Cover Up II

Sheffield Softworks

Cover Up II is a sort of "Digital Foundation" or "Electronic Clearasil" – it's used for fixing blemishes and red or blotchy skin, but unlike a typical coverup, it doesn't simply paint over the blemish, it actually tries to alter the color and texture of the underlying skin to erase the blemish. It also allows you to smooth the repaired blemish to reduce skin texture. Cover Up keys on color, so the color of the blemish must be distinct enough from normal skintone for CU to isolate it.

Cover Up II has been completely written from scratch, refining and extending the concepts of the original **Cover Up** plugin. Not only have the color adjusting algorithms been redesigned but the skin selection techniques have been refined (along with a new onscreen control interface and the ability to mask areas of the screen).allows you to save presets to speed setup on similar shots.

Cover Up II is based on FxFactory's plugin engine which makes use of the power of your GFX card to do its rendering, thus does not load down your CPU. It is compatible with the hosts that FxFactory supports, currently FCP 7 through Final Cut X, Motion 4 and Motion 5, Adobe Premier, and After Effects. It requires at least 10.8 (Mountain Lion) of the OSX operating system (please note, the advancing age of Final Cut Pro 7 and Motion 4, may make them unable to take full advantage of the abilities of **Cover Up II**).

Cover Up II Overview

Cover Up II's Blemish Selection may be moderated by a customizable mask and can be set to None (in which case the entire frame is processed), Skin Tones (which algorithmically selects standard skin tones), or Chroma Key (which a central color and a range is specified to be processed). While the first two are included for flexibility and to allow for "off label" use, you will most likely use Chroma Key.

Instead of the standard eye dropper color selection and range sliders for Chroma Key, you may choose OnScreen controls. With Show Mask turned on, this can allow you to quickly zero in on the skin tones in a scene by using control points for Hue, Saturation and Luminance. You pull the control points further from the center of the screen to limit their range and you rotate them around the center to choose the central Hue, Saturation, and Luminance.

The OnScreen Guides may be dimmed or turned off entirely, the control points will function the same, allowing experienced users to control the selection without distraction.

It's important to note that the OnScreen Guides are rendered within the image buffer, so **Enable OSG** should be unchecked before rendering.

The mask generated by Blemish Selection is used to determine where skin repair/color matching/smoothing occurs. You can adjust the mask to suit your situation. You may alter the characteristics of the repaired skin "fill" so it is only subtly altered to remove the blemish or so that it completely replaces the color of the entire selected area.

Because Cover Up II uses color to select the blemish, if you are planning on adding a stylized "look" to your material (for instance with the Cinemage plugin), it is best to add Cover Up II first, before anything that may alter the skintones. However, if skintones are "off" due to localized lighting conditions, it can be better to correct for that prior to adding the Cover Up II plugin.

Cover Up II Usage and Controls

Cover Up II makes use of a dynamic user interface that changes to appropriate controls based on various settings. This is because, for instance, different skin selection choices require different parameters, Limit Mask controls aren't needed if Limit Mask is not enabled, etc.

Making the right set of choices will lead to the best looking outcome with the minimum render time.

Presets

Presets: No Built-in Presets

Because the complexity and variety of potential shots is infinite, no built in presets are provided. The **Presets** section provides a way for you to save and load your own presets.

This can be handy when you're processing multiple similar shots.
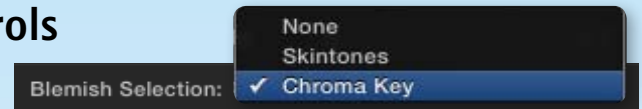
Basic Controls

Before   *None w/Limit Mask*

Skin Tones   *Chroma Key*

Blemish Selection:
- None
- Skintones
- ✓ Chroma Key

Skin Selection is used to limit processing to specific areas. This limit may be:

None - most often used to either process the entire frame or in combination with the **Limit Mask** to isolate a specific area.

Skintones - the skin tones are mathematically calculated. You may control the strength of the mask, and a lower threshold value. Skintones has a lower processing impact, but it is less precise than the third option –

Chroma Key - may be adjusted by OnScreen controls or by selecting a skin color with the eyedropper and adjusting a range of acceptable values for Hue, Saturation, and Luminance. This is the most likely choice. More on Chroma Key below.
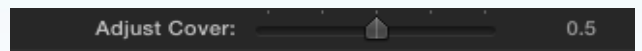

Skin Color:

Choose **Skin Color** from an area not too far from the blemish to be erased as the blemish color will be replaced with the skin color.

