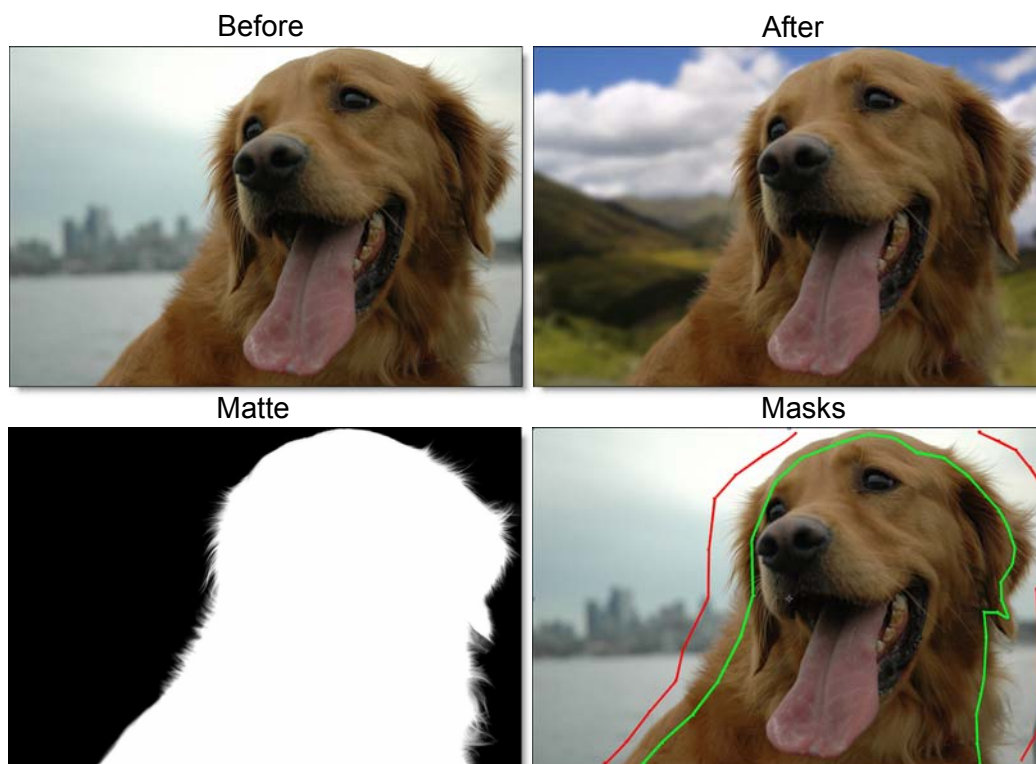POWER MATTE

Copyright

About Us

Digital Film Tools brings together the unbeatable combination of superior software designers, motion picture visual effects veterans, video editors and photographers. Add three Emmy Awards and experience in creating visual effects for hundreds of feature films, commercials and television shows and you have a recipe for success. The understanding of photography, film and video editing, and in particular visual effects, allows us to design productive and highly specialized software. Software that is useful as well as easy to use. Our products stand up to the rigors of production and are the culmination of many years of experience.

Our philosophy is to bring our visual effects tools and techniques to the masses. What was once found only in expensive high-end packages or existed as proprietary in-house tools, is now available to photographers, artists, designers, and video/film editors. Did I mention affordable? Our software doesn't cost an arm and a leg and won't break the bank.

POWER MATTE

Introduction

Power Matte is an easy to use interactive image matting tool capable of extracting almost any object in an image--even if you are dealing with fine hair detail, smoke, or reflections. This extraction process creates what is known as a matte--essentially a black and white cutout. White matte areas are extracted, black areas not, and gray areas in between represent a level of transparency. Once a matte is extracted, the foreground object can be seamlessly composed onto a new background as well as apply filter and image corrections only within the area defined by the matte.

Before	After

Matte	Masks

To work this magic, Power Matte iteratively estimates the transparency value for every pixel in the image, based on a small sample of foreground (what you want to cut out) and background (what you want to get rid of) pixels marked by defining simple masks on the image. Results show that compared with previous

approaches, our method is more efficient and requires minimal effort to extract high quality mattes for foregrounds with significant semi-transparent regions. In addition, the foreground edge colors can be estimated in the semi-transparent areas to create a seamless composite.

INSTALLATION

1 **Download Power Matte at www.digitalfilmtools.com**

2 **Double-click on the file that was downloaded and run through the installation process.**

3 **When prompted, select the version of After Effects to install in.**

4 **Apply Power Matte to a clip in the timeline from the Effects > Digital Film Tools menu.**

   A dialog box pops up when you run Power Matte.

5 **If you purchased the software, select Activate Power Matte and follow the instructions.**

   or

6 **Select Request Trial Activation (Internet Required) and click Next to receive a fully functioning version of Power Matte for the specified trial period. At the end of the trial period, Power Matte reverts to a limited demo mode.**

   or

7 **Select Run in Demo Mode and click Finish.**

   Note: In Demo Mode, a watermark is superimposed over the image.

UNINSTALLING

Windows

From the Windows Start Menu, select Programs > Digital Film Tools > Power Matte v2.1 > Uninstall Power Matte.

Macintosh

Go to Applications/Digital Film Tools/Power Matte v2.1 and double-click on Uninstall Power Matte.

ACTIVATING, DEACTIVATING AND TRANSFERRING LICENSES

Activation Options

Internet Activate

Activates Power Matte over the Internet.

Request License from Self-Service Website

If you do not have an Internet Connection on the computer where you want to run Power Matte, use this option. The self-service website will generate a license file which you can then transfer to the desired computer.

Install a License File

Loads a license file obtained from the self-service website or received by email.

Note: If you experience an error when using Internet Activate, it is because you or your company uses a proxy server to access the Internet and/or your firewall is blocking our program's access to the Internet. For proxy server users, select Advanced Options and enter the appropriate proxy server settings. For firewall users, open your firewall software and allow our software to access the Internet.

Deactivation Options

Once Power Matte has been activated, you can access the deactivation option by selecting the License button in the Effect controls.

Internet Deactivate

Deactivates Power Matte over the Internet and is only available if you initially activated over the Internet. Use this method to return your Product Code back to the activation server. You will then be able to use your Product Code to activate Power Matte on another computer.

License Transfer

Your Product Code allows you to run Power Matte on one computer at a time. However, you may transfer the license by deactivating on one computer and activating on another.

Internet Deactivate / Internet Activate is the preferred method of license transfer between computers, but is only available if you initially activated over the Internet and currently have Internet access. If you do not have Internet access, you will need to contact customer support to assist you in transferring the license.
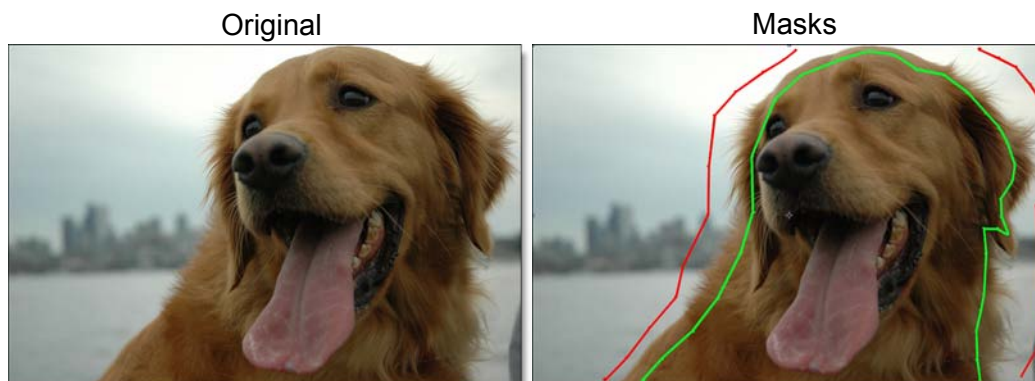
To transfer a license:

1 **Apply Power Matte and click on License at the bottom of the Effect Controls window.**

2 **Choose Internet Deactivate and click Next.**

Power Matte is now deactivated.

