Fractals for Windows

Fractals for Windows
Version 2.00
Copyright © 1996   By John Sheu

Distribution Company: Lawrencesoft
Web Site: http://users.aol.com/Johnsheu/

Disclaimer: The user takes full risk for the events that may occur when using this software. Any liability of the author and/or seller will be limited exclusively to the replacement of the product or the refund of the purchase price.

Welcome to Fractals for Windows. Below are some helpful links to parts of the help file on this software, how to use it, and commands.

About Fractals for Windows

> Installation
> License Agreement
> System Requirements
> Application Files
> Registering Fractals for Windows
> Getting Technical Support

Using Fractals for Windows

> The Interface
> **Fractals of Iterated Function Systems**
> > **About These Fractals** (READ THIS!)
> > **Manipulating Frames**
> > > Copying a Frame
> > > Creating a New Frame
> > > Removing a Frame
> > > Moving a Frame
> > > Resizing a Frame
> > > Setting Frame Properties
> > Loading/Saving a Fractal (or the Frames)
> > Running a Fractal
> > Run Options
> **Mandelbrot Fractals**
> > **About These Fractals** (READ THIS!)
> > Resizing the Fractal
> > Setting Window Properties
> > Saving the Fractal
> > Zooming In/Out
> > Loading/Saving Window Properties

Installation

Installing Fractals for Windows:

    1. Go to the drive (probably is A:\) or directory containing the setup files.
    2. Run SETUP.EXE.
    3. Follow the instructions given by the setup program to install this program.

Running Fractals for Windows:

    Windows 3.1 and NT 3.51:
    1. Open the Program Manager.
    2. Open up the group Fractals for Windows.
    3. Double-click Fractals for Windows.

    Windows 95 and NT 4.0:
    1. Open the Start Menu.
    2. Open up the Programs menu.
    3. Select Fractals for Windows from the Programs menu.

Thank you for using Fractals for Windows!

License Agreement

Fractals for Windows
Version 2.00
Copyright © 1996   By John Sheu

Distribution Company: Lawrencesoft
Web Site: http://users.aol.com/Johnsheu/

Disclaimer: The user takes full risk for the events that may occur when using this software. Any liability of the author and/or seller will be limited exclusively to the replacement of the product or the refund of the purchase price.

This program is **SHAREWARE** and must follow all rules governing the use of shareware. Distribution of this software is allowed under the following conditions:

no fee is charged

the software has **not** been modified in any way

the software is distributed in **one piece**

all files listed in the list of program files are distributed

the creators and managers of the software are given due credit

When you register this software, the rules for distribution are voided and ALL distribution of the software is illegal.

This agreement shall be governed by the laws of the State of Kansas and the copyright laws of the United States of America.

When using this software, the user takes full risk for the events that may occur. **ANY LIABILITY OF THE SELLER WILL BE LIMITED EXCLUSIVELY TO PRODUCT REPLACEMENT OR REFUND OF PURCHASE PRICE.**

If you are not willing to comply with any of the aforementioned regulations of use, please close the software and remove it from your system.

By using this software, you agree to this license agreement AND the disclaimer mentioned above. This license agreement holds for both the shareware and registered versions of this software.

(Neither the Author, Lawrencesoft, or any contributors to this software hold any liability to this software once you agree to the license agreement.)

System Requirements

Here are the system requirements for this software.

Requirements:

486SX-25 MHz CPU
8 MB of RAM
For 16-Bit Versions: Microsoft® Windows® 3.1 or above
For 32-Bit Versions: Microsoft® Windows® 95 or Windows® NT 3.51 or above
Keyboard
Mouse
2 MB of disk space
VGA

Recommended:

Pentium-90 MHz CPU or better
16 MB of RAM
Microsoft® Windows® 95 or Windows® NT 3.51 or above
Keyboard (any type)
Mouse
5 MB of disk space
VGA or higher

Program Files

The list below contains the files that come with this software. Either the 16-bit or the 32-bit versions of the files are present on the disk. Never both.

Setup Disk Layout - Setup Files

    Disk #1 of 2:

* **COMDLG16.OC_**	System DLL (copied to Windows System directory) - 16-bit
* **COMDLG32.OC_**	System DLL (copied to Windows System directory) - 32-bit
* **CTL3D32.DL_**	System DLL (copied to Windows System directory) - 32-bit only
* **LICENSE.TXT**	License Agreement
* **README.TXT**	Readme File
* **SETUP.EXE**	Setup Program
* **SETUP.LST**	Setup Script
* **SETUP116.EX_**	Setup Program (16-bit)
* **SETUP132.EX_**	Setup Program (32-bit)
* **STKIT416.DL_**	System DLL (copied to Windows System directory) - 16-bit
* **STKIT432.DL_**	System DLL (copied to Windows System directory) - 32-bit
* **ST4UNST.EX_**	Uninstall Program (copied to Windows directory)
* **VB40016.DL_**	System DLL (copied to Windows System directory) - 16-bit
* **VB40032.DL_**	System DLL (copied to Windows System directory) - 32-bit

