Nattress Film Effects V2.5
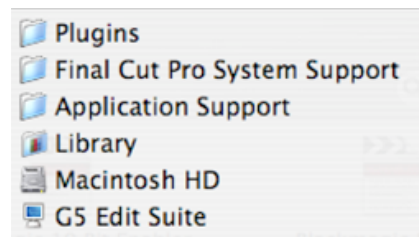
Instructions

Installation

Copy the plugins from the download of **Nattress Film Effects** to the Plugins folder on your hard drive. For more free and commercial plugins visit **www.nattress.com**

The plugins folder is located at, from the root of your main hard drive:

/Library/Application Support/Final Cut Pro System Support/Plugins

Make sure that you have both read and write privileges to the plugins. Also, be sure to copy them to the correct place on your hard drive. There are multiple "Library" folders in OS X, but the one you need is the one at the root of your hard drive, not the one in your own home folder.

These filters have been tested with FCP3, FCP HD, and FCP5 under OS X. I strongly recommend FCP 4.x / FCP5 for speed and stability while using the **Nattress Film Effects** plugins.

New In Version 2.5

Version 2.5 fixes some bugs in 2.1 and adds a number of new plugins and features.

New Plugins
• G Fast De-interlace
• G Fast De-interlace Blend
• G Fast De-interlace Smart
• G Fast De-interlace Smart Blend
• G Simple S-Gamma
• G S-Gamma Plus
• G Gamma S-Gamma

- G Chroma Sharpen Interlaced
- G Chroma Sharpen Progressive

New Features
- Improved de-interlacing code for faster rendering
- Selectable Anti-Aliasing replaces the "Smooth" option for de-interlacing
- Improved plugin organization inside Final Cut Pro
- Improved naming of 24p pulldown patterns

Bugs Fixed
- Plugins that use the widescreen matte now appear the same after rendering as they do in preview
- 1 field mode is now fixed
- Film Flash will now always go to pure white if required
- Field rendering order for upper field footage is fixed
- Rotation of region in G Vignette fixed
- Fixed curve rendering

Known Issues
- G Nicer 4:1:1 V2.5 does not work in 10bit or "High Precision YUV" rendering mode. This is due to a bug in Final Cut Pro.

Introduction

Nattress Film Effects are a set of filters and presets for Final Cut Pro that are designed to make video look like film. To be more specific, **Nattress Film Effects** produces the appearance of the motion of film transfered to NTSC or PAL video, and provides a suite of tools that affect the visual image to make it more film like.

There are two key elements to making video look like film - one is how you shoot your video, and the other is how you process it in Final Cut Pro:

1. Shoot with the correct shutter speed.
        NTSC shutter should be 1/60th second
        PAL shutter should be 1/50th second

    You can use a higher shutter speed for artistic effect, but never drop below 1/60th or 1/50th. In doing so you throw away some of the temporal information needed to make **Nattress Film Effects** work.

2. Don't shoot progressive scan (30p) if you want to produce 24p. Again, this throws away temporal information Nattress Film Effects needs. Some cameras have "frame mode" and this causes the same problems.

3. If your camera shoots real 25p or 24p, then use it, and use the "RT" filters, presets and other filters in **Film Effects** to complete your look.

4. Shoot like film - use smooth, slow camera moves to avoid juddering motion.

5. Light carefully - don't crush blacks or clip highlights.

6. Turn off or reduce any sharpness control in the camera. Sharpness is an electronic effect that is a dead give-away for video that will spoil any film effect.

Technical Information

How is film transferred to video?
This depends on whether the video is NTSC or PAL, or more specifically whether the video is 30 or 25 frames per second. Actually, each frame of video is made up of two fields. This dates back to the earliest days of television when the electronics of the time couldn't cope with displaying all 625 (PAL) or 525 (NTSC) lines each 1/25th or 1/30th of a second. To solve this problem, they changed the system so that it displayed half of the lines at double the frame rate. So now we have systems which work at 50 fields per second (PAL) or 60 fields per second (NTSC). Each field has half the vertical resolution, and, more importantly, is separated in time by 1/50th or 1/60th of a second. If an object in your video is moving fast enough then your camera will record it being in a different position for each of the two fields. If you view a still frame on the computer monitor, you will be able to see the two interlaced fields with a tearing effect. This is perfectly normal, and will not be visible on a TV monitor - because TV monitors display interlaced video, and computer monitors do not.

The traditional frame rate of movie film is 24fps (frames per second), and for transfer to video, these 24fps must be evenly distributed over the 25 or 30 fps. Because of the two different frame rates, there are two methods used to convert the 24fps.

Because of interlace, PAL and NTSC video are often referred to as 50i and 60i in terms of their frame rate, the "i" indicating interlaced. Digital video video shot at 24 frames per second doesn't have interlaced lines - it's called progressive scan, hence the frame rate is referred to as 24p. Standard definition video can also be recorded progressive, and it's referred to as 25p and 30p.

PAL (25fps)
The divisors of 24 are 1, 2, 3, 4, 6 & 12. The divisors of 25 are 1 & 5. They don't have any common divisors - they're said to be mutually prime. Fortunately, 24 and 25 are very close to each other, so to convert film's 24fps to PAL's 25fps, each frame of film is mapped to each frame of video, speeding up the film slightly (about 4%). Because film is not interlaced, the resulting video has no temporal difference between fields - they both represent the same instant in time.

NTSC (30fps, 60 fields per second)
A different method was invented to map film frames over to NTSC video frames. The divisors of 24 are 1, 2, 3, 4, 6 & 12. The divisors of 60 are 1, 2, 3, 4, 5, 6, 10, 12, 15 & 30. There are some common divisors, and this means that, for instance, 6 divides into 24 and 6 divides into 60. 24/6 = 4, and 60/6 = 10, so each 4 frames of film must map to 10 fields of video, or 1 frame of film maps to 2.5 fields of video. Because we can't have half fields of video, we alternate the mapping of each frame of film to 3 then 2 fields of video which averages out to 2.5 This is called 3:2 pulldown. Actually, NTSC runs at 29.97fps not 30fps. This was introduced with color to NTSC to stop the audio subcarrier interfering with the new color signal.

2:3 Pulldown

24fps	A	B	C	D	4 Frames of Film

29.97fps	A	A	B	B	B	C	C	D	D	D	10 Fields of Video

Whole   Whole   Split   Split   Whole
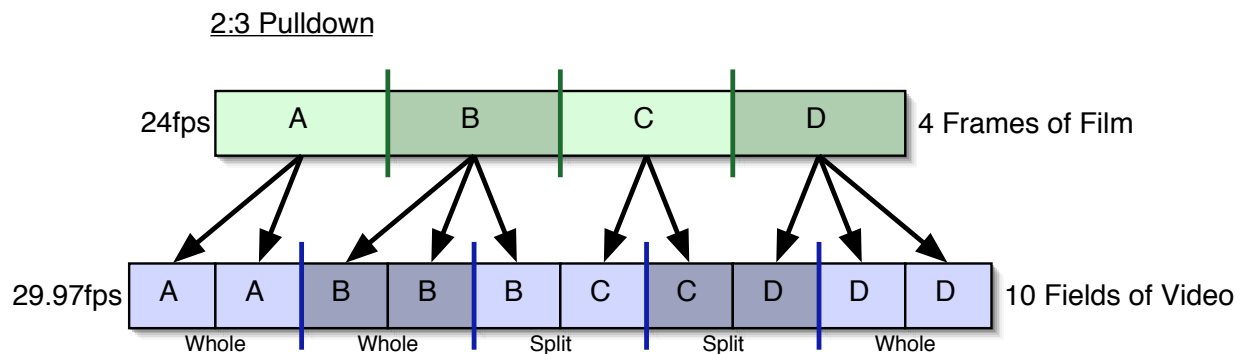
OK - Enough mathematics - What does this mean for me?
It means that making PAL video look like film is a lot easier than making NTSC video look like film! The look of film on PAL is that of (in motion characteristics at least) de-interlaced video. De-interlacing is a term for a number of different techniques that re-move the interlaced look from video, and hence allow the viewer of the video to only see 25 or 30 discreet time instances each second, rather than the usual 50 or 60.

The most basic method is just to remove one of the fields, and fill in the gaps with the other one. This method works, but you will loose 50% of your vertical resolution, and this can look bad!

The second method is to blend between the two fields. This can add a slight amount of motion blur, but should keep a good proportion of the vertical resolution you started with. This method looks good.

The third method is "smart" or "adaptive" de-interlacing. There are many distinct ways to do this, but all rely on analyzing which areas of the video image are moving (and hence will exhibit interlace tearing) and which are not. Only those areas which are moving need de-interlacing, and hence the overall vertical resolution will approach a theoretical maximum, depending on the video being analyzed and the actual details of the method employed.

Nattress Film Effects allows you to use field blending or smart de-interlacing for both PAL and NTSC. The field blending algorithm is, however slightly faster than smart de-interlacing. Also, **Nattress Film Effects** gives you the ability to adjust the amount of motion blur the blend method adds, from 0% (no motion blur added) through to 100% (full blend).

To make NTSC video look like film is more tricky. First we must select the 24 frames out of 30 to which we want to add 3:2 pulldown. There is not a right answer to which 24 we pick (because we can't have fractional fields), which is why **Nattress Film Effects** has 4 different methods for you to choose from. They are:

Method	Notes	Visual Effect
1 Field	Picks the nearest field to the "right" one	Can look very good when de-interlace is set to Normal - looks choppy on Smart de-interlace. **Do not use** with Motion Blur set to 0% or low percentage values
2 Field	Picks the nearest field, and blends it with it's neighbour	Looks very good with both Normal and Smart De-interlace
3 Field	Picks the nearest field, and the one before and the one after and blends all three	Has a very smooth look, but also has the most added motion blur
3 Field Var	Picks the nearest field, and the one after or the one after and one before, in a 3:2 pattern	Also has a very smooth look, but also can look like an NTSC kinescope (tele-recording)

There is no way to suggest the "best" setting because the video footage you're using and the effect you're wanting to achieve will be different each time, but I personally like **2 Field** with **Smart De-Interlace** best.

Another effect of reducing the motion blur is to increase the apparent shutter speed used, leading to the type of effect seen in the battle sequences of Ridley Scott's Gladiator.

In the event that a lower vertical resolution is desired, or necessary to prevent aliasing (jagged lines), extra smoothing can be turned on by using the Anti-Alias control.

Once the 24 frames are chosen, they are spread back out in the 3:2 pattern to fit back into 60 fields per second. The 3:2 pulldown pattern causes a specific characteristic - that of Whole (W) and Split (S) Frames. Whole frames are caused when a frame of film lands in the 30fps video so that it occupies at least one whole frame of video - no interlace tearing will be visible. Split frames occur when it lands so that it takes up only one field of a frame, the other field being used by the next frame of film. There will be visible interlace tearing on the split frame, and this is perfectly correct and normal - it will look fine when playing on a TV monitor.

In **Nattress Film Effects** you can choose the pulldown order by selecting from (WWSSW) AA, (WWWSS) BB, (SWWWS) BC, (SSWWW) CD, (WSSWW) DD, which are the only five patterns possible. This will not really change the visual effect of the filter, but may be useful for matching clips so that they all flow in a sequence.

Nattress Film Effects also allows for other frame rates. They use a combination of the above methods, depending on the number chosen.

