

Version: 2.4

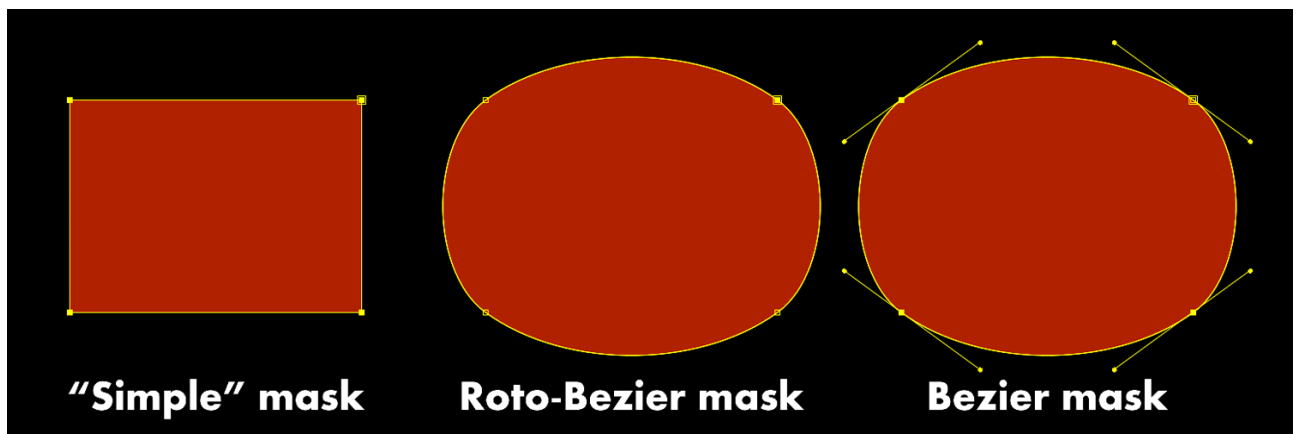
Plugin and User's guide last update: 03-2016

Compatibility: After Effects CS5.5, CS6, CC 2014, CC 2015

Finally, the ability to control mask vertices (and tangents) individually !

Mask Avenger is a native effect plugin.

You can use it with any maskPath : « simple » Masks, Bézier Masks (with Tangents) Roto-Bézier Masks.



For each kind of Mask, you can use open or closed maskShapes.

If you use « simple » Masks or Roto-Bézier Masks, select **Vertices only** in the **Path mode** panel.

If you use Tangents, select **Vertices & Tangents**.

To control Masks through the **Mask Avenger**, apply the effect to your layer.

You'll find it in the Effects panel : **Effects / BAO / Mask_Avenger**

You can now select a Mask in the **Mask Path** panel.

One layer can have multiple **Mask Avenger** effects applied.

What's new in V 2.0 ?

The plugin was completely re-written, but projects made with previous version are compatible.

New features :

_Ram preview conservation. The biggest issue with previous version was Ram preview being invalidated by the plugin. Mask Avenger 2.0 new baking system avoids this.

_3D mask. Mask Avenger now controls mask in 3D, without the use of null layers and expressions. Masks are then computed faster, and expression writing is simplified.

_Background baking. When the mask needs to be modified, Mask Avenger will transform it instantly at current time, and bake the rest of the work area in the background. This means you can continue working while Mask Avenger is busy baking. This replaces the « Dynamic » and « bake » modes.

_Better shape layers compatibility. Bugs related to « dynamic » mode disappeared with the new baking system.

_Work area and layer's duration don't affect Mask Avenger's computation speed anymore. Of course, baking 100,000 keyframes takes longer than 10, but the new baking system allows you to continue working while it is baking.

_No more need for Mask Renderer. Mask Avenger now uses AE's own masking function, and runs faster.

_Mask preview. Mask avenger 2.0 have a preview system to dynamically show you the changes before they are applied to the mask. This avoids delay when mask is modified by expressions, other layers or camera.

