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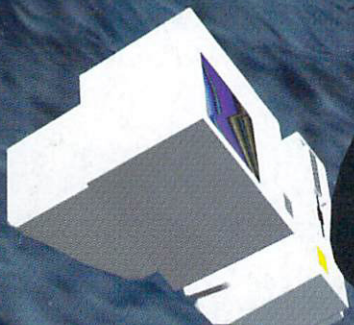
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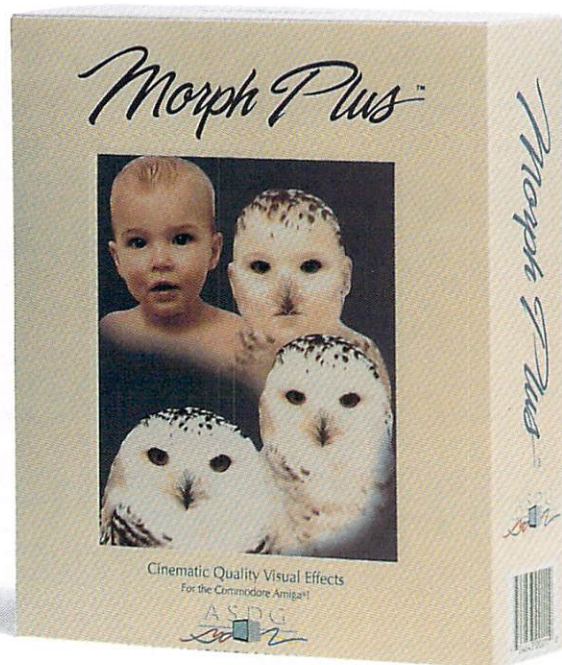
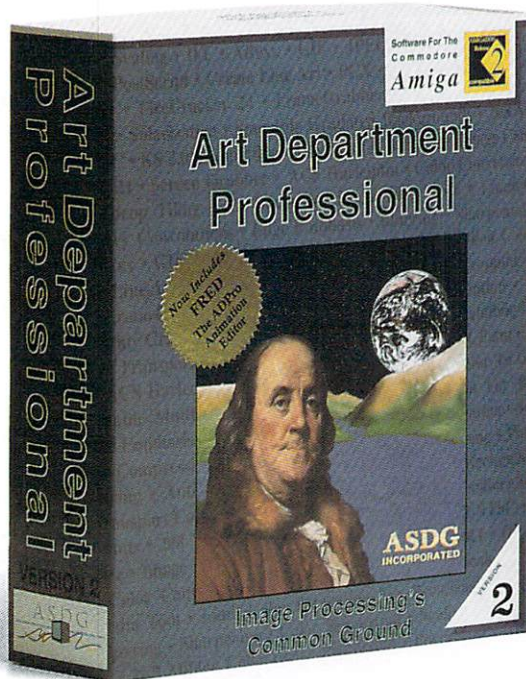


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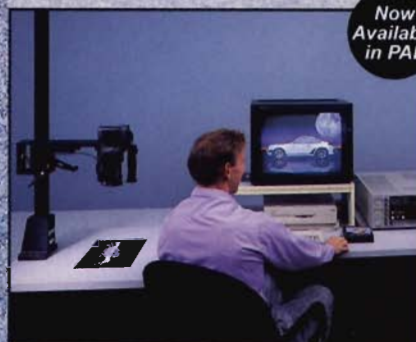
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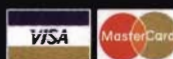
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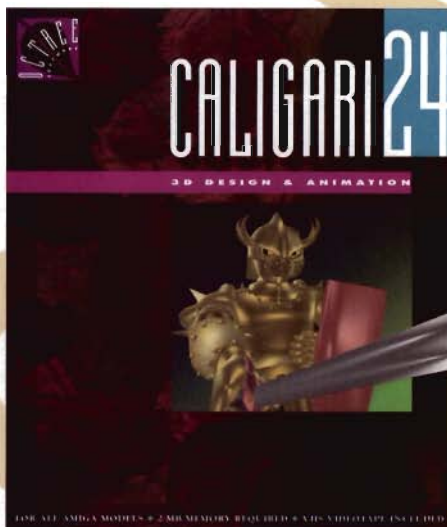
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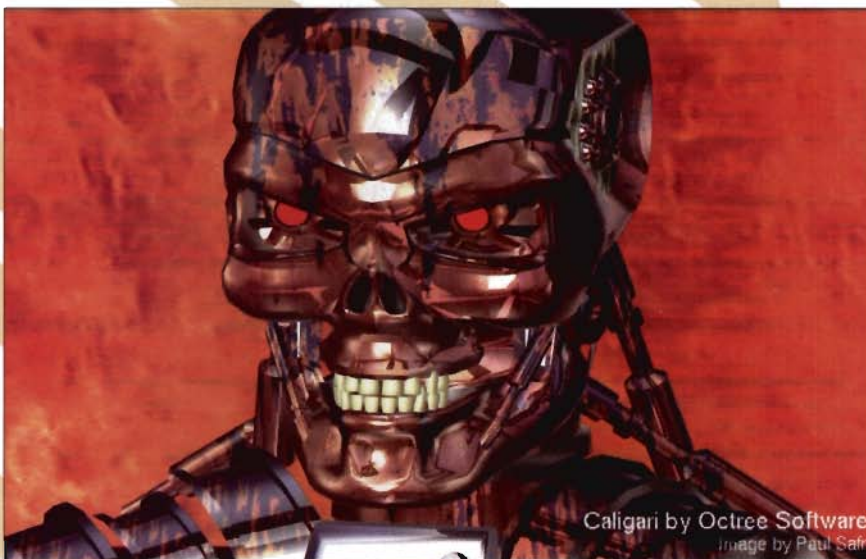
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Editor-In-Chief

EDITOR'S

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Whoaaa! The new programs that are soon to hit the streets, are going to change the way the world views the Amiga. No longer will high-end graphics stations like the "Iris Indigo," be able to boast that they are at the cutting edge of 3D rendering. With the eminent release of Lightwave 3.0, and Real 3D 2.0, the world is going to start seeing a lot more Amiga Graphics.

Already Octree has released Caligari24, which has one of the most realistic modeller I have ever seen. It is so simple yet elegant. In addition, Adspec Programming has sent out an update to Aladdin-4D, soon after its first initial release. It is the first 3D rendering program on the Amiga, to have the capability to load Postscript Type-1 fonts. Which by the way number in the thousands.

Another item that is changing, is the making of animations on the Amiga. Up to now, the standard has always been AnimOp 5. But, AnimOp 5 was a eight bit Animation Compression system, developed for the A2000 and A500 computers. With the release of the Amiga A3000 and A4000, comes the release of AnimOP 7; which excels in the native 32 bit systems of the new Amigas. It truly breaks the speed barrier that was encountered with the old compressors. With AnimOp 7, one can have a HiRes DCTV 4bi-plane animation running at a true 30 frames per second.

Apple tote's the Macintosh Quadra, with it's 15 fps Quicktime, as being the state of the art in presentation animations. It's only acceptable if one likes looking at a 2" x 2" moving picture in 256 colors.

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I am very excited about the future of the the Commodore Amiga, and the part AVG has in bringing you the most current and update information about it.

Editor-In-Chief

Survival

The response to AVG has been sensational. Everyday we are showered with calls, praising the new magazine. Our tempo to become the best video and graphics tutorial magazine is well received. I wish to personally thank everyone for their continued support and faith.

Being lucky enough to be in the publishing industry, gives me the opportunity to consult with many of the leaders of the desktop video world. The momentum at which the Amiga is seizing this market is phenomenal. The new things being planned for the Amiga proves to me that it is not "dead". Products such as Aladdin 4D, Caligari 24, Imagine, and Lightwave are forging a shinning new path for the Amiga.

Remember, no one product is paramount to the survival of the Amiga. What is foremost is the power of creativity. Creativity, like that of Paul Safr, Andrew Denton, Grant Boucher and others. These amazing young pathfinders, are pushing the limits of their machines to gain every ounce of artistic benefit. They put aside all the rumors about the Amiga's fate and cut a trail for all of us to follow. Take their lead and trust your imagination to unleash the power of your creativity.



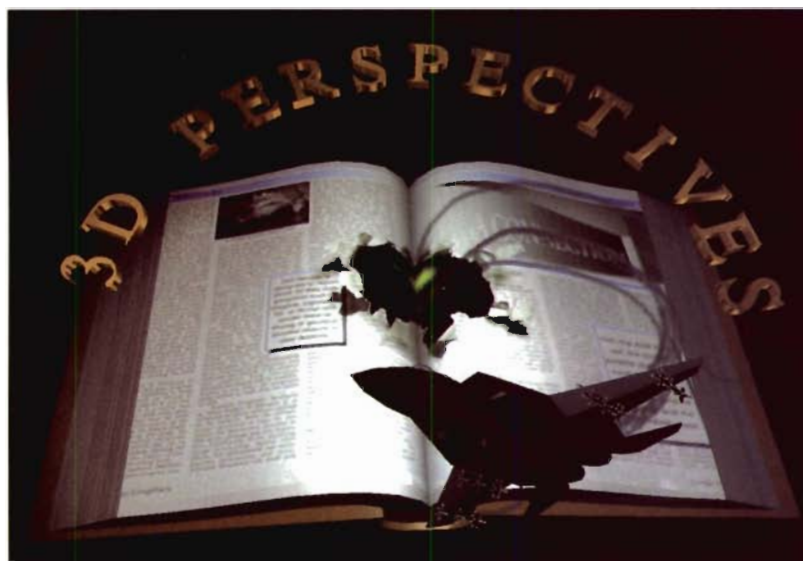
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About the Cover

The cover art was created using Caligari Broadcast, the 3D modeling and rendering software from Octree. It is entitled "Cyberteuthis: Networking mariana's style". It was rendered in 4K by 3K resolution and then cropped to print aspect. It took about five hours to render on an '040 accelerated Amiga 2000 with 12 megabytes of RAM writing to a magneto-optical drive. Final cropping, file conversion to JPEG, and alteration of aspect ratio, was done using the indispensable Art Department Professional by ASDG. There are approximately 60,000 polygons in the rendering and the entire project took a solid (little sleep) 10 days to complete. The squid model is articulated and animatable using Caligari's animatable FFD's. For modeling I used Caligari's free form deformation function. These work by forming simple lattices around primitives. By pulling and pushing the lattice you mold the object underneath like putty. It's an easy way to create organic shapes, like the tentacles and the mantle. In Caligari Broadcast these lattices can be animated allowing for some powerful manipulations. The landscape in the background was generated using Vistapro 3.0 by Virtual Reality Software and then converted into a Caligari object by using PixelPro XL from Axiom. The texture map for the terrain was created from Vistapro's excellent 24-bit output. Another indispensable utility used to complete this project was Giga-Mem, virtual memory software available from Innovatronics. Some indirect manipulation of the image was achieved using the paint portion of ImageFX by Great Valley Products and I would like to thank Merrill Callaway for writing his excellent tutorial "The AREXX Cookbook". During the creation of my previous cover "Cybernetic Assassin" and this one I found his hints and advice to be of great benefit as many AREXX scripts were used to automate image processing. In this way I could sleep while my computers scaled, cropped and gamma corrected the night away. Paul Safr V.P./ Creative Director MEDIA Innovations



3D Perspectives

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David Duberman

Welcome back to 3D Perspectives, the monthly column about all things related to Amiga 3D computer graphics. This month we start off with an exciting scoop—a new way to create accurate three-dimensional flight!

FDPro Flight Recorder

Unassisted flying is likely near the top of most peoples' list of "Top Ten Things We Would Like to be Able to Do but Can't." That's one reason computer flight simulators are popular. Those with the required suspension-of-disbelief skills can forget their earthbound state for a few hours and go soaring around in the digital skies, in real time, and without the risk of crashing. In some ways more powerful, 3D software lets us create our own virtual worlds and move through them in ways not restricted by the rules of flight, although (alas) generally not in real time. But sometimes we want to simulate real-life flight, with all of its complex dynamics, which until now has required hours of painstaking setup. No more!

The new *FDPro Flight Recorder* from *Jaeger Software* is so cool they ought to rename the company to Absolute Zero! The concept is so simple, it's brilliant: Let the user fly a prop fighter of his choice in a flight simulator, record his motions, and then let the user save that data and convert it to motion and object formats for 3D programs including *LightWave 3D*, *Imagine* and other popular 3D applications for the Amiga.

The concept of a computer-based flight simulator is not new, but using it to create data for 3D software is, and

Matthew Shaw, *Bill Manders*, *Ted Jump* of *Jaeger* are to be heartily congratulated for a major contribution to the fine tradition of software innovations that appeared first on the Amiga. You can bet you'll be seeing copycat versions on other platforms shortly. But unless I miss my bet, this is the first in-depth report on this software published anywhere. As (almost) always in this column, I'm not rewriting a press release; I've used the product, or rather a pre-release version, and it's just as great as it sounds.

Here's a quick rundown of how the program works. It installs on a hard disk and works great with all accelerators and operating systems. After first running *FDPro Flight Recorder*, you make choices from a series of drop-down menus. The default Player Mode is one-player, but two can play over a modem, and flight path data can be saved for both. You can choose to fly a training or combat mission over land or sea, and start on the ground (or deck), in the air, or from a catapult if by sea. Additional choices for those using two-player mode include modem speed and scenery for three different locales; arches, towers, and isles.

Next you choose your aircraft and those of one or two optional computer-directed foes. You can let the computer choose any or all three at random, or select from 16 different prop fighters from four different countries, including an F4U Corsair, P51 Mustang, Hurricane, Spitfire I and IX, several Japanese planes including the infamous Zero, and three German planes. Among the configuration settings are the sixteen different colors used for the

high-resolution display, input sensitivity for both digital and analog joysticks, rudder type (mouse or pedals), size of ground dots, and save and load.

Finally there's the all-important Recorder menu. The Recorder Control requester lets you turn on recording of demo data or demo and flight path data, and also shows available recording times. Demo data is used directly by the flight simulator to replay memorable dogfights, etc. Recording at 30 frames per second is done directly to memory for maximum efficiency. With about twelve megabytes of free memory in my Amiga 2000 system, I could record over 14 hours of demo data in one-player mode, and slightly less than six hours of demo data in two-player mode. More importantly, I could record about one hour and 12 minutes of demo and flight path data in either mode. That means that even if you only have minimum required three megabytes of memory, you can record at least several minutes of flight path data, most likely more than you'll need for short animations.

Once you've set everything up, all that remains is to click on the big "Begin Flight" button, grab your joystick, and start flying! Unlike most computer-based flight simulators, there's no keyboard control. The program uses a joystick for most directional controls and mouse movement to control the rudder and throttle. Push forward to go down—not too far!—and pull back to go up. The mouse buttons are also used for other controls, such as pause. The program contains all the features of *Fighter Duel Pro*, a popular Amiga combat



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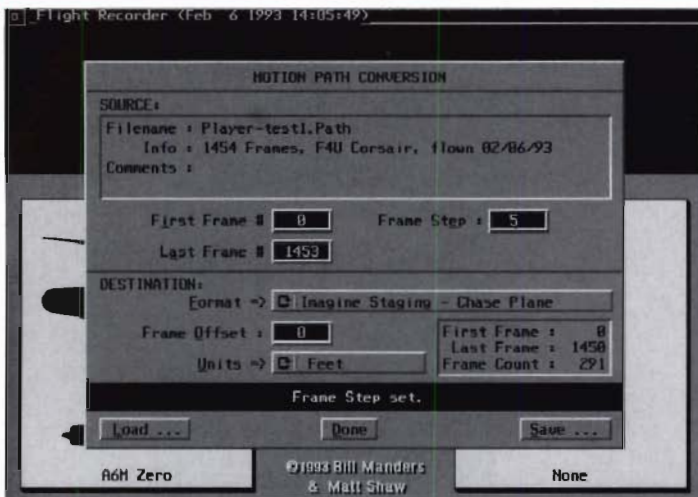


Figure 1

flight simulator. In fact, if you own that game, you can upgrade to *Flight Recorder* for a mere \$25; contact *Jaeger* for details.

Saving and Converting Flight Data

If you're recording, an important control to remember is Control-Amiga-Amiga. That's right—you have to reset the computer to end the recording session. Once the WorkBench reappears, you run *Flight Recorder* again, which immediately detects the presence of data and memory, and presents a series of requesters for saving demo and separate raw flight path data files for yourself and any foes, including optional comments. If you opt not to save now, a Recorder menu option lets you save later.

Another Recorder menu command displays the powerful but user-friendly Motion Path Conversion requester, a mini-program in itself (see Figure 1). As you can see by the underlined letters in the illustration, all controls are available from the keyboard as well as by mouse. You're first prompted to load a raw data file, then are shown its basic statistics, including file name,

setting in the Destination section is output file format. Motion path options include LightWave Motion Full, LightWave Motion Chase Plane, Imagine Staging Full, Imagine Staging Chase Plane, and three different sizes of VistaPro camera script files for landscapes between 7,650 and 30,600 units. Although Figure 1's Destination section indicates a reduced frame count because of the Frame Step of 4, this is somewhat misleading; it's actually the number of tweens. In all cases, the full number of animation frames specified by the First and Last frame values is saved out as a motion file. Also common to all motion formats is the Frame Offset value, which delays the start of the motion from the start of the animation (useful for chase effects), and to all formats is the Units setting, which offers Feet, Meters, 10 Meters, and 100 Meters. If you're using *Imagine*, stick to Feet.

aircraft name, number of animation frames in the data, date flown, and comments. You can save a subset of the data by changing the first and last frames, as well as reduce the overall detail (i.e. quantity) of the data by setting a sampling rate with the Frame Step value. Otherwise you get a tween per frame.

The first setting in the Destination section is output file format. Motion path options include LightWave Motion Full, LightWave Motion Chase Plane,

object loaded into LightWave, whereupon it follows the original recorded movement and rotation as precisely as allowed by the amount of data saved. The Chase version is the same except that all values for heading, pitch, and bank are set to 0, so that objects to which these paths are applied follow the motion of the original while looking straight ahead. Of course, such an object can easily be targeted to any other object, such as a null point following the same or another path.

Use of the *Imagine* formats, while relatively easy, isn't quite so straightforward, simply because *Imagine* doesn't provide for a discrete motion file format. Instead, tweened motion of the sort created by Flight Recorder is saved as a series of tween values associated with a Stage editor object in the project's Staging file. So with both *Imagine* Staging file formats, Flight

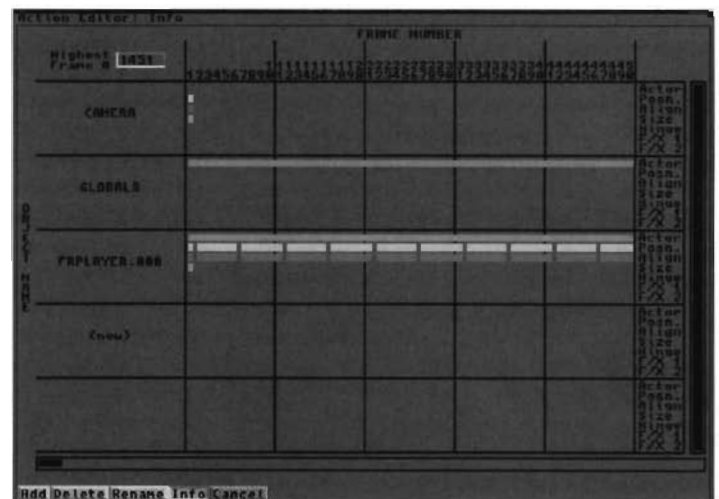


Figure 2

Recorder saves just that—a Staging file. You can create a new one, or append the new actor and motion to an existing file. The easiest thing to do is create a new project in *Imagine*, immediately exit, and then append to its Staging file. The Full format saves Align as well as Position tween data (see Figure 2), while the Chase format simply specifies 0 for all Align values at the beginning of the animation. In both cases, the object file referred to in the object's Actor timeline, which defaults to "RAM:Aircraft.IOB," needs to be changed (via the Action editor) to whichever object you'd like to follow the flight path. To set the camera to the flight path, simply delete the Camera object in the Action editor and rename the object to Camera.

Other Output Formats

As a child, did you ever run around with your arms outstretched, bobbing and leaning and imagining that you

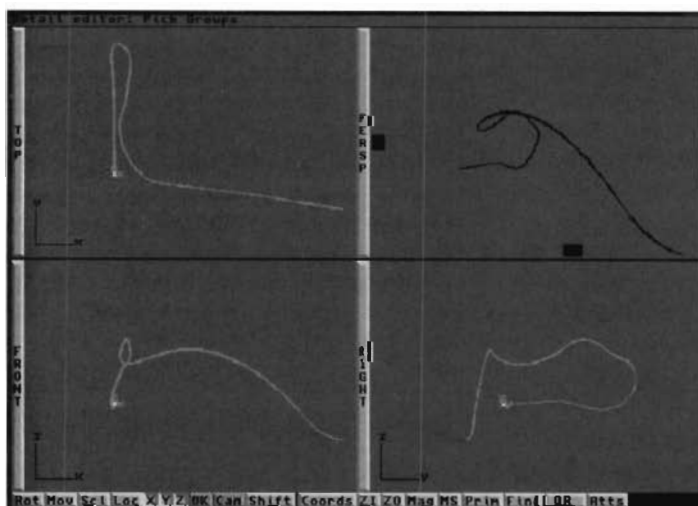


Figure 3

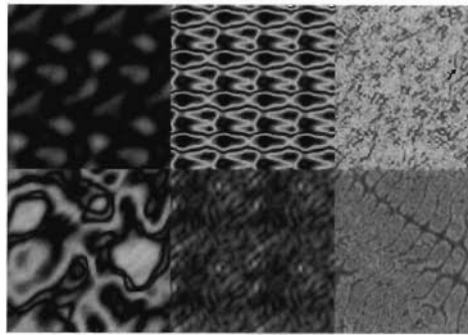
were a plane, but then imagining your arms were defining a gigantic super-highway swooping through the sky? Flight Recorder can create forty-foot-wide curved ribbon objects called Wingsweeps defined by your flight path, saved as strips of single-sided or double-sided triangular polygons in *VideoScape/LightWave* and *Turbo Silver/Imagine* formats. Figure 3 shows an example of a wingsweep loaded into Imagine's Detail editor. The program can also create a Path Line Trace, which is a two-dimensional object, consisting of two-point polygons or edges connecting a string of vertices, in both formats. While not terribly useful in *LightWave*, these can be used as extrusion paths in Imagine. In both programs, the flight-defined "road" can be (for example) texture mapped, transparency mapped, and bump mapped, and then "flown" along for a breathtaking roller coaster ride.

That's about all I have to say about *FDPro Flight Recorder*, except that if it sounds interesting, and you use *LightWave* or *Imagine*—or both!—get this program. It's currently being wielded by special effects wizards working on a TV project under one of the top Hollywood directors, and its use is bound to spread like wildfire. Once again, as an Amiga innovator, you get to play with one of the most advanced computer graphics tools before the Mac and PC me-too'ers get their greasy little paws on it.

Textiles 2

Another exciting new product I received this month was the latest in the *Textiles* series, Volume II, from *Manikin Sceptre Graphics*. *Textiles* is a wonderful series of intricate colorful 256-pixel-square 24-bit images. Most of them are fairly abstract patterns, and all are mathematically generated so as to be seamless. That means they can be tiled vertically and horizontally without any apparent join line, which makes them ideal for texturing large surfaces which don't appear in closeup views. Their interesting patterns in terms of contrast also for unusual bump-mapping applications, and of course the imaginative can find many other uses as well.

Volume II's forty textures come compressed in JPEG format on two floppy disks, along with a program that allows hard disk installation with optional decompression. Uncompressed, each is about 200 kilobytes in size, so the expanded collection requires about eight megabytes of hard disk space. Also included is a



A sample of textures from Textiles 2

small manual with miniature color representations of all forty images, some of whose textures are lost in the dot pattern. Figure 4 shows six examples from Volume II; across the top are Gulp, Holymoly, and Fields, and across the bottom are Booger Ocean (I didn't make these names up!), Green Fibers, and Cell Structure. Both *Textiles* packages are unusual but



Pixel 3D Pro's Spin Function Menu

wonderful, useful, and highly versatile additions to the 3D artist's library.

Pixel 3D Professional

I've often written in these pages about *Axiom Software's Pixel 3D* and *Pixel 3D 2.0*. Lately I've spent a good deal of time with the latest incarnation, *Pixel 3D Professional*, and I can vouch for its vast superiority over previous versions (there is an upgrade path—contact *Axiom*). First, the range of supported 3D formats has been expanded. The program now automatically recognizes, loads and saves all of these formats: *LightWave 3D*, *3D Professional*, *Turbo Silver*, *AutoCAD DXF*, *Wavefront*, *Digital Arts*, *VideoScape Binary*, *VideoScape ASCII*, *Imagine*, *Sculpt 3D*, *Draw 4D/Pro/Aladdin*, *Caligari*, *Vista Pro DEM*, and *Scenery Animator DEM*. The program also loads IFF images from two to 32 colors, automatically converting them to polygons on loading.

