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## Minimum Requirements

As a minimum, 3-D Fotocube requires a 256 color display, 4+ Megs of RAM, and Windows 95. It will not run well with less than 8 Megs of RAM and at least a 486DX2 processor. More is better; see [Speed and Image Quality](#) . 3-D Fotocube requires about 2.5 Megs of disk space.

## What is 3-D Fotocube

3-D Fotocube is a Windows 95 screensaver and desktop application that displays your pictures - bitmap (\*.bmp) or JPEG (\*.jpg) files - in a 3-D animation of spinning and orbiting photo cubes. Bitmap or JPEG files can be created from scanners, photo CDs, video capture systems, and paint programs. Thus, 3-D Fotocube can display:

- \* Photographs
- \* Artwork
- \* Logos
- \* Text

Up to 6 pictures can be simultaneously displayed. Display quality and speed can be tailored to match your tastes and system capabilities.

The desktop application is a normal program that can stay open alongside other applications. It makes customizing 3-D Fotocube easier and it looks cool, whirling away alongside the daily grind. If this sounds fun, see the topic [Getting Started](#).

## Options

This topic discusses the user options in the configuration dialog box. To reach the configuration dialog box in the desktop application, follow steps 1-8 in the [Getting Started](#) topic. Alternatively, you can get to the configuration dialog box via the screensaver icon; the screensaver and the desktop application use the same configuration settings and pictures.

When you first reach the configuration dialog box, the current 3-D Fotocube configuration is displayed. You can change any of the options (or pictures) as many times as you like. If you want to keep the changes, click OK, otherwise click Cancel; OK will replace and Cancel will restore the configuration you saw on arrival.

There are four checkboxes:

- \* Shading - if checked, adds a "headlamp" spotlight
- \* Stars - if checked, adds background stars
- \* Orbiter - if checked, adds an orbiting cube
- \* Spinner - if checked, adds a centered spinning cube

Clicking a checkbox toggles it: from on (checked) to off (unchecked), or vice-versa. To get a feel for what these do, use the desktop application 3-D Fotocube to quickly see what happens as they're checked off and on.

There are three up-downs – widgets with up-down arrows and a box that counts:

- \* Cube Size - adjusts the size of the cubes
- \* Rotation Speed - adjusts how much everything spins between animation frames
- \* Star density - adjusts how many stars are in the background

The settings can vary between 1 and 10. As with the checkboxes, use the desktop application 3-D Fotocube to quickly experiment with different settings.

There's some interaction between the checkboxes and the up-downs, for example with the background stars. Also, the spinner cube size has two sizes, depending on whether the orbiter is off or on.

After a while, you may want to fine tune your configuration, balancing image quality with animation speed. These issues are discussed in the topic [Speed and Image Quality](#). See the [Special Features](#) topic for instructions on timing.

## Getting Started

You've already run the setup program, which installed the 3-D Fotocube software, created the program icons, and added shortcuts to the Start Menu.

Now let's, add your pictures. You must know what folder your picture files are in! It's easiest if they're all in one folder. Hint: leave this window open as you do the steps below (you may need to resize the width). Or print it out now for setting up later.

The 3-D Fotocube screensaver uses the same pictures as the desktop application. Adding pictures is easier using the desktop application, so that's what we'll discuss.

To add pictures to 3-D Fotocube:

- 1) Double click the 3-D Fotocube desktop application shortcut – look in the 3-D Fotocube folder in the Start Menu Programs folder.
- 2) 3-D Fotocube should now be running. Single click File, then single click Configure from the menu.
- 4) You should now see the configuration dialog box.
- 5) **Add your \*.bmp or \*.jpg files now:** single click the Add button; navigate to the correct folder, and select the file by double clicking or highlighting and clicking OK.
- 6) Repeat 5, adding up to 6 pictures. If 6 pictures are on the list, the Add button is disabled, and you must delete before adding.
- 7) To delete pictures from the list, highlight the file, then single click the Delete button.
- 8) We're done adding pictures; single click OK. 3-D Fotocube should now be using your pictures.

To change the pictures, delete and add as in the 8 steps above.

The last step is to activate 3-D Fotocube as your Windows 95 screensaver; the 3-D Fotocube screensaver will then automatically start when your computer is idle. This must be done using the 3-D Fotocube Screensaver icon (**not the control panel**). This will require using a mouse right click, which is a single click of the right mouse button; single click (without right) means use the left mouse button.

To activate your 3-D Fotocube screensaver:

- 1) Right click Start, then single click Open.
- 2) Double click the Programs folder.
- 3) Double click the 3-D Fotocube folder.
- 4) Right click the 3-D Fotocube **Screensaver** icon.
- 5) Single click Install; this will open the Windows screensaver install dialog box. 3-D Fotocube Screensaver should be highlighted in the list box.
- 6) Adjust the Wait setting to suit you tastes.
- 7) Single click OK to save the settings.

Finally, you can stop and relax now. Or customize 3-D Fotocube by changing the configuration options in the setup dialog box. For more details, see [Options](#).

To change screensavers or to have none active, you can repeat steps 1-5 to get the screensaver install dialog box, then select another screensaver (or none) from the list box, then single click OK. Note that there are other ways to get to the screensaver install dialog box, but only steps 1-5 will allow you to activate 3-D Fotocube as your Windows 95 screensaver.

To uninstall 3-D Fotocube, i.e., to completely remove it from your computer, see the topic [Uninstalling 3-D Fotocube](#).