Adjust Cover 0.0   *Adjust Cover 0.5*   *Adjust Cover 1.0*

Adjust Cover: 0.5

Higher **Adjust Cover** values bring the selected areas closer to the Skin Color.

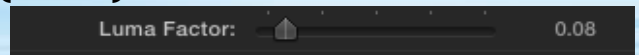When used over a wide area, a middle value should be used to avoid the cover up looking thick and unnatural.

Basic Controls (cont.)

Luma Factor 0.0

Luma Factor 0.5

Luma Factor: 0.08

Ordinarily, the Luminance or Brightness of the **Skin Color** has no effect on the cover up as it is drawn from the image. However, if you wanted, for instance, to select dark circles under the eyes and brighten them up, you can raise the Luma factor and cause the luminance of the Skin Color to be used.

Smooth Method: One
Softness: 88.0
Smooth Threshold: 0.97
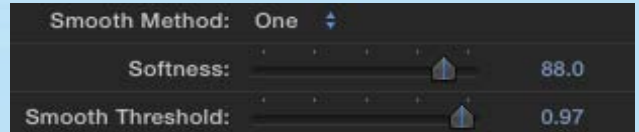
Softness uses a thresholded blur to remove unwanted skin detail from the selected region. Method **One** is better for removing dark spots. Method **Two** is stronger.
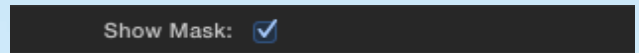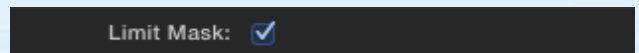

100% Mix

40% Mix

Mix: 1.0

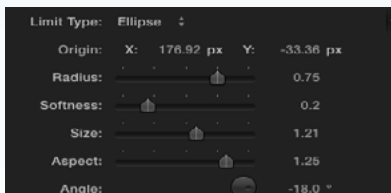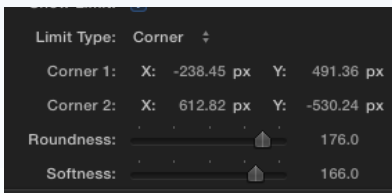Mix allows you to blend back the original image, returning detail if the cover up looks too "thick" and unnatural.

Show Mask: ✓

Show Mask turns the selected region white as a visual aid when adjusting the **Skin Selection**.


Limit Mask: ✓

Limit Mask limits the processing to a specified region in the image. It opens up a secondary set of controls for specifying the region.

▼ **Limit Settings:**
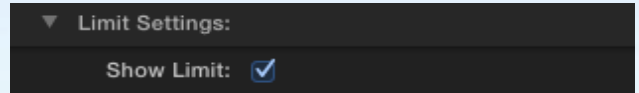
Show Limit: ✓

Show Limit tints the limit region of the screen a blue color as a visual aid for placing the limit. You can also use the Show Mask to see where the limit is being applied. Show Limit turns off all other processing to improve interactivity, so even though you can see through the blue tint, you will not see any smoothing taking place until your turn off Show Limit..


Limit Type:	Corner
Corner 1:	X: -238.45 px Y: 491.36 px
Corner 2:	X: 612.82 px Y: -530.24 px
Roundness:	176.0
Softness:	166.0

Limit Type:	Ellipse
Origin:	X: 176.92 px Y: -33.36 px
Radius:	0.75
Softness:	0.2
Size:	1.21
Aspect:	1.25
Angle:	-18.0

Corner
✓ Ellipse

Limit Type:

Limit Type may be set to either Corner (rectangular) or Ellipse. The controls will change as appropriate to each setting.

