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Volume 2, Number 3

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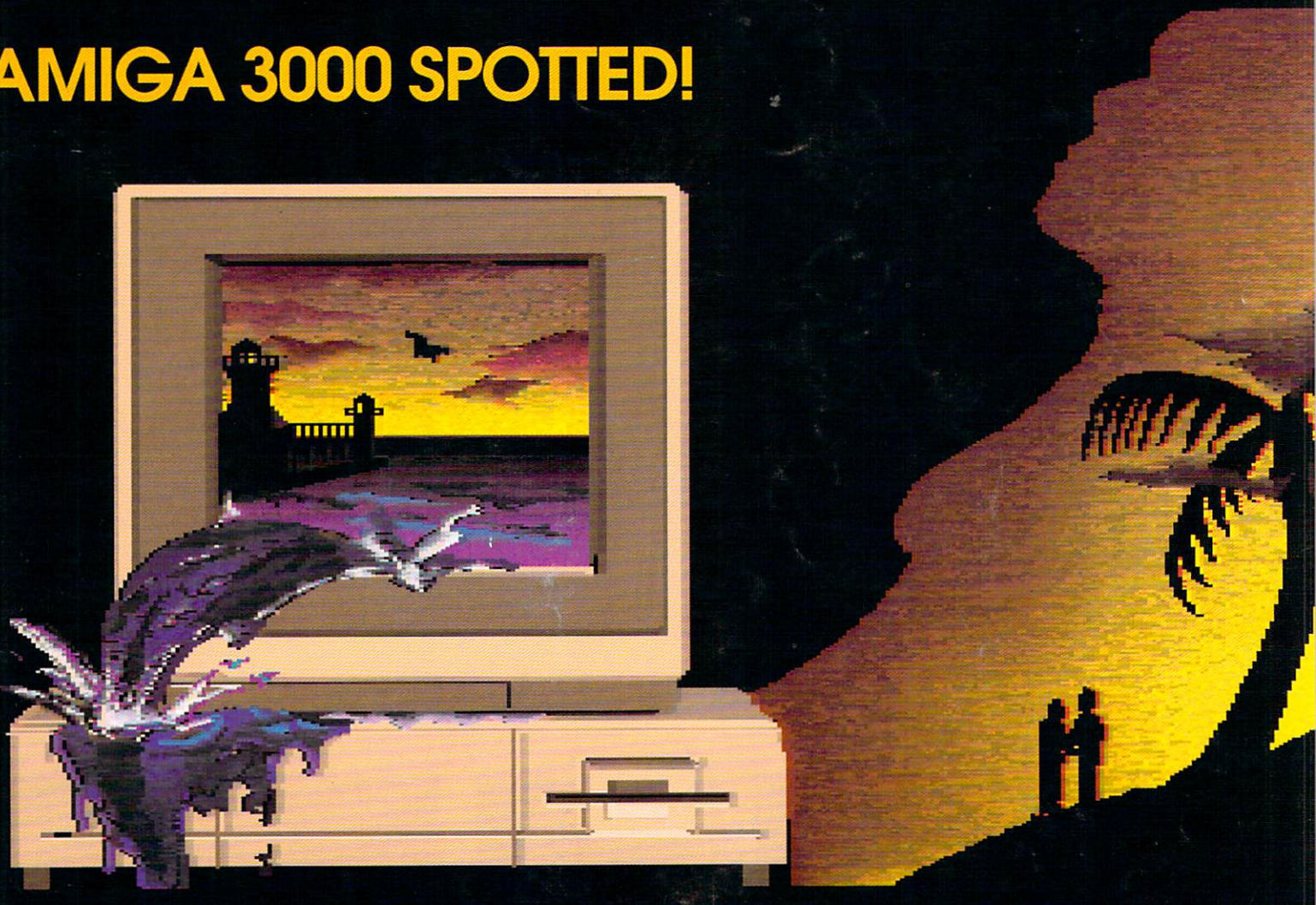

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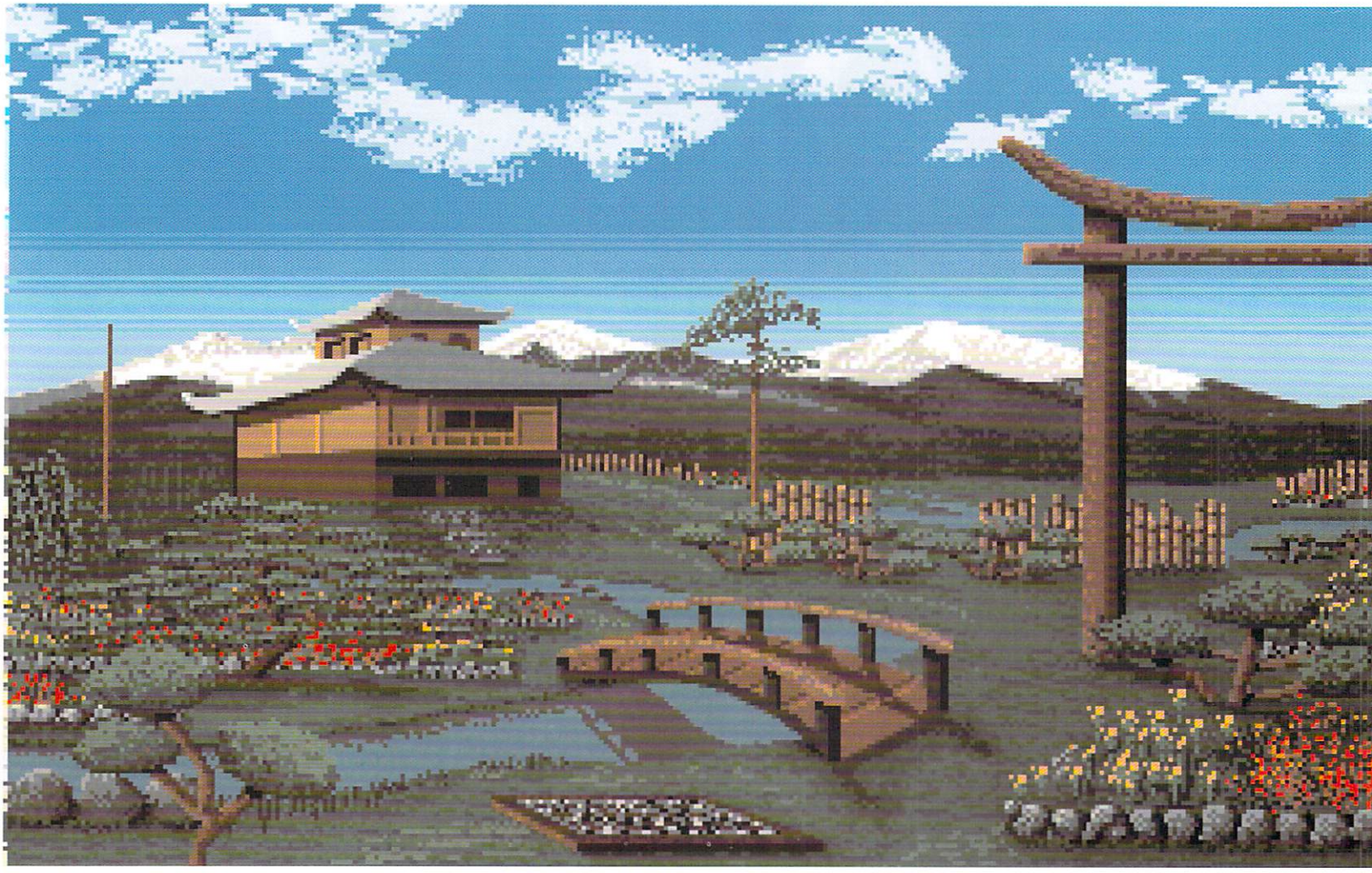

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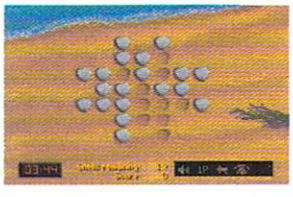
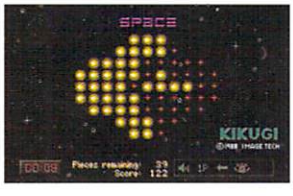

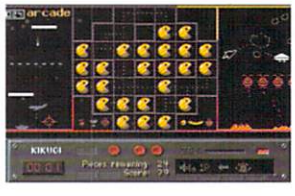

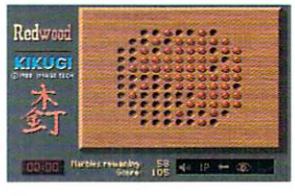

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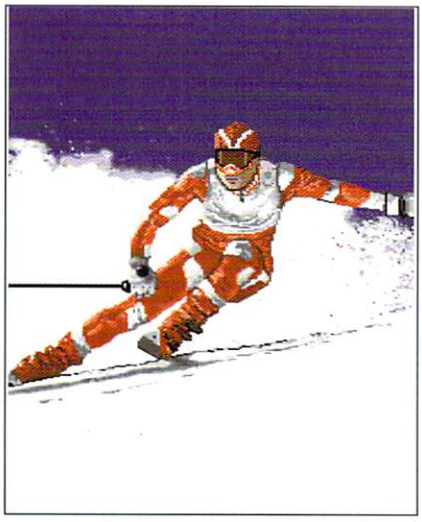
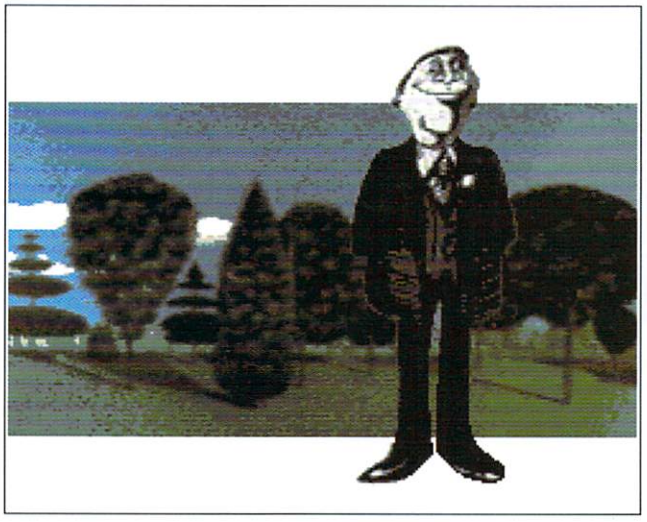
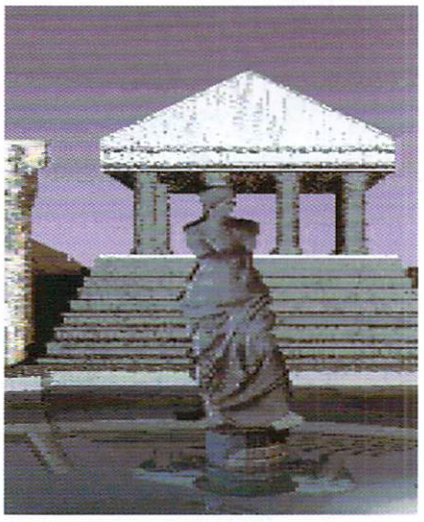


Downhill 26
Paintings, and more in this issue's Reader Gallery.



Animation 6
This and other animations in this issue's disk set.



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Distant lands and more.

Features

7 Jay's Way
Jay Gross, the editor of A.X. Magazine touches on some of what's in this issue. Take a moment, and let him tell you about some of the things to keep your eye out for.

14 Disk Based Items Collection
There are some things a paper magazine just can't offer you, such as Soundtracks, Animations, Utilities, Clipart, Source Code and more. Here are the highlights of just some of those items on this issue's disk collection.

Amiga News and New Products
Amiga news from COMDEX in Chicago, the National Computer Graphics Association show in Philadelphia, and incredible new Amiga graphics boards. Article by Jay Gross.

20 The Gossip Fence
A little bit of knowledge can be a dangerous thing. Total Fiction by Jay Gross.

Stop The Presses
The latest news. Paper articles have lag times, but disks don't. Here is the latest on a new Amiga computer and more.

Virus Warning
A purported newer version of VirusX3.3 is really a virus. Important Information.

WORKING DEMO: Font-Works ICON
Load an Amiga font, add a drop shadow, color, and a lot of other things. The demo does everything but save. You MUST use the icon! Included are some tips on how to make the best use of the demo version included in this issue. Have fun.

10 ABOUT the Font-Works Demo
PLEASE read this first, before running the Font-Works demo. The guru will haunt you if you don't!

FONTS: To Add To Your Own Workbench
Whether you are using a paint program, or wordprocessor that supports different fonts, you are probably tired of your typical, same old fonts. Here are some more fonts to add to your collection. Complete with an ICON utility to install them on your own disk.

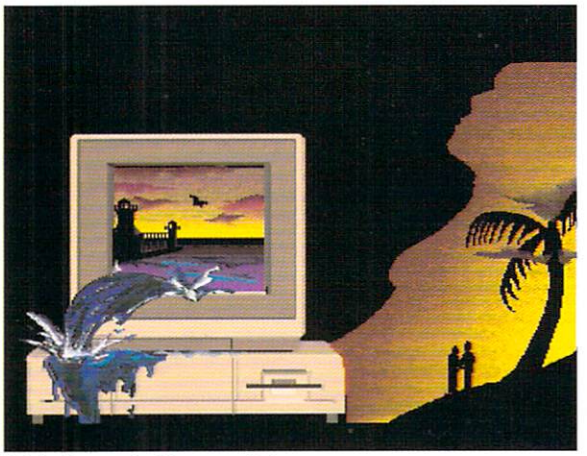
UTILITY: Workbench Toggle
This icon driven utility will let you switch between your normal Workbench, and a HIRES Workbench screen without going to preferences, and without rebooting.

ICONS: For Your Workbench
If you are tired of looking at those same old Workbench icons, here are a few more to spruce up your Workbench screens. Simply "drag" them over to your own Workbench disk.

16 What's New
From the latest in hardware add-ons, a new mouse, Word Perfect's Amiga policy, software, a new president at Commodore, and more.

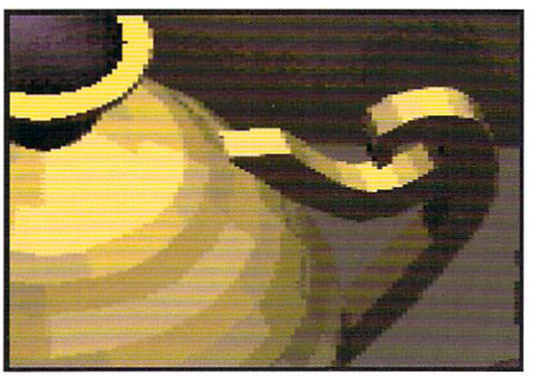
UTILITY: FreeSpace Indicator
This convenient icon driven utility will display in a small window exactly how much space you have free on your disk drives, memory and virtual RAM DISK (if you have one). When ever you are copying things, or just looking for a disk with a little extra space, this is just the ticket. Program by R. L. Stockton.

(Continued)



IThis Issue's Cover Art
This issue's cover art was painted by Robert T. Kauffman. His image won our Arts Contest several issues ago.

Deluxe Paint III 24
See other Deluxe Paint III images and review in this issue.



Caligari Shines 26
This and other images in the Reader Gallery, as well as on disk with the Caligari article.

Graphics & Animation

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24 DeluxePaint III: Even More "Deluxe"
Dan Silva's third generation of the king of paint programs is now shipping! Article by R. Shamms Mortier, PhD.

What's Up With Caligari?
The $2,000 3D art program readies a scaled-down version for normal humans! Article by R. Shamms Mortier, PhD.

26 A.X. Magazine's Reader Gallery
Just look at what some of our readers are doing with their Amigas!

PICTURE: Caligari Shows Off 1-MEG
A picture of... well, take a look. Done with Caligari and PhotonPaint. Art by R. Shamms Mortier. You MUST have 1 megabyte to see this picture.

PICTURE: Caligari Illustration #2
Another example of Caligari's talents. This one is converted to low-res. Art by R. Shamms Mortier. Ruined (converted to low-res) by the editors.

PICTURE: Caligari Illustration #3
One more example from Caligari. This one is converted to low-res. Art by R. Shamms Mortier. Ruined (converted to low-res) by the editors.

Picture Processing With PhotoSynthesis
Highly technical techniques for getting highly creative graphic results. Article by Gerald Hull.

PICTURE: The REAL IO
A Jovian moon lends its image to the image processing example.

PICTURE: IO At The Finish
The end result of image processing on the IO image, done by PhotoSynthesis.

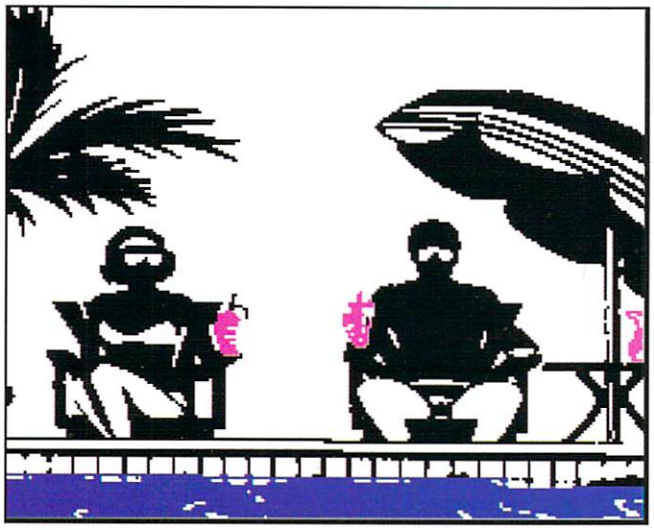
26 Image Processing Overview
An overview of several Image Processing packages available on the Amiga. Included are some ex amples of modified IFF images.