NTSC (fps)	PAL (fps)	Notes
30	**25**	25fps is the normal setting for a PAL film effect, 30p is an alternative setting for NTSC
24	20	24fps in the normal setting for NTSC film effect. You can also use this setting for a special effect for PAL footage.
15	12.5	You can use this setting for a special effect for NTSC and PAL footage.
12	10	You can use this setting for a special effect for NTSC and PAL footage.

The look of Film
The look of film is not just made up of the temporal effects discussed above. Film has a wider dynamic range than video, and does not record all brightnesses evenly. If you were to measure how different brightnesses are recorded on film, you'd get a graph that looks a little like a letter "S". Film Effects has special controls to allow you to create and adjust the S shaped curve to your liking, and to adjust it for Red, Green and Blue separately. This allows you to change the colour balance of your video image for great effect.
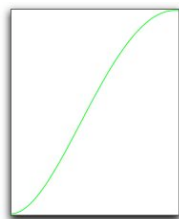
G RGB Colour Mixer, **G Film Extra, G S-Gamma, G Simple S-Gamma, G S-Gamma Plus** and **G Gamma S-Gamma** plugins use an entirely different method of creating the familiar S shaped curve and open up your creative possibilities still further.

By combining temporal processing and image manipulation with correctly shot video, you have the basic film effect. Everything else in the **Nattress Film Effects** package is designed to allow you to tweak the look of your film effect for artistic results. Many pre-

sets and a preset explorer have been provided to help you get the most out of **Nattress Film Effects**.

G Film
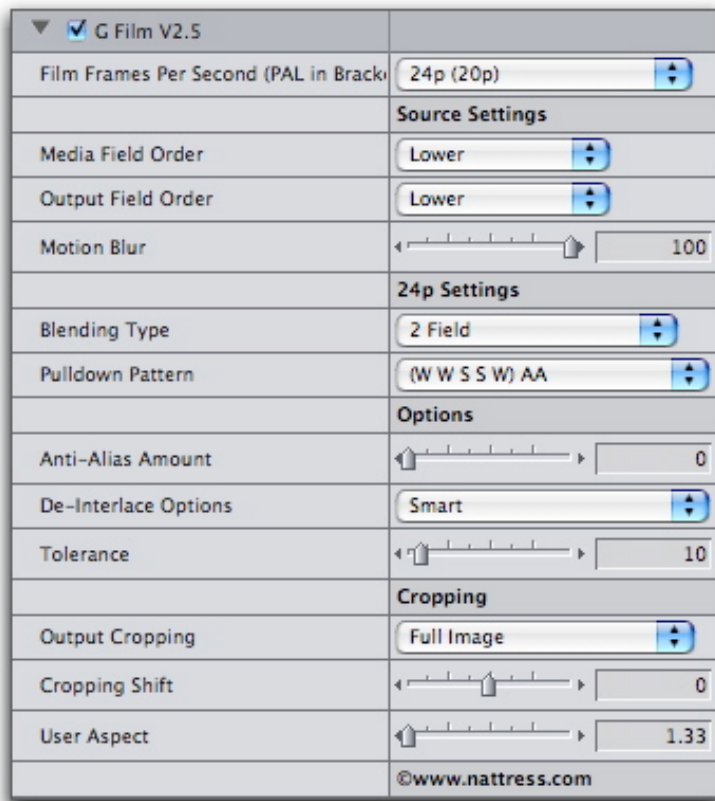
G Film is the main plugin of the **Nattress Film Effects** package. Many of the plugins in the package share the same controls. G Film does the conversion from either PAL or NTSC frame rates to 24p for NTSC or 25p for PAL.

Control	Settings	Notes
Film Frames Per Second (PAL in Brackets)	30p (25p) 24p (20p) 15p (12.5p) 12p (10p)	This is the main control for the Film Effect. If you are using the filter with 60i NTSC video, the main numbers tell you what frame rate the effect will produce. If you are shooting 50i PAL video, the numbers in brackets tell you what frame rate will be produced.
Media Field Order	upper, Lower	tells the plugin the field order of the media you're using. DV is lower, uncompressed NTSC is usually lower. Uncompressed PAL, HD and HDV are upper.

Control	Settings	Notes
Output Field Order	upper, Lower	tells the plugin the field order of the timeline you're using. If you notice strange strobing in 24p mode, check that this setting is correct.
Motion Blur	0% to 100%	Adjusts the amount of motion blur that is present in the 24p conversion
Blending Type	1 Field 2 Field 3 Field 3 Field Var	Selects the blending type for the 24p conversion.
Pulldown Pattern	(W W S S W) AA (W S S W W) BB (S S W W W) BC (S W W W S) CD (W W W S S) DD	Selects the pulldown pattern for the 24p conversion.
Anti-Alias Amount	0% to 100%	If you notice some jaggies, raising this value can smooth them out, at the expense of some softness and a small increase in render time
De-Interlace Options	Normal Smart View Smart Mask	Selects the type of de-interlacing to use. Smart is best, although it will take a little longer to render. The "View Smart Mask" options allows you to visually adjust the "Tolerance" setting below so that the plugin knows which areas of the image are moving and which are not.
Tolerance	2 to 100	Controls which areas of the image are moving and which are not for the smart de-interlacing.
Output Cropping	Full Image Minimal 16x9 2.35:1 User Aspect	Applies a widescreen mask to the image. Select a preset, or "User Aspect" to control the precise aspect ratio yourself.
Cropping Shift	-100 to 100	Shifts the image up or down behind the widescreen mask.
User Aspect	1.33 to 4.0	This allows you to control the "User Aspect" above.

Important Note
Place any plugin that manipulates time, like G Film does, first in any stack of filters that get applied to a clip. If you don't, render times will be longer, and some frames at the end of the clip may not get properly affected by any other filters you have applied.

G Film Plus RT

G Film Plus RT is a special version of G Film Plus, but with the frame rate processing (the conversion to 24p etc.) removed. Final Cut Pro will not allow any kind of real time rendering on any plugin that looks at anything other than the "current" frame. This plugin, is, however, still very complex and not much real time performance can be achieved, even on a fast G5, but some is better than none at all. This filter is therefor also useful for when you have used a camera that already shoots 24p or other progressive frame rate.

Because this filter has so many controls, we will discuss it's operation in it's component parts:

Master Control
Master Control allows you to adjust the amount of the Film Effect added to the image. Master Control does not work by blending the raw and processed images together, but instead calculates a new Film Effect to create the percentage you've asked for. This allows the Master Control to add more of the effect you've just created (percentage > 100%) as well as less, although pushing it too far up towards 200% can, in some circumstances produce results that look to double back on themselves, especially if you've set your levels to an extreme position.

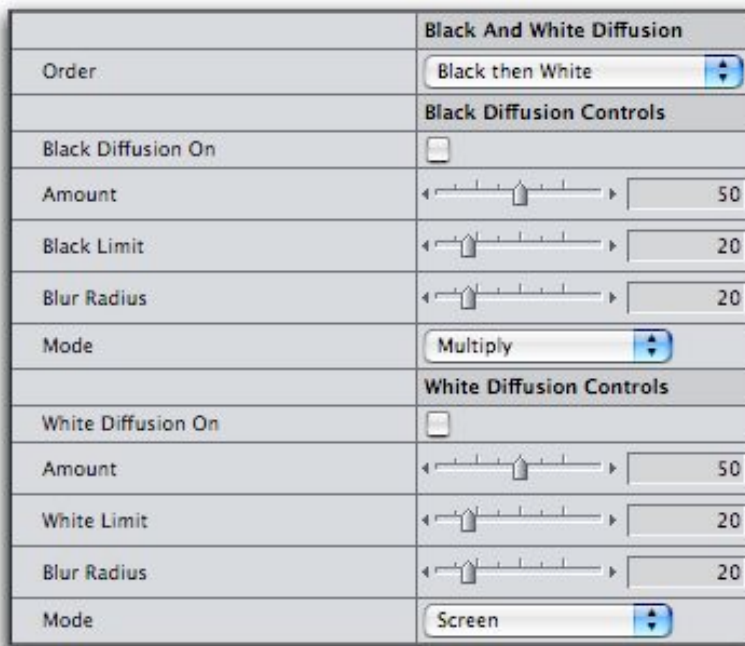| Control	Settings	Notes
Master Effect Amount	`0% to 200%`	Adjusts all the settings of this filter together to add to or reduce the amount of the overall effect applied to the video.
Master Brightness	`-1 to 1`	adjusts the brightness of the image to adjust the filter settings for the particular clip you are using. This is a gross control of brightness - finer controls are available in the Curves section below.

Chroma Blur Controls
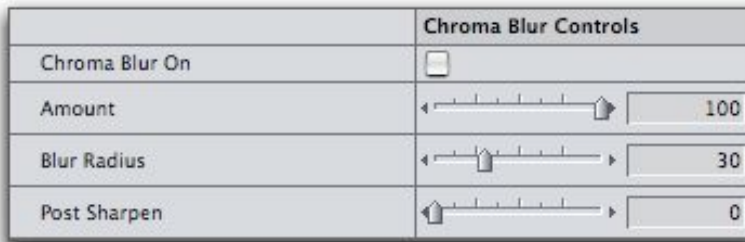
The chroma blur effect is new in V2.5 and is useful for creating old and faded Film Effects, or the subtle colour blending you get in movies such as Sky Captain.

| Control	Settings	Notes
Chroma Blur On	on off	Turns the Chroma Blur Effect on or off
Amount	0% to 100%	adjusts the amount of the chroma blur effect you see.
Blur Radius	0% to 100%	Adjusts the radius of the chroma blur
Post Sharpen	0% to 100%	Adjusts the amount of sharpening of the chroma that is applied after the chroma has been blurred

Black and White Diffusion Controls

Diffusion is often added in camera with "Pro Mist" filters or silk stockings over the lens. This is the digital version of that effect, with controls that effect both the diffusion of highlights and shadows.

| Control	Settings	Notes
Order	Black then White White then Black	Instructs the filter in which order to apply the white and black diffusion - white or black first. They produce subtlety different effects when both black and white diffusion are used together.
Black Diffusion On	on off	Turns the black diffusion effect on or off
Black Limit	0% to 100%	limits the dark tones of the image which get blurred to create the diffusion effect
Blur Radius	0% to 100%	Adjusts the radius of the blur that is used to create the diffusion effect.
Mode	Normal Multiply Screen Overlay Lighten Darken Add	Allows you to change the blending mode for effect. The default for black diffusion is "multiply"
White Diffusion On	on off	Turns the white diffusion effect on or off
White Limit	0% to 100%	limits the bright tones of the image which get blurred to create the diffusion effect
Blur Radius	0% to 100%	Adjusts the radius of the blur that is used to create the diffusion effect.
Mode	Normal Multiply Screen Overlay Lighten Darken Add	Allows you to change the blending mode for effect. The default for white diffusion is "screen"

Temperature Controls
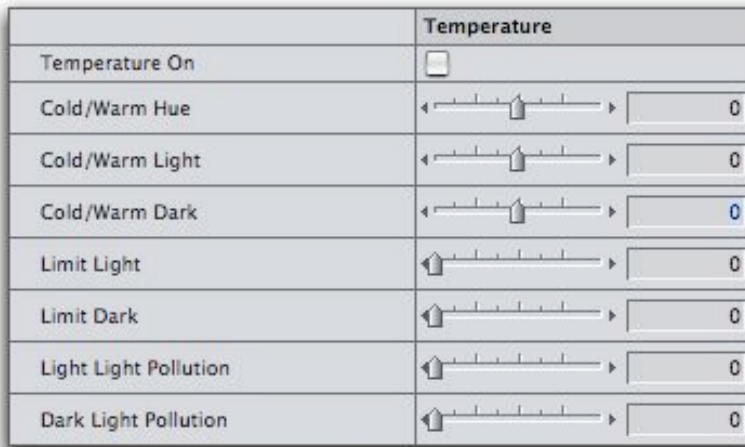
These controls allow you to change the overall hue of an image, or to warm or cool shadows or highlights. You can also achieve similar effects in the Curves controls, but the temperature controls also allow you to leak the warmth or coolness into areas surrounding the shadows or highlights with the light pollution controls.