How to use Mask Avenger :

When you select a Mask in the **Mask Path** panel, Point parameters appear.

(one for each vertex + one for each In tangent and Out tangent if **Vertices & Tangents** is selected)

Point parameters automatically inherit of the values of each Vertex / Tangent.

If the mask was animated, keyframes will be created for each Point parameter, also reproducing the easing.

Keyframes on MaskShape are deleted.

Point parameters can be keyframed, have expressions applied and keyframes can be eased individually.

If you want to set expressions for all Points (by type : Vertex, In Tangent & Out Tangent),

use the **Scripts & expressions** included functions (See **Scripts & expressions** chapter).

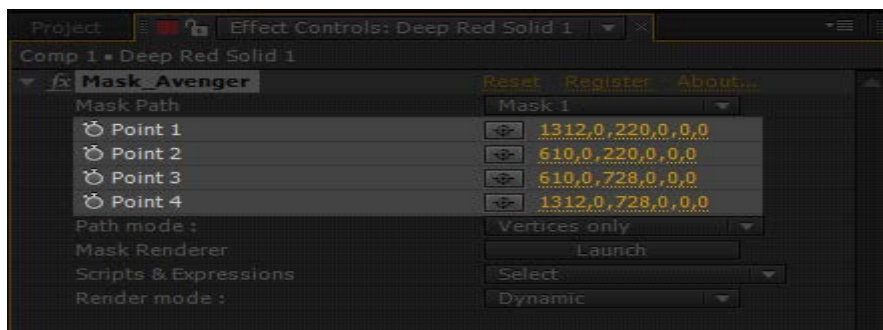
Parameters description :

1. Mask Path.

This panel lets you choose which Mask you want to control. To do so, just select the Mask in the panel.



2. Points.



Point parameters are 3D points.

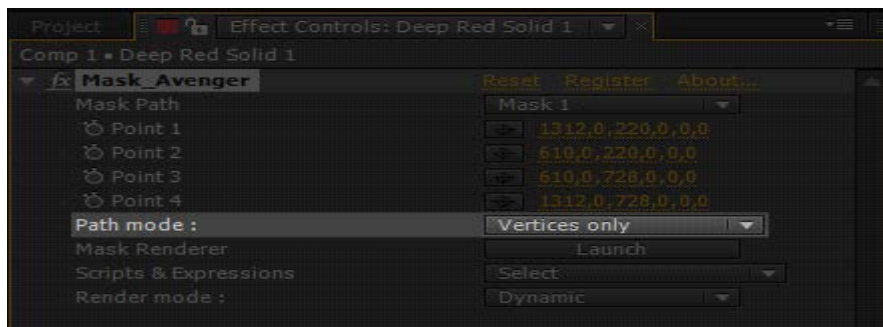
3 Path mode.

You have the choice between **Vertices only** and **Vertices & Tangents**.

Use **Vertices only** with « simple » masks, or Roto-Bézier Masks.

Use **Vertices & Tangents** with Bézier Masks using Tangents.

Even if you can switch between modes after you add keyframes, it is not recommended, as keyframes are not erased when you switch from **Vertices & Tangents** to **Vertices only**.

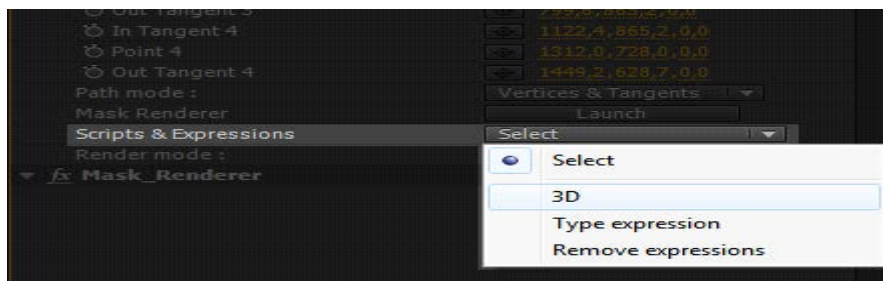


4 Mask Renderer.

Obsolete in Mask Avenger 2.0.