3 **On the target computer, select Activate Power Matte and follow the instructions.**

Power Matte will then activate on the new computer.
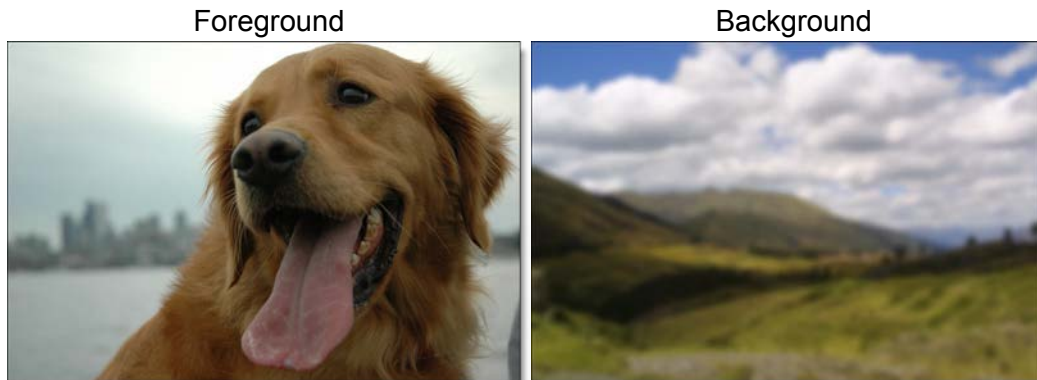
TUTORIALS

Open Mask Method

Power Matte creates mattes by using a trimap--a pre-segmented image consisting of three regions of foreground (what you want to cut out), background (what you want to get rid of) and unknown. Partial opacity values are then computed only for pixels inside the unknown region. Two trimap methods can be used: Open Mask or Closed Mask. This tutorial will use the Open Mask Method.

Unlike previous approaches, our trimaps can be relatively sparse consisting of open foreground and background masks. All pixels left unmarked will be treated as unknown.
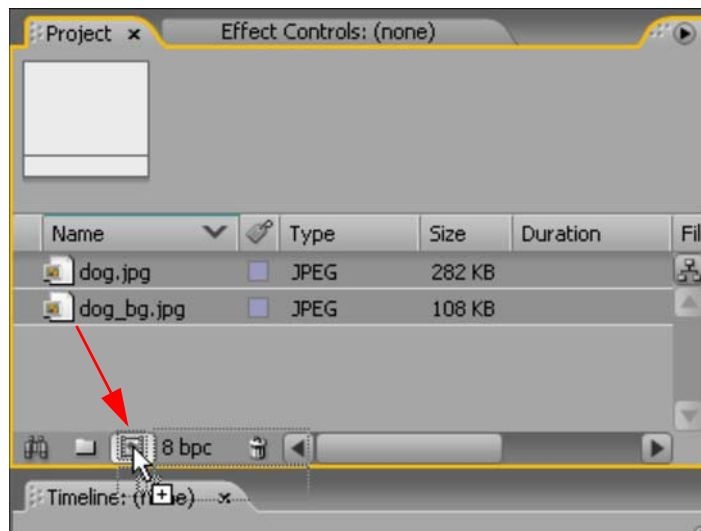
| Original | Masks |

1   **Go to www.digitalfilmtools.com and download the tutorial images from the Power Matte download tab.**

2   **Double-click on the powermatte-ae-tutorial.zip file that you downloaded to uncompress it.**

3   **Start After Effects and double-click inside of the Project window.**

4   **When the Import File window opens, navigate to the powermatte-ae-tutorial/footage/dog folder, Shift-click both the *dog.jpg* foreground and *dog_bg.jpg* background files and click Open.**

Foreground   Background

5   **Create a Composition by clicking, dragging and dropping the two selected *dog.jpg* and *dog_bg.jpg* files on the Create a new Composition icon at the bottom of the Project window.**

6   **When the New Composition from Selection window opens, make sure Single Composition is selected and click OK.**

A composition is automatically created wit the *dog.jpg* layer as the top layer in the Timeline.

7   **Ctrl(Win)/Cmd(Mac)-click the *dog_bg.jpg* layer to deselect it.**
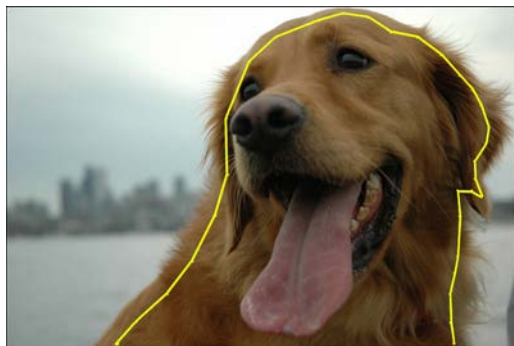
A good Open Mask technique is to draw an inner and outer outline around the object you are extracting using open After Effects masks. Masks should be near the boundary of the foreground or background, but not right up against the edge. Also, if the foreground or background has varying colors, the masks should cross over these colors.

Note: The general rule is don't put different mask types too close together unless you need to.

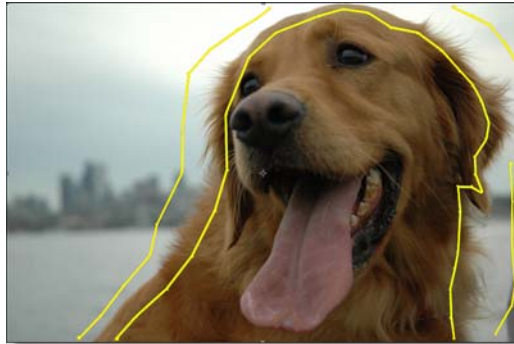**8**　**Select the Pen tool.**

9　**Create an open mask and define the area to be cutout by left-clicking around the inner edge of the dog. Do not close the mask.**

Now, draw a mask to be define background areas.

10　**Create a new open mask on the left side of the screen by first Ctrl(Win)/Cmd(Mac)-clicking once on the image in the Composition window and then proceed to left-click around the outside of the dog starting at the bottom of the image and ending at the top.**

11 **Using the technique in the previous step, create two more open masks on the right side of the screen so that your masks look something like below.**
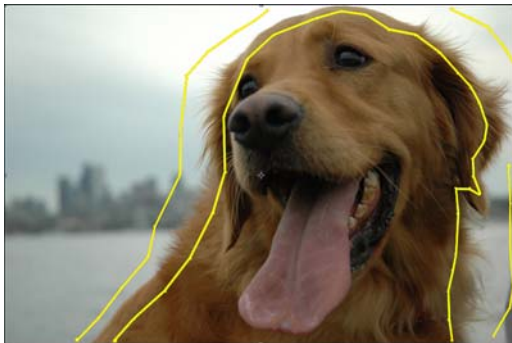

If the background has varying colors, the masks should cover these colors.

12 **When you are done drawing your masks, choose the Selection tool and click once on the image in the Composition window so that all masks are deselected.**
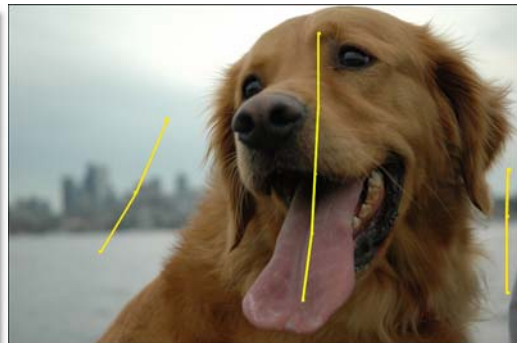

Warning: If you only provide a few sparse masks, the Open Mask Method will take longer to process with the result less accurate than the Closed Mask Method.

Good Mask Example   Bad Mask Example
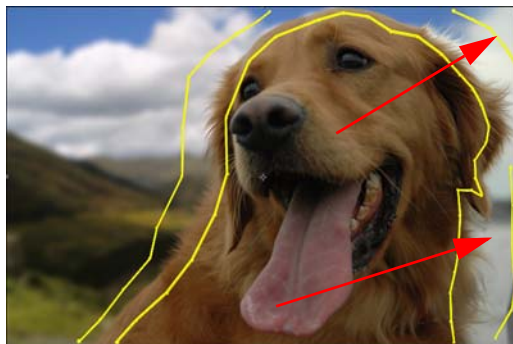

13 **From the Effect pull-down menu, select Power Matte from the Digital Film Tools group.**

When you apply Power Matte, nothing happens because you haven't yet assigned the masks to the Power Matte Foreground and Background selectors.

14 **In the Effect Controls, select Mask 1 from the Mask > Foreground pop-up menu and choose Mask 2 from the Mask > Background pop-up.**

Power Matte processes the matte. When it is done, you have probably noticed that the left side of the image looks good, but the right side remains unprocessed.