    Disk #2 of 2:

* **FRAC32.EX_**	Fractals for Windows EXE - 32-bit
* **FRAC16.EX_**	Fractals for Windows EXE - 16-bit
* **FRACTALS.HLP**	Fractals for Windows Help File
* **FRACTALS.CNT**	Fractals for Windows Help Contents File (32-bit only)
* **FRACTALS.ID**	Fractals for Windows ID File
*** .FSV**	Fractals for Windows Sample Fractals

Program Files - Installed in program directory

    * **FRAC32.EXE -** Fractals for Windows EXE - 32-bit

    * **FRAC16.EXE -** Fractals for Windows EXE - 16-bit

    * **FRACTALS.HLP -** Fractals for Windows Help File

    * **FRACTALS.CNT -** Fractals for Windows Help Contents File (32-bit only)

    * **FRACTALS.ID -** Fractals for Windows information file

    FRAMES*.FSV - Fractals for Windows Sample Fractals

* Required File

Registering Fractals for Windows

Fractals for Windows is a SHAREWARE application. So if you like this software, it would be nice if you would register it. By registering, you will also receive many benefits.

Benefits

When you register Fractals for Windows, you will receive the following:

The **latest registered** version of this software

This software's **manual**

Free technical support from Lawrencesoft (via e-mail or mail)

Free add-ons/patches to this software (found at the Lawrencesoft web site)

Information on other Lawrencesoft programs (including discounts on them).

The registered version of this software will contain **more features** than the shareware version.

It definitely will **not** have the **annoying registration screen**.

Pricing

The cost for the **first** registered copy of this software is &20.00.

Each **additional** copy will cost $12.50.

For every separate order, you must pay a $2.50 shipping & handling cost. If you order several Lawrencesoft programs at the same time, you will only need to pay **one** shipping & handling cost.

How to Register

To register this software, run the **SHAREWARE** version of this software. At the beginning, a window will appear to notify you that you are using an UNREGISTERED copy. Click Register and enter the information needed. Then click Print to print out the information.

The information you provide will be used by Lawrencesoft ONLY. None of the information will be released to an individual or company. Your orders will also be confidential.

Please send the top half of the printed information and the registration fee to the address below.

John Sheu
2400 Westdale Road
Lawrence, KS 66049
(United States for America)

Please allow 2-4 weeks for delivery. We will process your orders as fast as possible!

Getting Technical Support

Technical Support

Technical support from Lawrencesoft is available to **registered** users via e-mail or mail for **free**.

To get the e-mail address for technical support, please go to Lawrencesoft's home page which is displayed in this help's contents. The place to send a message to Lawrencesoft is on the front page.

When requesting technical support, please provide your name, the software in question, and the serial number (i.e. 00000-000-000000-000000) that is found in the About Box of your registered software. You must provide this information in order to verify you are a registered user.

Reporting Bugs

You may report possible bugs in Lawrencesoft program through the Lawrencesoft technical support e-mail address even if you are **not** a registered user. Please provide your name, e-mail address, and the name of the software in question. If the program crashes (a General Fault Protection error), please send us the data that Windows displays when the program crashes. (Like in Windows 95, when a program crashes, it will give you a Details section that tells you where exactly the program crashed.)

We cannot provide technical support to unregistered users, but please feel free to report any bugs to us at Lawrencesoft. If there is a bug, we **will** place a patch for the program at our home page. The patch can be downloaded with **no charge**, since it is a problem with our software and we will fix it.

The Interface

Here's a brief summary of the Fractals for Windows interface. The menus and toolbox should be self-explanatory. To manipulate a frame or edit a window's properties, **right-click** the object and most likely a menu will pop up, containing the menu item necessary to manipulate that object. **(Some objects have no properties to edit.)**

The items in the toolbox should be self-explanatory. To display the toolbox, press Ctrl+T.

File Menu

Fractals…	Loads a window containing a fractal.
Open Frames File…	Loads a IFS fractal save file. (*.FSV)
————————————	
Exit	Quits Fractals for Windows

Window Menu

Cascade	Cascades open windows
Tile Horizontally	Tiles open windows horizontally
Tile Vertically	Tiles open windows vertically
Arrange Icons	Arranges any iconic windows
————————————	
Toolbox	Shows the Tool Box
————————————	
(List of Open Windows)	Makes that window active

Help Menu

Contents	Shows the help contents
Search for Help on…	Searches the help file
How to Use Help	How to use WinHelp
————————————	
About	Shows the About Box

About IFS Fractals

Iterated Function System (IFS) Fractals are generated by mapping points in a plane to different coordinate systems. In Fractals for Windows, the frames define where to map the point to. When you draw and resize the frames, you are essentially defining how to map a point from one to the other. The starting point used when you start running an IFS fractal is (0.5, 0.5). (The big gray square in the window is a square that is 1 by 1 unit. So (0.5, 0.5) is exactly in the middle of that square.) The starting point is then mapped to a frame that is **randomly** selected.

