

Adobe Flash CS4

Create 3D elements in Flash

2D character animator **Tom Baker** helps you get to grips with the new 3D tools in Flash CS4 to create some dazzling results

Flash has come a long way since its early web-based vector days, and the new CS4 version boasts some pretty impressive extra features, such as the ability to create 3D layers 'postcard' style. It's already the 2D animation package of choice for most of the major animation studios in London (Cartoon Network and Nickelodeon to name but two), but with CS4 expanding into the realms of 3D, there's never been a better time to get to grips with the program if you're an aspiring animator.

In this project, I run you through the basics of the new features. The following steps reveal how to animate 3D layers by creating a movie clip of a simple magician character converting a 2D box into 3D, which we animate with keyframes. The process takes advantage of the improved synergy between Flash CS4 and Photoshop CS4 – importing elements from the latter to add visual flair – and will result in a character that's ready to export into After Effects.

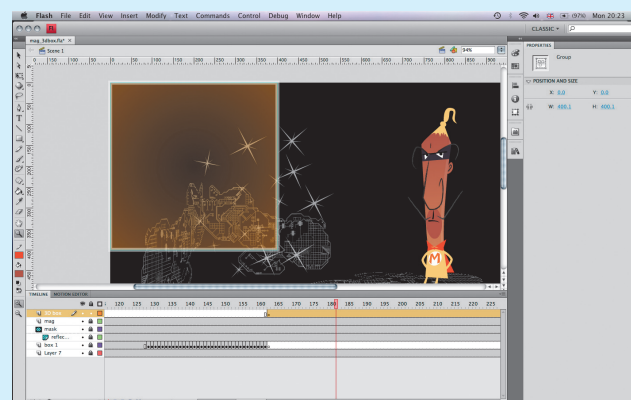
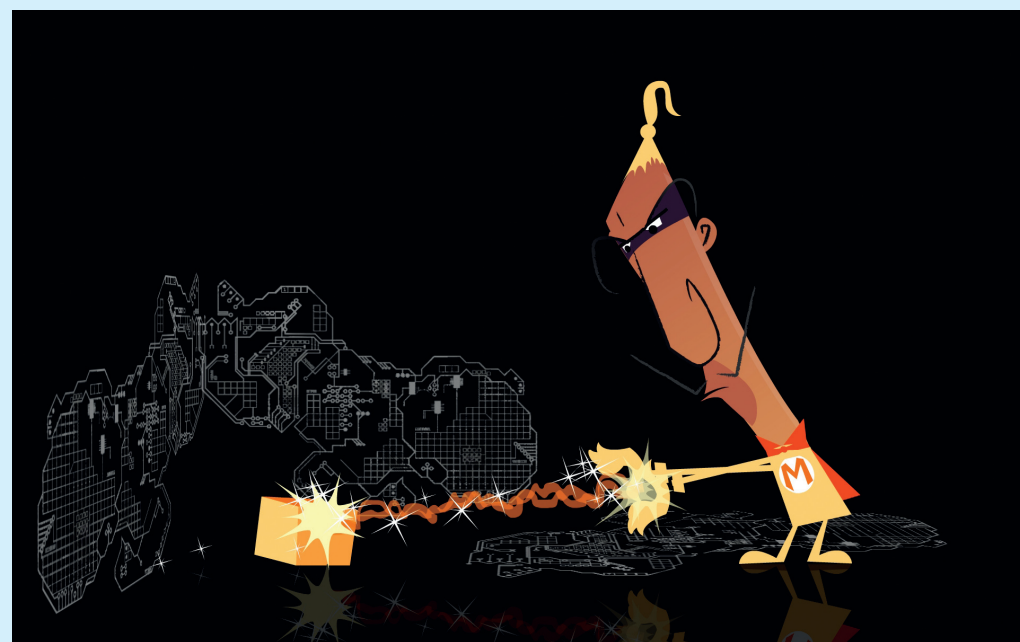
You will find a finished working version of the FLA file on your cover disc in case you get lost at any stage, plus a movie clip showing how it should end up looking.