This is because Power Matte doesn't know about the masks on the right side. Since only one mask can be selected in the Mask > Background pop-up menu, you need to link the background masks together by either the Mask Color or Mask Name. Masks that are linked together are considered as one and inherit the same adjustments. The name and color of the masks can be changed in the Timeline.
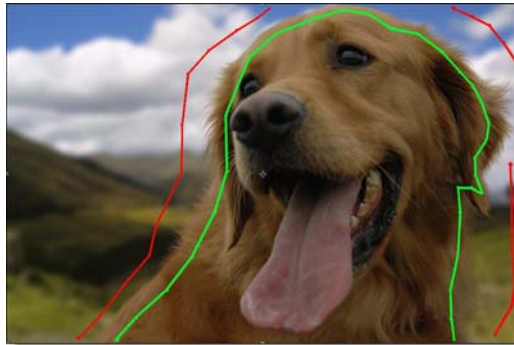
Note: Power Matte does not process automatically after the mask color or name is changed. If Link Masks > Mask Color or Mask Name is selected prior to the mask color or name being changed, you will need to press the Force Update button in the Effect Controls for Power Matte to process the change.

15 **In the Timeline, click the right arrow next to the *dog.jpg* layer name and then the Masks heading to expand them.**

16 **Click on the color box to the left of the mask named Mask 1.**

17 **When the Color Picker opens, select a green color and press OK.**

The inner foreground mask turns green. Now change the colors of the background masks.

18 **Click on the name of Mask 2 to select it and then Shift-click both Mask 3 and Mask 4 to add them to the selection.**

19 **Click on the color box to the left of the mask named Mask 2, select a red color and press OK.**

All of the background masks change to a red color.

20 **Back in the Effect Controls window, open the Options group and select Mask Color from the Link Masks pop-up.**

<u>Note:</u> To link masks by color, the linked masks need to be the exact same color.

Power Matte re-renders and when done, you should have a result that looks like this.

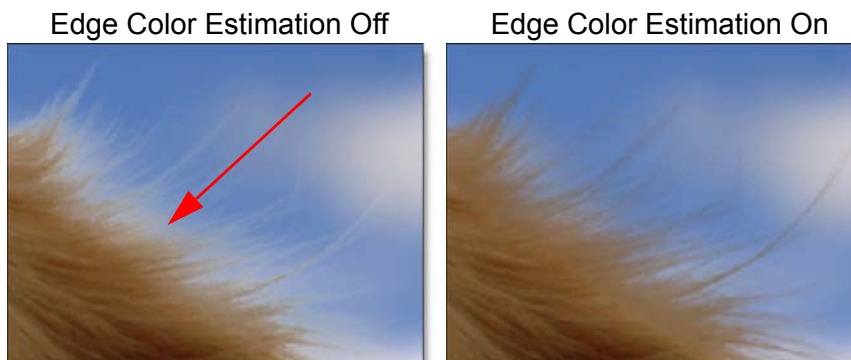Go to the **Link Masks** section on page 46 to see how to link masks by Mask Name.

21 **If at any time you want to turn off the display of the masks, click in the gray area immediately outside of the image in the Composition window.**

22 **Now choose Matte in the View pop-up menu.**

In the generated matte, white is foreground, black is background and any gray areas in between represent a level of transparency. If the matte is not acceptable after processing, you can either adjust the masks or add additional masks near the region where the matte is not accurate. If you need to adjust the masks after they have been created and assigned in Power Matte, you can enhance performance by either:

- **Disable the Power Matte effect while adjusting the masks. To disable an effect, press the Effect switch (the "f" icon) at the top left of the Effect Controls window.**
- **If Power Matte is enabled, set the Resolution/Down Sample Factor Popup at the bottom of the Composition window to something other than Full.**
- **In Preferences > Previews, set "Adaptive Resolution Limit" to 1/8 and "Accelerate Effects Using" to Adaptive Resolution. This will allow Power Matte parameter and mask editing to be snappier.**

23 **If you see gray areas in the foreground object that should be completely white, make additional foreground masks in those areas.**

24 **If you see gray areas in the background that should be completely black, make additional background masks in those areas.**

25 **Select View > Output to see the foreground composited over the background based on the generated matte.**

If you look closely at the edges of the dog, you will see some white fringing created by the sky from the original image. By activating Power Matte's Edge Color Estimation feature, the fringing can be removed by estimating the color of the foreground in unknown and semi-transparent areas.

Edge Color Estimation Off   Edge Color Estimation On

Note: Edge Color Estimation can cause color flickering in edge areas of partial opacity if your mask position is not constant from frame to frame or if your source footage is grainy. Disable Edge Color Estimation if you see flickering in the edge areas after a preview or render.

26 Turn on Edge Color Estimation.

Original   Composite

27 If you would like to load up the final After Effects project for this tutorial, you can open *dog.aep* from the powermatte-ae-tutorial/projects folder.
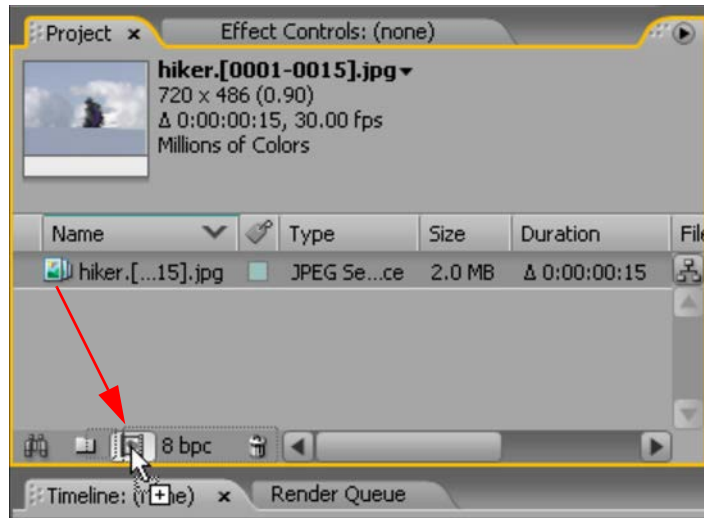
Closed Mask Method

Power Matte creates mattes by using a trimap--a pre-segmented image consisting of three regions of foreground (what you want to cut out), background (what you want to get rid of) and unknown.

The Closed Mask Method uses closed After Effects masks to mark definite foreground and background areas of the image--an inner mask just inside the object (foreground), and an outer mask just outside the object (background). The area between the closed masks is considered unknown, so make sure that any blurry or unknown areas of the object fall within the two masks. Partial opacity values are then computed only for pixels inside the unknown region.

Original   Masks

1   **You may skip steps 2 and 3 if you have already completed the previous exercise.**

2   **Go to www.digitalfilmtools.com and download the tutorial images from the Power Matte download tab.**

3   **Double-click on the powermatte-ae-tutorial.zip file that you downloaded to uncompress it.**

4   **Start After Effects and double-click inside of the Project window.**

5   **When the Import File window opens, navigate to the powermatte-ae-tutorial/footage/hiker folder, select *hiker.0001.jpg* and click Open.**

6   **Double-click on the *hiker.[0001-0015].jpg* sequence in the Project window and click the Play icon in the Time Controls to see what the clip looks like.**

7   **When you are done playing the clip, hit the Spacebar to stop playback and close the Footage window.**

8   **Create a Composition by clicking, dragging and dropping the *hiker.[0001-0015].jpg* sequence on the Create a new Composition icon at the bottom of the Project window.**

A good Closed Mask technique is to draw an inner and outer outline around the object you are extracting using closed After Effects masks. Masks should be near the boundary of the foreground or background, but not right up against the edge. Also, if the foreground or background has varying colors, the masks should cross over these colors.