|	
Roundness:	176.0
Softness:	166.0
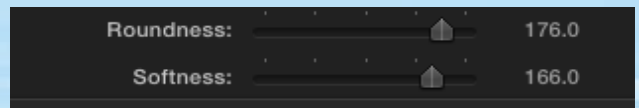
For **Corner**, the easiest way is to drag the two corners into place using the OnScreen handles, then adjust the **Roundness** and **Softness** as required. These settings are linked in that with Roundness at 0, Softness has no effect.
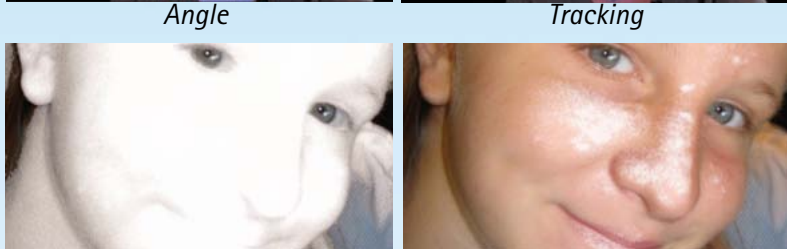
Limit Type: Ellipse

For Ellipse, the settings are more complex, but this allows greater flexibility and with a single origin point, is easier to use a host's built in tracking to maintain placement of the limit mask.

Origin:	X: 191.49 px	Y:	6.65 px
Radius:			0.75
Softness:			0.12
Size:			1.08
Aspect:			1.41
Angle:			-18.0 °
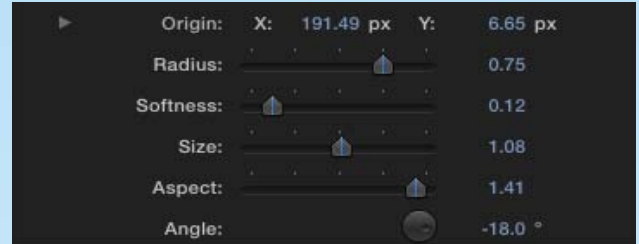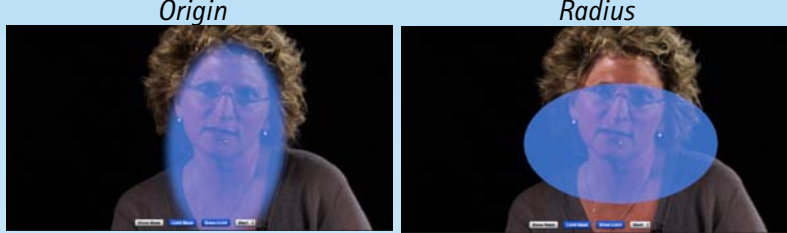
You may use the onscreen handle to place the **Origin** (or center) of the ellipse. The **Radius** controls the distance from the origin that the ellipse is drawn. **Softness** adjusts the falloff at the edge of the ellipse. **Size** and **Aspect** allow you to control the shape of the ellipse, and **Angle** rotates it around the origin. All are keyframeable to allow you to track a moving target.
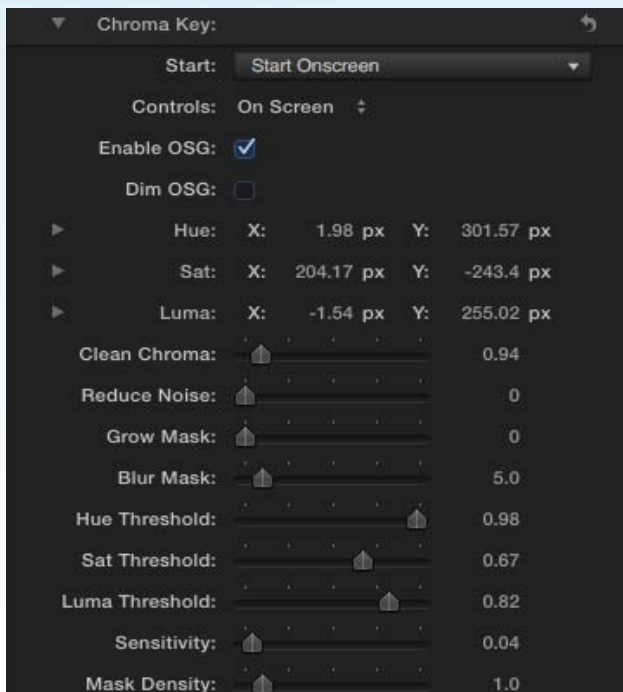
Tone Strength:	1.62
Tone Threshold:	0.55
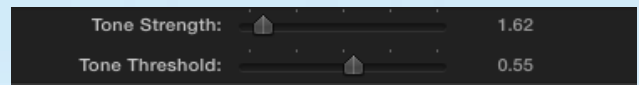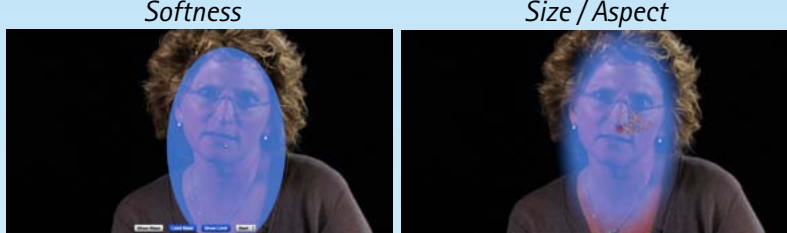
If you bring down the **Tone Strength** and up the **Tone Threshold**, you can limit the mask to the reddest areas.

