. This section displays the functions (paths) related to the selected layer in the Timeline view. By default, the Functions section is hidden. In the Xsheet view, click the Expand button located on the right side of the main section. Click on the same button to collapse it. You can also use the Show Column List button in the Xsheet View toolbar. If you select a drawing column in the main section of the Xsheet view, the function columns will not be displayed. You must select the layer from the Timeline view.

		
	Column List Section	The Column List section allows you to show and hide columns in the Xsheet view. When you hide a layer in the Xsheet view, it is also disabled in the Timeline view.  You can use the Column List to hide individual columns or hide an entire column type (drawing or function) from the Xsheet view. By default, the Functions section is hidden. In the Xsheet view, click the Expand button on the right side of the main section to show the Functions section. Click on the same button to collapse it. You can also use the Show Column List button in the Xsheet toolbar. Go to the Xsheet view menu and select **View > Show Column List**. Click the Expand button on the right side of the Functions section to display the Column List section. 
	Column Header	Each column available in the Xsheet view has a header

		displaying the column's name. The column's name is the same as the corresponding timeline layer. If you rename one or the other, they will both be renamed. A quick access menu is available when you right-click. This menu contains the command affecting an entire column such as renaming, changing the default colour, or deleting a column. The tooltip that appears when you hover at the top of each Xsheet column shows the folder path to the source drawings for that column.  In Harmony, the column header shows the layer's name and the name of the drawing folder to which it is linked. If the name of the layer is the same as the drawing folder, the drawing folder's name will not be displayed. To modify the name of the element folder independently from the column and layer name, you must select the Advanced Element Mode option preference in the Advanced tab of the Preferences dialog box. 
	Current Drawing	A drawing selected in dark red indicates that the drawing is currently displayed in the Drawing and Camera views. The current drawing selection is not linked to the drawing displayed in the Camera view since drawings from each visible layer are displayed at once. 
	Current Frame	The darker frame appearing in the Xsheet view represents the current frame.
	Drawing Exposure	In the drawing columns, you can see the drawing names and their exposure. You can use any alphanumeric symbol

		to name your drawing. When a drawing is exposed over more than one cell, a vertical black line is displayed to indicate the continuity of the exposure. When there is no drawing in a cell, the cell will be blank. 
	Frame Numbers	On the left side of the Xsheet view, the frame numbers are shown indicating where you are. These read vertically instead of being displayed horizontally as they are in the Timeline view. • To go to a particular frame, click the frame number.  • To select an entire range of frames, click and drag a selection downwards. 
	Current Frame Display	At the bottom-right of the Xsheet view, you can see the current frame number, as well as the column containing the drawing currently displayed in the Drawing view. 
	Functions Column	The functions columns are displayed in the Functions section of the Xsheet view. They represent the motion and rotation you applied to a drawing layer. A function column can also be related to an effect. Selecting the effect layer shows you the corresponding function column in the Xsheet view.

		The function columns display the position value or effect value on each cell. If there is a keyframe on a cell, a black square is displayed. Holding the same value for several frames displays a vertical black line. 
	Increase/Decrease Exposure	You can quickly increase or decrease the exposure of the selected cell by clicking on the up and down arrows in the Increase/Decrease Exposure field.
	Overwrite/Insert Modes	The Overwrite/Insert button allows you to decide the way the values are inserted into the Xsheet.