Note: Make sure that the inner and outer masks are only over areas of solid foreground or background and not over any semi-transparent areas.
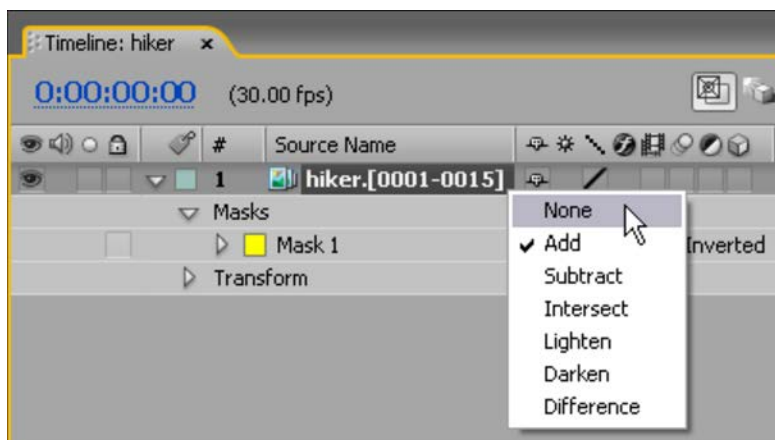
9   **Select the Pen tool.**

10 **Define the area to be cutout by left-clicking to create a mask around the inner edge of the hiker. To close the mask, click on the first point that you created.**

Once the mask is closed, the area outside the mask turns black because the Mask Mode is set to Add. If the Mask Mode is set to None, you will be able to see the entire image, making animating the mask much easier. There are a number of ways to change the Mask Mode, but we will use the Timeline method.

11 **In the Timeline, click the right arrow to the left of the *hiker.[0001-0015].jpg* layer name to expand it.**

12 **Click the right arrow next to the Masks heading to expand it and to reveal the mask on that layer.**

13 **Change Add to None.**

The entire image is now visible.

Next, draw a mask to be define the background area.

14 **Create another closed mask to define the background area, this time around the outer edge of the hiker. To close the mask, click on the first point that you created.**

Once again, as soon as the mask is closed, the area outside the mask turns black because the Mask Mode is set to Add.
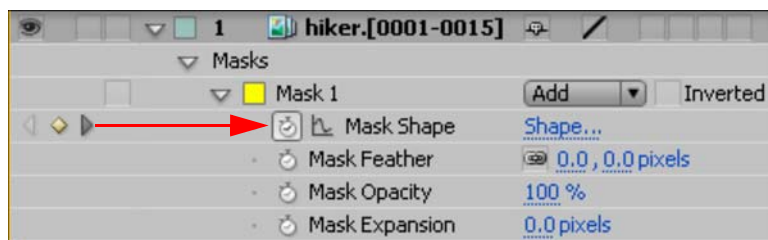
15 **In the Timeline, change the Mask Mode from Add to None for Mask 2 so you can see the image area outside of the mask.**

Now that you have a foreground and background mask, animate them over time so that they follow the motion of the hiker. To animate masks over time, you need to turn on the Time-vary Stop Watch icon for the Mask Shape parameter in the Timeline.

16 Click the right arrow next to the Mask 1 name to expand it.

17 Press the Time-vary Stop Watch icon next to Mask Shape to activate keyframing.

18 Repeat the previous two steps for Mask 2.

19 Choose the Selection tool and go to different frames in the Timeline and adjust the masks as necessary.

The shape of the masks will now change over time.

20 Play through the Composition to make sure that the masks are properly following the hiker.

21 Once you are happy with your mask animation, position the Timeline at frame 1.

22 From the Effect pull-down menu, select Power Matte from the Digital Film Tools group.

When you apply Power Matte, nothing happens because you haven't yet assigned the masks to the Power Matte Foreground and Background selectors.

23 In the Effect Controls, select Mask 1 from the Mask > Foreground pop-up menu and choose Mask 2 from the Mask > Background pop-up.

Power Matte processes the matte. Because there is not a background layer, the hiker is cutout and is displayed against black.

24 **If at any time you want to turn off the display of the masks, click in the gray area immediately outside of the image in the Composition window.**

If you look closely at the edges of the hiker, you will see some white fringing created by the sky from the original image. By activating Power Matte's Edge Color Estimation feature, the fringing can be removed by estimating the color of the foreground in unknown and semi-transparent areas.

Edge Color Estimation Off   Edge Color Estimation On

25 **To remove the white fringe around the hiker, turn on Edge Color Estimation.**

Note: Edge Color Estimation can cause color flickering in edge areas of partial opacity if your mask position is not constant from frame to frame or if your source footage is grainy. Disable Edge Color Estimation if you see flickering in the edge areas after a preview or render.

26 **Under the Composition window, click on the Show Channel icon and select Alpha.**

The Composition window displays the Alpha channel.

Note: If you have a layer below, a solid white screen will be displayed when you select Show Channel > Alpha. To see the generated matte in this configuration, use View > Matte from the Power Matte Effect Controls instead.

27 Select Composition > Preview > RAM Preview to check your results so far.

In the generated matte, white is foreground, black is background and any gray areas in between represent a level of transparency. If the matte is not acceptable after processing, you can adjust the masks. If you need to adjust the masks after they have been created and assigned in Power Matte, you can enhance performance by either:

- **Disable the Power Matte effect while adjusting the masks. To disable an effect, press the Effect switch (the "f" icon) at the top left of the Effect Controls window.**
- **If Power Matte is enabled, set the Resolution/Down Sample Factor Popup at the bottom of the Composition window to something other than Full.**
- **In Preferences > Previews, set "Adaptive Resolution Limit" to 1/8 and "Accelerate Effects Using" to Adaptive Resolution. This will allow Power Matte parameter and mask editing to be snappier.**

28 If you see gray areas in the foreground object that should be completely white, adjust the foreground mask in those areas.

29 If you see gray areas in the background that should be completely black, adjust the background mask in those areas.

30 Click on the Show Channel icon again and set it back to RGB.

31 **Click Play button to see the RGB image results.**
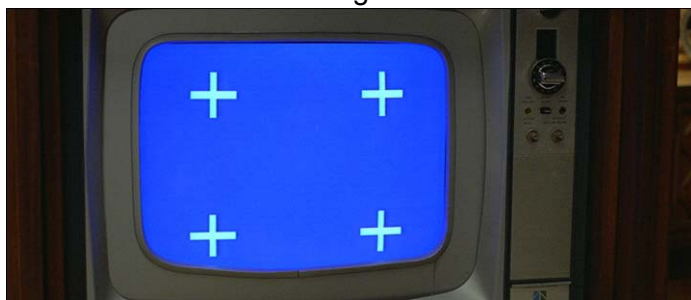
Original   Result

32 **If you would like to load up the final After Effects project for this tutorial, you can open *hiker.aep* from the powermatte-ae-tutorial/projects folder.**
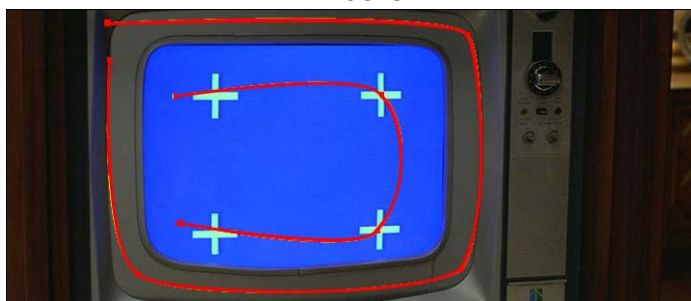
Blue/Green Screen Keying

Keying is a technique for blending two images, in which a color from one image is removed, or made transparent, revealing another image behind it. Either the Open or Closed Mask Method can be used when creating mattes for Blue or Green screen photography. Power Matte doesn't require any specific color for the object to be photographed against, but blue and green screens will be referred to as these are the most common.
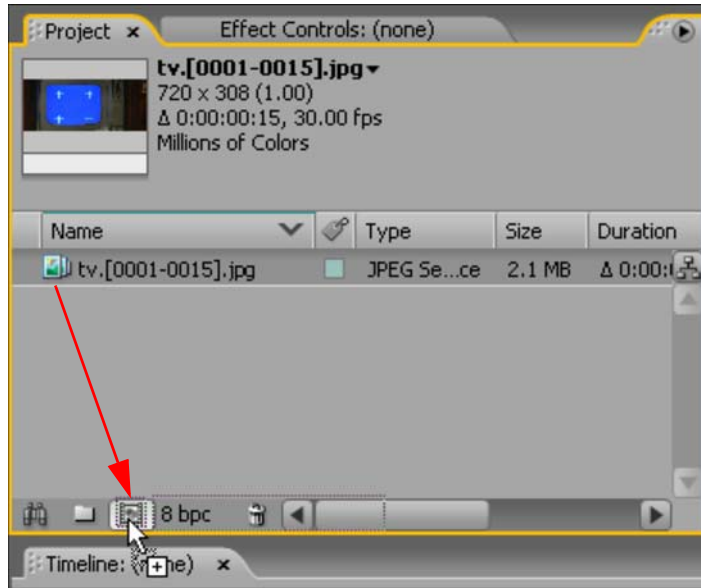
Original

