

Photoshop : Kai's Power Tips & Tricks

Note:

To see this file correctly requires Word 4.0 with Times Roman font at 12, 18 and 24 points. To see the imbedded sample pictures be sure to turn off "Use picture placeholders" under Edit (or "Commands...")

IMPORTANT: Set the screen to "256 Greys" in Monitors or Switcheroo. Not "256 Colors" (Word then uses the System color table, which has only 16 greys and renders the sample pictures severely banded!)

Requirements: Photoshop, should work with any version, menu descriptions are for V2.0

Screen: This works down to 8 bit monochrome

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For comments, questions, further variations there is a corresponding folder on America Online in the Macintosh Graphic Arts & CAD area (keyword "MGR") under > Special Interest Groups > Photoshop > Discussion > "Kai's Power Tips & Tricks"

One Minute Quickies : #5: Have a Ball... Instant Spheres

Why?

Cause one needs spheres, damn it, and the teeming millions want to know how...

The basic technique is ultra simple. But there are a few tricks worth noting.

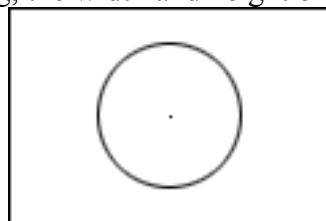
How?

The spheres can be generated at any size, exact numbers are only examples provided for repeatable results.

- 1) Go to File > "New" and create a 400x300y window, grayscale, 72 dpi.
- 2) Select the Ellipse Marquee, click and drag from the center of the window to create a circle, in our example 200w 200h.

TIP >>> The Shift key will change the marquee to be a true circle and the Option key forces it to be centered on the initial click point. Often overlooked is the fact that these keys can be combined and operate DURING the dragging (In many other programs such modifiers have to be pressed first or not be functional at all)

TIP >>> Use Window > Show Info to see the initial pixel location (i.e. find 200x 150y exactly) as well as current cursor position and, while dragging, the width and height of the ellipse/circle



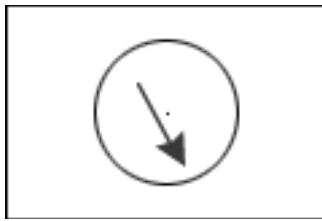
- 3) Since the sphere needs a white highlight fading off to darker shadows we need to invert the fore and background colors. Use Windows > Show Palette. The pop-up says Fore (ground.) : select white from one of the small color samples, or drag the RGB sliders to 255. Set the pop-up to Back and select a Black background.

TIP >>> The usual way to set the foreground color is with the eyedropper. Double clicking on it will reset the fore and background to b&w. Use the option key while sampling with the eyedropper to set the background: if you had even a few black pixels you could reverse the colors above with two clicks and without the palette window. Also: Remember the Preferences setting for Eyedropper sampling

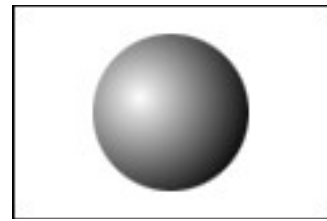
TIP TIP >>> Often overlooked is the fact that the eyedropper works across MULTIPLE windows! You can get a color from any other window in the background without making that window come to the front ... VERY useful.

- 4) Double click on the Blend tool (next to the fill bucket) and click "Type : 'Radial'".

5) Now for the Instant Sphere: Click the Blend tool at 150x 100y and drag to 200x 250y (exact numbers not critical here). (But the circular marquee must still be selected!)



Voila: Instant Plain Sphere:



Notice that the effect works much better with the highlight slightly displaced from the center. In this scenario the fill is really only composed of concentric circles and that is detected easily if the highlight is in the center.

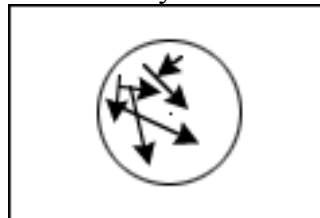
Note : If this doesn't look like a very smooth sphere to you, check if the little Apple icon in the upper left corner has color stripes. It is supposed to be gray! If you have color there, you are still in the 16 shades of gray of the system palette and you are missing 240 additional ones... Go to the 'Control Panel' under the Apple menu and in 'Monitors' set it to 256 GRAYS! Big difference...

What Else?

The sphere image is influenced by several variables: the start and end color, the position of the highlight (initial click) and shadow (drag-release distance), and the settings in the Blend tool dialog. Experiment with other positions and settings.

In order to seriously improve the subtlety of the effect to the point of an almost ray-traced look, in a fraction of the time, try the following technique:

1) With the basic sphere still shown and its marquee selected we will do overlay fills with the blend tool. The key is to use transparency settings. Do as in 5) above but vary the start- and end-points.