The program uses a friendly, intuitive interface for everything from rotating objects—just click and drag the mouse—to selecting and manipulating individual and groups of object vertices. All commands are right in

front of you—no drop-down menus—and if you forget what one does, the built-in Help facility reminds you of its function. Besides object editing, there's all kinds of cool extrusion methods, spinning (lathe), a very powerful smoothing function, and the ability to create beveled edges, optionally with a custom router bit.

Pixel 3D Pro's Data functions show an object's vital statistics, but more importantly let you flip, double, subdivide, and re-color polygons, as well as reduce object complexity by eliminating unnecessary polygons and vertices. And there's much more, including a plethora of display modes, but you'll just have to find out for yourself. Don't miss *Pixel 3D Professional* if you're a busy Amiga 3D artist; it's bound to save you lots of time.

So Long for Now

Speaking of time, I'm just about out this month, but will be back next time with more news and hopefully a tutorial or two. Please write with your comments, questions, and so on—I enjoy hearing from you. Thanks.

Products:

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Axiom Software
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If you have any question you can write to David Duberman in care of AVG.

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Lighten Up

Techniques for LightWave 3D Users

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David Hopkins



All Right gang, it's time to get back into that LightWave thang and see where it takes us. If you're new to the magazine let me take a moment to explain Lighten Up. The purpose of this column is to provide you, the user, ways to make best use of your time in LightWave. For the most part, this column consists of a strange collection of hints and tips that will make your life a little easier and a lot more fun. Of course, your feedback is highly valuable to me so that I can point the information into the areas you need it. I want to thank all of you who recently wrote encouraging me not to cease writing Lighten Up. In the process you have provided me with just what I was lacking...your input. So, gather 'round the ol' campfire and let's start checking out some of these questions...

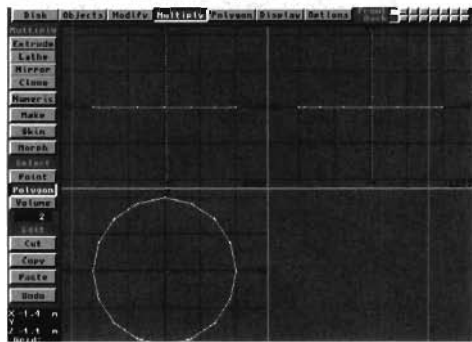


Figure 1

We'll begin with one from Eric Arnold who works with the Children's Medical Center of Dallas. His questions center mainly around the more complicated parts of Modeler, and this one regards the Bend option.

Let's play with Bend a little bit. To start, enter the Modeler and clear out anything you may already have in there. (Remember to save anything you wish to keep before doing so, of course...) We'll use the ever popular

long cylinder for this experiment, but we'll make it a little differently than normal.

Choose "Disc" from the "Objects" menu, then click "Numeric". When the numeric requester appears, click the "Reset" button to get rid of any strange settings. Change Bottom and Top so that they both read 0, click on the Y axis button, and ensure that all of the Centers read zero and all of the Radii read 1. Click "OK" and then "Make." Your screen should look like Figure 1.

What you've just done is create a flat disc. The only problem we have now is that Modeler always puts two sides on a flat object which it generates. We're going to extrude this into a number of segments, and Modeler won't let you do that when the surface has two polygons, so we need to get rid of one.

Switch to "Polygon Select Mode", (the button in the middle left of the screen) and click on the disc from any of the views. You should see two dotted lines extending from the disc. These are the polygon Normals, and they illustrate which way a given polygon faces. With both of those polygons selected, press the "I"-key on your keyboard. This brings up the Polygon Info window. Click on the button marked "Deselect". It doesn't matter which one of the two polygons you deselect, but make sure that you only deselect one. You'll be zapped back to the main Modeler screen and you should see only one dotted arrow coming from the disc. Click Cut. You've just removed one polygon from the disc, leaving one, which will allow us to extrude without problems.

Now then, choose "Extrude" from the "Modify" menu and then click "Numeric". Since we want to make a

long tube and our disc orientation is along Y, our extrude should be as well. Set the Axis to Y. Change the "Extent" to 20 (so the tube will be 20 meters long) and the Segments to 20 (so there will be 20 separate parts.) Click "OK" and "Make". Press the "A"-key on your keyboard to fit the entire object in your views. It looks like Figure 2 now, right?

Here comes the fun part. We're going to experiment with the Bend function. First, though, let's make a copy of this object so that we can keep going back to it. Click "Copy", then press the "2"-key on your keyboard. This takes you to layer 2 where you can now "Paste" the tube back down. We'll use this layer for experimenting.

When you click on the "Modify" button at the top of the Modeler

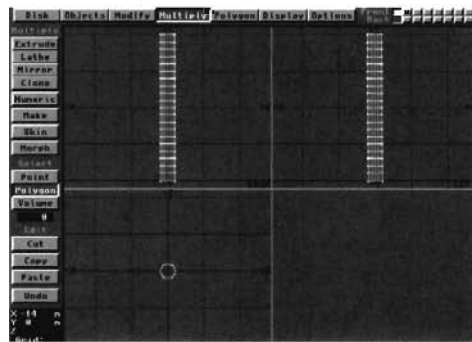


Figure 2

screen, its set of tools appear on the left side. The bottom of that batch is a button marked "More...". Click on that button and you'll see another set of Modify options. (Isn't this fun?) Click on "Bend" and your pointer will change into a cross-shape.

In the view labeled "Bottom" you should see the end of your cylinder. Place your pointer right smack in the middle of the circle (your coordinates should all read zero), click and hold

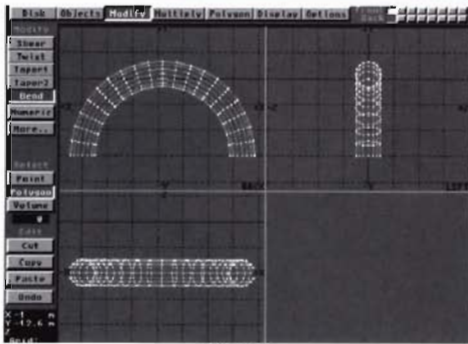


Figure 3

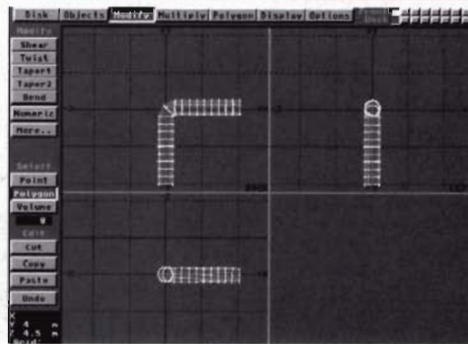


Figure 4

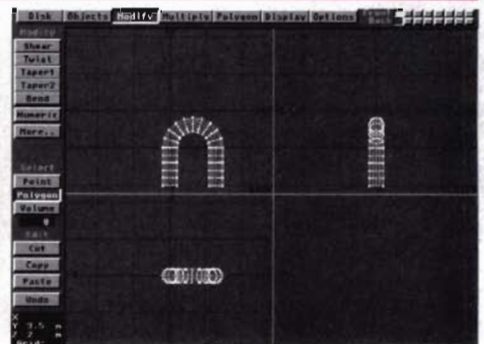


Figure 5

the left mouse button down while moving the mouse. Hey, is this fun or what?? This is the proper way to use Bend. Let's see what other interesting things we can do with it.

When you've had enough fun playing with the bending tube, release the mouse button and click "Undo". Provided you hadn't already released the mouse button and then pressed it again to play further, you should have your original straight tube back. If not, click "Cut", go to layer 1, "Copy", come back to layer 2 and "Paste."

This time, let's use the view labeled "Back". Ensure that you have the "Bend" tool active and then place the pointer roughly in the middle of the tube in that view. Click and hold the left mouse button and move around. As you can see, this bends the tube in a completely different way. Release the mouse and click "Undo." Now try the same thing with the pointer starting at the base of the tube in the same view. Behold, still a different result. Click "Undo" and try it with the pointer starting at the top end of the tube in the same view. You may be asking, "This is really interesting, but why would I want to bend things like that?" That's up to you. The best thing you can do is sit in your spare time and experiment so that you know what type of controls are available to you. Someday you'll be confronted with a project that will click in your head and you'll say "Oh yeah, I think I can do that with...". By the way, you can see my results in Figure 3.

When you've finished playing with the tube, go ahead and "Undo" it (or cut layer 2 and copy layer 1 back in there if need be). Now we're going to step a little deeper into the Bend function. Choose "Move" from the "Modify" options, place your pointer in the view marked "Back", and drag the object down 10 meters. (You can see the distance moved in the coordinate window). Make sure that you only adjust the tube's Y position, not X or Z. Changing those would result in the

tube being off-center and you'd most likely become very confused pretty soon. We moved the tube 10 meters so that its' center would be at 0 on the Y axis. We know that moving 10 will put

it there since we extruded it 20, right? Right.

OK, here comes more fun...click "Bend" from the "Modify" menu again and then click "Numeric." Notice that I

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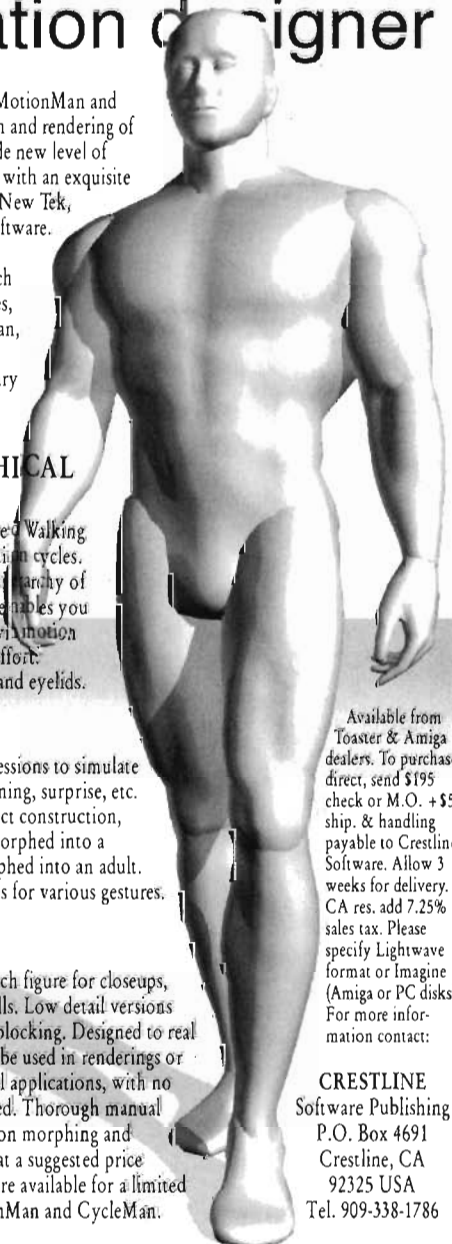
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keep dragging you into these Numeric requesters. There are two good reasons for this...One: It lets me make sure that we are both putting in the same numbers and thus getting the same results. Two: There's a lot of power in the Numeric use of these options and I can tell by a lot of the questions I get that most of you don't use them. For shame! Well, come on, I'm gonna give you a bit more education...

The best way I've found to keep track of which axis to use for a bend is to imagine that the bend operation itself is like a piece of wire. This wire runs along the axis you specify and if you bend it, it will become an arch. For our example, we want to stick with the Y axis.

The "Range" option allows you to set limits for the bend. When automatic is chosen, the entire object will be affected. Let's set the Range to Fixed. Surprise! Two more options pop up! The Low and High values allow you to set the area of effect. Set the Low to -1 and the High to 1, then click OK. Now place your pointer in the middle of the tube in the view labeled "Bottom" again and drag the mouse with the left mouse button down. As you can see, this provides a much sharper bend in the tube (Figure 4).

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When you're done playing, "Undo" and return to the Numeric requester.

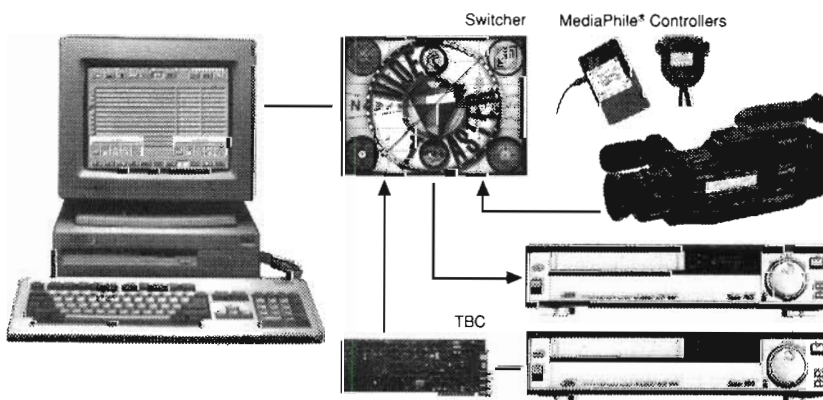
This time, set the Low to -5 and the High to 5. This time, we got a more controlled bend that easily creates an archway or magnet. (Figure 5) This is as far as I have room to go in this installment, so I'll leave you to experiment on your own. Just remember only to change one thing at a time and you'll be better able to see what results...

As usual, if you have comments,

questions, suggestions, tips, tricks, or anything else of interest, please contact me at the following address:

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Amiga UPDATES

as of April 1993

Welcome to Amiga Updates. Every month we're going to keep you informed on the latest versions of Amiga creative applications that were shipping by the time we went to press.

Product	Version
3D Pro	2.0
Aladdin 4D	2.1
Amax II Plus	2.5
Ami-Back	2.0e
AmigaDos	3.0
AmigaVision Professional	2.0
Aminatrix Mofeler	1.2
ANIM Workshop	1.0
Art Department Professional	2.3
Art Expression	1.0
B.A.D.	4.12
Bars&Pipes	1.01
Bars&Pipes Professional	2.0
Brilliance	1.0
Broadcast Titler 2	2.0
Caligari24 (FPU Version)	3.0
CanDo	2.0
CineMorph	1.0
CrossDos	5.0
DCTV Software	1.1
DeluxePaint IV AGA	4.5
Directory Opus	4.0
Digi-View Gold	4.0
Director 2, The	2.0
DiskMaster II	2.1
Distant Suns	4.2
Draw 4D Professional	3.0
Essence	1.0
Final Copy II	1.0

Product	Version
Font Flyer	1.3
GigaMem	1.0
Hotlink Editions	1.1
HyperCache Proffesional	1.01
Imagine	2.0
ImageFx	1.3
Image Master	9.24
LightWave	2.0
Lissa	1.0
InterChange Plus	2.0c
Mathvision	1.0
Montage	1.0
Morphplus	1.1.2
Opalvisions Software	2.0
PageStream	2.2
Pixel 3D Professional	1.03
PhoneFax Software	1.0
Playmation	1.47
Presentation Master	1.0
Professional Page	4.0
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Vista Professional	3.0

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Another month passes, and the dead of Winter promises to motivate the seeds of Spring. In Vermont the snows are falling, and the landscape is covered with a blanket of blue-white wonder. Downstairs the wood fire crackles and glows, while upstairs in my studio, three Amigas allow entrance into a digital world whose seasons obey my wishes. As in the past, this is the time of the year when I ask readers to submit Amiga configurations that they use to create their projects. This includes specific Amiga hardware and software as well as peripheral devices (cameras, VCRs, etc.). A selection of these are published so that your peers are aware of how others configure their Amiga studios for work and fun. This year, I will make the task more enjoyable by awarding the two most interesting submissions the January issue of the JPEG Deluxe disk set, newly issued by Eyeful Tower Communications. Send your submissions to:

Eyeful Tower Communications
15 Rockydale
Bristol, Vermont 05443

Man Alive!

New from *Apples Animation* (2216 Terracewood Lane, Escondido, CA 92026 619-740-0035) is "Mannequin Man", a sculpted Toaster format object that replicates the mannequins that artists traditionally use to study human motion. Though not in any way as detailed as other figures that are being released on the market for your Amiga animation libraries and creative aid, mannequin man sells for far less than its competitors (only \$29.95) and just may be what your next project requires. Though less complex, mannequin Man is fully usable in terms of movement hierarchically in *LightWave*. He can also be radically altered to appear more (or less) human in *LightWave's* Modeller by stretching and twisting his parts. Included are motion files

and two textures (chrome and wood). I also loaded his parts into *Pixel-3D* and translated them into *Aladdin* compatible files. It worked fine. See Figure #1.

Bad Mouse!

Though the A-4000 is my pride and digital joy, I am totally bummed by the Amiga mouse that ships with it. It was designed by a sadist, as its buttons are placed in such a way as to make suitable movement next to impossible, and all too often the buttons slip at the last moment. I would strongly suggest that when you get your A-4000, you get another mouse to go with it. The "Golden Image" mouse is nice, as are other varieties.

Speaking about the A-4000, one user reported to me that after going through several that didn't function properly for unknown reasons, the cause was stumbled upon. It seems that some were shipped with inadequate cooling fans, and after about two hours of use, would start to complain by slowing down (if not stopping) processes in action. The short term result is to buy a good fan at *Radio Shack*. The best solution is for *Commodore* to either ship those users with this problem a new fan or to refund the money spent on one (ha-ha). The best of all worlds is for *Commodore* to quality check their A-4000's for this problem before shipping.

GVP-

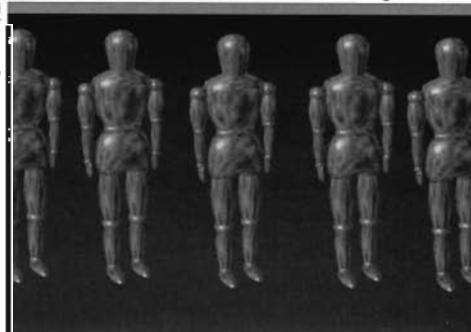
Announced is a new accelerator for the fast selling A-1200 and upgrades for *Image FX* and *CineMorph*, as well as a new genlock. The new accelerator (**the A1230 Turbo**) is a 40Mhz 030 with two SIMM sockets that allow for expansion of up to 32 megs of 32 bit wide 60ns DRAM. The cost is \$499.00.

The new genlock is called the "G-Lock" and allows Amiga video obsessive to connect both composite and s-video sources as well as RGB /YUV with separate syncs. All Amiga monitors from the 1080's to the 1960's are supported. It has 2 video inputs (either 2 composites or 1 Y/C), 3 outputs (composite, S-Video, RGB or YUV), 2 monaural audio inputs, 1 mixable audio output, and both a 25 pin and a 9 pin control cable. Software comes with it to save various configurations for different hardware combinations. It has built-in color splitter capabilities, which is automatic when addressed by ARexx to the output. It also works if you have a deinterlacer on your system.

The main additions to the *GVP Cinemorph* and *ImageFX* packages is that of adding modes for the A-4000 users (256 and HAM8), as well as sharpening the morphing tolls a bit. Hopefully, *GVP* will realize that grid morphing alone is not a professional solution when morphing, and will address this situation in their next upgrade. Contact Sheila Kirby at *GVP* for more details (215-337-9922).

The Great eScape-

ScapeMaker 2.0 is the latest upgrade from *MegageM*, and it adds a bucket of new features to this already popular package. What *ScapeMaker* does is to transform IFF images into DEM (Digital Elevation Map) files that either *Vista-Pro* or *Scenery-Animator* can load and render. For instance, you could create a logo that is translated into a mountain that can be "flown over" in an animation.



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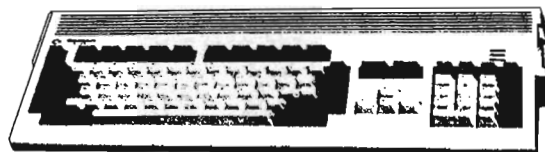
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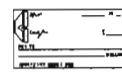
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Scapemaker is also a great utility for *Aladdin-4D* owners, as *Aladdin-4D* (ADSPEC Programming) can load DEM files in the Scenery-Animator format and render them in an infinite number of ways. Other enhancements offered by the new *Scapemaker* software are as follows: Converts any picture area up to 258 x 258 into a DEM file in either NTSC or PAL, four types of conversion (IFF pixels to DEM points by color palette number or 12bit color values, extrude, carve), scaling from 1 to 99, smoothing, ARexx, double exposure of DEM files, and more. All of this for \$39.95?! Unreal. Call MegageM at 805-349-1104 for the full scoop.

VMB-

Video Music Box from *Digital Expressions Research* (414-733-6863) has released version 1.6. It adds full support of dynamics, expanded MIDI, and unlimited pattern generation for sequences. A disk of IFF instruments is included. This is great software for the video producer needing a quick soundtrack. I played with it for hours, and even loaded in some of my old SMUS saves for editing and playback, tweaking as they played back. It works well with *B&P Pro* and *Music-X* too. Call Dr. David Strohbeen at the number above. By the way, VMB sells for only \$111.00.

Don't Delay-

Allan Avionics has added yet another product to their nanosecond delay interface, or "Switch Variable Video Delay Line" products. This one allows

you to fine tune the signal by plus/minus one nanosecond (the TDL 488-T). The Toaster, as many of you know, has a 400 nanosecond internal delay which causes havoc if not timed out correctly. Call them at 516-248-8080 for the latest info and prices.

Sound works-

Probably the most exciting news to Amiga music buffs and producers is that sparkling out of *Blue Ribbon SoundWorks*, the famous creators of *Bars and Pipes* software. This is their "One Stop Music Shop", a virtual *E-MU Proteus* sound engine on a plug-in card for your Amiga. It has two stereo outs, a MIDI Out/In interface, over 210 samples stored in 4 megs of ROM (including 128 presets and 64 drum maps), and expected compatibility with all of the software gems that *Blue Ribbon* has designed. The price is \$649.00, which is really cheap if you compare it with other ways of accomplishing the same thing. Contact them for info at 404-315-0212. (By the way, you also might want to check out the upgrades to *Bars and Pipes* and *SuperJam...2.0* and 1.1 respectively, and the new list of drivers added to the *PatchMeister*)

By the way, *Blue Ribbon's* new address is *Blue Ribbon SoundWorks Limited*, Venture Center, 1605 Chantilly Drive/Suite 200, Atlanta, Georgia 30324. The phone is the same. *Blue Ribbons* seminal work for the coming Olympics makes it no surprise that they've moved to Atlanta,

which is where the coming Olympics will take place.

BFVF-

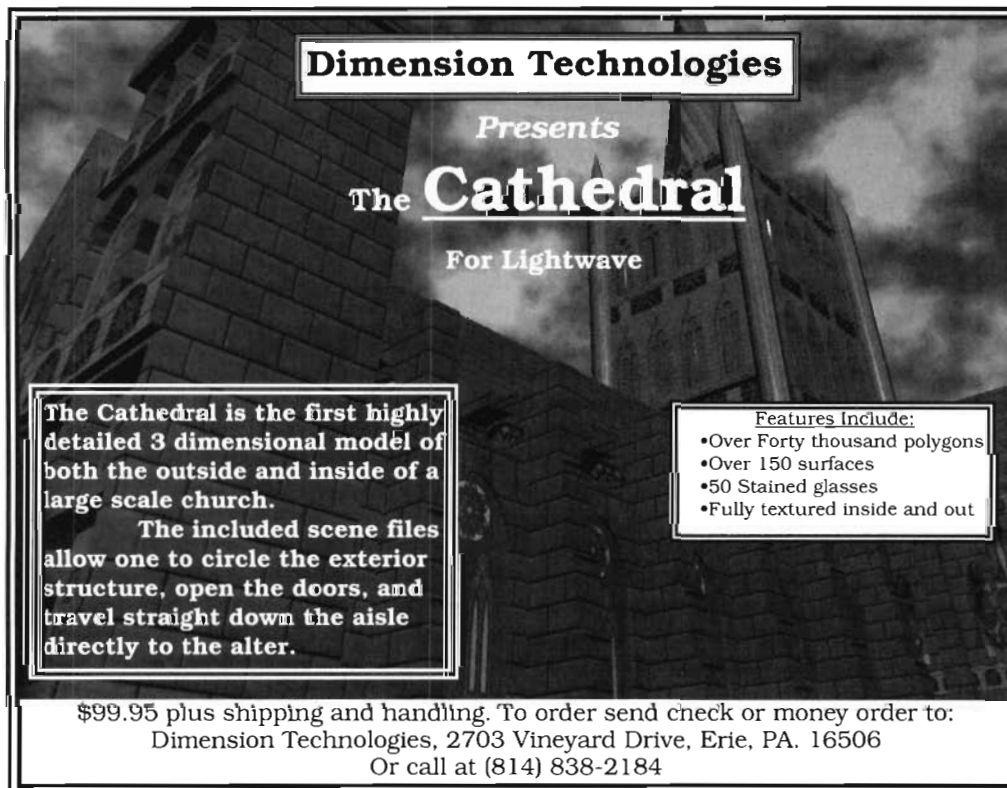
The Boston Film-Video Foundation is one of the oldest and best associations of professionals for funding and supporting the production of new media. Some years back, I was able to get a grant from them to produce my animated short called "*The Secret Dreams of Older Men*", and I've been receiving their literature ever since. They offer a great series of workshops every year. If you're a member, the fees for the workshops are less. As I list some of the workshops coming up, the prices I mention will be the un-discounted ones offered to non-members: Non-Linear Editing on the Desktop (\$110.00), How to get Grants for Film and Video (\$65.00), ScreenWriter's Workshop (\$240.00), Basic Video (\$255.00), Time-Code Editing (\$190.00)...and on and on. Contact them at 617-536-1540 for details and their promo packages. It's well worth it.