Tom Baker
London-based Baker is a freelance character animator and illustrator whose clients include Cartoon Network, Nickelodeon, Channel 4, Paramount Comedy, Sony and Green Thing. www.bakeranimator.com

On your disc
— You'll find the resources you need to work along with this project on your cover disc, in the Resources section

Skills
— Animate 3D layers in Flash CS4
— Master the new motion editor and updated Motion Tween features
— Integrate 2D and 3D animation techniques

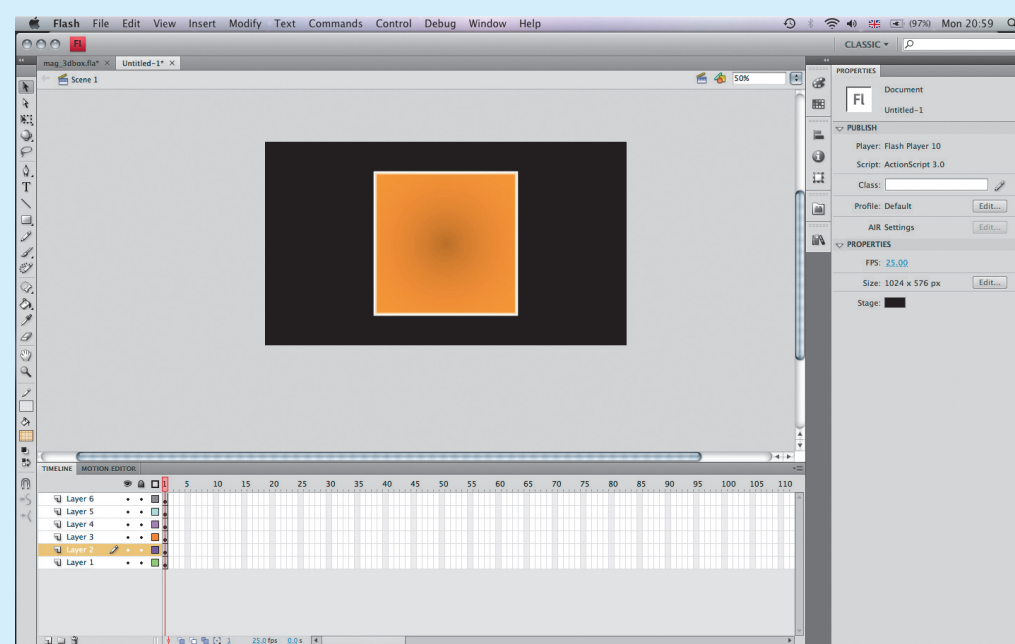


02 Create a new layer, and use the Ruler tools (View>Ruler) to draw a square measuring 400x400 pixels. In the Colour palette, fill the square with a semi-transparent neon orange radial gradient. Make the Stroke a thick white line with the Transparency set to 50%.

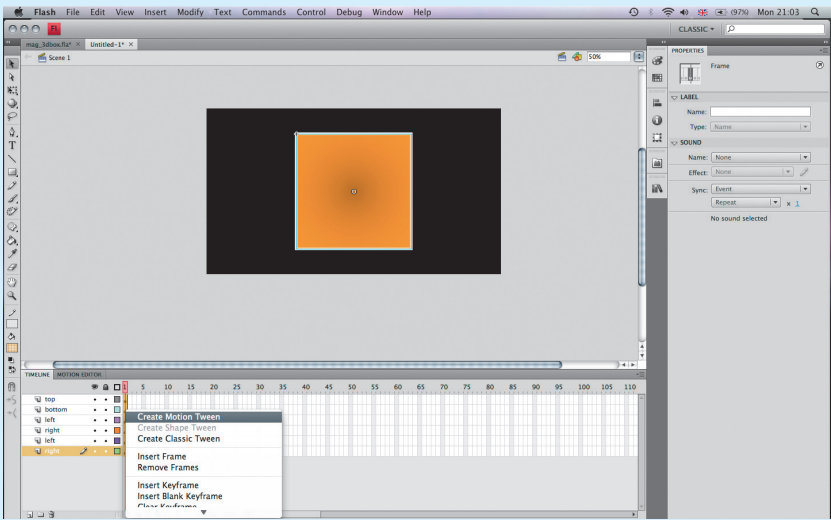
01 Open up wizard fla on your cover disc. In this project we're going to use the new 3D tools in Flash to complete the animation, which will show the magician turning the 2D box into a glowing and rotating 3D box. If you play through the animation, you can see that the 3D box appears around frame 163. We're also going to add some robot-inspired background elements from the previous Photoshop project.

Workspace

Flash CS4 has many different customisable layout modes to choose from. I chose the Essentials layout from Window>Workspace>Essentials because I find it easier to work with the timeline at the bottom, but try out each of the different setups to see which works best for you.