Origin

Radius

Softness

Size / Aspect

Angle

Tracking

Default

Adjust Strength and Threshold

Chroma Keying

|			
▼ Chroma Key:			↺
Start:	Start Onscreen		
Controls:	On Screen		
Enable OSG:	✔		
Dim OSG:	☐		
► Hue:	X: 1.98 px	Y:	301.57 px
► Sat:	X: 204.17 px	Y:	-243.4 px
► Luma:	X: -1.54 px	Y:	255.02 px
Clean Chroma:			0.94
Reduce Noise:			0
Grow Mask:			0
Blur Mask:			5.0
Hue Threshold:			0.98
Sat Threshold:			0.67
Luma Threshold:			0.82
Sensitivity:			0.04
Mask Density:			1.0

The **Chroma Key** for **Skin Selection** has quite a number of controls, so I thought I'd indulge in some basic keyer theory first to lay the groundwork. Whether using **OnScreen** controls or the eyedropper, you provide the keyer with a center Hue, Saturation, and Luminance and a range. Every pixel's Hue, Sat, Luma is compared and if it falls within that range, it is full strength (white) in the mask.

You also specify what to do with the colors that fall outside the range with the tolerance sliders. These are sort of a "margin" and tell the keyer how far outside the range a color is allowed to fall. For all colors that fall outside the range plus the "margin", the mask becomes transparent. The further outside the range, the greater the transparency. How fast the mask "falls off" is controlled by the **Sensitivity** slider.
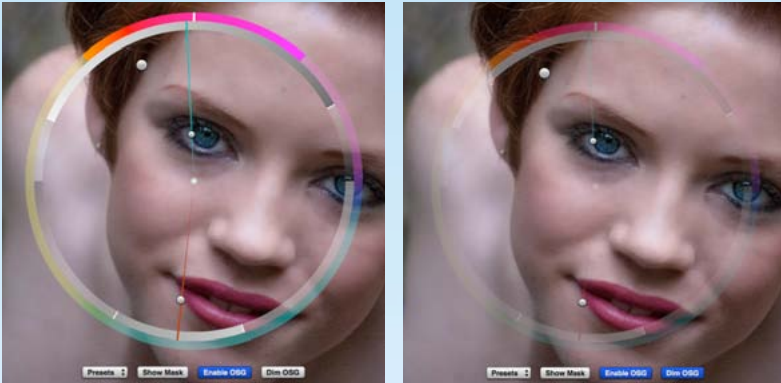
As well as keyer controls that are used to generate the mask, you also have additional pre-processing (**Clean Chroma**) and post-processing you can do (such as **Reduce Noise** - removes single pixels, **Grow Mask**, **Blur Mask**, etc.)
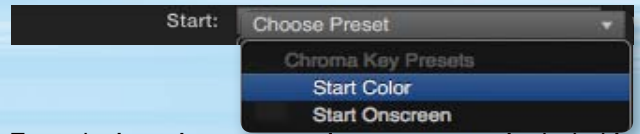
Chroma Key Controls
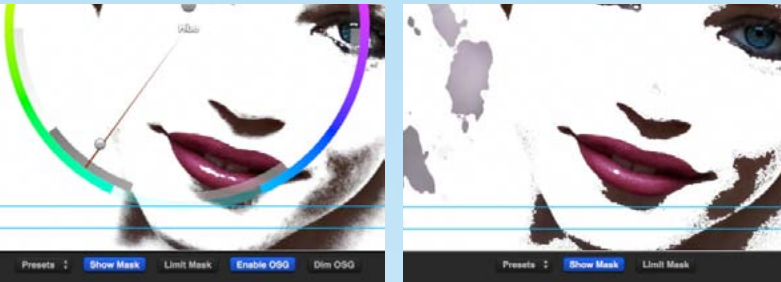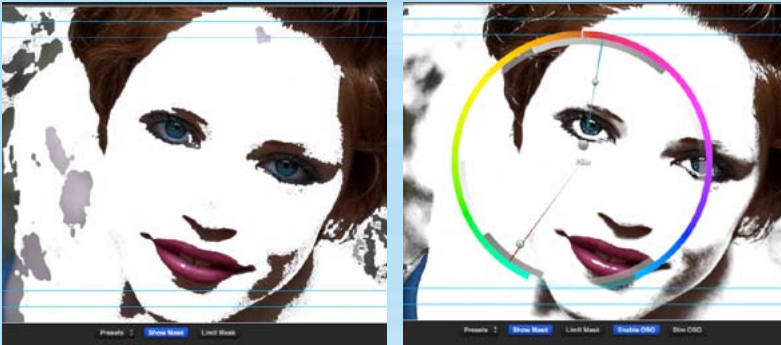
On Screen | Color


