



Precomps – Layers within layers...

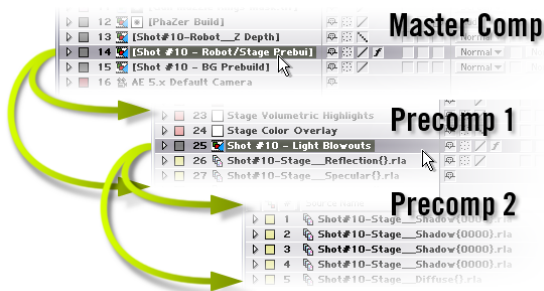
After Effects' Killer-Killer Feature

Every successful program must have a compelling “Killer Feature” to drive its popularity. Precomping is After Effects' “Killer-Killer Feature” – the ability to use any composition in any other composition's Timeline. What really sets After Effects above the fray is the different operations of Precompositions:

-  **Standard Nesting** – the Precomp layer in the parent composition performs identically to a finished pre-rendered movie clip from the source composition
-  **Collapsed Transformations** – the Precomp performs like its layers are acting as a group of layers still residing within the parent composition. All Blending Modes, 3D layers, and many effects cascade into the parent composition affecting all layers beneath the Precomp's layer

It's the second feature, Collapsed Transformations, that makes After Effects shine and will cause the designer much elation and hardship; elation because the resulting visuals are pronounced in their boundless affect to a project's development – hardship because the increase of creative development options are... well, boundless.







The easiest way to imagine a Precomp is to think of them as a layer of layers. The image at right shows a Master Comp with Precomp 1 as layer #14, then Precomp 1 has Precomp 2 as its layer #25.



We'll expand on this Precomp section by also discussing Looping etiquette – the correct methods for creating seamless and imperceptible loop transitions.

Opportunities Abound

The Precomp has so many applications that its difficult to narrow down just a few examples, but it does help to explain some of the more common uses and which method listed above would most likely be applied:

-  ➤ Creating a master movie clip composition with complex effects applied that is used in multiple locations throughout a composition and across multiple compositions
-  ➤ Creating a graphic element utilizing various filters that will be keyed over many different backgrounds, lower-thirds, bumps, IDs, etc...
-  ➤ Uniting a vast assortment of associated layers within a massive composition into a more convenient single layer
-  ➤ Preparing a combined effects resource layer to be used by another layer that requires multiple layer's elements to be use at the same time
-  ➤ Combining various alpha channels and masks from different sources to act as one master alpha channel for multiple layers and/or in multiple comps
-  ➤ Preparing a 3D object layer (i.e - a flipping slab or box) that will be used in another comp for transitions or as an insert box

There are vast options available to the designer how to use Precomps. Once you start to use them, you'll wonder how you ever worked without them.

WONK | TV Returns

We now return to WONK|TV's Logo Package design already in progress. Open "*WONK Logo Build 02.aep*" to resume its development and to learn about the power of Precomps.

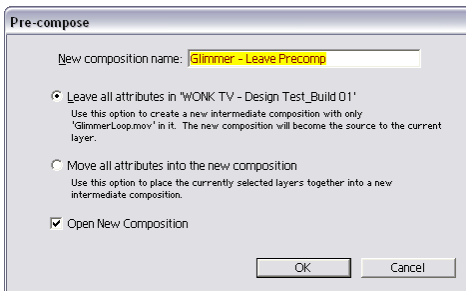
When we last worked on the logo build we added a glimmer effect behind the TV glass. What we'll need to finish this off is two Precomp layers with half of the competed logo each. But first we have to complete the whole logo with all its glimmers and highlights.

Standard Nesting

For the glimmers and highlights needed we'll have to extend the layer #5 (*GlimmerLoop.mov*) into a seamless looping Precomp. As it stands, the *Glimmer* file is already loopable – but its duration of 2:12 is not very conducive for looping in this project.

To make the *Glimmer* layer more loop friendly to our master comp, we'll make a Precomp that alters the loop duration.

- 1) Select layer #5
- 2) Make a duplicate (Ctrl+D) of layer #5
- 3) Press "Ctrl+Shift+C" to open the Pre-compose Window



Immediately you are posed with two Precomp creation methods:

- **Leave all attributes...**
- **Move all attributes...**

The first method, **Leave all attributes...**, creates a Precomp with its Composition Settings based upon the source file's image size and containing only the source file,

while leaving behind in the master composition all effects, masks, and alterations originally applied to the Precomp's layer. It's best to think of this as creating another composition directly from the source file then the new composition replaces the source file's layer in the master composition.