5 Scripts & Expressions.

This parameter is a popup menu.



First function : 3D.

When you select « 3D », a Camera and a 3D Null are created.

3D Null will get the following name : Null_3D_ + (layer name) + _ + (selected mask name)

It is parented to the main layer.

If a Camera already exists, no camera will be added.

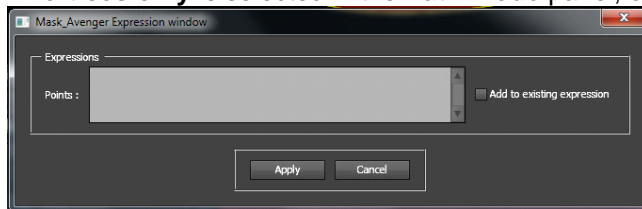
If a 3D Null exists with the same name, no 3D Null will be added.

Each Point parameter will get an expression to link the point to the Null in space.

Second function : Type expression.

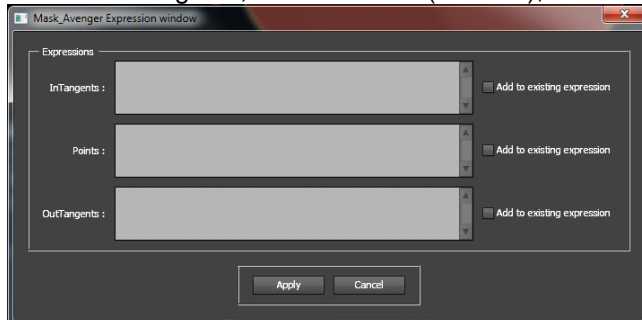
When you select this function in the popup menu, a text edit window appears.

If **Vertices only** is selected in the **Path mode** panel, only one text edit panel will appear in the window.



If **Vertices & Tangents** is selected, three text edit panels will appear in the window.

One for In Tangents, one for Points (vertices), one for Out Tangents. They are independent.

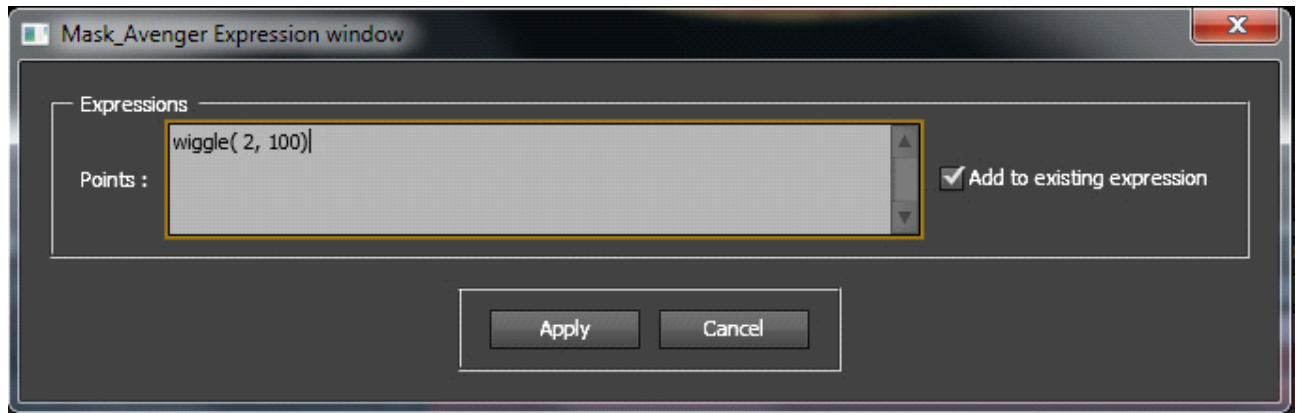


When you hit the « Apply » button, the expression typed will be set to the Point parameter (according to type)

If you let the text edit panel empty, no expression will be added.