Parallel Motion-

Parallel Motion Graphics has a video that demonstrates their amazing new *SignEngine* software, produced by Paul Boden of the *Graphic Works* in Buffalo, New York. This 3 to 5 minute piece should demonstrate what sign professionals are already discovering, namely that *SignEngine* is placing the Amiga at the front of the line as a platform that creates quality cut vinyl and plotter signage. If you are interested in using your Amiga in this fashion, make it a point to contact Jeff Ginn at 519-942-8822 as soon as possible. He'll give you details on the video and on the software. I have it...and it is wonderful!

At the Helm-

Many of us older Amiga types remember with great fondness the *Butcher* software from *Eagle Tree technologies* some years back. I was very pleased to find out that they're still at it, and are releasing "*HELM*", a new entrant into the Amiga MultiMedia authoring system market. From the looks of it, *HELM* will hit the ground running at lightspeed, offering serious competition to others in its field. *HELM* hopes to be used in education, business, science, and the arts by creating interface screens that are fun and easy to design and use. There is a wealth of painting tools included as well as ways to design your own image process-



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ing features. *HELM* is different because you do your design and application in one area, on the single page of a *HELM* "Book". Textfields, Imagefields, Selectors (control panels), and other *HELM* attributes are all resident and ready to address. Pre-programmed mouse actions are also included for applying to objects. With its ability to address Amiga art, animations, and music, *HELM* looks like it'll be great for doing professional presentations. There's a lot of other tools and processes involved that you might want to ask about. Just write Eagle Tree at PO Box 164, Hopewell, Virginia 23860 for the real scoop. *HELM* looks like a natural outgrowth of *Butcher*, which was itself a high end Amiga product and the first of its kind. I can't wait to sample *HELM*.

BlackBelt Newsflash-

The new version of *BlackBelt's ImageMaster* software (9.24) renders 10-20 times faster than 9.23. It works in AGA, has an AREXX help feature, and TIFF load/saves. It also has a Poster Printer module. Version 10 is on the way, and that will finally sport a brand new manual. A bunch of new features are being added to the morphing functions, and a new IBM "FLY" format loader/saver will be supported. Single upgrades run about \$20.00, while you can buy a years-upgrades for \$100.00. Considering the number of times this software gets upgraded, I'd suggest the yearly fee. Places to see this software at work include the NBC movie "*Danger Island*", and the films "*Tales of Regis*" and "*The Mallers*". It's also reported that the producers of "*Jurasasic Park*" looked at it.

Rumors in the Wind...

Word has it that **ImageFX** and **Art Department Professional** will soon have the capability to load and save **NewTek Video Toaster** Framestores. They will let you directly access the **Toaster's** Framestores and modify them without having to go through **ToasterPaint**.

Bookerations-

For those of you who learn through books, there's a new one out that looks promising. It's called "*Today's Video*", and it's the second edition by famed video commentator Peter Utz. It covers everything from shooting to TV cameras and lenses to lighting and audio, and is an accompaniment to Mr. Utz's other works for the aspiring professional and experienced videographers. It costs \$24.95 and is available from Prentice Hall, Professional Technical Reference Division, Box 11073, Des Moines, IA 50381-1073.

Terran Designs-

Fred Hurteau of *Digital Designs* fame is working on a CD ROM version of his *Pixel 24* Amiga graphics library of images. It contains many formats, from IFF24 to TARGA and BMP. Availability should be by the end of February. Over 700 maps are also available in a new 16 meg library is also on the way. As for his PP24 images, as I've said before, "well done, Fred!". *Digital Designs*, PO Box 593, Whiteville, NC 28472

Aladdin-4D

I can't hide or deny my admiration for *ADSPEC's Aladdin-4D 3D/4D* software, as many of you are well aware. My obsession with it has been recently rewarded with the latest upgrade, version 2.1. I would call this a "speed fix", because that's the first thing you'll notice. It was never a laggard in this area anyway, rendering frames faster than many other packages. Now the speed is really mega-fast. I compared the new version to the 2.0 software on my Amiga-4000. An animation that took twenty-six hours (120 frames) now renders in less than six hours! That's a 400% increase, and some stuff renders with a 700% speedup! There are also some minor bug fixes included, as well as a very new rendering mode that should prove very useful to Amiga logo designer/animators. The new mode, called "Line Types" and there are five choices: Normal-renders a polygonal object in exactly the way you'd expect. "Edges." Only the edges of the included polys will render (like "girders". "Centers," no edges will render. Points-Only the polys crossing points will render. Point Centers-Only poly non-centers will render.

But that's just the beginning. Because entry/exit values can be input, all of these processes can be animated. You've got to see it to appreciate the looks, and you can't see it until you buy the *Aladdin-4D 2.0* soft-

ware because only registered users can get the upgrade. It is not available in the stores. Also added has been support for the new AGA graphics modes, including using 256 color pics as textures. Other features have been added as well. Call old Greg at 216-337-1329 for the succulent details.

Well, that's all for now. Time passes nanosecond by nanosecond, and the digital details appear in hi-res. Enjoy! See you in ROMulan space.

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Video applications of the Advanced Graphic Architecture

Hello and welcome to round two of "The AGA Connection". My, there certainly is a lot of talk about the new AGA machines! In fact, I have heard talk of little else. I have been receiving quite a few questions in their regard. Though many of the questions are concerning compatibility with existing hardware and software, most are from current Amiga owners wanting to know whether they should dump their current models in favor of the advanced machine. The answer to these and other questions will be answered shortly. Now I would like to address a problem that has come to my attention.

Power (Up) Supply Problems

As of January 1st and continuing until March 31 of '93, *Commodore Business Machines* (from now on to be referred to as CBM) instituted the infamous Power Up program. Previous trade-up programs required you to turn in your current

computer. The Power Up program instead lowered the price of the A4000 and promises to send complementary software to anyone who buys an AGA machine by March 31. Purchasers of

either the A4000 or the A1200 are destined to receive *Final Copy II*, an excellent word processor that makes use of some of the new graphic screen modes. The AGA version of Deluxe Paint will be sent to A1200 purchasers, while A4000 buyers will receive *Art Department Professional*. Again, these are excellent programs and very good choices for the respective machines. *Art Department Pro* has had the ability to convert images to the HAM8 months before anyone had a clue to what it was for, and for most graphics people, DPaint is only slightly less important to their Amiga than its power supply. The only problem I have with the AGA

**Purchasers
of A1200 will
receive the
AGA version
of Dpaint,
and A4000
buyers will
receive Art
Department
Professional**

version of *Deluxe Paint* is that I have not seen it yet. Nor have I seen *Brilliance*, the paint and animation program from *Digital Creations*. Both these programs were promised to be available by January '93. Not only are the new software titles behind schedule, the computers themselves are almost impossible to get. Both the A4000 and the A1200 are back-ordered at nearly every distributor in the US. Word is that the Power Up people and those in charge of production did not coordinate their efforts very

well. I usually try to refrain from the well established practice of *Commodore* bashing (anyone can be a Monday morning quarterback), but it does seem that the folks at CBM are not well acquainted with sales promotions

that actually work. Hopefully, by the time this issue of *Amiga Video/Graphics* leaves the printer, both the software and machines will be available. If your dealer is still back-ordered on the March 31 Power Up deadline, you may want to have an invoice that says you had paid for it in full before that date to keep you eligible for the free software.

Hardware Confusion

Rule of thumb #1 to those of you choosing to upgrade is that as long as the hardware is not specific to a particular model of Amiga, or involve the removal of any of the chips on the motherboard, you should have no trouble using it on the new machine. For instance, many people who currently own the A500 are planning to upgrade to the A1200. Anything that was designed to plug into the side expansion port of the Amiga will not work, as it has been replaced by the PCM slot. The belly slot is a different size so none of the previous 501 style cards will fit. Likewise the popular *Adspeed* from DKB can not be properly installed because it involved the reseating of the 68000 chip, which is now surface mounted to the board. Surface mounting is a more efficient and reliable way of producing circuit boards and I am glad to see it, but it does make it more difficult to hack your computer into tiny little pieces.

The good news is that most of your stuff will still work. The standard ports remain unchanged, so anything that plugs into the parallel, serial, RGB, mouse, joystick, or floppy drive port should work without a hitch. The internal expansion slots of the A4000 are electrically identical to those in an A3000, including the notorious video slot. As explained last month, the *Video Toaster* will not work with the new AGA chipset (yet), mostly due to the software's intimacy with the original chipset. Other display cards, such as the popular *Opal Vision* card from Centaur Development and *Digital Creations DCTV* unit, have no problem with the new machines. Time will tell whether the new AGA graphic modes will render these devices obsolete.

What about Monitors?

This is a big question. The simple answer is that any monitor will work to some degree, even a VGA monitor off of an IBM! The 1084s will work just as well on the new machines as it does on your current Amiga. The reason for this is that the type of monitor is no longer determined by the hardware.

Switching between different printers is now as easy as just changing the printer drivers in the Preferences.

You can switch from a 9-pin dot matrix printer to a PostScript laser printer simply by changing the printer driver in your preferences. Using a monitor is now very similar to using a printer. Simply by changing the preferences driver, you can switch monitors, so you can use any monitor that has a driver written for it. Which monitor will work best is a much more complicated question. To get the advantage of the flicker free modes, you will need a monitor capable of displaying those resolutions, such as multisync and some VGA monitors. To use a monitor that has the VGA style connector you will need to use a special cable, or the VGA adapter that *Commodore* provides. This adapter (*Commodore* part number CBM390682-01) is supplied

with the A4000, but works also with the A1200. While these anti-flicker modes are a great relief on the eyes for things like word processing and column writing, be advised to avoid them when working on video projects. Many of the new modes can not be used with an Amiga genlock. How do you know if you can genlock it? All the original Amiga resolution were designed to work on either a NTSC or PAL screen.

Rule of thumb #2 is that if you can view it on a 1084 monitor you can genlock it. Of course, if you really wanted to lay a VGA signal to video tape, you could run it back through a scan rate converter or use one of those IBM genlocks. I see no reason for this not to work, and there are many video production houses that are designed around the IBM. These are the places that have the hundreds of thousands of dollars in equipment that the *Video Toaster* has been replacing. With the ability to put out an IBM comparable signal, these places no longer have a

reason to not use an Amiga. This paves the way for the next generation of the Toaster (or its successor) into the professional video world.

Software Compatibility

Though it is still early, the word from the trenches is that everything you need works. The fact that you can choose which chipset to emulate simply by holding down the mouse buttons during boot up greatly enhances the chances that the program will run. I have polled a number of AGA owners and they claim that there are very few

You can choose which chipset to emulate by simply holding down the mouse button during boot up.

software titles that they can not coax into working. The problems come from programmers that break Commodore's official programming rules. European games are notorious for doing this and are there for more likely to cause problems. There is also the 68040 CPU inside the A4000. Many pieces of software, mostly games again, just do not like running that fast. Unfortunately, there is not a "game switch" that exists on many third party accelerator cards. I know that most people will not be buy-

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ing A4000's as game machines, but everybody needs to relax and blow away a few aliens now and then.

AGA, should I or shouldn't I?

Believe me, a lot of people are asking themselves this question. At this point I will leave the realm of cold hard fact and venture into pure opinion. If you have a system that is working well for you and you are satisfied with the results, you can sit tight and see what tomorrow brings. Assuming you can sit back and watch others have all the fun of finding all the problems and the new applications. There will be new applications that we cannot even imagine today. Could the people who bought the original A1000 imagine that they would be running morphing programs that produce broadcast quality images? If you are not currently an Amiga owner and you are trying to decide between the new AGA models and the "Amiga Classic", say a fully loaded used A2000, I would strongly suggest the AGA. While even an A1000 will multi-task better than any other computer on the market, it is a technology that is over seven years old.

The Amiga is designed around the 68000 family of CPU's. In case your not up on your semi-conductor theory, CPU stands for Central Processing

Unit. The CPU is the main brain of your computer. There have been several generations of improvement in the 68000. Without getting into specifics, the larger the last two digits of the 680XX, the more efficient and faster the CPU. The progression thus far has been: 68000, 68010, 68020, 68030, and 68040.

If you have an Amiga based system and you are about choosing between harddrive or an accelerator, it is a hard call. Some 68040 accelerator cards that actually cost more than the entire A4000! Hard drives are not cheap, and the controllers necessary to run them are usually computer specific. Check price lists and compare the cost of getting an A1200 with an internal IDE with the cost of adding a harddrive to your current system. An A1200 is built around the 68020, and by adding the optional math co-processors and some fast RAM, it can match the speed of an A3000. It also has that built in composite video output, which in many cases will replace a stand alone genlock. For video producers who already have a video mixer to key out the background color, this eliminates a redundant and expensive piece of equipment. People who just want to lay some titles or record ani-

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mations for distribution will also appreciate the ability to go directly to video tape.

Now What?

O.K., so maybe I did not answer your question for you as to whether you should upgrade to an AGA machine or not, but at least you are more informed about what you are confused about. The AGA machines are causing more excitement in the computer and video worlds than anything has in a long time. I am anxiously awaiting the software that its power will inspire. Hopefully companies that have supported the Amiga in the past will continue to do so. This leaves us with my last point of the day. There are several companies, like *Supra* and *GVP*, who have been providing the Amiga community with excellent third party hardware. The bulk of their products are specifically designed for the A500 and the A2000, but both those models have been discontinued! I am not so enamored of the new machines that I do not believe there will not be short comings in their design. It will not be long before people start pushing the performance of their new machines and additional hardware will be required. The A1200 was designed to be much more expandable than the A500. How about replacing the RF modulator with a true genlock? Or an adapter that changes the PCMCIA slot into an A500 style expansion bus? All the same connections are there, it should only be a matter of running a few wires. I personally am anticipating the first AGA titling software. Send your questions and smart remarks to:

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A new Contender in the Graphic Processing Domain.

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Matt Drabick

ImageFX is a new image processor for Amiga print and video applications created by Nova Designs and marketed by GVP. The program offers a wealth of powerful image-processing tools and operators, as well as morphing capability. While not being promoted as a paint program, *ImageFX* does have a full complement of standard drawing tools capable of creating original images as well as performing touch-up work. With a well-designed user interface plus fast and accurate rendering of images, *ImageFX* should provide some serious competition for *Art Department Professional* from ASDG. While only released last December, *ImageFX* has already been upgraded to version 1.03 and now offers complete support for the AGA chipset and can render images to the *OpalVision* display device.

Formerly called *Mirage*, *ImageFX* requires a minimum of 3 megabytes of fast RAM and will work with either Workbench 1.3 or 2.0. Like any other image processor that works with 24-bit images an accelerated CPU (68030 or 68040) is highly recommended. The program is distributed using four floppy disks and includes the standard Commodore install program utility for automatically loading the program onto your hard drive. While it's possible to run the program using floppy disks, operations will run much more slowly compared to using a hard drive.

Once installed and loaded into memory, *ImageFX* displays its main screen called the gadget screen. *ImageFX* can be broken down into five primary gadgets or modules; Toolbox, Palette, Scanner, Render and Printing. Secondary modules include Load, Save, and Preferences. *ImageFX* loads its images into a preview buffer or working display for image-processing, touch-up work and original image creation. The finished image is stored in the main image buffer for final rendering and display purposes. Because *ImageFX* is designed to work with various video display boards, scanners and printers you will need to identify which device you are working with. Unlike *Art Department Professional* you can load an image directly into memory and preview it as you perform any image processing and painting functions.

Preview options include native Amiga display including full support for the AGA chipset found in the Amiga 1200 and Amiga 4000, the *IV-24* from GVP, the *Firecracker* from

Impulse and the *HAM-E* from Black Belt Systems. Scanner options include the *Framegrabber* from *Progressive Peripherals and Software*, the framegrabber function of the *IV-24*, the *JX-100* scanner from Sharp and the *ES300C* scanner from Epson. Render options are quite extensive and include native Amiga display including AGA chipset support, *DCTV* from Digital Creations, *EGS* from GVP, *Firecracker*, *HAM-E*, *IV-24*, the *SAGE* environment for the *Resolver* and *Vivid-24* from DMI and the *Rambrandt* from *Progressive Peripherals and Software*, and the *OpalVision* from Centaur Development. Printer options include standard Amiga printer drivers and Postscript printers. Note that while *ImageFX* provides rendering support for most of the popular Amiga display devices such as the *Firecracker* and *DCTV*, only a handful of those devices have preview modes. You will need to preview your images using your native Amiga display (16 colors, HAM, etc) for image creation and image-processing work and then send the finished image to the main image buffer for final rendering and display purposes. Having an Amiga 1200 or Amiga 4000 with their HAM-8 display mode available at all resolutions will give you a near 24-bit display for preview purposes while performing image-processing operations on 24-bit images.

In addition to supporting various scanners, printers and display devices, *ImageFX* works with most Amiga file formats and even a few IBM-PC and Macintosh formats as well. Some of the file formats that can be loaded include Alias for Alias Animator, ANIM for Amiga ANIM-OP 5 animations, BMP for Microsoft Windows, *DCTV*, GIF for CompuServe files, *HAM-E* files, ILBM for standard Amiga images including 24-bit files, Impulse for both 12-bit and 24-bit color *Turbo Silver* files, JPEG files, PBM for Unix files, QRT/POV/DKB, *Sculpt* for separate red, green and blue *Sculpt3D* files, *Rendition* for *Caligari* files, TARGA, TIFF files for graphics applications on the Mac and PC and finally VMEM for virtual memory files. Image files that can be saved include Alias, ANIM, BMP, GIF, ILBM, JPEG, PBM, *Rendition*, *Sculpt*, TARGA, TIFF and VMEM. Virtual memory support is a fairly new concept on the Amiga and means that part of your hard drive can be used to act like additional RAM. While not quite as fast as true RAM, having

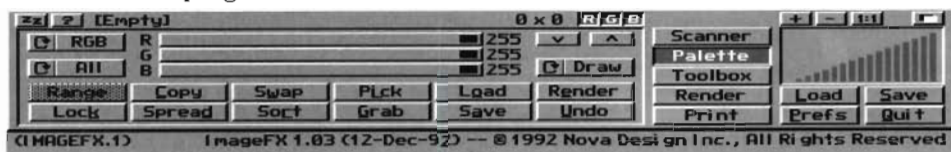


ImageFX's Toolbar is loaded with features.

this extra "memory" can be quite useful when performing memory-hungry image processing. The virtual memory function with *ImageFX* can be turned off, used only when needed, used all the time, or only used after the computer gets the user's permission.

After the program is loaded into

mostly commonly used by video signals. Up to 256 colors can be displayed by the palette at any given time, with up to 8 user-defined color ranges as well. Color spreads can be easily created, and colors can be copied and moved around within the palette. Palettes can be saved and loaded for



ImageFX's palettebar features all the rendering resolutions the AGA chipset provides.

memory it defaults to the toolbox display where all of the image-processing and image-creation tools are located. The toolbox occupies the lower half of the screen and can be made to disappear and reappear by simply clicking on the right mouse button. At the top

later use.

The real power of *ImageFX* is found with the wealth of image-processing tools found with the toolkit gadget. Essentially all of the image-processing tools offered by *Art Department Professional* are included



ImageFX's preference bar is feature packed and also is one of the first to offer built in Virtual Memory.

of the toolbox is a horizontal row of drawing tools. Standard straight line and arc, freehand draw, line and fill tools are available, as well as filled and unfilled rectangles, ellipses, and polygons with the size and shape of the pen easily adjusted. Rounding out the list are floodfill, airbrush, text and scissors tools as well as the undo button. The undo button will restore an image to its previous state before the last operation was performed. Most operations can be canceled at any time, useful for stopping any mistakes or allowing the user to simply change their minds without having to wait for the operation to be completed. With such a full complement of drawing tools, it's easy to create original images with *ImageFX* as well as perform touch-up work after processing an image.

The palette gadget provides RGB, YUV, YIQ, CMY and HSV sliders for controlling the various color spaces that *ImageFX* supports. YUV and YIQ are provided for working with the luminance and two color-difference signals

with *ImageFX*. *ImageFX* also has some unique functions such as converting an image into an oil painting of itself or adding a wave effect to an image. Fifteen gadgets or buttons are included that activate pop-up requesters. By clicking on the convolve button, for example, the user is presented with a list of choices including custom, sharpen, blur, motion blur, relief map and edge detect. Of the other fourteen gadgets, the region selector gadget defines the areas of the image to be processed. By default the entire image is processed, but the user can define any region of the image to be processed. Regions can be defined by a rectangle, polygon, any freely drawn area, or any area drawn by a paint brush. The balance gadget adjusts the separate color levels in an image, using either RGB (red, green and blue), CMYK (Cyan, Magenta, Yellow and Black) or HSV (Hue, Saturation and Value) color space sliders. Contrast and gamma controls are also provided. For RGB values, a brightness control is also available.

The composite gadget combines images together with varying degrees of transparency. Ranges of color can be either included or excluded when compositing or matting images together. A closeness slider is included for defining how close a color has to be for inclusion or exclusion. With the add function, bright areas in the second image lighten the image in the first image and dark areas in the second image darken the corresponding area in the first image. The image map function replaces the hue and saturation of each pixel in the first image with the hue and saturation of each pixel in the second image without affecting the contours and textures of the first image. Finally, the alpha channel can be used to control the amount of blending between images. The composite controls with *ImageFX* are very useful and effective.

The rotate gadget allows an image to be rotated by any angle and the size gadget provides for scaling and cropping functions. The transform gadget allows an image to be flipped or mirrored both vertically and horizontally as well as wrapping the image either left, right, up or down around itself. The brush gadget allows for brushes or objects to be imported and applied to the image, as well as applying a one-pixel outline around the edges of the brush using the current pen color or trimming a one-pixel outline from the edges of the brush. The buffer gadget creates a user-defined area (640 by 400 pixels, etc) for painting an original image with, as well as a button for clearing the screen. All of these various functions provide a great deal of control over the size or orientation of the image, but the other gadgets provide for the more painterly effects that the program has to offer.

The color gadget provides for some very powerful special effects including negative, solarize, posterize, false color, convert to gray, and halftone. The halftone function has its own requester for applying various options such as

Rendering formats that are supported by *ImageFX* include:

- Amiga Hires, Lores, Extra Halfbrite, and HAM.
- DCTV 3 or 4 bitplanes
- EGS
- Firecracker24
- Foreign
- Ham-E
- Impact Vision-24
- SAGE
- Opalvision

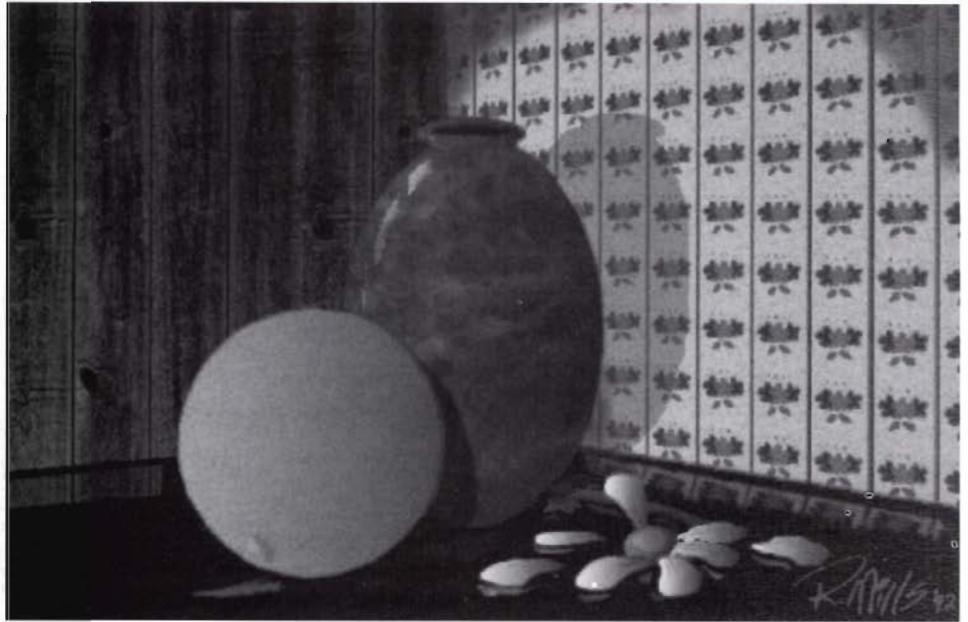
The input file formats currently supported by ImageFX are as follows:

- ALIAS
- ANIM
- DCTV
- BMP
- DPIIE
- FLI
- GIF
- HAM-E
- ICO
- All ILBM formats
- Impulse
- info
- JPEG
- PBM
- PCX
- QRT/POV/DKB
- Rendition
- UNIX
- TARGA
- TIFF 5.0
- VMEM

spiral or line clusters as well as using brushes or the alpha channel for creating various effects. A custom requester offers various color transforms such as compress, gamma, and negative posterization for applying yet other special effects to your image. You can even create your own color transforms using the graph available with the requester.