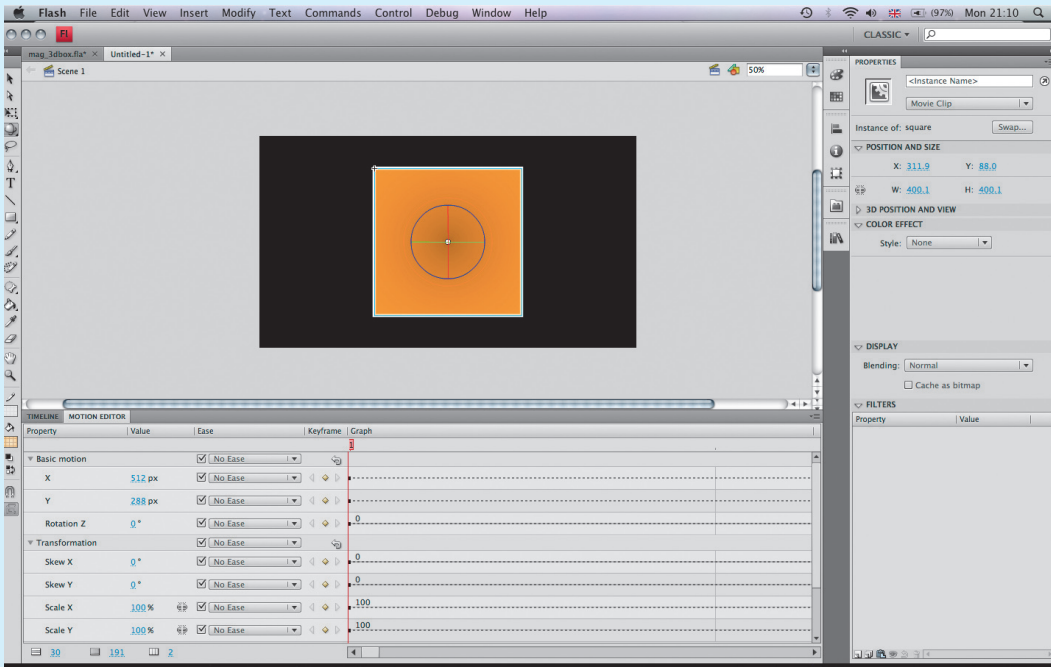
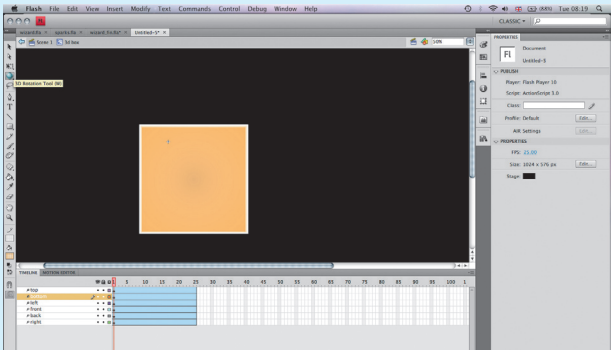


03 Using the Align tool, centre the box in the stage and convert it into a Movie Clip symbol (Ctrl/Cmnd +F8). Now repeat the process and turn it into a Movie Clip again, so that there's a clip of a square nested within another movie clip. Create five new layers, and copy and paste the square in place so that there are six identical layers, each containing a square.



04_____ The squares are going to form the faces of the cube, so it's a good idea to name the layers as follows: top, bottom, front, back, left and right. We can now use the new 3D features. Select all the layers in the Movie Clip, Ctrl/right-click, and select Create Motion Tween.