## Speed and Image Quality

This topic discusses adjustments you can make to change the speed and image quality seen in 3-D Fotocube. Unfortunately, speed and image quality are often a tradeoff. Speed means frames per second, and low speed is seen as jerky animation.

Display color depth increases image quality without giving up speed: image quality improves dramatically going from 256 colors (8 bit color mode) to 64 thousand colors (16 bit color mode). That's because on 256 color systems, pictures are dithered. Set display color depth from the Windows control panel display dialog box, or use the utility provided with your video card.

The color depth of your pictures does not affect speed, therefore, if possible, use 16 million colors (24 bit color mode) for photograph-like pictures. Text images and simple drawings made in paint programs may use only 16 colors (4 bit color mode), and these probably won't benefit from more colors.

Picture file size may be an important speed/quality tradeoff: bigger pictures look better, but may animate slowly on systems with less than 16 Megs of RAM. Also, Fotocube shrinks pictures to a threshold size based on system physical memory size; this can degrade image quality. To avoid this shrinking, limit pictures to a maximum dimension of 256 pixels on systems with less than 8 Megs of RAM, 512 pixels on systems with 8 to 24 Megs of RAM, and 1024 pixels on systems with 24 (or more) Megs of RAM. The bricks on the picture borders fill in rectangular pictures; remove them by cropping pictures to squares. Crop and resize using your favorite image editing software to get the best performance from 3-D Fotocube.

JPEG files are much more compact than bitmap files – typically 4 to 8 times smaller. However, loading JPEG files typically take twice as long as loading bitmap files. File loading slows more when the (memory dependent) pixel size threshold is exceeded; cropping and resizing under the size threshold will speed up load time. On slower computers, you may wish to convert JPEG files into bitmap files to speed up load time.

On systems without 3-D graphics acceleration, cube size is noticeably inverse to speed, and this is the most important parameter you can adjust for speed. Cube size is set from the 3-D Fotocube configuration dialog box; see the [Options](#) topic. Likewise, screen resolution (e.g., 800x600) is nearly inverse to speed; set this from the Windows control panel display dialog box, or use the utility provided with your video card.

The rest of the options don't tradeoff speed and image quality as much. Star density is inverse to speed, but is not a big factor. Two cubes aren't necessarily slower than one. Shading doesn't seem to affect speed, and adds 3-Dness. However, it can give poor image quality on 256 color systems.

The rotation speed controls how much everything moves between frames of the animation, not frames per second; it may look better to turn this down on faster computers.

## Special Features

This topic discusses three special features of 3-D Fotocube: screen capturing, timing, and repeating pictures.

Pressing the Print Scrn key while 3-D Fotocube is running creates a screen capture. A screen capture places the contents of the screen into the Windows clipboard; from there it can be pasted into an image editing program or a word processing program. These programs may also allow printing, however, we recommend editing the black background to white before printing.

Frame per second timing information may be useful for fine tuning 3-D Fotocube. The Speed and Image Quality topic discusses how picture size and some configuration Options tradeoff speed and image quality. The animation speed can be benchmarked by pressing Ctrl+T (hold down the Ctrl key, then press the T key); a message box will display the frames per second rate of the animation. In the screensaver, this will terminate 3-D Fotocube; the desktop application will keep running. To get an accurate timing in the desktop application, press Ctrl+T twice: press once to clear the statistics, wait about 10 seconds, then press Ctrl+T again to get an accurate timing.

If less than 6 pictures are entered during the Options configuration, they will be repeated. For example, if only 1 picture is entered, it will cover all cube faces. This feature may be useful for displaying one special picture or a company logo.



## **Shareware Version**

Except for the desktop application title, the shareware version has the full functionality of the registered version – for a while. Then it's lights out. Sorry, but the marketing people insisted. Amontillado, anyone?

To get a registered version of 3-D Fotocube, see the topic [Registration](#).

## Registration

Print out, fill in, and mail the registration below to get your registered version of 3-D fotocube! Make checks payable to Lucid Numerics. The price is \$12.00 check or money order, US funds. WA residents add \$0.96 (8.0%) sales tax. Out of USA addresses add \$3.00 postage.

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Name

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Street or PO Box

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City, State, Country, Zip

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e-mail address (optional - used to send update notices)

Send to:

**Lucid Numerics  
PO Box 1721  
Tacoma, WA, 98401-1721  
USA**

Include any comments or suggestions below.

## **About 3-D Fotocube**

3-D Fotocube Copyright © 1996 Brian M. Tomas.

## **Uninstalling 3-D Fotocube**

Uninstalling removes all of the 3-D Fotocube files from your computer and deletes the program icons. To uninstall 3-D Fotocube from your computer:

- 1) Single click Start, then hold the cursor over the Settings icon.
- 2) Single click the Control Panel folder.
- 3) Double click the Add/Remove Programs folder.
- 4) Single click the Install/Uninstall tab.
- 5) Highlight 3-D Fotocube in the list box by single clicking.
- 6) Single click the Add/Remove button, then follow the instructions.

## **Acknowledgements**

3-D Fotocube uses the Intel 3-DR rendering library. Intel does not endorse 3-D Fotocube.

This software is based in part on the work of the Independent JPEG Group; more precisely, JPEG decoding is done using the Independent JPEG Group's libjpeg library. The IJG does not endorse 3-D Fotocube.

Thanks to my muses, M & M.

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