The convolve requester provides convolution matrices for replacing each pixel in the image with an average of its adjacent pixels. Images can be sharpened or blurred or have an embossed relief map created. Like the color gadget, a custom requester is available for loading either 3 by 3 or 5 by 5 ready-made matrices that include gaussian, spackle, jiggle and bas relief. The user can create their own convolution matrices and save them for later use as well.

The filter gadget applies various filter effects to an image. The dynamic range or the range of colors in the image can be changed for removing either the lighter or darker colors in an image. The anti-alias function will soften or eliminate the jaggies in an image. The RIP or remove isolated pixels function will remove stray pixels that occasionally appear after processing an image and can also be an excellent tool



for slightly reducing the file size of an image without sacrificing any significant image quality.

The effect gadget offers some of the more interesting effects that *ImageFX* is able to perform. The oil transfer tool performs an averaging function that turns in image into an oil painting version of itself. While one of the more time-consuming operations included with the program, it is also an unusual and rare effect. The disperse function randomly moves pixels in the image to produce a grainy or blotchy texture. The distort function adds noise to the image for creating depth with flat colors and adding texture to smooth areas. And finally, the distort tool adds rippling concentric circles to an image.

The alpha channel gadget is used to create and manipulate the 8-bit buffer included with the program. The alpha channel is used to create a mask for compositing images as well as creating shadows and textured gradients in an image.

The hook gadget functions as a modular special effects requester that allows future image-processing features, animation tools or other effects to be easily added to the program. Currently a number of hook programs are offered and include a blackhole effect that shrinks an image inward as if it were being pulled in by a gravitational force, an explode function that causes an image to explode outward from a user-defined center point, and a number of spiral effects that rotate either clockwise or counterclockwise and can implode or explode. Also included is an animation batch processor program called IMP or *ImageFX*

Multi Processor that automates some of the steps involved in applying image-processing effects to a sequence of frames. Frames can be created in a program like *LightWave 3D* or *Imagine* and then loaded one frame at a time using IMP for batch-processing. Frames can even be converted from one file format to another using IMP. The output can be either 24-bit frames, rendered frames or Amiga animations.

Finally, for those talented ARExx programmers among us, *ImageFX* offers an ARExx gadget for launching ARExx program using *ImageFX*. Various ARExx scripts are bundled with the program and include scripts for adding a beveled border around an image, creating a star field, and creating wipes or transitions between images. An extensive reference section in the *ImageFX* manual is devoted to

continued on page 60

The 24-bit buffer can be saved in these formats:

- ALIAS
- BMP
- Clipboard
- ILBM
- JPEG
- PBM
- Rendition
- Sculpt
- TARGA
- TIFF
- VMEM

Tool \ 'tu:l\ something (as an instrument or apparatus) used in performing an operation or necessary in the practice of a vocation or profession *syn* see **FONT*FLYER.**

When I heard that of MD Grafix had come out with a software package titled "Font Flyer," my thoughts began to wander. The name alone evoked an image of 3D logo's created in a carefree and effortless setting. In an atmosphere where a computer artist need never concern themselves with the tidiest task of building flying logo scenes again. The new procedure would be to simply enter a string of text, and within the click of a few icons, a scene file would be created.

My daydreaming was interrupted by the editor of AVG magazine. He placed a package before my still adjusting eyes. He probably never

fully understood my excitement as my pupils became fixed on the label of the package. It was the review copy of Font Flyer, and he wanted me to do the review. Dreams do come true!

The packaging provided me with a sense of the simplicity that awaited me. Installation of Font Flyer is as simple as clicking and dragging to the drawer of your choice. I placed

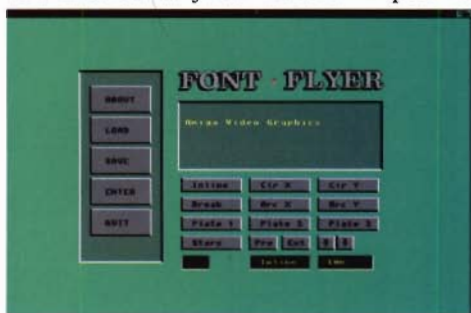


Figure 1

mine into my Toaster drawer, as I like to keep utilities close to their applications. After your original disk is tucked away in a safe place, double click the Font Flyer icon. The workspace you will be greeted with is sim-

ple and pleasing (Figure 1). Every function you'll perform, will take place either here, or in a requester that is appropriate to the operation being executed. In keeping with a simplistic theme, and rather than provide you with a written rendition of a visual medium: I will present the review in a algorithmic form.

LOAD Now click on the following icons, and you will see just how simple FONT-FLYER is to use.

This is where you decide which of the three master fonts, included with this package, you wish to use. After the requester appears, you'll need to click on the 3D fonts directory. Now make your choice. Available fonts are Clarendon, Times, and Dom. Confirm your decision by clicking OK. (I spoke with Font Flyers creator, Mark Drummond. He informed me that the people at "POP ART,Inc.," creators of 3D fonts, have prepared two proprietary fonts that will be included for use with the FONT FLYER. This means

that, now there will be five fonts included. Wow, Marks offering is gaining momentum as I type!)

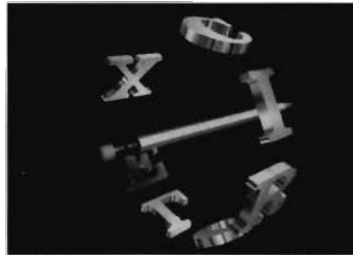
ENTER The characters you wish to logolize are inputted now. Respond to this requester by typing in up to 32 characters. Remember here, that spaces count. So if you press your space key after your finished line of text, it will be applied to the scene. Notice that when you OK your way out of this one, that the text appears in the workspaces' grid window.

OPERATOR- AHHH! the core of the package. This is what it's all about. Under the horizontal button heading, these icons represent the nine scene set-ups available. Take a moment to study figures 2-10. By providing a sample of each operative, you can visually realize the effectiveness. Make your selection now. Note in the workspace, that the middle black box (located on the bottom), verifies your selection by indicating your preference. The INLINE operator establishes your





Inline Figure 2



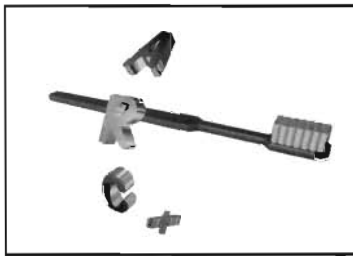
Circle X Figure 3



Circle Y Figure 4



Break Figure 5



Arc X Figure 6



Arc Y Figure 7



Plate 1 Figure 8



Plate 2 Figure 9



Plate 3 Figure 10

characters in a straight line. This is the default application. If no other selection is made, this one is activated. You'll need to re-establish your operator each time a scene file is saved, as Font Flyer defaults back to **INLINE**. In the **Circle (Cir)** applications, your characters will wrap around the X or Y axis. The same is of the **ARC (Arc)**, with the difference being that **CIR** wraps objects around a complete circle, and the **ARC** completes only a half circle. **BREAK** functions by placing any characters, that appear after a space in the text string, below and left justified. The **PLATE's** will provide a flat circle of text. Object orientation, for these and the other operators, will vary. Again, note figures 2-10.

Stars The Stars option, when activated, places a star where a space exists in the character string (figure 4). An asterisk, seen in the left black box, verifies your decision.

Pre | Ext Also available are the "EXT" (extension) and "PRE" (prefix) buttons: Operators that make it possible to use other popular 3D font sets on the market. These fonts use prefixes or extensions as part of their character. Clicking on these icons will bring up a

requester. You simply enter the appropriate prefix or extension (use underscore if applicable), and your set. If your fonts use both, well that's OK too, just click both.

Size Sizing operators are included in the form of up and down arrow keys. This will enable you to load fonts in the 40m, 20m, 10m, 5m, 1m, and 200mm range. If you're not sure of the size of your 3rd party 3D fonts; use Lightwaves modeler to determine which size selection is appropriate to your font set. If you don't address this sizing concern, then you'll run the risk of characters too far apart or too close. Sometimes this can be an advantage. I liked playing with these options to cause the letters in my scene to appear formed or molded together.

Save In this requester, you indicate the directory in which to save the scene file you just created. (i.e. your toasters 3D scene directory). Make sure you give your scene file a name, or a "Could not open a file for output," message will appear in the grid window.

Quit That's it! After authorizing the quit by clicking OK, go to Lightwave.

Open up your scene and display all that hard work. One after note; don't let your clients know just how easy it is for you to create these flying logos. Just let them stand there in awe. Relish the gratitude they display : Knowing the countless hours you must have endured to complete their project. When you view your scene file, you'll notice that the camera has an established vantage and that a point light is provided to highlight the logo.

In the special interest section

There is the ability to load other objects in place of characters. In a tribute to my favorite cartoon, the *Far Side* by Gary Larson, I created a scene where cows have gathered to examine a mysterious light that has appeared in their field. I created a **TEMP** directory in my toaster drawer. Then, in Lightwave and after bringing the object into the layout, I rename the cow object (found in the 3D objects drawer, under animals) to the character "A" in the **TEMP** drawer. If you're using multiple objects, then save those objects using a different letter of the alphabet. You'll also need to copy a nullobject to this **TEMP** directory. The null object (^) can be found in any of the Font Flyers

fonts directory. I use the indispensable program OPUS, to accomplish the copy. Now go to the previously outlined procedure to create a logo scene using Font Flyer. I loaded (LOAD) my temp drawer. When entering (ENTER), the character string as in my case, I entered A A A A A - I needed five cows. I chose Cir Y (OPERATOR) as the operator, and then saved (SAVE) the scene file to my toasters 3D scene directory. There you have it, a cow-wheel. While my example may seem absurd, you can see the many possibilities. How about having your 3D soldiers line up in perfect formations for their pass and reviews? Or, as mentioned in the manual, ferris wheel effects.

Font Flyer uses null objects wherever a space exists in the character string. All objects in the scene will have a parent object; a null object found at X=0, Y=0, Z=0. Manipulate the parent null object, and you can control all objects. For instance: After bringing in your scene into layout, you decide to spin your logo around its axis. Simply click the objects icon, make sure the parent object, the first null object (1^) is the object selected. Then create a key frame at 0 (for this exercise, all objects are fine). Now click on ROTATE, and then the NUMERIC INPUT. When the requester comes up, type 360 (for 360 degrees), into the heading (H) line. Click OK. Now create a key frame at frame 30 for all items. What we've done is created the motion for our logo/objects. Spin around the axis, 360 degrees in 1 second. Make a preview and then play it. Wow is right!

I understand that some users of Font Flyer have expressed a need to convert these scene files to object files to better take control of the objects as a whole. Mark, has informed me that "Interchange Plus," by Syndesis, has the power to make this conversion. Since I'm on a deadline, I won't have the opportunity to report on this. You present users might want to investigate this yourselves. Mark also said that a "read me" file will be included in the software for review. A quick mention: pay close attention to the files included with Font Flyer. Mark has provided a PARTICLE GENERATOR, for use with Lightwave, as part of the Font Flyer package. Use this program if you have a complex shape you want to form from random particles.

I think you get the impression that I not only liked, but enjoyed this

tool; and who wouldn't? When a utility comes along that assists us in what we do: Providing a means to quickly and easily execute what before was a dreaded procedure, you have to take notice. If you doubt this, here is a little inside information. AVG is using this program to create title work seen in their magazine (see this issues 3D perspectives, IMAGE F/X column), At a cost of \$89.00, you can stop turning clients away. ■

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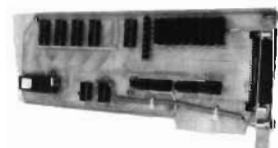
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Hello and welcome to the first installment of my OpalVision column. Each month we will take a look at what's new with the OpalVision from Centaur Development. OpalVision has the potential to become one of the best-selling products on the Amiga, for performing desktop video production, thanks to its 32-bit frame buffer with alpha channel support, compatibility with the Amiga 2000, 3000 and 4000, and "Opalpaint" the exceptional 32-bit paint program. Unlike the NewTek's Video Toaster, OpalVision is designed to work with both NTSC and PAL Amigas, allowing OpalVision to be used in Europe, Australia, and New Zealand. An external version may be developed for use with the Amiga 500, 600 and 1200 as well.

OpalPaint



OpalVision Main opening screen.

The big news is the impending availability of the video hardware modules that will allow the *OpalVision* to grab 24-bit images, and genlock it to an external video signal, perform DVE (digital video effects) and input up to nine video and ten audio inputs. Included will be composite video, Y/C video, RGB and component video. While the release date for the video hardware modules has been delayed, I believe that it's simply a matter of Centaur Development wanting to get everything just right the first time around and not releasing expansion modules that don't perform as advertised.

While waiting for the video modules to begin shipping, the next best thing is to take a look at the excellent 32-bit paint program bundled with *OpalVision*. **OpalPaint** provides the Amiga video user with an outstanding paint program for creating original images and performing touch-up work and image processing. **OpalPaint** has been compared favorably with the best paint programs used on the Mac and PC platforms, and competes with *TVPaint* by Tecsoft, of France, as the **best** 2D paint program available for the Amiga.

When you first begin working with **OpalPaint**, the power of the program is not always self-evident. Standard drawing tools such as dotted and continuous freehand, curved line and straight line tools are included as well as filled and unfilled shape tools. Additional standard drawing tools include a paint bucket, magnify, text tools and the ability to cut out and paste brushes or objects onto the screen. After spending some time with the program, howev-



OpalVision's palette screen in its 16M colors glory.

er, and discovering that clicking on the right mouse button brings up special requesters for addressing the program's advanced features, the versatility of **OpalPaint** becomes very clear. **OpalPaint** provides 8-bit alpha channel support for variable transparency of objects and images, variable anti-aliasing, including both color and area stencils, and brush wrapping, which can hold up to three different brushes or objects in memory and creates an outline of the brush for easy screen placement, and offers beautiful gradient fills. **OpalPaint** provides an excellent color palette for creating new shades of color and defining color spreads. It also creates color thumbnail images for quick visual reference when accessing your hard drive's 24-bit images. **OpalPaint** offers advanced drawing tools such as airbrush, watercolor, text, chalk, splatter and various paper textures for adding to images and objects. Support is also provided for the Wacom pressure-sensitive drawing tablets and an extensive collection of image processing tools and convolution matrices are available for creating embossed images, lightening or darkening an image, colorizing a black-and-white image and much more.

OpalPaint also allows more than one tool or operator



OpalVision's gradient palette.

to be simultaneously applied to objects and images. For example, while stamping down a 24-bit object over a 24-bit background the degree of transparency, the amount of anti-aliasing and even a texture can be applied to the object. **OpalPaint** includes an undo command for reverting back to the previous version of the image in the event of a mistake. An effect can be stopped at any time by pressing the space bar and the screen will return to its previous state. Some of the program's operators offer small preview windows to see how a particular effect will look before applying it to the actual image. **OpalPaint** works with up to 768 by 480 pixels resolution for video applications, but can work with images as large as 32,768 pixels by 32,768 pixels, memory permitting.

Many Deluxe Paint conventions are followed when using **OpalPaint**'s keyboard commands. "**F10**" will make the toolbox disappear and reappear, "**Shift-J**" will advance the screen to the spare page, pressing "**m**" will magnify the area under the cursor, and pressing "**p**" will bring up the palette requester. While the user interface and general layout of the program are very well done, (because of the many tools and operators available to work with), **OpalPaint** has a panic button that restores the program to its default set-

continued on page 35

OpalVision

"Awesome, Spectacular, Amazing, Brilliant, Wonderful"

Choose any positive adjective and chances are it's already been used by both critics and consumers to describe OpalVision and OpalPaint — the most professional 24-bit power you've ever seen!

And now, Centaur Development and Opal Technology, whose dedication to excellence created OpalVision and OpalPaint, are pleased to give you complete details on all of the OpalVision modules...

OpalVision's state-of-the-art modular design gives you unequalled versatility. Start with the OpalVision Main Board and included software. Then easily add additional modules if you require more capabilities, spending only what you need to get the results you need. Each of the modules fully integrates to create a seamless system.

The OpalVision Main Board

A true 24-Bit frame buffer and display device with 16.8 million colors available for every pixel and a maximum resolution of 768 x 480 (580 PAL). An internal card, it operates automatically in NTSC or PAL mode in any Amiga computer with a video slot (including the Amiga 4000). It's powerful VLSI graphics coprocessor enables stencil modes, a host of transition effects and smooth, hardware-controlled priority switching and



scrolling/panning effects. The board's state-of-the-art design allows smooth fading of pictures, color-cycling effects, and smooth, double-buffered 24-Bit animation. Includes connectors for all of the optional OpalVision components.

**MAIN
BOARD
AVAILABLE
NOW**



Includes OpalPaint and OpalAnimMATE for state-of-the-art painting and 24-bit animation.

Saturn 5 Image courtesy
of Carmen Rizzolo,
Strawberry Graphix, San
Diego, CA

Included Software:

- **OpalPaint V 2.0** - 32-Bit painting and Image processing.
- **OpalAnimMATE V 2.0** - 8, 12, 15, 18 and 24-Bit animations from frame sequences.
- **Opal Presents!** - Comprehensive, Icon-driven presentation package.
- **Opal HotKey V 2.0** - Display OpalVision graphics anytime with key combinations.
- **Miscellaneous Utility software**

Inputs/Outputs:

- RGB output via standard Amiga DB-23 connector
- Compatible with most external genlocks



The OpalVision Video Processor

Plug this card into the OpalVision Main Board and add a wealth of additional features and functionality. It's a high-quality, real-time 24-Bit framegrabber which doesn't require a time-base corrector. And, it's a professional-quality genlocker with chroma and luma keying. The 256-level linear transparency key allows the definition of transparency between two live video sources on a pixel-by-pixel basis for smooth vignettes, anti-aliased text and super-smooth effects. The Video Sandwich key allows you to insert chroma or luma keyed video between definable foreground and background layers of a 24-Bit image. It also provides real-time color processing of live video and an unlimited number of transitions and Digital Video Effects using the included OpalVision Roaster Chip and software. These include cuts, wipes, fades, and special organic effects (soft- or hard-edged), plus an infinite range of flips, tumbles, picture-in-picture, page peels and image wrapping.

- 24-bit real-time framegrabbing from composite or S-Video.
- Professional quality genlocking.
- Real-time, live-video color processing and chrominance effects
- High-quality Digital Video Effects

New Features:

- Now includes powerful, VLSI microcode processor "Roaster Chip" for Digital Video Effects of unequalled quality.
- Luminance keying with definable upper and lower levels
- Chroma keying on any color range
- 256-level "Alpha Channel" (transparency) key.
- 24-bit, 35ns character generation software
- 24-Bit Picture-in-Picture and Video Sandwich Keying

Included Software:

- Opal Character Generator • Special Effects Manager
- OpalVision System Software



Alpha Channel functions with OpalPaint and with the Video Processor for transparency overlays.

Inputs/Outputs:

- 1 Composite in/out
- 1 S-Video in/out (S-VHS, HI-8, Y/C)
- 1 expansion connector for Video Suite
- 1 RGB out via DB-23 connector

Modules
Available
Spring
'93

The OpalVision Video Suite

A power-packed video and audio mixing, switching, and transcoding device. This 19-inch, rack mountable unit is so advanced that it has its own internal computer and every aspect is software-controlled for precisely timed and accurate functionality. The Video Suite includes a wealth of inputs and outputs. There are 9 video and 10 audio inputs available, plus the 24-bit frame store. Professional quality video inputs and outputs are available simultaneously in RGB or Y/R-Y/B-Y, Composite and S-Video. Choose any 2 sources from these inputs, assign a transition or special effect, and then trigger it manually or automatically. All of the transitions and effects provided by the OpalVision Video Processor are available for use by the Video Suite.



A, B and Preview display LED

Audio Level VU meters



Audio Inputs

Sound F/X
or 5th Audio
Input

Stereo
output

RGB
or Y/R-Y/B-Y
inputs and
master sync
input

4 Composite and
4 S-Video inputs

Preview
composite
and
S-Video
outputs

Main
composite
and
S-Video
outputs

Main RGB
or Y/R-Y/B-Y
and
sync
outputs

Key
in/out

OpalVision
Input/
output

Power
Connector

The linear transparency key (Alpha channel and transparency effects) can be taken from the Video Processor or an external video source, and/or output to another production switcher. This allows transparency control between 2 video sources on a pixel by pixel basis. The 10 Audio inputs (5 stereo pairs) are fully software sequenced with smooth fades and full, 5-band stereo frequency equalization.

Video Inputs:

(All available simultaneously)

- 4 composite inputs (8 composite inputs if S-Video inputs are used as composite)
- 4 S-Video inputs (S-VHS, HI-8 or Y/C)
- 1 or 2 RGB or Y/R-Y/B-Y inputs (2nd source uses the 4 composite inputs)
- 1 master sync input (master sync can be selected from any video source)
- 1 infinite level linear transparency key

Video Outputs:

- 1 composite main output
- 1 S-Video main output
- 1 RGB or Y/R-Y/B-Y main output
- 1 linear transparency key
- 1 composite preview (automatically transcodes composite & S-Video)
- 1 S-Video preview

Audio:

- Inputs: 10 mono or 5 stereo pairs
- Output: Stereo with 5-band equalizer and VU meters

OpalVision Scan-Rate Convertor

Add this card to the OpalVision Main Board and achieve 31kHz, non-interlaced output of Amiga graphics, OpalVision images and any incoming source in either PAL or NTSC. And, we've added full time-base correction of incoming video. Time base correctors are used to synchronize two non-synchronized video signals, or for cleaning up the timing of a "dirty" video signal. The on-board memory also serves as a separate frame-store for dual framebuffer applications.

- Converts interlaced PAL and NTSC to 31kHz non-interlaced, flicker-free display.
- Plugs into the OpalVision Main Board. No external power supply needed.
- Works with any multi-sync/multi-scan monitor.

New Features:

- Includes full, infinite window Time Base Correction
- Operates in RGB for superior quality



OpalPaint's intuitive, versatile palette control panel.

Typical OpalVision Configurations



Opal Character Generator provides 35ns, professional-quality video titling.

OpalVision Video Effects, Digitizing and Titling Workstation

Add the OpalVision Video Processor board to add new worlds of video capabilities to the system. Grab frames from live video. Modify them in OpalPaint, add titles, color processing and real-time chrominance effects, output to video tape, use the powerful "Roaster Chip" for real-time Digital Video Effects to transform one incoming video signal in composite or S-VHS format.

Applications:

Animation Overlays
Video Titling
Video Processing and color correction
Digital Video Effects
Multimedia Applications
Simpler Video productions of any sort

To achieve 31kHz non-interlaced output and time-base correction of incoming video, you can add the OpalVision Scan-Rate Convertor. And you can always obtain third party software or hardware (like Art Department Professional or a pressure-sensitive tablet) for additional functionality.

OpalVision Paint and Animation Station:

Put an OpalVision Main Board in your Amiga and you've upgraded your system to include complete 24-bit functionality.

- The best available 24-Bit paint and graphics software
- Works with all important Amiga graphics software including Art Department, Imagine, ImageMaster, Morph Plus, Aladdin, Caligari, Real 3D, and more.
- Supports pressure sensitive input tablets.
- Mixes Amiga and OpalVision graphics and animations simultaneously.