Note: *The OnScreen Guides are rendered within the image buffer, so* **Enable OSG** *should be unchecked before rendering.*

To make it easier, two starting presets are included in the Chroma Key section - Color and OnScreen. They set the controls to a general skintone that you will then refine. There is no save/load included as that can be done by the main Preset loader at the top of the controls.

The Controls for Chroma key may be either Color or On Screen. What you use is strictly a matter of your preference. Both provide the same information to the chroma keyer. The user interface varies depending on your choice. First we'll go over the On Screen controls, then the Color ones.
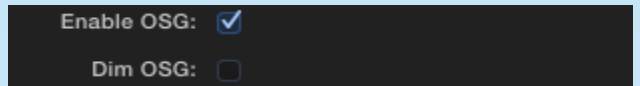
Enable OSG turns on the OnScreen Guides. These consist of an outer Hue Ring, and a semi-circle above for Luminance, and one below for Saturation. Dim OSG makes these transparent to allow you to see through them. They are graphic representations of the HSL and ranges being selected and are not necessary to adjust the OnScreen control handles. Experienced users may end up dispensing with their use.

While the control points could be adjusted in the inspector, it is best to use the onscreen handles to control the adjustment.

Essentially there is a control point for Hue, Saturation, and Luminance. They select a central value and a range to be used by the chroma keyer. The further you pull them away from the center, the smaller the range. Drag around the circle to select the central value.

Click **Show Mask** to highlight the selected area. Drag the **Hue** control upward to begin limiting the range and you should see mask begin shrinking. Drag around the circle to select the desired hue until you have the best portion of the skin selected. Now do the same with the **Sat** control, dragging it downward and around the ring to reduce the mask further. Then the Luma control upward and around until you've isolated the skintones to process.
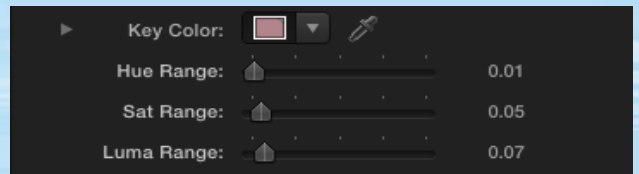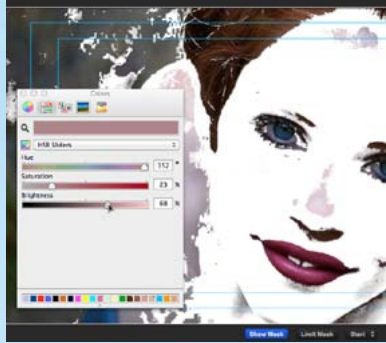
If you selected Color controls, take the eyedropper and choose a color that seems about midrange for Hue, Sat and Luma. Turn on the Show mask, then adjust the HSL Range sliders to include as much of your image as you need. The higher the value, the more colors you will be including.

You can always tweak your color by using the HSL sliders in the System Color picker.

Whether you chose Color or On Screen Controls, you can adjust your mask using the controls described under the Chroma Keying overview above.