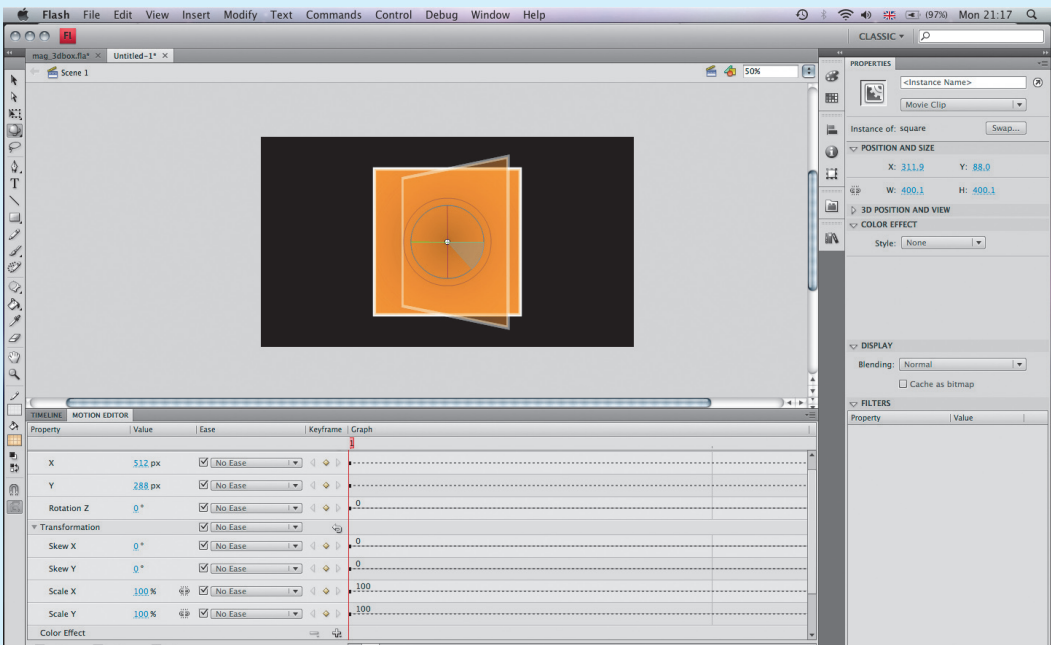
05_____ Motion Tweens have changed for Flash CS4, and one of the major differences is the Motion Editor. You can look at the Motion Editor by clicking on the tab next to the Timeline. We can now start rotating the faces of the cube.



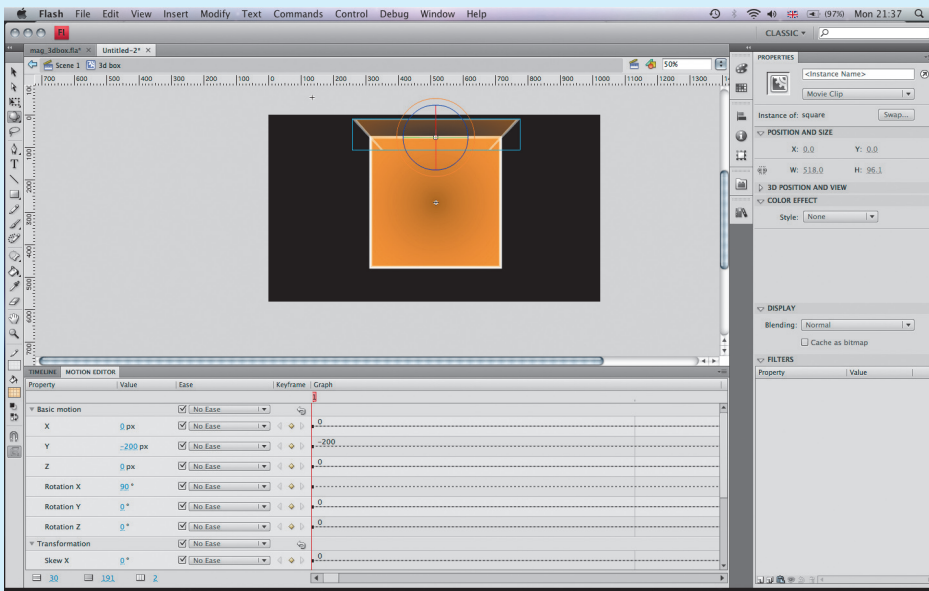
06_____ Select the 3D Rotation tool (third from the top in the toolbar), and then click on one of the squares on the stage. If you're already familiar with 3D software you may recognise the circular interface, which enables you to rotate the square about the X (red), Y (green) and Z (blue) axes.

Always use Movie Clips

The new 3D features in Flash only work on Movie Clip symbols, so when you're creating new symbols it's good practice to always convert to Movie Clips – unless there's an animation that you want to view from the main stage. You can always convert a graphic symbol to a Movie Clip at a later stage.