Included software:

- OpalPaint V 2.0 for 32-Bit painting and image-processing
- OpalPresents! for professional-quality 24-Bit presentations.
- OpalAnimMATE V 2.0 for full 24-bit animation creation and playback

- OpalHotKey to display 24-Bit Images anytime by using key combinations

Applications:

Graphic Artists
Fine Artists
Videographers

Multimedia
Animators
Desktop Publishing

Education
Designers
Hobbyists

This set-up can also be enhanced through the use of third party software and hardware. Add a 24-Bit scanner to import hard-copy color images for applications like photo-retouching and image enhancing. Add the OpalVision Scan-Rate Convertor for de-interlaced output. Use third party Amiga-compatible genlocks for simple video applications. Or, include a pressure-sensitive tablet with your system for unrivalled artistic creativity.



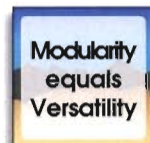
Chrominance effects for real-time control of image palettes, contrast, brilliance and color re-mapping.

OpalVision Desktop Video System

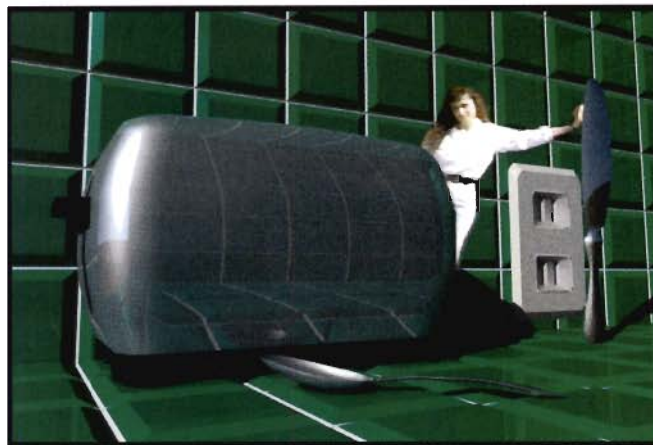
After installing the Video Processor board, you can greatly increase your input and output capabilities by adding the OpalVision Video Suite. Perform cuts, fades, wipes and DVE's between any two sources selected from nine available inputs. We've also added full mono and stereo audio mixing.

Applications:

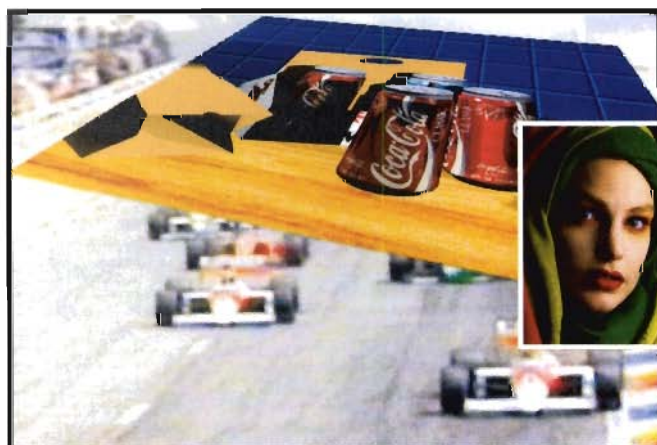
Professional Video Production
Wedding, Industrial and Educational videos
Audio Dubbing and Mixing, Sound Effects
Cable and Professional Television Production
Multimedia Presentations
Home Video Production



If your need 31kHz (non-interlaced) output or time base correcting, you can add an OpalVision Scan-Rate Converter to complete your system.



Video Sandwich keys puts chroma- or luma-keyed video between 24-Bit layers.



Opal Roaster Chip creates unlimited Digital Video Effects and Transitions.

Video Performance

Video Input Standards

(User selectable): NTSC, NTSC 4.4, PAL, SECAM
Video Output Standards: NTSC, NTSC 4.4, PAL
RGB output Bandwidth >7 MHz
Composite (Luma) Bandwidth 4.5 MHz typical
S-Video Bandwidth 5.5 MHz typical
S-Video Hue Control +30 to -30 degrees
Video lock jitter <15ns
Horizontal position adjust -320 to +1000 ns
Horizontal lock range +/- 1200Hz typical
Subcarrier lock range +/- 350Hz minimum
Linear Keyer input speed >7 MHz

Audio Performance

Audio Inputs 10 inputs (5 left, 5 right) line level 20k ohms
Audio Outputs 2 outputs (Left, Right) line level 70 ohms
Input Mode Differential for very low noise
Frequency Response 20Hz - >20kHz
Frequency Equalization points 59 Hz, 205 Hz, 790 Hz,
2.95 kHz, 12 kHz
Equalization Range +/- 15db
Total Harmonic Distortion 0.05 % typical
Mixing level control 0 to -70db
(independent software controlled DAC's)
VU meters 10 steps -20db to +3db range

Third Party OpalVision Software (Available now or coming soon!)

Aladdin 4D, AmiLink Video Editing Products, Art Department Professional, Caligari 24, Cine Morph, Fractal Pro, Image FX, ImageMaster, Imagine, Michtron Entertainment Products, Morph Plus, Real 3D, Scala InfoChannel, Scala MultiMedia 200, Texture City Image Libraries, 3D Professional, Transporter, TV Paint, Vista Pro, Video Visions and more!

OpalVision Distributors

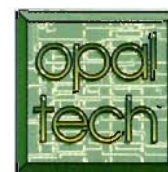
Argentina: Phanta, Buenos Aires Ph./Fax: 54 1 650 0228
Canada: B.M.D., Ontario Ph:(519) 539-0200 Fax:539-9725
Denmark: Scala Computer TV, Herlev Ph:44 53 11 77 Fax:44 53 11 73
France: CIS, Pessac Ph:56 36 34 41 Fax:56 36 28 46
Germany: VideoComp, Overursel Ph:61 71 59 070 Fax:61 71 59 07 44
Italy: KB srl, Bologna Ph:51 76 55 63 Fax:51 76 55 68
Japan: Omni Int'l, Seattle, WA Ph:(206) 628-2924 Fax: (206) 628-4324
Netherlands: Take One Prods., Heerlen Ph:45 22 57 83 Fax:21 22 63
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Redondo Beach, CA 90278



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Amiga 2000/ 3000/ 4000 Compatible

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tings in case the user becomes confused with what they're doing. OpalPaint is actually very easy to use and simply requires a little time to learn and master how the program's various tools and operators work by themselves and with each other.

The program's various tools and operators are displayed by the "**Main Menu Bar**" at the bottom of the screen. All of the program's filled shapes (rectangle, ellipse, circle, polygon and freehand) work with either solid colors, gradient fills or brushes using a special window. The solid color mode uses the current pen color and fills the shape with that color. The gradient fill uses a range of colors using various fill patterns. Colors can be selected from any of the 20 paint pots currently displayed above the Main Menu Bar. The first and last shades of color in the gradient and any intermediate shades can be easily added (or deleted) from the spread. A horizontal preview strip shows how the color gradient looks like, and the amount of dithering can be adjusted for smooth or coarse looking spreads. Gradient fill patterns include horizontal, vertical, automatic radial and user-defined radial, and user-defined linear patterns. Filled shapes can also use brushes or objects, and wrap them around any user-defined shape. Brushes can also be variably warped, resulting in a bulging effect towards the viewer.

Instead of only filling the screen with the current pen color, the flood fill tool can use the gradient and brush fill-

modes as well. Like DPaint, **OpalPaint's** flood fill tool fills those areas of the screen that share the same color with either another color, gradient fill or brush pattern. An alternative method is the tolerance flood fill which defines a range of colors to be filled with another color, gradient fill or brush pattern. Separate hue, saturation and value (HSV) sliders are used to define the range. By picking a center color from the area to be filled, any of the surrounding pixels that approximate that shade of color will take on the new fill color, gradient fill or brush pattern.

When cutting brushes from an image, **OpalPaint** allows the freehand, rectangle, ellipse/circle and polygon filled shapes plus the flood fill tool to be used as the cut-out shape of the brush. Brushes can also be cut from the background by defining either a single color or a range of colors to be ignored when cutting and picking up brushes. Up to three different brushes can be cut and held in memory to be selectively used as fill patterns as well as stamped onto the screen. Once a brush has been cut from the background, it can be easily resized, warped, or rotated. The handle or the "center" of the brush (the correlation between the cursor and the brush) can be changed as well from the middle of the brush to any of its four corners.

In addition to cutting out brushes and using them to paint the screen with, **OpalPaint** offers various nozzles or shapes when working with the various drawing tools (straight line tool, etc). Four round, four square and two rectangular ready-made nozzles are provided that can be readily resized by using the plus and minus keys. By clicking on the desired nozzle first with the left mouse and then with the right, a requester appears showing the different artist's tools, paper textures, vertical sliders for adjusting the pressure tablet settings and the "depth" or degree of paper texture to be added to the image. Paper textures include rice, hairy and rough. *Wacom Technology* was kind enough to send me one of their "**SD-42**" series pressure-sensitive drawing tablets with a cordless pressure pen for this review. A special driver is included with **OpalPaint** that allows a Wacom tablet to be connected to the Amiga's serial port. All of the artist's tools (airbrush, watercolor, etc) included with **OpalPaint** benefit from having a pressure-sensitive tablet available. For example, when using **OpalPaint's** airbrush tool, (by applying varying degrees of pressure with the tablet's pressure pen), the airbrush tool will apply varying amounts of "paint" onto the image. The amount or degree of the tool's effect can be adjusted as a percentage using a vertical slider. Both the artist's tools and the paper textures can be applied to an image at the same time, along with varying degrees of transparency and anti-aliasing. One of **OpalPaint's** biggest strengths is its ability to perform multiple operations on objects and images at the same time.

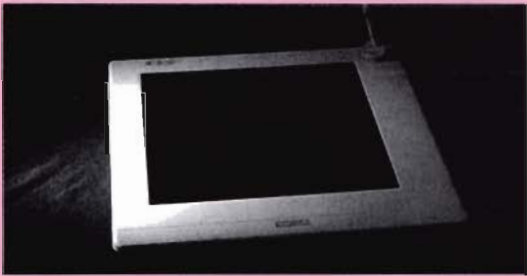
Creating a color palette and selecting the pen color is very easy. Above the "**Main Menu Bar**" is a horizontal row of 20 paint pots.

The pen color can be selected by using the mouse or using the left and right bracket keys, with the active color highlighted by a white border. Thirteen different rows with 20 different colors or paint pots are available to choose from. By holding down either of the bracket keys the program will cycle through all of the different color rows.

continued on page 55

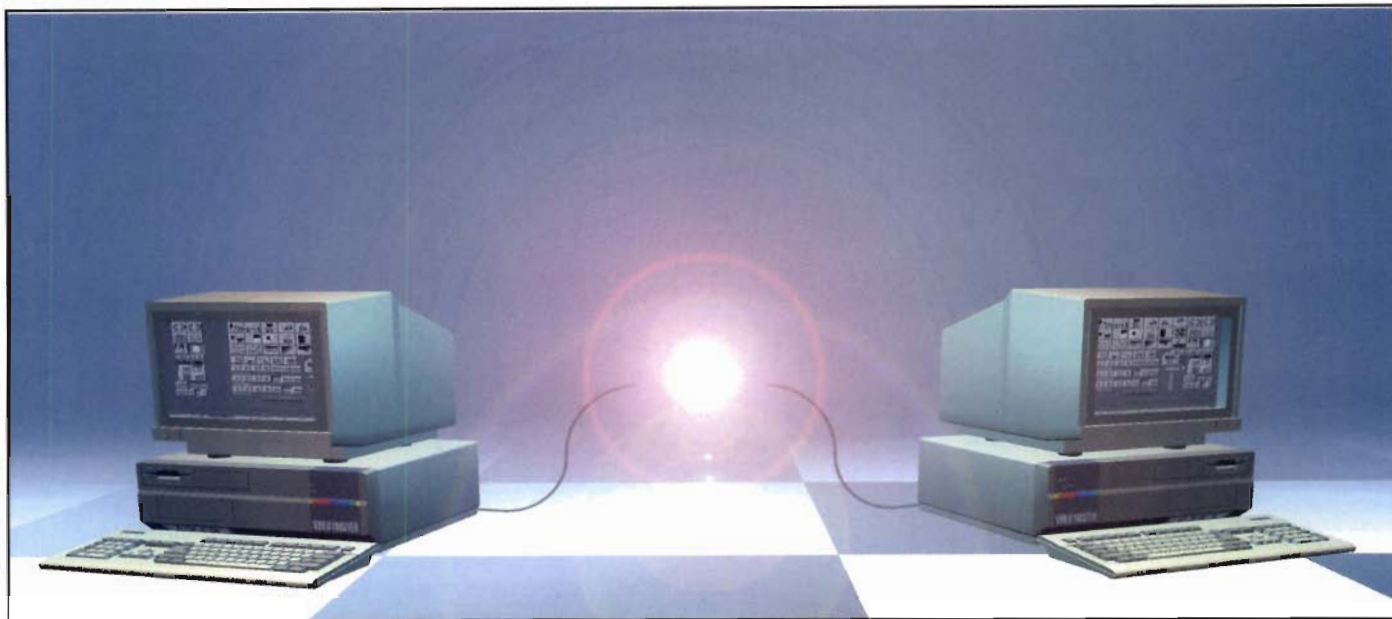
A special driver is included with Opalpaint that allows a Wacom Tablet to be connected to the Amiga's serial port.

Wacom Graphic Tablet



To a traditional artist a drawing tablet and pen are his life. To a computer artist the video screen is his canvas and the Wacom Tablet is his brush. Wacom Technology makes a myriad of tablets for use with the Amiga through Opal Vision or a third party software driver. The sizes of the drawing surfaces range from a 6 X 9 inch to an 18 X 25 inch tablet. The tablets have an optional pressure sensitive pen to accept every nuance of your painting stroke. This provides the flair and accents not found before on computer generated art. Also you can get the tablets with an electro-static surface that will hold a piece of paper down with static electricity for you to trace over. The Tables range in price from as low as \$695 to \$3995 and comes with a one year warranty.

Wacom Technology, Inc.
501 S.E. Columbia Shores Blvd. Suite 300
Vancouver, WA. 98661
(206) 750-8882



Connectivity

Fusing The Power!

© 1993 by

Tony Moschella

As more and more Videographers and 3D Artists start to add a PC, Mac or another Amiga to their rendering or editing systems, they begin to develop the need for connecting these computers. The term "Connectivity" comes to mind. Connectivity is to connect your computers to get the maximum productivity out of them, and in the next few pages I will cover some of the products out on the Amiga market that allows you to become more productive.

Network software acts as the interface between a user and a program to the network hardware. Pretty simple, but the magic is that the software will allow the user at one computer to share hard drives, printers, modems and information found on other computers linked to the network.

The four major types of hardware connections used by the small computer market today is the RS-232C port (serial port), parallel port (printer port), ARC-Net, and Ethernet. The major difference to each of these four topologies is the speed at which they can transmit data, and the cost of each setup.

Basically there are two ways of setting up a network. The first is a dedicated network (see FIG. 1). In

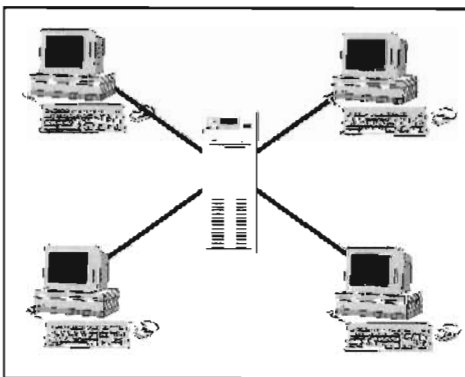


Figure 1

most configurations of this type, the whole network is setup around a single computer called the "file server," who's only purpose in life is to send data to and from work stations or nodes on the network. This type of setup allows for a fast response to requests for data by the work stations. However, the major drawback of this type of setup is the requirement of a microcomputer with a hard disk (often very large in size) to be used exclusively as a file server. This greatly increases the cost of the network.

The second type of network is a non-dedicated network or "peer-to-peer" (see FIG. 2). This type allows all the computers to act as a file server and a workstation at the same time. This setup also allows a much greater sharing of peripherals within the network. The major drawback for this type of system is that it is slow. When a computer is running a program, and is requested to send data to another work station at the same time, a time sharing situation appears. Thus, the users will notice a slow down in their system.

Well, now how does all this fit into the needs of a 3D artist or

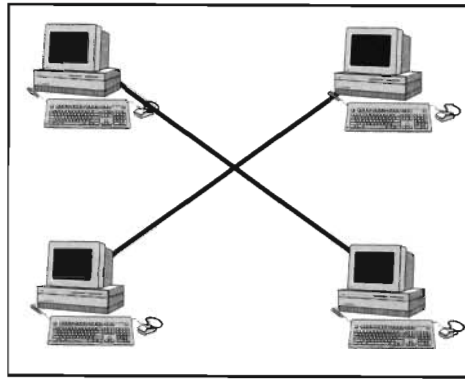


Figure 2

Videographer, you may ask. With the dropping costs of hardware, many people are finding the advantages of having another Amiga setup to either assist in, or dedicated to 3D rendering. This will reduce the time needed to complete your projects at least by half.

Many a times, a production house may need to transfer graphic files from an Amiga to a Macintosh or even to a PC. So what makes this all possible on the Amiga? Well, let's start with some of the hardware.

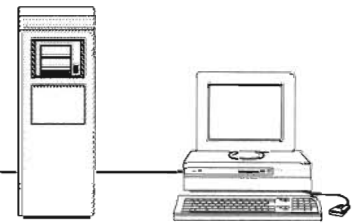
Hardware

There are four types of networking ports on the Amiga. Some may say that the floppy drive is the fifth, but I do not consider "SneakerNet" (carrying a file on a floppy to another computer) as a form of networking. The first part I want to cover is the RS-232C port (serial port). The serial port is standard equipment on all Amiga and most all other computers today. Most of you may already be using the serial port with a modem. A modem allows the transfer of data to and from the computers attached at speeds of up to 57,600 baud. The data transferred is in blocks of 8-bits in most cases. The receiving computer must send a signal before the sending computer can begin to send the data. This is known as flow control.

Another way to use the serial port is with a Null Modem cable (for pin-outs see FIG. 3) which is just a direct computer to computer connection. In any case, you will need to run a terminal program (such as JRComm for the Amiga) on each computer. This setup will allow you to transfer data from an Amiga to either a Mac or a PC. The inconveniences, with this setup are: One, it requires a lot of user monitoring and setup to get data to and from computers. Also, it will not allow for sharing of peripherals. Nor will you be able to call up programs located on another computer's hard disk.

The parallel port (printer port) is

Network or Not To Network?



- Do you need to manage very large files quickly?
- Do you need to share peripherals?
 - printers
 - tape backup systems
 - large storage devices
 - plotters
 - modems
 - fax
 - video equipment
- Do you need to share files with PCs, Macs or other Amigas?
- Do you want to remotely access your computer and files from home or work?
- Do you need file access security?
- Do you need to quickly backup large files?

You need access to a Novell® NetWare™ network! You need **Amiga Client Software!**

Amiga Client Software from Oxixi will meet your networking needs by allowing any Amiga configured with a LAN card to work with the best selling, most reliable, extensively supported network available—Novell® NetWare™.

Productivity and project management can be greatly enhanced—whether a program development effort, VideoToaster® applications, database management, order entry, extensive desk top projects or any team effort requiring file sharing. Amiga Client Software will allow your Amigas to access super-large hard disks, share expensive peripherals such as laser printers, and perform data entry to central files.

Requirements:

Software: Novell® NetWare™ Version 2.15 or higher, installed on a network file server; Amiga WorkBench Version 1.3 or higher, KickStart 1.2 or higher.

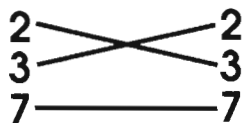
Hardware: Amiga computer with 512K memory, PC-AT File Server, LAN ARCNet®, or Ethernet communications cards (1 for each workstation, 1 for server), cabling and other connection hardware.

Now Shipping!



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Null Modem Cable
Pin-Outs

Figure 3

much the same as the serial port. Fortunately, with the use of a ParNet cable and software, an Amiga user would be able to have a peer-to-peer network. I will talk about ParNet later in this article.

ARC-Net and Ethernet cards are both available for Amiga, Macintosh, and PC. Amiga network cards are made by Commodore and others. These Zorro II cards will plug into any Amiga 2000, 3000 or 4000 unit (there is also an ARC-Net box for the A500). They both have BNC connections, but the similarities end there. The A2060 (ARC-Net) card by Commodore has a data transfer rate of 2.5 megabit per second. While the A2065 (Ethernet) card by Commodore has a data transfer rate

of 10 megabit per second. The clear speed difference has allowed Ethernet to emerge as the new standard in the networking world by replacing ARC-Net.

Cabling

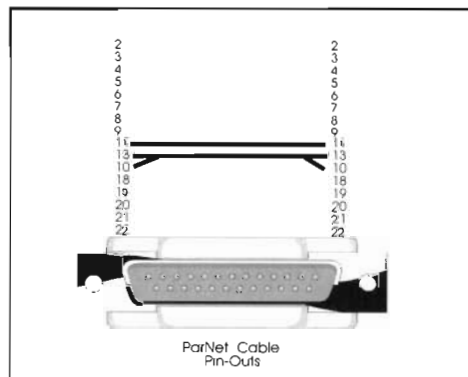
Cabling is often over looked in networking. The truth of the matter is, that it is one of the biggest problem. Ethernet is setup with RG-58 coax cable (Thin Net). If a connection should fail you might find yourself on your hands and knees checking each connection (not so bad if you have less than 10 machines) to find the loose connector. An Ethernet system must also be terminated at the last machine in the chain. This is accomplished with the use of 50 Ohm BNC terminator on each end of the cable. If termination is lost the whole network will shut down. If you use good quality parts and take your time making the cables, you should have no troubles.

ParNet

As I touched on before, ParNet is the software/hardware system that works with the parallel port. The ParNet software is the least expensive way of setting up a two Amiga network. It requires only a cable and the ParNet software. The most difficult part of the setup is making the cable (for pin-outs see FIG. 4). Fortunately most Amiga

dealers have the cable already made for ParNet. The ParNet software is a public domain program found on the Fred Fish disk number 400, and most BBS's.

ParNet is a peer-to-peer network



ParNet Cable
Pin-Outs

Figure 4

setup. Meaning, it not only allows you to transfer files but, it will also allow you to start programs located on the other Amiga connected by ParNet. ParNet also multi-tasks quite well. However, the disadvantage to ParNet is that it ties up your printer port and you are limited to linking only two Amigas. Even though, with these minor disadvantages, ParNet is a ideal solution for a small production house.

Alan-FS

Alan-FS is by Canadian Prototype Replicas. Alan-FS was one of the first quality networking software for the Amiga. The program comes on one disk that also includes has the documentation on it. The software requires Amiga DOS 2.0 or higher, and the AS-225 TCP/IP networking software from Commodore. Alan-FS will only work with Commodore's A-2065 Ethernet card.

The installation is very easy. After installing the Ethernet cards and connecting the cables. You then install AS-225 TCP/IP software on each of the Amigas. Installing Alan-FS is simplified, as it uses the standard Amiga install progra, and after the installation finishes you will then need to make a few edits to your user-startup file which can be found in your S directory.

Alan-FS will operate as either a Client/Server or peer-to-peer setup. Also with the use of the TCP/IP software you will be able to setup a cross platform network with a Mac or PC running TCP/IP. Alan-FS sells for \$500 with an unlimited site license for the number of stations linked at one location. TCP/IP sells for \$199. Tech support is provided by the dealers selling Alan-FS. Alan-FS is a good choice

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ENLAN-DFS

ENLAN-DFS is developed by a progressive company called Interworks. ENLAN-DFS is my choice for a peer-to-peer network system. ENLAN-DFS use Commodore's Ethernet card. The software comes complete on one disk. After installing the software and making a few assigns you will then need to number each node in the startup files. You then use the Export/Import commands included with ENLAN-DFS to select the hard drives, modems, and printers accessible to the other users.

ENLAN-DFS is completely transparent to the users and therefore, less prone to damage by user induced errors. I liked ENLAN-DFS's security system. It's password protection allows you to open certain parts of your workstation to everyone, while allowing other parts to be used by a select few. Tech Support is outstanding, any and all questions I had were answered quickly. Anyone planning to start an all Amiga network should get ENLAN-DFS.

Amiga Client Software for Novell Netware

ACS is a product of Oxxi Inc. Novell's Netware is the giant in the networking world. There are thousands of Novell networks setup around the world, most serve only the IBM PC markets. The major advantage to Netware is that it can very easily become a multi platform network. Netware can be setup as a non-dedicated or dedicated system, but work best as a dedicated system. Netware comes in two versions 2.2, and 3.11. ACS will work with any version, but must be linked to a dedicated system. ACS will also work with either Commodore's Ethernet or ARC-Net cards.