So the frames determine what the fractal will look like. Here's some information to help you position them. In each frame, is a reduced image of the displayed image. So in the Siertinski's Triangle (run the fractal to see what it looks like), each frame contains a Siertinski's Triangle. Use this idea to help you determine where to put the frames.

To see each frame in the window get mapped to each frame, click Converge #1 or Converge #2. In the case of the Siertinski's Triangle after the first round of mapping, you will see three square frames inside each of the original frame.

To create a window with no frames, select the Basic Fractals fractal set and then select (New Blank Fractal) from the list of fractals.

Now below are some links to parts of the help file talking about how to position the frames.

    Copying a Frame
    Creating a New Frame
    Removing a Frame
    Moving a Frame
    Resizing a Frame
    Setting Frame Properties

To find out how to save the fractal, click Loading/Saving a Fractal (or the Frames).

Here are some information on running the IFS fractals.

    Running a Fractal
    Run Options

Good luck with IFS fractals! If you are in need of help, registered users can contact Lawrencesoft technical support for assistance with no charge (via e-mail).

Copying Frames

To make a copy of a frame, **right-click** one of the endpoints of an arrow and select Copy Frame. A copy of the frame will created **exactly where the frame is. It may look like that the frame wasn't duplicated, but it was. There are two frames in the SAME place. Just drag one of the out of that area.**

Creating New Frames

To create a new frame, **right-click** an **empty** spot in the window and select New Frame. A new frame will be created at the center of the window.

You can also click New Frame in the tool box to create a new frame.

Removing Frames

To remove a frame, **right-click** one of the endpoints of an arrow and select Remove Frame. The frame will then be permanently removed from the window.

Moving Frames

To move a frame, click the point where the two arrows meet and drag the cursor around the window. Let go when the frame is in the right place.

Sizing Frames

To change the shape and size of a frame, click down on one of the tips of the arrows and drag. Let go when the arrow is the right length and in the right direction.

Setting Frame Properties

To set a frame's properties, **right-click** the frame at either its vertex or the tips of each vector. Then select Frame Properties. A dialog will appear, containing all the frame's properties. You can set the color of the frame by clicking Select Color. You can also set the coordinates of the vertex and the tips of each vector. Note that the origin is set at the lower-right hand corner of the gray box. The gray box is a unit square, or a square with sides of 1.

Loading/Saving an IFS Fractal

Saving an IFS Fractal

To save a set of frames, click 'Save Frames' in the toolbox. Then enter the name of the file to save the frames to. Fractals for Windows will also prompt you for a description and the author of the frames.

Loading an IFS Fractal

To load a set of frames, click 'Load Frames' in the toolbox or click 'Open Frames File…' in the 'File' menu. If you click 'Load Frames' in the toolbox and you already have frames in the window, Fractals for Windows will ask you if you want to clear the existing fractals. If you click 'Open Frames File', a new window will be created and the frames file will be loaded.

Running an IFS Fractal

To run an IFS fractal, click Run Fractal in the tool box. The fractal will start to generate. When you think it has generated enough, click Stop in the tool box.

To see every frame in the fractal get mapped into every frame, click Converge #1 or Converge #2 in the tool box.

IFS Fractal Running Options

There are two options for fractals of iterated function systems. Look at the current window's title bar to see what the current options are.

Show Frame - When you run a fractal, the frames will be shown.

Same Color - When you run a fractal, the color of each frame will be set to the default color.

About Mandelbrot Fractals

Mandelbrot fractals are generated in a totally different way than the IFS fractals. It uses an equation to run every point through. The point is run through the equation until the point gets too far away. The number of times it takes to get too far away determines the original point's color. The red points are the points that left the area the slowest. The black points are the ones that escaped the fastest.

Here are some links to help you with Mandelbrot fractals.

Resizing the Fractal
Setting Window Properties
Saving the Fractal
Zooming In/Out
Loading/Saving Window Properties

Resizing Mandelbrot Fractals

By resizing the window, you determine the size of the fractal.

Setting Mandelbrot Fractal Properties

To set the window's properties, click 'Window Properties' in the toolbox. A window will pop out containing the coordinates of the top, left, right, and bottom edges. You can manually zoom in by making the left and right coordinates closer to each other and the top and bottom coordinates closer to each other.

Setting Mandelbrot Fractal Properties

To save a picture of a Mandelbrot Fractal, you must wait under it has finished drawing and calculating. Then you will need to click 'Save Picture' in the toolbox.

Zooming In/Out

Zooming In

To zoom in, drag out a box in the Mandelbrot fractal's window. The window will redraw itself. The box area will then fill the window.

Zooming Out

To zoom out, click 'Zoom Out' in the toolbox.

Saving Mandelbrot Properties

Saving Mandelbrot Properties

To save a set of window properties, click 'Save Properties' and type in the name of the file.

Loading Mandelbrot Properties

To load a set of window properties, click 'Load Properties' and type in the name of the file to load.