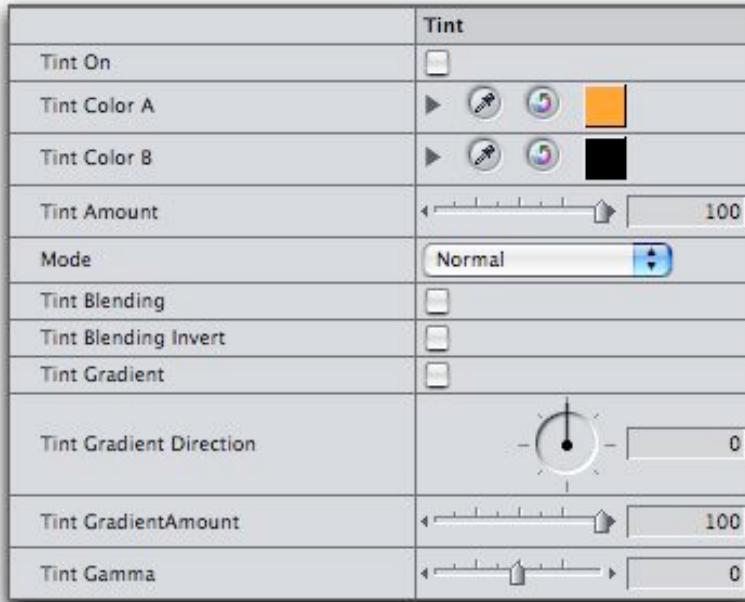| Control	Settings	Notes
Temperature On	on off	Turns the temperature effect on or off
Cold / Warm Hue	-100% to 100%	Adjusts the hue of the entire image
Cold / Warm Light	-100% to 100%	negative values make highlights cooler, positive values make highlights warmer
Cold / Warm Dark	-100% to 100%	negative values make shadows cooler, positive values make shadows warmer
Light Limit	0 to 254	limits the effect to brighter and brighter regions of the image as the control is increased
Dark Limit	0 to 254	limits the effect to darker and darker regions of the image as the control is increased
Light Light Pollution	0% to 100%	allows the effect of warmer or cooler on the bright regions of the image to leak over into surrounding areas of the image
Dark Light Pollution	0% to 100%	allows the effect of warmer or cooler on the dark regions of the image to leak over into surrounding areas of the image

Saturation Controls
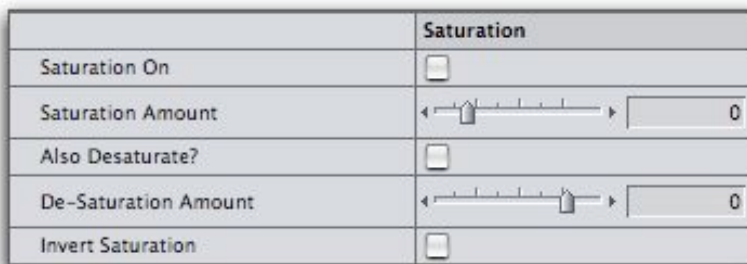
Changing the overall saturation or amount of colour in an image is a powerful tool to create a Film Effect. Sometimes, it is nice to not saturate or de-saturate the whole image, but base the amount of colour in an image on the brightness of the areas being affected. By selecting **Also De-Saturate?** this becomes possible and the rest of the controls are activated. The **De-Saturation Amount** now controls the dark areas of the image and their saturation while the **Saturation Amount** controls the bright areas of the image. By selecting **Invert Saturation** the **Saturation Amount** now controls dark areas, and **De-Saturation Amount** the bright areas.

| Control	Settings	Notes
Saturation On	on off	Turns the saturation effect on or off
Saturation Amount	-1 to 4	A value of -1 is totally de-saturated. A value of 0 leaves the image unchanged A value of 1 is an increase in saturation A value of 4 is very saturated
Also Desaturate	on off	Normally, the Saturation effect applies to the entire image. With this control turned on, either dark or light areas on the image can be set to a different saturation or desaturation to the rest of the image.
De-Saturation Amount	-4 to 1	A value of 1 is totally de-saturated. A value of 0 leaves the image unchanged A value of -1 is an increase in saturation A value of -4 is very saturated
Invert Saturation	on off	Swaps over the effects of Saturation and De-Saturation Amounts so that they effect different tones in the image.

Tint Controls

Often coloured filters are used in camera to tint the image. This is the digital version of that effect. Gradient filters can be useful as you can set them to tint the sky, say, while leaving the rest of the image un-tinted.

Control	Settings	Notes
Tint On	on off	Turns the Tint effect on or off
Tint Color A	Color Picker	This is the primary color used to tint the image
Tint Color B	Color Picker	This is the secondary color used to tint the image
Tint Amount	0% to 100%	Adjusts the overall amount of the tint effect
Mode	Normal Multiply Screen Overlay Lighten Darken Add	Selects the blending mode used to apply the tint effect to the image
Tint Blending	on off	Blend the tint with the underlying image based on the image's tonal values - can be used to make the effect more subtle

Control	Settings	Notes
Tint Blending Invert	on off	Blend the tint based on lighter or darker values in the underlying image
Tint Gradient	on off	Turns the tint effect into a gradient filter
Tint Gradient Direction	`-360⁰ to 360⁰`	Adjust the angle of the tint gradient
Tint Gradient Amount	`0% to 100%`	adjusts how strongly the tint is made into a gradient
Tint Gamma	`-1 to 1`	Adjust the mid-point of the gradient

Bleach Bypass Controls
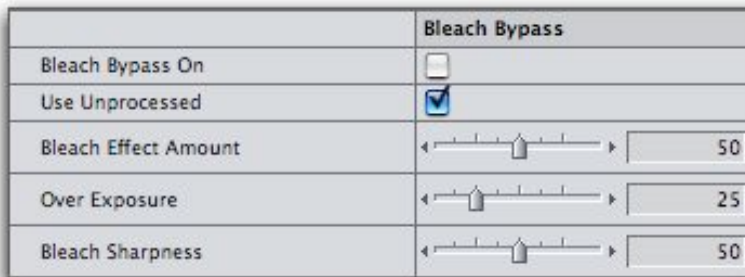
Bleach Bypass simulates the missing a stage of film processing that creates the effect of a black and white copy of the image being superimposed on top of the colour. This effect is often enhanced by using the **Saturation** controls (see above) to remove some of the colour from the image.

Control	Settings	Notes
Bleach Bypass On	on off	Turns the Bleach Bypass effect on or off
Use Unprocessed	on off	Allows you to choose whether the effect works on image data before the other sections of the filter have had a chance to modify it or not. The setting of this control can produce widely different results. If you are not getting the effect you are expecting, try changing this setting.
Bleach Effect Amount	`0% to 100%`	Increasing this will add in more and more bleach bypass effect. This can make the image dark, so carefully apply some Over Exposure below.

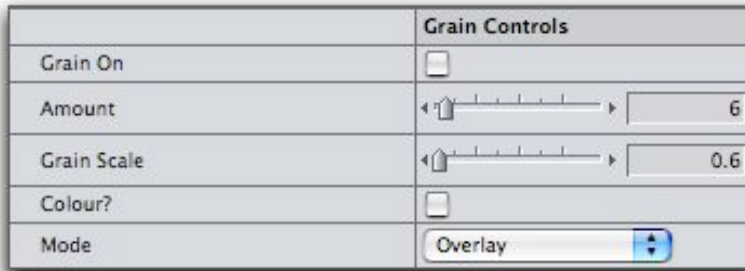| Control	Settings	Notes
Over Exposure	0% to 100%	Adds in some over exposure to the image to help create the overall Bleach Bypass effect.
Bleach Sharpness	0% to 100%	Bleach Bypass effects are often quite "gritty" in the way they look. By increasing the sharpness of the effect, a grittier effect can be achieved.

Curve Controls

Curve controls are the most important controls (other than the frame rate) to create a good Film Effect. And the most important individual controls are the **White Curve Master** and **Black Curve Master**. These allow you to create the classic "S" shaped curve that film is famous for. To do this, move the **Black Curve Master** to the left (negative

values) and the **White Curve Master** to the right (positive values). The **Red**, **Green** and **Blue** controls allow the curve to be adjusted as offsets from the master curve we've just created with the **Black Curve Master** and **White Curve Master** controls. Moving both colour curve controls to the left (negative values) will reduce the effect of that colour throughout the tonal range, and moving both colour curve controls to the right (positive values) will enhance the effect of that colour throughout the tonal range. The **White Curve (R, G or B)** always controls the bright end of the tonal range and the **Black Curve (R, G or B)** the dark end. Because curves can be complex to visualize, **Show Curves** can be selected, which will superimpose over the image a graph which shows the shape of the Master Curve, and the offsets for Red, Green and Blue. The rest of the controls function as standard levels type controls used in image processing. The curves used in this section as special Catmul-Rom curves that have been chosen for their ease of use and way that they adjust video images. Because of the power of the curves section to change the tonal values of the image, it can either be applied first or last in sequence. Dither is a random dot pattern that helps to break up banding artifacts, and can be applied normally, or Strongly, which produces a subtle grain to the image.

Control	Settings	Notes
Bleach Bypass On	on off	Turns the Bleach Bypass effect on or off
Apply Curves First	on off	Allows you to choose whether the curves effect works on image data first or last in sequence. This can produce very different results depending on what you are doing.
Show Curves	on off	This is a diagnostic tool so that you can see what your colour curves are doing visually. It does not change the final render - only the preview.
Dither?	on off	Dither can help break up any posterisation that can occur with use of strong levels or curves by slightly increasing the noise in the image.
Strong Dither?	on off	If you are using Dither, then this will make the effect stronger.
White Level	0 to 255	adjusts the overall white level of the image. Reducing this will make more of the brighter parts of the image brighter and brighter

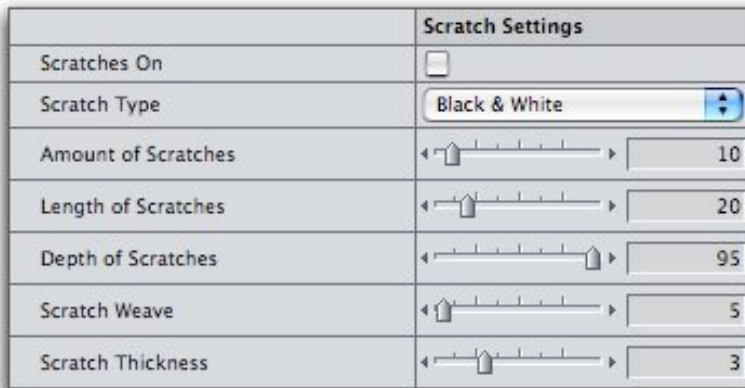| Control	Settings	Notes
Black Level	`0 to 255`	adjusts the overall black level of the image. Increasing this will make more of the darker parts of the image darker and darker. By reducing the White Level and increasing the Black Level you will increase the contrast of the image
Gamma	`-1 to 1`	adjusts the gamma of the image, which is how light or dark the mid-tones of the image are. A value of 0 is no adjustment. Increasing the gamma will brighten mid-tones, while decreasing it will darken mid-tones.
White Output	`0 to 255`	controls the brightness of the brightest areas of the image. Lowering this control will make the brightest highlights darker
Black Output	`0 to 255`	controls the brightness of the darkest areas of the image. Increasing this control will make the darkest shadows brighter
White Curve Master	`-100 to 100`	adjusts the shape of the S curve in the bright areas of the image
Black Curve Master	`-100 to 100`	adjusts the shape of the S curve in the dark areas of the image
White Curve R	`-100 to 100`	adjusts the shape of the S curve in the bright regions for the red channel
Black Curve R	`-100 to 100`	adjusts the shape of the S curve in the dark regions for the red channel
White Curve G	`-100 to 100`	adjusts the shape of the S curve in the bright regions for the green channel
Black Curve G	`-100 to 100`	adjusts the shape of the S curve in the dark regions for the green channel
White Curve B	`-100 to 100`	adjusts the shape of the S curve in the bright regions for the blue channel
Black Curve B	`-100 to 100`	adjusts the shape of the S curve in the dark regions for the blue channel

Grain Controls

Grain is not necessary to make video look like film, however, it can help make video look like older film, hence it's inclusion here.

