

# Computer Artworks

## Organic Art

### What is Organic Art?

Created by international computer artist William Latham, and technical guru Mark Atkinson, Organic Art contains over 100 different virtual sculptures, each a living starting point for millions of genetic variations.

Each time it runs, hypnotic 3D imagery is generated "live" in front of your eyes. The full version of Organic Art is both a tool to create your own 3D animated artworks, and the world's first commercial 3D screensaver.

### What's in the Demo?

This demo contains 5 Organic Art scenes, running in screensaver mode. Two are from the full version ("Head Prisms", and "Multi"), plus a title screen, and two more showing some other scenes from the full version with crystals floating over them.

### What's Not in the Demo?

#### 1. Loads More Scenes

The full product contains over 100 different 3D scenes of all shapes and sizes, each evolving differently with every viewing.

Stylistic themes include Celtic jewels, undersea creatures, geometric orbits, faces & skulls, webs, galaxies, amulets, glass, flowers, metallic, DNA, quartz & jade, ammonites and liquid crystals.

#### 2. The Gene Mixer

The full version contains the "Gene Mixer" Windows application, featuring an easy to use graphical interface, which allows you to create and control your own unique animated evolving forms. It also gives you access to view and edit all of the preset scenes included with the product.

To create a scene, you may either start with a random scene by using the "Mutate" button, or work from an existing one. Then:

- \* Choose a lighting model to illuminate it.
- \* Alter its evolutionary path by choosing a Geometry Generator.
- \* Increase or decrease the mutation speed.
- \* Add a backdrop image.
- \* Choose the basic 3D shape it is built from.
- \* Add colour and texture from over 100 texture maps.
- \* Add special effects such as "Shadows" and "Trails".
- \* Continue experimenting with your creation, then give it a name and save it to view later. It will automatically be added to the list of scenes in the screensaver mode.

There are over 250 component images, 3D shapes and texture maps supplied. In total there are over 400 billion combinations to explore, but the system makes it easy to create impressive results in only a few minutes.

## More info

Organic Art is published by Time Warner Interactive. The release is end of March 1996, and the recommended retail price is just £29.99.

Contact Time Warner Interactive on 0171 391 4300 (or fax 0171 391 4348) for more information, or see the Computer Artworks web page on <http://www.artworks.co.uk>.

## Troubleshooting

### **SHARE not loaded on Windows 3.1**

#### *Symptoms:*

Setup program reports SHARE is not loaded, even after you have chosen to fix it automatically, and rebooted the machine.

Setup program then locks up on percentage bar if warnings are ignored.

#### *Solution:*

Firstly, you must allow setup reboot after making the automatic fix.

If this still hasn't worked, edit the file C:\AUTOEXEC.BAT, and scroll to the end of the file. You should see the lines:

```
rem Added by Organic Art setup
SHARE.EXE /L:500 /F:5100
```

If the SHARE.EXE line is not there, add it. If it is there, it may be your PATH is incorrectly set - check the PATH statement includes your DOS and Windows directories.

**You see the message "Cannot find Org16.scr" on Windows 3.1 or the screensaver isn't activating.**

Setup attempts to set Organic Art as your default screensaver, activate screensaving if it is off, and set a default timeout of 5 minutes if none is set. This could fail very occasionally, e.g. if the system or Control Panel is accessing these settings.

Solution is to go to Control Panel in the Main group of Program Manager, open Desktop, and set Organic Art as your screensaver manually, and give it a timeout value if this is 0.

**Low Virtual Memory/Swapfile Problems**

*Symptoms:*

1. You see the "Out of memory" error, or the "Your system is running low on virtual memory" warning frequently.
2. Doesn't start up when you double-click the test icon, but the configuration dialog works ok.

Note you may only see this problem when you have one or more large applications open.

*Solutions:*

\* Increase your system's virtual memory settings. This is done from Control Panel - in Windows 3.1 it's the "386 Enhanced" icon, in Windows NT it's "System", then "Virtual Memory". Depending on the resolution and colour depth of your screen, you may need to add up to around 20MB (around 20,000KB) to your current settings. Search for "virtual memory" in Control Panel help for more information.

\* Try setting a smaller viewport size in the Organic Art configuration.

\* As a last resort, you can disable backdrops from the screensaver control panel to save on memory usage.

**Low Free Physical RAM Problems**

*Symptoms:*

Organic Art does run, but:

1. It takes a very long time to start up or close down.
2. Some scenes, particularly the complex "stills" scenes, take a very long time to draw.
3. Occasionally shuts down.
4. There is a lot of disk activity when Organic Art is running.

*Solutions:*

Organic Art needs a \*minimum\* of 8MB of RAM installed for optimal performance. If there isn't much RAM free, Organic Art will slow down dramatically.