Masks

1   **You may skip steps 2 and 3 if you have already completed the previous exercise.**

2   **Go to www.digitalfilmtools.com and download the tutorial images from the Power Matte download tab.**

3   **Double-click on the powermatte-ae-tutorial.zip file that you downloaded to uncompress it.**

4   **Start After Effects and double-click inside of the Project window.**

5   **When the Import File window opens, navigate to the powermatte-ae-tutorial/footage/tv folder, select *tv.0001.jpg* and click Open.**

6   **Double-click on the *tv.[0001-0015].jpg* sequence in the Project window and click the Play icon in the Time Controls to see what the clip looks like.**

7 When you are done playing the clip, hit the Spacebar to stop playback and close the Footage window.

8 Create a Composition by clicking, dragging and dropping the *tv.[0001-0015].jpg* sequence on the Create a new Composition icon at the bottom of the Project window.
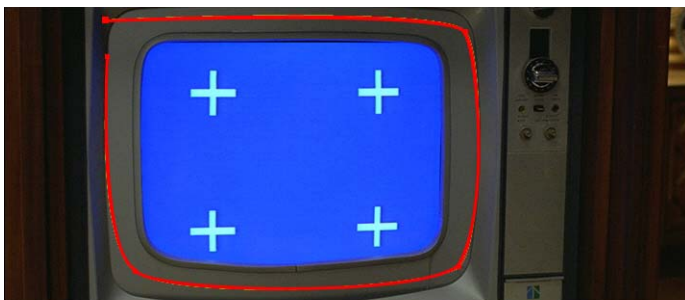

Let's start by creating some open masks. Masks should be near the boundary of the foreground or background, but not right up against the edge. Also, if the foreground or background has varying colors, the masks should cross over these colors.
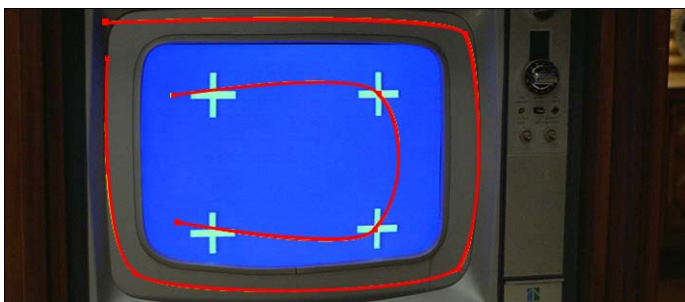
9 Select the Pen tool.

10 **Create an open mask and define the area to be cutout by left-clicking around the outside of the television screen. This is the foreground or what we want to keep. Do not close the mask.**

Now, draw a mask to define background areas. This would be the blue area within the television screen.

11 **Create a new open mask within the blue area of the television screen by first Ctrl(Win)/Cmd(Mac)-clicking once on the image in the Composition window and and then proceed to left-click around the inside of the television starting at the bottom left cross and ending at the top left cross. Be sure that the mask intersects all of the crosses.**

If the background has varying colors, the masks should cover these colors.

Now that you have a foreground and background mask, animate them over time so that they follow the motion of the television. To animate masks over time, you need to turn on the Time-vary Stop Watch icon for the Mask Shape parameter in the Timeline.

12 **In the Timeline, click the right arrow next to the *tv.[0001-0015].jpg* layer name and then the Masks heading to expand them.**

13 **Click the right arrow next to the Mask 1 name to expand it.**

14 **Press the Time-vary Stop Watch icon next to Mask Shape to activate keyframing.**

15 **Repeat the last two steps for Mask 2.**

16 **Choose the Selection tool, go to last frame in the Timeline and adjust the masks as necessary.**

The shape of the masks will now change over time.

17 **Play through the Composition to make sure that the masks are properly following the television.**

18 **Once you are happy with your mask animation, position the Timeline at frame 1.**

19 **From the Effect pull-down menu, select Power Matte from the Digital Film Tools group.**

When you apply Power Matte, nothing happens because you haven't yet assigned the masks to the Power Matte Foreground and Background selectors.

20 **In the Effect Controls, select Mask 1 from the Mask > Foreground pop-up menu and choose Mask 2 from the Mask > Background pop-up.**

Power Matte processes the matte. Because there is not a background layer, the center of the television is cutout and is replaced with black.

21 **If at any time you want to turn off the display of the masks, click in the gray area immediately outside of the image in the Composition window.**

When a foreground object has been photographed against a solid blue or green backdrop, the blue or green color can have a tendency to spill onto the foreground object. When extracting an object photographed against one of these colors, you may find it necessary to remove the blue or green spill. This is a process called Spill Suppression.

<div align="center">Spill Suppression Off   Spill Suppression Off</div>

22 **To remove the blue spill around the television, change the Spill Suppression > Screen Type parameter from None to Blue.**

The blue spill is removed.

23 **Under the Composition window, click on the Show Channel icon and select Alpha.**

The Composition window displays the Alpha channel.

Note: If you have a layer below, a solid white screen will be displayed when you select Show Channel > Alpha. To see the generated matte in this configuration, use View > Matte from the Power Matte Effect Controls instead.

24 **Select Composition > Preview > RAM Preview to check your results so far.**

In the generated matte, white is foreground, black is background and any gray areas in between represent a level of transparency. If the matte is not acceptable after processing, you can adjust the masks. If you need to adjust the masks after they have been created and assigned in Power Matte, you can enhance performance by either:

- **Disable the Power Matte effect while adjusting the masks. To disable an effect, press the Effect switch (the "f" icon) at the top left of the Effect Controls window.**
- **If Power Matte is enabled, set the Resolution/Down Sample Factor Popup at the bottom of the Composition window to something other than Full.**
- **In Preferences > Previews, set "Adaptive Resolution Limit" to 1/8 and "Accelerate Effects Using" to Adaptive Resolution. This will allow Power Matte parameter and mask editing to be snappier.**

25 **If you see gray areas in the foreground object that should be completely white, adjust the foreground mask in those areas.**

26 **If you see gray areas in the background that should be completely black, adjust the background mask.**
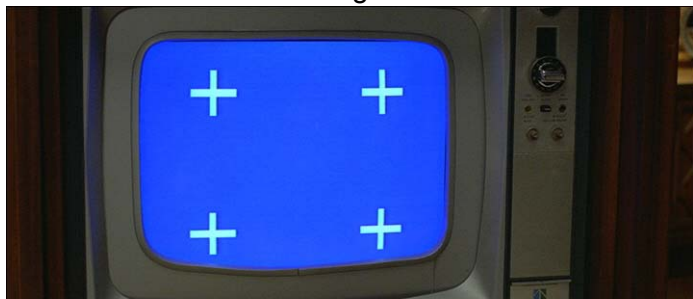
27 **Click on the Show Channel icon again and set it back to RGB.**

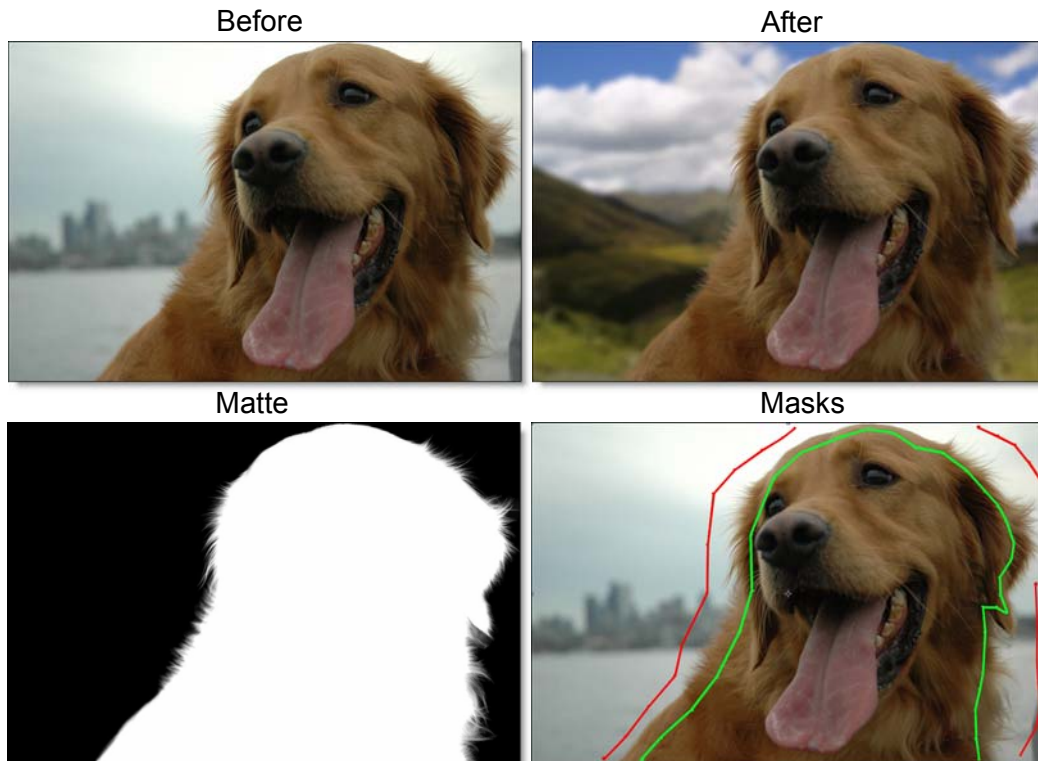**28** **Click Play button to see the RGB image results.**