On the right side of each panel, you'll find a checkbox : « add to existing expression ».

If you check this box, what you type will be added to current expression.



Third function : Remove expressions.

Removes expressions for all Point parameters.

Forth function : Create Null controllers.

Starting from v1.8, you can generate Null controllers for all Point (and Tangent) parameters.

Everything is automatic. If Mask Avenger uses 3D mask, Nulls will be 3D layers.

If you use Tangents, Nulls will be created for them.

Tangent Nulls are parented to the corresponding Point Null.

Point Nulls are parented to the main Layer.

If parameters were animated, the animation is reported on Nulls (including easing).

Parameters are linked to the Nulls through expressions.

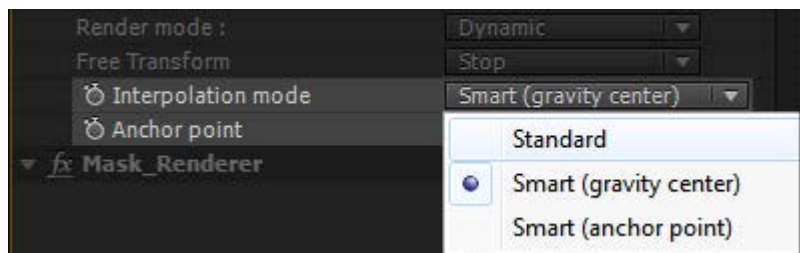
Note that the Nulls are by default set as Shy layers, so you can hide them easily.

6 Render mode :

Obsolete for Mask Avenger 2.0.

7 Interpolation mode :

You can choose between 3 different interpolation modes.
As this parameter is keyframable, you can switch from one mode to another during interpolation.



1_Standard :

Reproduces After Effects' linear interpolation. The difference is you can make points follow a Bézier path, like any point parameter in After Effects.

2_Smart (gravity center) :

The **gravity center** of your mask is automatically computed from vertices.

Gravity center ignores Tangents for computation, but the interpolation is applied to vertices and tangents.

This function works in both **Dynamic** and **Bake** modes.

3_Smart (anchor point) :

The **gravity center** of your mask is your **Anchor Point** parameter.

The interpolation is applied to vertices and tangents.

This function works in both **Dynamic** and **Bake** modes.

You can easily pickwip a **Point parameter** from **Anchor Point**'s expression tab and make it your gravity center. You can also animate it « by hand » as any other point.

Note that **Smart Interpolation** modes can give unexpected results with expressions, as Points' behaviour is

affected by both interpolation mode **and** expressions.

8 Free Transform :

While not strictly a parameter, the **Free Transform Points** tool is compatible with **Mask Avenger**.

When used, it will automatically keyframe the **Point parameters**, according to mask's transformation.

A popup parameter follows this behavior, in order to communicate with After Effects.

It will show **Stop** when not used, and **Running...** when **Free Transform Points** is active.

You don't have to choose manually with **Free Transform Points** (it's behaviour is controlled by **Mask_AEGP**).

But you can use it to keyframe all your Point parameters at a time (set it's value to **Running...**).

Note that even if you don't select all your vertices and/or tangents with the **Free Transform Points** tool, all the Point parameters will be keyframed.

Free Transform Points tool is available through Menu, shortcut and by double clicking the maskPath.

