

## What's New

### Toon Boom Harmony 12.1.1 Release Notes

#### Version 12.1.1

Here are the new features, changes, improvements, and bug fixes in Toon Boom Harmony 12.1.1:

#### Features

Feature	Description
Scripting	A new scripting API was implemented. It is used in the copy/paste : setPasteSpecialFullTransfer( bool ). This lets you decide if you want to, for example, copy local parameter values when pasting a template in a scene.
Rendering progress messages	Improved rendering progress messages in the logs now indicates when all activity to render a frame is finished.
Extracting skew information	Added ability to extract skew information from 2D matrices in scripting environment.

#### What's Fixed?

Item Fixed	Description
Fixed crash	Fixed crashes when the Convert to New Drawing and Add Deformation Chain command was used on one of multiple layer's children to a deformation group.
Fixed issues	A fix was implemented to hide anonymous (ATV-xxxx) columns on the left side of the Xsheet view.
	Fixed an issue when deformed bitmap images appeared as white rectangles when reopening a scene.
	Fixed an issue related to the blending modes and the glow filter. When overlapping these two filters, some holes were appearing in the render. For the ChannelFix plugin, contact Toon Boom Support.
	Fixed the Convert Deformed Drawing to Drawing menu command. When multiple drawing nodes were under the same Transformation Switch, it did not work.
	Removed the minimum length of the resting position handles of Curve deformers. It was preventing the creation of smooth curves on very small drawings.
Miscellaneous	Reoptimized the playback of scenes with deformations.

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- [Changes and Improvements](#) on page 4
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## Features

Feature	Description
Deformation (Harmony Premium)	<p><b>Create New Deformation Chain Tool</b></p> <p>A new tool called Create New Deformation Chain lets you create new chains of deformers for new drawings by adding a Transformation-Switch node to your deformations. You can find this new tool in the Deformation toolbar.</p>
	<p><b>Transformation-Switch Node</b></p> <p>A new Transformation-Switch node lets you connect chains of deformations, Pegs, Mesh Warp, Quadmap, Quake or Ortholock nodes. The timing of drawings in a layer determines which chain is used.</p>
	<p><b>Converter Script</b></p> <p>A converter script called TB_ConvertLegacyDeformation.js changes old deformation chains into the new Harmony 12 style.</p>
	<p><b>Deformation Toolbar</b></p> <ul style="list-style-type: none"> <li>• A new button called Enable Deformations lets you show deformed state of all deformed chains while drawing. It's a bit like the Set Up button in previous versions. Enabling this button shows the onion skins and other layers with images deformed or not.</li> <li>• The Reset Current Keyframe button lets you copy the set up position as keyframe values at the current frame (like the Copy resting position to Current in Harmony 11).</li> <li>• The Transformation Selector lets you easily change the deformation chain associated with specific drawings. When using this, it changes the associated drawing in the Transformation Switch.</li> </ul>
	<p><b>Convert to New Drawing and Add Deformation Chain</b></p> <p>This feature creates a new drawing from the deformed current drawing and then associates it to a new deformation chain that has all the same deformer nodes as the original chain. It copies the values of the current keyframes and pastes them as the initial values of the new chain.</p>
	<p><b>Rename Transformation</b></p> <p>Allows you to give a more informative name to your transformation chains, either your deformation chains or any other type of chains made of peg, Mesh-warp, etc.</p>
	Web Control Center
Timeline	<p><b>Remove Duplicate Key Exposure</b></p> <p>There is a new button in the Timeline toolbar for removing unnecessary drawing key exposures that were created when pasting with the Enforce Key Exposure option</p>