Control	Settings	Notes
Grain On	on off	Turns the Grain effect on or off
Amount	0% to 100%	Adjusts how much of the grain effect gets added to the video.
Grain Scale	0.5 to 4	Adjusts the size of the random grain particles
Colour?	on off	controls whether the grain is monochromatic, or colour in nature
Mode	Normal Multiply Screen Overlay Lighten Darken Add	Selects which blending mode is used to apply the grain.

Scratch Controls

Scratches can occur in all stages of film production and projection. Scratches in **Nattress Film Effects** are produced by a kind of particle system, so each individual scratch has a life of it's own once it's created.

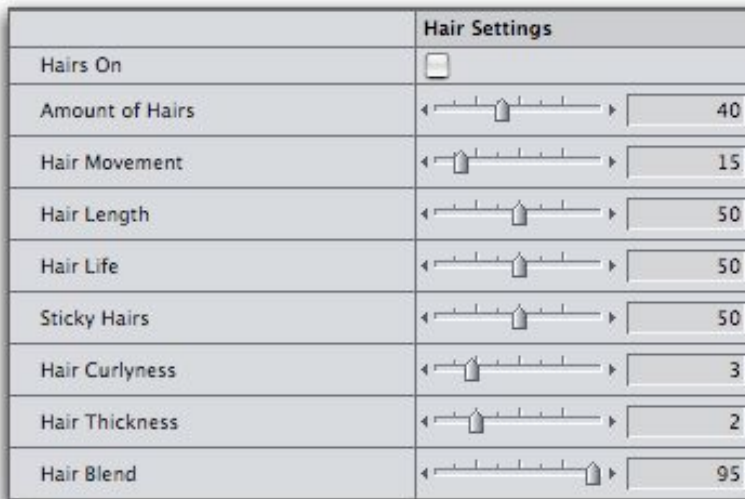| Control	Settings	Notes
Scratches On	on off	Turns the Scratch effect on or off
Scratch Type	Black White Black & White	Black scratches are scratches to the film negative White scratches are scratches to the film print In some cases, you may get both, so Black and White scratches are appropriate
Amount of Scratches	0 to 100	Sets the amount of scratches you will see
Length of Scratches	0 to 100	controls how long the scratches will, on average, stay on the screen
Depth of Scratches	0% to 100%	Deeper scratches are more visible.
Scratch Weave	0% to 100%	scratches don't just stay in one place - they weave left and right across the film. Increasing this control will make it more likely your scratches weave off the screen
Scratch Thickness	0 to 10	determines the width of the scratches

Flicker Controls

Film can often be flickery, especially if it being projected by an old projector.

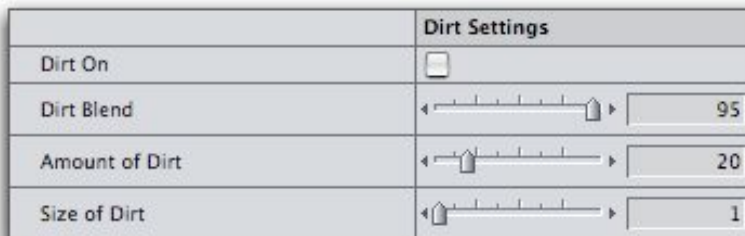| Control	Settings	Notes
Flicker On	on off	Turns the Flicker effect on or off
Flicker Amount	0% to 100%	Older film will flicker. This control will make your film effect flicker more and more.

Hair Controls

Hairs can sometimes be seen when a film get projected. Sometimes the hair will stick in place and vibrate as the film goes by, and sometimes the hair will move up the screen with the projected film.

Control	Settings	Notes
Hairs On	on off	Turns the Hair effect on or off
Amount of Hairs	0 to 100	Sets the amount of hairs you will see

Control	Settings	Notes
Hair Movement	`0 to 100`	controls how much the hairs will move each frame. Some hairs will tend to stick in the projector and not move. They are controlled bellow with Sticky Hairs.
Hair Length	`0 to 100`	Longer hairs might look nicer, but will take longer to render
Hair Life	`0 to 100`	determines how long a hair will be visible before it gets blown out of the projector
Sticky Hairs	`0% to 100%`	determines the percentage of hairs which are sticky and don't move around much.
Hair Curlyness	`0 to 10`	determines how curly the hairs are
Hair Thickness	`0 to 10`	determines how thick and visible the hairs are
Hair Blend	`0% to 100%`	blends the hair effect into the image so you can make the hairs more or less visible

Dirt Controls

Film prints can get dirty through poor handling or storage conditions.

Control	Settings	Notes
Dirt On	on off	Turns the Dirt effect on or off
Amount of Dirt	`0% to 100%`	Controls the amount of dirt added to the film.
Size of Dirt	`0 to 50`	the larger the dirt, the longer it will take to render

Weave Settings

As a film is projected, gate weave can occur where the film frame seems to move left and right in a cyclic manner. Weave simulates this for **Nattress Film Effects**.

| Control	Settings	Notes
Weave On	on off	Turns the Weave effect on or off
Weave Wavelength	2 to 100	Sets over how many frames will the cycle of the weave take.
Weave Amplitude	0% to 100%	controls how large a weave will be produced

Cropping Controls

Often video cameras shoot full screen, and to make them look more filmic, they can be letterboxed so that only the centre of the image is visible. The cropping controls do this, and also allow you to shift the underlying image up and down beneath the matte for creative framing.

Control	Settings	Notes
Output Cropping	Full Image Minimal 16x9 2.35:1 User Aspect	You may wish to crop the output of Nattress Film Effects to simulate a widescreen effect. These controls allow you to pick from some standards or to select "User Aspect" and select your own.

Control	Settings	Notes
Cropping Shift	`-100% to 100%`	This control allow you to slide the video up and down beneath the widescreen matte so as to frame the picture higher or lower.
User Aspect	`1.33 to 4.00`	Selects the user defined aspect ratio for widescreen matting the video.

G Film Plus
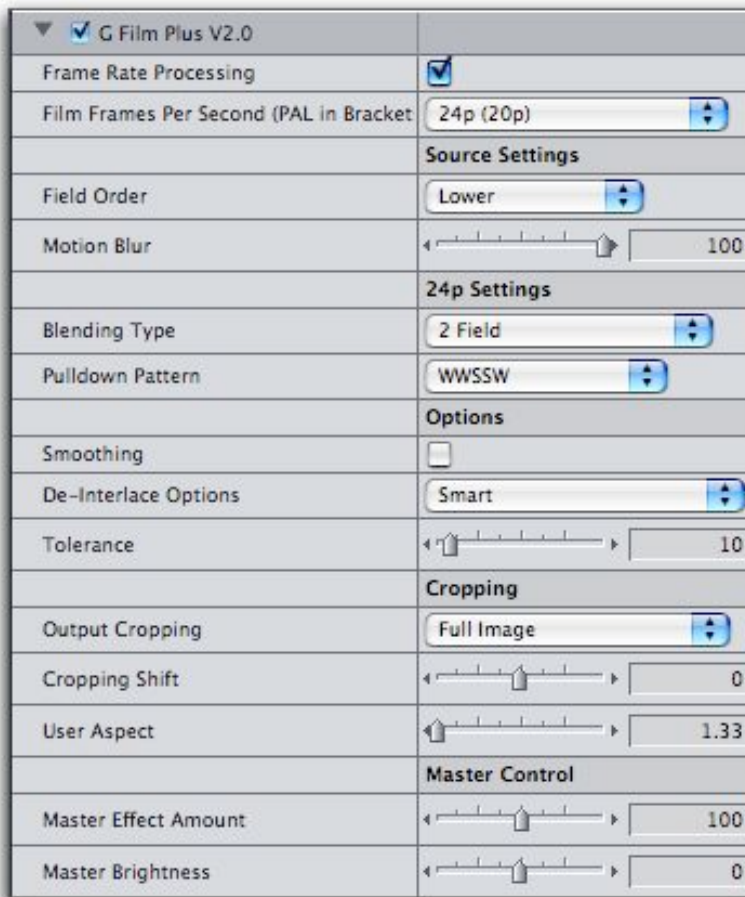
G Film Plus uses the same basic controls as G Film and G Film Plus RT combined together. All the presets provided are based upon modifications to the base settings of G Film Plus.

Filters That Derive From G Film Plus

For convenience and creative flexibility, the following filters are provided. They function the same as the similarly named sections of the G Film Plus filter, but are now available as separate filters.

G Black and White Diffusion

▼ ☑ G Black White Diffusion	
Order	Black then White ⬍
	Black Diffusion Controls
Black Diffusion On	☑
Amount	50
Black Limit	20
Blur Radius	20
	White Diffusion Controls
White Diffusion On	☑
Amount	50
White Limit	20
Blur Radius	20
	www.nattress.com

G Bleach Bypass

▼ ☑ G Bleach Bypass	
Bleach Effect Amount	50
Over Exposure	25
Bleach Sharpness	50
Bleach Desaturation	50
	www.nattress.com

G Chroma Blur

▼ ☑ G Chroma Blur	
Amount	100
Blur Radius	30
Post Sharpen	0
Saturation	100
	www.nattress.com

G Temperature

G Widescreen Matte

G Film Damage

G Film Damage V1.5	
	Scratch Settings
	☑
Scratch Type	Black & White
Amount of Scratches	10
Length of Scratches	20
Depth of Scratches	95
Scratch Weave	5
Scratch Thickness	3
	Image Flicker
	☑
Flicker Amount	5
	Hair Settings
	☑
Amount of Hairs	40
Hair Movement	15
Hair Length	50
Hair Life	50
Sticky Hairs	50
Hair Curlyness	3
Hair Thickness	1.5
Hair Blend	95
	Dirt Settings
	☐
Dirt Blend	95
Amount of Dirt	20
Size of Dirt	1
	Weave
	☑
Weave Wavelength	24
Weave Amplitude	3

G Smart De-interlacer
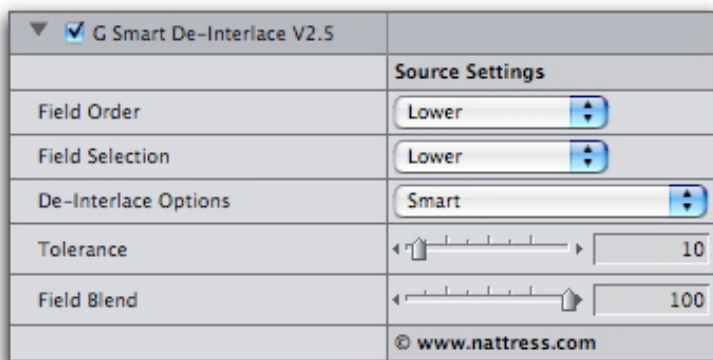
Fast De-Interlacers

In addition to the de-interlacing options in **G Film, G Smart De-Interlace**, etc. the **Nattress Film Effects** package now includes four optimized de-interlacers which are designed for faster rendering. By breaking up the options from one de-interlace filter into four plugins, greater speed can be achieved. These filters are especially useful for working with high definition video due to their great quality and faster rendering.

