



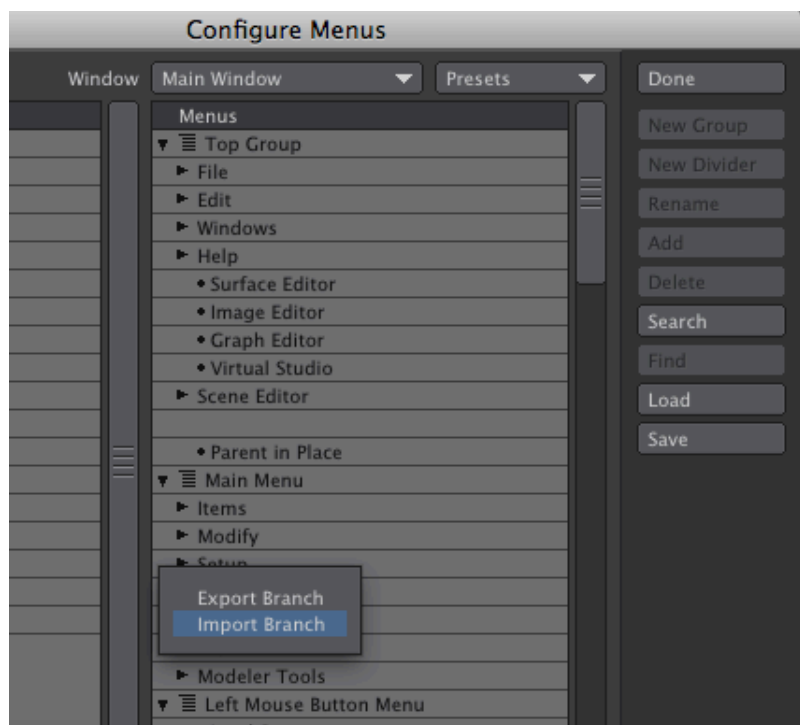
## Installation and Quickstart

AE Link is a compiled plugin for NewTek’s “Lightwave 3D Layout”, and has to be added using the Add Plugins command found in the Utilities tab. Click on it, then browse to the location where you have placed the file “aelink.p” (Windows) or “aelink.plugin” (MacOS).

**Windows only:** make sure to select the plugin in the “win32” folder if you use Lightwave 32bit, and the one located in the “win64” folder if you use Lightwave 64bit.

Lightwave’s Layout will confirm that 5 plugins have been added. You can now create buttons to quickly access them using the Edit Menu Layout... command from the File drop-down menu, moving the mouse on the right side of the panel, over the name of an existing tab, and right clicking to show a contextual menu.

Select “Import Branch”, and locate the “aelink\_menu.cfg” file. This will add the proper buttons to the tab you selected.



Before using AE Link you must enter your License Key and configure the app name (MacOS) or file path (Windows) for the After Effects application.



## Do the following

1. In Lightwave's Layout open the AE Link Config panel.
2. **Mac:** change the version number in the App Name text field to match your version of After Effects. By default it is set to "Adobe After Effects CS5" (without quotes). If you are running After Effects CS4, change it to "Adobe After Effects CS4" (without quotes), and likewise for other versions.
3. **Windows:** select the file browser button and locate the After Effects executable. This will usually fill the text field with a location path such as "C:\Program Files\Adobe\Adobe After Effects CS5\Support Files\AfterFX.exe". Important: you must locate the AfterFX.exe executable, usually inside the "Support files" folder. Don't use the shortcut found in the main folder.
4. Copy and Paste your License Key into the License Key field and close the Config Panel.
5. This configuration step has to be done only once, and will be saved in Lightwave's default settings folder. AE Link's configuration file is named "aelink.cfg". This folder **must** be writeable.

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## System requirements & compatibility

Depending on the platform used, AE Link has different system requirements:

- PC: Lightwave Layout 9.6 or higher, Windows Vista or 7, either 32 or 64 bit
- MAC: Lightwave Layout 9.6.1 or higher, Mac OSX Snow Leopard, either 32 or 64 bit
- AE Link can sync with Adobe After Effects CS3 or higher

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## How to use AE Link (it's real easy!)

**SYNC SCENE** will likely be the first command you issue. It will synchronize After Effects with Lightwave's Layout contents, creating a composition with the same name as the Lightwave scene and loading, if possible, the rendered footage and the background image sequence.

