3.2.4 Masks

Masks select a region of the video for either displaying or hiding. A variety of different uses are described next. Masks can be used in conjunction with another effect to isolate that effect to a certain region of the frame. Another example of usage is where a copy of one video track may be delayed slightly and unmasked in locations where the one copy has interference but the other does not. In some cases you will need to create a clone track, which contains the same information as the original track, or an empty track with a specific plugin, like gradient, applied. Another possible scenario is where a secondary color correction may be needed in one subsection of a frame but not another, in which case a mask can be added to just that subsection of the color corrected track, while the plain track shows through. Removal of boom microphones and airplanes, or blurring out a person's face and a car's license plate, are other common uses for the masking operation.

The order in which the program executes the code affects what can be done with masks. Usually masks are performed on the track frame after the effects are applied and before the projector. This means multiple tracks can be bounced to a masked track and projected with the same mask. Each mask is defined separately, although they each perform the same operation, whether it is alpha multiplication or subtraction with or without feathering.

Steps to define a mask

1) To define a mask, go into the Compositor window and enable the mask toggle (tooltip "Edit mask") which causes a + (plus sign) to appear in the Compositor. Also toggle the mask option window. The Mask option window appears when you click on the question mark (?) icon.
2) Next go over to the video and click-drag to create a point and move it to where you want it to be. Note that you have to select automatic keyframes (see Keyframes chapter 8) if you wish to move a mask over time for a dynamic mask. If you do not, the mask position will be the same even if you edit at different places on the timeline.
3) Click-drag again in another part of the image to create each new point of the mask. While it is not the conventional Bezier curve behavior, this masking interface performs in realtime what the effect of the mask is going to be. Creating each point of the mask expands a rubber band curve. Note that after the third point the mask closes automatically, but you can still add new points.

Once points are defined, they can be moved by Shift-dragging in the vicinity of that point. Shift-drag allows you to move existing points to new locations, thus altering the shape of the mask. However, this does not smooth out the curve. The Control points, also called handles, of the Bezier curve are created by Ctrl-dragging near that point. Then Ctrl-dragging near the handles causes the point handles to move.

4) Finally once you have a mask, the mask can be translated to a new location on the window in one piece by Alt-dragging the mask. The effect of the mask is always on.
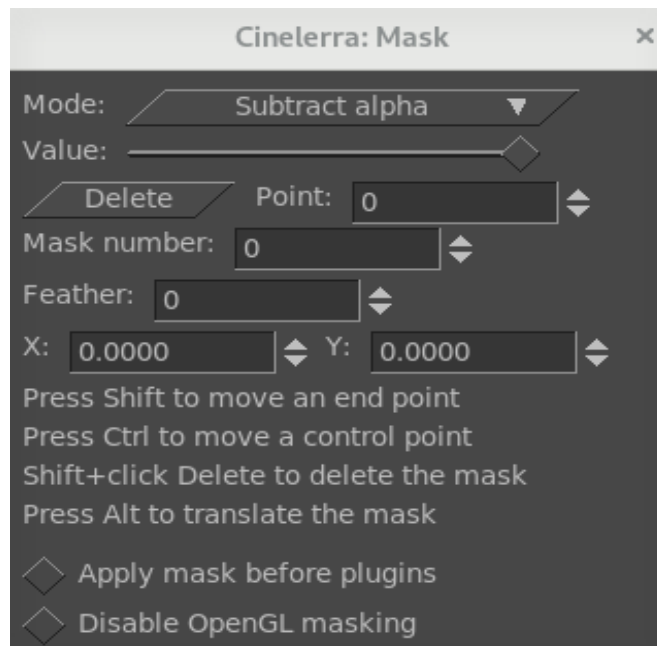
Figure 1: Mask options window

There are more parameters for masking that are listed next.

The *Mode* of the mask determines if the mask removes data or makes data visible. If the mode is *Subtract alpha,* the mask causes video to disappear. If the mode is *Multiply alpha,* the mask causes video to appear and everything outside the mask to disappear.

The V*alue* of the mask, set by a slider bar, determines how extreme the subtraction or multiplication is. In the subtract mode, higher values subtract more alpha. In the multiply mode, higher values make the region in the mask brighter while the region outside the mask is always hidden.

The *Mask number* determines which one of the 8 possible masks we are editing; they are numbered 0 to 7. Each track has 8 possible masks. When you click-drag in the compositor window, you are only editing one of the masks. Change the value of mask number to switch to another mask to be edited. The previous mask is still active but only the curve overlay for the currently selected mask is visible. When multiple masks are used, their effects are combined together. Every mask in a single track uses the same value and mode.

