

## **Color Lookup Adjustments**

By Martin Evening

## Color Lookup adjustments

The Color Lookup adjustment was first introduced in Photoshop CS6 and can be used to apply all kinds of varied image adjustment coloring effects. It can use standardized ICC profiles (Abstract and Devicelink), or the less standardized 3D LUT formats (which are widely used in film and video). Basically, Color Lookup adjustments offer a way to package a lot of complicated adjustments into a single profile or LUT (lookup table). Credit should go here to former Photoshop engineer Chris Cox, who built most of the 3D LUTs and profiles initially provided in Photoshop. These are not as simple as you might think. A lot of work went into their creation, including writing new code, and as many as eight internal tone and color adjustments are used to create the final effects.

This feature will be of particular interest to video editors because the film industry has for a long time relied on the use of special 3D LUT or Abstract profiles in order to color grade video. You will have seen this all the time in various movies, where the film has been given a certain type of moody color effect. Sometimes this has been done to help unify the color feel of different shots, while some films have incorporated a mixture of special effects. For example, Martin Scorsese's The Aviator used a special Technicolor<sup>™</sup> colorizing effect, which I reckon the 3strip.look 3D LUT profile aims to simulate. Using the Figure 1 image as the starting point you can see three examples of Color Lookup adjustments in Figures 2–4.





**Figure 1** This shows the before version of the image to which I applied the Color Lookup adjustments shown on the following page.



O 3DLUT File	Crisp_Winter.look	~
O Abstract	Baby Colors	~
O Device Link	Load DeviceLink Profile.	~
Dither		

Figure 2 The Figure 1 image with a Crisp\_Winter.look 3D LUT adjustment.







Figure 4 The Figure 1 image with a Gold-Crimson Abstract adjustment.



3DLUT File	Load 3D LUT	×
O Abstract	Gold-Crimson	~
O Device Link	Load DeviceLink Prof	ile ~

## Color Lookup Table Export

You can generate your own Color Lookup tables via Photoshop for use in Photoshop, After Effects, and other image/video editing applications.

To do this, open an image, add some adjustment layers to give the image the desired look and then go to the File menu and choose Export ⇒ Color Lookup Tables... The Export Color Lookup Tables dialog (Figure 5) will prompt you to give the Lookup table a name plus an optional copyright string: i.e. '(©) Copyright' followed by your custom text. Selecting more grid points will result in higher quality tables at the expense of producing bigger files. In the export dialog you can save the look using the 3DL, CUBE, CSP or ICC profile formats (the first three are all 3D LUT formats).

To export as a Color Lookup table the image you work on must contain a Background layer plus additional layers to modify the colors. This can include the use of color-filled pixel layers, gradients and patterns incorporating the use of conditional blending. However, for best results try using adjustment layers only to create the desired coloring effect, as the use of pixel layers may give unexpected results in the final exported Color Lookup table. Also, if you start with a Lab mode file, the export command can save an ICC abstract profile (which is the most generally used and most powerful of the formats). If you start out with an RGB document, then only the 3D LUT and RGB device link formats can be saved.

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Copyright: © Martin Evening	Cancel
Use lowercase file extensions	
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3DL	
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Figure 5 The Export Color Lookup Tables dialog.



**1** I processed this photograph in Photoshop by starting out with the image in Lab color mode and adding a couple of adjustment layers: a Hue Saturation layer to desaturate the color combined with a Color Balance adjustment to alter the color. I then saved the image, went to the File menu and chose Export Color tables, checking the ICC profile option (see Figure 5).



**2** I then opened another image in Photoshop (this time in RGB mode), added a Color Lookup adjustment layer and loaded the color lookup table I had just exported as an Abstract profile. In this example, I reduced the adjustment layer opacity to 50%.

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