Depending on the Export Scope setting in AE Link's config, a different set of items will be synchronized. This is explained below, in the AE Link's config section.

**SYNC SELECTED** acts like **SYNC SCENE** but will synchronize only the currently selected items.

**AE Link always exports the frame range set in Render Globals.**

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## AE Link's config panel

The **Export Scope** controls what is going to be exported during a Sync Scene. This setting can be either "Essential" or "Complete".

"Essential" is the default value and will sync the current Render Camera, as well all the Null objects in the scene. An object loaded from disk with no geometry will be considered a Null.

In the "Complete" scope, everything in the scene will be exported, including all cameras, all objects, all lights. Bones are never exported. Even in "Complete" scope, object's vertices will not be exported, this is only possible with a Sync Selected command, as explained in the Custom Objects section.

If "**Include rendered sequences**" is set to "Search", AE Link will try to locate the rendered sequence and import it as footage into After Effects. Lightwave does not currently provide all the necessary informations for this to be done, so AE Link will apply some heuristic search methods and will generally load the proper files.

Sometimes this method can't work. For example, if rendering the same scene in different file formats and leaving both versions on disk.

Setting to "Ignore" will disable this attempt to locate and import the footage, and is the best setting to use if the rendered footage is either a movie file (QuickTime, Avis...) or rendered as separate passes.

Rendered sequences and background images are offset in time according to the frame range set in Lightwave's Render Globals. For background image sequences, Lightwave's Compositing tab is assumed to be always set to "Sync to frame 1". The background layer in After Effects will be scaled up or down to fill the frame, without respecting the frame aspect ratio, just like Lightwave does.

If a background color has been specified, the comp's background in After Effects will match that color, in pure RGB, without any color space conversion.

The "**Export Method**" activates or deactivates the automatic syncing of After Effects. When it's activated, Lightwave will attempt to tell After Effects the location of the exported .jsx file, making the export process seamless.

How this is done differs under Windows and MacOS but these differences are shielded from the user. The suggested setting is to keep it active, as it makes syncing a dynamic operation and brings the most significant workflow benefits in AE Link.

Disabling it, will require to manually load the .jsx export file with After Effect's Run Script command. The .jsx files are saved inside Lightwave's scene folder.

"**Keyframe Properties**" set to "Always" allows to soft bake every property, even those that are not animated. The default of "Animated" will only create keyframes for animated properties, is faster and produces less clutter in After Effects. This setting should not be changed from the default.

"**Motion Blur**" will activate Motion Blur both for exported layers and for the comp. It defaults to "Disabled" but is likely to be enabled by most artists.

The "**AE Pixels per LW meter**" option is a global scale factor for the scene. The default of 100, means that 1 meter in Lightwave will be represented as 100 pixels in After Effects.

For real world scale scenes this is a reasonable default, but may be changed to accommodate very large or very small scene. Very high scale factors may have an adverse effect on After Effects' numerical precision.

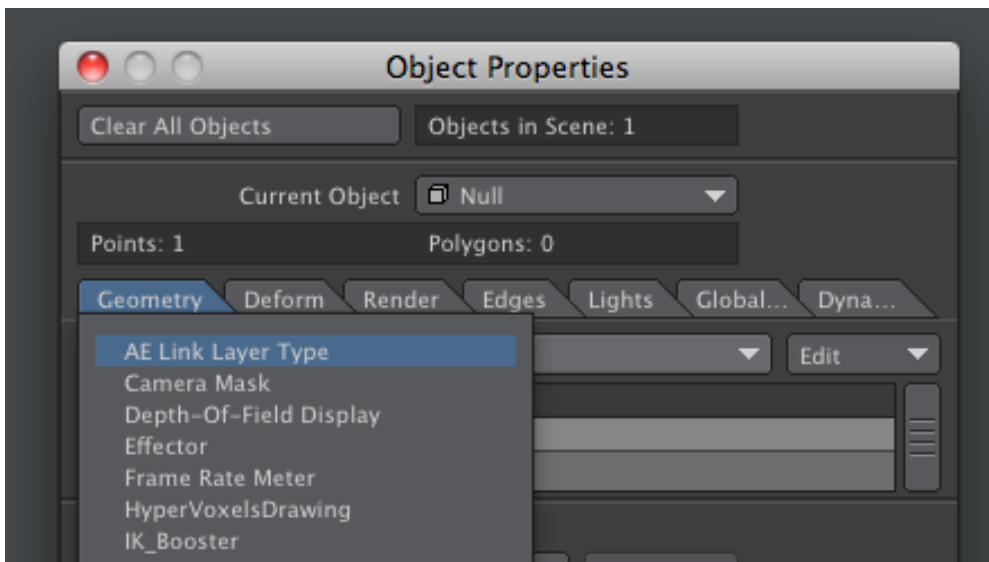
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## AE Link's Custom Objects

