Harmony20

Toon Boom
Harmony 20
Release Notes

Legal Notices

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Toon Boom Harmony 20.0.5

Here is the list of changes in Harmony 20.0.5, build 20.0.5.17671 (2021-11-04):

> **NOTE**
>
> The Python plugin, which allows Python 2.7 scripts to be run from Harmony, no longer loads by default on macOS Big Sur and Monterey. You can force the Python plugin to load by enabling the FORCE_LOAD_ PYTHON_SCRIPT hidden preference.

Fixes

The following issues have been fixed in this release of Harmony:

- Harmony crashes when opening a scene in database mode on macOS Monterey. *HAR-7793*

- Importing scenes from a database package does not work properly when using Control Center in batch mode. *HAR-7785*

- Harmony crashes when opening a specific scene that contains Weighted Deformers. *HAR-7740*

Toon Boom Harmony 20.0.4

Here is the list of changes in Harmony 20.0.4, 20.0.4.17478 (2021-09-22):

Fixes and Changes

The following issues have been fixed in this release of Harmony:

Drawing Tools

- The Paint tool does not work on drawings that have extremely large geometries. *HAR-7624*

- A hidden preference was added to allow users to lower the drawing precision and simulate the drawing experience from Harmony 14. When the preference is enabled, Harmony will round coordinates of points received from the mouse or drawing tablet, creating bumpier lines.

You can enable this preference by downloading, importing and running the script from the URL below:

  docs.toonboom.com/go/download/ToggleDrawingToolsRoundsCoordinates

- A hidden preference was added that can be used to disable smoothing of vectors when using the Perspective tool in Lattice mode.

  docs.toonboom.com/go/download/ToggleLatticeToolSmoothing

Animation Tools

- Using the Transform tool or moving up the hierarchy using B does not select the peg connected to the target port of the Transform Gate. *HAR-7101*

Rendering and Compositing

- The Gaussian Blur effect should only mirror pixels that are outside the camera frame when the "Repeat Edge Pixels" option is enabled. *HAR-7623*

- Toggling the "Repeat Edge Pixels" option in the Gaussian Blur effect node does not update the Render preview immediately. *HAR-7622*

- Rendering to QuickTime or H.264 with two instances of Harmony simultaneously may generate corrupted files. *HAR-7625*

- Crash when rendering if a TVG is missing while its element node has the Transparency option disabled. *HAR-7129*

- Surface Normal does not work properly when a drawing is painted with a gradient colour. *HAR-7059*

- Harmony on Windows may crash when rendering a specific drawing drawn with brush textures. *HAR-7413*

Import and Export

- Apple ProRes files fail to import on Windows even when QuickTime 7 is installed. *HAR-7133*

- Frames are held and skipped when importing movies with 23.976 frame rate. *HAR-7671*

- The selected Alignment Rule is ignored when importing a PSD as a Toon Boom Bitmap with the Individual Layers option enabled. *HAR-7616*

3D

- Scenes with Alembic files that use RGB colour sets may cause Harmony to crash. *HAR-7503*

Control Center

- Palettes at the Job and Environment levels are not imported when importing an offline scene. *HAR-7606*

- Importing a specific scene using the -import_scene argument from Control Center does not work. *HAR-7580*

General

- Random crash when performing various drag and drop operations under the latest Windows 10 using an NVIDIA Quadro GPU. *HAR-7491*

- Elements cannot be deleted using the Element Manager if used in more than one version of the scene. *HAR-7128*

- Harmony does not delete columns when deleting the nodes if "Delete Drawing Files and Element Folders" is unchecked. *HAR-7156*

- Harmony sometimes crashes when using the trackpad on a MacBook Pro. *HAR-7152*

- Remove Unused Files doesn't always delete palette files from disk. *HAR-7090*

- Harmony crashes on rare occasions when changing the scene's working colour space. *HAR-7141*

Toon Boom Harmony 20.0.3

Here is the list of changes in Harmony 20.0.3, build 20.0.3 16743 (2021-02-09):

- [Nodes and Compositing](#)
- [Master Controllers](#)
- [WebCC](#)
- [Fixes](#)