Result

Original

29 **If you would like to load up the final After Effects project for this tutorial, you can open *tv.aep* from the powermatte-ae-tutorial/projects folder.**

POWER MATTE USER GUIDE

Description

Power Matte is an easy to use interactive image matting tool capable of extracting almost any object in an image--even if you are dealing with fine hair detail, smoke, or reflections. This extraction process creates what is known as a matte--essentially a black and white cutout. White matte areas are extracted, black areas not, and gray areas in between represent a level of transparency. Once a matte is extracted, the foreground object can be seamlessly composed onto a new background as well as apply filter and image corrections only within the area defined by the matte.

Before	After

Matte	Masks

To work this magic, Power Matte iteratively estimates the transparency value for every pixel in the image, based on a small sample of foreground (what you want to cut out) and background (what you want to get rid of) pixels marked by defining simple masks on the image. Results show that compared with previous

approaches, our method is more efficient and requires minimal effort to extract high quality mattes for foregrounds with significant semi-transparent regions. In addition, the foreground edge colors can be estimated in the semi-transparent areas to create a seamless composite.

Matte Creation

Power Matte uses open or closed After Effects masks to define the object you would like to isolate or extract. The masks can be loose--they don't need to follow exactly around the edges. Areas not defined by masks are considered unknown areas and are automatically computed by Power Matte.
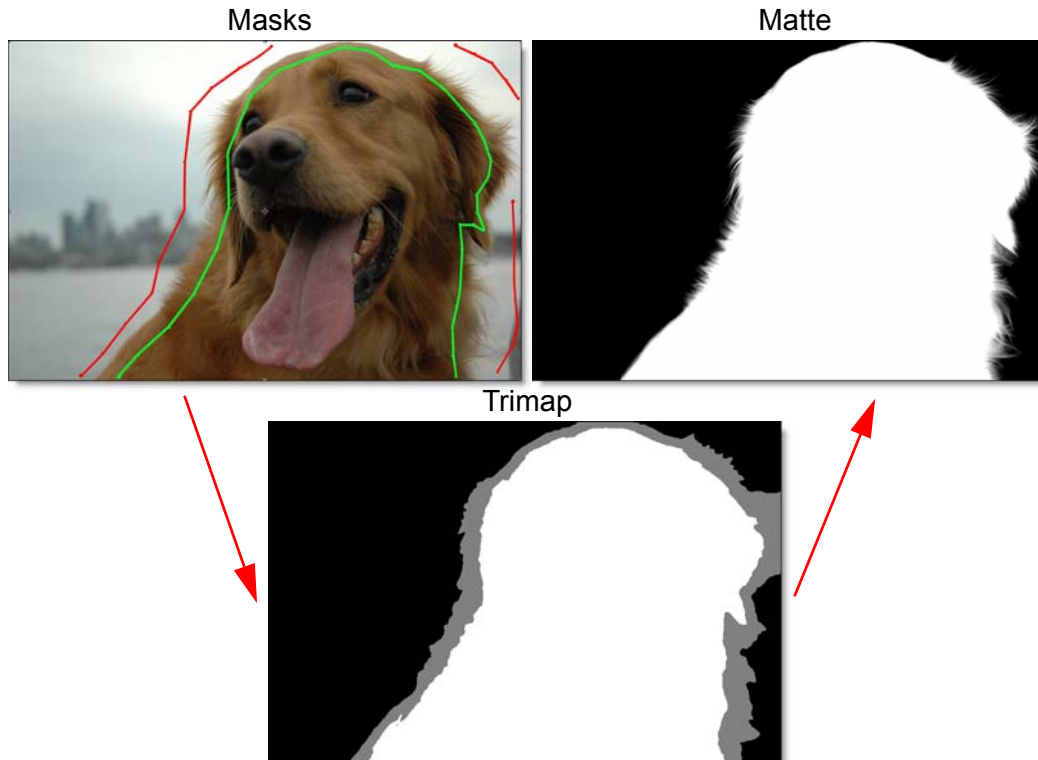
Trimaps

Power Matte creates mattes by using a trimap--a pre-segmented image consisting of three regions of foreground (what you want to cut out), background (what you want to get rid of) and unknown. Partial opacity values are then computed only for pixels inside the unknown region. Two trimap methods can be used: Open Mask or Closed Mask. When creating mattes, start with the Open Mask Method and move on to the Closed Mask Method if the results are not satisfying.

Power Matte uses After Effects masks, or alternatively an external matte source, to create the trimap that is then used to create the final matte.

Open Mask Method

Power Matte only requires a few open/unclosed After Effects masks to define foreground and background areas of the image when using the Open Mask Method. Areas not defined by masks are considered unknown areas with partial opacity values being computed between the areas marked by foreground and background masks.

Masks   Matte

Trimap

Using the After Effects masks, Power Matte generates an intermediate matte result called a Trimap. White signifies solid foreground, black is complete background and gray is unknown area where Power Matte will compute partial opacity.
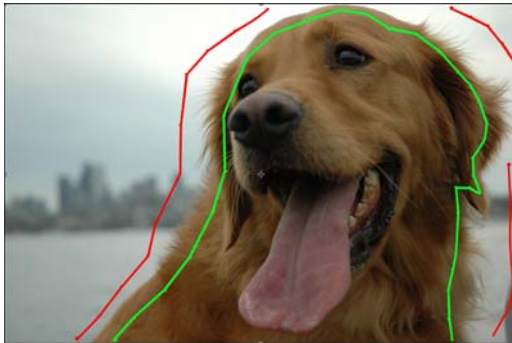
The Open Mask Method requires little user input, but when color ambiguity exists between the foreground and background, the Closed Mask Method may create a more accurate matte. In addition, the Open Mask Method will also take slightly longer to render as it requires an extra calculation step.
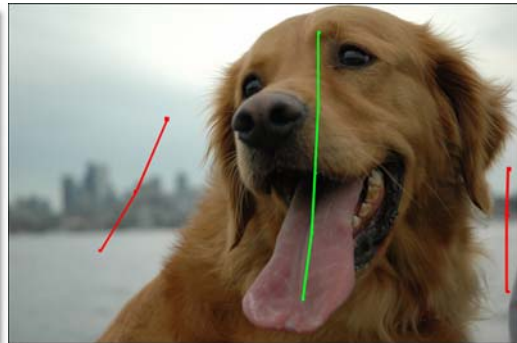
Open Mask Method Tips & Tricks

- **Make sure you draw enough foreground (what you want to cut out) and background (what you want to get rid of) masks. A good technique is to draw an open/unclosed inner mask within the object you are extracting and an outer, open/unclosed mask outside the object.**

- **The masks should be near the boundary of the object, but not right up against the edge.**

- **If the foreground or background has varying colors, the masks should cover these colors.**

- **When viewing the matte, if you see gray areas in the foreground object that should be completely white, make additional foreground masks in those areas. If you see gray matte areas in the background that should be completely black, make additional background masks.**

- **The general rule is don't put different mask types too close together unless you need to.**