	selected (for example).
Timeline (Harmony Premium & Advanced)	<p><b>Enforce Key Exposure</b></p> <p>A new paste option lets you decide whether to create key exposures or not. This option is located in two places:</p> <ul style="list-style-type: none"> <li>• Timeline view menu (Edit &gt; Modify Paste Presets)</li> <li>• Paste Special dialog box</li> </ul>
	<p><b>Paste Mode for Pasting Keyframe and Exposure Values</b></p> <p>You can change the way the normal paste works. There were two presets; one for keyframes and one for exposure. Now there is a third one for pasting both keyframe and drawing exposure values at the same time. Also, you can customize the three presets to your liking.</p> <p><b>Tip:</b> You can also use these three presets as a quick way to change how the paste works if you don't want to limit them to keyframes or exposures.</p> <p>All three presets are available from the Timeline view menu (Edit &gt; Modify Paste Presets).</p>
	<p><b>Extend Timing and Swap Drawings</b></p> <p>Two new options allow you to extend the timing and swap drawings when dragging, copying, cutting or pasting in the Timeline and Xsheet views. The Fill Gap with Previous Drawing option is used at the source of the cut and the Fill to Next Key Exposure is used at the destination of the paste.</p> <p>These options are located in two places:</p> <ul style="list-style-type: none"> <li>• Timeline view menu (Edit &gt; Modify Paste Presets)</li> <li>• Paste Special dialog box—see <a href="#">Using Paste Special on page 1</a>.</li> </ul>
Preferences	<p><b>Extend Exposure of Previous Drawing</b></p> <p>When this option is selected, drawing something in a blank frame will create a new drawing and extend the timing from the previous exposed drawing (like in older versions of Harmony).</p> <p>This option is called Extend Exposure of Previous Drawing and is located in the Preferences dialog box:</p> <p>Harmony Essentials: General tab, Timeline section.</p> <p>Harmony Advanced and Premium: Exposure Sheet tab, Drawing Creation section.</p>
	<p><b>(Harmony Advanced and Premium) Overriding Exposure and Keyframe During Drag and Drop</b></p> <p>A new option lets you overwrite exposure and keyframes while dragging and dropping. This option is located in two places:</p> <ul style="list-style-type: none"> <li>• Timeline toolbar, Toggle Override Exposure and Keyframe During Drag and Drop  button</li> <li>• Preferences, Timeline tab</li> </ul>
Drawing	Using bitmap brushes with a complex set of properties has been optimized to be two to three times faster!

(Harmony Premium & Advanced)	
Customer Experience Improvement Program	<p>Harmony now includes the optional Customer Experience Improvement Program whereby usage information is collected and sent to Toon Boom. 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. We will only use this information for software improvement purposes, as well as sharing the information with third parties for the same reason.</p> <p>The Customer Experience Improvement Program is enabled by default but is voluntary. If you prefer not to participate, you can opt out when you first launch the software, by using a global preference, or by a command line argument.</p>

## Changes and Improvements

Changes and Improvements	Description
Deformation (Harmony Premium)	The Deformation tool properties retain their state when you restart the application.
Web Control Center	<p><b>Updated Dictionaries with Web Control Center</b></p> <p>You must update the comp.dict file in the database so Web Control Center works properly. It is now possible for the path to be longer when sending a scene to batch render (Harmony Premium and Advanced).</p>
Preferences	Added number of undos in preferences for Harmony Advanced and Essentials.
Nodes	Insert a node into the Node view automatically by pressing Enter while you have a node selected in the Node Library view.
Flash Import (Harmony Premium & Advanced)	<ul style="list-style-type: none"> <li>The Export to Harmony.zxp extension for exporting files to Harmony from Flash is now included with Harmony. You no longer need to request the extension from us. For the locations of the extension, see .</li> <li>When importing SWF files, you can import files that have a compression of Photo (JPG) or Lossless (PNG).</li> </ul>

## What's Fixed?

Item Fixed	Description
Fixed crash	When using Colour-Override while keeping the softrender active and adjusting the Colour-Override values.
	When importing a SWF file with faulty tag for JPEG image.
Fixed issues	The picker from the Colour Picker window works differently to support picking outside the application. To pick a colour, hold down the mouse button as you move along the desktop to preview colours, then release to select the colour.
	<p>If the Sticky Eye Dropper option in the Preferences dialog box (Drawing tab &gt; Options section) is selected, the dropper will not have this new behaviour.</p> <p>Parts of a drawing were not showing in OpenGL preview.</p>