G Fast De-interlace

Control	Settings	Notes
Media Field Order	Upper Lower	Tells the plugin the field order of the video.
Select Field	First Second	Allows you to select which field will be used, the first or the second.

G Fast De-interlace Blend
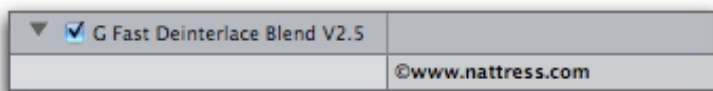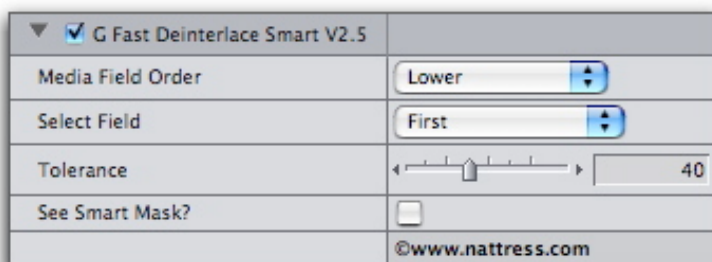
G Fast De-interlace Smart

Control	Settings	Notes
Media Field Order	Upper Lower	Tells the plugin the field order of the video.
Select Field	First Second	Allows you to select which field will be used, the first or the second.
Tolerance	2 to 100	Controls which areas of the image are moving and which are not for the smart de-interlacing.
See Smart Mask?	yes no	See the Smart Mask to help set the correct Tolerance value

G Fast De-interlace Smart Blend
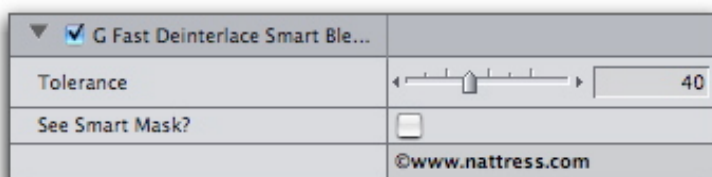
Control	Settings	Notes
Tolerance	2 to 100	Controls which areas of the image are moving and which are not for the smart de-interlacing.
See Smart Mask?	yes no	See the Smart Mask to help set the correct Tolerance value

G Film Presets Explorers

20 presets are included with **Nattress Film Effects**. The presets explorers allow you to quickly and easily see what effect they have on your video. They are based around **G Film Plus** and **G Film Plus RT**. As well as each preset being accessible through these

filters, they are also available separately so that you can tweak the individual settings yourself and learn how the preset effect was made.

To see what the presets look like, please watch the videos at www.nattress.com in the Film Effects section.
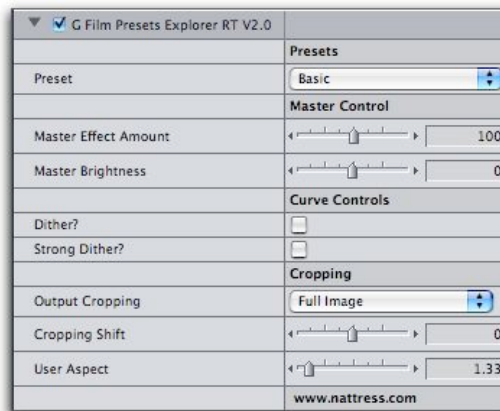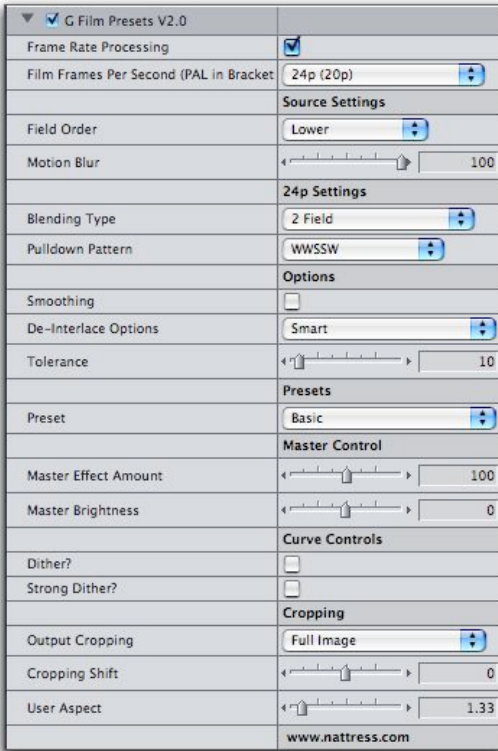
G Vignette
G Vignette started out as quite a simple filter to darken the edges of a image so as to make the edges look vignetted. However, there are many creative possibilities beyond that in how such a filter can be extended. **G Vignette** takes the basic idea and adds enough controls to make it a fantastically creative tool.
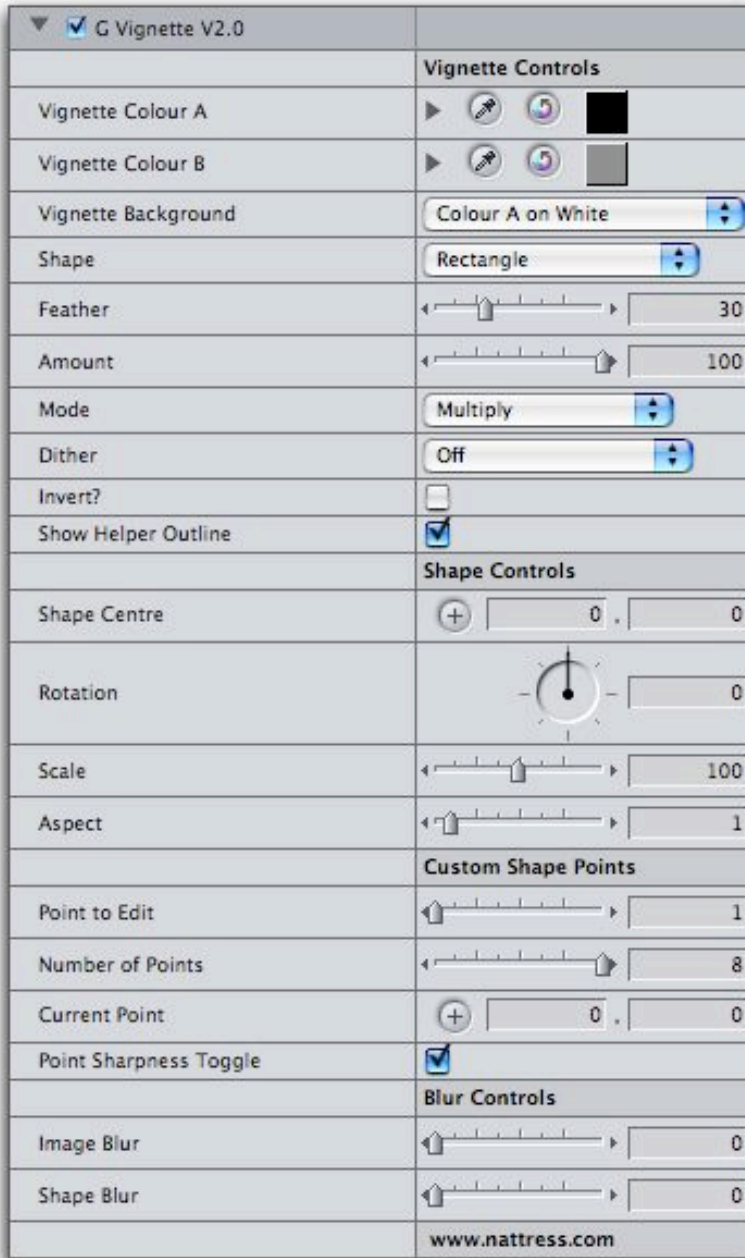
Control	Settings	Notes
Vignette Colour A	colour picker	Select the primary vignette colour
Vignette Colour B	colour picker	Select the secondary vignette colour

Control	Settings	Notes
Vignette Background	Colour A on White Colour A on Black Colour A on Grey Colour A on Colour B	Because of the blending modes that can be used, you can choose to use the primary colour on white (good for multiply mode), black (good for screen or add mode) and grey (good for overlay mode). The final option allows you to use both the primary and secondary colour to make the vignette effect.
Shape	Rectangle Oval Custom	You can now choose the shape of your vignette.
Feather	0% to 100%	Vignettes usually have soft edges. Feather will soften the edge of your vignette effect.
Amount	0% to 100%	controls how strongly your vignette effect is blended with the video image
Mode	Normal Multiply Screen Overlay Lighten Darken Add	Selects which blending mode is used to apply the vignette.
Dither	Off Minimum Medium Strong	Dither can be added in the form of subtle noise to help blend the vignette in with the image.
Invert?	on off	Inverts the vignette so that whatever colour was on the inside of the shape is now on the outside, and the outside colour is now on the inside of the shape.
Show Helper Outline?	on off	The helper outline does not appear in the render of the effect, but it will help you determine where your vignette shape is, and what size it is.
Shape Centre	point (x,y)	controls the position of the centre of the shape
Rotation	-360^0 to 360^0	controls the rotation of the shape
Scale	1% to 200%	controls the size of the shape
Aspect	0.1 to 10	controls the aspect of the shape - whether it is wide or tall.
Point To Edit	1 to 8	select which of the 8 possible points the "custom" shape has to edit using the "Current Point" control below.

Control	Settings	Notes
Number of Points	`3 to 8`	Use this control to set the number of points your custom shape has.
Current Point	`point (x,y)`	use this to move the currently selected point of the custom shape
Point Sharpness Toggle	`on` `off`	controls whether the current point of a custom shape is sharp or rounded
Image Blur	`0% to 100%`	blur the image outside the shape in the vignette
Shape Blur	`0% to 100%`	blur the image inside the shape in the vignette

G RGB Colour Mixer

G RGB Colour Mixer is a new way of manipulating the colours and tones of an image without using look-up tables (LUTs). It is especially suitable for creating the look of old film processes as well as very subtle film effects. The filter is fully $Y'C_bC_r$ even though it works with RGB, and also has the option of working in linear gamma, which can produce different and better results than working in the normal gamma of video which is around 0.45. However in the initial code for **G RGB Colour Mixer**, the linearisation of the gamma in FCP was being done using LUTs, and these were producing artifacts. I changed the linear gamma mode to use instead a close approximation to the linearisation which gives many of the benefits of working in linear gamma, but also imparts a beautifully subtle S-shaped curve onto the videos tonal look, enhancing this filter's use for creating Film Effects.

