

# JuliaSaver

a fractal screen saver

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## I. System Requirements

- Pentium-class processor (*not required, but **strenuously** recommended*)
- Windows 95 or Windows NT (*these instructions assume Windows 95*)
- 640x480x256 or better display mode

## II. Installation

Run `SETUP.EXE`. This will install the screen saver file into your `WINDOWS\SYSTEM` directory.

Once you've done that, right-click on your desktop, select the **Screen Saver** tab, and use the drop-down box to select **JuliaSaver**. If everything works well, you should see Julia fractals appearing in the little preview window. If you don't, something very likely went wrong. Try installing it again.

## III. Configuration

Now that you've got this thing installed, you probably want to play with it a bit. Go ahead and click the **Preview** button and see the fractals full-screen. Moving the mouse or pressing a key will shut off the screen saver. Don't panic if the image doesn't disappear right away; sometimes it can take a couple of seconds. This is *normal*. After all, calculating fractal images makes your CPU break out in a sweat.

Okay, you want to tweak the settings on this thing, maybe make it do something a little bit different. I can understand that. Click the **Settings...** button and you'll get a nifty *configuration* dialog with a bunch of options in it.

The **Fractal Type** drop-down lets you choose from six different fractal types. The three **Julia** types are standard Julia fractals, but **Julia-Inverted** and **Julia-Radial** have weird mapping schemes that distort the images in neat ways. Similarly, the three **Mandelbrot** types are all pretty ordinary perturbed Mandelbrot fractals, but **Mandelbrot-Inverted** and **Mandelbrot-Radial** have those weird mapping schemes. If you'd like to know about the math behind these modes, see the `TECHINFO.DOC` file for more details.

The **Colors** drop-down lets you choose from eight different color schemes. I suggest checking them all out; my personal favorite is the grey-cyan-purple scheme (the default).

The **Animation** drop down lets you choose the animation method. Animation works by varying the  $c$  parameter in the basic Julia equation—see the `TECHINFO.DOC` file for more information. Your options here are **Sinusoidal Bobbing**, which moves the  $c$  point in a complex lissajous pattern over the Mandelbrot set; **Cardioid Trace**, which moves the  $c$  point around the heart-shaped core of the Mandelbrot set; **Random Waves**, which moves the  $c$  point around to random places, in sinusoidal-like patterns; and **Totally Random**, which selects a different point at random for each frame.

The **Speed** slider controls how quickly the Julia shapes change. This *only* affects how quickly the  $c$  point varies. Some images take longer than others to generate, but the  $c$  point (for **Sinusoidal Bobbing**, **Cardioid Trace**, and **Random Waves**) moves at the same speed, no matter how fast the screen is updated. This slider lets you control that speed. Move the slider to the left to slow down the animation; move it to the right to speed it up. (Technodweebs: each notch on the slider represents a factor of 2.)

The last two sliders offer ways to help the screen update faster. The **Iterations** slider sets the maximum number of times the Julia equation can be used for each point. Less iterations (move the slider to the left) mean faster results, but you lose some detail. More iterations (move the slider to the right) give more detail, but take longer. The **Resolution** slider sets the final resolution of the image. Lower resolution pictures

(move the slider to the left) take *considerably* less time to generate. Higher resolution pictures (move the slider to the right) look nicer.

The next option is **Animation Trails**. If this option is selected, rather than simply refresh the entire screen with a new fractal, it is *blended* with previous frames so you get a "trails" effect. This looks exceptionally nifty. The one drawback is that you can't use **Animation Trails** with the highest **Resolution** setting—that would require some *serious* computation that would slow things down enormously. The good news, though, is that when **Animation Trails** is on, the fractal is effectively generated at a higher resolution anyway, and you get the added benefit of *speed* from the lower resolution setting. Keep a napkin handy to mop up the drool.

To the right of **Animation Trails** is **Shrink Palette**. The color schemes ordinarily stretch to 128 colors; if you move the **Iterations** slider to a setting lower than maximum, though, not all the colors will be used. If **Shrink Palette** is checked, as it normally is, the colors will be shrunk to fit into the actual number of colors used.

The bottom option is **Allow screen captures**. If this box is checked, you can press `ALT + PRINT SCREEN` to grab a snapshot of the fractal image and put it on the clipboard. You can then paste it into any graphics program, such as Windows Paint. However, when this option is on, that means pressing the `ALT` key won't exit the screen saver. That's why you can turn this "feature" off, if you like.

#### IV. Registering

Well, okay. The program isn't much. So I'm not *asking* much. If you like **JuliaSaver**, just send me \$10. Just make that check out to me (Damien M. Jones), put it in an envelope, and drop it in the mail. Speaking of the mail, here's the address you should put on the envelope:

**Damien M. Jones**  
**3207 SW Bessey Creek Trail**  
**Palm City, FL 34990-1801**

If you have a question, complaint, or suggestion regarding **JuliaSaver**, you can send a letter, or send e-mail to [dmj@emi.net](mailto:dmj@emi.net) (preferred). Updates to the program can be found on our web pages, at <http://www.emi.net/~dmj>

Enjoy!