Nodes and Compositing

Feature	Description
Colour Fade Hue Interpolation	A Hue Interpolation option has been added to the Colour fade node. This new option allows selecting the type of interpolation used for the hue value and is available when the Colour Interpolation is set to HSL or HSV. The following options are available: **Linear:** Interpolates the hue value linearly between 0 and 360. Provided for legacy reasons. **Circular Shortest:** Linear hue value interpolation from the source colour to the destination colour using the shortest distance, passing through 360 to 0, and vice versa if shortest. **Circular Clockwise:** Clockwise value interpolation, wrapping around 360 to 0 if necessary. **Circular Counterclockwise:** Counterclockwise value interpolation, wrapping around 0 to 360 if necessary.
Pre-render Cache node status in the Timeline	The Pre-render Cache node now shows green frames in the Timeline once a frame is rendered and available in the cache.
Render/Clear Current Frame	There is a new option in the Pre-render Cache node to render or clear the image in cache for the current frame.

Master Controllers

Feature	Description
Automatically Filter Attributes	A new option that controls whether attributes that do not change over time should be added when creating a master controller is now available in the Stack, Grid and Slider wizards. This new option, named Automatically Filter Attributes, will omit attributes that has the same value for the duration of the source frame range and will not add them to the

Feature	Description
	Master Controller.

WebCC

Feature	Description
Export Offline Options in Control Center	Final frames, Other Directories and Libraries options can now be unchecked when using the Export to Offline option in Control Center, reducing the size of scenes when exporting in offline format.
Hiding Library options when exporting offline in WebCC	Options to export libraries can now be hidden from the WebCC interface. This can prevent the accidental export of libraries from the Environment or Job levels and unnecessary increases of file size of exported offline scenes. These options can be hidden by adding the "-hideLibExport" option to the WebCC service launcher.

Fixes

The following issues have been fixed in this release of Harmony:

General

- Harmony crashes on Big Sur when there is a texture in the colour palette. *HAR-6759*

- Morphing hints don't display properly anymore. *HAR-6430*

- Service Launcher's default path is wrong on macOS Catalina. *HAR-5663*

- Temporary files created in the *ToonBoomSessionTempDir*, when importing PSD files or using a script, are not deleted if a Wacom driver is installed on Windows. *HAR-6539*

- Pressing the spacebar does not reset the Transform tool manipulator. *HAR-6858*

- Transform tool manipulator does not follow properly when rotating the Camera view. *HAR-6859*

- Selecting multiple drawings with the Transform tool changes the active pivot. *HAR-6596*

- The Reset Current Keyframe command in the Deformation toolbar doesn't reset the rotation on Free Form Deformer points. *HAR-5928*

- The Kinematic output does not work properly when a Static Transformation node is used with a deformation chain set to Default Transformation. *HAR-6293*

- Selecting a 3D model with the Transform tool does not work when another layer is locked. *HAR-6659*

- The second controller of a Two Points Constraint node cannot be selected when there is a Transformation Gate node under it. *HAR-6770*

- Scene with corrupted bezier curves causes Harmony to crash when opening. *HAR-6836*

- The Camera view becomes unresponsive if a peg with a scale of 0 is above a weighted deformer. *HAR-6647*

- The Pose Copier does not remember the Fill to Next Key Exposure state. *HAR-6701*

Drawing Tools

- Delay drawing with the Brush tool when using a mouse or a drawing tablet that has a high polling rate on macOS. *HAR-6749*

- Straight line changes to a curve when lines are connected using Line Building Mode. *HAR-6263*

- There's a delay when drawing using a textured pencil in a scene in Database mode. *HAR-6654*

- Tools presets don't work with bitmap layers. *HAR-5788*

- Random crashes when drawing straight lines with the Pencil tool by pressing SHIFT. *HAR-6726*

Timeline

- Dragging keyframes on a Colour Curve, Colour Levels or Subnode Animation layer extends the select to layers below. *HAR-6225*

- Audio scrubbing offsets and plays audio from the wrong frames. *HAR-6721*

Node View

- Entering or exiting a group using cable navigation does not work anymore. *HAR-6352*

Master Controllers

- **MC Function Wizard:** Invert Slider option does not work. *HAR-6080*

- Keyframes that have identical values are not added to the tbState when creating a master controller. *HAR-6551*

- Poor performance when scrubbing the Timeline while Deformers on Deformer is displayed in the Camera view. *HAR-6187*

- Reset Current Keyframes does not always properly reset the position of a Deformer on Deformer curve. *HAR-6217*

- The curve to manipulate a Deformer on Deformer does not always follow properly. *HAR-6722*