	The trial version of Harmony Essentials did not see the drawings just created.
	The Onion Skins of new Bones and Game Bones unintentionally change as you edit the bones.
	Four-digit numbers don't fit in the Frames, Start and Stop fields of the Playback toolbar.
	The Blur-Radial-Zoom from Harmony 10.3.1.9206 gave a different result in Harmony 12.
	The pencil lines of drawings do not retain their size after copy/pasting them into a new drawing layer.
	Duplicating a drawing removes all the key exposures of the current drawing.
	When the Onion Skin is set to Outline Only, it didn't work on drawings with deformers.
	A template that includes a deformation has a thumbnail generated that does not include the bounding box of the deformed drawing. This results in the thumbnail showing only the other undeformed drawings.
	The render of small pencil lines did not produce nice curves but rather angular results.
	The palette-list was not saved in a new scene if you did a Save As New Version instead of Save.
Miscellaneous	Fixed export of deformation to SWF.
	Fixed wrong compositing order with legacy scenes with symbols.
	Fixed cel swapping from the Library view when you have symbols.
	Fixed unreadable palette and scene when a colour swatch name contains a backslash (\).
	Fixed wrongly displaying the internal peg controls of a drawing layer when displaying the deformation controls.
	Fixed import of AI file with name of 43 characters.
	Fixed texture shifts on mouse up when using the vector brush tool.
	Fixed the somewhat random order of cables when dropping a parent between two children in the Timeline view.
	Fixed incorrect behaviour of Toon Boom bitmap image when using the Colour-Override nodes. They were blocked when using Render Selected Colours or Render Selected Colours and Bitmaps.
	Fixed animated Collada files that do not import properly.
	Fixed disappearing drawings in scene with symbols converted from Animate 3.
	Fixed Show Strokes option that didn't show them in Line Art in Camera view OpenGL.
	Fixed wrong directory path when importing a scene with Control Center from a shell command.
Fixed Vectorization dialog box: strictness and pegSide or fieldChart settings.	

## Toon Boom Harmony 12 Release Notes

### Release 12

Here are the new features, changes, and improvements in Toon Boom Harmony 12:




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## The New Harmony

### Three Editions



Toon Boom Harmony is now available in three editions, catering to different types of users and their unique animation requirements:

-  **Harmony Essentials** is for simple paperless and cut-out style animation projects. By using the introductory edition of Harmony, enthusiasts and hobbyists have all the fundamental drawing, painting and animation tools they need.
-  **Harmony Advanced** is a professional-grade solution for studios, freelancers or anyone who needs full paperless and simple cut-out animation capabilities.
-  **Harmony Premium** is for full paperless and sophisticated cut-out style animation. This is the most powerful, professional edition of Harmony that adds the ability to create sophisticated character rigs, highly organic movement and unlimited special effects for any style of animation.

### Desktop Subscription

Harmony is now available by Desktop subscription, which lets you choose the level at which you want to use Harmony and its features. You can subscribe monthly or annually—visit [Desktop Subscription](#).

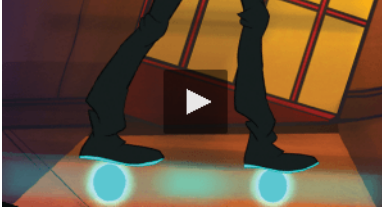
### Online Availability

Harmony 12.1 is available for purchase at the Toon Boom online store. A full-featured Trial version for each Harmony edition is also available. Harmony can be updated online via the Toon Boom Upgrade Center.

For more information, visit the following:

- [Toon Boom Store](#)
- [Trial Versions of Harmony](#)
- [Toon Boom Upgrade Center](#)

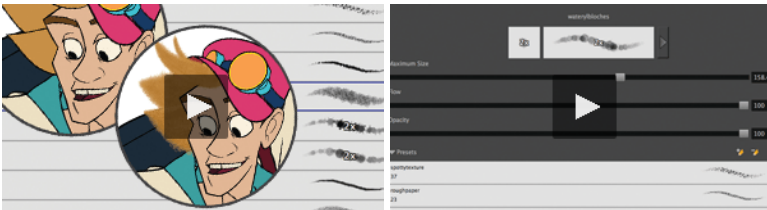
## Harmony Server



### [Production Efficiency](#)

Harmony Server (formerly called *Network*) enables production teams working in Harmony Advanced and Harmony Premium to access shared assets directly from a database in a server-client configuration. The server stores all the assets and holds the database. Clients machines run Harmony and access the database instead of storing files locally. You can share assets, vectorize and render in batch for increased productivity and security.