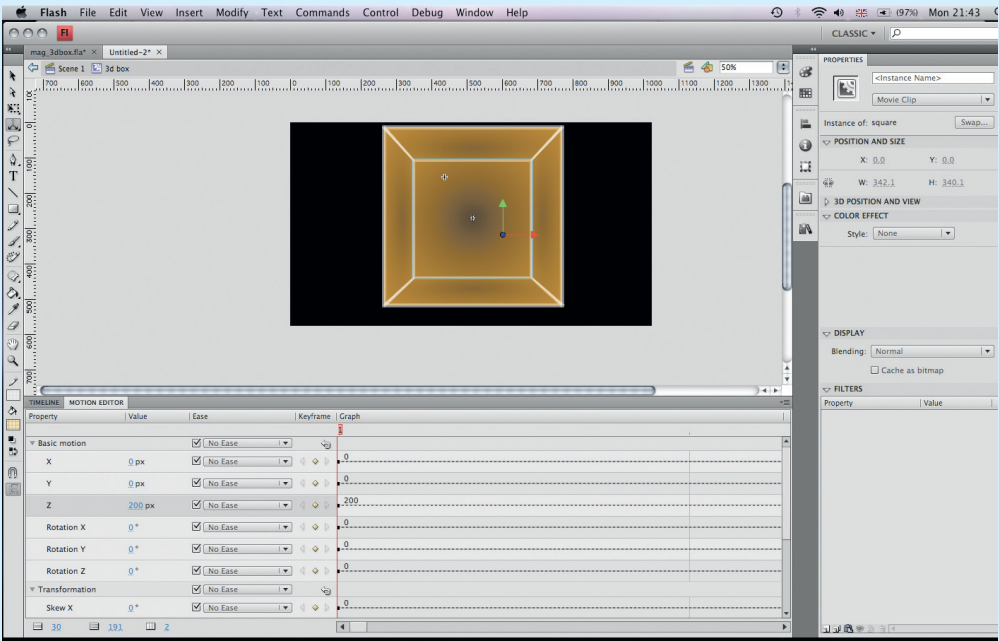


07_____ While holding down the mouse button, drag the circular interface around and rotate one of the squares. Notice how the grey area of the 'pie' changes to indicate the angle through which the square has been rotated.

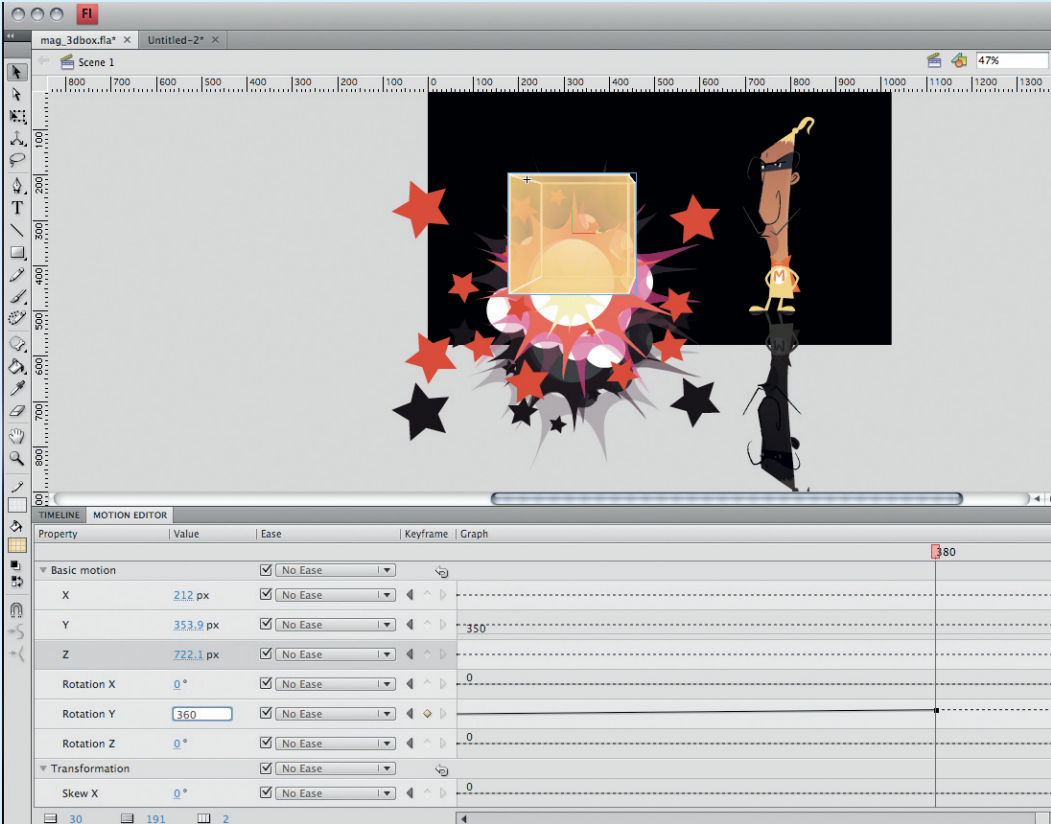


08_____ If you hold down the Shift key while you rotate the squares, it will lock the rotation to 45-degree increments. Have a look at the values in the Motion Editor as you rotate the faces. You can also input the rotation values directly into the Motion Editor, which enables you to be more precise.