- Only the min and max values work properly when creating a SliderWidget from a Transformation Gate using the Function Wizard. *HAR-6673*

Export and Rendering

- Rendering frames in batch reports sound engine errors when launched from a service, causing deadline to report errors even when the render is good. *HAR-6667*

- Exporting OpenGL frames using the openH264 codec does not work. *HAR-5544*

- The selected format in the Export Movie dialog switches to QuickTime when clicking the browse button. *HAR-5802*

- The Use Source/Matter Colour option does not work with effect nodes that have the blur type set to Directional. *HAR-6484*

Importing

- Harmony fails to import video files that don't have audio or if their resolution does not match the scene resolution in Windows. *HAR-6543*

- No error messages when importing an unsupported video file on Windows. *HAR-5909*

- Importing an interlaced 16-bit per channel PNG does not work. *HAR-6716*

- Crash when importing Alembic files with out of bound colour values. *HAR-6844*

- Some WMV files import with missing frames onWindows. *HAR-6805*

Database

- Drawings can be lost when using the Update Database Scene command if elements were renamed or duplicated offline. *HAR-6586*

- The dbserver will attempt to close the table twice when upgrading a table to a new format. *HAR-6718*

- The Force Unlock Scene command in Control Center doesn't release all the locks. *HAR-6688*

- Jobs remain in the In Production list after moving them to completed. *HAR-6408*

- Auto flatten does not work with the Brush tool if the Pencil tool has Line Building Mode enabled. *HAR-6717*

- Thumbnails are not rendered in library folders located on a database if Harmony is running on Windows and uses a shortcuts.conf file to connect to the server. *HAR-6809*

- Scene is locked for editing when a preview render is generated for WebCC. *HAR-6773*

- The Queue application randomly freezes and does not update job statuses properly. *HAR-6684*

Scripting

- Palette::setTextureFile does not flag palette as modified. *HAR-6727*

- The Pose Copier Paste button has to be clicked multiple times to work with some template. *HAR-6672*

- Pasting an action template that does not contain groups does not work when using copyPaste.pasteActionTemplateIntoNode. *HAR-6652*

Toon Boom Harmony 20.0.2

Here is the list of changes in Harmony 20.0.2, build 20.0.2 16529 (2020-11-26):

> **NOTE**
>
> Harmony does not natively support the new Apple M1 chip. On systems using the new Apple M1 chip, Harmony runs through Apple's Rosetta 2. This may cause compatibility issues when running on the new ARM-based macOS systems.

Fixed Issues:

- Crash on macOS Big Sur when selecting the Tool Properties tab while the Brush, Pencil or Eraser tool is active.

- The **Force Unlock** command in Control Center doesn't release all the scene locks.

- The Drawing Selector list in Harmony Scan can have duplicate or missing entries.

Known Issues:

- **Issue:** On macOS Big Sur, Harmony crashes on some systems if there is a texture in the colour palette while the interface is in Light Style.

  Workaround: Enable the Use Dark StyleSheet preference located on the General tab to prevent the crash.

- **Issue:** On macOS the path set by default in the Service Launcher's Service location field uses the translocated path.

  Workaround: Manually set the path to the application's bin folder. e.g. */Applications/Toon Boom Harmony 20 Premium/Harmony Premium.app/Contents/tba/macosx/bin*

- **Issue:** Entering or exiting a group in the node view using the Enter key while navigating the node graph with the keyboard does not work anymore. It opens the Find and Insert Node menu instead.

  Workaround: Shift+Click the group or click the arrow on the right to go inside the group.

Toon Boom Harmony 20.0.1

Here is the list of changes in Harmony 20.0.1, build 16044 (2020-06-29):

Fixed Issues:

- Crash when launching Harmony on a macOS computer with a CPU that does not support Advanced Vector Extensions (AVX).

- Crash when using the Tab key in the **qsdb>** field of the Qt Script Debugger to get auto-complete suggestions.