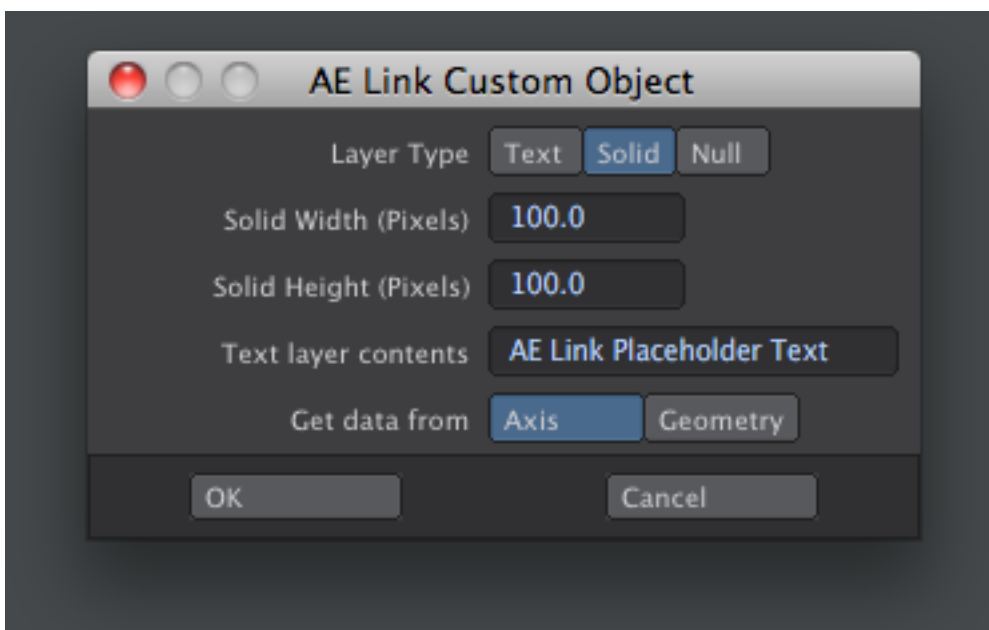
AE Link's Custom Objects allows to control how each object will appear in After Effects after the first sync.

AE Link operates just fine without them, and will export objects as Nulls. Cameras and Lights will always be exported as cameras and lights.

To use custom objects, add them to the object you want to change (Object properties > Geometry > AE Link Layer Type).



Only one AE Link's Custom Object can be applied to a single object and its settings will be saved to the Lightwave scene. Double clicking the Custom Object opens the AE Link Custom Object panel:



“Layer Type” allows to set how After Effects will use this object. It defaults to “Solid” and will create a solid using the “Solid Width” and “Solid Height” values specified in this panel.

A non-renderable outline of the solid will be visible in Lightwave’s Layout, and the solid will be scaled and adjusted by AE Link to ensure a perfect match.

Setting “Layer Type” to “Text” will instead generate a Text Layer. The layer name will be the same as the object’s name, while actual text displayed in After Effects can be preset altering the “Text layer contents” field. There is a 1024 characters limit on this field. The text will also be shown in Lightwave (but not in 3D).

Setting “Layer Type” to “Null” will export the object as a Null and is only useful when used along with the “Get data from” option. If set to “Axis”, AE Link will export a single layer, whose position, scaling and orientation match those in Lightwave.

When set to “Geometry”, an After Effects layer will be exported for each vertex in the selected object. Only the (animated) position of the vertices will be exported, as there is currently no way to represent orientation or scaling for vertices. A numeric extension will be added to the object’s name for each layer.

This export is limited to the actual non-deformed geometry, as animated by keyframes, path alignment and graph editor’s modifiers. MDD files, displacements, bones, or anything else that alters the geometry over time can not be seen by the exporter.

Additionally, layers will be exported from geometry only when issuing a “SYNC SELECTED” command, not a “SYNC SCENE”.