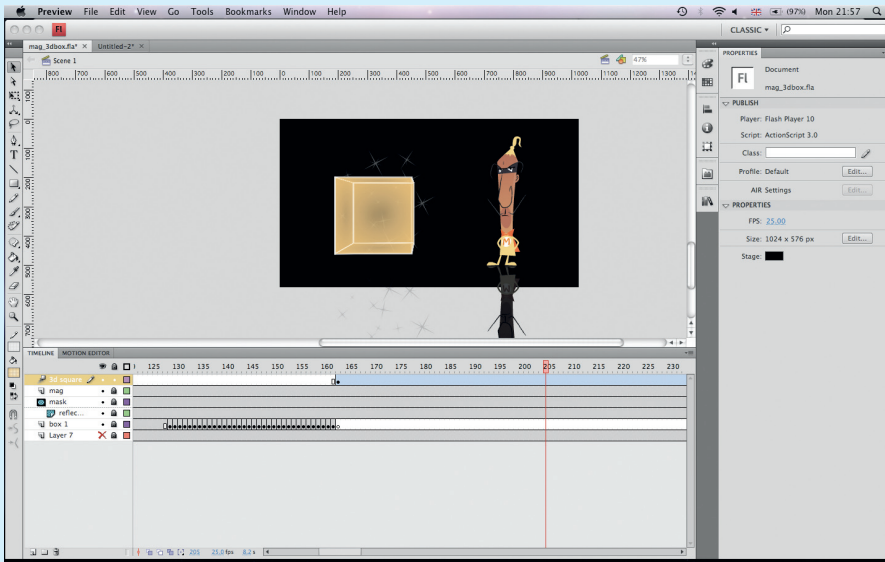
44 Project two Sharpen your skills



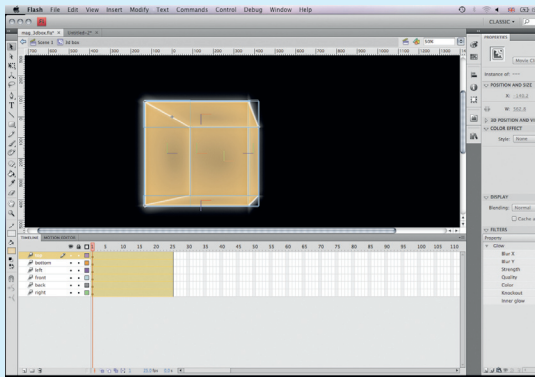
09____ Let's start with the top and bottom faces. Rotate the face on the top layer through 90 degrees on the X-axis, and position it at the top of the other squares using the 3D Translation tool. As the square is 400x400 pixels, the top of the square will be -200 pixels (half the height of one of the faces) on the Y-axis.



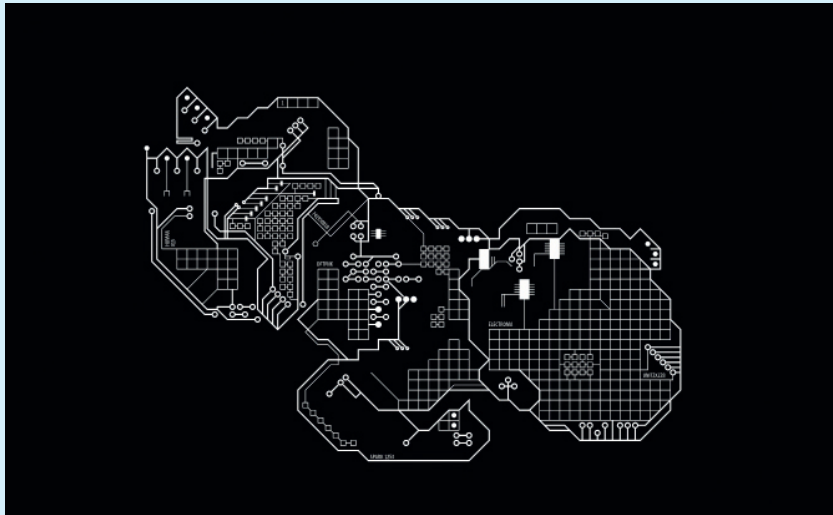
11____ The next step will be to make the cube rotate. Go to frame 380 on the timeline (in Flash CS4 you can go directly to any frame number by entering the value at the bottom of the timeline next to the fps value). Enter 360 degrees for the Rotation Y in the Motion Editor, so that the cube undergoes a complete rotation. Scrub through the timeline and notice how the box now rotates on the stage.