Toon Boom Harmony 20.0.0

Here is the list of changes in Harmony 20.0.0, build 15996 (2020-06-11):

> ⚠ **IMPORTANT**
>
> Important enhancements have been done to the Harmony Server database. As such, in order for Harmony 20 clients to function properly, the database server must be updated to Harmony 20.
>
> Furthermore, the dictionary files (.dict) in the database must be updated with the ones included in the Harmony 20 packaging. To do this, copy the files from the following location:
>
> - Windows: C:\Program Files (x86)\Toon Boom Animation\Toon Boom Harmony 20 [Edition]\etc\USADB_ templates\dicts
> - macOS: /Applications/Toon Boom Harmony 20 [Edition]/Harmony [Edition].app/Contents/tba/etc/USADB_ templates/dicts
> - GNU/Linux: /usr/local/ToonBoomAnimation/harmony[Edition]_20/etc/USADB_templates/dicts
>
> And paste them in the following location in your database, replacing the existing files:
>
> /USA_DB/dicts
>
> Note that a database server running Harmony 20 is backward compatible with clients running older versions of Harmony.

New Features

Drawing Tools

Feature	Description	Editions
Centerline Editor Tool	Improvements have been added for editing brush lines with the	All

Feature	Description	Editions
improvements	Centerline Editor tool: • Points can now be deleted from the center line curve on brush strokes by selecting them and pressing the Delete key. • New Centerline Smoothness option to control the fitting of the center line is now available in the Tool Properties view.	
Convert Textured Pencil to Brush	It is now possible to convert textured pencil lines into textured brush strokes when using the Convert Pencil to Brush option in the Select tool properties.	Advanced & Premium
Options to curve Line tool	New options in the Line tool properties to curve the line on mouse up: • Curve Line Mode allows to draw a curved line by moving the mouse after drawing a straight line. Click or press Enter to commit the curved line. • S Curve Line Mode allows to draw a S-shaped curved line. Moving the mouse after creating a straight line will curve the line from both ends until the mouse is clicked. The tail end of the line will then curve until the mouse is clicked again or Enter is pressed.	All
Select tool improvements	• Preserve the position of the Select tool pivot when using Undo and Redo commands. • The Select tool pivot now follows the selection when scaling, rotating and skewing.	All
Auto Fill with Brush	New Auto Fill option in the Brush tool. When active, drawing a closed shape with the brush tool will automatically fill it with the colour assigned as the current paint colour.	All
Button for the Repaint Brush tool	A button for the Repaint Brush tool is now available in the Tools toolbar.	All
Alignment Guides with drawing tools	The Alignment Guides can now be used with the drawing tools.	All
Pencil Texture Eyedropper tool	A new Pencil Texture Eyedropper tool is now available. Clicking a pencil line drawn with a texture using this tool will select the texture in the Pencil Texture Palette list.	Advanced & Premium

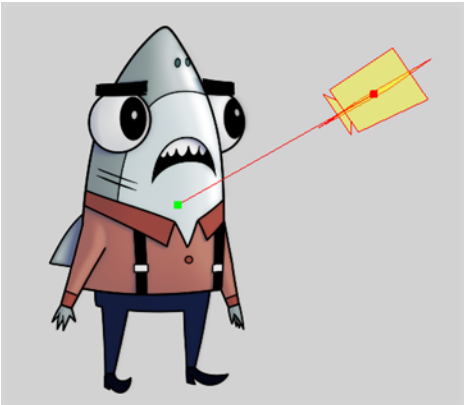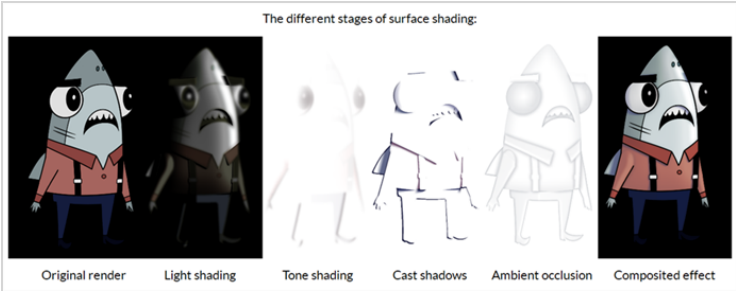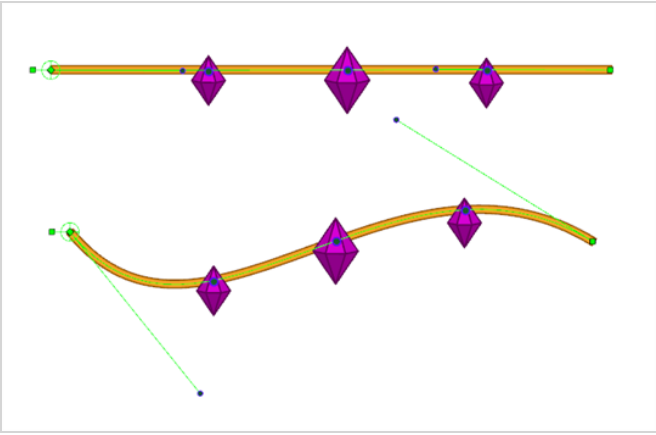| Feature	Description	Editions
Select Strokes with Current Pencil Texture	A new command has been added to select strokes that use the currently selected pencil texture. The command is called Select Strokes with Current Pencil Texture and is available in the Edit menu of the Camera and Drawing views.	Advanced & Premium
Line Building Mode improvements	The Pencil tool's Line Building mode does not trim lines anymore when drawing perpendicular lines away from the tips.	Advanced & Premium
Preserve selection when undoing or redoing	The Contour Editor, Perspective and Envelope tools now preserve the selection when using Undo and Redo commands.	All
Snap only to selected layers	A new option called Allow Snapping on all Drawings Layers is now available in the snapping options for drawing tools. When enabled, snapping will work as it did in previous versions and the selection will snap to all visible drawing layers when working in the Camera view. When disabled, snapping will only occur with drawings that are on the selected layers.	All
Independent quality for Perspective tool	The quality of the transformation when using the Perspective tool Lattice mode is not affected by the smooth value set in the Envelope tool anymore.	All
Independent smoothness for Smooth Editor tool	The smooth values for the Envelope tool and the Smooth Editor are now independent.	All
Adjust Eraser size with hotkey	You can now adjust the eraser size with the "O" keyboard shortcut while using the eraser end of the tablet pen.	All