The filter works in three parts, the Gamma Controls, the + Channel Mixer and Overall Controls:

Gamma Controls
The Gamma Controls offer a new way of tonally balancing an image. The general method is to increase the **Bright Strength** and **Dark Strength** to around 100 or so, and then adjust the **Mid-Tone Point** until the image looks balanced. For effect you can change the **Bright / Dark Blending** to harshen or soften the transition from dark to bright. To finally tweak the effect, change the **Bright** and **Dark Strength** and the other controls until you are happy.

+ Channel Mixer
The + Channel Mixer allows you to change the balance and composition of the Red, Green and Blue channels that make up the image. Normally these channels are kept separate, but with the mixer you can add in, say, the blue channel to the red by increasing the **+Blue Mix** in the **+Red Properties** section. You can also select from a number of presets so that you can get the feel of what kinds of effects can be created with this filter. The **Brightness Balance** control will adjust the relative brightness of the new Red,

Green and Blue channels you have created to help you keep the effect producing the overall tonal look you want. By adjusting the **Inter Channel Balance** you can allow more or less of the effect to come through, and this will also aid in keeping the overall colour balance of the effect correct.

Overall Controls
The Overall Controls effect the entire image after both gamma and channel mixing. The Original Luma control will allow the original luma of the image before it has been filtered through to be seen in the final result. This can tone back an effect, or limit the effect to the chroma of the image. Overall brightness is just that, a brightness control. Fine Phase is a control that adjusts the colour balance of the entire image with a fine degree of control, and finally, Saturation will either saturate or de-saturate the image.

Because this filter works so well to create a Film Effect, it has been combined with **G Film** to produce **G Film Extra** so that you can use it conveniently.
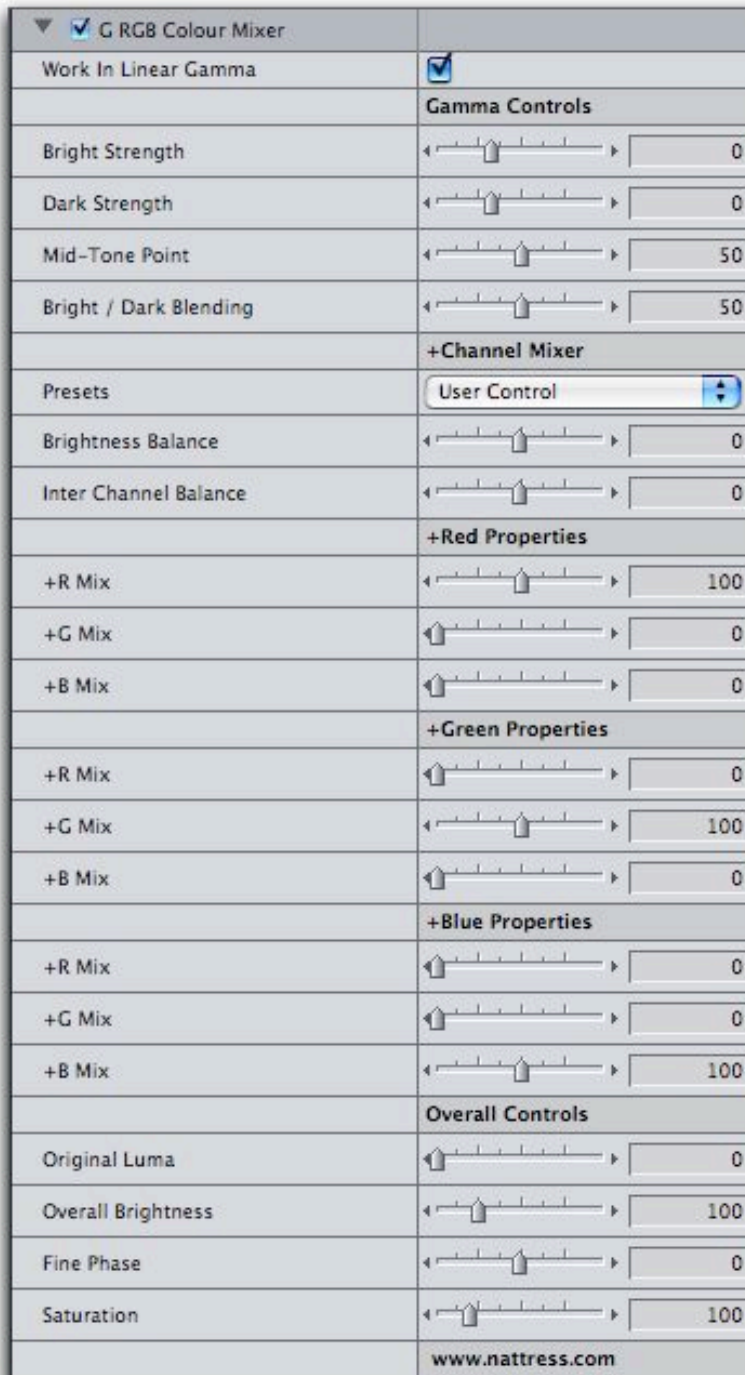
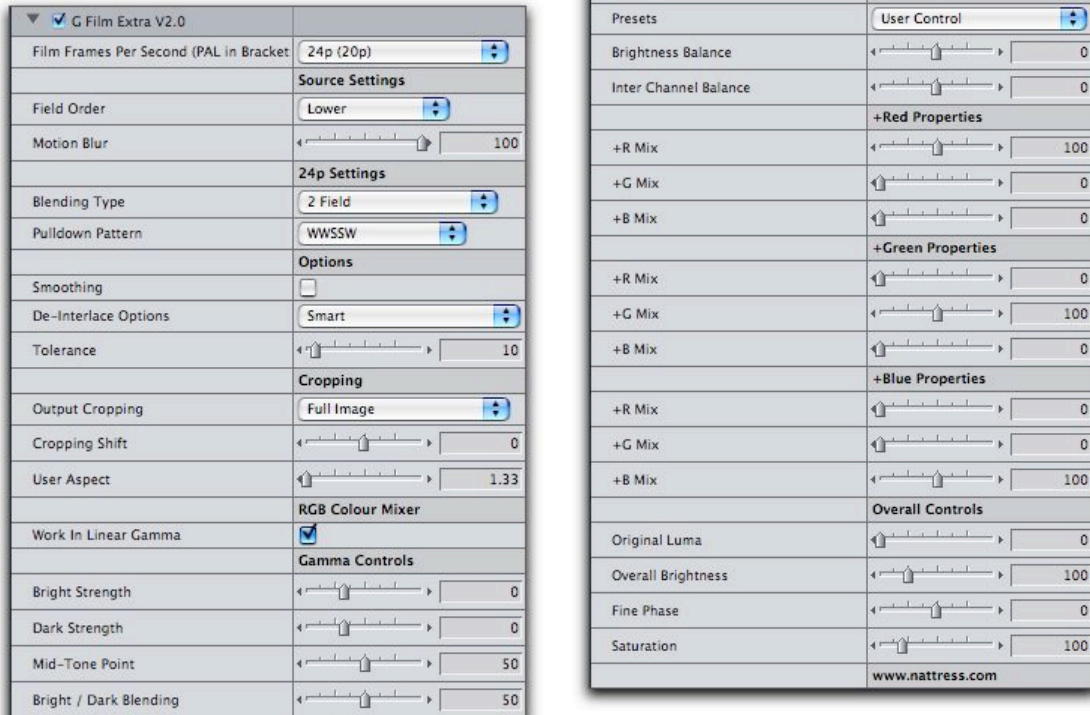| Control	Settings	Notes
Work In Linear Gamma	on off	Selects whether you'd like this effect to work in linear gamma or not. See above - this is nor precisely linear and does impart a very nice S shaped gamma curve onto the video as part of it's operation.

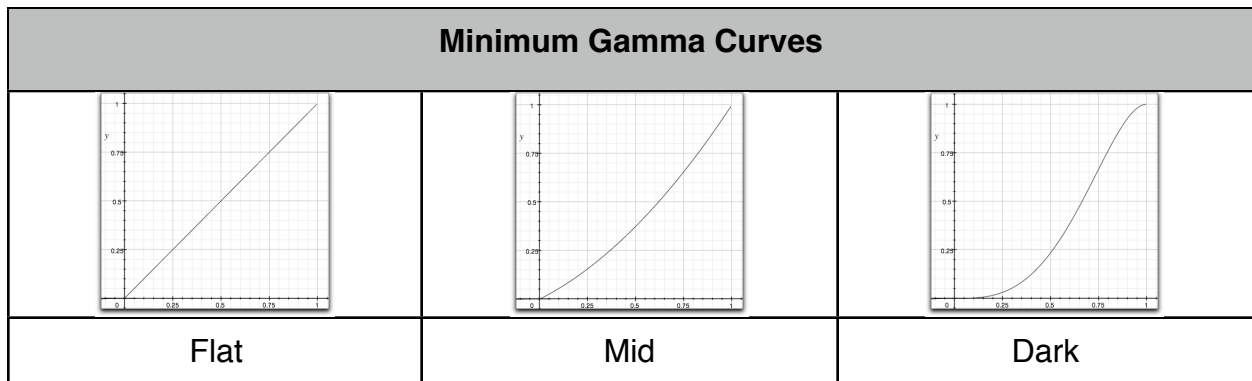| Control	Settings	Notes
Bright Strength	`-100% to 200%`	controls the strength of the brightening of the image - negative values darken
Mid-Tone Point	`0% to 100%`	increase or decrease to balance the tones of the image
Bright / Dark Blending	`0% to 100%`	Harshen or soften the transition from the bright to the dark areas of the image.

Presets	`User Control`
	`1`
	`2`
	`3`
	`4`
		These presets govern the +Red Properties, +Green Properties and +Blue Properties only. They can be altered with the Brightness Balance and Inter Channel Balance controls. User Control allows you to make your own mix of R, G and B.

Brightness Balance	`-200% to 200%`	controls the relative brightnesses of the RGB mix
Inter Channel Balance	`-400% to 400%`	controls the RGB mix to help you preserve colour balance

+ Red Properties
    + R Mix
    + G Mix
    + B Mix
	`0% to 200%`	Set the relative mix of RGB that makes up the final Red channel of the mix.

+ Green Properties
    + R Mix
    + G Mix
    + B Mix
	`0% to 200%`	Set the relative mix of RGB that makes up the final Green channel of the mix.

+ Blue Properties
    + R Mix
    + G Mix
    + B Mix
	`0% to 200%`	Set the relative mix of RGB that makes up the final Blue channel of the mix.

Original Luma	`0% to 100%`	blend back into the final result the luma of the original un-effected image
Overall Brightness	`0% to 400%`	controls the overall brightness of the image
Fine Phase	`-100% to 100%`	controls the phase of the image with a very fine degree of control
Saturation	`0% to 500%`	controls the saturation of the image. 100% leave the saturation alone 0% is fully de-saturated 200% is very saturated 500% is extremely saturated

G Film Extra

This Filter combines feature of G RGB Colour Mixer and G Film.