In setting up several dedicated Novell Network, I've found ACS to be a joy. ACS comes on several disks. The install program is the standard Amiga install. When installing an Amiga on the network for the first time, you will need to install a "key" on the Novell server. This key will determines the number of Amiga users allowed on the network at ant one time. The number of nodes is determined by the node license you buy from Oxxi. Nodes are sold from one user to fifty or more users.

After everything is setup, you can login onto the file server. You simply click on the login icon, and type your name and password, and a icon shows

up representing the server's harddrive, which is called ND0. Presto! You are now part of the network. You can now send files and programs to be stored on the server's harddrive. You can also use any printer on the network, if it is setup correctly by Netware. (Netware commands can be executed by a graphic interface.) You can add users, change password, or check print queues.

Oxxi has done a fine job with this product as with all of their products. My recommendation is if your requirement is to have Amigas, Macs, and PC's all linkedtogether, then this is the product to get. We at AVG use ACS everyday.

TSSNet

TSSNet is produced by Thunder Ridge Inc. TSSNet allows the Amiga to become a work station on a VAX or DECnet network. TSSNet communicates through the serial port or through an Ethernet card connected to the VAX or DECnet. The installation procedure requires the use of **CLI** to execute a script file to do the rest. Some of you who have had experiences with a VAX system will instantly see the advantages of TSSNet. The main features to TSSNet is that it takes advantage of the Amiga's "multi-tasking" operating system. A user can log into several DEC-net nodes to retrieve data while running other programs locally, without any noticeable slow down. TSSNet is also compatible with GfxBase's X Window System for the Amiga. TSSNet had the best written manual, with very easy to read instructions. A lot of time went into this product. TSSNet sells for \$395. I feel TSSNet is a good choice for the education or scientific markets with a VAX system needing a graphic workstation for computer generated models.

Conclusion

As you can see, there are many choices for a network solution for the Amiga. Each solution could have an entire article devoted to it, but due to the space and time requirements. I was only able to briefly touch on each of these products.

We at AVG run a Novell Netware system using Oxxi's ACS. We do this because we needed a multi platform network. If I were running a graphic or video production house I would be inclined to get ENLAN-DFS. All of these products are very good, but your choice would have to be based on your budget and needs. ■

A-2060, A2065
Commodore Business Machines
1200 Wilson Drive
West Chester, PA. 19380
(215) 431-9100

ALAN-FS
Canadain Prototype Replicas
P.O.Box 8 Breslau
Ontario, Canada N0B 1M0
(519) 884-4412

ENLAN-DFS
Interactive Softwaorks
2521 S. Vista Way Ste. 225
Carlsbad, CA. 92008
(619) 434-5327

Amiga Client Software for Novell
Netware
Oxxi, Inc.
P.O. Box 90309
Long Beach, CA. 9809-0309
(310) 427-1227

TSSnet
Thunder Ridge, Inc.
N9353 Benson Road
Brooklyn, WI 53521
(608) 455-1039

Rumors in the Wind...

Commodore Business Machines are currently working on a built-in networking system for new Amigas. Also NewTek may have a built-in networking interface for newer versions of Toaster Software. Which will allow parallel processing of LightWave 3D images to a central location for dumping to tape or film.

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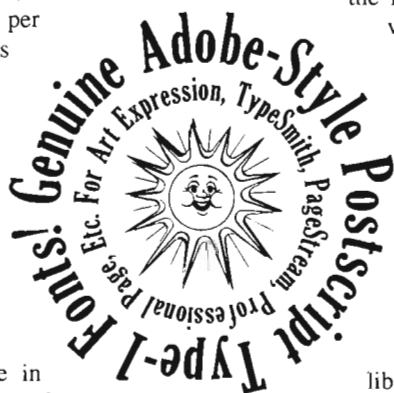
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Art Expression and Aladdin-4D:

A Marriage Made In Heaven!

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Dr. Shamms Mortier

There are many reasons why the Amiga has reached a place of leadership in the videographic field, but chief among these is its ability to engage in what I call intramural handshaking. That's a big term for what most Amigans know as the availability of the IFF standard. Having standard file formats makes it possible for software to exchange saved data among several different packages. The Amiga software that cannot exchange data with other packages is severely limited, in fact, I would say this is a limitation that leads directly to capping its own potential market and the eventual extinction of the product. Sometimes, it is necessary that graphics software develop its own proprietary format because of the way that it goes about doing what it does in a more timely manner. For instance, ray-tracing objects takes a lot of time, so developers are always looking for ways to get around the standards or the suggested formats. This leads other developers to produce "translation" packages like *ADPro* from ASDG and *Pixel 3D Pro* from Axiom Software. But the excitement for the Amiga artist/ animator is to use the software that does this or that task best, and then to port the results over to another package that does another task better.

Included in this affection for handshaking is the ability of very different kinds of packages to exchange data. Lately, it has become the rage for certain software used for high end CAD (Computer Assisted Drafting) to port its results to an Amiga 3D renderer/animator, and even for some unique software (Like *Centaur's PIXound*) to translate graphic data into sound. One of the most relevant exchanges of data incorporates vector drawing programs and Amiga 3D/4D software. A vector drawing program typically is dedicated to DTP (Desk Top Publishing) and output devices like plotters and printers, so there is much on board for treating 2D graphics and text not normally found in video software. Video software, on the other side, renders 3D work quite nicely, but has little if any effect on the DTP market. All of

this has changed with the Amiga, and especially with the program that started out as *Draw-4D* and has lately assumed the persona of *Aladdin-4D* from *ADSPEC Programming*. Even in its infancy, *Draw-4D* users could render their graphics and save them out as *ProDraw* "Clips", ready for importation into *ProPage* and other DTP software. But that was a one way street until *Aladdin-4D* came along. *Aladdin*, in its first release, allowed the Amiga user to input EPS (Encapsulated PostScript) drawings produced in *ProDraw*, giving the Amiga video user all sorts of finely crafted shapes and text blocks to play with, extrude, and animate. It also gave *Aladdin-4D* users a way of achieving shapes that looked like splined curves, which are by their nature very smooth and almost unachievable within *Aladdin* itself. But *PDraw* "Clips" are specific to *ProDraw*, and *ProDraw* as a structured (vector) drawing program lack some creative tools that other Amiga structured drawing programs offer. One of the newest and nicest of these is the *Art Expression* software from *Soft Logik*, a long awaited package that was specifically developed for *ProPage*'s main DTP competitor: *PageStream*. *ADSPEC*, realizing that the user base of *PageStream* owners probably crossed over into its own user base, and also being aware of the new list of creative options being offered to users with the release of *Art Expression*, dedicated itself to finding a way that *Art Expression* and *Aladdin-4D* could cooperate. The result is with us in *Aladdin-4D* 2.1 (available only to registered *Aladdin-4D* 2.0 users). Now it is possible to export work done in *Art Expression* and import it directly into A4D.

Caveats-

There is some tweaking that has to be done if the work in question is text based, especially if that text includes letters with open areas ("O", "P", "R", etc.). The same caution to add some post-import work occurs if a graphic has a surrounded open area. What happens is that A4D imports all the polys of the drawing on a level plane, so the circle that

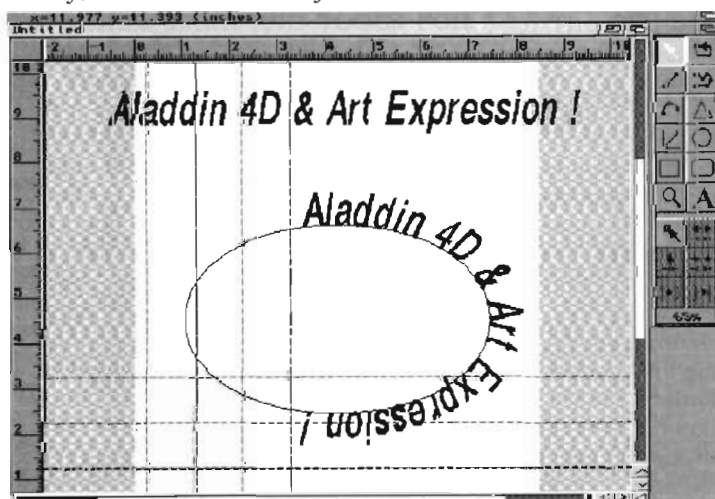


Figure 1. Here we see the Art Expression screen with the results of a text string that has been wrapped around an oval.

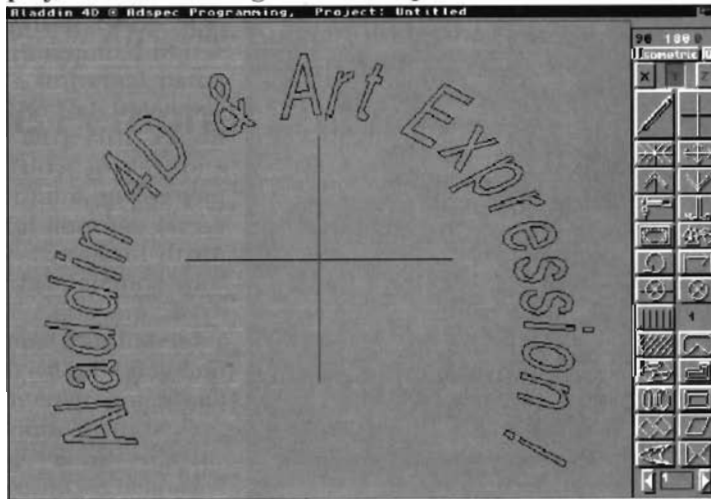


Figure 1B. After rotating the graphic represented in Figure 1 to A4D, it appears on the screen in its proper orientation.

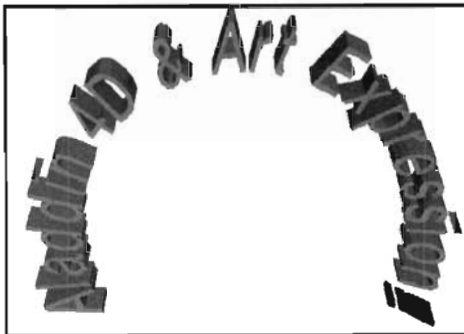


Figure 1C. The imported lettering can be given "thickness" by extrusion and rendered. Here is a rendering of the text string in 16 color Hi-Res.

makes up the "inside" of the letter "O", for instance, is filled as a separate poly just like the circle that makes up the "outside". After "Joining" the targeted polys, it's best to do a test render (with

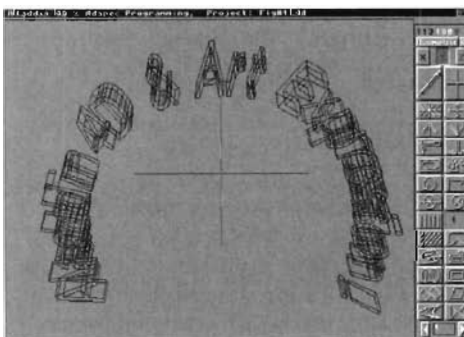


Figure 1C2. Here's how the same string looks when extruded on the A4D Editing screen.

"Fill" turned on). If the poly doesn't show up at all, then choose a new "FirstPoint" on one of the polys (I usually choose the "outside" one). If it renders as a solid with noticing the "hole", then reverse the order of points on one (again, I usually choose the "outside" poly, and even do this as a matter of

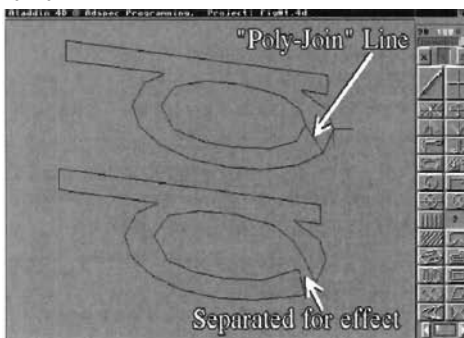


Figure 1C3. This is a close-up of the letter "d". The top form had two separate polys, and would have rendered without the "hole". Notice the connecting line that joins the polys. This causes it to render with the "hole" intact. The bottom figure shows the single poly pulled apart so you can appreciate the unitary nature of the figure.

course before I see a test render). It's best to clone these polys first and send them to another space or hide them, since mistakes made at this juncture can then be redressed.

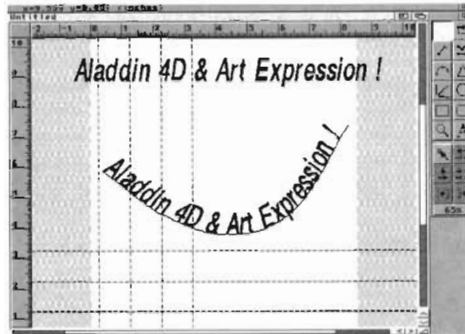


Figure 2. Text can also be written on any curve desired in Art Expression.

A4D loads an *Art Expression* "Adobe Illustrator" format as if it were an standard EPS drawing. Before writing the drawing to the screen, a requester pops up asking you several things about the import. The most



Figure 3. Art Expression has a great smoothing function for curves, allowing for the creation of flowing graphic shapes.

important question concerns the "resolution" of the imported graphic, otherwise known as "curve fitting". The default number is 10, but I typically choose 20. This creates more points (larger file size), but is far better on a drawing that contains curves. The



Figure 4. Here we see an A4D rendering of the shape in Figure 3. It has been placed against a cloud background after being extruded, rotated, and textured with a "wood" surface.

drawing comes in as separate pieces, that is, a string of text is imported as disconnected letters. Before grouping the graphic for extrusion or other effects, the parts of the graphic with open holes inside have to go through the "Poly Joining" procedure. This

allows the software to know that a poly has an open space in it, and is not made up of two or more solids.

The number of creative options in *Art Expression* are almost infinite. One of my favorite tools is the "Transform" mode, which allows you to target a graphic and spin it any amount of revolutions and degrees while it writes over itself, creating amazing designs in the process. Know that A4D will not read *Art Expression* "fills", so save yourself the time of creating them. Fills are best handled once the drawing has been imported into A4D. You can output *Art Expression* in three different formats at the moment: as a D2D file, as an *Adobe Illustrator* file, and as an IFF picture or brush. A4D needs the second alternative for import. For the Amiga artist/ animator who owns both packages, the creative options are truly infinity times two. ■

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On The Fly! by Thom Robertson



The art of rendering!



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This month, I had the good fortune of receiving a review unit of the new 16-bit sound card from Blue Ribbon SoundWorks called the One-Stop Music Shop. It's being promoted with this phrase, "Now Amiga audio can rival Amiga Video!" I believe they may be right. The One-Stop Music Shop is basically an Emu Systems' Proteus SoundEngine (synthesizer) on a full length card which fits into any open slot inside your Amiga 2000, 2500, 3000, or 4000. The card also has a fully functional MIDI interface, allowing your serial port to remain free for use with other peripherals. The One-Stop Music Shop also includes some very good sound editing and storage software, as well as the Tools and Accessories necessary to operate the One-Stop Music Shop from within either Bars and Pipes Professional or SuperJam! This time in Avid's continuing coverage of cutting edge Sound-for-Video tools for the Amiga, we'll have an in-depth look at the structure and applications of this professional quality sound synthesizer. And, I'll fill you in on the latest update/upgrade news in Amiga sound software.

THE HARDWARE

The One-Stop Music Shop is a 16-bit digital synthesizer with 4 megabytes of sounds in ROM, in the form of 213 sampled waveforms. The sounds are organized into banks of 128 user-definable preset locations. The sampled soundwaves are played through a system of envelopes, modulators, and amplifiers to produce a rich palette of musical tones and percussive sounds. The board is capable of producing up to 32 sounds simultaneously. These sounds can be linked or grouped together in stereo pairs, and a maximum of 32 individual voices (sometimes called partials) can be played at once through the board's stereo audio outputs. It is a multi-timbral synthesizer, so it can respond to MIDI messages on all sixteen channels at once. This means that complex arrangements can be worked out using lots of dif-

ferent sounds playing together, even with no other MIDI equipment or instruments.

The One-Stop Music Shop is really an Emu Proteus synthesizer that fits inside your Amiga. Emu, the maker of the Proteus SoundEngine, is one of the most respected names in professional audio synthesizers. You'll easily understand why when you hear the One-Stop Music Shop. This thing has some beautiful sounds taken from Emu's vast libraries of samples for their Emulator and Emax lines of professional audio samplers. The sampling rate of the One-Stop Music Shop soundcard is 39khz, producing a frequency range of approximately 20-20,000 cycles per second, the maximum range of the human ear. (This last summer I had the opportunity to purchase and program an Emu Emax II sampler for Jim Stafford's Theater in Branson, Missouri. I

was completely blown away by the sounds and the flexibility of that machine. The One-Stop Music Shop uses the same sampling/playback rate, has basically the same architecture, and even some of the same sounds as that of their \$6000+ professional audio machine. Of course, the Emax II does have 8 Megs of RAM, a SCSI port, and a 120 Meg hard drive loaded with sounds...)

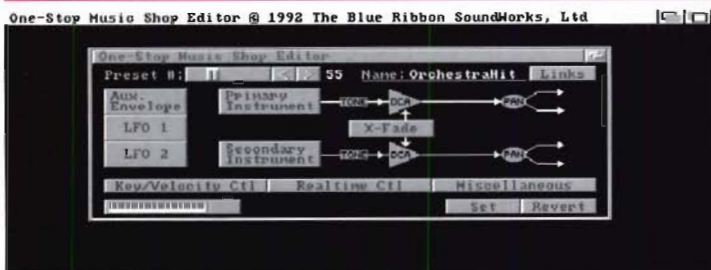
The One-Stop Music Shop conforms to the universally-accepted General MIDI specifications. These standards determine a set of guidelines which outline the assignment of voices among PC-compatible sound cards and MIDI synthesizers. The standard is designed so that a specific set of sounds is chosen from the General MIDI standard preset voices for use with a particular piece of music. Then by using a standard MIDI song file, including program changes, in conjunction with a multi-media presentation, game, or graphics program, the same (or at least similar) voicings will perform the proper parts, even on a different computer/synthesizer platform. The MIDI specification provides for 128 preset synthesizer sounds which can be accessed on any of the sixteen MIDI channels, and for 64 drumkit settings on channel 10. These banks of sounds can either be composed of factory preset sounds or they can be user-created sounds. In the General MIDI specification, the first voice, or program number 00, is normally reserved for acoustic piano, and program number 12 is a marimba. (Each of the 128 preset locations is to assigned a specific voice. The actual sounds of those voices will vary somewhat, depending on the manufacturer and model of the sound card or synthesizer being used. The preset voices found in the One-Stop Music Shop SOUND REALLY GOOD!) According to the General MIDI specifications, MIDI channel 10 is reserved for drumkits, with each unique percussive sound assigned to a specific MIDI note number. (For example, the acoustic bass drum is assigned to MIDI note #35, or C4, while the tambourine is #54, or G5.) This insures relative compatibility between different hardware configurations, allowing MIDI files to be played back on any other computer/MIDI platform which also supports the MIDI standard.

THE SOFTWARE

Half of the One-Stop Music package is the software which is included with the sound board. The disk contains about twenty demo songs created with SuperJam! (using Blue Ribbon's new series of Styles disks, more on those in a moment...) These songs can be played by using the MIDI File Player program on the disk, and, if you have AREXX on



Main screen of Bars & Pipe Professional running with the One Stop Music Shop Editor.



Interface of The One Stop Music Shop Editor.

your system disk, you can use the supplied AREXX script to automatically play all of the demo songs. This is a great example of the portability, and of the potential offered in using the MIDI file standard to reproduce high-fidelity sound in a computer/synthesizer environment. By composing for a specific set of standard instruments, it is possible to transfer a relatively miniscule MIDI song file to a remote machine where it can be played back "live" by the same basic instrumentation. A CD-quality sound sample of the same piece of music could occupy MULTIMEGABYTES of disk space to repro-

duce a digital 16-bit recording of the same song. Since the MIDI File Player can be controlled through a fairly extensive set of AREXX commands, it can easily be linked to other Amiga graphics and multi-media programs for synchronized CD-quality sound playback.



The One Stop Music Shop's Instrument Editing Screen.

The demo songs on disk are interesting. They average in length from about :30 seconds to just under two minutes. The file sizes of these demo songs are relatively small, ranging in size from 4000 to 18000 bytes. The total size of the demo songs provided is just over 220k, or about one-fourth of a standard Amiga floppy disk. The demo songs on disk play for a total of

over twenty minutes! This is an indication of the compact amount of disk space necessary for a high fidelity music score which is to be used with the sounds present in the General MIDI

Specification. Most of the demo songs are in fact extremely complex arrangements covering a wide range of musical styles. The songs really demonstrate the sonic potential of the SoundEngine's voices, as well as the compositional power of SuperJam! And, Blue Ribbon SoundWorks supplies a demo version of SuperJam! 1.1 with the One-Stop Music Shop. (If you'll send me the blank disks, and the proper return postage, I can also provide you with that demo disk, along with any or all of the following: the Bars and Pipes Demo, B&P Professional Demo, the M 1.0 Demo, S y n t h i a Professional Demo, and the Video Music Box 1.6 Demo. All work with the Amiga's internal sounds and do not require the use of a MIDI interface. This way you can try out some of these dynamite programs for yourself.)

A program called Loopback allows the One-Stop Music Shop SoundEngine to be used as a stand-alone MIDI sound module, with access available through the card's MIDI In and Out ports. This way you can still use the One-Stop Music Shop, even with Amiga music programs which do not directly support it. The MIDI data being produced by the program can be routed out of your standard serial MIDI interface and back into the One-Stop Music Shop. This way the SoundEngine functions exactly like any other MIDI sound synthesizer, with all of it's controls accessible

through the Amiga's graphic interface. And, after working with the usual backlit two-line LCD found on all but the most expensive MIDI synthesizers, having the

ability to view lots of parameters at once on the Amiga's screen is absolute heaven. There is an excellent editor/librarian program in the One-Stop Music Shop for the creation and storage of banks of custom voices on disk. The program lets you graphically edit the attack, decay, sustain, and release settings for the various envelopes. The One-Stop Editor program can be run from the Workbench and is virtually identical to the Editor programs which are available in Bars and Pipes Professional or SuperJam! (All of the information about voice editing included here is true for both the stand-alone version of the Editor and the versions which operate within B&P Pro or SuperJam!)

The Editor holds the Main Window, giving you a diagram showing a graphic representation of the architecture of the selected preset voice. (Only one voice at a time can be opened for editing.) Every preset voice is actually comprised of two sampled waveforms, the primary and secondary instruments. Each of the two instruments is selected from among the 213 waveforms in the ROM (Read Only Memory) of the One-Stop Music Shop. All of the controls for these two instrument samples can be reached from the Main Editor Window. These controls included the note range, volume tuning and pan for each of the two selected instrument sounds. Envelope settings can also be manipulated here. These two waveforms can be combined, panned in the stereo mix, or crossfaded according to the MIDI note number or note velocity using the modulation controls settings. Up to four voices can be linked together, or layered out in zones over the full MIDI keyboard. The low and high notes for each linked voice can be set, and a different sound selected for each of the linked voices.

The One-Stop Music Shop features an extensive set of controls for the assignment of modulators and envelopes and of the various real-time MIDI controllers. The Real-Time Modulation Control window contains the names of eight MIDI controllers that can be used as modulation sources for each of the voice presets. MIDI Pitch Bend, Control Changes, and Mono- or Poly-Aftertouch can be used to control various functions of the SoundEngine. You can make up to eight connections between the ten Modulation Sources and the twenty-four Modulation Destinations. For example, LFO One could be assigned



The One Stop Music Shop's Links screen.



The One Stop Music Shop's ToolBox and Transport Controls screens for MIDI out.

to Pitch modulation, giving the voice a vibrato effect. Aftertouch could also be assigned to LFO One Rate, so, by pressing harder on the keys after the initial attack velocity, you could vary the vibrato speed (provided by LFO One Rate.) The Key/Velocity Modulation Controls window gives you the ability to use Key Number and Velocity as modulation sources. For example, you could assign Velocity Modulation to control the Crossfade between a bright-sounding Violin waveform selected as the Primary Instrument, and Viola sample with a darker tone as the Secondary Instrument. This way, the harder you

production can be accomplished quickly and easily

INSIDE your Amiga.

In order to use the One-Stop Music Shop with Bars and Pipes Professional, the Tools and Accessories for B&P Pro must be copied from the One-Stop Music Shop program disk into the appropriate drawers containing your other active Tools and Accessories. Then these Tools and Accessories must be loaded from within Bars and Pipes Professional in order for them to be activated and used by the program. The Tools included are: the General MIDI tool, used to select specific preset voices in memory to be



One Stop Music Shop Realtime Modulation Control Screens.

strike the keys, the brighter the tone produced. Six connections can be made from the key number or velocity to thirty-three different Destinations. Many of these are also Modulation Sources. For example, you could connect the velocity to the Pan, thereby allowing the note velocity to control the position in the stereo field.