Tip >>> To achieve the transparency you could double click on the blend tool and set Opacity in the dialog to, say, 33% or 22%..(I use identical digit numbers a lot, its faster). But much faster is to simply press the digits 1 through 9 while you operate the tool, setting opacity to 10% through 90% instantly. This often overlooked shortcut works for all tools to which transparency applies!

2) The effect of multiple overlaying blends is to soften the fill, get rid of the "concentric circle" quality, add realistic multiple highlights and generate spheres similar to "Radiosity" techniques.



3) With repeated use of the fill you may notice that the sphere's edge may not retain a perfectly circular shape (exaggerated in this small sphere). The quickest and easiest method is to use Select > Defringe with a setting of 1-3, which will expand inside pixel color to the edge of the selection



Tip >>> In case Defringe is greyed out (it only works on 'floating selections') use one of the arrow keys to nudge the selection by a pixel.

Tip >>> Other Methods to clean up the edge of a selection would be a) Edit > Stroke then add a 1 or 2 pixel border inside, center or outside (depending on the case) or b) to use Select > Border at 2 or 3 and then Blur. The latter will be, well, blurred, the former can create nice sharp yet anti-aliased edges but only if either the background or the selection has solid colors or the stroke looks like a 'border'

4) Now to add a finishing touch, here is how to add a quick shadow. First, while the finished sphere is still selected, copy it (command-v) to the clipboard.

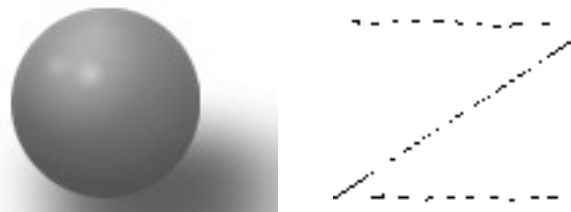
5) Use the elliptical marquee and select a rough area for the shadow. Be sure to make it quite stretched horizontally, as the effect becomes much more unrealistic with the old “concentric circle” problem.



- 6) Set Select > Feather to a value about half the short diameter. Make it as big as you can (20,30,40) until Photoshop complains. This will create a soft band inside and out of the selection in which effects are softened.
- 7) With the background still set to black all you have to do now is hit the “delete” key, voila. If the black part interferes with the appearance of the sphere (it might not) paste the ‘clean’ version back over it.



- Tip >>> Very valuable to see the effect of Fringe, Border & other selection work is the Select > Hide Edges command. (Command-h as well.) MetaTIP >>> I use it SO much in conjunction with Command X C and V (Cut, copy,paste) that I defined a Quick Key “Command-Spacebar” to be available right next to these keys and remove the selection marquee ‘dancing ants’ immediately ALL the time
- 8) The feathered shadow depends on both the feather size and the background color. Try a dark grey instead of black to soften the effect. With the Hidden Edges you can repeatedly press the delete key and see the shadow grow and darken interactively..neat! Much better than trying to airbrush a freehand shadow in here! More complex shadows are covered in a separate document, as is ‘cleaning up edges’.
 - 9) Final things to try with the sphere : copy the clean sphere onto any other document and use the power of Edit >Paste Controls... vary the opacity, fuzzyness, etc to achieve realistic glass spheres. To reflect the background onto the sphere use the spherize filter and paste a half opaque version. An example of that is covered in Biedny/Monroy’s PS Handbook.
 - 10) To colorize into a solid color sphere convert to Mode > RGB, then Image > Adjust > Hue and Colorize.
- TIP >>> You can click in the Title bar (e.g. on the word ‘Levels’) to quickly compare the before/after state of the Hue... settings. This often overlooked feature is true for many dialogs that affect pixel brightness, saturation, etc.. MetaTIP>>> After using the Preview button once the preview will not work again on 24 bit cards. Use “Option Preview” to restore it...
- 11) As with any contone grayscale images, the sphere can be affected in interesting ways with the Image > Map > Arbitrary... Dialog. Interrupt the continuous greys with bands of black and white by drawing (in the Arbitrary dialog edit window) small lines horizontally at the top and bottom as shown here:



this will create sharp bands in the sphere. Then click “Smooth” to soften the lines.

Tip >>> you can leave the dialog and the cursor becomes the eyedropper. Click-hold on any part of the image and see where in the arbitrary map that grey level falls. You can locate specific bands that way (I you need that one special Jupiter ring...) Try this with a greyscale human face, too...



Season with the Spherize Filter or Pinch at -99 (Yes it does negative pinching!) and a couple more blends at 10% Opaque (“1” key).

Not bad for algorithmic painting, using neither airbrushes nor raytracing...For a better example of such spheres, in color, have a look at the sample file KPT BlendoSpheroids. It uses these and many other techniques to be covered in future tips files.

Read the Adobe manual and the Photoshop handbook by David Biedny and Bert Monroy. These tips are often complimentary to basic techniques described there.

PS:

You could add a note in the feedback folder mentioned at the top if you have results to share with others. Please let AOL and Adobe know if you find these tips useful.

Happy Photoshopping, Kai Krause