Productivity - Amigas in Business

9 The 80286 Amiga Bridgecard
All the information worth knowing about the latest in Bridgecard technology: 80286.

Calling Amiga Dealers...
A.X. wants to hear from Amiga dealers. Here's what we want to know. Top secret project, tell EVERYBODY!

PageStream: New DTP On The Block
Soft-Logik's PageStream is a new desktop publishing program for the Amiga. Article with screenshot illustrations by Shamms Mortier



Animation 6
Tropical Animation shows off the abilities of Dleuxe Paint III.

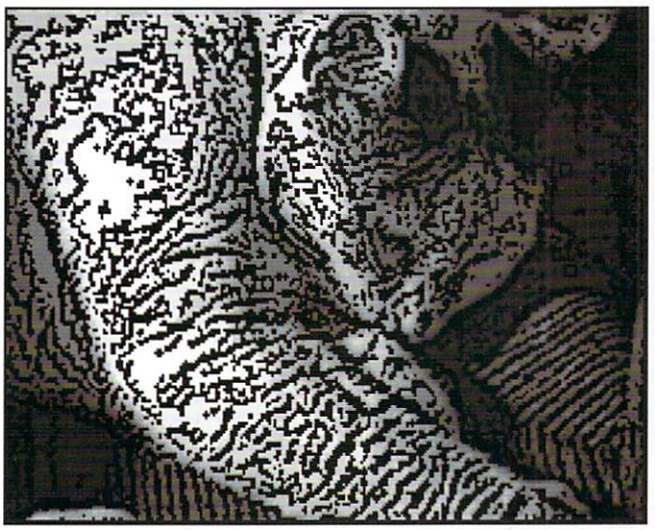


Image Processing 22
Imagery you can produce from normal IFF pictures.

PageStream: A Second Opinion
Some like it, some like it not. This is a another view of PageStream. Review by Hap Azziz.

SPREADSHEET: Template - Expenses
This template will help you keep track of expenses on a business trip. To use this, you need Analyze! or some other 123 compatible spreadsheet program. You can use this application as is, or adapt it to your own needs.

Professional Page Template: Business Stationary
This version 1.2 template, creates business cards, letterheads, and business #10 envelopes on your Amiga. Requires Professional Page 1.2.

HARDWARE NEWS: SubSystem 500
Adding A2000 cards to an A500 with the SubSystem 500 by Pacific Peripherals . Article by Jonathan Hardy.

HELP WANTED!
A.X. Magazine is compiling information on Amiga education applications. Please tell us of any that you know about. Here's the details.

Technical Section

Draw Routines in Modula-II
The adventure continues. More neat features to the program. Article, program, and Modula-II source code by Rich Bielak.

SOURCE CODE: Modula-II Draw
The .MOD and .DEF source files for the demonstration program. Draw are on disk #3 in the DRAW directory.

Object Oriented Programming
First of a series on C++ and object oriented programming on the Amiga. Article by John E. Ramspott.

Introduction X Window System
X-Windows on the Amiga. What is it? Who needs it? How does it Work? Article by John E. Ramspott.

Using Lint
Lint is a program for helping you program in C by finding those errors. Article by Mike Hubbartt.

Music & MIDI

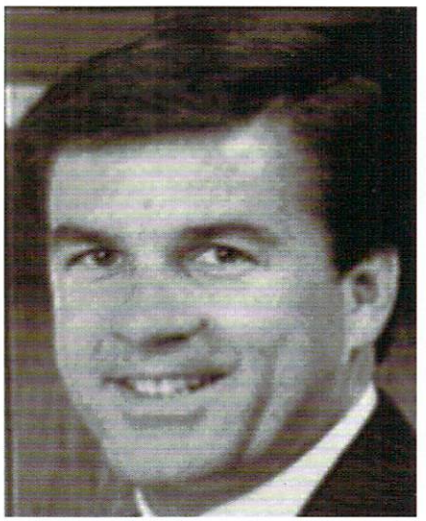
DMCS Printouts: The Complete Story
The full story on how to get good-looking music scores out of Deluxe Music. PART 1. Article by John Thompson.

"M" - Let Your Amiga Do The Walking
This new algorithmic composer for the Amiga gets overviewed by our resident musician, Glen Deskin. He takes a look at what M is, and what it can do for you musically.

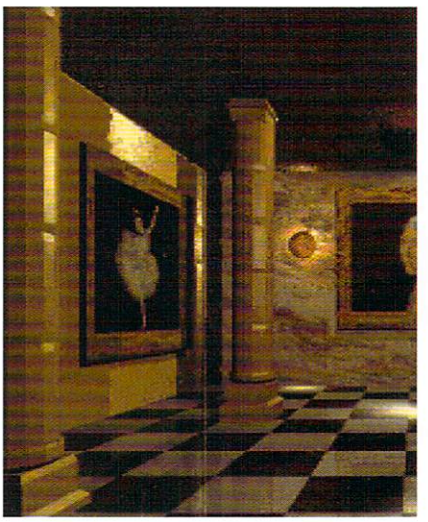
"M" The Music
This is your chance to actually hear how "M", and your Amiga, actually composed music. We set the parameters, then let the Amiga compose to its hearts desire. And this is what it came up with. IN STEREO.

DMCS Printouts: The Story Continues
More tips and tricks for getting good-looking scores out of DMCS. PART 2 Article by John Thompson - continued from PART 1.

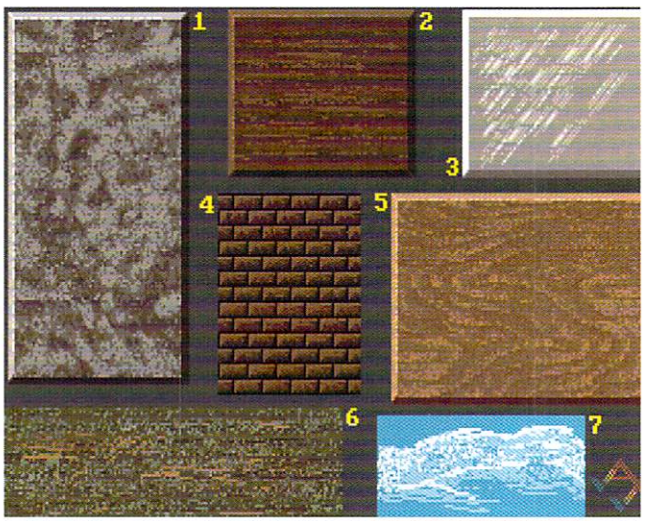
(Continued)



A New President 16
Another turnover at Commodore.



Turbo Silver 26
This and other creative tracings in this issue's Reader Gallery.



A.X. ClipArt
Use this IFF image (on disk) to create textures for your own artwork.

A New Standard MIDI File Format
It is about time. Now you can move sequences back and forth between different MIDI programs easily, get sequences from other computers and convert them for the Amiga and more. By Glen Deskin.

Getting Started With Amiga Music
A beginner's guide to Amiga music software. What does what, and how well. Article by Sally Ann Hubbard.

Music Sampler Library
Here's how you can get disks of A.X.'s music columnist's creations. PD and shareware disk library by Sally Ann Hubbard.

CALL FOR MUSIC SCORES
Do you have original Sonix scores to share with the known universe? How about A.X.'s readers for a start? Send 'em! See authors' guides.

MUSIC: Rockin' Bach
The music you hear is the A.X. Theme Song for this issue, Rockin' Bach. Original Sonix music composition by John Thompson.

MUSIC: Tropical Treats
This is music from the land of eternal summertime. Original Sonix music composition by John Thompson

Telecommunications

TeleColumn
News, views and a teensy bit of gossip from BBS-land. Column by Chris Bailey.

BBS Spotlight
Taking a closer look at a couple of Amiga BBS's around the country. Column by Chris Bailey.

Protocols Continued Again
Everything you never even wanted to know about good ol' Xmodem.

8 PD DISK DIRECTORY
This issue's PD Disk has lots of neat stuff. Here's the disk directory. Disk edited and assembled by Chris Bailey.

About the PD Disk
A little explanation is in order - for this issue's PDDisk. Article by Chris Bailey.

Fresh Fish - PART 1
Listings of the latest Fred Fish Amiga Freely Distributable disk library. This listing is for FF Disk #201 through FF Disk #210.

Fresh Fish - PART 2
Listings of the latest Fred Fish Amiga Freely Distributable disk library. This listing is for FF Disk # 179 through FF Disk #200.

Aging Fish. . .
Listings of the latest Fred Fish Amiga Freely Distributable disk library. This listing is for FF Disk # 173 through FF Disk # 178.

Elder Fish
Listings of the latest Fred Fish Amiga Freely Distributable disk library. This listing is for FF Disk # 152 through FF Disk # 172.

Entertainment

You're Cordially NOT Invited...
Mindscape's Uninvited puts you in the drivers seat. Then the fun starts... Review by Kevin C. Rohrer.

Blast! ... From the Past
Incognito's Footman and Demonware's Evil Garden. Arcades revisited. Article and reviews by John E. Ramspott.

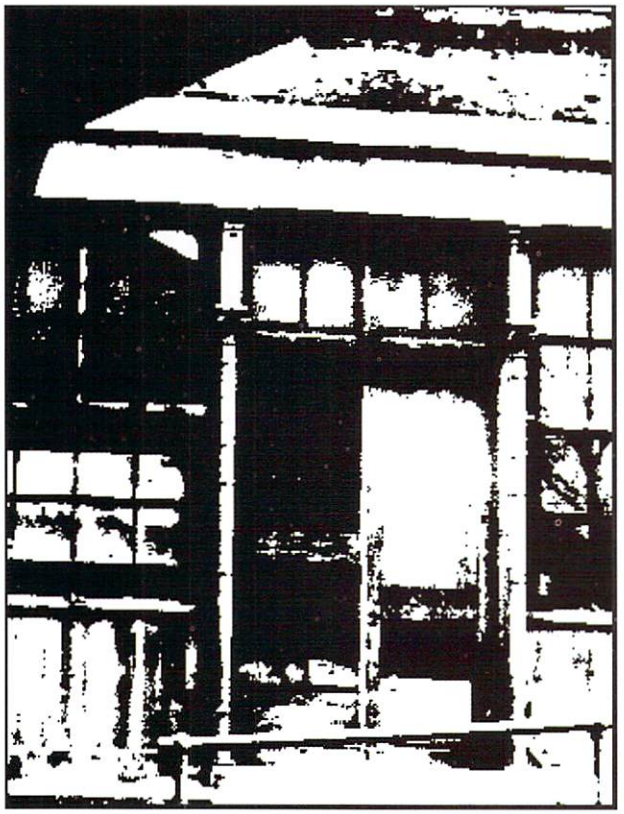
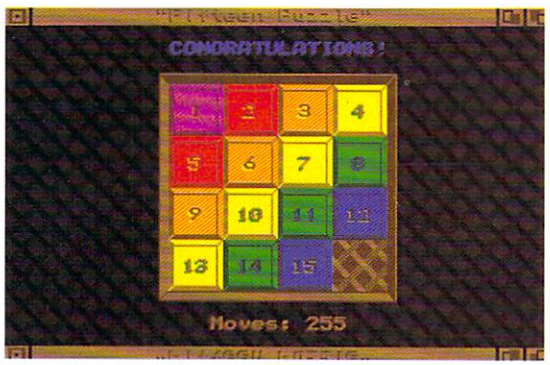
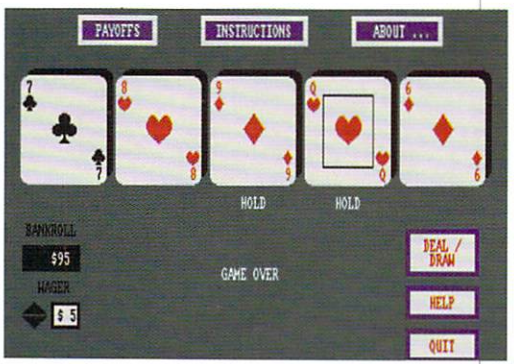


Image Processing 22
This and other stark imagery can be generated from your everyday IFFs.



15 - The Game
With a simple name, and a simple concept, but no simple task. On disk, for your pleasure.



VideoPoker
Have a go at the latest craze, VidePoker. Available on this issue's disk set.

Falcon vs FA/18
The latest salvos in the Amiga Flight Simulation wars. Review by Mike Hubbartt.

How 'Bout Them Hobbits!
Looking around Tolkein's fantasy world with War in Middle Earth. Review by Mike Hubbartt.

Three New Ones From Sega
Alien Syndrome, Outrun and Space Harrier - new Amiga arcade-style games. Article and reviews by John E. Ramspott

PROGRAM: DrawPoker ICON!
Get your odds charts and your rabbit's foot out. This is the REAL THING! Program by NEEDTHIS - run this from ICON ONLY!!!

A Second Opinion. . .
. . .on the topic "What Makes A Great Game Great." Article by Mike Hubbartt.

The Meanest Streets
Double Dragon and Techno Cop, gorey games for the action-oriented. Article and reviews by John E. Ramspott.

Painting Pictures Under Duress
PowerStyx: Like playing with Deluxe Paint's polygon fill option. Review by John E. Ramspott.

Administrivia

The Ami Exchange Social Register
Here's where and how to send what and to whom at A.X. Magazine.

Artists, Get Published!
An engraved invitation to artists to submit work for use in A.X. Magazine.

Ami Exchange Contents: 1.4
Now THIS was a choice issue. A number one, Grade A. See for yourself.

Ami Exchange Contents: 2.1
You CAN'T go any longer without this one. Back issues are available.

Ami Exchange Contents: 2.2
This is the landmark, first issue with PAPER section. Collector's edition.

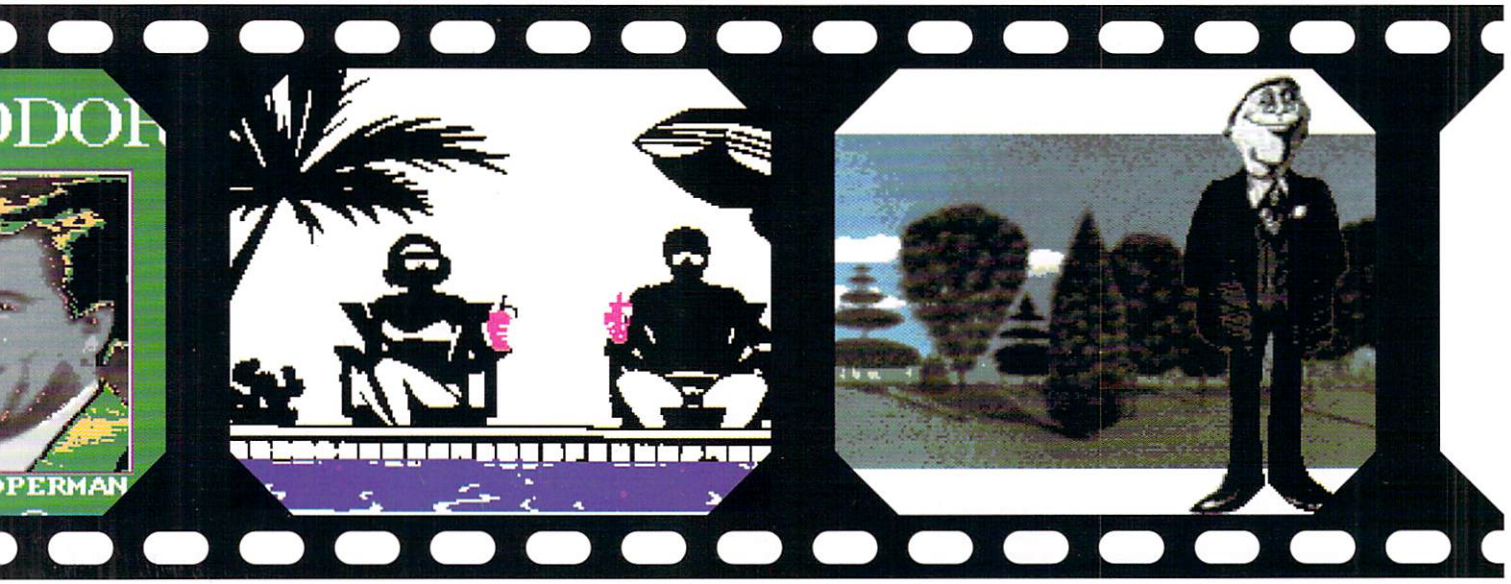
Ami Exchange Special Issue 1.3
A.X. Magazine offers Special Issue collections of the best PD Games, Music, Animation, Utilities, Graphics and more! This is the contents of Special Issue 1.3.

The Just For Fun Department
Bud and Sally take a turn at Battle Chest. Er, Chesssssssss. Humor by Everitt Mickey.

IMPORTANT! Note To 512-K Amiga Users
Items marked ICON require 1-MEG to view from within the user interface. If you have 512k, please use the Workbench ICONS to get to these items.

User Groups: Amigoids Everywhere
Looking for other user groups? Look here. Add yours, too.

Animations



In This Issue

Animations, animations and more animations. In this issue, we are featuring three animations. from Zeotrope by Antic, and Deluxe Paint III from Electronic Arts.