Animation

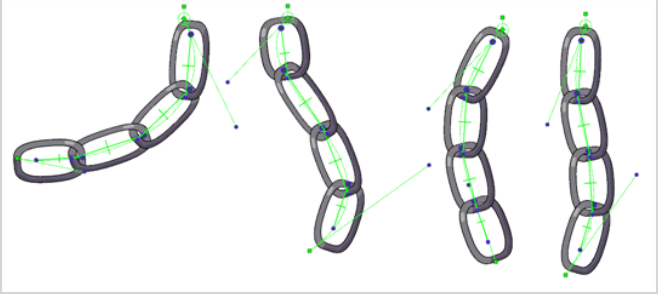| Feature	Description	Editions
Undoable selections	New preference called Undoable Selection. When this preference is enabled, selection changes such as selecting drawings with the transform tool or changing the selection in the Node view adds entries in the undo list. You will find this preference on the General tab of the preferences and is enabled by default.	All
Transform tool drags from anywhere	New Easy Drag option in the Transform tool properties. When enabled, the selected objects can be moved by clicking anywhere in	All

Feature	Description	Editions
	the transform tool selection box.	
Quick Ease In/Out for keyframes	New commands and buttons to quickly set ease in and ease out of keyframes selected in the Timeline. The commands are: • Quick Ease: Sets the ease on both sides of the selected keyframe to 33%. • Quick Ease In: Sets the ease on the left side of the selected keyframe to 33%. • Quick Ease Out: Sets the ease on the right side of the selected keyframe to 33%. • Set Ease on Selected Keyframes: Opens a dialog box where different values of ease can be set on either side of the selected keyframes.	All
Scene Markers improvements	• Scene markers can now be created without a duration. • The Mark Current Frame command creates markers without opening a dialog box. This allows creating markers during playback by setting a shortcut to this command. • Scene markers can be selected and moved by clicking on them with the mouse. • Double-clicking a scene maker opens the Marker editor. • The Create Scene Marker command does not require to select frames in the Timeline ruler anymore. A marker with no duration can be added without making a selection. A marker with duration can be added by making a selection in the frames section of the Timeline before using the command. In both cases, the Marker Creation dialog box opens to allow setting all the attributes of the maker as it is created. • New option to ripple scene markers when inserting or removing frames in a scene.	All
Drawing Substitution view improvements	• It is now possible to rename and delete drawings in the Drawing Substitution view when in Edit Mode. • A search filter has been added.	All
Node Caching improvement	When doing a lasso selection over multiple characters in Node Caching mode, only the currently off cache parts will be selectable. In previous versions any other character touched by the lasso would	Premium only

Feature	Description	Editions
	go off cache. You can Shift select multiple characters if you want to put more than one characters off cache.	