SUPERJAM! BAND AND TOOLS FOR B&P PRO

The One Stop Music Shop comes with a Band configuration to use with SuperJam! This Band automatically assigns the proper voices to each of the six players. In other words, the drum parts will actually play drum sounds, and the bass part will play a bass sound. Again, I cannot emphasize enough the sound fidelity of this professional soundcard. Comparing the One-Stop Music Shop to the native sounds produced by the Amiga's 8-bit sound circuitry, the difference is about like comparing CDs with AM radio. This thing sounds great! With SuperJam!, the One-Stop Music Shop

can be utilized to create a complete music soundtrack for video, all without the need for any additional external MIDI synthesizers or sound equipment. All of the composition and sound

production can be accomplished quickly and easily

One-Stop MIDI In and Out Tools, which give access to the cards built-in MIDI interface. The Accessories are the Control Panel Accessory, used for master volume, transposition and tuning settings, and The One-Stop Editor Accessory, which gives access to the complete voice editing and librarian functions of the program.

The One-Stop Music Shop also comes with the drivers required to use it with Blue Ribbon's universal patch librarian program, The PatchMeister. The PatchMeister will run as an Accessory under Bars and Pipes Professional or SuperJam!, giving you access to this powerful librarian for all of your MIDI synthesizers and drum machines. In fact, in combination with The One-Stop Music Shop and Bars and Pipes Professional PatchMeister and SuperJam! you have a total sound and music production environment, all inside your Amiga. Sounds can be created and stored, songs composed, edited and printed, and fully orchestrated CD-quality soundtracks can be played.

It's the perfect platform for a dynamite MIDI Sound and Music Workstation. The One-Stop Music Shop retails for \$649.00

UPDATE NEWS

Here's a brief list of some of the latest updates available in Amiga music and sound software. Digital Expressions has upgraded The Video Music Box to version 1.6. Blue Ribbon SoundWorks has just released SuperJam! 1.1, (which fills three disks) and three new disks of Styles for SuperJam! entitled World Music Styles, Movie Soundtrack Disk, and Dance Mix Styles. And, they've announced the imminent release of Bars and Pipes Professional version 2.0, which will apparently have some real advantages for scoring audio-for-video. SunRize Industries has also upgraded Studio 16, the software for their AD516 and AD1012 Hard Disk Recording Systems to version 2.06. The program now supports the use of multiple AD516 and/or AD1012 cards in a single Amiga. (If you're editing sound for a quad sound system environment, for example, and you need more than two discreet audio channels. Or, if you need more than eight digital audio tracks, though that apparent limitation can be worked around by bouncing tracks...) SunRize also promises a software module for Studio 16 which will generate MIDI timecode from the Amiga's audio output. Both the AD1012 and AD516 read timecode at the SMPTE In port on the cards. I'll keep you posted here of further details.

The One-Stop Music Shop, PatchMeister, Bars and Pipes Professional, and SuperJam! are distributed by The Blue Ribbon Soundworks, Ltd., 1605 Chantilly Drive NE, Suite 200, Atlanta, GA 30324, (404) 315-0212.

The AD1012 and AD516, and Studio 16 (Hard Disk Recording Systems) are from SunRize Industries, 2939 S. Winchester Blvd., Suite 204, Campbell, CA, 95008, (408) 374-4962.

Jaxon Crow has released his first tutorial videotape on producing Sound for Video projects called AMIGA MUSIC FOR VIDEO, Volume One. Other video and audio titles, including a new Buy-Out library of electronic music entitled NEON NETWORK MUSIC, are also available. Jaxon can be reached for questions, comments, or consultation at: Neon Tetra Productions, P.O. Box 876, Hot Springs National Park, AR 71902, (501) 321-1198. Please call or write for a free catalog of our audio and video tapes. And don't forget the free demo offer...

Pixound

Adventures in True Multimedia

© 1993 by

Dr. Shamms Mortier

For as long as I can remember, I have had the experimental urge to engage in "writing" music by using color and graphic symbols, and then to ask my fellow musicians to interpret the results. The *PIXound* software makes you a real MultiMedia composer, and the Amiga/MIDI connection becomes the attentive orchestra. You can either ask the computer to play a graphic screen, or you can involve your own sensibilities to intervene in the making of the music (by taking control of the movements of the mouse).

If you desire, you can create your own graphics screens in 32 color lo-res, translate them into a format that *PIXound* can "read" (with an on-board module), and then sit back and watch/listen to the results. Once activated, the visible cursor jumps from section to section of your graphic, all the while activating sounds as it goes. There are graphics screens already configured for sound stored on the disk for instant play and experimentation. The visual designs are based upon both the hue (color "name") and the intensity (brightness values) of a color. These parameters are what *PIXound* uses to translate visual information into sound. The principle is simple, but the results are truly astounding. To add to your playful mystery, the whole keyboard is mapped out with different possibilities for interact-

ly promote an inter-disciplinary attitude in the artist that utilizes this software. Musicians can investigate color and visual form, while visual artists can experiment with the amplitude and waveform possibilities of "hearing" their paintings. When you hear the partially controlled/partially random results through a good MIDI device, you will be especially thrilled.

PIXound is advertised as a "MIDI musical art interpreter". I use it in conjunction with the "Midi Musicbox" and also with my Casio-1000 or my Yamaha TG-33 synthesizers. When I finally purchase the new *Blue Ribbon Bakery E-MU Proteus* sound card, you better bet that some of my first experiments will use the *PIXound* software with it. *PIXound* can playback Amiga sounds too if you don't have a MIDI device. There's no way as yet to load in your own Amiga samples, so you'll have to settle for the samples on board if you are lacking a MIDI box.

Basically, *PIXound* uses the Amiga keyboard as a macro converter, so that by depressing a key or a combination of keys, you can cause a defined animated action to take place that is translated into amplitude and frequency. A manipulation of the Amiga sound chip occurs, and a MIDI command is sent to a synth, soundbox, or triggers an internal Amiga voice. *PIXound* 1.0 was enjoyable but simplistic. "Playing" the picture before you was easy because the commands were somewhat limited. After a cursory reading of the manual, you were anxiety free and on your own. *PIXound* 2.1 has a myriad of additional options, and the "cost" is a longer study of the manual in order to become even quasi-familiar with expected results. *PIXound* 1.0 was a nice toy. *PIXound* 2.1 has very professional oriented and has high-end performance applications with the right peripheral sound engines.

There are three different keyboard maps that have to be referenced in *PIXound*, as I have attempted to show in Figure #1. The first is a general mapping of the standard keyboard keys, the second shows applications addressed by Shift/Key functions, and the third is a roadmap of more complex Alternate and Amiga-key combinations. There are far too many options to rely only on extemporaneous experimentation. Either you work with the manual in front of you, or you do your planning and practicing beforehand. The ordinary keys are comfortably assigned in a logical first-letter-of-a-command intuitive manner, but more complicated musical patterns require less intuitive multi-key-stroke operations.

Operation-

The first thing you'll want to do, if you have a MIDI device that will actually produce the sound, when the program is on screen is to toggle MIDI to "on". You may be more comfortable accessing some of the commands from the Title Bar

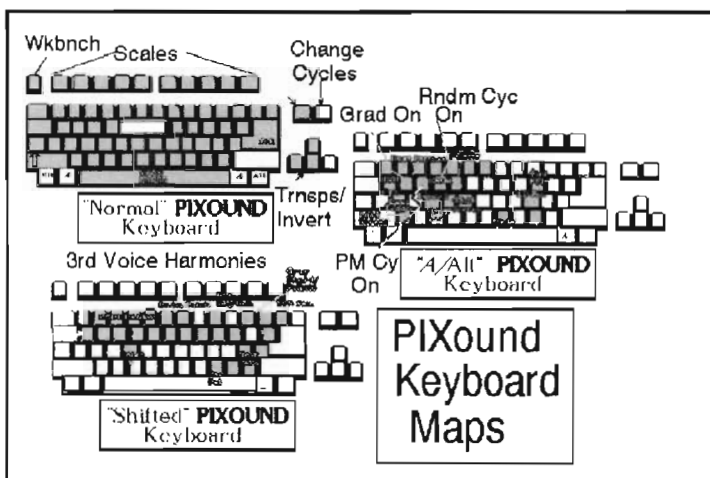


Figure 1. Some of the convoluted keyboards that *PIXound* makes use of are shown here.

ing (in real time) with the music.

For instance, the function keys are dedicated to specific scalar patterns (augmented scales, Major/Minor scales, modes, and other patterns) that automatically remap the visual so that it responds to color and outputs dedicated scale patterns. The interaction is limitless, and will definite-

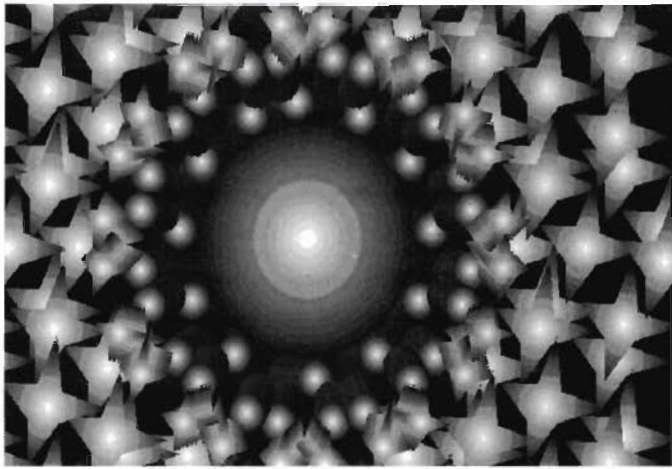


Figure 2. Here is a sample of a screen I created for PIXound with the Symmetry tool in DPaint.

menus at the start, and substituting the keyboard equivalents as you learn them. There are several ways a picture may be "played", either interactively or by computer randomness. At the start, you will no doubt be focusing upon the pictures that are included (some are generation programs that create moving images). In no time at all though (especially if you study the included graphics and their sound capacities) you'll be experimenting with your own visuals as well. Whichever way you choose to have the screen sound out the data, you can also record the musical pattern and replay it later (nice for recording direct to a tape player). The entire -pattern can also be saved as a sequence and ported to other software. I have yet to do this with both *Bars & Pipes* and *MusicX*, and *Video Music Box* is also on my list as a post-player. Graphics screens can also be saved to disk, and loaded in later.

PIXound Options-

MIDI users can address *PIXound*'s output channels and patch bays, so the various harmonies can travel on a path to a specific sound. No reason you couldn't also address other MIDI devices like drum machines, lights, and anything else that can be driven by MIDI signals. Not only do colors relate to sounds, but various saturation's of color also manipulate the audible signal. Pastels, for instance, actually sound "lighter", while areas of muddy color sound dark and foreboding. Think of what you can record to videotape in this fashion right on the spot. Another way to vary the playback is to color cycle the picture, which will cause the sound to speed up as the colors rush by the blitter that senses them. Colors in the palette can actually be "tuned", allowing you to assign

various musical attributes to each of them! Harmonies. Rhythms can also be assigned and altered.

There are two additional functions in *PIXound* 2.1. The first, GRAB SCREEN, imports the art from your paint program as it runs in the background and dumps it onto the *PIXound* screen. I use it with *Electronic Arts DPaintIV*. The second option is an OVERLAY SCREEN that imports your own art

screen and blends it with the *PIXound* screen already visible, thereby abstracting in surprising ways both the visual and the sound. The self explanatory LOAD PIX loads a previously saved IFF graphic from disk.

PIXound always lets you know where you're at by giving you echoed data on the Title Bar (Pitch, Scale, Octave, Patches, Sustain toggle, and Cycle toggle). This is vital. Without it, and because of the way that the resident options can complicate matters rather quickly, there's no way you could remember what you did to get where you are. The "F" keys at the top of your keyboard determine specific modes and scales, from Major/Minor to more esoteric choices ("Gypsy" and "Whole-Tone" scales). I miss having a "Blues" scale option, but maybe that's planned for another revision. The Delete key can be toggled to begin and end the recording of a sequence. From there, it can be saved to disk.

Color Transformations-

PIXound "plays" your visuals from an assignment of specific note qualities to on-screen colors, and it makes sense that there should be global ways to alter the colors, thereby giving you even more options in the audio playback. *PIXound* allows you to change from one system palette to another (it has eight varieties), or you can create your own palette. Colors can be cycled in any of five ways, and each produces a different harmonic result. The "8" key initiates multi-cycling. Colors can also be reversed and inverted, and the background color can be operated on separately.

In conclusion, I am mesmerized by *PIXound*. I have been since its release some years back. Since *Centaur* has taken it under wing, there

will hopefully be more frequent upgrades offered, and a better marketing strategy that will get it into the hands of creative Amiga people. I look forward to having it address the new AGA alternatives, though I'm somewhat afraid of what expanded options might initiate in terms of learning a whole new set of interface options. If you have a half-ounce of risk and creativity in your Amiga bones, you should buy this software. For under a hundred bucks (\$99.00 retail), you'll be busy for years creating the music of the spheres. ■

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Lightwave 3D Tutorial Tapes

By Thom Robertson

We all remember sometime ago when the Video Toaster, by Newtek, hit the market. This "REVOLUTION," was indeed just that, a revolution. When I set my eyes on it for the first time, I remember seeing a vision of the future.

Other toastees I've spoke with share the same sentiment: A visceral feeling. One that compels them to pursue an uncharted dream. In the movie, "Close Encounters of the Third Kind," the characters were implanted with a vision of a place they've never been before. Yet, they tried to realize this vision without knowing why. I often feel this way. I don't ask why, I just try to see where this vision is taking me.

Armed with the equipment that might compel me towards some distant discovery: My Video Toaster now stands ready to serve. But this vehicle can not do it alone. I have to set into motion the forces that have the gas to power my engine. This fuel is knowledge.

I have studied the manual, but find it so consuming. Others have offered packages to help me thrust forward my desire to excel in this endeavor. But they seem to fall short on their promises. Enter Rave Video's production of "Desktop Images." Featuring Lee Stranaham, a professional Video Toaster artist and instructor. In this four tape series, Lee covers the Video Toasters main functions. From the essentials and Toasterpaint to Toaster Character generator and professional techniques. In a sense, Lee was the gas station attendant who "gassed" us up with knowledge. Desktop Images' videos allowed us to begin our journey.

Respectfully, this journey is long. We needed more information. The Lightwave 3D portion of the Video Toaster seem to go untapped. Largely due to it's intimidation on us. Again enter Rave Video Productions, Desktop Images, and Lee Stranaham. They have just released a four volume video set on Lightwave 3D. Covering essentials, surfaces, modeler, and flying 3D logos; these tapes excel. They have answered our pleas with this excellent offering. So much information is contained in these volumes, that I have included the item cards in this announcement so you would believe me. These cards are included with each tape. They provided a means to not only monitor your place while watching the video, but also as a reference card; to find a particular item you may need refreshing on in the future. The tapes are masterfully produced, with a quality we've come to expect. Desktop Images set a standard on tutorial tapes that others have found hard to compare.

The true Video Toaster visionary would be hard pressed not to have a set of these in their possession. It is said that a true professional can be measured not by his wealth or stature, but by the books and video's in his library.

Now with my tank on full, and the path before me lit, I can fulfill my vision. At \$49.95 each, you too can have the knowledge to experience the Video Toaster in full.

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	Loading & Unloading Modeler Disk Functions Loading an Object The Edit Windows Display Functions Keyboard Shortcuts The Grid The Preview Window Select Functions Selecting Polygons Selecting by Volume Statistics Display Info Display Edit Functions Layers Separating Object Elements Creating Objects Box Object Ball Object Cone Object Creating Points Creating Polygons Removing Polygons from Points Creating Curved Objects	Multiply Functions Extrude Lathe 1 Sided Polygons 2 Sided Polygons Mirror Clone Skin Morph Modify Functions Move Rotate Size Stretch Magnet Shear Twist Taper Bend Polygon Functions Surfaces Attach and Detach Remove Point Add Point Triple Complex Objects	Current Surface Rename Surface Surface Color Specular Glossiness Color Highlights Diffuse Reflection Mapping Grabbing an Image Saving an Image Loading an Image Reflecting an Image Texture Mapping Planar Image Mapping Automatic Sizing Texture Size Image Edge Matching Negative Image Pixel Blending Antialiasing Cylindrical Image Mapping Width Tiling Spherical Image Mapping Height Tiling Procedural Textures Texture Color Checkerboard "Procedural" Texture Size Texture Center	Velocity Falloff World Coordinates Grid Line Thickness Creating A Color Gradient Diffuse Texture Creating A Streak Object Underwater Texture Valve Underwater Texture Size Wave Sources Wavelength Wave Speed Band Sharpness Fractals Fractal Frequencies Fractal Contrast Sharp Terminator Outline Only Wireframe Render Polygon Render Bump Mapping Ripples Fractal Bumps Sample Project	Maximizing Memory Usage Loading LightWave Exiting LightWave Unloading LightWave The Main Screen (Renderer) Loading an Object View Mode Edit Item - View Mouse Functions Keyboard Equivalents Edit Item - Object Move - x, y, & z Rotate - h, p & b Size Stretch Constraint Buttons Reset Edit Item - Camera Edit Item - Light Lost in Layout Center Aiming the Camera Numeric Input Grid Size Visibility Key Framing Create Key Go to Frame Next Key & Preview Key Make Preview Play Preview Delete Key First Frame & Last Frame Object Motion Select a Scene Clear Scene Load Scene Save to/Load Out Spline Controls Precision Continuity Bias Linear Parenting Targeting

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Own Your Own Network

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David Hopkins

I've found an item that you've absolutely GOT to have if you use multiple Amigas in your working environment. What I'm referring to, of course, is a local-area-network (LAN) to connect them all together. If you think this is a little rich for your blood, keep reading!

In my office here at Mach Universe I'm currently using three Amiga 2000 systems, all tricked out with plenty of speed, lots of memory, and many gigs of hard drive space. The only problem up to now has been the lack of communication between the machines. You know how it is...you've got items you want to use in your scenes scattered amongst the machines, an image here, an object there. The only way to get all of your stuff together is to slap each thing onto a floppy (hope that image isn't too big) and cart it all over to the other machine. Or use software and cabling such as ParNet to connect 'em, but only two machines can be on such a setup.

Enter EtherNet. EtherNet is a networking system that has been around just about forever for IBM compatible machines, and since Apple and IBM have become so buddy-buddy, Macs are sprouting EtherNet about as fast as you can say "clone."

The first items you've got to get your hands on are the cards themselves. ASDG, a company that keeps surprising me by producing extremely professional solutions to things, has just the ticket...The LAN Rover. These cards have actually been shipping for quite some time now, but hardly anybody in the US knows it. In Europe, the LAN Rover is very popular, where they are used in many of the Virtual Reality systems being developed there. I'm here to break the silence on this outstanding product.

The LAN Rover is actually based on Thin EtherNet (CheaperNet) technology. While there is a difference between Thin and Thick EtherNet in a technical sense, I won't attempt to explain it here because it's not terribly important. What is important is that the system works! A single card that slips quickly into one of the expansions slots on your 2000 or higher machine (even the 4000) gives you total connectivity. Connect them together with 50-ohm BNC cable and you're almost done. There's only one thing missing...the software to drive the network.

Why doesn't ASDG supply the software, you might be asking. Simply because other people already make the

software, and since there are more than one "type" of network that can make use of this card, it makes sense. In any case, who you get it from isn't nearly as important as it performing competently, right? Right.

There are currently two companies that I am aware of that offer software supporting the LAN Rover. One of them, Oxxi, Inc., offers Novell-compatible (very mainstream) networking software developed to allow you to fit your machine in as a client on what is called a "Client-Server"-type network. This means that you must have one machine (usually a cheap IBM clone) which acts as a Server, doing nothing but handling the system management. It holds all the files and passes them out to whichever Client machine may need them. This is a powerful method of operation which is used by large corporations worldwide, but I prefer the other choice.

Peer-To-Peer(PTP) Networking is the ideal for the type of situation I described earlier. PTP means that every machine controls it's own drives just as a non-networked machine would, but is also able to treat the drives and peripherals on any other machine as its own.

Interworks produces the software for a PTP connection using the LAN Rover. With the creative name of ENLAN-DFS (EtherNet Local Area Network-Distributed File System), this package allows you to connect up to 5 machines sporting LAN Rovers. If you want more than 5, you buy another copy of ENLAN-DFS and you can have 10. This goes on until you reach the ENLAN maximum of around 10,000 machines or so. There's always a limit, isn't there? You know, I remember when that many connections would have allowed every Amiga on the face of the earth to be connected...Time flies when you're having fun...

Anyway, to install the ENLAN-DFS software is about as simple as copying a few files to your drive and editing a couple of text files. The documentation is clear and reasonably simple to follow (you don't need to be a rocket-scientist to do it, lucky for me). Once you've got it all set up, however, then the work begins. Well, if you want to call freeing up gobs and gobs of hard drive space work. That's right, you only need one copy of EVERYTHING. Of course, this is the point where I need to remind you that it is illegal to use most commercial software on a network without either buying a copy of the software for every machine that will be using it or paying a special network fee that some manufacturers offer. If you have any questions about the legality of using

**Moving data
on a network
system is just
as fast as
moving it
from a hard
drive.**

the software in this fashion, consult the product's Licensing Agreement which you "signed" the instant you opened the package in most cases. Or you could just call the manufacturer and ask...

With that out of the way, you can set up your system in such a way that means you only need to have one copy of each program, but you'll be able to use those programs on any machine connected to the network. If you don't think this could be that big a benefit, take the Toaster as an example. Each installment of the Toaster is well over twenty megs of hard drive space. On a three-system setup such as mine, that just freed forty more megs of hard drive space for me. (If you're one of the people sitting there saying "Yeah, but you've got gigs, what difference does 40 megs make?", the answer is this...every little bit helps. Those 40 megs mean 45 or 50 more rendered frames if you think about it.)

I'm going to emphasize once more that you CANNOT run off one copy without owning the rights to do so. This is a big issue in the computer marketplace and with the advent of affordable networking it is only going to get bigger...

So, the next question is...how does it work? Well, you've got to init the

boards first of all, a simple script which you can stash in the WBStartup handles this for you so the process will be automated. When you installed the software you set up a number of "NetWork Assigns" which boil down to "Export (Device)" where Device is the name of the drive you wish to make available to the network. On the machine that is going to be working with the now available drive you would say "Import (Device)". That's it. Of course, all of this can be accomplished with scripts as well. Once that it out of the way the operation is completely transparent. You'll never know it's there except for the fact that you have lots of drives available from everywhere.

If you think this sounds interesting, just think about these concepts for a minute...All of your LightWave default directories can be the same allowing you to simply click "Load Scene" and select your Scene file, then let ALL of your machines render different portions of the same animation (ps. Here's where you'll finally want to use that Frame Step option on the Scene panel!). In my situation this means that I can have an animation fully rendered in 1/3 the time it took me previously. If you're worried that the color output from the Toasters won't match

By having multiple Toaster machines networked, you can render files in parallel thereby reducing rendering time by a considerably amount.

when you go to tape, think about this: All of the machines can render, one of the machines can lay it off to tape meaning one output, one video level, one NTSC-encoder. In other words every image will look like it was rendered on one Toaster since it only came OUT of one Toaster. Meanwhile the other machines have begun rendering the next project.

Next question...how fast is it?

continued on page 60

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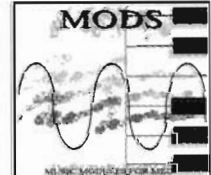
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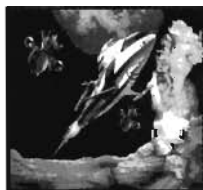
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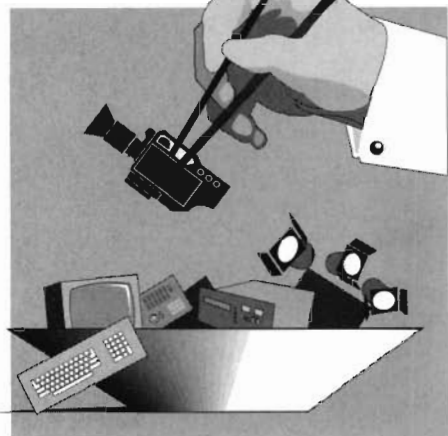


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ADPro 2.3

ASDG the makers of **Art Department Professional** will soon be shipping an ADPro upgrade. The new version 2.3 has a long list of added features. Among the most exciting is the ability to load and save framestores by the *NewTek's Video Toaster*. Some other additions is an "undo" command, ANIM-8 support, Painting support with Opal/Paint, and a more powerful **FRED**. Call ASDG for the upgrade requirements.