Animations In This Issue

This issue, we included three animations for your viewing pleasure. They will all run on a 512k Amiga, and can all be executed from their icons. Two of the animations were created with Deluxe Paint III, and one was created with Zeotrope from Antic.

Revolving CEOs

This animtion was created with Zeotrope and demonstrates the clip and rotate functions supported by Zeotrope. The animation can be run from its icon by double clicking on the Revolving CEOs icon.

If you want to move this animation, simply drag its icon out of the disk it is in, and onto whichever disk you want it stored on. One thing to remember is to also drag the player program along with the animation. The player program, QuickRIF, can also be found by its icon in the same place as the Revolving CEOs icon. So drag that QuickRIF icon to the same location as the Revolving CEOs icon.

Tropical Breeze

The Tropical Breeze animation was created with Deluxe Paint III. This animation was done to illustrate Deluxe Paint III's easy ability to create colorful animations frame by frame. You can also run Tropical Breeze its icon by double clicking on it.

Moving this animation is just as easy as the other animation. Simply drag its icon to wherever you want it (your own floppy, a hard disk, etc.) Keep in mind that there is also an associated player program called DPplayer. So make sure to take that icon with you when you move the Tropical Breeze icon.

SummerTime SummerTime

This second Deluxe Paint III animation demonstrates a frame by frame animation created by moving some objects around in perspective. As before, you can run this one from its icon as well.

When moving this animation, it too uses the DPplayer program, so make sure to take it with you also.

All of these animations are Copyright 1989 by A.X. Productions, and are not distributable. Permission is granted for the private use of these animations by our readers. You may move them onto your own disk, but please do not distribute them to networks, BBSs and the like. Thank you.

Jay's Way

Jay Gross, the editor of A.X. Magazine, touches on some of what's in this issue. There is quite a lot of information in each issue. Take a moment, and let Jay tell you about some of the things to keep your eyes open for.

Are you bored? Is your whole life a dull shade of committee-induced, medium gray? Well, what you need is a FONT CHANGE! Nothing spices up living like a new font. It's like a picnic on a spring Sunday. Without aunts, even. Yes, there are those of us whose whole lives are built around fonts, and we're the lucky ones in the human race, for the most part. We don't pay big bucks to watch people golf in Georgia, or sit on uncomfortable benches after fighting incredibly thick traffic to watch people play football. In the rain. No, us font fanciers don't have to clean cages or disembowel marine creatures to get our thrills. Just show us a piece of printed matter with a nice new font on it, and our lives are complete.

Go SERIFS! Kill 'em, Em Spaces! Yay, KERNING PAIRS!!! These are the peaceful calls of the font fanatic. And now you know the truth for sure. Your faithful editor is a font freak. Dedicated (or is that dessicated?). So, in this edition of Ami Exchange magazine is a small offering for all the other font freaks out there in the Amiga land. Font-Works is by ACS Software. They wrote Deluxe Productions, which is sold by Electronic Arts, as well as Amiga Grade Manager, Music Student, and Learning Curve, all titles for educators.

Font-Works is a nice font program, and that's putting it mildly. Alas, many of the program's really flashy features had to be disabled to fit it into the magazine, but there's enough here to get the feel of the program. Font-Works is now shipping (after over two YEARS in development!).

There's a new desktop publishing title on the Amiga market, too. It's PageStream, and since two of A.X.'s reviewers came up with somewhat contrasting opinions on it, both articles are included here. You pays your money and you takes your choice. PageStream is a serious product that you won't want to pass over lightly if you're considering a venture into desktop publishing. However, it suffers from many non-Amiga conventions, having originated on a certain other computer that starts with an "A" but isn't "Amiga." Some of those things - elements of the user interface, for example - are an improvement over what has become usual on the Amiga, but some of it is definitely not. Let the reviewers take it over from here.

Did you look for the three-button mouse article in the last issue and never find it? It wasn't there. Disk space ran out, as always, before everything that needed to be told got said. Well, it's here this time, with an extra two months of testing time to help its reviewer out. The three-button Amiga mouse (check rumor mills on the third button's use in AmigaDOS 1.4) is by Southern Technologies.

The big topic this issue is image manipulation. On the Amiga, the champion of desktop graphics computers, graphics manipulation is a refined art indeed, and getting more so all the time. Back in the early days, you had to reload DeluxePaint just to change picture resolutions. These days, there's DeluxePaint III, which now supports almost-automatic animation; there's Deluxe PhotoLab which can cut and paste from one resolution and screen mode to another, and there's the brand-new, long-promised Photon Paint 2.0 (MicroIllusions), which does some pure magic with IFF images and arbitrary shapes. Then there is a whole class of software for doing image editing, changing and manipulating - the likes of Butcher 2.0, and PixMate.

Gerald Hull kicks off this section with a roundup article on image manipulation on the Amiga. To round out his roundup, he also provides an article on Photo Synthesis, a rather unusual piece of software whose purpose in life is the type of image processing that will turn technical minds on, mainly. Have a look at the image manipulation examples, too. There are some NICE images! Some wierd stuff, too, but you're on your own to figure out which is which. And can you find the kitty in all those squiggly black lines?

For graphics and animation, one of the most serious and far-reaching products on the Amiga market is Caligari. This product, however, is not the sort of thing you'd expect to go into your local dealership and buy off the shelf. Its list price is $2000. Yes, Caligari is THAT serious a product. However, the Caligari folks are now putting out a scaled-down version for us regular folks. (Real Soon Now). Anyway, there must be a reason people pay two thousand smackers for a piece of software for the Amiga, and there is. Shamms Mortier fills us in on what Caligari is, what it does, why it costs so much, and why he plunked down the money to get it. Have a look at the Caligari-generated pictures, too, and then maybe you'll understand.

The big news on the Amiga art scene is DeluxePaint III. Pictures, AND animation. Coverage aplenty, here, of course. Check it out.

This issue's technical section is burgeoning with information about the things nearest and dearest to the hearts of the technically oriented. Getting things off to a Mod start, Richie Bielak continues his series on Modula II routines for draw/paint programming on the Amiga. The demonstration program, Draw, is getting neat, too. With a screen saver running as a separate task (to take care of saving IFFs,) you could multitask Draw in the background and have a neat electronic doodle pad at your fingertips. Then there's a thorough discussion of the X Window System by John Ramspott, who also takes on the task() of explaining Lattice's new C++. John starts by explaining what is Object Oriented Programming, which is what C++ enables.

If music's your thing, there's music here for you. Of course, with such a wide reading audience, there's no way to make absolutely everybody happy with the title music, so why not mix a little of two worlds into one. Rock and Bach. That's John Thompson's "theme song" this issue. It's got a classical sound and a rock beat, but it sounds better musically than it does in words. Promise! Okay, okay, if you'd rather Reggae, no problem. There's "Calypso," too. John also lets us in on some of his secrets for getting good printouts from Electronic Arts' Deluxe Music Construction Set. For getting good-looking scores, this is the definitive word. Many of John's tips and tricks apply to any thing you use to score with, even non-Amiga ones, too.

So far, this just barely hits a few of the high points of the magazine, and here the space is almost gone. Well, add the news items, regular columns, features, gossip, and new stuff - on music, telecommunications, graphics, animation, and programming, and you've got the usual Ami Exchange, out-and-out KABOODLE of information, programs, pictures, music and fun. As always, there's more more more on the three-disk set that comes with the magazine, and last-minute things will always be on disk, since these paper sections have to be printed in the old-tech, normal way. J:

Ami Exchange's
AMIGA
Software & Information
More affectionately known as A.X. Magazine

Clyde R. Wallace - *Publisher*
Jay A. Gross - *Editor*
Bonnifant Heeja Han - *Creative Director*
Dana M. Dominiak - *Art Director*
Chris Bailey - *Telecommunications and PD Disk editor*
Doug Smoak - *Amiga engineering and technical consultant*
Dwin Craig - *Advisor*
Stephen Miller - *Legal Advisor*

Authors, Artists and Contributors for Issue 2.3

Hap Azziz, Chris Bailey, Rich Bielak, Glen Deskin, Jonathan Hardy, John Henry, Sall Ann Hubbard, Mike Hubbartt, Gerald Hull, Shane Mecklenburger, Everitt Mickey, Shamms Mortier, Stephan Pietrowicz, John Ramspott, Kevin Rohrer, John Thompson

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Editorial Offices
134A Clearstream Valley
Lexington, SC 29072
(803) 957-1106

Canadian Operations
CompuArt
4855 DeMaisoneuve
Montreal Quebec H3Z1M6
(514)483-2080

Corporate Offices
7010 Palamar Turn
Seabrook, MD 20706
(301)439-1151
FAX(301)794-7327

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A.X. Magazine's PD Disk Contents For Issue 2.3

Available to A.X. Magazine readers for only $2.50! See reader survey for details.

ARP 1.3
The big news for this PD Disk is the release of the AmigaDOS Replacement Commands version 1.3. This release of the commands is entirely compatible with AmigaDOS 1.3, and also includes many extra programs that AmigaDOS doesn't offer. Perhaps one of the nicest features about this release is the ArpInstall program - simply activate it from the CLI or from its icon, and a series of screens with gadgets will walk you through the installation process, asking you which commands you wish to install into your system. Also new to this release is the Arp Shell, or ASH, which takes the functionality of 1.3 Workbench's shell and adds to it. Unfortunately, complete documents to the commands are not yet provided, however there are text files in this directory explaining the major differences.

QView - Yet Another Text Viewer
QView is a very small (less than 4K) text file viewer that is a prime target for installation on your system disk. Features include FAST text display, ASCII search, hex display mode, Workbench activation, and keyboard control of all commands. All of the text files on this issue's PD Disk are activated using QView when you select them from Workbench. QView is a Shareware program by Lyman R. Epp, and the requested donation is $10.

DiskStorage Deluxe 1.10
DiskStorage Deluxe (DSD) is a handy tool that displays how much free space you have left on each device in your system. This little beauty opens up a window displaying all currently mounted devices, how much space they have free, their total amount of storage, available memory, and much more information. You can even set an alarm to go off when a certain device gets below a certain limit of free space. There is an option to modify the window to display only the devices you want, as well as an option to bring up DSD on the screen of your choice. DiskStorage Deluxe is by Khalid Aldoseri.

Calc - the ultimate calculator
Calc is a very nice Intuition-oriented programmer's calculator with functions for conversion between various number bases, keyboard support, and much much more. It is one of the nicest calculators that I have yet to see. Full source code in Modula-2 (for the M2Sprint development system) is included. Calc is by Martin Taillefer.

Radioll - Sculpt-Animate 4D shines
This animation by Larry D. Crandall simulates a Radiometer rotating. The rendering is superb, and all of the edges on the objects are crisp and sharp. If you've been curious as to what Sculpt-Animate 4D can do, this is an excellent example of how superior the rendered objects look compared to previous versions of Sculpt.

Tapestry - another backdrop program
Tapestry is a CLI-Only program that functions in a similar manner to the public domain program "DropCloth" by taking an IFF picture and placing it behind the Workbench screen. This program functions differently in that it only takes up one of the Workbench's colors, and "bleeds" the picture through color 0 in a fashion similar to a Genlock. Also included in the "backdrops" directory are a number of pictures suitable for using with Tapestry. Tapestry is by Joe Hitchens.

SuperView2 - the ultimate IFF viewer
SuperView is the latest version of a superb program for viewing of IFF picture files. Options are available for overscan support, color cycling, icon activation, multiple files, viewing of the first frame of an ANIM file, and much more. Also, SuperView is written in pure Assembly so it is small (less than 8K), and can be made resident under 1.3. There are also a couple of nice IFF pictures included in the SuperView directory. All of the picture files on this PD Disk are viewed by SuperView when their icon is selected. SuperView is Shareware from David Grothe, and the suggested donation is $10.

Watcher - all eyes are on you
What would a PD Disk be without a display hack? Watcher is based on a similar program that runs on Sun workstations, and is written by Andrew Folkins. Also, the full C source code to Watcher is included.

This volume of the A.X. Public Domain disk was selected, assembled, and organized by Chris Bailey.

The 80286 BRIDGECARD

The Amiga 80286-based Bridgeboard has shipped to dealers. The new Bridgeboard adds IBM-PC-AT compatibility to the Amiga 2000 through the machine's dual buss. It "bridges" the Amiga and the MS-DOS-compatible sides of the buss with an 80286 AT-on-a-card.

The new Amiga 2286D Bridgeboard runs at 8 mHz clock speed. It has one megabyte of main memory on the card, configured as 640-K base memory plus 384-K Extended memory. Additional memory can be added by expanding the MS-DOS buss. AT's allow up to 16 megabytes total, segmented by the Intel 80286 microprocessor.

Amiga's '286 Bridge comes with MS-DOS 3.3, and operation in the Amiga requires at least level 3.2 of MS-DOS in order to work. In other words, you can't load up DOS 2.11 to run an old application on your Bridgeboard. The new card also automatically configures itself to the Amiga system, and the Amiga recognizes it on startup without operator intervention. It can have its own harddisk (or other) storage devices which can autoboot the MS-DOS side. In fact, ANY Amiga device can be configured to boot the Bridgeboard. That includes the RAD: ramdisk supported under AmigaDOS 1.3.

In addition, the Bridgeboard and the Amiga can share harddisk devices transparently to both the Bridge and the Amiga. Neither one of them will know the other one has space reserved.

The card comes with an empty socket for a 80287 match coprocessor chip, which the user can add if needed. Math coprocessors are useful mainly for math-intensive applications. Hardwarewise, the Bridgeboard supports any MS-DOS-compatible bus expansion device. That can include memory, display adapters (EGA, VGA), storage devices, modems, etc.

A new feature of the '286 Bridge is that it honors the Amiga mouse as though it were a Microsoft mouse for any applications that support that mouse on the MS-DOS side. The MS-DOS family of computers hasn't become too mouse-oriented, but many of the graphics-based applications, such as page layout programs, need a mouse. The use of the Amiga one saves both a slot and an expenditure.

The '286 Bridge also permits use of the Amiga's parallel port by PC applications and comes with software utilities for transferring files readily between the two computers. The Bridge side emulates the IBM-PC-AT keyboard on the Amiga keyboard, too.

AT-level machines don't much like the taste of those vanilla 360-K floppy disks, so the new Bridgeboard comes with a 1.2 megabyte, AT-style floppy disk drive for installation into the Amiga 2000 or A2500 drive bay.

The Bridgeboard's display can go out through the regular Amiga monitor, or one of the standard display adapters can be added to give it its own display. If it goes through the Amiga monitor, the card's display can be monochrome or "CGA" color, or even both at the same time. The Bridge's displays are handled as windows by the Amiga, and any Bridge windows are considered "tasks" by the Amiga system, except that those Bridge tasks have their own associated hardware.

Along with the new card, Commodore has shipped a new version of the Janus Services Software which facilitates the inter-process comunication necessary to have Amiga and MS-DOS computers running at the same time in the same box without shorting each other out - the design of the two systems is vastly different.

The basics of this "services" software are common to the Amiga 1000's Sidecar, as well as the A2088 Bridgeboard, both of which are IBM-PC-XT-compatible hardware add-ons. The Sidecar, which is no longer made, attached to the expansion buss of the Amiga 1000 computer. The Bridgecard, which continues in the line, is a card for the A2000 and A2500. The 4.77 mHz, XT-compatible card is considerably less expensive than the AT-compatible one.

The new Janus Services software permits task-sharing between the Bridgeboard, Intel-based computers and the Motorola-based Amiga. An Amiga with a Bridgeboard can have the 80286 computer do input/output for the Amiga's 68000-family microprocessor, for example. Only the Amiga side multitasks, of course, but the presence of the Bridgeboard as a hardware slave makes the combination a potentially extremely powerful box. Either microprocessor can support the other by sharing a task, distributing a task, or performing input/output.

Owners of the A2088 Bridgeboard and owners of the Amiga Sidecar should contact their Amiga dealers for a free update of their Janus software to the newest version. The new software will add many of the A2286's niceties to the older hardware, as well as improve overall performance and solidity. The new '286 Bridgeboard has a list price of $1695.00, which includes the software and a 1.2-megabyte floppy disk drive. It will work in either an Amiga 2000 or an Amiga 2500. The combination of Amiga 2000-plus-A2286 is being marketed as the A2500-AT in Europe.

Commodore Amiga
1200 Wilson Dr.
West Chester, PA 19380
215-431-9100

j:

FONTS

Font-Works

Information about the demo.

The Font-Works Demo included in this issue of the magazine is a demo of the Font-Works program by Assiciated Computer Services, Software Division. It is COPYRIGHT (c) 1988, 1989 by Associated Computer Services Software Division, All Rights Reserved. The version of this demo is not distributable.

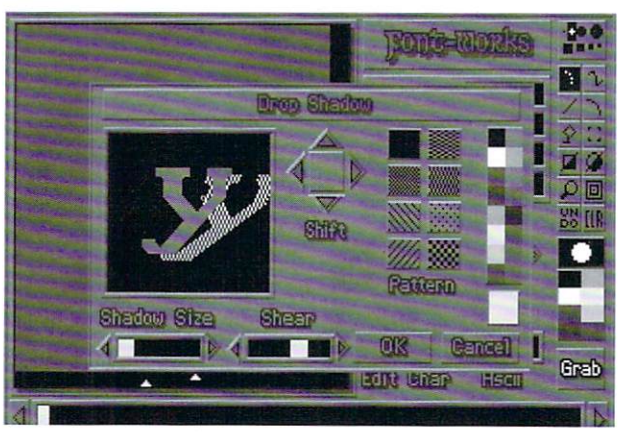
Font-Works is a demo. It is complete except that it cannot save any font. The version included in the magazine has been disabled somewhat more than the company's regular demo, in order to make it fit in the magazine format. A fuller version of the demo is available from the company, and the actual, real program is available, too.