Effects and Compositing

Feature	Description	Editions
New Surface Shading effects	New Surface Shading nodes provide the ability to perform more advanced lighting effects on 2D objects or characters. The nodes are: • Ambient Occlusion • Cast Shadow • Shape Curve • Shape Line • Shape Render • Surface Map • Surface Render • Surface Normal The different stages of surface shading: Original render · Light shading · Tone shading · Cast shadows · Ambient occlusion · Composited effect	Premium only

Feature	Description	Editions
New Weighted Deformation effect	A new deformation effect, the Weighted Deform node, provides a way to deform with high quality blending, multiple deformation regions. It is especially good with textures. Different deformation sources can be used: Envelope, Pegs, Curves, Bones and Constraints. 	Premium only
New Point Kinematic Output effect	A new deformation effect, the Point Kinematic Output node, provides a way to attach a drawing anywhere on a deformer instead of just at the end of it like the existing Kinematic Output node does. Multiple sampling options are available: • One-Point Sampling: Tracks position only. • Two-Point Sampling: Tracks position and rotation. • Two-Point Sampling with Scaling: Tracks position, rotation and scaling. • Three-Point Sampling: Tracks position, rotation, scaling and skewing.	Premium only

Feature	Description	Editions
New Pre-Render caching	A new optimization node, the Pre-render Cache node, provides a way to lighten and speed-up the rendering of complex scenes. You can think of it as a simplified Composite node used to store a cache of rendered frames for selected nodes.	Premium only
New Colour-Fade effect	The new colour correction effect, Colour-Fade node, allows the colour values to fade over time from the input colours to new colours. It can: • Fade from the input palette to a clone of this palette. • Fade the colour values of a single pot to other values. • Fade according to different colour models, RGB, HSV or HSL. • Be set to render only a selection of colours pots.	Premium only
New Colour Curves effect	The new colour correction effect, Colour Curves node, provides a quick way to adjust colours and contrast of RGBA channels. • The node uses a graph editor to shape curves of these channels. • Allows to control each channel independently. • Allows to control the input and output range of values.	Premium only
New Colour Levels effect	The new colour correction effect, Colour Levels node, provides a quick way to adjust the colour balance and contrast of an image by allowing to manipulate the white point, black point and midpoint of the RGBA channels. It offers an easy way to adjust those parameters over time in the Timeline.	Premium only
New Gamma effect	The new colour correction effect, Gamma node, provides controls for the gamma value for each channel independently or globally.	Premium only

Feature	Description	Editions
Particles can extend past 12 field area	A new Vector Drawing option has been added to the Shape Type list in the Planar-Region particle node, allowing particles to extend past the 12 field chart area.	Premium only

Database / Control Center

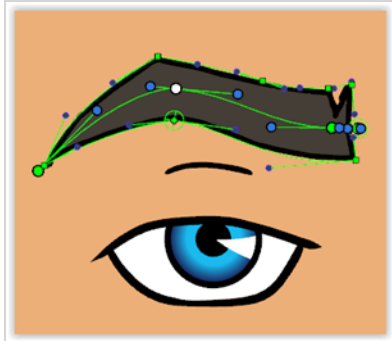| Feature	Description	Editions
Copy scenes improvements	Improvements have been added for copying scenes in Control Center: • You do not have to create an empty scene beforehand as before. • Copy multiple scenes at the same time • Options to add prefix and suffix or replace parts of the names of copied scenes.	Advanced & Premium
Save As command in when using a database	A new Save As command in the Harmony application allows you to save a scene to a new location without having to use the Control Center application.	Advanced & Premium
Execute scripts on multiple scenes	A new command in the Control Center called Run Script can be used to execute a script on a selection of scenes.	Advanced & Premium
Import multiple offline scenes	New command called Import Multiple Scenes in the Admin menu can be used to import multiple offline scenes.	Advanced & Premium
Create scenes in any location	You can now create a scene in any location. When using a Harmony database in previous versions, scenes could only be created in filesystems that were part of the database. You can now customize the path used as the scene folder or create multiple scenes in a commun parent folder.	Advanced & Premium
Release unused tables	The Harmony database server (tbdbserver) now monitors open tables and closes tables that have been left open by clients. This prevents issues where the database server becomes unresponsive after a long period of use.	Advanced & Premium
Better handling of dropped TCP connections	Better handling of dropped TCP connections caused by network infrastructure. When a TCP connection is dropped, the database	Advanced & Premium