Try one or more of the following until performance improves:

- \* If you are running a high colour (16-bit) or true colour (24-bit or 32-bit) screen mode, try changing to a lower number of colours.
- \* Switch off any desktop wallpaper or pattern and use a plain colour.
- \* Set the Viewport Size in the screensaver configuration to a smaller size.
- \* Check "Disable Still Scenes" - complex stills use more memory than other scenes.
- \* Check "Disable Backdrops".
- \* On Windows 3.x, use a permanent swapfile and 32-bit disk access if possible. Run Control Panel and select help for more information.
- \* Think about getting extra RAM - most Windows applications run a lot faster with 12MB or more installed.

### **Slower in 24-bit and 32-bit ("True Colour") modes**

The 3D rendering engine in Organic Art is optimised for 8-bit (256 colour) and 16-bit (65536 colour) screen modes. Using true colour modes will give you the highest visual quality, and the smoothest shading, but will only be about half the speed.

### **The Uninstaller Reports "Not all elements could be removed"**

This message can safely be ignored.

## **Background**

Computer Artworks Ltd grew out of the development of Latham's Organic Art style, and became a fusion of computer art and science, creating innovative technology and unique imagery in a wide range of media. Computer Artworks is an independent company founded by William Latham and is now owned by directors William Latham and Mark Atkinson.

Recent work includes producing animations for the Sony Playstation, cover artwork for the Shamen album "Axis Mutatis" and singles "Destination Eschaton", "Transamazonia" and "Heal the Separation". Computer Artworks also co-directed the videos for these singles, producing all of the 3D computer animation. Early this year produced cover artwork for Robert Miles' single "Children" on Deconstruction.

William Latham was born in 1961 and was a student at Oxford University and at the Royal College of Art, before becoming a research fellow at the IBM UK Scientific Centre. Between 1987-1994 at IBM, Latham established his characteristic artistic style, and working with IBM mathematician Stephen Todd, guided the development of the "FormGrow" geometry system. His graphic and

animation work is known throughout the world, and has been featured in numerous newspapers and magazines (including Wired, Mondo 2000, New Scientist, Scientific American, The Independent, Ashahi Shimbun, Financial Times), and TV programs (Beyond 2000, Tomorrow's World, Horizon), in addition to citations in many computer graphics textbooks.

Latham's organic imagery has been exhibited in the UK, Japan, Germany, Australia, Spain, France and Hong Kong to much critical acclaim.

Mark Atkinson has been designing and writing software for 17 years, starting out in 6502 machine code at the age of 11. He co-wrote a number of home computer games during the early 80's, going on to study Computer Science at Glasgow University at 16. After graduating with honours, he took his interest in the specialist fields of artificial intelligence and genetic algorithms into industry, creating leading-edge software systems for a number of large international companies. His continuing research in these areas, plus 3D graphics, fuzzy logic and Artificial Life, is now with the aim of producing the ultimate in games AI, within sophisticated ALife virtual environments.

Chris Jones studied Civil Engineering at Dundee University where he was introduced to the use of computer graphics in scientific applications. Pursuing this interest, he went on to gain an MSc with distinction in 3D Computer Aided Graphical Technology Applications at Teesside University. In 1994, he worked in collaboration with Stephen Todd at the IBM UK Laboratories. He undertook the first rewrite of "FormGrow" in C++ and OpenGL. Chris is also an accomplished 3D designer and animator in Alias, SoftImage, Prisms and 3D Studio. He was responsible for many of the outstanding rendered images in Organic Art.

More information on the history and techniques behind this work can be found in the book "Evolutionary Art and Computers", by Stephen Todd and William Latham, Academic Press 1992, ISBN 0-12-437185-X.

## Credits

Produced entirely on location at Computer Artworks Ltd., London, UK.

Art - William Latham.

Software Design & Programming, Form Design, Graphic Design  
- Mark Atkinson.

Backdrop 3D Graphics, 3D modelling, Additional Programming  
- Chris Jones

## Special Thanks To...

- \* Stephen Todd of the IBM UK Scientific Centre, for all his contributions, and patient assistance and advice, particularly in the early stages of the development of the Organic Geometry engine.
- \* Servan Keondjian, Kate Seekings, and especially Dave Hodgson at RenderMorphics, for their excellent real-time renderer, and same-day bug-fixing service.
- \* Liz Morris, Deidre Murphy, Steve Sargeant at Time Warner Interactive, for all their efforts in evangelising Organic Art and getting it into production, and to Dan Thompson for taking on the project.
- \* Addie Churchill, Jasmine Joseph and Sheryl Seitz at Talkloud PR for their ingenious schemes for bringing Organic Art to the attention of the world at large.
- \* Andy Campbell at Alias for assistance with Silicon Graphics hardware and Alias software.
- \* All the beta testers on CIX for making sure it all works, and telling us how much they like it (Douglas Armand, Gordon Coulter, Jon Honeyball, Johnathan Hurwitt, John Pavel, Mac Roche, Mark Woollard, Philip Elphick, Paul Monckton, Paul Ockenden, Piers Cawley, Simon Cleland, Simon Pride, Steve Palmer, Steve Rencontre, Stuart Ranson, Richard Wasp).