G Film Extra V2.0			+Channel Mixer	
Film Frames Per Second (PAL in Bracket	24p (20p)		Presets	User Control
Source Settings			Brightness Balance	0
Field Order	Lower		Inter Channel Balance	0
Motion Blur	100		**+Red Properties**	
24p Settings			+R Mix	100
Blending Type	2 Field		+G Mix	0
Pulldown Pattern	WWSSW		+B Mix	0
Options			**+Green Properties**	
Smoothing			+R Mix	0
De-Interlace Options	Smart		+G Mix	100
Tolerance	10		+B Mix	0
Cropping			**+Blue Properties**	
Output Cropping	Full Image		+R Mix	0
Cropping Shift	0		+G Mix	0
User Aspect	1.33		+B Mix	100
RGB Colour Mixer			**Overall Controls**	
Work In Linear Gamma	✓		Original Luma	0
Gamma Controls			Overall Brightness	100
Bright Strength	0		Fine Phase	0
Dark Strength	0		Saturation	100
Mid-Tone Point	50		www.nattress.com	
Bright / Dark Blending	50			

G S-Gamma

G S-Gamma gives you 6 gamma curves to choose from, and the ability to blend between either choice from the two sets shown below. The particular gamma curves this plugin implements were chosen for their applicability to creating the look of film and their high quality of rendering.

Minimum Gamma Curves		
Flat	Mid	Dark

Maximum Gamma Curves		
Dark	Mid	Bright
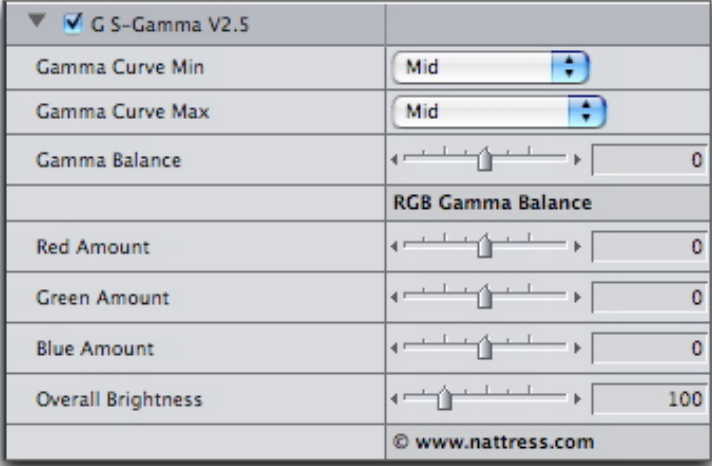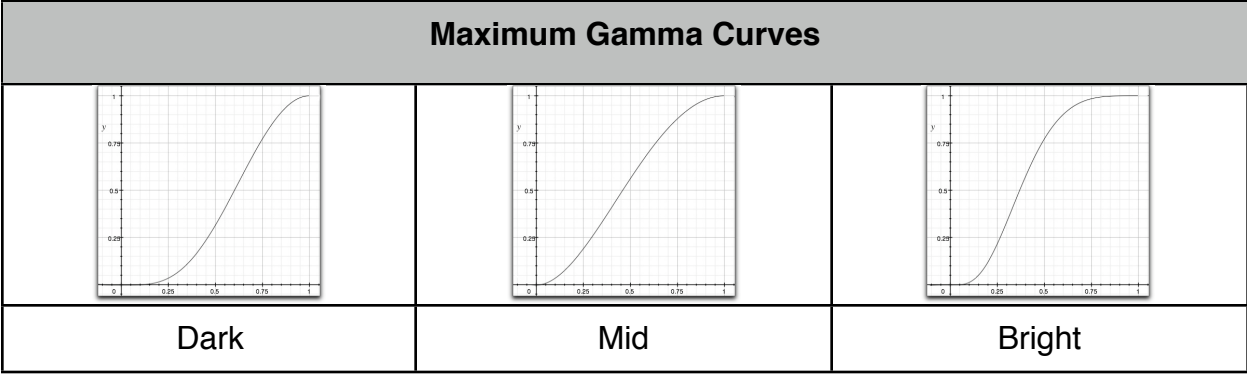
Control	Settings	Notes
Gamma Curve Min	Flat Mid Dark	Allows you to select from either of the three minimum gamma curves shown above
Gamma Curve Max	Dark Mid Bright	Allows you to select from either of the three maximum gamma curves shown above
Gamma Balance	-100% to 100%	at -100%, the video will be totally controlled by the Gamma Curve Min. At 100% it will be totally controlled by Gamma Curve Max. Any setting in-between will allow you to mix between the min and max gamma.
Red Amount	-100% to 100%	Similar to Gamma Balance, but just adjusts the Red component of the video image
Green Amount	-100% to 100%	Similar to Gamma Balance, but just adjusts the Green component of the video image
Blue Amount	-100% to 100%	Similar to Gamma Balance, but just adjusts the Blue component of the video image

| Control	Settings	Notes
Overall Brightness	0% to 400%	Controls the overall brightness of the video image

G Simple S-Gamma
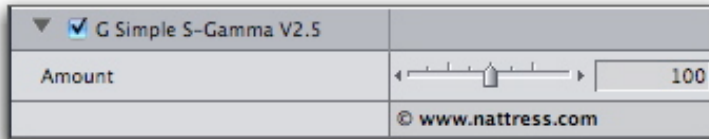
G Simple S-Gamma is a fast rendering S-Shaped gamma curve plugin that's quick and easy to use. Just leave the setting at 100% for the basic effect. At all settings less than or equal to 100% rendering is fastest.

Control	Settings	Notes
Amount	0% to 200%	Adjusts the amount of the gamma effect.

G Simple S-Gamma Plus
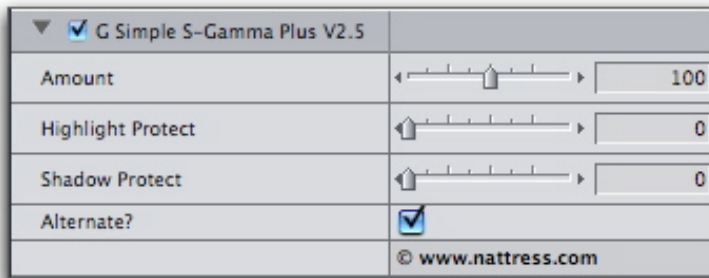
In **G Simple S-Gamma Plus**, the "Amount" control works just like **G Simple S-Gamma** but the "protect" settings allow you to shield the highlights or shadows from being effected, by the gamma curve. The "Alternate" setting calculates the protection in a slightly different way that will produce slightly different results.

Control	Settings	Notes
Amount	0% to 200%	Adjusts the amount of the gamma effect.
Highlight Protect	0% to 100%	Protects the highlights from the gamma effect.

| Control	Settings	Notes
Shadow Protect	`0% to 100%`	Protects the shadows from the gamma effect.
Alternate?	yes no	Uses an alternate protection method.

G Gamma S-Gamma

G Gamma S-Gamma uses both traditional and S-shaped gamma curves together for a great way to control the tones in an image.

Control	Settings	Notes
Gamma	`0.1 to 10`	Adjusts the amount of normal gamma.
S-Gamma Amount	`0% to 200%`	Adjusts the amount of the s-gamma effect.
Brightness	`0% to 500%`	Adjusts the overall brightness of the effect.

G Nicer 4:1:1
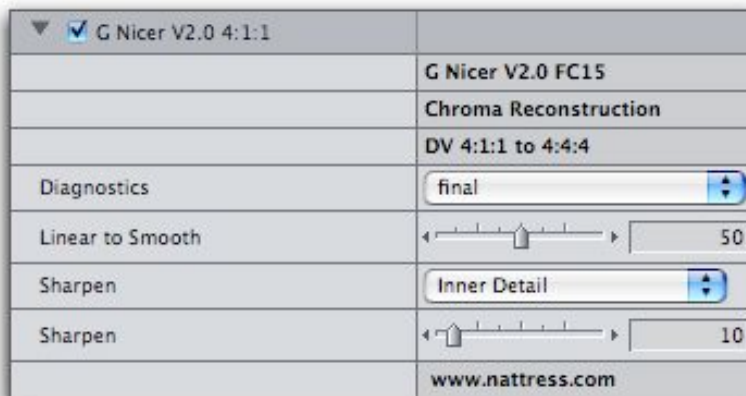
G Nicer is a DV video Chroma Reconstruction Filter. DV digital video is a great format that has many advantages, not least size and cost, but this comes at the price of com-

pression. Most digital video, whether it be DV, DVCAM, DVCPro (50), Digital-S, Digital Betacam, Betacam SX, HDCAM etc. is compressed in some way. One way in which these formats differ is in how they compress the colour information in your video signal. Colour information is routinely compressed by reducing it's resolution compared to that of the luma part of the video signal. Digital video records the video picture as one luminance component (Y') and two chroma components (C_b & C_r). The resolution of the C_b & C_r chroma components is often recorded at half the horizontal resolution of the luma component. There are a set of short-hand descriptions of the various ways that the colour can be recorded as a fraction of the resolution of the luminance signal:

| Y'	C_b	C_r	Notes
4	4	4	no reduction in chroma resolution. The resolution of the chroma is identical to that of the luma
4	2	2	standard for broadcast video - the resolution of the chroma is 1/2 that of the luma; used by Digital Betacam, DVCPro 50, Digital-S etc.
4	1	1	the resolution of the chroma is 1/4 of that of the luma; used by NTSC DV and DVCAM, and PAL and NTSC DVCPro
4	2	0	the resolution of the chroma is 1/2 of that of the luma in both horizontal and vertical directions; used by DVD, PAL DV and DVCAM

This filter is designed to help you work with NTSC DV and it's 4:1:1 chroma sampling when you are doing chroma-keying (blue screen or green screen) or "bumping" it up to a higher chroma sampled format like Digital Betacam.

G Nicer does not work by blurring the chroma component of your video, although this is a useful and fast technique for helping with chroma-key work. G Nicer analyses the chroma and luma for each pixel on your image, and works out how best to fill in the missing chroma information. Because the luma of each pixel is analyzed along with the chroma information, a much more accurate and better looking guess as to the correct chroma can be made. This filter can take a long time to render due to the intensive processing used.

G Nicer is designed to be used on an uncompressed 4:2:2 timeline or 4:4:4 (Animation codec, 100% or PhotoJPEG100%) timeline. Rendering a G Nicer on a DV timeline will not improve the chroma of the clip it is applied to. However, under the special circumstance of using a chroma key effect on a DV timeline, the G Nicer filter can be useful to temporarily improve the chroma when placed before the chroma key filter.

Control	Settings	Notes

Diagnostics	`final`
	`Cb`
	`Cr`
	`Detail Control Mask`
	`Cb Original`
	`Cr Original`
		Allows you to view the final effect or to see the chroma components Cb and Cr so that you can easily see what the filter is doing. The Detail Control mask allows you to see what the filter sees as detail with the sharpen option.
		Cb Original and Cr Original allow you to compare what the filter is doing with what the chroma channels looked like before the filter was applied.

Linear to Smooth	`0% to 100%`	controls the amount of the G Nicer effect that is used to reconstruct the chroma.

Sharpen	`Edges`
	`Inner Detail`
	`Everything`
		some false detail can be added into the reconstruction. This controls allows you to decide whether edges, inner detail or everything gets the added detail.