Feature	Description	Editions
	server will now be able to recover the connection and its associated lock.	
Queue viewer optimization	The render queue refresh has been optimized to refresh faster. This requires copying the new `comp_log.dict` file to the dicts folder of the database when upgrading to Harmony 20.	Advanced & Premium

Workflow Improvements

Feature	Description	Editions
Snapshot buttons	New buttons in the Camera status bar to take and review a snapshot. You can use the Take Snapshot command to store a temporary copy of the content of the Camera view and later press the View Snapshot button to compare it to the new modified state.	Advanced & Premium
Find and Insert Node	The Node view now has a new menu to find and insert a node. You just have to press Enter to open the menu and type to search for the node to insert.	Premium only
Eyedropper in Colour Overrides	The Colour-Override node now has eyedroppers to select a colour or a pencil texture from the Camera or Drawing view.	All
Quick connections of nodes	In the Node view, connections can be created between nodes by selecting a node then clicking the target node while holding the ALT key. This will create a connection from the bottom of the first node to the top of the target node. Connections can be created from the top to the bottom of a target node by holding ALT+SHIFT before clicking the target node	Premium only
Cable Cutter mode	A new mode is now available in the Node view to cut cables by dragging the mouse over them. The Cable Cutter mode can be enabled using a button in the Node view toolbar or by setting an override in the Shortcuts.	Premium only
Displays in alphabetical order	Displays are now listed in alphabetical order in the display list.	Premium only
Type to filter lists	You can now type to filter different lists to make it faster to find something. Available in the:	All

Feature	Description	Editions
	• Font list that appears in the Text Tool properties • Destination Layer list in Lip-Sync Mapping • Synched drawing layer list • Buttons and scripts lists when customizing a toolbar • Displays list of the Display toolbars	
Shortcuts in tooltips	Shortcuts assigned to commands and tools are now displayed in the tooltips that appear when the mouse hovers on icons.	All

Master Controllers

Feature	Description	Editions
Deformer on deformer wizard	The new master controller creation wizard can be used to create a curved deformer over an envelope deformer. This wizard is available in the Master Controller toolbar and is called Create Deformer on Deformer. 	Premium only
Function Wizard	The new master controller creation wizard can be used to create a control that manipulates any attribute from the selected nodes. This wizard is available in the Master Controller toolbar and is called Function Wizard.	Premium only
Slider Wizard	The master controller Slider Wizard now remembers that settings used to create the previous master controller.	Premium only
Grid Wizard	The Master Controller Grid controls can now be moved by clicking and dragging the box that appears around the 2D widget control in the camera view.	Premium only

Scripting

Feature	Description	Editions
Support for Python	We now support the creation of Python objects in our JavaScript environment using a module named PythonManager. This module is used to manage the Python interpreter and to create a Python object. Using that newly created python object, it's possible to call some python functions. The documentation for the Python object as well as some other advanced scripting modules can be found using the Help > Extended Scripting Interface Documentation command.	All
Method to list the name of views	Added the new `view.viewList()` function which returns all of the current views in Harmony. It can alternatively be called with a parameter, a type of view, to only return the views of that type.	All

Rendering and Pipeline Integration

Feature	Description	Editions
Render QuickTime movies in 16-bit on macOS	Rendering to QuickTime on macOS now supports bit depth up to 16-bit.	All
Write node can process movie with scripts	The Write node can now be configured to run a script when rendering. This can be used to compress movies using external tools such as ffmpeg. To set a script in the Write node, select Scripted Movie in the movie drop list. See the WriteNode class in the scripting documentation for examples of scripts.	Premium only
Importing media through Media Foundation	Importing audio and movie files on Windows is now done through Microsoft Media Foundation. Only audio and video files that are in a format supported by Microsoft's Media Foundation can be imported in Harmony.	All
Colour space management	Harmony now supports colour management for imported images, internal processing, displaying in the camera view and for final output. • A scenes colour space can be defined in the **Scene > Scene Settings** dialog box. • The colour space used to read an image can be defined in the Element node properties at the bottom of the Drawing tab.	Advanced & Premium

Feature	Description	Editions
	• Exported movies and images can be tagged in the write node or from their export dialog box.	
Support for additional QuickTime codecs on macOS	The list of codecs available depends on the version of macOS that is used but the following are now available on Catalina: • Apple ProRes 422 HQ • Apple ProRes 422 LT • Apple ProRes 422 Proxy • H.265. Alpha channel support is available with Catalina.	All

Fixed Issues

The following issues have been fixed in this release:

Drawing and Drawing Tools

- In the Camera view, the application hangs while drawing if very small scaling values are set in the layer's parameters.