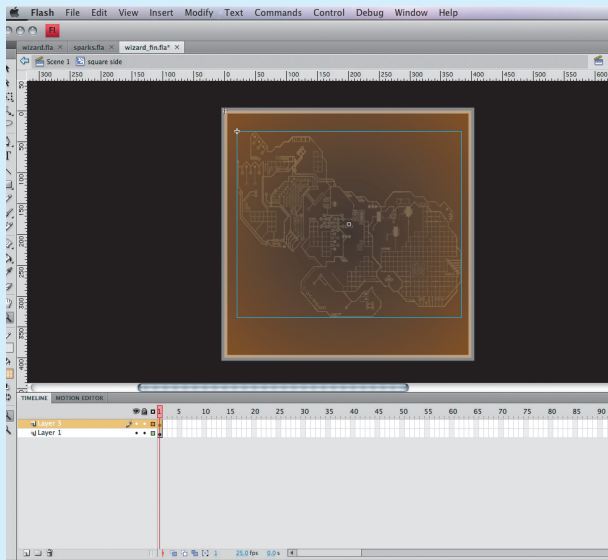
10____ Repeat the process for the other faces of the cube. Notice how the top layer appears at the front. For this reason, I chose to make the cube semi-transparent. Go back to the top layer of the main stage again, and move the cube around the stage to view the 3D quality.



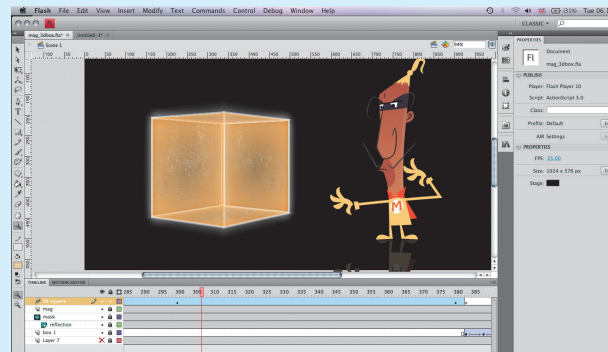
12____ While the box is starting to look impressive, we can still improve on the aesthetics. Double-click the cube Movie Clip to edit it. You might notice how it all looks a bit skewed now, but don't worry. Select all the faces, and using the Properties panel add a Glow on Medium quality, set to 50px at 100% Strength.



13____ We can now introduce some Photoshop textures – feel free to use your own, or you can download the robot-inspired ones that we've used here from www.bit.ly/robottexture. Create a new Flash document (File>New>Actionscript 3.0), then go to File>Import>Import To Stage, to convert the Photoshop layers to Flash layers.



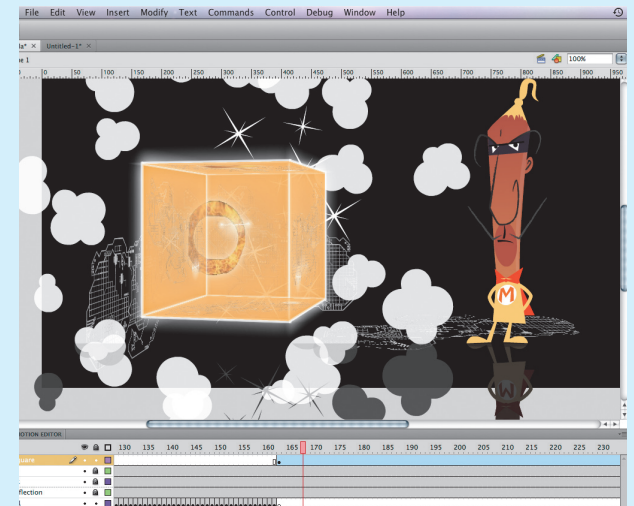
14 Adding elements will give your Flash projects greater visual dynamics. Copy and Paste the babytronica circuit board into one of the square sides of the cube from the original Flash document. Convert the image to a Movie Clip, and reduce the Alpha opacity down to about 25%.