The second method, **Move all attributes...**, creates a duplicate composition using the current master comp's settings, then moves the source layer into the new comp – compete with ALL applied effects, masks, and alterations intact. This method would be the same as: duplicating the master comp in the Project Window, opening that duplicate, deleting all the other layers you didn't want to Precomp, then replacing the layer in the master composition you wanted to Precomp with this modified duplicate.

- 4) Choose “**Leave all attributes...**” and make certain that the “Open New Composition” box is checked
- 5) Change the name to: *Glimmer – Leave Precomp*
- 6) Press “OK”

A new Comp Window pane opens tabbed within the existing Timeline and Comp



Windows, and a new composition object is added to the Project Window. Since the *Glimmer – Leave Precomp* was created based upon the source layer’s settings, the Precomp is smaller than the *WONK TV – Design Test_Build 01* master comp; however, the new Precomp’s time rate is taken from the master comp settings. In addition, the duration of the Precomp is the same as the source layer.

Compare this Precomp to the other method by making another Precomp, this time out of the original *WONK TV – Design Test_Build 01* master comp’s *Glimmer* layer.

- 7) Return to the *WONK TV – Design Test_Build 01* master comp by clicking on the tab name within either the Comp or the Timeline Windows
- 8) Select the original *Glimmer* layer (now #6)
- 9) Create another Precomp (Ctrl+Shift+C)
- 10) Change the name to: *Glimmer – Move Precomp*
- 11) Select the **Move all attributes...** option (“Open New ...” should already be checked – if not, check it)
- 12) Press “OK”

Another tabbed window opens in the Comp Window, but this looks very different from the first Precomp example. Here the second method, **Move all attributes...**, has made a duplicate sized composition from the master comp, including all the same Composition Settings as well. The source layer appears with all its masking, effects and settings intact and all the transforms (and keyframes, if it had any) maintained.

Of the two Precomp methods, the **Leave all attributes...** technique is the most appropriate for what we need to do: make a looping build of the original footage source that any comp can use.

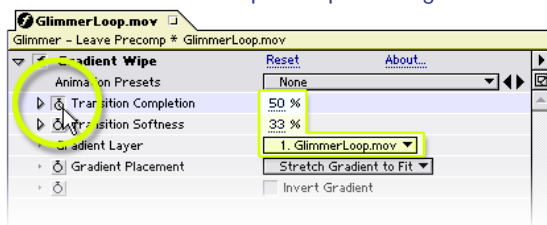
Return to the *Glimmer – Leave Precomp* by clicking on its Timeline name tab. To make this clip loop at a more useable duration we have to make some adjustments to the layer and the Precomp's settings.

Looping Etiquette – Part 1

A well-designed and prepared movie clip loop must be both seamless and run in durations that are beneficial to the production user. The best looped clips disguise their loop-points making the match point indistinguishable from any other point in the clip.

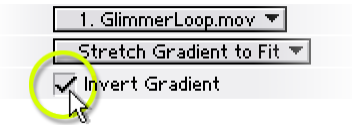
When the WONK | TV Logo ID is completed the logo should be steady on-screen for 4 seconds then loop back on itself so the proverbial client can extend the end hold for as long as they desire. Therefore the Glimmer clip must loop in some multiple of 4 seconds that's easy to devise. The original clip's duration is 2:12 and is a good loop in itself, but this finished Precomp must be able to span the full master comp's timeline and be a standalone loopable clip at the last 4 seconds of the master comp. We'll choose to make the clip loop at 2 seconds.

- 1) Go to 2:00, split (Ctrl+Shift+D) layer #1, then press "Home"
- 2) Press " [" to Snap the new layer #1 back to 0:00
- 3) Solo layer #1 then right-click on layer #1, select >Effect>Transition>Gradient Wipe
- 4) In the Effects Control window click on the "Gradient Layer" button and select "1. GlimmerLoop.mov "
- 5) Click-&-drag the cursor over the Transition Completion percentage value setting it to approximately 50%
- 6) Switch On the Transition Completion stopwatch in the Effects Controls window
- 7) Click-&-drag the cursor over the Transition Softness percentage value setting it to approximately 33% - observe its effect
- 8) Deselect the Solo button on layer #1



The Gradient Transition is an excellent filter for creating loop match adjustments since it allows for gradually fading dissolves based upon the source Gradient Layer's luminance values. This effect is also one heck of a good luminance keyer.