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Titling with Montage

Innovision Technology announces **MONTAGE** a new 24-BIT video titling program for the *Video Toaster*. **Montage** is an exciting new software solution for video titling, image composition and effects presentation for the Video Toaster. **Montage** integrates smoothly into the Toaster environment and provides professional quality text display, DVE transition sequencing and 16 million color graphics output. **Montage** is a must have for any toaster user.

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New from Allied Studios is **ProStream Plus**. **ProStream Plus** is a collection of Postscript Type-1 typefaces and graphics fonts for use with *Professional Page PageStream*, *Art Expression*, and *TypeSmith*. The package contains over 70 font and sells for \$70. Also available from Allied Studios is **Hot Foil Effects**. These thin sheets of foil with the use of your laser printer will produce an exciting rainbow of color over toner. The foils sell in either a 8" X 30 foot color rolls for \$12, or a 8" x 20 foot holographic roll. In addition Allied Studios has lower it's price on it's hot selling **1st Prize Toasted Fonts** package from \$69 to \$39.

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More than the Essentials

Rave Video of Burbank California, makers of the *Essentials* tutorial series, are now shipping tutorial tape covering **Lightwave 3D**. The tapes are hosted by *Lee Stranahan*. Starting with the essential of *Lightwave*, and progressing through the *Modeler*, and the use of surfaces these tapes will help you master *Lightwave*. Also soon to ship will be another tape covering flying logos. These tapes are HOT. Every Toaster owner should get the whole series. The cost are \$49 each and are available direct from Rave Video.

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Secrets of the Panasonic AG-1960

On the video tutorial scene, Kingsway Productions has released their latest contribution. Narrated by the ten year video veteran *Andrew Timmins*: His two hour offering uncovers the many hidden facets of Panasonic's S-VHS editing VCR. The basic setup and operation, features, accessories and modifications are explored. This is a must-have for the video professional who wishes to take control of their AG-1960.

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Silicon Prairie Software in now shipping **HyperCache Professional**. If you ever had to wait too long for a framestore to load, then get HyperCache Pro. This product improves the data transfer rate as much as 5 times. *HyperCache* will also speed up CD-ROM drives, this will help if *NewTek* ships the new *Toaster* software on CD-ROM. *HyperCache* is only \$49.95 plus \$3.00 S/H

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Playing With

SHADOWS

Part II

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Patrik Beck

This is the second part of two articles on how to improve the look of your graphics by adding shadows. Part one concerned itself primarily with some fairly common techniques with the color and shade modes in *Deluxe Paint*. It also included some suggestions on how to utilize these powers of shadowing in creating animations. If this is new to you, please refer to the previous article, because this time we will use those methods in unconventional ways to achieve some unique effects.

Hopefully you will be trying these things while at your computer. Some of the things described will make much more sense if you are attempting it while it is being described.

Putting Things in Perspective

If you have never played around with the perspective mode before, here is your chance. To start with, load a nice big color font and type in some text. Pick up the text as a brush and save it. Using the F2 color function, convert the brush to a single dark color and stamp it down. Pick up this single color text as an alternate brush. When you pick up this second brush, be sure to closely crop the top and bottom of the brush, so that the top and bottom edges of the brush are right at the edge of the text. Pull down the top menu bar and select "Perspective>Do" from the effects menu. You will notice that a cross hair appears in the center of the screen and that a wire frame has formed around the brush.

For our purposes we will want to handle the brush by the bottom edge. This can be done either from the pull down menu or by hitting Alt-X on the keyboard. The mouse pointer should now be at the bottom edge of the

brush. This is the axis upon which we want to rotate. The Amiga's numerical entry pad are used to rotate the brush in one degree increments (you A600 owners are on your own here). Keys seven and eight control the rotation on the X axis.

If you are not a master of geometry, just start punching numbers until you get the right slant. At some point you will be totally confused. When this happens you can reset all the rotations by hitting the "zero" key on the key pad. Notice that by entering different values of "X" rotation and moving the brush around the screen you obtain different amounts of "leaning". By having the brushes handle in one of the lower corners and performing the rotations on only the "X" axis, the bottom of the bottom of the perspective brush should always match the bottom of the original brush. When you get an angle that you think is appropriate, stamp it down. Place the full color brush on top of it to complete the picture. This gives the illusion that the text is standing on a plane. The Shadow can be in front of or behind the text, depending on where you want your imaginary light source to be. (See figure one.) (Bonus: This is nothing to do with shading, but if you use the full color brush and use the same perspective settings, you can simulate the text standing on a reflective surface.)

Getting Crazy With Animated Brushes

Remember last time when we created animations with a brush and the F1 and F5 keys to simulate shadows? Hold on to your hats, because now we will be doing the same thing with animated brushes. The most difficult part of creating shadows using animated brushes is getting the shadow brush and the full color brush to match up. What tends to happen is that the act of initializing the placement of the brush by stamping it down progresses the animbrush one frame. Also, if the number of frames in the preview are not an exact multiple of the number of frames of the animbrush, the shadow and the full color brush will be out of sync. (See figure two.) Where would you use this? How about when a plane flies in front of a cloud, or a bird flying in front of a building? I would like to give you some nice easy way of making sure that the shadow will always match the movement, but the best I can offer is a few tips to minimize the damage. Always start your animbrush on the same frame. This gives you a point of reference. When the animbrush has been placed in its shadow form by the use of the F5 shade function, it is sometimes difficult to determine which frame it was on at a particular point.



Figure 1

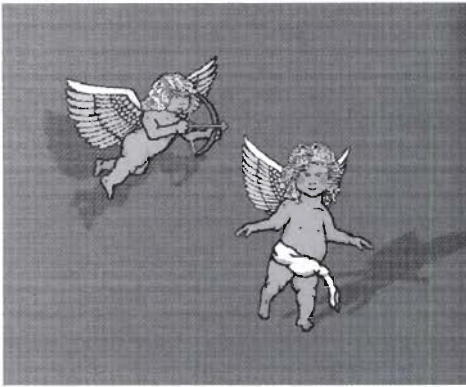


Figure 2

Remember that our aim for using the shade function to create shadows is subtly. I have been known to include a small number "1" in the corner of the first frame of the animbrush to help match frames. This number is later removed. If you have the shadow form moving across the screen the way you want it, SAVE IT! I have yet to use this technique and have it come out correctly the first time. As long as you have it saved, it does not matter what terrible thing you proceed to do with it.

Walking Things

Or bicycling things, it does not matter, as long as it is a cyclical brush that touches the ground. We will repeat the steps performed in the perspective section. This time we will be creating a full animation that we will be picking up as a new animbrush. Blank the screen and set the number of frames the same as that of the animbrush. Use the F2 function to give you a solid color animbrush. When you have the perspective setting you want, stamp down the brush. Go to the move requester and zero out all the settings. You will then tell the move requester to put the animbrush in the same place for all the frames. When the rendering is completed, leave the perspective mode and place the original animbrush over the recently generated shadow. The bottom of the shadow should touch the bottom of the feet



Figure 3

when it touches the ground (that's what they do, isn't it?). Pick up the whole deal as one animbrush. You now have an animbrush with an accurately rendered shadow. These work very well when you have the brush go walking off into the distance. If you are VERY ambitious you could render the animation with the subject and the shadow moving separately. This would be appropriate if you were to have a character walking in front of a street lamp on a dark corner. The top of the shadow would move drastically as it passed the light, and the using the perspective mode you can reproduce this effect accurately. (Figure three shows the difference between the use of F5 shading as a drop shadow and the use of perspective.) Whether it is easier for you to use the perspective mode or to manually create these shadows depends on your current mastery of the functions of Deluxe Paint. I would recommend that you at least give it a try to get a taste of the power that it represents.

Not for Sissy's

Using perspective to create shadows, whether static or animated, is not something you master all at once. It is easy to come up with cool stuff right away, and much longer to get the things you want on purpose. You may have to bite the bullet now and then and actually open the manual. Though once you have the basic concepts mastered, you will find yourself using them more and more. These concepts will stay the same no matter which Amiga you use. In fact, it is not even necessary to use an Amiga with Deluxe Paint. While they may seem a bit complicated now, they will allow you to create more attractive graphics more quickly. ■

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continued from page 35

Working with *OpalPaint's Palette Menu* is easy and very intuitive. Clicking the palette button on the "**Main Menu Bar**" reveals the *Palette Menu* requester. The requester has a window in the upper left corner that displays the entire spectrum of hues available (red, orange, yellow, green, blue, violet) with a moveable pair of crosshairs for easily selecting a specific shade of that color. The vertical slider next to the window adjusts the black level or saturation of the selected color. Underneath the window are RGB and HSV sliders which are constantly updated as the crosshairs and the saturation slider are moved. A color can also be selected by adjusting the RGB and HSV sliders as well.

A separate mixing area is included with the "**Palette Menu**" for blending new colors together, just like using an artist's palette to stir and blend two or more colors together, to create a new shade of color. Colors can also be smoothly blended together by using the "*wash*" function, much like mixing watercolors. Color spreads can be created by picking two end colors and clicking on the **spread control**. Twelve ready-made palettes are included with the program including *pastels, metals, skintones, camouflage, red, yellows, greens and blues* plus the default palette for easily selecting specific ranges of colors. Palettes can be saved and reloaded for later use as well.

An outstanding feature of *OpalPaint* is its ability to work with both area and color stencils. Area stencils allow for user-defined areas of the screen to be masked or protected and prevents those areas from being painted on. This is very useful when a specific area of an image can be easily defined such as a rectangular or circular area. It's not so easy when the area to be masked isn't an easily definable shape.

Color stencils can be used instead, to define which colors of the image are to be protected and which can be painted on. Up to six different ranges of colors can be defined using hue, saturation and value sliders to set the ranges. Colors can be either included or excluded from masking. The process is much like the color stencils found with *DPaint* except that more colors can be masked. A tutorial included with the program shows how easy it is to work with color stencils by changing the face of a clown from red to blue without affecting the rest of the image.

Color stencils are part of the *Paint Mode* found with *OpalPaint*. The other main modes are the **Stencil** and **Alpha-channel Modes**. All of the drawing tools and operators described above are part of the *Paint Mode* including the anti-aliasing, transparency and texture operators. The anti-aliasing operator uses a vertical slider that determines the percentage of anti-aliasing to be applied while painting and performing operations. (*Anti-aliasing is not performed unless the operator is activated.*) The transparency operator uses a vertical slider as well to set the percentage or degree of transparency to be applied to an operation, such as pasting semi-transparent objects over the background or blending two images together. Either *normal, RGB* or *HSV* can be selected. *Normal* simply defines the degree of global transparency with objects and images, while *RGB* can be used to selectively filter the red, green and blue components of the objects and images being affected. *HSV* is similar to *RGB* in that it also selectively filters the *Hue, Saturation* and *Value* components. For example, without changing the hue and saturation components of an object, and by only using the value component, the texture of an object can be transferred to a image.

The texture operator allows the texture from a brush to be applied to an image. A second image occupying the spare page can also be used with the rub-through option. Tile patterns can be created using a brush and applied with the texture operator. Remember that the various operators found with *OpalPaint* can interact with each other, allowing the transparency operator to work with the texture, to apply a semi-transparent texture to an image, as well as applying anti-aliasing at the same time.

The **Stencil Mode** controls the area stencil function of *OpalPaint* (color stencils are part of the **Paint Mode**). The **Alpha-channel Mode** provides an 8-bit transparency mask over an image and allows the user to define the degree of transparency of objects and images when using the genlock module, and overlaying computer graphics with an incoming video signal. The **Alpha-channel** allows the edges of objects and images to be softened relative to the video signal and performs an anti-aliasing function. The Alpha-channel also allows images to appear semi-transparent over the video signal, useful when keying graphics and text boxes.

In addition to the **Paint, Stencil** and **Alpha-channel** modes, *OpalPaint* offers image-processing capability via its **Modes** option. By clicking the **Modes** button (at the bottom of the Main Menu Bar), another window will appear with seventeen image-processing and effects modes including *contrast, posterize, additive, subtractive, brilliance, tint, gamma, mosaic and sharpen*. Spare modes are available that provide access to twenty-five additional modes such as *emboss, oil paint, gaussian, speckle, woodcut and add noise*. The spare modes are similar to the convolution matrices found with the latest version of *Art Department Professional*. All of the various modes modify the image and provide an easy way to create dramatic looking results using framegrabbed images or images loaded from an image library. The latest version of *Art Department Professional (2.3)* offers the ability to directly support *OpalPaint*. All of the various operators found with *ADPro* can be directly used with *OpalPaint*, meaning that both *ADPro* and *OpalPaint* can work on the same image.

Finally, by using the "**a**" key, an operator can be repeated over and over to achieve the desired effect. Brushes can be made either bigger or smaller by using the plus or minus keys, and a small window in the far right corner of the **Main Menu Bar** will always tell you what tool you are currently using. When using the **Modes** window, each of the various image-processing tools and convolution matrices are briefly described as well. While not intended as a tutorial, hopefully the above information will give a good idea of what an excellent 32-bit paint program *OpalPaint* really is and just how powerful all of its different drawing tools, operators and image-processing functions are. In future columns we will look at *OpalPaint* again and provide some helpful hints and useful tips on how to get the most out of this outstanding program. Until next time, enjoy your *OpalVision*!

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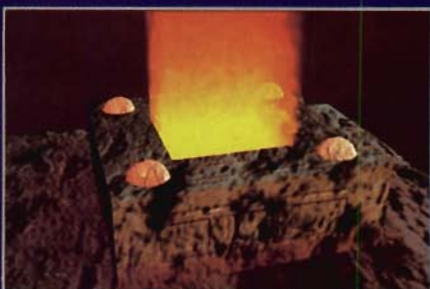
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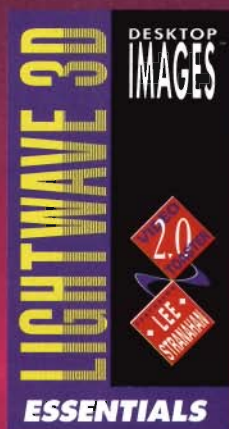
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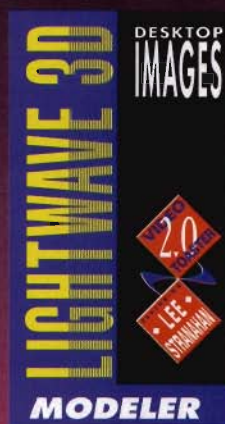
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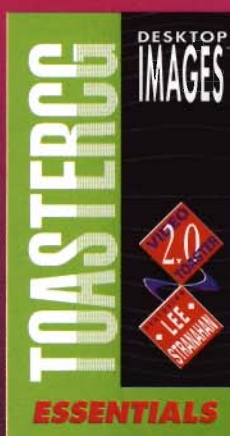
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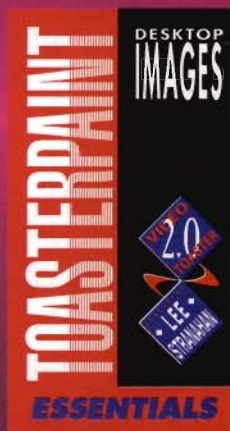
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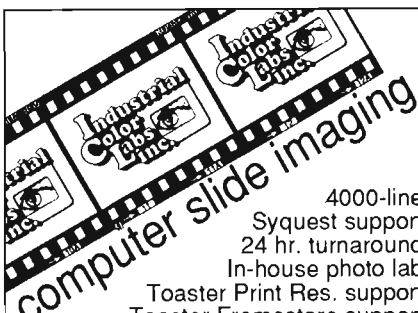
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continued from page 51

Let's just say that it's almost as fast as having a hard drives physically connected to your system. I can move a 500K image in around 2-3 seconds. What I'm trying to say to you is that it's fast enough that you'll hardly notice your using a network. There are some times that the systems slow down a bit, but I find it no worse than any normal multitasking operation. If you think about it, you are many times asking a particular drive to load something from one machine while another machine is writing to it. This is where you get to discover how well your drive "multitasks". Again, I have no complaints about the speed of operation.

In fact, the fine people over at Toaster Marmalade use exactly this technology in the production of their weekly television show "Mysteries From The Other Dominion" for the SciFi Channel. In addition, I would like to thank Mark and Ken there for their help in enlightening me to the possibilities of networking Toaster systems. Mark and I are currently working in conjunction with InterWorks on the development of some extremely cool network tools for LightWave users which will make the system even more useful.

So here comes the final question...how much is it? Well, ASDG's LAN Rovers go for about \$349 SRP per board. The InterWorks ENLAN-DFS software goes for a little over a hundred, allowing 5 systems per package. If this still seems too rich for your blood and the concept of how useful this would be to you hasn't clicked in your head, you should rethink it. I've got a WHOLE LOT of really, really good stuff in and for my LightWave systems, and I feel that this may well be the best investment I've ever made.

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explaining how AReXX scripts can be used to control most of the drawing and image-processing functions found with *ImageFX* as well.

While the above is a good overall description of the various image-processing and touch-up tools included with *ImageFX*, the program is so full of effects and other capabilities that it only barely scratches the surface. Suffice it to say that this is one program that will continue to both surprise and delight the user everytime they work with *ImageFX*.

Also included is an external hook program called *CineMorph* which is the morphing capability included with *ImageFX*. *CineMorph* is also sold by GVP as a standalone program and lists for \$89.00. When preparing to create a morphing sequence using *CineMorph*, both the source and destination images are displayed side by side. The vectors for controlling the motion of the morphing sequence are applied over both images using a grid or mesh with pre-attached vectors at regular intervals. Additional rows and columns

of vectors can be added to the grid if they are needed. When one of the vectors on the source image is activated it changes color. The corresponding vector on the destination image changes color as well, making it easy to see the relationship between the associated vectors on both the source and destination images.

The user can easily define the number of frames to be used when generating the morph and each of the images in the morphing sequence can be generated and saved as either Amiga native-display or true 24-bit files. ANIM OP-5 animations can also be generated and played back in real time as RAM animations. Finally, a single user-defined frame from the morphing sequence can be generated before rendering the entire sequence for previewing purposes.

ImageFX has a very good manual that clearly explains how the program really works and how it should be used. Each of the various image-processing and drawing tools are well-defined and thoroughly explained. Various appendices are included that explain the various file formats that the program supports, how the *ImageFX* Multi Processor (IMP) works, and also a collection of useful tips for creating different image-processing effects such as creating a charcoal drawing of an image or turning an image into a neon version of itself. A glossary of image-processing terms is included as well as an extensive index.

As an alternative to *MacroPaint*, *IV-24* users will find *ImageFX* to be an excellent choice as both a paint program and an image processor. Able to both preview and render images directly with the *IV-24*'s 24-bit frame buffer, *ImageFX* also offers morphing capability as well. *ImageFX* is a superb all-around image processor, offering standard effects such as scaling and image compositing and then adding additional effects such as converting an image into an oil painting of itself or adding ripples to an image. While comparisons to *Art Department Professional* are inevitable, *ImageFX* belongs in a category by itself. Given the program's extensive list of painting, image-processing and morphing functions plus a list price of only \$369.00, *ImageFX* is one program that should be a part of your everyday software collection.

ImageFX, by GVP

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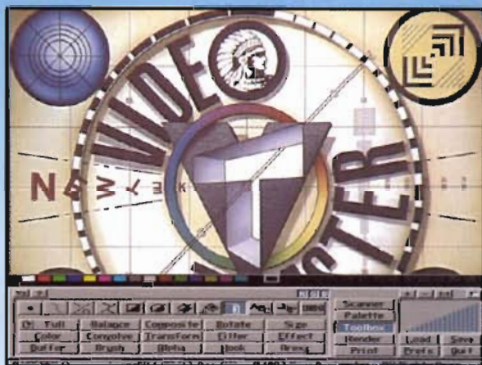
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ToasterFX™

Framestore Operators for GVP's ImageFX™ Software



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The ToasterFX framestore loader, saver and render modules, and GVP's ImageFX software are a complete paint and image processing package for NewTek's Video Toaster.

Replacing ToasterPaint, GVP's ImageFX offers complete 24 bit painting tools with an 8 bit alpha channel, airbrush tools, color balancing, composition controls, special effects filters (oil paint, ripple, disperse, distort...), morphing and more.

The ToasterFX LOAD module allows DIRECT loading of framestore files into ImageFX as 24 bit images. View the ENTIRE image on screen while painting, or choose any zoom level for detail work.

The ToasterFX SAVE module saves any image loaded or created in ImageFX directly to NewTek's framestore format.

Convert Video Toaster framestores DIRECTLY to and from Amiga IFF24, JPEG, Targa, TIFF, GIF, Alias formats and more.

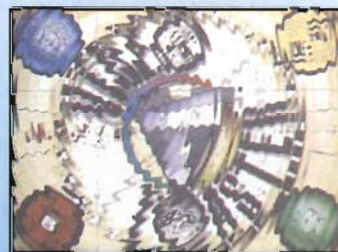
The RENDER module can directly display to the Video Toaster's framebuffers without leaving the ImageFX interface. (choose between DV1 or DV2).



ToasterFX completely integrates the operation of ImageFX with the Video Toaster, allowing direct access from the Toaster's switcher screen.

ToasterFX also includes stand-alone utilities for:

- **Converting Framestores to IFF24 images**
- **Converting IFF24 images to Framestores**
- **Displaying any Amiga screen directly to a Toaster framebuffer.**



Not just for painting, ToasterFX with ImageFX is also a powerful image processing and special effects generator for Toaster framestores.

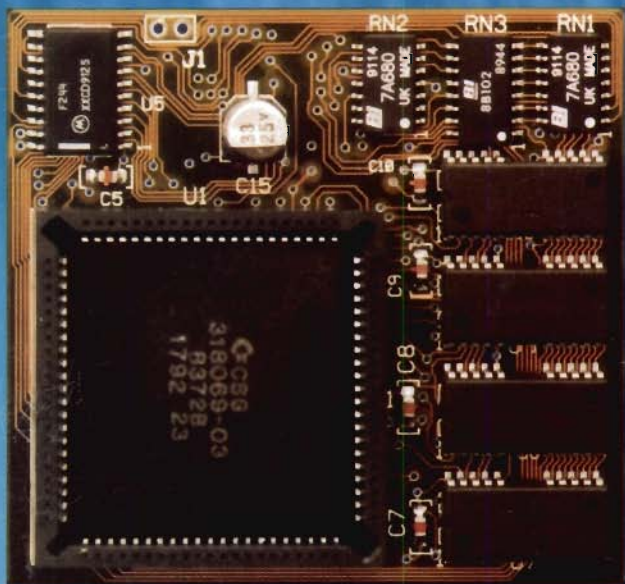
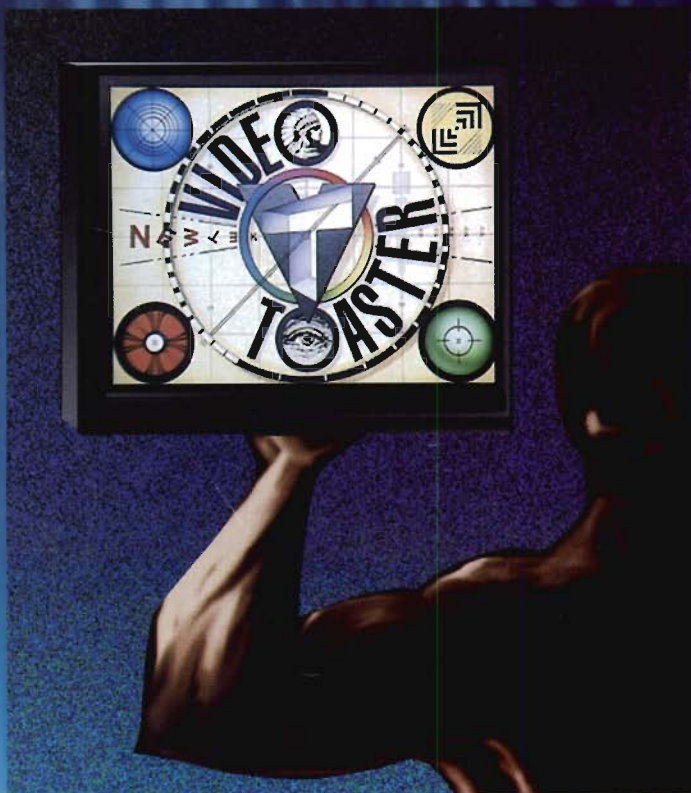
ToasterFX requires GVP's ImageFX for painting and image processing functions. Painting and image processing can be accomplished on any Amiga computer. NewTek's Video Toaster is required only for direct displaying of framestores to the Toaster's framebuffers.

**ToasterFX is available at your Video Toaster and Amiga dealer or directly from:
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