## Drawing Tools



### [Bitmap/Vector Drawing](#) and [Bitmap Brush Engine](#)

## Bitmap Brush Improvements

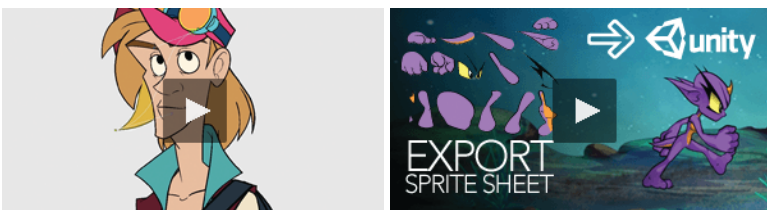
The brush engine in Harmony has been improved to provide even better quality and more artistic control. You can now control the brush shape to provide a random effect on strokes or create and save a custom brush that acts like a calligraphy pen fixed at any angle you desire.

A dual tip is introduced that mixes two shapes or textures cookie cutter style to create an infinite range of fuzzy or watercolour lines. This is perfect for organic and experimental drawing styles. Previously, you were limited to a finite number of brush presets.

## Update Brush Properties

You can select a preset brush, pencil or eraser and change its properties to update the preset instead of creating a new one.

## Animation Tools



 [Deformers](#) and [Game Engine Export](#)

## Game Bone Deformers

A simplified set of Game Bone deformers is provided for easy import into game engines like Unity. The properties of these bones can be read by game engines and are optimized for real-time deformations in a game.

## Simpler Bone Set-up (Workflow)

The default user interface for creating bones in Harmony is now more straightforward in operation and simpler to understand. Set-up is now a single operation, instead of requiring two different tools and one mode. This provides for additional efficiency and clarity throughout the process.

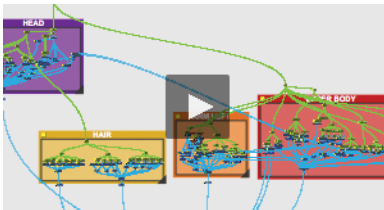
## Envelope Deformers

You can now apply an overall bend or stretch to a set of deformers for even more flexibility. The new Envelope option for Curve and Offset deformers lets you generate and distort an envelope around an object and deform it while keeping its parent or child curves intact. It could be used, for example, to squeeze the overall shape of an octopus character to fit through a porthole without affecting the curves used to manipulate each tentacle.

## Harmony Game Previewer

The new Harmony Previewer lets you see if your animations and rigs will work once imported in Unity. This can be useful if you're not a developer. You can visualize your characters in the Unity game engine with no programming required. To get the latest version of the Harmony Game Previewer, visit [toonboom.com/games](http://toonboom.com/games).

## Compositing and Effects



 [Node-based Compositing](#)

## Terminology

The term "module" has been replaced with "node". Module Library is called *Node Library* and Network view is called *Node view*.

## Node (Module) Library Search

The ability to search nodes has been introduced in order to provide a quick way to find your effects, like Bloom, Burn-In Luminance, Blurs, Colour Override, Particles or Lens Flare. We also added more descriptions to provide better search results. The search will not only look through the node names, but also the descriptions. For example, when you type the letters for "blur", you will get search results for Blur-Box and Shadow (the word *blur* is in the description for the Shadow node).



## Node Library Organization Improvement

A new vertical listing of node names allows you to more rapidly find the effects you want to use in the compositing process. This interface improvement allows an unlimited number of nodes to be presented along with their subgroups.