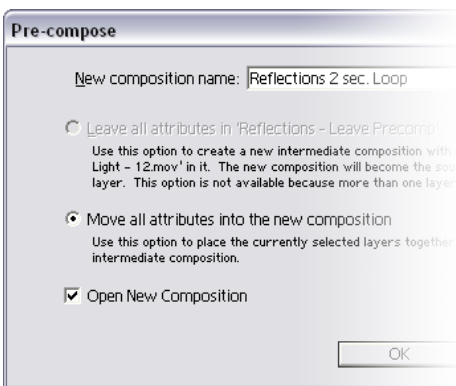
- 9) Go to 0:12, press "U" to open the one keyframed property in layer #1
- 10) Set the Transition Completion value to 100%, then return to 0:00 and set the first keyframe's value to 0% - do not use the Reset button or the effect will forget all your settings
- 11) Drag the CTI back-and-forth to watch the Gradient Transition in action – the dissolve blends into a mushy fog that is very noticeable
- 12) Activate the Invert Gradient check-box to fix this problem – now drag the CTI, the dissolve is smooth
- 13) Go to 1:23 and press "N" then create a RAM Preview – the loop is perfect



Now that we've constructed to perfect glimmer loop resource, you need to extend it to the full 10 seconds the master comp requires. You could perform this loop extension by duplicating your two loop layer several times, then manually off-setting each 2 second group, or...

Here's where the "layers within a layer within a layer" concept of multiple Precomps begins to establish itself more clearly. Select all layers (Ctrl+A) of the *Glimmer – Leave Precomp* then create another

Precomp (Ctrl+Shift+C). This time only one of the two Pre-compose window's options is available and a generic name has been offered. When you have more than one layer, only the **Move all attributes...** function is available because **Leave all attributes...** only works on single layer sources.

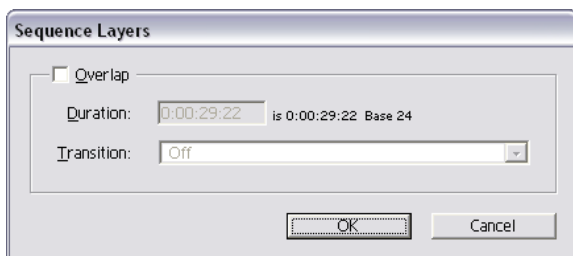


- 14) Change the name to: *Reflections 2 sec. Loop*, then press "OK"
- 15) Change the Composition Settings (Ctrl+K) to a 2 second duration
- 16) Close the new Precomp by clicking on the little Close Box located in the layer's Composition Window or Timeline Window name tab



Back to the *Glimmer – Leave Precomp* - the original layer has been replaced by the *Reflections 2 sec. Loop* Precomp and has a new color assigned to its Timeline Bar. Running another RAM Preview will result in the identical seamless loop playing. Now we need to duplicate the 2 sec. Precomp to extend the overall loop's duration.

- 17) Change the *Glimmer – Leave Precomp* settings (Ctrl+K) duration to 10:00
- 18) Expand the Timeline to show it's whole 10 sec. by pressing the semicolon key (;) – you might have to press it twice
- 19) Duplicate (Ctrl+D) layer #1 four times
- 20) Select all (Ctrl+A) layers
- 21) Right-click on the selected layers to open the Layer Options menu then select >Keyframe Assistant>Sequence Layers...



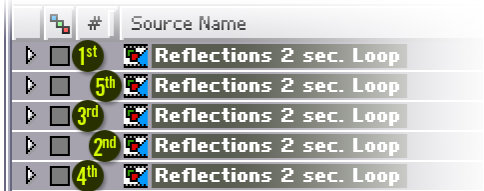
The Sequence Layers window opens. It assists you with offsetting multiple layers with several options to apply. Right now all we want it to do is offset each layer to begin where the previous layer ends.