Warning: If you only provide a few sparse masks, the Open Mask Method will take longer to process with the result less accurate than the Closed Mask Method.
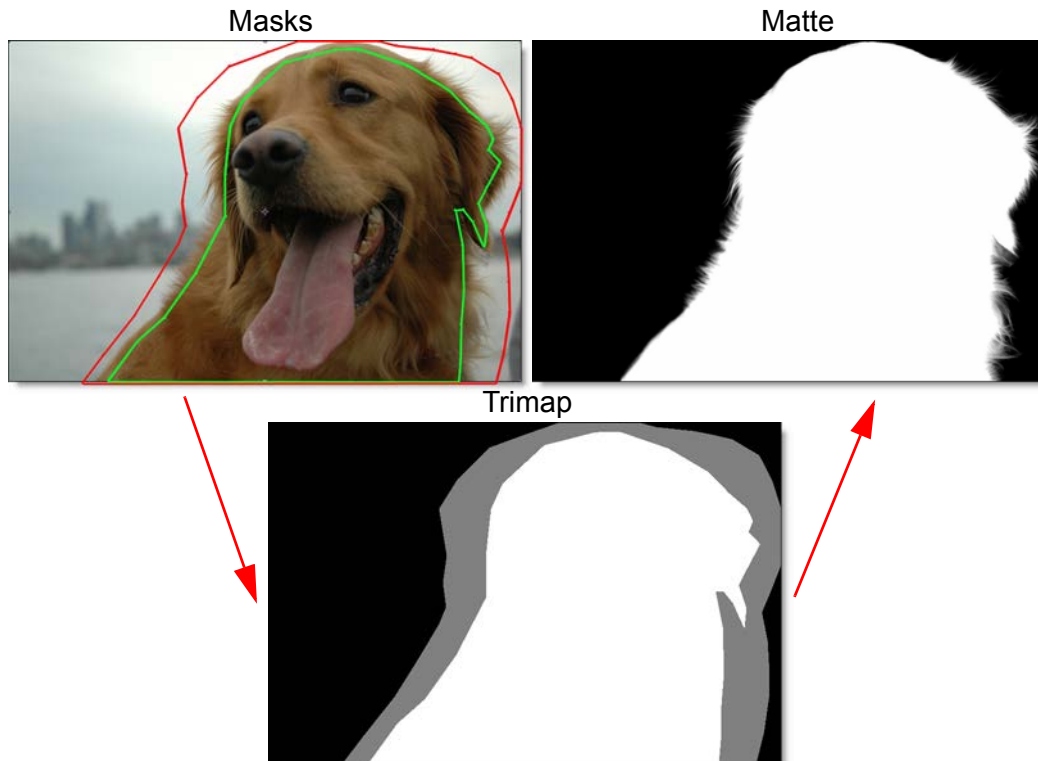
Good Mask Example   Bad Mask Example

Closed Mask Method

The Closed Mask Method uses closed After Effects masks to mark definite foreground and background areas of the image--an inner mask just inside the object (foreground), and an outer mask just outside the object (background). The area between the closed masks is considered unknown, so make sure that any blurry or unknown areas of the object fall within the two masks. Partial opacity values are then computed only for pixels inside the unknown region.

Masks   Matte

Trimap

Closed Mask trimaps process slightly faster than Open Mask trimaps and can result in extracting a more accurate mask, most notably when color ambiguity exists between the foreground and background. However, they can be tedious to create and tend to fail for images with large portions of semi-transparent foreground where the trimap is difficult to create manually.

Closed Mask Method Tips & Tricks

- **First, define foreground areas by drawing a closed mask around the inside edges of the foreground (what you want to cut out).**

- **Next, define background areas (what you want to get rid of) by drawing a closed mask around the outside of the foreground.**

- **Ideally, the unknown region, the area between the foreground and background masks, should only cover transparent pixels whose actual values are not completely foreground or background. In other words, the unknown region should be as thin as possible to achieve the best masking result.**

Note: Large foreground objects take longer to process than small ones.

After Effects Masks

Power Matte uses open or closed After Effects masks, or alternatively an external matte source, to create the trimap that is then used to compute the final matte.

Creating Masks

To create masks in After Effects:

1   **Select the Pen tool and left-click to add mask points to the image in the Composition window.**

2   **To close a mask, click on the first point that you selected.**

3   **The easiest way to create multiple open masks in After Effects while the Pen tool is selected is to Ctrl(Win)/Cmd(Mac)-click on the image in the Composition window. The next time you left-click, a new mask is created.**
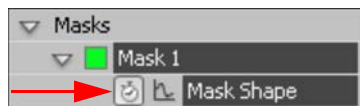
Animating Masks

To animate masks so that they move over time, you need to turn on the Time-vary Stop Watch icon for the Mask Shape parameter in the Timeline.

To animate a mask in After Effects:

1   **Click the right arrow to the left of the layer's name to expand it.**

2   **Click the right arrow next to the Masks heading to expand it, revealing all masks on that layer.**

3   **Click the right arrow next to the mask name to expand it.**

4   **Press the Time-vary Stop Watch icon next to Mask Shape to activate keyframing.**

5   **Go to different frames in the Timeline and adjust the mask.**

The shape of the mask will now change over time.

Linking Masks

You may have noticed that Power Matte only has one choice for the Foreground and Background mask selectors. So, you may ask, what if I want to use more than one mask to define the foreground or background? I'm glad you asked. Masks can be linked by either similar names or colors. Go to the **Link Masks** section on page 46 for more information.

Note: Refer to After Effects help for more information on creating and using masks.
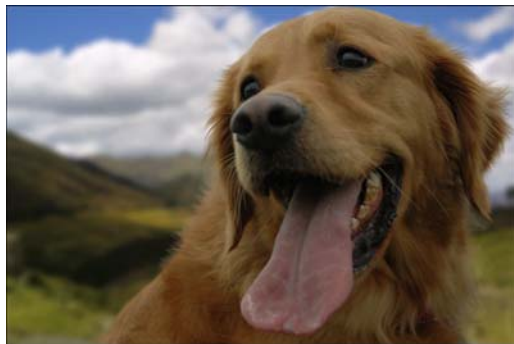
Parameters

Force Update

Forces Power Matte to process. Power Matte does not process automatically after the mask color or name is changed. If Link Masks > Mask Color or Mask Name is selected prior to the mask color or name being changed, you will need to use Force Update to process the change.

View

Chooses what to display in the Composition window.

Output

Displays the output of the Power Matte plug-in. Once masks have been assigned, the foreground is composited over the background based on the generated mask. If a background layer is not present below the foreground layer, the foreground is shown over black.

Matte

Displays the final, generated matte.

Trimap

Displays the trimap matte.

Original

Displays the Foreground image.
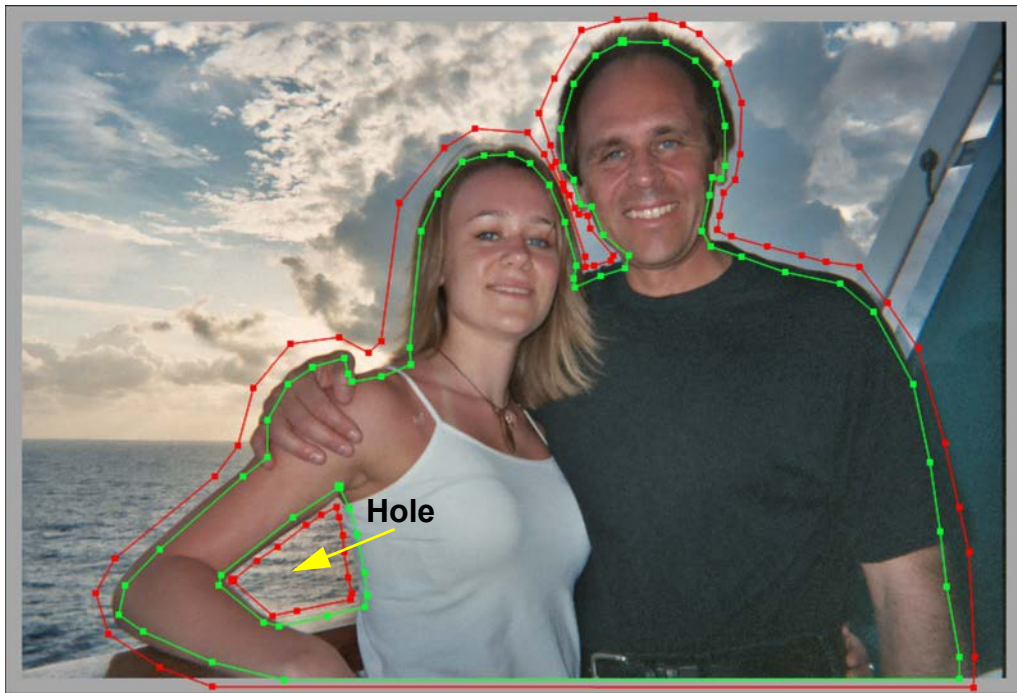
Mask

Foreground

Select the After Effects mask to be used to define foreground.