## Node Backdrops

Backdrops are a way to work with complex node systems that let you associate a selected set of nodes by colour. You can add as many backdrops to your node structure as needed. The idea is to visually organize the structure so you can quickly identify the particular set of nodes.

## Node Properties

Nodes have collapsible parameters sections to take less room.

## Node Connections

When connecting to a node, you can now see input ports that reveal what type of connection is supported by each port.

## Node Port Tooltips

A tooltip appears when you hover over node ports. The parent/child node is displayed, as well as the type of input or output port you are using.

## Insert Menu

The new Insert menu, which you can access from the top menu, allows you to quickly add any effect from a menu list instead of dragging them from the Node library. This can be useful in speeding up your workflow.

## Support for OpenFX Plugins



With Harmony 12.1, you can add third party OpenFX plugins into the Node Library to have an expanded range of effects to use in compositing operations. This not only expands the range of effects that can be applied to a production, it also consolidates workflow within Harmony by avoiding a back and forth workflow with an external compositor. You can obtain OpenFX plugins from open source providers or commercial OpenFX plugin creators such as GenArts Inc..

## Burn-In Node

A new node (module) called Burn-In lets you superimpose scene information, which is visible in the Camera view. The information is displayed on top of any content in the scene. You can choose to display the scene name, timecode, frame count, environment and job, as well as add a frame offset if you need blank frames to precede the scene content. Also, to make the information more visible, you can also add a background and choose its colour, and customize the text font and alignment.

## Light Shading Node



### [Light Shading](#)

Cut-out animation allows for great advancements and time saving in production. However, it's not easy to create tone and highlights. To do so, you must draw all the highlight zones for each frame by hand. Following that, if you want to modify your animation, you have to redraw those zones. This slows down the process. There are a few tricks for doing simple automated highlights, but the results are not always convincing.

The Light Shading node provides a proper solution to this issue. It allows you to add a few nodes to your original puppet rig and obtain a customizable lighting effect on your characters. It can be applied to any object in your scene, not only on cut-out characters. The light shading effect allows you to define your volume zones and generate a normal map, as well as your light source and animate its position.

## Median Node

A new node (module) called *Median* lets you smooth out imperfections in your drawings and deliver a posterization effect with a slight blur. Harmony sorts the values of pixels within a specified radius and uses the median value. It can be used to add glamour to a character's face or create an Impressionistic style to a background.

## Render Preview Node

A new node lets you more quickly preview effects on your screen when using OpenGL, so you can more easily test animated effects on screen. It provides a variable quality preview of an effect, removing the need to render out to an intermediate file(s). This is especially useful for evaluating OpenFX plugins when you want to see the visual impact of changing individual parameters.

## Bloom Node

A new node (module) called *Bloom* lets you isolate bright areas and achieve a nice atmospheric effect which is useful for foggy streetlights or glowing faces in front of a flickering fireplace. It's also especially good for adding a bloom to once hard-to-isolate areas, such as on an imported photo of a night time street. The Bloom effect is a combination of the Luminance Threshold, Cutter, Blur - Gaussian and Composite Generic nodes.

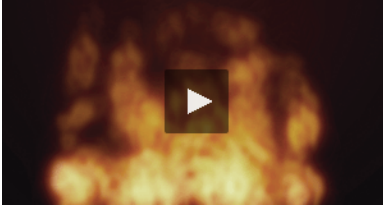
## Luminance-Threshold Node

The new Luminance-Threshold node allows you to isolate areas of an image according to their brightness, and subsequently apply effects to those regions. You can add a ghostlike glow effect to all the shiny armour in a scene for example.

## Placeholder Node

The Placeholder has been removed from the Node Library.

## Constant Particle Generation Option



### [Particle System](#)

You can now have Harmony optionally generate particles between frames to create things like constant comet trail effect. This new particle emitter option provides for particle system continuity over the life of the particle system. You can use it to create jet exhausts, volcanic eruptions, or sparkler effects that need to span a range of frames.