The edges of a mask are hard by default but this may not be desirable. The *Feather* parameter determines how many pixels to feather the mask. This creates softer edges but takes longer to render.

Two checkbox options are *Apply mask before plugins* and *Disable OpenGL masking.* Note that the OpenGL mask renderer is of low quality and only suitable as a preview for initial work. For fine-tuning of masks (especially with large feather values) *Disable OpenGL masking* should be switched on so that the software renderer is used instead.

Finally, there are parameters which affect one point on the current mask instead of the whole mask. These are *Delete*, *X*, and *Y*. The active point, represented by the numeric value of X and Y, is defined as the last point dragged in the compositor window. Any point can be activated merely by Shift-clicking near it without moving the pointer or clicking exactly on the point or choose the number point in the

mask option window. Once a point is activated, *Delete* deletes it and *X, Y* allow repositioning by numeric entry. Hold down the Shift key and then click on this *Delete* button to delete the entire mask.
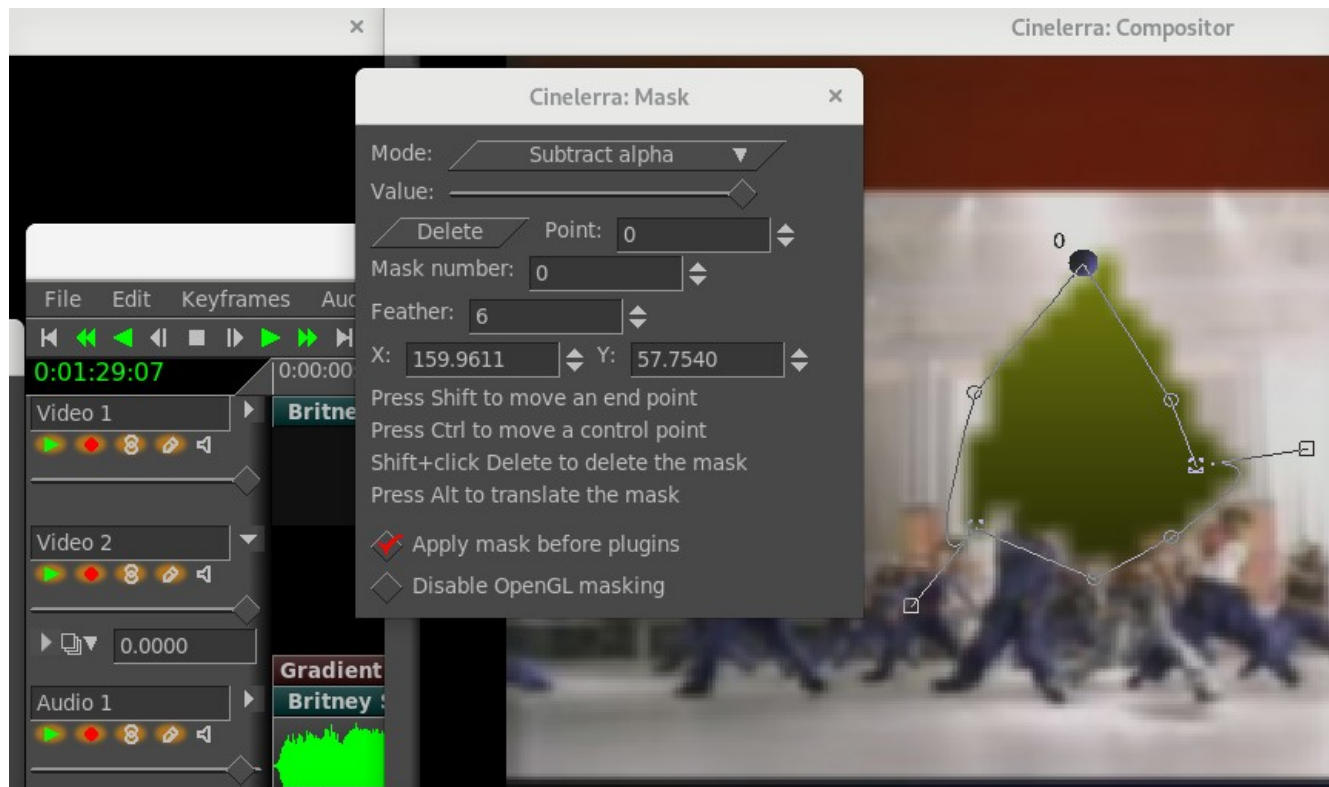

Figure 2: Masking - timeline has video and a gradient plugin track of the green color. The Mask options window shows Subtract option with 100% alpha for Mask number 0 with feathering enabled.