- 22) Press "OK" then Increment and Save (Ctrl+Shift+Alt+S) your work
- 23) Jump to the last frame (End) and press "N" then run another RAM Preview

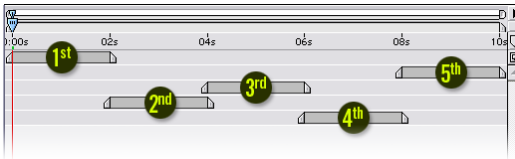
Notice that as it renders the preview once it completed the first 2 seconds that the remaining 8 seconds shot past? That's because once

the first layer was rendered, since the remaining layers were all copies of the first layer After Effects didn't need to re-render what was already created. This is its efficient caching at work.

Beware: when using Sequence Layers the system will apply the offsets (and overlaps if you use them) based upon the order in which each layer was selected. So if you were to select each layer in a random out-of-order fashion, Sequence Layers will remember your selection order. Experiment with this selection order function by

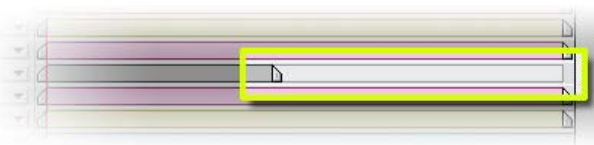


recreating the previous Sequence, but instead randomly select the layer order (Ctrl+click). The results should be similar to the example pictured at left.



Close the *Glimmer – Leave Precomp* Timeline/Comp Windows and return to the master comp. Of the two Precomp method example layers, **Move all attributes...** converted the original *Reflections* layer into its *Move Precomp* thus extending the layer's duration to the entire length of the master comp. The *Leave Precomp* would have maintained the source layer's original duration, but when we made a Precomp of the **Leave all attributes...** Precomp and extended its duration, the adjusted duration shows up in the master comp as the long gray bar extension to layer #5's Timeline Bar. The final Precomp needs to be extended the full master comp's length. Select layer #5 then press "End" followed by "Alt+]" to snap the layer's Out Point fully open, or drag the Out Point's handle across to the end of the layer. To finish up

this section, delete the **Move all attributes...** layer (#6) to prepare the WONK | TV for the next section.



Collapse Transformations – Enhanced Nesting

The most powerful of After Effects' Precomposition functions is Collapse Transformations. Unlike Standard Nesting, which only acts a normal layer, Collapse Transformations Precomps have several unique abilities.

All Precomps are initially set in the Standard Nesting mode when they are created in or added to a Timeline. The Precomp icons are displayed in the Switches column. When the dotted circle is clicked, it switches to solid indicating that the mode is now Collapse Transformations.

Duplicate layer #5 and, in the Comp Window, drag it behind the 01 purple glass. Zoom Into the Comp Window to move the new *Reflections* layer to the final position – it should precisely match the TV glass in size (how convenient).

Select both *Glimmer* Precomp layers then change their modes to Overlay and reduce their opacity (T) to 50%.



Finishing the Logo Design

To make the logo more eye catching, we'll add some glimmers over the main text. We'll be using the *Reflections* Precomp as the highlight layers with a Track Matte taken from the *Logo* text layer.

- 1) Select both *Glimmer* Precomps and duplicate them
- 2) Drag both duplicates above layer #4 (*WONK Logo.png*)
- 3) Open both duplicates' Masks (M), select both *Mask 1* shapes, then press Delete
- 4) Set their Blending Mode to Overlay and their Opacity (T) to 66%
- 5) Center each duplicate over their logo text
- 6) Resize both layers to completely cover and twice the height of the text layers - don't worry if they overlap
- 7) Rename the *Glimmer* layer located over the *WONK / TV* text to: *WONK Glimmer*

- 8) Rename the lower *Glimmer* layer (located over the *CH / 01* text) to: *CH Glimmer*

To mask the logo text glimmers we need to duplicate the logo layer to act as the track matte's source.

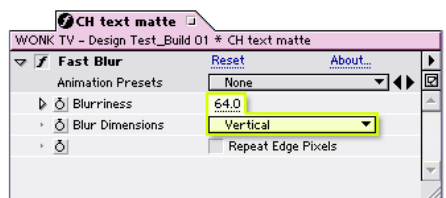
- 9) Select *WONK Logo.png* then duplicate it twice
- 10) Rename one *WONK Logo* duplicate to: *WONK text matte*, then rename the other duplicate to: *CH text matte*
- 11) Select *WONK text matte*, then in the Comp Window create a Box Mask around the *WONK / TV* elements
- 12) Select *CH text matte* and make a Box Mask around *CH / 01* elements
- 13) Drag the *WONK text matte* layer above the *WONK Glimmer* layer
- 14) Apply a Luma Matte Track Matte to *WONK Glimmer*
- 15) Duplicate both *WONK text matte* and *WONK Glimmer*

Notice that when you make a duplicate of two Track Matte dependent layers that the duplicates retain their association to each other. Previous versions of After Effects did not retain this association, so you had to manually shuffle the layers to reconnect the Track Mattes.

