

## MASKING SOFTWARE

## Oscar-winning blue screen software puts "transitioning" technology on the desktop

## Ultimatte KnockOut 1.0

BY BOB CONNOLLY AND RON GIDDINGS

ULTIMATTE CORPORATION IS THE COMPANY THAT BROUGHT US *Ultimatte*, the "black box" that Hollywood movie special effect studios have been using for years for live action image compositing, also known as blue screen or green screen compositing. In this process actors perform in front of a blue screen; afterwards the blue is removed electronically and replaced or composited by other computer programs.

## ROOTS IN HOLLYWOOD

Ultimatte Corporation was founded in 1976 by Hollywood special effects pioneer Petro Vlahos, who was honored in 1994 by the Academy of Motion Picture Arts and Sciences with a Lifetime Achievement Award for his development of *Ultimatte* compositing technology. *Ultimatte* software itself also garnered an Oscar in 1995.

Using its own patented process, *Ultimatte* creates what its name designates — the ultimate matte. It is used to remove unwanted "spill" in foreground images created by the blue background which shows up on very fine details in an image, such as hair or a spider web. It's also great for its

ability to recognize semi-transparent objects such as glass and smoke by allowing the keyed backgrounds to show through the smoke while keeping the opaque foreground image intact (frankly, this boggles my mind). It also preserves reflected images seen in semi-transparent foreground glass objects, such as on car windshields, while allowing composited backgrounds to show through. This is a completely different process than the usual cable TV weatherman stuff.

Since most of this compositing is now done on fast computers, the core functions have been separated from motion picture tools and incorpo-

rated into Ultimatte's still image Macintosh-only software *Ultimatte KnockOut* (not to be confused with a hardware product called Knockout), which was shown for the first time in September at the Seybold show in San Francisco.

## THE "KNOCKOUT" IN ULTIMATTE KNOCKOUT

"Knockout" implies just that. The unwanted areas of an image are knocked out by creating a black mask or alpha channel that contains information about a selected part of an image. In *Ultimatte KnockOut*, objects are selected for masking by drawing selection lines which define the inner and outer boundaries of the object. The software outputs a processed foreground (the object with the background colors removed) and a grayscale alpha channel that preserves all the transparencies of the original.

*Ultimatte KnockOut* is used in conjunction with *Photoshop*; it is standalone software, *not* a plug-in. It's sort of a cross between *PhotoShop's* magic wand tool and the lasso tool, and its only purpose is to create alpha channels for compositing. *Photoshop* reads the alpha channel information created by *Ultimatte KnockOut* to let users composite the images together. No color correction, resizing, or filters — only alpha channel creation.

This software comes in handy with images where the foreground has fine edge detail, such as long flowing hair blowing in the wind, where you want to keep all the hair separate from the background. *Ultimatte KnockOut* creates a finely detailed alpha channel of foreground image and hair by analyzing areas that you have manually selected to be foreground, background and transitional. It is this transitional part of the image that is normally the problem. Hair is impossible to select using *Photoshop's* pen tool, and the magic wand tool is limited by a specified amount of feathering.

An alpha channel made in *Ultimatte* and opened in *Photoshop* loads with a black background. *Ultimatte* then relies on *Photoshop's* 'remove black' matting filter to get those semi-transparent transitions that are so impressive. This is what separates *Ultimatte's* edges from other masking programs that give you etched or jaggy edges. As the company literature says, *Ultimatte KnockOut* recognizes that "There are no edges. There are only transitions."

Another example might be when you photograph a clear wine glass up against a blue background in the studio and want to remove the blue area while keeping the semi-transparent reflected areas of the glass untouched. The composite background would show through the glass with room reflections, highlights and even the shadows created on the blue backdrop by the glass — great for product shots that have lots of glass.

However (perhaps because of its use of *Photoshop's* matting), *Ultimatte KnockOut* only works on native RGB *Photoshop* files, no extra channels or clipping paths permitted. That means that if you're working from a CMYK scan, you



## ULTIMATTE KNOCKOUT 1.0

Recommended system requirements:  
Power Macintosh only, System 7.5 or better

Recommended RAM:  
2 MB plus 8X image size

File format required: .PSD, RGB mode

Retail price: \$495 US (\$395 US before December 31/98)

Website: [www.ultimatte.com](http://www.ultimatte.com)  
Telephone: 818-993-8007

have to convert it back to RGB first (and lose the benefit of any original high end CMYK color conversion). Ultimatte says it is currently working on a new version for CMYK. Also, *KnockOut* has an image size restriction: it won't let you work on an image bigger than 4000 pixels wide.

### SHOOT ANYWHERE — BUT IT'S A RAM EATER

The real magic of this program is that you don't need to photograph the subject in front of a special blue screen. Pictures taken outdoors or anywhere else can be used, although it helps if the background is slightly out of focus compared to your selected foreground subject. *Ultimatte KnockOut* recognizes the transition area from sharp focus to soft focus.

But you need lots of RAM. Ultimatte recommends allocating eight times the image size to its program (e.g. to work on a 30 MB file you'll need 240 MB of available RAM). A fast computer will really help because there are lots of calculations going on behind the scenes in the transitional areas of the image. It might be a good idea for you to refamiliarize yourself with *Photoshop's* Quick Edit feature. That way you can mask a hairy head and reposition it more easily.

*Ultimatte KnockOut* requires you to draw an inner selection and an outer selection so that it will work solely on the transition between the two. One minor beef we have is with *KnockOut's* selection tools. You'd think they'd give you

something more advanced than an old circa *Photoshop 2* lasso tool. Remember that cramp in your hand that made you let go of the button so that the loop closed on you? Well, it's back. *KnockOut* forces you to use the shift key and add up little selections until you have everything you want. No option key shortcuts for rubberbanding or resting your mouse finger. They definitely have the best transition software around, but someone should have studied the way *Photoshop* itself makes selections.

Nonetheless, this software is ideal for professional graphic artists who utilize *Photoshop* to create complex composite images, especially those in the fashion industry. Another target market for *Ultimatte KnockOut* is in catalogue photography where composite product shots are frequently used.

### HIGH END FEATURES AT DESKTOP PRICING

*Ultimatte KnockOut* masking is far ahead of *Photoshop's*, and it would seem that the company recognizes this fact since, even though dongled products are uncommon in the desktop publishing community, it comes with a hardware security key or dongle to prevent copying. Dongles are more often found with high end 3D programs or non-linear digital video editing systems such as Avid's.

But we have to admit that *Ultimatte KnockOut* has all the features of a high end product — except for its reasonable price of \$495 (US) (\$395 until December 31/98).

Ultimatte has posted a minor upgrade (v1.02) at [http://ultimatte.com/ko\\_support.html](http://ultimatte.com/ko_support.html). A Canadian dealer list can be found at [http://ultimatte.com/canaa\\_software.html](http://ultimatte.com/canaa_software.html). \*

**Ultimatte KnockOut.** (left) The original image of a fuzzy stuffed bear. (centre) *KnockOut* creates its own alpha channel, reading the transition between the background and the foreground image. (right) In *Photoshop*, use the Remove Black Matte command and paste on a new background color.