Sharpen	`0% to 100%`	controls how much false detail is added in

G Chroma Sharpen Interlaced & G Chroma Sharpen Progressive
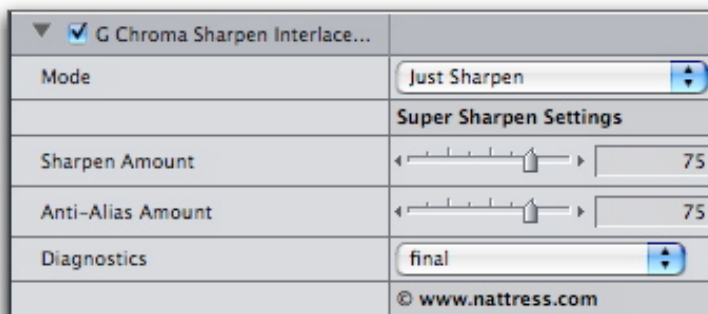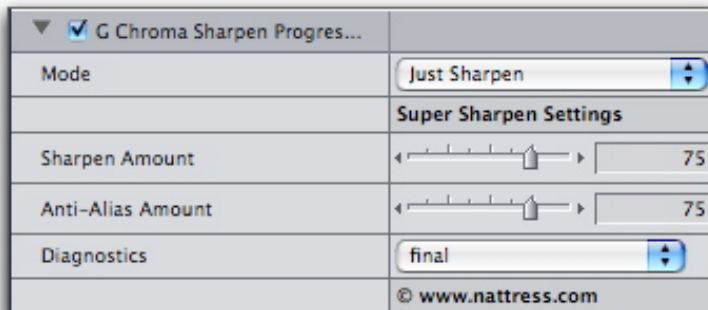
This pair of chroma sharpening filters work on all kinds of video. It is, however, important to select the correct chroma sampling for the kind of video you're using, and also to

pick the correct plugin for use with Progressive or Interlaced video. Picking Progressive or Interlaced is very important for 4:2:0 chroma sampling, as used in HDV, PAL DV and MPEG2 as they work differently with progressive video as they do with interlaced video.

The chroma sharpening filters are very strong effects, and when used with care can greatly enhance the chroma for bumping to a higher format or for chroma keying. When used to strongly, they can remove small chroma details. Be sure to take care when using them.

The chroma sharpening used by this filter is dependent on the luma information in the image. It is this dependence that allows this filter to improve the quality of the luma, for instance in chroma keying applications.

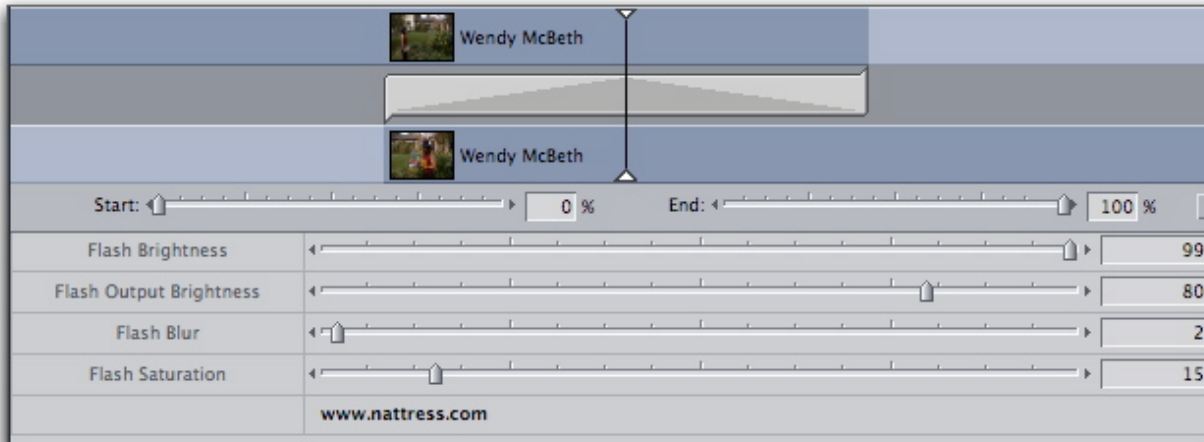| Control	Settings	Notes

Mode	`Just Sharpen`
	`4:2:2 Smooth then Sharpen`
	`4:1:1 Smooth then Sharpen`
	`4:2:0 Smooth then Sharpen`
		It is important to select the correct setting here for the type of video that you are using.

Sharpen Amount	`0% to 100%`	controls the amount of the sharpening effect that is used to reconstruct the chroma.
Anti-Alias Amount	`0% to 100%`	Use this control to soften or smooth the chroma after it has been sharpened.

Diagnostics	`final`
	`Cb Sharp`
	`Cr Sharp`
	`Cb Original`
	`Cr Original`
		Allows you to view the final effect or to see the chroma components Cb and Cr so that you can easily see what the filter is doing. Cb Original and Cr Original allow you to compare what the filter is doing with what the chroma channels looked like before the filter was applied.

G Film Flash

G Film Flash is both a transition and a filter that flashes the video to brightness, as if the video had been over-exposed like film in a camera as it speeds up at the start of filming and slows down at the end of filming. The filter version also has the option to adjust the speed of the video to add extra verisimilitude to the effect.

Control	Settings	Notes
Flash Brightness	`0% to 100%`	controls how bright the over-exposed flash will be
Flash Output Brightness	`0% to 100%`	controls the maximum brightness of the flash so that you don't exceed broadcast safe levels
Flash Frames	`0 to 100`	controls the number of frames that the flash occurs over
Flash Blur	`0 to 100`	controls how much the video gets blurred as it over-exposes
Flash Saturation	`0 to 100`	Adjust the saturation of the flash.
Film Speed	`on` `off`	selects whether you wish to have the film speed effect or not.

Position	`Start`
	`End`
	`Start & End`
		selects whether the effect appears at the start, end or both start and end of the clip

G Film Flash Transition

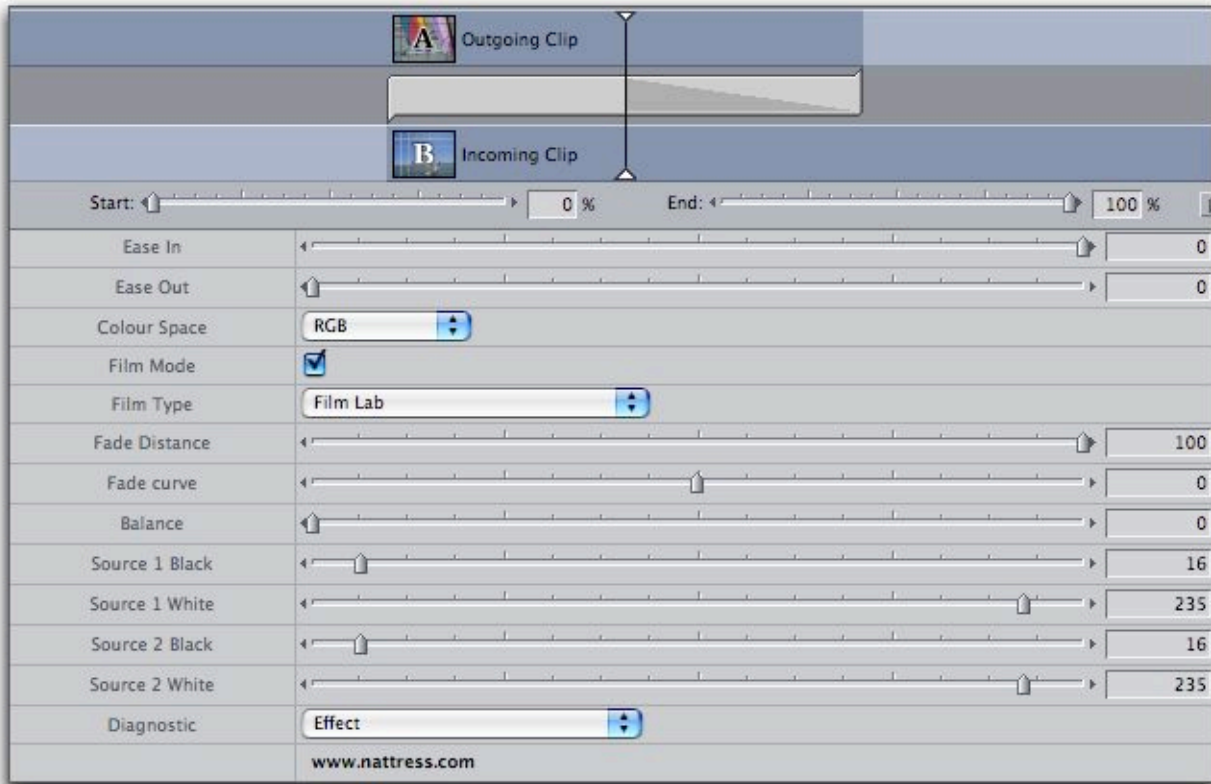| Control	Settings	Notes
Flash Brightness	`0% to 100%`	controls how bright the over-exposed flash will be
Flash Output Brightness	`0% to 100%`	controls the maximum brightness of the flash so that you don't exceed broadcast safe levels
Flash Saturation	`0 to 100`	Adjust the saturation of the flash.
Flash Blur	`0 to 100`	controls how much the video gets blurred as it over-exposes

G Film Dissolve

G Film Dissolve allows you to transition between video clips in either of five different film styles, "Film Lab", "Teknocolor Positive", "Teknocolor Negative", "Interpositive 1" and "Interpositive 2". The dissolve can also be set to occur using YUV (really Y'C$_b$C$_r$) or RGB for subtly different effects.

The diagnostic mode can be set to show the effect (the dissolve) and has two modes that show the time progressing through the dissolve showing the curves that the ease-in and ease-out generate, and also how the fades themselves can be changed from linear to curved, with varying amounts of blend.

Fade Curve changes the shape of the fade curve. The neutral zero setting produces a straight line. Fade distance will allow the amount of overlap of the two fade curves (for the incoming and outgoing clip) to be adjusted. 100% is full overlap (normal for dissolves in FCP) through 50% where the curves overlap only at the middle, and beyond. If the curve of the fades is set in such a way that the dissolve is too light or dark in the middle, the fade distance can be altered to adjust the overlap to compensate.

Finally, the source black and white points for the incoming and outgoing clips can be selected. These can be adjusted to compensate for clips that don't use the full video dynamic range and are cutting out too early in the dissolve. If these settings are adjusted too far, the video will not fade in or out completely, causing a jump to occur, so use with caution.

All these controls go to make this a very flexible dissolve that looks great, even if just the standard settings are used.

Control	Settings	Notes
Ease In	-1 to 0	adjusts the amount of ease-in the dissolve has
Ease Out	0 to 1	adjusts the amount of ease-out the dissolve has
Colour Space	RGB YUV	allows you to select which colour space the dissolve computes it's effect in
Film Mode	on off	with Film Mode off, you get a normal blend type video dissolve. With Film Mode on, the Film Type selects the type of Film Dissolve you wish to use

Control	Settings	Notes
Film Type	Film Lab Teknocolor Positive (Dark) Teknocolor Negative (Light) Interpositive 1 Interpositive 2	selects which of the Film Dissolve types you wish to use
Fade Distance	1% to 100%	controls the amount of overlap of the two video tracks as they dissolve
Fade Curve	-1 to 1	changes the shape of the fade curve
Balance	0 to 1	controls the amount of the special film dissolve effect
Source 1 Black	0 to 255	Sets the dissolve black point of source 1
Source 1 White	0 to 255	Sets the dissolve white point of source 1
Source 2 Black	0 to 255	Sets the dissolve black point of source 2
Source 2 White	0 to 255	Sets the dissolve white point of source 2
Diagnostic	Effect Time Graph Film Effect Graph	shows the effect, or either of the two graphs that can help you see what some of the above controls do in a graphical manner