How To Use The Demo
Font-Works is a very user-friendly program for editing and manipulating fonts, and its menus and gadgets will be pretty much self-explanatory. A few important points to remember, however:

Font-Works requires the ARP library to run. The 1.3 version of the ARP library is included on the A.X. disk in order for the demo to run (and in case you need the updated library, too). However, if you run the magazine without booting on its disk, the demo will NOT be available to your computer when you click the Font-Works icon. That means you'll greet the guru, because the required library won't be present. You can solve the problem in either of two ways:

Boot your Amiga on the A.X. magazine disk. -or- From CLI, issue the command:
ASSIGN LIBS: AX1:libs

The second thing the Font-Works demo wants before it cranks up is support for its color fonts. That means, the file named COLORTEXT has to be run before it will work. Again, if you booted on the A.X. disk, the magazine interface takes care of that problem for you. However, if you run the demo from the WorkBench, you'll need to issue the following command from the CLI before you run the Font-Works demo: RUN ax1:Fontworks/COLORTEXT

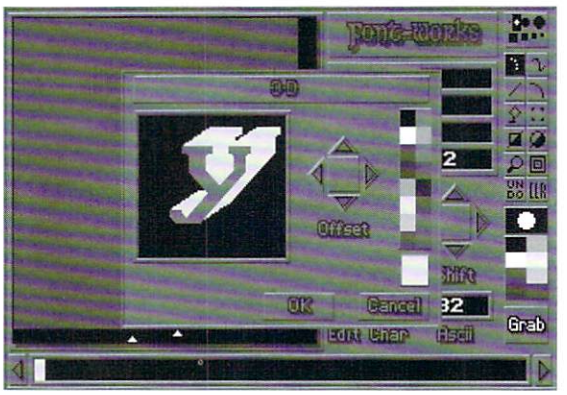


Font-Works Demo showing the addition of 3 Dimensional drop shadows to fonts.

If you have any color fonts, this file will enable the Amiga to use them like regular ones. This command will even enable the color fonts for programs like DeluxePaint II which don't normally support color fonts.

Getting Started:
The first thing to do after you get the demo running, is to load a font! There are a couple of fonts on the A.X. disks, but the demo will load ANY font you have in your vast collection. Use the pull-down menus to load, and pick out the font you want to work on. After a font is loaded, the box showing the character being worked in will still be BLANK! That's because the first character in any font is a SPACE. You can move to other characters with the gadgets in the Font-Works window to see whatever character you want. As you work, you can preview what has gone on with the menu options. TYPING TEST is the best one. This lets you type some stuff in the font you're creating to see how it's looking.

Everything you do applies to the character you're working on. However, the MACROS facility (disabled in the magazine demo, but working in the company one), will let you apply a number of actions to an entire character set. This takes some time, but no work on the part of the operator!

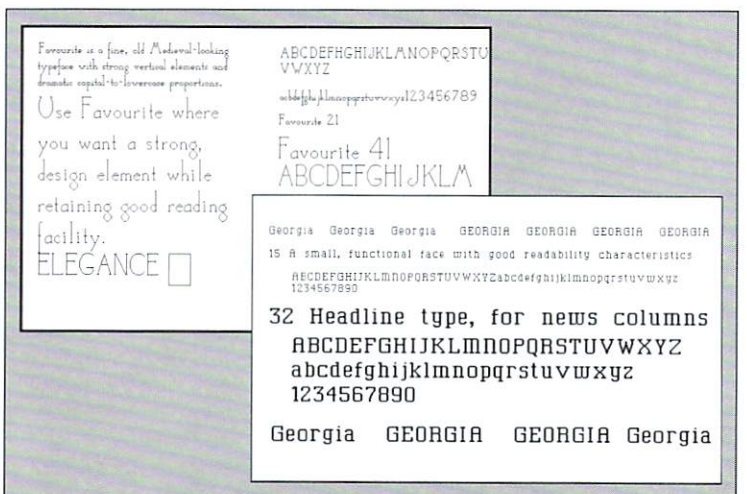


Font-Works Demo showing 3 dimensional extruding of fonts.

Memory Requirements
Font-Works demo will work in a 512-K Amiga, and so will the real program. However, for working on large fonts, for doing the fancier of the font manipulations, for doing elaborate color fonts, and the like, the program will pretty much require some more memory. It's quite happy in a megabyte.

If you still have trouble, give them a call. They will be glad to hear from you.

Associated Computer Services
2135 E SunShine
Suite 106.
SpringField, MO 65804.
417-887-9923



FONTS IN THIS ISSUE
For your type pleasure, we have included two different fonts for you to use with your favorite paint program or word processor. We even included an Install Icon to install these fonts on the disk of your choice. You can find the icon on Disk #1 (AX1) of the magazine. And you can find the fonts individually in the FONTS directory of disk #1

Two Great Offers From A.X.

Last Chance Subscription Rate and a FREE PD Disk!

Due to the numerous requests to extend the "Last Chance Offer" a little longer, we have decided to extend the deadline to July 21, 1989. This is a final deadline, and all letters must be post marked by that date, or phoned in no later than 5pm that day. After that, the subscription rate will be $69.95. This offer is only available in the United States.

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What's Coming Up In The Next Issue...

CONTENTS

- A comparison look at animation packages on the Amiga.
- What the Workbench should have had: When It Was Born.
- An easy, icon driven disk directory utility to show you what's on each disk, and directory.
- More original animations.
- A tutorial on Turbo Silver and animation.
- A tutorial on the new Deluxe Paint III.
- Exclusive music from "Down Under".
- A realistic comparison of Professional Page, PageStream and City Desk. Which one to buy?
- A tutorial on Dr. T's new products.
- What's going on at Commodore. An examination of what it means to you.
- Zeotrope: A review and tutorial.

All this and more. So take advantage of the Half Price Sale and order your copy in advance.

(See details on Order Form)

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Programmers, Artists, Animators & Musicians

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What To Keep An Eye Out For In This Issue's 3 Disk Set.

Productivity

WORKING DEMO: Font-Works
Load an Amiga font, add a drop shadow, color, and a lot of other things. The demo does everything but save. You MUST use the icon!

FONTS: To Add To Your Own Workbench
Whether you are using a paint program, or wordprocessor that supports different fonts, you are probably tired of your typical, same old fonts. Here are some more fonts to add to your collection. Complete with an ICON utility to install them on your own disk.

UTILITY: Workbench Toggle
This icon driven utility will let you switch between your normal Workbench, and a HIRES Workbench screen without going to preferences, and without rebooting.

UTILITY: FreeSpace Indicator
This convenient icon driven utility will display in a small window exactly how much space you have free on your disk drives, memory and virtual RAM DISK (if you have one). Whenever you are copying things, or just looking for a disk with a little extra space, this is the just the ticket. Program by R. L. Stockton.

SPREADSHEET: Template - Expenses
This template will help you keep track of expenses on a business trip. To use this, you need Analyze! or some other 123 compatible spreadsheet program. You can use this application as is, or adapt it to your own needs.

Professional Page Template: Business Stationary
With the latest version of Professional Page 1.2 (required) you can put together a whole set of stationary, design business cards, and even evelopes on one page. So if you send your typesetting off to a service bureau, or laser printer to be printed, you can design, and print it all from one page.

Graphics

Animations In This Issue
There are three great animations in this issue, which you won't find anywhere else. They were created just for A.X. Magazine with Deluxe Paint III, and Zeotrope. Look for yourself, just click on their icons, sit back, and enjoy. They all will run in 512k, and can easily be transported to your own disks with their icons.

A.X. Magazine Clipart
In this issue we included some clipart in IFF format. They are a series of textures (brick, marble, wood etc.) which you can load with your favorite paint program, and use to create your own art with.

Music

"M" The Music
"M" is a program that is designed to work with MIDI keyboards. But through a little trickery, we were able to make your Amiga play music from "M". What's interesting about these songs is that they were actually composed by an Amiga. We set some basic parameters for the program to work within, then it thought up the melodies, put it all together, and started composing the music by itself. So take a listen, and hear what your Amiga can do! IN STEREO.

MUSIC: Rockin' Bach and Tropical Treats
These two songs by John Thompson are included in this issue's disk set, to play on your Amiga. They are in stereo, so make sure the volume is up, or your stereo system is on. The score and instruments are also available on disk so that you can load them with SONIX. The instruments can only be used by SONIX, but the score is SMUS, so Deluxe Music can read it.

Games

PROGRAM: VideoPoker
This is the latest craze in adult video games. Since it was first introduced in Casinos, VideoPoker has taken off, invading every location where it is legal. Now you can try this game out for yourself and see why it's so popular. It is included in this issue's disk set.

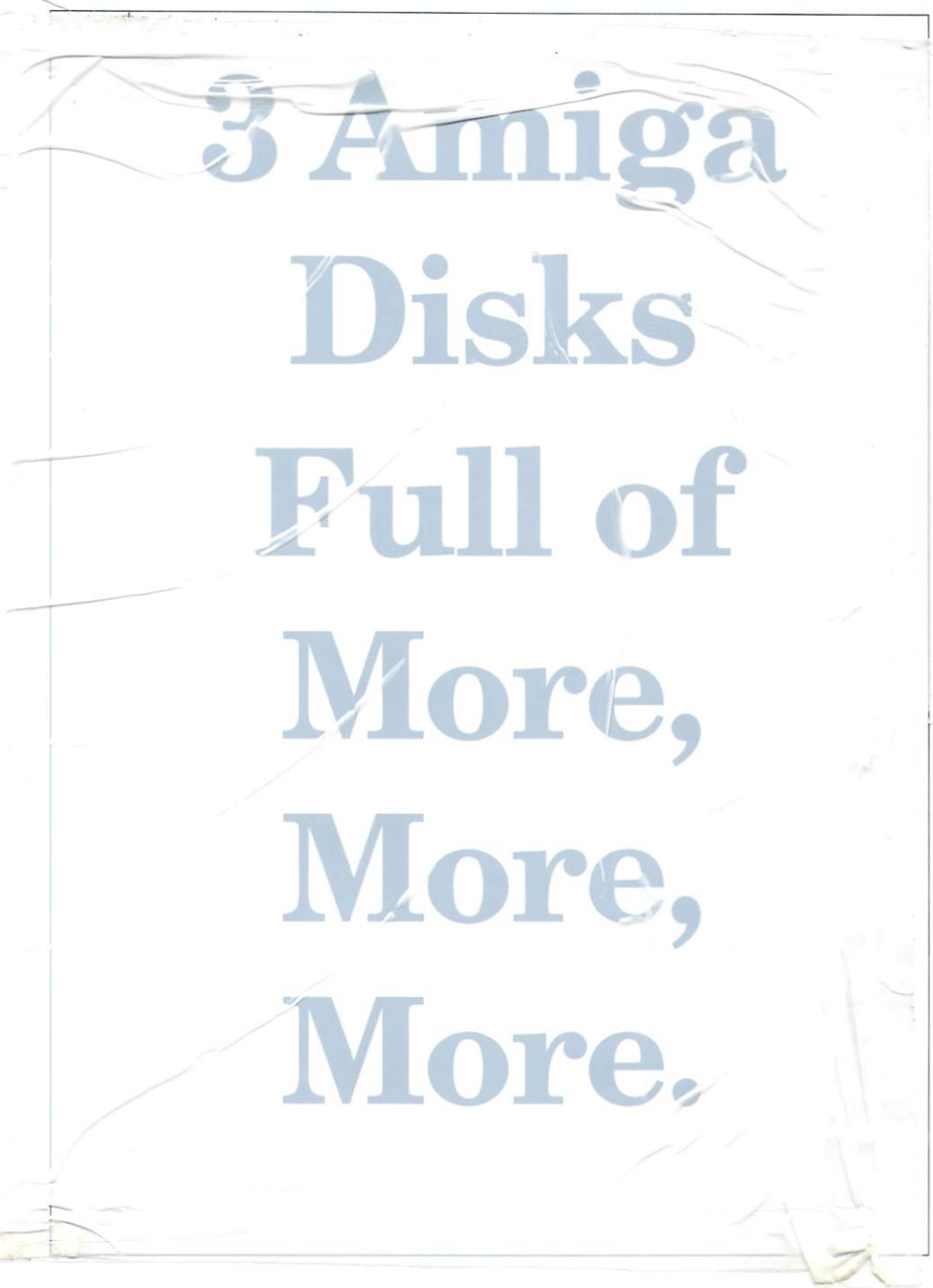
PROGRAM: 15
This is the classic game in which you try to organize 15 numbered pieces in ascending order. Sounds easy, but it isn't always. This program also has a secret message, if you can solve the puzzle. Good luck.

All this and so much more. When you run the disk magazine portion, it will tell you about more of the items in this issue!

The A.X. Magazine Three Disk Set

DISK INSTRUCTIONS

1. At the Workbench prompt, boot with A.X. Magazine disk # 1 .
2. The A.X. introduction animation will begin to play. Make sure your volume is on! You can quit this animation anytime by holding down both mouse buttons at the same time.
3. From here, everything is point and click. Or, just hit the HELP key anytime for a quick reference. Printing to paper is also available!.



THE DISK PORTION OF A.X. MAGAZINE

The user interface which drives the disk portion of this magazine is state-of-the-art in every way. The entire interface is written in 100 percent Assembly language to be quick and smooth.

As you read the articles, you are not just looking at text. We have integrated graphics and illustrations right into the text, and the entire thing smooth scrolls. Then we added sound and music on top of it all, to add to the multi-sensory experience. In addition to the articles, there are some useful Amiga system utilities, as well as other executeable programs that can be run directly from the user interface.

Beginners will be happy to know that the interface is designed to be extremely simple to use. Just point and click. Yet, it is designed to also be quick and efficient for more advanced users. Single-drive owners will delight in the fact that you don't have to constantly swap disks to use the magazine. In the Table of Contents, articles are marked as to which disk they're on. So you will know in advance if you must change disks. And even then, you will only have to change disks once to read an article, show a picture, run a program or whatever.

The disk portion of A.X. Magazine is organized in the same way as the table of contents of this issue. For instance, everything shown in the FEATURES/COLUMNS section, can be found in that section on disk. The only difference is that there is more on the disk portion than is listed in the paper table of contents.

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6006 Greenbelt Road Suite 189
Greentbelt, MD 20770

NOTE: Disk # 1 of this magazine has a **non-standard boot block** It is not a virus, in fact, it is an anti-virus routine. When you boot up it plays the Looney Tunes and flashes lights to show that there *are no* viruses in this issue.

WHAT'S NEW

The Official Announcement

Editor's note: Following is Commodore's unedited, official announcement from the new management changes.

TITLE: Commodore Names Copperman As President of US Operations

West Chester, PA, Monday April 24, 1989 -- Commodore International Limited (NYSE:CBU) today announced it has named Harold D. Copperman as President and Chief Operating Officer of Commodore's US Operations, Commodore Business Machines, Inc. He replaces Max Toy, who resigned to pursue other interests.

Mr. Copperman, 42, was formerly Vice President and General Manager, Eastern Operations, Apple Computer, Inc. His responsibilities included overseeing sales, marketing, support and distribution for Apple's Eastern region. He also managed Apple's Federal Systems Group. Prior to that, Mr. Copperman served with International Business Machines for twenty years, most recently as National Director of Marketing for IBM's Academic Information Systems Business Unit.

Irving Gould, Chairman, Commodore International Limited, said, "Our overseas operations have experienced strong growth in sales and profitability, and the hiring of an individual with Harry Copperman's experience and track record is a key element in our plan for building a strong US operation."

Mr Copperman said he "plans to take advantage of Commodore's broad range of products to further penetrate the education market and to expand our use of value-added resellers. We will also continue to build and enhance our dealer distribution network." These activities, he said, are in line with Commodore's continuing US and worldwide strategy of increasing its presence in business, government and education while maintaining and expanding its traditional strength in the consumer sector."

Mr. Copperman began his carrer with IBM in 1967 as a Systems Engineer. During the 1970-1982 period, he worked for IBM's Data Processing Division and held a variety of sales, marketing and management positions. In 1983, he joined IBM's National Marketing Division, where he was named Director of Marketing and then Regional Manager. In 1986, he assumed national responsibility for IBM's sales and marketing in higher education. He joined Apple Computer in September 1987 in his most recent position. A Graduate of Rutgers University, Mr. Copperman holds a BS in mechanical Engineering.

ASDG Joins Multi-Serial Port Fray

Speaking of multiple Amiga serial ports - and there's been a LOT of speaking about that very subject lately - ASDG, makers of the ScanLab software/hardware interface to the Sharp professional color scanners, has jumped into the Amiga multiple serial port business with their Dual Serial Board, a hardware/software combination to add multiple serial ports to the A2000's and A2500's.

ASDG's products are not additional modems, but additional serial ports. Modems usually attach to (or provide) a serial port, but there are many other products besides modems which want a serial port to connect to. Those include data acquisition devices used in engineering, scientific, and instrumentation applications, and printers, terminals, and other stuff.

ASDG's Dual Serial Board is a dedicated board supplying two AT-compatible, 9-pin D-sub connectors. It occupies a single expansion slot, and doesn't interfere with the operation of the Amiga's built-in port. The board comes with software to replace the system's serial.device. ASDG says the included software will permit "three or more" serial devices. Connected to modems, the ports are capable of very high speed telecommunications (at greater than 19,200 bits per second).