- 16) Drag both duplicate layers together down the Timeline stack beneath the *WONK / TV Master* layer
- 17) Drag *CH text matte* above *CH Glimmer* then repeat the same procedures from "P" thru "R" above for the *CH* layers

The last procedure is to add a Fast Blur filter to the matte sources to allow the glimmers to be seen.

- 18) Select *WONK text matte*, *WONK text matte 2*, *CH text matte*, *CH text matte 2*
- 19) Right-click to add the following filter >Effect>Blur & Sharpen>Fast Blur
- 20) In the Effect Controls window adjust the Blurriness to 64, and set the Blur Dimensions to Vertical



We'll be creating Precomps of the upper and lower logo elements to independently fly into our project. There's just one last procedure to complete: Preparing the *WONK Logo.png* layer for the Precomp assembly.

- 21) Set the Blending Mode of *WONK Logo.png* (layer #8) to Darken
- 22) Duplicate layer #8, then rename the copy to: *WONK | TV Master*
- 23) Enclose the upper text elements with a Box Mask – this Mask need not be precise, it just needs to separate the upper logo from the lower
- 24) Apply a box mask around the lower *WONK Logo.png* and rename it to: *CH | 01 Master*
- 25) Select the *Glimmer* layer under the purple *TV* glass and rename it to: *Reflections – WONK*
- 26) Select the *Glimmer* layer under the purple *01* glass and rename it to: *Reflections - CH*

The whole reason for the Collapse Transforms method will become apparent as you Precomp the complete *WONK | TV Logo Design*. Begin by selecting only the layers with “*WONK*” named elements: *Wonk text matte*, *WONK Glimmer*, *WONK | TV Master*, & *Reflections – WONK*. Unlike the Sequence Layers function, the order you select the layers here is irrelevant – Precomping maintains relative layer order.

Press “Ctrl+Shift+C” to make a **Move all attributes...** Precomp and rename it *WONK Elements build*. Un-check “Open New Composition” then press “OK.”

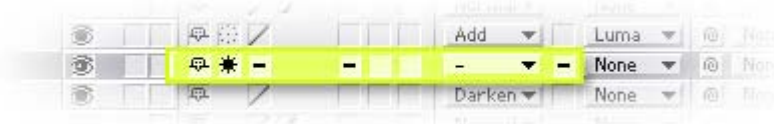
Carefully observe the results to the newly Precoposed *WONK Elements build* layer – specifically look at the glass around the *TV* text. It no longer has the rich blue overlay effect nor does the logo have any of the vertically blurred glimmers extending past the blue background. And more obviously, the text *WONK | TV* is no longer transparent – it has reverted to solid white. The upper logo has lost the “snap” that the *CH | 01* elements still display.

Now switch “On” Collapse Transforms in the Timeline and watch what happens – suddenly the *WONK / TV* logo elements looks just as they did before the Precomp was created. Toggle the switch “Off” and “On” a few times to compare the differences between the two Precomping modes.

Select all the CH elements and create another Precomp then Increment and Save your work. Make a RAM Preview of the new logo design to review your work.

Precomping Caveats

As powerful as Collapse Transforms can be, there are a few restrictions to beware: Effects need not apply and Blending Modes are unavailable.



Once activated, Collapse Transforms disables several of the Precomp’s layer options. If you try to add an Effects filter or change the Blending Mode, the layer loses its Collapse Transform’s special abilities.

Though this might be a little frustrating, because it would be nice to apply a global Effects filter to the whole Precomp at once, it actually makes perfect sense – remember that when Collapse Transforms is functioning all it’s really doing is behaving like all it’s layers are actually still present within the master composition having been grouped together as one layer. If you wanted to apply an effect to the group, you’d have to apply the effect to each layer within the group individually. When you add an Effect to the Precomp, you’re reverting it to Standard Nesting mode.

Likewise, if you activate the Precomp’s Blending Mode you’re effectively overriding all the group’s individual Blending Modes and again reverting the Precomp to basic Nesting.