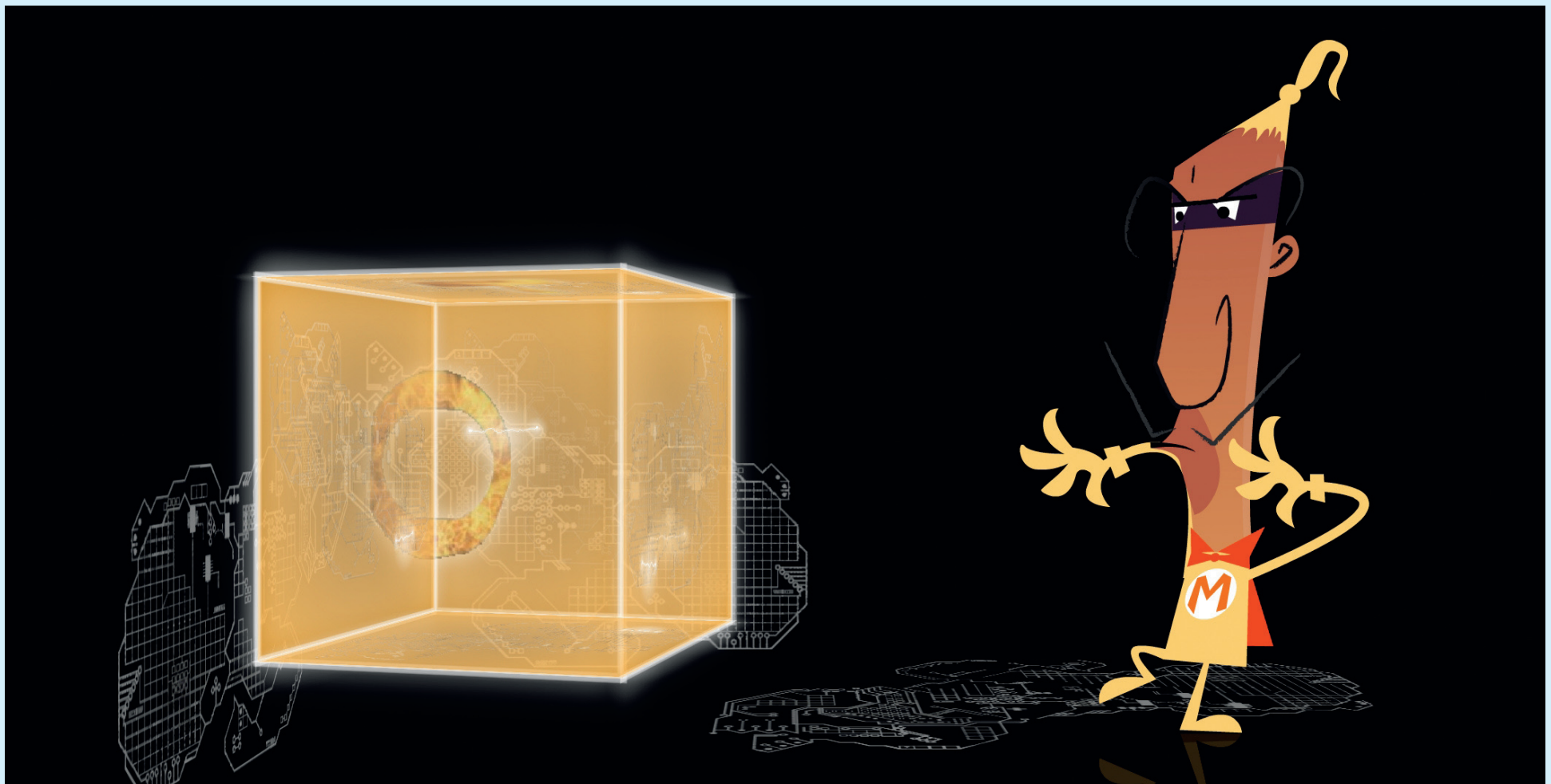
15 Go back to the main timeline and play the animation. The box should be looking quite cool by now, with the circuit boards glowing through on each face. Go back to your Flash file containing the Photoshop layers, and copy the letter 'O' layer.

Blank keyframes

You may notice that with the new Motion Tweens it's no longer possible to add a blank keyframe into the timeline using the F7 key. An easy way around this is to Alt-drag a blank keyframe from another layer to the point you want it on the Motion Tween layer.



16 Duplicate one of the faces of the cube by Ctrl/right-clicking and selecting Duplicate, and paste the letter 'O' layer into the Movie Clip. Using the same principle, continue to place elements from the Photoshop document onto the main stage. As a final finishing touch, add some electrical sparks. Open up sparks.fla from your cover disc, and Copy and Paste the sparks Movie Clips into one of the faces of the cube.



17 From here, you can add a camera move to the whole project by selecting all the frames on the main stage and pasting them into a Movie Clip and adding a Motion Tween. Next, we're going into After Effects...