The list price for the Dual Serial Board is $299.

ASDG, Inc.
925 Stewart St
Madison, WI 53713
608-272-6585

BIX Turns Off Hourly Rates

Byte Information Exchange - that's BIX in computer jargon - has turned its hourly rates off in favor of an unlimited-time-on-system, quarterly or annual billing.

BIX is a computer network. It's the big-time, electronic equivalent of the cork board in your local laundromat - sort of mixed in with the old hang-out-at-the-general-store idea, too. People post notices, advertise services, ask questions and generally chew the fat - all electronically. On BIX, as well as the other services, which include American PeopleLink and CompuServe, the people "chewing the fat" are frequently the people who write the software and develop the hardware.

People pay for access to the sytem (unlike the local laundromat's cork board), and the payment is usually based on an hourly rate for the time you spend online. At BIX, the fees have been converted to a flat rate, no matter how much you chit-chat. The new rates are $59 per quarter (three months by another name). If you pay for a whole year at a time, a quarter costs $39, instead of $59. Such a deal.

That's not the total cost, however. Before to call your Aunt Mary in Kalamazoo, you have to pay long distance rates. Same with BIX and any of the other network services. However, there is a special deal BIX worked out with TYMNET, the people who do the PC-Pursuit service. TYMNET is a long distance reseller. You call their line and then dial away (electronically), paying for the time you're on their system by the hour.

Well, the BIX folks have negotiated a deal with TYMNET to eliminate the hourly rate on there, too. The deal is: $15 a month for unlimited off-peak access. That means NOT during the business day, of course, but if you're a bit of a night owl, you can have a fine time of it.

BIX has conferences on most of the computers known to man, surprisingly (since it's connected with Byte Magazine) including the Amiga, and even more surprisingly including a very active and informative Amiga conference, at that.

Present BIX subscribers can swap to the new "flat" rate. Contact customer support for details. For more information, or for sign-up instructions, contact BIX. The secret password is, "Only Amiga Makes It Possible." Say is three times, at least, and maybe they'll believe you.

BIX
One Phoenix Mill Lane
Peterborough, NH 03458
800-227-2983
(In New Hampshire: 603-924-9281)

WordPerfect Slows Amiga Development

WordPerfect has all but jumped the Amiga ship. The company had six programmers assigned to the Amiga market, and now has only three. The others have been reassigned to other development groups - Unix and OS/2.

As reasons for the change, an announcement from the company cited lagging sales, the unsuccessful, recently-introduced German-language edition of WordPerfect, and the difficulty and expense of developing a really competitive product (meaning fonts and graphics) for the Amiga.

All unreleased WordPerfect titles that have been talked about (previewed by the press, even) are affected by the change, which will mean a considerably longer development time than previously expected. Those products include the company's high-end spreadsheet, PlanPerfect, as well as Version 6.0 of the WordPerfect wordprocessor. The current Amiga version number for WordPerfect is 4.1.

WordPerfect (the wordprocessor) and WordPerfect Library (the kit of utilities) will continue to be fully supported with maintenance releases (as in the past). A new, reportedly Amiga-ized version of WordPerfect will be available in a few weeks. Until then, the current version of the product is dated August 1988. WordPerfect's incomparable product support will continue, but there will be no new Amiga products for awhile, nor major updates or revisions of the existing ones.

WordPerfect Corporation
288 W Center St
Orem, UT 84057
801-225-5000

Titles, Anyone?

Ever notice that the current state of the art in broadcast video pretty much has lettering dancing all over the place? Titles, they're called, but we all know they're really "letters" by a Sunday-Go-To-Meeting name. Well, these "titles" move in from the left of the screen, they whirl and twirl, kitty back into what looks like a third dimension, and dance off the screen one way or another to make way for the next batch. Naturally, what you're looking at when you see these dancing letters - titles - is the output of a computer, and until the Amiga, it was mainly the output of a very EXPENSIVE video-specific computer.

The Amiga is busy changing all that. Changing the video industry from expecting a $50,000 bill for a titler to expecting an Amiga to do the job for 'em, at considerably lower investment. The only thing is: they STILL want the letters to dance around on the screen, just like they're accustomed to having.

Now you know why there is such hot competition for the video "titling" dollar. It's a hot market, for one thing. The trick is to give the video folks what they want, and do it with the Amiga.

Ever since Zuma first shipped TV*Text, the Amiga has been a video titling machine, and one after the other software company has jumped into the fray with more and more features. No problem, there's room. Now, with TV*Text and TV*Show (the follow-on Zuma product that ANIMATES the titles) behind them, Zuma is working on a new title. Software title, that is. It doesn't have a name, yet, so it's still being shown as TV*Text. However, it's considerably more elaborate.

Basically, you take TV*Text, add TV*Show's features, and then spruce the whole thing up a whole lot. Add a "locking" feature, so you can lay stuff down over a background and then grab it up again without disturbing the original image, if you need to. Dither the Amiga's colors together to make those ever-popular "shaded" letters. Oops, TITLES. Those are the ones that look like chrome, usually, but other effects are possible.

Faster operation, more colors, more features, and (a sigh of relief goes round, for sure) more fonts. One of TV*Text's limitations is its support of only a 10-face font directory. The new version has a font requester that permits untold font counts to be accomodated.

TV*Text's famous easy-to-master user interface stays almost the same, but some of the requesters change (like the fonts one) to permit the new features.

Amiga Mouse Sprouts Another Button

No matter how careful you are, and especially if you're not, your Amiga's mouse has a finite life expectancy. On some of the older Amigas, owners are already working on their second or even third mouse, especially those who spend a lot of time clicking one pixel at a time on those finely drawn Amiga art creations. When a mousie goes on to that Great Rat's Nest In The Sky, you have to buy another one. You can fix 'em sometimes, sure, but sometimes you just have to replace the poor deceased rodent with a new one.

Besides, there are those times when you'd like to have TWO mouses. Marble Madness madness overtakes you and a friend at the same time, and you both like to play the game with the mouse, so unless you pool your rodent resources, one of you has to struggle with the game under handicap of using a joystick.

Southern Technologies has just the ticket for both of these mouse emergencies. It's My-T-Mouse, a handy THREE-button mouse that bears a striking resemblance to a Microsoft mouse for a certain "other" computer. My-T-Mouse works on an Amiga, though, and Microsoft's mousie does not. (There are electronic differences, so don't even THINK about trying it out unless you're willing to pay the repair bill for the Amiga, the Microsoft mouse, or both!)

At a list price of $59.95, My-T-Mouse makes an affordable second mousie for Amiga games that would be nice to play with two mouses - Marble Madness, for example. It's also an easily obtainable, inexpensive replacement (or spare!) mouse to replace the one currently supplied with the computers. A brand-new, genuine Amiga mousie has a list price around $80.00. Commodore's latest parts listing is acerbly known among dealers as "The Price Increase Issue." Your dealer might be willing to negotiate a lower price, but don't count on it.

My-T-Mouse is not the same as the regular Amiga mouse in more ways than the number of buttons on top. For one thing, My-T-Mouse's buttons are quieter. There's no telling whether they'll have the same longevity as the Amiga ones, but extensive testing (three months so far) on the machine on which this article is being written shows the buttons to be quite hardy. My-T-Mouse's shape is also a bit more comfortable than the Amiga mouse for long-term mouse-grippers.
Oh, but there's a down side, too. My-T-Mouse is a mechanical mouse, not an opto-mechanical one like the Amiga mouse. That means, there are little metal contact wheels inside the mouse that are moved around by the roller mechanisms. Amiga mouses have wheels that turn optical sensing doodads, so that no physical, electrical contact is required. Those physical, electrical wheels are much more subject to wear and abrasion. The mouse has a very smooth motion, but dust and grit inside the thing would change that - same problem with the Amiga mouse, of course, but it might be repairable on the Amiga one.

The third button? Glad you asked. Some other computers use the third button, and the Amiga operating system supports it (Intuition provides for all three buttons!). However, since the standard Amiga mouse has only two buttons, almost no applications software worries about the middle button.

"Almost." Yep. Check out DME, Matt Dillon's freely distributable text editor. As it comes, it doesn't know about the middle button. However, its macro language supports three buttons. That means you can write a macro to make the third button do whatever you want.

Another freely distributable program, Middlebutton (talk about a descriptive name!), adds third-button support through a system handler. Pressing the middle mouse button then has the same effect as SHIFT-plus-left-button. Rather handy for multiple-selecting things, or for programs (like Professional Page) that want shifted mousebutton commands.

If the Amiga X Window System is on your wish list, the three-button mouse will be handy for that, too. X Windows pretty much requires a three-button mouse, since most of the applications originate on Unix machines (mainly Suns) where the normal mouse is a racy, three-button job.
Okay, those are the facts; now for the rumors. And the rumor is: the Amiga's next major update of the operating system (1.4? 2.0?) will make use of the middle button. Real Soon Now.

My-T-Mouse is shipping now.
My-T-Mouse
Southern Technologies
2009 McKenzie Suite 110
Carollton, TX 75006

Supra 2400ZI Internal Modem for the A2x00

Supra Corporation, makers of harddrives and modems for the Amiga as well as other computers, has shipped the 2400ZI internal modem for the Amiga 2000 and 2500 computers. The new modem slips into an Amiga slot in the 2000, and comes with software to replace the Amiga's serial.device system software, in order to facilitatemultiple modems (and serial ports) in the Amiga.

Supra's approach to getting the Amiga operating system to permit multiple serial devices is to patch the applications software with a program (which comes with the modem) that searches the target code for the string "serial.device." Replacing that string changes the device being opened to one supplied by Supra with the modem. The result is that you can have more than one modem or serial port in the same machine at the same time - a convenience "other" computer have enjoyed for a long time.

According to Supra, you can have as many ZI modems in a 2000 as you have slots to put them in - however, that wouldn't leave any room for harddisk controllers, memory, etc. Supra officials said the approach they have adopted has with the blessing of Commodore, although CBM has not (as of AmigaDOS 1.3) addressed the problem of supporting multiple Amiga serial ports within the machine's standard operating system.

The 2400ZI is a 2400 bits per second modem with all the features and performance of Supra's standalone modem, but with the added software for support of multiple serial ports in the Amiga. The list price is $179.

Supra Corporation
1133 Commercial Way
Albany, OR 97321
503-967-9075

More 3-D Titling

Video Effects 3D is a new video titling software package from InnoVision Technology that permits real-time manipulation of titles on the Amiga in ways you'd expect from dedicated video computers. Things like zoom, flip, tilt, spin, and full 3-axis rotations, all in hi-resolution, 60-frame per second video, and all in real time. All on the Amiga, of course.

Video Effects 3D does Amiga titling in perspective. It's impossible to describe the thing in words, so just use your imagination for a second here. Picture a title, "Blah." It's a very useful title. So let's say you want the word "Blah" to move through space (dramatic echo effect), kind of laying on its back. When it gets to the center of the screen, it uprights itself. Then it spins, tumbles, and turns a flip, just to prove it can. It can! To make room for something else (a clip of "As the Atari Turns," perhaps), you have "Blah" turn itsely on its leftmost axis, appearing to rotate INTO the screen. Then, in a dramatic end sequence, "Blah" marches right through the "overscan area" out of the frame. What a title!

You can create this effect just as well with a $50,000 video effects generator, or an Amiga. Take your pick. Hint: the Amiga costs a LOT less than a video effects generator. And like the Amiga, Video Effects 3D "makes it possible."

The program works in high resolution and adds its effects entirely in software - no hardware to add, though of course you'll need a genlock to capture the stuff to video no matter what.

Oh, one more thing. The video buzzword for this stuff is "ADO-style three-dimensional perspective effects."

Video Titler 3D is sort of a companion piece to the company's "Broadcast Titler" software. This is a "broadcast quality" character generator for the Amiga. It too is all software. To eliminate the "jaggies," the program works in an effective resolution of 2160x1440. It includes a library of fonts - Super High Res Fonts, at that.

Features include credit rolling, 100 page and line transitions at nine speeds, automatic genlock dissolves (using Digital Creations' SuperGen genlock), 320-color palette supporting ColorFonts, multiple IFF pictures, color cycling and backgrounds and patterns. The display is borderless, 736x480 pixels.

Video Effects 3D
requires 1 megabyte of memory
Introductory pricing: $160.00

Broadcast Titler
requires 1.5 megabytes of memory
Introductory pricing: $250.00

InnoVision Technology
PO Box 743
Hayward, CA 94543
415-538-8355

Interchange Modules Added

More news from Syndesis. First networks, now modules to add to InterChange to permit moving files around from more places.

First is the new Turbo Silver 3.0 module. Turbo's file formats for versions 2.0 and 3.0 are different. Version 3.0 can read version 2.0's files, so if you can port things to there, you're okay. However, version 3.0 supports some additional parameters, so you'll be missing something if you just stop at 2.0 objects to use in 3.0. Turbo Silver 2.0 cannot read version 3.0 files.

InterChange, a raytracer's United Nations, is a program for converting objects from one format to another. That means, if you create objects in SculpIt/Animate 3 or 4D (5, 6?), you can use them in Turbo Silver 2.0 or (with the new module) 3.0 without creating them again, even though the file formats are vastly different. Other modules, including those supplied with the program, add portability to VideoScape 3D, Forms in Flight, Aegis' Draw (Plus, 2000, etc.), and (the second new module) Professional Draw.

The Professional Draw module and the Draw (Plus, 2000 etc.) module are one-way streets. You can port things TO, but not FROM 'em.

The Professional Draw module will be included with InterFont packages. Registered owners of InterFont, and the Turbo Silver 2.0 module for InterChange should contact the company for details of their nominal-cost upgrade. Both versions of the Turbo Silver converter will be supplied in future shipments of the product - just in case.
Syndesis
20 West St.
Wilmington, MA 01887
508-657-5585

Amiga: The Manuals

Addison Wesley has shipped new editions of the Amiga technical reference manuals. Published initially in 1986, "The Amiga Technical Reference Series" has been updated to include AmigaDOS 1.3. The manuals are authored and authorized by CBM.

Published as four volumes originally, the material is now reorganized into three books. 'Amiga ROM Kernel Reference Manual: Includes and Autodocs' was published in February. Its 768 pages (paper bound) contain Amiga C and 68000 assembly language INCLUDE files, function Autodocs, and IFF documents. List price is $32.95.

The second volume of the series is 'Amiga Hardware Reference Manual', scheduled for April 1989 publication ("by the time you read this"). It provides technical information on the hardware level of the Amiga, including the custom chips, the ports, and the display and animation facilities (Sprites, Blitter, Playfield, etc.) It's a 325-page paper bound tome for a list of $24.95.

The next scheduled volume in the series is the second half of the kernel, "Amiga ROM Kernel Reference Manual: Libraries and Devices", which will be published in June 1989. For that 950-page volume, the list is "$34.95. It provides descriptions of the features of the Amiga ROM Kernel, such as EXEC - the multitasking system executive - Intuition, and Workbench.

The original series included a separate volume on Intuition.

ECnet for Amigas

Syndesis, makers of InterFont and InterChange, has announced TSSnet for the Amiga, which will provide DECnet networking connectibility to the Amigas. Amigas running TSSnet become POhase IV end nodes in a DECnet network which can comprise more than 64,000 computers running under a wide variety of operating systems.

The "DEC" part of that networking buzzword is for Digital Equipment Corporation. They make VAX com-

Of Vaxen, X-Cad and DMA.

puters, affectionately described in the plural as "Vaxen."

Anyway, Syndesis' TSSnet is a complete implementation of the networking system originally developed by Thursby Software Systems ("TSS," get it?). It will initialls provide asynchronous DECnet communication, with a Network Control Program, Network Virtual Terminal support, and a programming interface at the Amiga device level. Its main thing in life is to provide DECnet connectibility to users of X11 for the Amiga from GfxBase. That's an implementation of the X Window System (better known as "X Windows") for the Amiga.

Further enhancements after the initial version will include NBetwork File Copy and Listener, Electronic Mail for access to VMS Mail, as well as Ethernet (that's networking hardware) support.

Syndesis expects to ship TSSnet "second quarter, 1989."

Syndesis
Attn: Bob Tolly
20 West St.
Wilmington, MA 01887
508-657-5585

helling Out for X-Cad

The Amiga program X-Cad is noted far and wide for its incredible power, its blinding speed, and its difficulty of learning. Aha! Time for a "shell." A new product (and a very unusual one, at that) shown at the National Computer Graphics Association show in Philadelphia in April does for X-Cad what the AmigaShell (and other shells) does for the CLI.

Actually, the reason X-Cad is noted for unfriendliness is that it's user interface is more like a command language - a sophisticated CLI, if you will - than a real user interface. X-Shell replaces X-Cad's text menus with graphic ones, so the user can click along from one command to the other.