- In some situations when you have multiple layers selected the Cutter tool bounding box can be infinite.

- When using the Line, Rectangle or Ellipse tools with Snap to Contour or Snap and Align, the snap cursor circle is offset if you zoom in or out.

- The Smooth Editor tool uses the Brush tool size properties instead of its own.

- The TB_RecolorDrawings script does not work with color palettes if the palettes were created while importing an image with the color_vectorize option.

- The Create Breaking Triangles command on lines thinner than 4.5 doesn't work properly.

- The Lattice mode in the Perspective tool is using the smoothing value from the Envelope tool.

- The start of a straight line becomes curved when using Line Building mode.

- The Line Building mode trims lines when connecting far from existing tips.

- Centerline Editor tool generates too many points on its centerline.

Timeline

- Clicking the last frame of a scene in the Timeline ruler cuts the scene duration by 1 frame.

- Cannot drag multiple point keyframes from Free Form Deformation and Subnode Animation in the Timeline.

- Extending an exposure with the red arrow in the Xsheet view removes the exposure for the next drawing instead of just changing the section that you overlap.

Effects

- Particles emit outside the area of the image when the image is used as the source in the Planar-Region node.

- Particles appear behind the source image instead of over it when Planar-Region node is set to Shape Type: Image or Vector Drawing.

- When editing a Free Form Deformation trajectory, the preview of the trajectory is wrong when manipulating a point.

- On macOS we can't customize the Deformation toolbar after drawing/painting or other actions.

- The compositing order changes when drawing with semi transparent colour and there is a 3D model in the scene.

Nodes and Node View

- Alt key doesn't work when connecting or disconnecting some nodes in Node View.

- The Ignore Parents and Parent's Name options in Transformation Limit nodes are ignored if there is a Transformation Switch node between the deformation system and the Drawing node.

Master Controller

- Master Controller controls don't show the correct position when first displayed.

- The Slider Wizard window opens even if there is no node/layer selected.

- Rearranging and adding spaces between poses with the Unroll Wizard doesn't work if poses aren't sorted by destination frame.

- Different grid layer configurations can break the MC Stack Wizard.

Import PSD

- Cannot import PSD image as Toon Boom Bitmap or Toon Boom Vector Drawing using the Individual Layers option.

- Importing PSD layers as Individual Layers isn't working correctly when layers are using special characters like #, / or -.

I/O

- Harmony does not allow importing TIFF images with the .tiff extension.

- QuickTime import doesn't work in batch mode through scripting.

- No error is printed when running a script on the command line in batch mode fails.

- Crash exporting movie through JavaScript in scene with a ScriptModule node.

- The -renderThread option is not taken into account when doing command line render.

- Harmony offline sometimes does not open the 7z files created by WebCC.

- Cannot import offline scenes to the database with Control Center on command line where the number of element ID in the scene exceeds 9999. The error code given is also wrong.

WebCC

- WebCC doesn't work with new versions of Firefox, Microsoft Edge and Chrome.

- The timestamp on the temp folder created when exporting uses minutes as the smallest unit.

- Cannot export an empty scene from WebCC. This happens when creating a scene in WebCC and then trying to export it right away.

- When using the Update Database Scene command, a "ping successful" message wrongly appears when the server takes too long to respond.

Performance

- Performance is very slow when doing a lasso selection of multiple elements with the Transform tool and then moving those parts in the OpenGL view.

- Performance issue when rotating a specific peg made with function curves shared with other nodes.

Others

- Specifying a port when borrowing a license using the License Wizard does not work.

- On macOS, the "More Tools" in the Harmony application menu leads to the tba folder instead of Applications folder.

- On macOS 10.14 and 10.15, Harmony freezes when editing the element name from the layer properties and then immediately after pressing the Close button. HAR-5901

- Two users can make changes to the same drawings when opening a scene using local cache.

- Crash when importing a bitmap image into an existing layer that contains a 3D object.

- Batch render crashes when a scene contains Transformation Limit and Transformation Gate nodes.

- Can not download the OpenH264 codec with the Configuration Assistant on macOS 10.14 and 10.15.