Background

Select the After Effects mask to be used to define background.

Holes

When using closed After Effects masks, the Holes mask selectors are used to specify holes within areas of a closed foreground mask. In the example below, green masks are foreground and red masks are background.

Foreground

Select the closed After Effects mask to be used to define the foreground area outside of the hole.
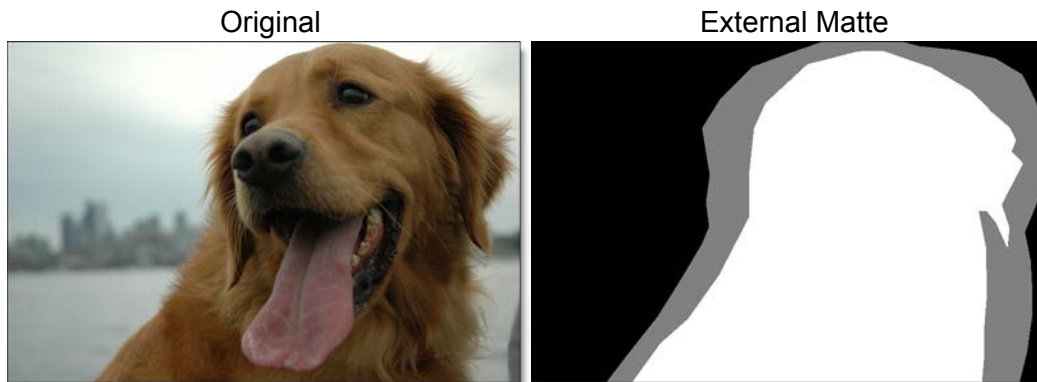
Background

Select the closed After Effects mask to be used to define the background area inside of the hole.

To use more than one mask to define the foreground or background, you can link multiple masks together by either similar names or colors. Go to the **Link Masks** section on page 46 for more information.

Trimap

Instead of using After Effects masks, previously rendered external mattes can be used as the trimap source. When creating your external matte, assign black to background areas, white to foreground areas and 50% gray to unknown areas. Power Matte will then properly compute the matte.

Original	External Matte

Note: Enabling the Trimap control overrides masks assigned to the Masks > Foreground and Background selectors.

Layer

Selects the layer to use as the trimap source.

Channel

Chooses which channel from the selected layer to use for the trimap.

Alpha
Selects the Alpha channel.

Red
Selects the Red channel.

Green
Selects the Green channel.

Blue
Selects the Blue channel.
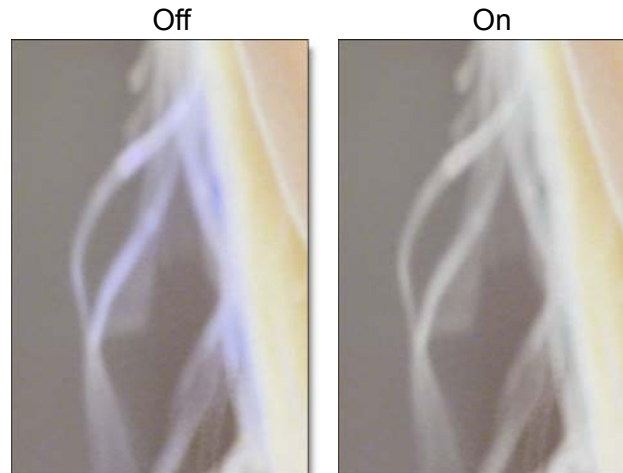
Edge Color Estimation

Estimates the color of the foreground in unknown and semi-transparent areas. Edge Color Estimation is off by default and when activated, prevents fringing to create a seamless composite. When disabled, a foreground object with transparent edges against a bright or dark background will have bright or dark edges in the composite.

Off	On

Note: Edge Color Estimation can cause color flickering in edge areas of partial opacity if your mask position is not constant from frame to frame or if your source footage is grainy. Disable Edge Color Estimation if you see flickering in the edge areas after a preview or rendering.

Spill Suppression

When a foreground object has been photographed against a solid blue or green backdrop, the blue or green color can have a tendency to spill onto the foreground object. When extracting an object photographed against one of these colors, you may find it necessary to remove the blue or green spill. This is a process called Spill Suppression.

Off	On

Screen Type

Selects whether blue or green is suppressed from the foreground image.

Amount

Suppresses color spill in the foreground.The default value of 100 should be sufficient for most situations.

Range

Increases the range of areas that are color suppressed. If color spill is still evident, increase this value.

Edge

Suppresses the color spill of the unknown edge areas to the color gray. This is useful for edges that contain a lot of neutral transparency like glass reflections.

Options

Various Power Matte preferences can be set by opening the Options group.

Link Masks

Power Matte only has Foreground and Background mask selectors. If you want to use more than one mask to define the foreground or background, you will need to link the masks by either Mask Color or Mask Name.

Mask Color

Masks of the same color will all be considered as the same mask as far as Power Matte is concerned. For instance, if you have selected a green colored mask using the Masks > Foreground selector, all green masks will contribute to the foreground computation. However, the color of the masks need to be exactly the same for this setting to work.

<u>**To change the color of a mask in the Timeline:**</u>

Mask are colored yellow by default. If you plan on linking masks together by their color, you will need to change the color of the masks.

1 **In the Timeline, click the right arrow next to the layer name and then the Masks heading to expand them.**

2 **Click on the color box to the left of the mask name.**

3 **When the Color Picker opens, select a color and click OK.**

Note: Power Matte does not process automatically after the mask color is changed. If Link Masks > Mask Color is selected prior to the mask color being changed, you will need to press the Force Update button in the Effect Controls for Power Matte to process the change.

Mask Name

Masks of a similar name will all be considered as the same mask as far as Power Matte is concerned. This is the default setting. For instance, if you have selected a Mask named Mask 1 using the Masks > Background selector, masks named Mask 1a, Mask 1b, Mask 1c, etc. will also contribute to the background computation. The masks must share a common prefix for this setting to work.

<u>**To rename a mask in the Timeline:**</u>

By default, masks are named Mask 1, Mask 2, Mask 3, etc. If you plan on linking masks together by their name, you will need to change their names.

1 **In the Timeline, click the right arrow next to the layer name and then the Masks heading to expand them.**

2 **Click on the mask name to select it.**

3 **Hit the Enter key and rename the mask.**

<u>Note:</u> Power Matte does not process automatically after the mask name is changed. If Link Masks > Mask Name is selected prior to the mask name being changed, you will need to press the Force Update button in the Effect Controls for Power Matte to process the change.

Sensitivity

Sets the sensitivity of the Unknown areas. The higher the value, the more details are brought out.

Deartifact

Blurry artifacts can be generated in the matte while attempting to extract objects that have drop shadows, similar colors to the background or out of focus edges. Deartifact can be used to limit these artifacts and also works well to remove unwanted gray areas in the edges of the matte.

Accuracy

The accuracy of the generated matte can be increased with this control. When foreground and background masks are close together, setting the Accuracy to Higher or Full will result in a more accurate matte. It is best to work with Power Matte at the Accuracy setting that you will be rendering at.

Default

The Default accuracy will work for most images and will render faster than the other settings.

Higher

Higher results in better accuracy than the Default setting, but not quite as good as Full.

Full

Full will result in the most accurate matte, but will take longer to render.

Power Matte After Effects Tips and Tricks

There are a number of tips and tricks to streamline the use of Power Matte in After Effects.

- **If you need to adjust the masks after they have been created and assigned in Power Matte, you can either:**
  - **•1) Disable the Power Matte effect while adjusting the masks. To disable an effect, press the Effect switch (the "f" icon) at the top left of the Effect Controls window.**
  - **•2) If Power Matte is enabled, set the Resolution/Down Sample Factor Popup at the bottom of the Composition window to something other than Full.**
  - **•3) In Preferences > Previews, set "Adaptive Resolution Limit" to 1/8 and "Accelerate Effects Using" to Adaptive Resolution. This will allow Power Matte parameter and mask editing to be snappier.**
- **If the Edge Color Estimation parameter is active and if you see color flickering at the edge of your foreground object after previewing or rendering, disable Edge Color Estimation.**