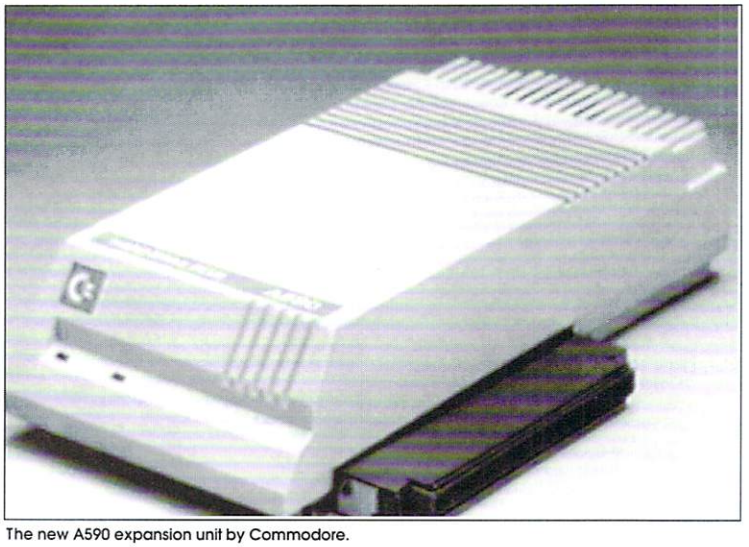
Quoting from the material supplied by the company that makes X-Shell, "X-Shell is easier to learn than X-Cad... X-Shell provides a manual with over 100 pages describing the use of every button on every menu. It is easy to draft with precision using X-Shell..."

List price is $199. Requires X-Cad.

X-Shell
GRAFX Computing
1140 Post Road
Fairfield, CT 06430
203-255-5166

BM's Amiga 500 Harddrive

Commodore has shipped its 20-megabyte harddrive and memory expansion unit for the Amiga 500. The A590 is a hardisk plus memory expansion about the same shape as the keyboard. It connects to the buss expansion port on the bottom left of the keyboard (there's a little plastic door that comes out to make space for the connector).



The new A590 expansion unit by Commodore.

CBM's A590 contains a 3.5-inch harddisk drive with 20 megabytes formatted capacity and a SCSI interface. The SCSI - that's Small Computer Systems Interface, a "standard" specification - capability allows additional devices to be connected (up to 6 more) without adding another interface adapter.

CBM's unit incorporates a custom DMA (Direct Memory Access) chip to maximize the transfer speed of the unit. It provides "true" DMA. CBM's controller chip has a maximum theoretical transfer rate of 2.4 megabytes per second, but thaat is not the claimed transfer speed for the whole unit.

The A590 is self-powered with its own external power supply and contains an auto-sense switch that turns the unit on automatically when the computer is fired up. This feature allows
unattended autobooting of the harddrive. Both the harddrive and the expansion memory are auto-configurable.

Memory expansion in the A590 is limited to two megabytes. Its memory is added to the 512-K internal expansion which is possible through a door on the back of the computer, making the 500-plus-590 combination a three-megabyte system.

Other specifications on the unit as shipped include:

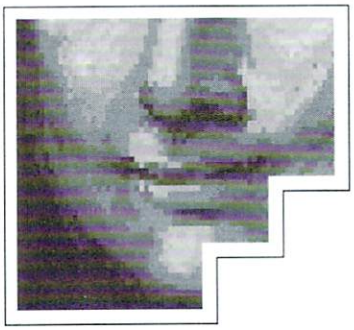
Harddisk access time: 80 ms

Chips can be added to sockets in the A590 to add .5, 1 or 2 megabytes. The memory is "zero wait state DRAM."

SCSI connector is DB25 MacIntosh compatible

Built-in fan

-=-



GOSSIP

By Jay Gross

CBM's not a Toy company any more. Max Toy, chief executive officer, has resigned. This week's management is a new fellow from (brace yourself) Apple. Harry Copperman. There's already a new international president. Hired some weeks back, he's recycled from Pepsi. Gotta give those Pepsi folks credit; they ran Coca-Cola scared enough to invent New Coke. Of course, CBM's product is high-tech computers, but if you can sell soft drinks or fertilizer, you can sell computers, right?

Wall Street so far likes the changes. New highs on the stock market for CBM's long-depressed shares. Shares that once sold for $5 fetch almost $20 at this writing, and there's no telling what heady ceiling the stock might reach if somehow, by some interference of powers beyond the present four dimensions, Commodore started doing things right.

Coming from Apple, it's a safe bet the new CEO knows what a mouse is, and he might think a window isn't something you throw cans out of. With a little luck, he'll think a '386 is a really hot Chevrolet engine, and a bundle is something you do to laundry - or at least something you do to computers AFTER you try real marketing, promotion, and development.

Coming from Apple, Harry's likely to know what high prices are, too. Oh, well. Alas, alas and alack, but as the saying goes, there ain't no free lunch. Unlike the IBMers and Apple corps, Amigoids are accustomed to getting good value for their money. Somebody please tell Harry we like it that way. Besides, high prices go against the grain at CBM.

Coming from Apple, Harry speaks dealer support and business computers. Advertising, even. No problem there. The question is whether he can kludge Commodore's "marketing" types into new thought patterns. Max, with his highly personal and very personable approach, couldn't bring them around in a year and a half, and apparently wasn't aware of (or didn't wield enough of) the power of the pink slip. Most of the Max-era batch of CBM's middle managers would have to borrow a neuron in order to stage a synapse. We'll see on this one, too. However, coming from Apple, the new guy likely takes Apple's notoriously heavy-handed approach to business.

Actually, when you get right down to it, most of CBM's problem wasn't really at the top, but the top is what has changed. The reasoning for the shuffle, just as Commodore was finally getting its feet wet in the heady regions of "advertising", was "lackluster performance of Commodore USA." Gospel according to Irving Gould. Irving is CBM's majority stockholder. Well, with no promotion to speak of, poor product support, and the company's long-term deaf ear to reason, what could Irving expect?

The new guy, Harry, hasn't said much in public, yet, other than parroting support of getting Commodore's products (not necessarily Amigas) into the education markets in a big way - something last weeks management was just getting serious about. That's a big market, and it's a good one, but it's a difficult battle, and the other players in the game (Apple and IBM) not only make the rules but hold the pot.

When Max Toy took over, it took months before his influence was felt, and in retrospect, it was a pretty good effect overall, although it could certainly have been better. Max was apparently unable to gain control over CBM's firmly established sluggards who insist on pursuing a long-dead "mass market" that simply is no longer valid in this country. While Max was trying to assemble dealer training and support, middle-echelon management was piping products to discount channels, which makes dealers mad. Max talked about "computers" while underlings talked about "consumer electronics."

Some of the most notorious of those underpersons have been in a parade out the door lately (naming no names, lest lawyers the world over warm their torts), maybe because of the new president, maybe because of Max. Maybe because they just got tired. (That's tired with a "t", not fired with an "f".) Who knows? And if you get right down to the nitty gritty, who cares? Past history is past history, and in business, past history is usually a waste of time and energy. The new management has to get its feet wet, test the water (fill in your own favorite bromides), etc., etc. We'll see...

Anyway, you most likely won't notice much from the new guy for awhile. It'll take a while for him to see what's going on, and then another little while to get some projects in motion, and then more time to get some programs finished and paying off (if they do pay off). About that time, there'll be new management AGAIN, so who will ever know whom to blame (or credit) for what? Is it true the CEO's office in West Chester has a revolving door?

With recycled Apple managers in charge, a few possible scenarios suggest themselves:

1. Apple loyalties, like the ones CBM's middle managers still seem to show to Uncle Jack Tramiel, die hard, so maybe the new guy will feel the same way about the Amiga that Apple does. They consider it merely a game machine. Of course, they'd rather not admit that the Amiga is just now on the verge of becoming a threat to the MacIntosh's bread and butter.

Coming from Apple, it's a safe bet the new CEO knows what a mouse is.

desktop publishing, and they're busily trying to forcefeed the Mac-II to business as a video machine, even though the Amiga's a hands-down better choice for that application. Of course, business doesn't KNOW that, because CBM has been doing nothing in the way of telling anybody the facts (meaning advertise).

2. The MS-DOS clones that CBM makes? Hey, maybe the new guy will see the handwriting on the motherboard and bring out something actually competitive (like Sun's 386i) instead of boringly old-tech. Maybe on a board for the A2000's and A2500's, even. Commodore has such capability, but hasn't developed it. What else is new?

3. How about a MacClone? Several companies have been talking about it, and the Amiga's A-Max hardware Mac emulator... well, you fill in the details. The fact is, cloning the Mac would require about two good engineers and a thousand Philadelphia lawyers. Besides, the Amiga is getting close to having what it takes to take on the Mac.

4. Apple is very successful and very skillful in the marketing business, so an infusion into Commodore of Apple's marketing talent, especially at the top, might improve things considerably for the Amiga. This scenario's a nice one. The Amiga gets well marketed, as the MacIntosh certainly already is, and takes its rightful place in the real world. Product development increases thirty-fold. Commodore makes billions. Irving gets so rich he retires, leaving computer marketing to the computer-savvy. Well, we can hope.

Where does this leave all the airware? Sky high, of course. The Amiga's long-touted, and incredibly nice Unix implementation, AMIX, is in betatest, scheduled for release "sometime in 1990," according to the CBM's latest "Technology Preview" released at the National Computer Graphics Association exhibition in Philadelphia in the middle of April.

Then there's the Professional Video Adapter. Real Soon Now. Oh, but it looks NICE, and if you don't fall in love with those 16-million-color pictures there isn't an eyeball in your head! Word is, it'll ship with a paint program capable of EDITING those pictures. The Professional Video Adapter, as shown in Philly, occupies two A2000 or A2500 slots - one regular expansion slot and the special video expansion slot. It captures frames, produces color composite video, mixes video (a la Genlock), and does a few other cute tricks. Pricing hasn't been set, yet, but it most likely won't be cheap.

Mimetics, meanwhile, was showing their now (as opposed to Real Soon Now) version of the same thing. It captures frames, produces color composite video, etc., etc. FrameCapture, FrameBuffer. Ask your dealer about it - it ain't cheap, either.

The Transputer boards? Still vapor. AmigaDOS 1.4? Vapor and likely to stay that way at least until after the Developers Conference. Don't rush 'em.

AND WHAT OF THE NEW TUBBY AGNES?

Peeking out from under cover...

Agnes has been putting on weight. For real, this time. The current Amiga 2500's being shipped contain the long-rumored tubby Agnes chip. This lady permits an Amiga to address one megabyte of CHIP memory. The 512-K limit on such memory has become a barrier to the continued development of highly sophisticated graphics applications like color desktop publishing products. After much ballyhoo and a long, long, long, long time, the new "fatter" Agnes finally exists. Yes, you can put a tubby Agnes into an older A2000, A2500 or A500 and come up with the same thing. However, it's not as easy as swapping a single chip. There are board version numbers to consider, and a trace to cut (a trace is a place on the mother board intended for such actions), and a jumper to move, and such.

Dealers will eventually have the new chips to put into old machines, but supplies are trickling down through the system for now. If you use your Amiga for mostly games, you don't need to worry about this modification. All current Amiga software works in 512-K of CHIP memory - a situation that will probably change rather soon, however, but probably not so soon on the game market. MANY products will benefit from the fatter Agnes, especially including the desktop publishing packages, and graphics-intensive things like DeluxePaint III, Gold Disk's Setter family (Comic, Movie, etc.), and many other titles. If you decide you can't live through the weekend without the new Agnes, be prepared for a rather expensive swaperoo. The old Agnes has a list price of $85.00. Pricing for the new one might be the same (not likely), but that won't necessarily include any of the dealer operations of installing her. The old one's good for a spare, of course. She's not used up in the process, although power surges and other disasters can send her on a permanent visit to the guru. Agnes is a socketed chip on all Amigas, and doesn't require soldering to remove (or install).

As for the Amiga 1000's, there's no fat Agnes in their future, at least for the time being. The modifications required are rather major, and a "kit" would be a pretty complex installation. CBM's crack marketing staff has also ruled out a motherboard replacement scheme for the 1000's, too. Not enough machines - "only" about 150,000, and the board would be very expensive, too.

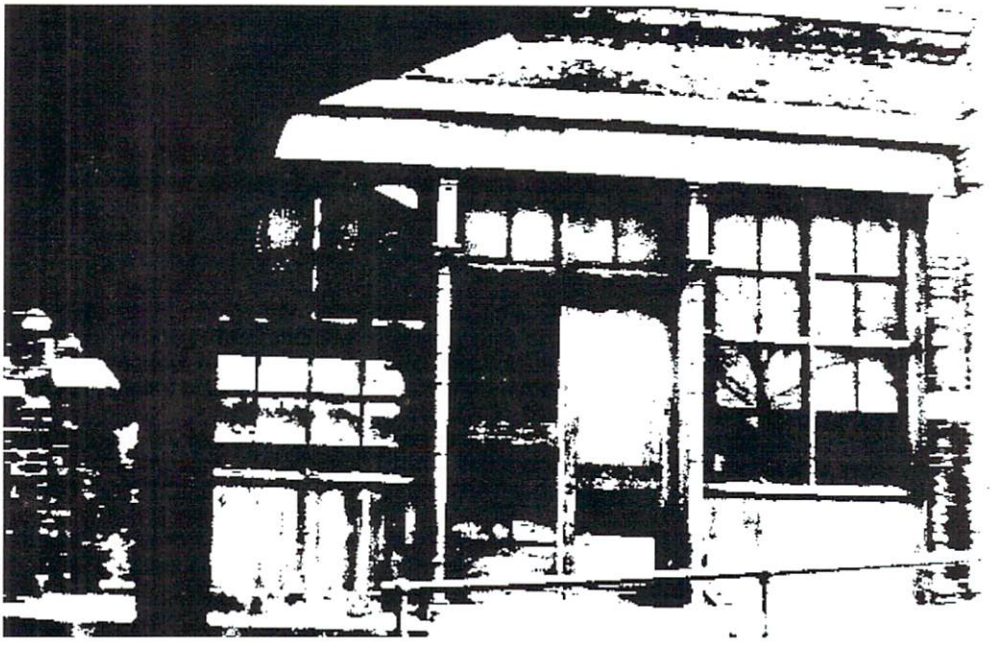
The '286 BridgeCard has also finally made it to reality. Now with an A-Max, an A2000 and an A2286 BridgeCard, you can have three, count 'em, three computers in one! Only one of them multitasks, however, and (you guessed it) only Amiga makes it possible. More fancy new toys introduced in Philadelphia allow one of AT&T's fancy Targa display boards to work in an Amiga 2000 or 2500. With enough of these toys in there, that could get to be a VERY expensive box full of goodies. Targa boards start at $2000 (list) and go UP!

As usual, That isn't by any means all the gleanings from the Gossip Fence. That IS all the space, however, as usual. So till next issue, keep those cards and letterbombs coming in...

J:

Image On The

by Gerald Hull



High resolution image of a building, thresholded with Pixmate.

A number of image manipulation programs are available for the Amiga computer, differing significantly in price, scope, power, and user friendliness. Although their primary emphasis is not the aesthetic, once you become familiar with their capabilites you will discover many tools and special effects which can enhance your graphics.

The phrase "image manipulation" refers to graphics operations which concern not so much what an image represents, as how the representation is done. Unlike a paint program which focuses on the aesthetics of lines, colors, and shapes, image manipulation software works on the underlying physical structure.

On the Amiga, this underlying structure involves such things as pixels, bitplanes and color tables. Each of the programs discussed here provides some discussion of such technical details, usually more than enough to understand how the software operates.

The most notable category of image manipulation is "image processing," often associated with artificial intelligence. These are techniques for extracting information from pictures, like edge detection, thresholding, sharpening, and averaging. Boolean operations "and," "or," and "not" entire images just the way you would bytes of data. Matrix operations rewrite the value of each pixel as a function of the values of the neighboring pixels.

But image manipulation also includes operations that, while less exotic, are often much more useful. For example, things like changing from one format to another (say, HAM to lo-res), reducing the number of colors in an image, or producing color separations. Bitplane operations include reducing or enlarging the number of planes in an image, or swapping their positions.

Color table operations typically involve the use of histograms to show the relative ranking of the different colors in an image's palette. You can change the specifications of both individual colors or the table as a whole. Often you are given the ability to copy, exchange, and merge colors, or to re-sort the entire color table according to various parameters.

Butcher

One of the earliest image manipulation programs, and still by far the least expensive at $41.00, is Butcher 2.0 by Eagle Tree Software. (I will be giving list prices) It features an extensive range of tools for bitplane and color table manipulations, plus a number basic image processing operations like thresholding, segmentation, and edge detection.

Butcher also has some of the most powerful tools for making "mosaics." For this, the colors of each subgroup of pixels in an image are changed to their average value, resulting in a pleasant "tiling" effect. Unlike many of the other programs discussed here, the software features built-in drawing (paint) and printing capabilities. However, it is limited in its HAM operations.

Deluxe PhotoLab

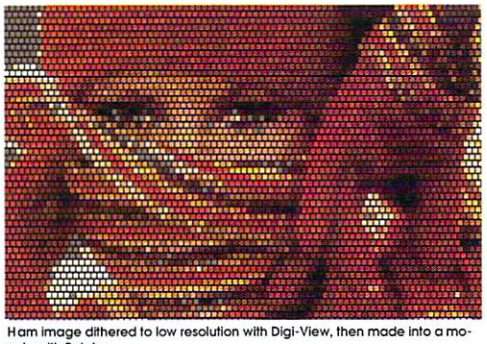
Deluxe PhotoLab, a $150.00 release by Electronic Arts, contains Colors, one of the most recent image manipulation programs. In addition, the package contains additional programs named Paint and Posters, for drawing and printing respectively. These are quite impressive in their own right, but I'll focus here on Colors. It has an excellent user interface and thorough documentation, including excellent appendices on the nature of color and the representation of images on the Amiga.

The program provides an especially enhanced set of color table operations, and is equally at home with HAM, overscan, and extra half-bright. One useful tool allows you in effect to

Picture of a cat, overlaid with Marr-Hildreth edges using Photosynthesis.