## Exposure Fill Using Render Change Option

Harmony can now detect if a threshold of changes has occurred between two consecutive images and then expose the affected textures for further processing. It can be used for example to change the texture on a character's shirt only when the shape of the shirt is changed significantly from the previous frame. This avoids unnecessary repetitive texture changes on every frame.

## Intensity Option

This new Intensity option lets you directly vary the intensity of Glow, Matte-Blur, Shadow, Highlight and Tone effects. This means you don't have double or triple the connection to make the effect stronger.

## Colour Override Options

Two Colour Override options give you more flexibility in changing individual colours when you have a network of nodes that includes a matte. It lets you decide if you want to apply the Colour Override to only to the image, or also to the matte, of the parent effects.

## Flatten Option

When using the Line Art or Overlay Layer node and placing a node below a Composite node containing several drawing nodes, such as a cut-out character, you can use the new Flatten option to flatten the extracted result. For example, when extracting a series of outlines, parts that may have been hidden by colour fills might now be visible. The Flatten option cuts the extra artwork.

# Import

## Importing FLA Files

You can import and export files from Flash to Harmony to transfer character rigs, props and backgrounds. Flash import is available on all three editions of Harmony on Windows and Mac OS X. It is not possible to do so on Linux versions.

On the Flash side, the command works on these versions: Adobe Flash CS5 to Adobe Flash CC. Exports from older versions of Flash software is not possible.

## New 3D Import Formats

Harmony can now import new 3D formats as 3D elements in your project. The new formats are two popular data exchange formats: Collada (.dae) and Alembic (.abc).

## OSB Conversion Option

There is a new option to convert 3D files directly to the OSB file format and save them so the next time you reload the scene, it is quicker as Harmony does not have to reconvert them again. This improves workflow in situations where multiple 3D files (with their own relative paths) were loaded by storing them in a single file.

## More Powerful SWF Import

There is now support for a later version of the SWF (SWF 10) format, avoiding the need to use older versions of Flash to export files to Harmony.

## Vectorization Parameters Dialog Box


The Vectorization Parameters dialog box has been reorganized for efficiency.

## Timeline

### Solo Mode

Using the new Solo mode, you can temporarily display one or multiple layers in the Camera view without changing the final output. You can also activate/deactivate selected layers without redoing the selection for additional display control.


### Show/Hide Additional Links

The new Show/Hide Additional Links  button at the bottom-left of the Timeline view 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, as well as links to composite nodes.

### Connect Multi-layers as Input to Effects

You now have the ability to connect multi-layers as input to effects.

### Apply Ease on the Timeline View

The new Set Ease Menu in the Timeline toolbar lets you quickly and easily create different speed patterns between keyframes. You can customize the Timeline toolbar with the corresponding toolbar button called Apply Ease to Selection . This lets you quickly reapply the ease type without going through the Set Ease Type menu each time.

### Shortcut for Scene Markers

There is a new shortcut for scene markers called Mark Current Frame.

## Parameters Section

In the Timeline view, the Parameters section uses alternating colours to differentiate the area from the layers.

## Groups in the Timeline View

Groups in the Timeline view are now easier to identify with the new icons expanding groups, which also show child layers in the timeline.

## Paste Special Option

A new Paste Special option, called *Replace Existing Drawings*, replaces drawings with the same names to update a scene with new modified drawings and preserve the animation. This lets you modify rigs or animations non-destructively by only replacing the drawings. You could easily replace or update the shirt on an animated character, for example. You can find this option in the Advanced tab of the Paste Special dialog box.

## Miscellaneous

### More Useful Tooltips

Tooltips now contain more information about tools, tool properties, and scripts.

### Search for Shortcuts

You can easily find shortcuts with a new search capability in the Preferences dialog box.

### Script Icon Tooltips

You can now reveal the function of a script by viewing its tooltips, which you provide.

### Overwrite Images During Scan

In Harmony Advanced and Harmony Premium, you can overwrite existing images but keep the same cell names. This allows you to fill your exposure first and then fill it with the scanned images.

### Web Control Center (Part of Harmony Server)

A new web interface for the Web Control Center offers the ability for Harmony users working from remote locations to upload and download projects to a central server using the Internet.