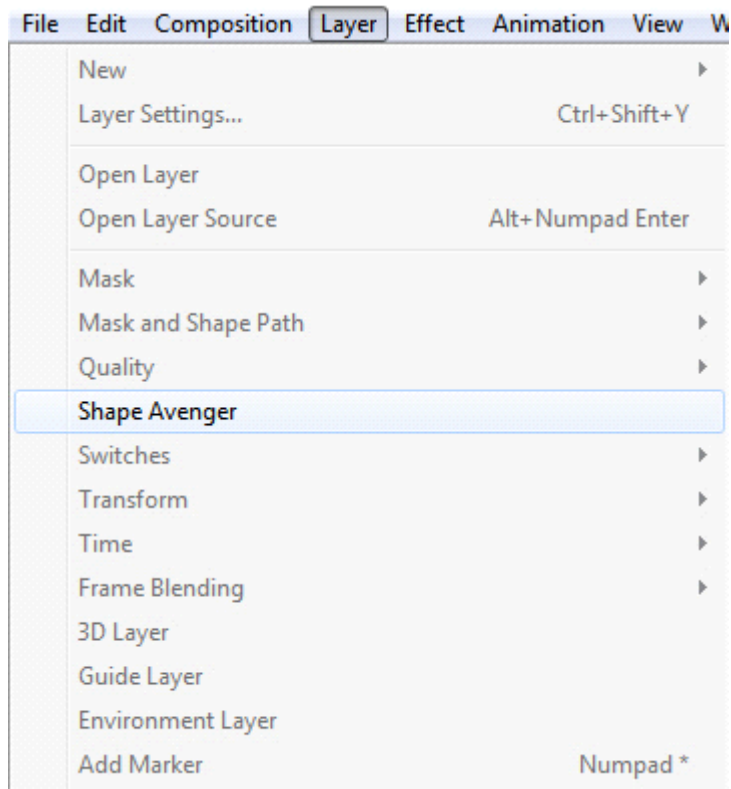
To deselect it, just click in the composition timeline, out of Mask Avenger's user's interface, or outside of the layer in the composition viewer, or deselect (Ctrl + Shift + A or Cmd + Shift + A), or even set the Free transform parameter to « Stop » manually.

Mask Avenger Modules

1_Shape Avenger

Shape Avenger is an **AEGP** (After Effects General Plug-in) that allows user to apply **Mask Avenger** on **Shape Layers**.

To run it, select your **Shape Layer**, and go to Layer / Shape Avenger in After Effects menu.



A mask and an instance of **Mask Avenger** will automatically be created on the layer, and each shape linked

to a mask.

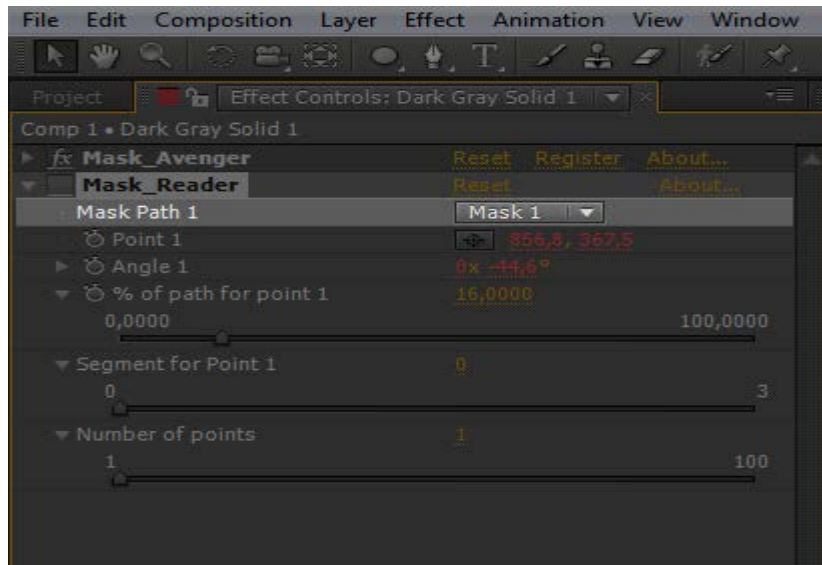
2_Mask Reader

Mask Reader is a native plugin, that retrieves mask data through **Mask Avenger**.