Processing

Amiga



Ham image dithered to low resolution with Digi-View, then made into a mosaic with Butcher.

turn the cursor into a magnifying glass for inspecting images. Colors is unique among all these programs in letting you resize an image to any size (subject to memory limitations). Its major drawback is the absence of many of the bitplane and image processing operations.

Digi-View

The new 3.0 Digi-View software that accompanies NewTek, Inc.'s image capturing hardware ($199.95) features some interesting capabilities. It doesn't have anything like the range of tools and techniques found in the other programs. However, it does allows you to convert to and from every format, including overscan and extra half-bright, and provides a thresholding tool.

It also uses some clever color dithering techniques when reducing HAM images to lo-res which "subjectively" augment the colors that are perceived. This takes advantage of the fact that when colors are shown close together at a distance, you will often "see" other colors that aren't really there. In addition, Digi-View has special software for optimizing the HAM images produced by the data generated by the hardware.

PIXmate

At the head of the pack of image manipulation software, in terms of speed and built-in comprehensiveness, is PIXmate ($69.95) from Progessive Peripherals & Software. This is another program that pays a good deal of attention to user friendliness and provides extensive documentation.

Its histogram equalization tool -- analogous to the audio equalizers for quality sound systems -- allows for precision fine-tuning of the color table. It is also fully able to handle HAM, overscan, and extra half-bright, as well as bitplane operations. About the only limitation is the absence of printing capability. Of the programs discussed, it provides the most sophisticated handling of color.

Especially impressive is PIXmate's repertoire of image processing capabilities. You get a whole selection of edge detection and image sharpening tools, as well as boolean and matrix operations. They can be applied to a single picture, or two at the same time, and accept a variety of parameters to control the results. It even lets you "grab" the screen of another program running in the background.

PhotoSynthesis

The last program we'll look at here is one that manages to be the most restricted and most powerful at the same time. PhotoSynthesis, from Escape Sequence, Inc., retails for $149.95. It only works with lo-res non-interlace images, and cannot handle color as such. Furthermore, its interface is by far the most awkward and "user antagonistic."

What compensates for these defects is the extraordinary range of image processing operations the program provides. Almost any mathematical, boolean, or matrix operation can be performed. There are four built-in buffers allowing up to sixteen bitplanes per image. You can also load and save additional images during a processing sequence. The program works equally from the screen interface and from user specifiable "scripts," which allows unlimited recombination of the operations that are available.

Recommendations

How to sum up the differences between all these programs? The Digi-View software is very well suited for the picture capturing hardware it accompanies, though you would not want to purchase it solely for its image manipulation capabilities. And if you are looking for a paint program plus a printing program with your image manipulation software, Deluxe PhotoLab is probably just what you want.

The qualities of the other three programs might best be understood on the analogy of scientific calculators. Butcher is equivalent to a standard calculator, whose basic set of operations are more than enough for many purposes. PIXmate represents the many-buttoned advanced model, with a greatly expanded set of built-in functions.

PhotoSynthesis, finally, is like an awkwardly designed programmable calculator. There are things outside its scope, but it has unrestricted power for those tasks within it. If you are taking a course in image processing, you will want the PhotoSynthesis software. Otherwise, depending on the extent of your needs, Butcher or PIXmate should more than satisfy you.

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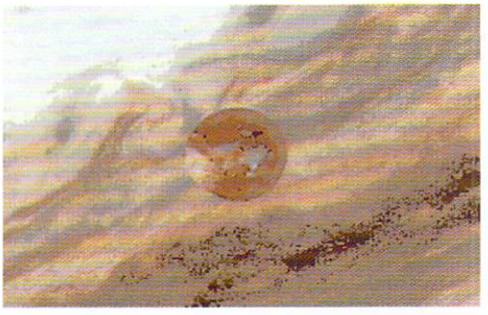
Editor's note: Additional image processing articles, examples, and a shopping list are included on the disks.



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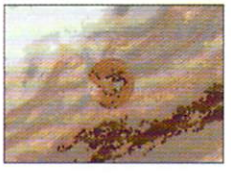
These 6 images illustrate the capabilities and processes supported by Photosynthesis. A Full review of Photosynthesis, and references to these images can be found on the disk portion of this issue.



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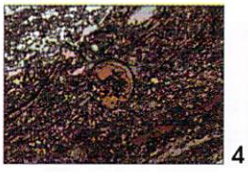

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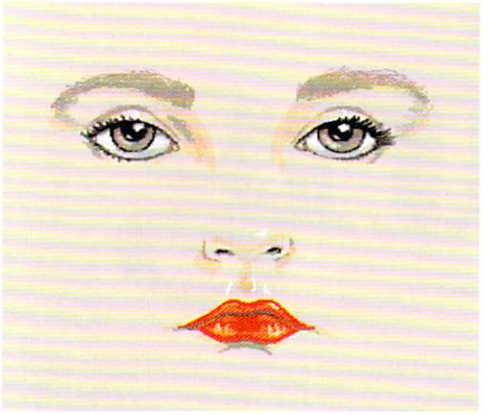


D'Paint III

An In Depth Look

by R. Shamms Mortier PhD.

Six months ago, I wouldn't have even dreamed that another version of DeluxePaint would be on the way. Why? DeluxePaint II had everything a good, long-lived paint program should have, and no other paint program on the market really could match it for ease of use and variety of options. But good developers can create markets for their wares where none exist, and after working with DeluxePaint III, I wonder how I ever got along without it.

DeluxePaint III really calls for two separate categories of reflection, one dealing with animation and the other everything but.

DeluxePaint III non-animation changes...
If all that was done to upgrade DeluxePaint II was to make these non-animation improvements and additions,DeluxePaint III would still be worth the extra cost. First, DeluxePaint III supports both the extra-halfbrite palette and workable overscan (meaning an overscan mode that you can see while you're painting, from border to border).

The only problem that I have encountered in the overscan mode is that in Hi-Res my memory sometimes says that eight colors (instead of sixteen) is the max. That's interesting, because I run four and a half megs on my system, so obviously, DeluxePaint III still makes extensive demands on Chip RAM. Until Chip RAM is expanded to at least a meg, we'll have to endure.

There are two new Brush modes: Extra-halfbrite and Tint. If your Amiga can access the Half-Brite palette, then more electronic magic is in store for you. By having a 64-color palette in Lo-Res and Video-Res (320 x 200 and 320 x 400 without the overscan options), you can create many more realistic shades and blends. Since many folks prefer not to use HAM painting programs because of some of the artifacting problems (smears and glows), DeluxePaint III may be just what the non-HAM user ordered. For most painting tasks, 64 colors is quite enough.

"Tint" has to be used and experimented with to be believed. With Tint, all forground elements are colored with the paint pot of your choice. The overlayed color does not affect the background. For example, you could use some of the Color-text fonts (two of which are packaged with DeluxePaint III) and create a line of lettering. Then you could select a circle or rectangle of another color, and literally spotlight a section of the text. This effect is most useful for high quality slide work, and for video, its use with a genlock can help you create some startling effects.

There is a new fill option that is accessed by hitting the ALT key at the same time that you fill an area. Users of Photon Paint will be familiar with this option, which allows you to choose a boundary color that remains free of the filling paint color. The standard painting/drawing tool has another option too, one that I personally find more than worth the cost of the upgrade. It is represented by a squiggley shape that is toggled in the same box as the standard tool. With it, you can paint irregular shapes that are automatically filled with the color of your choice.

But that's only half of it. If you've grabbed a brush and selected "Wrap" (again familiar to Photon users), then that brush will be retrofitted into the shape that you draw (the same brush also "wraps" itself into circular, oval, polygonal, and rectangular forms when those options are selected). These variables allow you to create some very novel graphics. I especially like the way they interface with text brushes (pieces of a text line that you grab from the screen). By combining information that you have set up in the Fill-Type Requester and in the Spacing Requester, DeluxePaint III combines the effects into that of a filled and outlined shape at the same time.

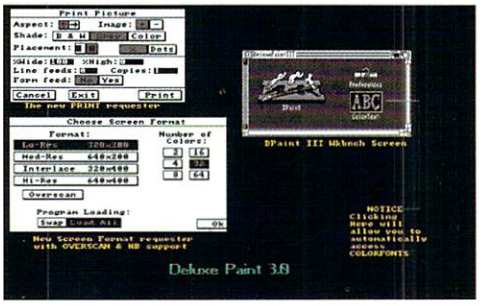
The section in the manual that pertains to using the Perspective Mode has been dramatically updated. I can still remember how perplexed I was when I first tried these controls in DeluxePaint II. It took me several weeks to get the hang of it, and the manual was pretty vague on tool use. Now, even a first time user should be able to understand the process in a matter of hours. This section boasts many helpful graphics to supplement the text, and a map of the pertinent keyboard controls. There is also an expanded section on changing the "handle" of your Brush, something that can radically alter perspective manipulations. If you click on the Grid Tool with the right mouse button, you'll bring up the Perspective Requester. This requester replaces the choices found before under Perspective in the menu bar at the top of the screen. Here is where you indicate the degree of anti-aliasing (None, Low, High) and the one-step angle of rotation. This is the angle that your brush rotates when you hold down both a rotation key on the numeric keypad and the Shift key at the same time. By rotating a brush and holding down the ALT key, the brush handle is toggled. With a little practice here, it is possible to create authentic three-dimensional wrap around shapes (all that's missing are the lighting controls). There are now some very complete tutorials in this section.

No need to worry anymore about not having enough memory to grab a whole screen in order to mirror it vertically or horizontally, as there is now a command that flips the screen in either orientation without any Brushes involved.

In addition to the ability to switch the handles of Brushes, the Brush menu also contains another very useful option: Automatic Outlines. Here, you can add or delete a one-pixel outline of a brush. When you want to have two lines of text overlap each other without having the clarity of information lessened, this is a way to achieve that task.

Since "ColorFonts" are becoming so much the standard in Amigaland, DeluxePaint III now allows you to access these directly from the requester. There is a ColorFont icon on the workbench disk that turns on this capacity. The old font requester has been replaced by one that allows you access to any font on any disk, including ColorFonts (Hooray!!). Also removed is the old method whereby a listing of too many fonts would mess with the screen, sometimes causing the program to crash. The only thing absent here is a way for the new requester to list directories on a disk.

Stenciled Brushes can now be lifted off of the background without any surrounding picture elements. "AutoTransp" allows you to pick up a Brush from the any color background without first selecting the background color as "Color 0". To save space on your disks, files can be saved without icons.



And Now for the trully Impossible...
Amiga artists praised Electronic Arts and Dan Silva when they realized that DeluxePaint II had a fully functional Perspective Mode. That was an unheard of attribute for a microcomputer graphics program. Since then, all serious graphics contenders include the capacity to handle perspective. What has also occurred since then is the blending of many kinds of programs under one hat, so that it is sometimes hard to categorize a program as a "Paint" or "Animation" or "Modeling" package. Not to be left in yesterday's methodology, DeluxePaint III has followed suit. DeluxePaint III offers some of the nicest and friendliest animation capabilities I have ever used. They are in fact so friendly that I saved four disks of animation the same day I received the program, and don't need to reference the manual anymore to start creating.

If you were to buy the animation package alone, it's probably worth over three hundred dollars at today's prices. But for half that investment, you get an animation page-flipper extrordinaire and a great painting program, and both can be used on screen at one time! Like all other

Amiga page-flippers, the more RAM you have the better. It's also useful (but not vital) to have a harddisk to store longer pieces on, although with the right video equipment, short sections can be edited seamlessly together.

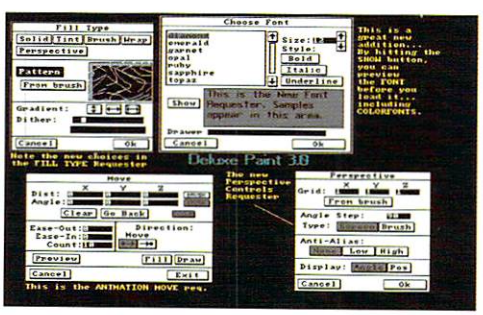
To reference the idea and process of "page-flipping", the DeluxePaint III manual has a page-flipping animation of Dan Silva juggling the EA symbols while he rides a unicycle. Printed on the lower right corner of every page, "flipping" the pages produces an animated short and gives you an education in the technical page-flipping process at the same time. This animation can also be seen on the screen by loading one of the tutorials. Don't think for a moment that the animation capabilities in DeluxePaint III are just fluff. They're state-of-the art techniques that produce professional results when seen via videotape, as long as you have the right recording equipment. The commands are easily remembered because they make graphic visual sense, rather than have you get a doctorate in structural engineering before you can proceed.

Material can be saved either in a compressed (delta compression) or expanded (whole screen) format. Delta compression routines save only the changes in visual information from page to page, and therefore take up less disk space (I saved 60 frames of a very complex Lo-Res piece to disk, taking about two-thirds of the space).

Let's take a peek at some of the ways that DeluxePaint III allows you to create animated masterpieces.

Two sections in the manual explain the animation tools thoroughly: "Animation Basics" and "Animation Effects". The first step is to bring up the "Set Frame Count" requester, and tell DeluxePaint how many frames long your animation will be. Along with this, you choose the playback speed, which defaults to 30 frames per second (fps). Speed can also be altered during playback. The whole point here is to use the Brush that is currently active and to set it in motion.

Frames can be inserted or deleted from any sequence. You can create your animations in any resolution, remembering that Lo-Res allows the most frames, Med-Res and Video-Res about half as many, and Hi-Res about a quarter as many. Overscanned screens also eat up disk space. A "Move" requester is at your disposal, allowing you to turn a Brush on any axis, and to reduce or enlarge it in increments for the animation sequence. Another facet of DeluxePaint III animation is that color cycling can be added with the touch of the TAB key for even more awesome results.



The Move Requester has several fancy options, in addition to moving and rotating Brushes. Brushes can rotate on the screen's axis or on their own axis. Each Brush can be reset to an originating position with a "Go Back" command, and a neat little tutorial demonstrates this visually. "Cycle" allows you to command an animation to loop back upon itself, creating a continuous motion. An "Ease-in/Ease-out" button causes the animation to slow or speed up, allowing certain movements to be observed as more "natural". There is a "Record" option choice that specifies the directions in which DeluxePaint III paints the frames of the move: Forward, In-Place, or Backwards. Two of the selections here are ones that I am especially fond of,.."Trails" and "Fill".

"Trails" causes a succession of trails to tag behind a movement, much like what an animator uses in standard tracing paper animation techniques. "Fill" is really "Fill Plane", and it generates a perspective plane that moves in accordance with the parameters set here. The result is an animation that seems like you're looking out of an aircraft window at a spinning perspective world far below. Combined with another brush, the effect can be almost dizzying. All moves can be previewed in wire frame before you paint them down.

Above. An example of wrapping a brush around several shapes.

One very useful feature is that as you develop specific "actors" in your animated masterpieces, they can be saved individually as "AnimBrushes" for later use. That means that a character or animated element can be loaded and used against many backgrounds, and different AnimBrushes can be combined in an infinite series of stories. By holding down the Left Amiga key while you've got an AnimBrush in hand, you can automatically paint the Brush into each progressive frame. The secret of not going crazy as an animator is to accomplish repetitive tasks with ease, and there's nothing easier or more fun than using this DeluxePaint III tool.

To get even more intricate, you can bring up the "Anim Brush Settings" requester and change the speed and direction of any AnimBrush. The chapter on animation effects describes some more advanced ways of manipulating the animations, along with some clear tutorials that make the learning process as easy as possible.

Above.Another image drawn with Deluxe Paint III.

The manual ends with a "tips" section for animators, a reference section, Appendices, and an index. Like all manuals from Electronic Arts, it is very clearly written and professionally produced. Addendum material exists on the supplemental disks (there are three disks in the package). On the Animation Disk there is a player utility that can play your animated movies. You can copy it to the same disk as your animations for distribution.

The only major problemn I had was that the color requester refused to be removed from the machine and therefore I had to reboot. I found out that I was one of the users that copied the program with Marauder, which totally screws up the palette requester. I sent in the original for replacement. I'll work around the issue by loading in scenes that have the palette that I want, and then erasing them, but keeping the palette configuration. Yes, I tried to get around the issue by using DOUG's COLOR COMMANDER, but that just crashed the system. It seems DeluxePaint III doesn't appreciate the way that DOUG is stored in memory.