Once a scene has been synchronized any change to the Custom Object’s properties will not be exported.

A text layer will remain a text layer in After Effects even if you change it to a Null or Solid in Lightwave. This is the intended behaviour of the sync tool that updates After Effects rather than creating a new comp every time.

To alter the layer type delete the layer in After Effects. It will not be found when the next Sync command is issued, and it will be added with the new properties.

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## About “Soft Baking” and IK / Motion Modifiers

In order to obtain a perfect match, animated items in After Effects require a keyframe for each frame — a process called baking.

Baking is a cumbersome and potentially destructive operation, that's why AE Link applies its own custom “soft baking”.

It evaluates Lightwave's items and exports the proper baked data without altering the Lightwave scene. This approach makes the sync process very fast and allows to export most animations.

Soft baking can not work on items driven by IK or motion modifiers applied after IK in the Motion Options panel. These items should be duplicated and have their motions baked with Lightwave's own motion baker.

This limitation may be lifted in a future version of AE Link, but this would introduce a significant performance hit. The vast majority of animations will export correctly with the current soft baking system.

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## Sample Scenes

[match-accuracy.lws & match-accuracy-non-square-pixels.lws](#)

These scenes demonstrates pixel perfect matching both in square and non-square pixel aspect ratios (make sure to read below if you use non square pixel aspect ratios). The image sequences have to be rendered out before syncing. Remember to use image sequences, not Quicktime or Avi movies as movie files are not supported.

[test-custom-obj.lws](#)

This scene demonstrates the Text and Solid Custom Objects.

[export-mesh-vertices.lws](#)

This scene demonstrates the non-deforming mesh export function. To make this work, you will have to do 2 exports. Load the scene, then do a Sync Scene. Only the camera will be exported (assuming we are in the Essential Scope). Then, select the Custom Object -an animated disk set to be exported as text layers- and do a Sync Selected. Twelve animated text layers, resembling the good old carousel effect, will be created in After Effects.

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## Working with non-square Pixels

Pixel aspect ratio in After Effects CS4 and higher does not match Lightwave's aspect ratio. To obtain a pixel perfect match on non-square pixels comps, Lightwave's pixel aspect ratio must be changed to the one suggested by After Effects.

For example, Lightwave's D1 NTSC aspect ratio is 0.9, while After Effect's one is 0.91. Lightwave's aspect ratio should then be changed to 0.91. Doing this, AE Link will correctly compute the necessary adjustments.

AE Link always exports solids with square pixels, as this is the correct setting for the matching, even if the composition has non square pixel aspect ratio.

If you add a solid in After Effects, make sure its pixel aspect ratio is set to 1 (square pixels). By default After Effects would use the same pixel aspect ratio used for the composition, making the match impossible.

If adapting to After Effect's new aspect ratios is not an option, you can find some tips at the following web page: <http://aeportal.blogspot.com/2009/03/customizing-pixel-aspect-ratios-in-ae.html>. No tech support can be provided regarding these alternative options. The only officially supported approach to non square pixels is the one outlined above.

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## Matching Lightwave's Focal Length

**FOR GEEKS ONLY! results will be exact even without this step**

AE Link will always match properly the field of view, and create pixel perfect matches. After Effect's camera panel, however, will display the wrong focal length values as this depends on both focal length and film size (think about how on DSLRs the sensor size produces different effective focal lengths for the same lens).

There is no way in After Effects to auto adjust this, but it can be done by hand if you need (or want) focal length values to be the same in both apps.

Open Lightwave's Camera Panel, and copy the "Frame" value.

In After Effects open the Camera Settings, set "Units" to Inches, set "Measure Film Size" to "Vertical", then paste Lightwave's "Frame" value in the "Film Size" field.

After this change "Units" back to Millimeters.

Now the Focal Length values will be the same. Again: **this is not necessary, the visual match will be correct even if you don't do this.**

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## **Tech Support, Feature Requests and Bug Reports**

Limited tech support is available online, using the Helpdesk system in your vfxwizard.com Dashboard. Phone or email support is not available.

If reporting what you believe to be a bug, please include your full system specification, Lightwave & After Effects versions, as well as any error message that may have been displayed. Try to be as specific as possible.

Feature requests and suggestions are welcome in the comments section of AE Link's official page at:

<http://www.vfxwizard.com/software/lightwave-to-after-effects-exporter.html>

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