Each instance of **Mask Reader** can retrieve up to 100 points per mask.

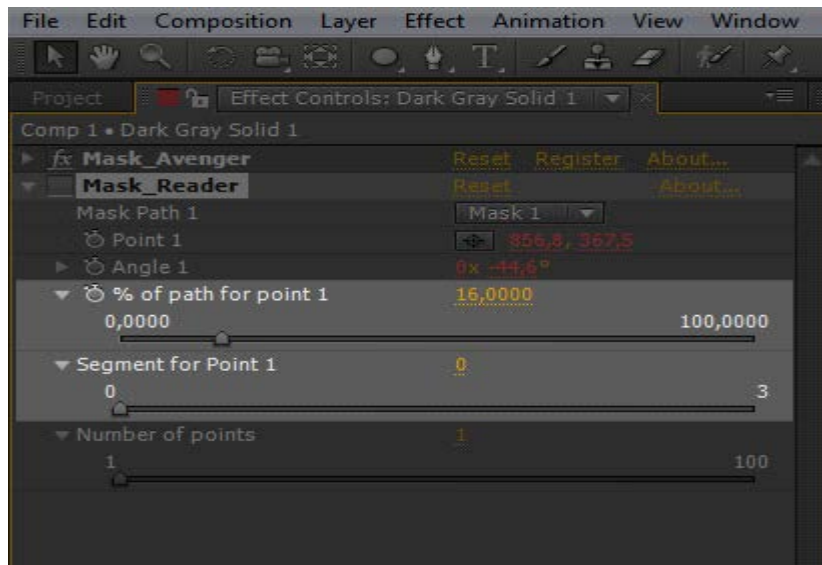
You will find **Mask Reader** in Effects/ BAO/ Mask Reader menu.

Mask Reader must be applied after an instance of **Mask Avenger**.



Select your mask in the **Mask Path** parameter.

Select a point on the maskPath via 2 parameters : **% of path** and **Segment**.

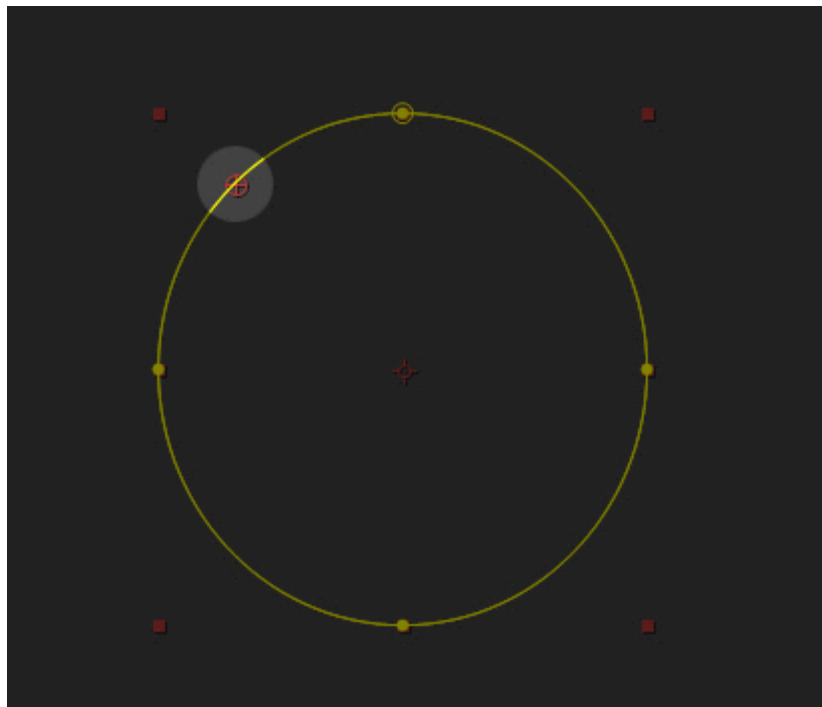
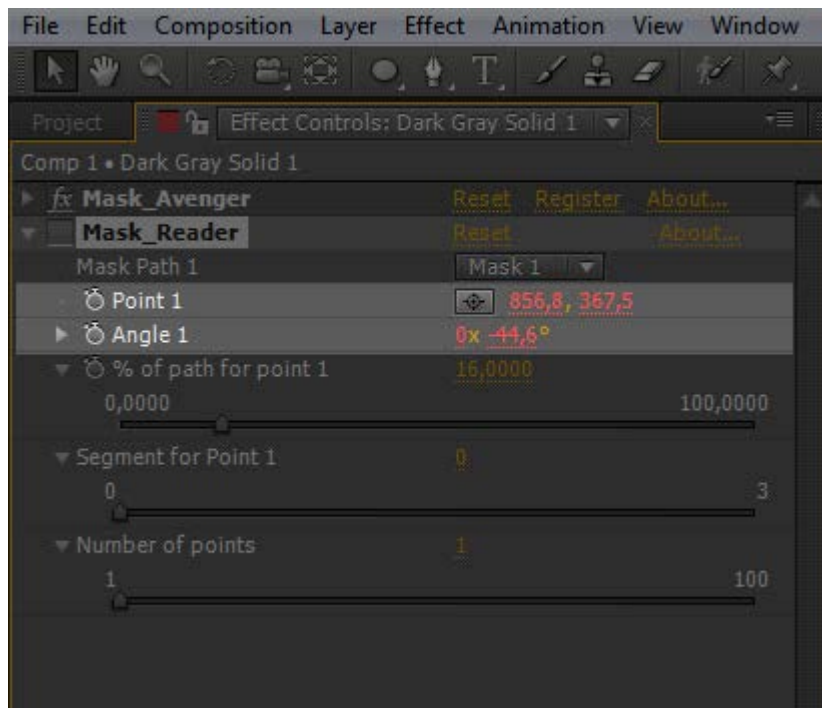


% of path determines the position of the point on the selected segment (or the whole path if Segment = 0).

Segment determines wich segment of the maskPath. 0 means the whole path, 1 the first segment, 2 the second segment...

For each point, you will get a **Point parameter**, giving the coordinates of the point, and an **Angle parameter**,

giving the angle of the maskPath at this point (derivative).



Special behaviors and known issues :

When using very long compositions, baking can still be running when you want to quit. If you receive any warning from AE, just press 'Esc' and baking will stop. You can then quit without any problem.

If you don't want your mask to be updated, disabling the effect won't change anything. Set « State » parameter to « Freeze » instead.

Mask Feather Tool : starting from CS6, masks can be feathered with the Mask Feather Tool.

Mask Avenger lets you use it, but you won't be able to keyframe it.

Free Transform :

You may have to **double click**, select the tool in the **menu** or use **shortcut** twice to launch the

Free Transform Points tool. This behaviour varies on maskShape complexity and platforms.

If your « Free transform » parameter still shows « running... » after you've been transforming your mask, you may have to switch back to « stop » manually before changes are applied.

Mask Reader :

Mask Reader only reads 2D masks. If you want to use it with 3D, you should use the 3D script function (included, see above) rather than 3D mask.

How to install :

Just copy the Effects (**Mask_Avenger**, **Mask_Renderer**, **Mask_Reader**, **Mask_AEGP**) or the whole

BAO folder in your "Plug-ins" folder.

on Windows: After Effects (your version number)/Support Files/Plug-ins/

on Mac: After Effects (your version number)/Plug-ins/

To register your plugin, click the **Register** button and follow the instructions.



Limitations :

Unlicensed products will only keyframe one second.

Mask Avenger was built to handle Masks up to 100 vertices (and as many In Tangents and Out Tangents)

per instance.