Minor Complaints

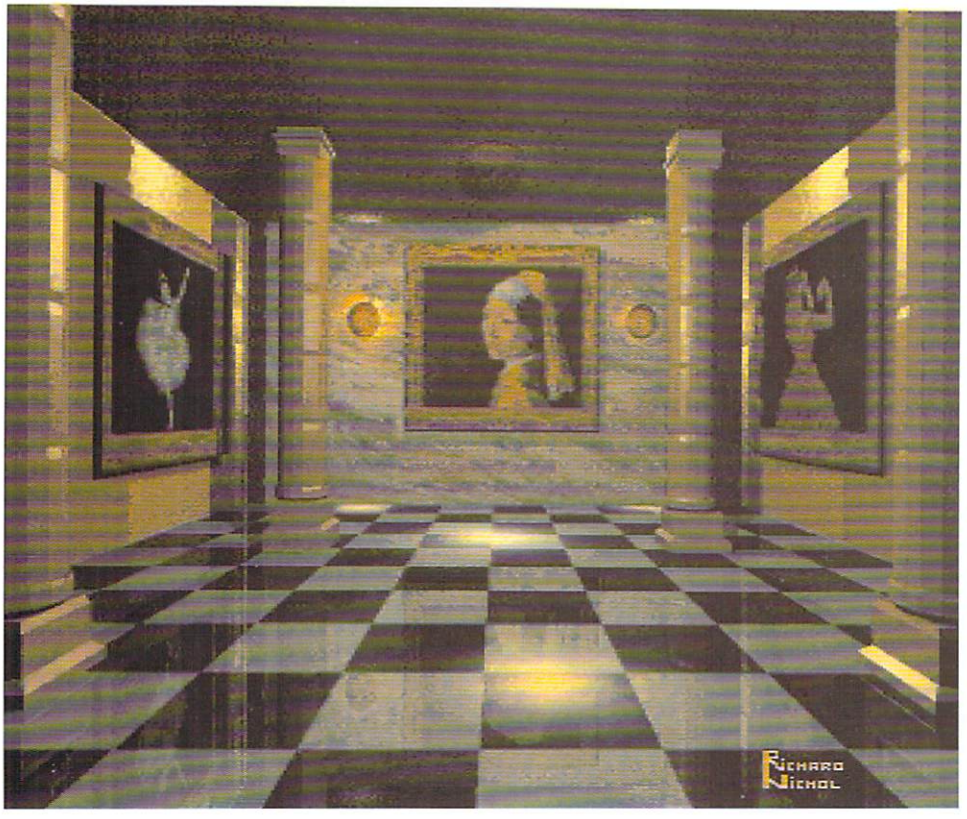
I would like to see some method of "Blue-lining" included in a future update. This is a method that shows an animator where a previous frame's elements were placed, so that smoother transitions can be designed. I would also like to pass a message to EA to put in some 68020/68881 support.

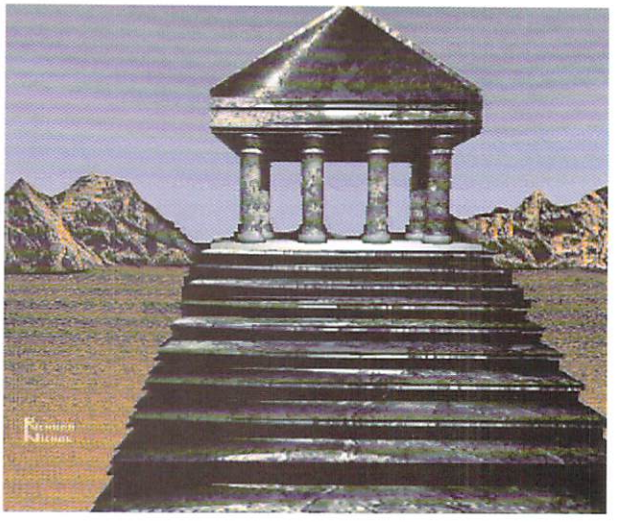
The only real gripe I have is that F8 no longer removes the cursor from the screen. I liked this feature, but when you're flipping frames, the cursor dissappears anyway. I guess EA thought this was sufficient.

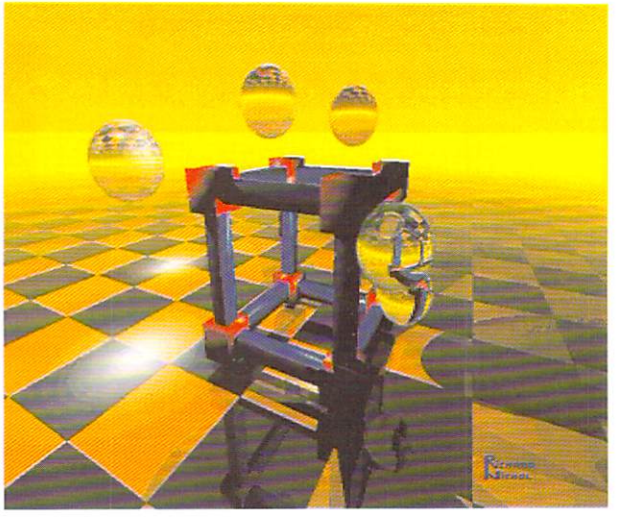
It took EA about three weeks to get my update to me, as they send it by regular mail (unless requested otherwise and remunerated accordingly). It was well worth the wait. I can't even dream what Dan has in mind for Deluxe Paint IV, but I feel his gears grinding away.

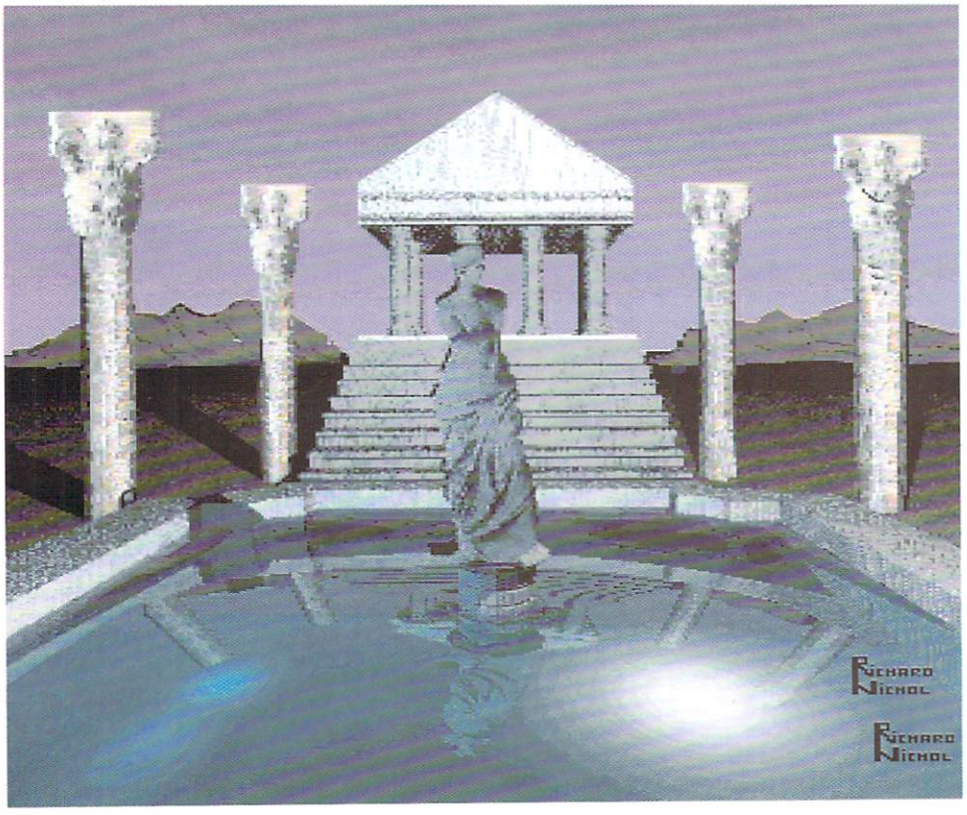
DeluxePaint III
written by Dan Silva
distributed by Electronic Arts
PO Box 7578
San Mateo, CA 94403-7578
415-571-7171
Suggested Retail Price: $150.00
Registered owners of DeluxePaint I or II may upgrade to the new product for $57.00. Contact the company for details.

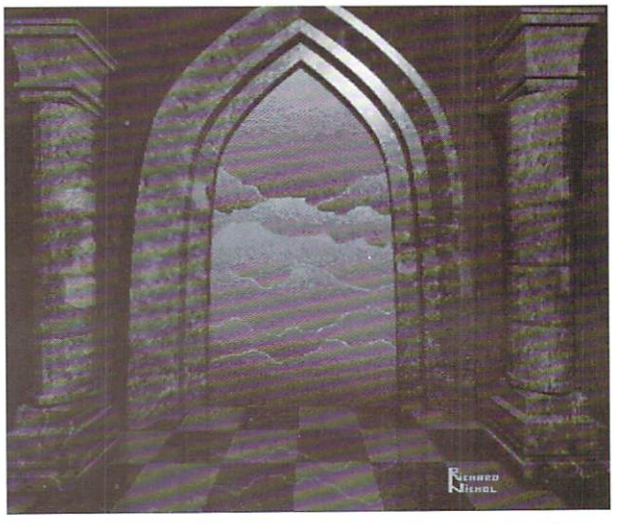
A.X. Magazine's Reader Art Gallery



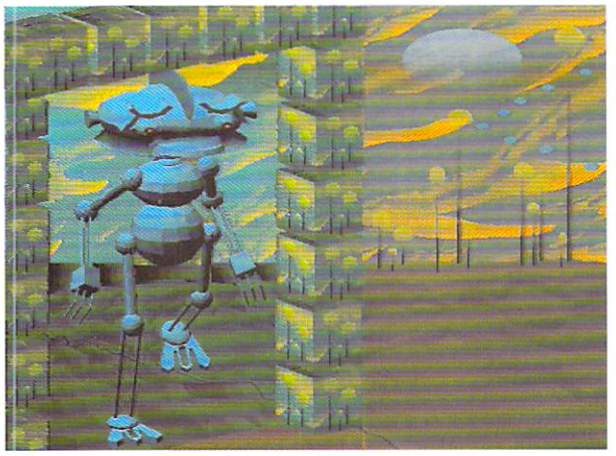


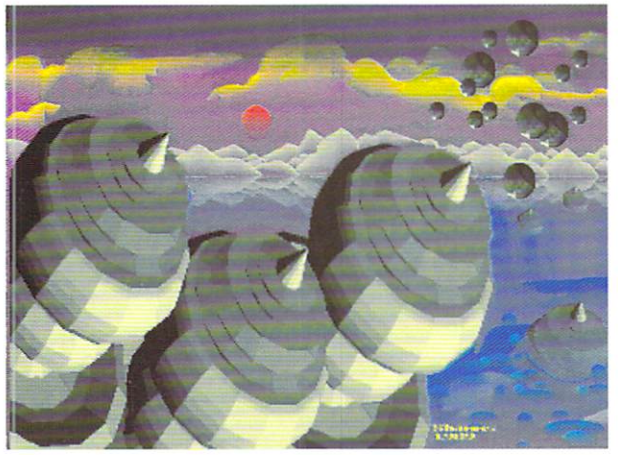


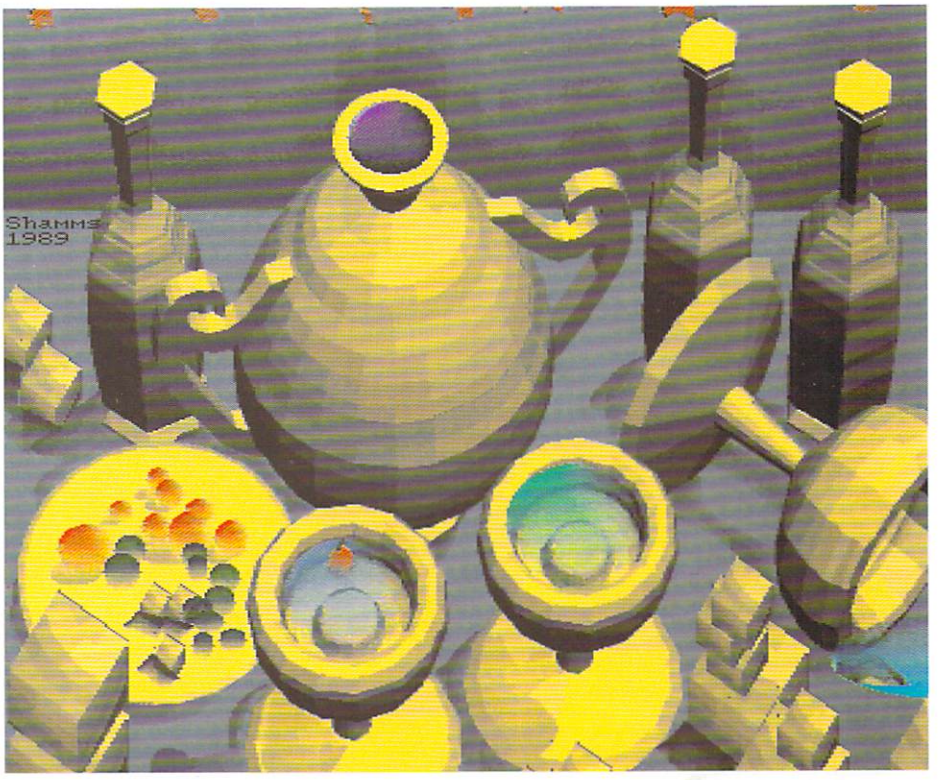




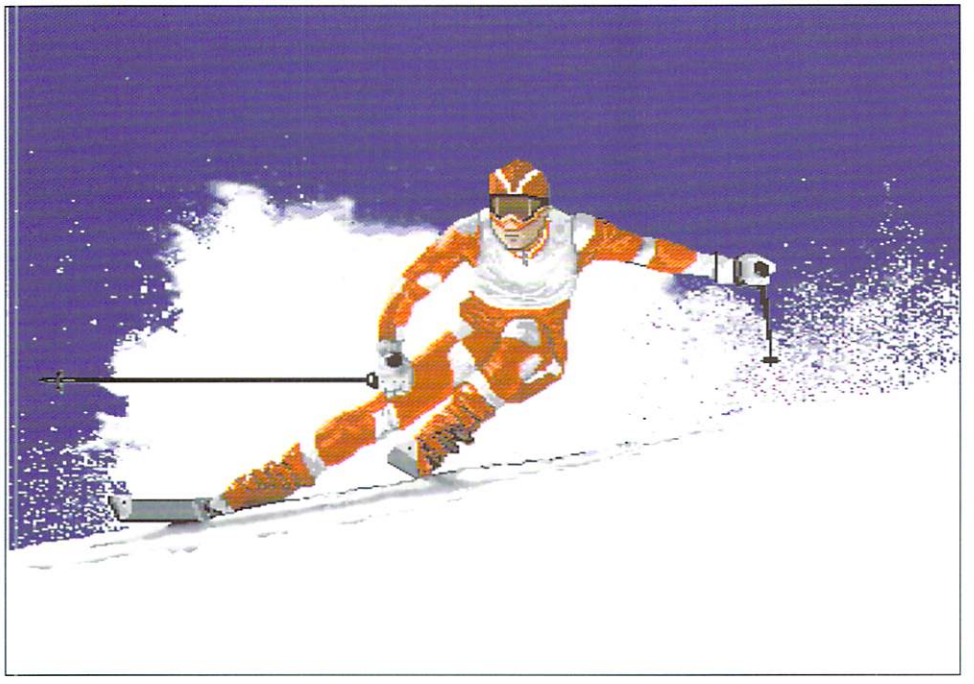
Art Museum (above left), **Grecian Landscape** (left), **Parthenon** (top right), **Cuboid** (middle right), and **Doorway View** (bottom right) were raytraced with Turbo Silver 3.0, and retouched with Deluxe Photolab. These images were done by Richard Nichol of Lewisville, Texas.

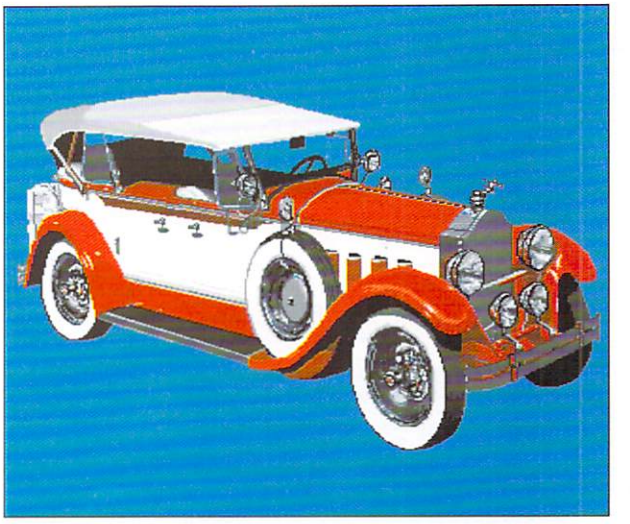






Still Group (above), **Doorway** (above left), and **Arctic Visitors** (lower left) were done by Shamms Mortier with Caligari. They originated as Caligari objects, and then were further enhanced with Photon Paint. These examples illustrate Shamms' article on Caligari.





1929 Packard (above) and Downhill (left) were drawn with Deluxe Paint II on an Amiga 500 by Gregg Wilcox of Minneapolis, Minnesota.

Last Issue...

Amiga News and New Stuff The latest scoop on what's out and what's still vapor. Article by Jay Gross

Letters To The Editor Keep those cards and letters rolling in. Here's a sampling.

PROGRAM: Requestor Text Changer - for CLI Tired of those same old "system requester" messages? Change 'em! Program by Carolyn Sheppner. Run this from CLI! It is in the MORE! directory.

PROGRAM: Directory Maker - for CLI This item makes AmigaDOS subdirectories with your choice of icons. Program by Ron Shaw. This program must be run from CLI.

PROGRAM: LS - for CLI LS lists directories, fast and neat. Residentable, for one-drive owners. LS v2.2, a CLI-only utility, is by Justin V. McCormick

PROGRAM: DiskSalv v1.32 - for CLI DiskSalv will usually recover disks from the Read/Write Error gremlin. Program - now works with FastFileSystem - by Dave Haynie - ON DISK #3

A Command By Any Other Name Calling a spade a pawprint, or anything else. AmigaDOS 1.3 - ALIAS. Article by Jay Gross

The Gossip Fence A little bit of knowledge can be a dangerous thing. Total Fiction by Jay Gross

EDITORIAL: Arexx in Every Pot Arexx has the power and promise for interprocess communication. Editorial and article by Jay Gross

HINT: Boottime Blinking When the Amiga boots, it's really telling you something with that blinking.

Shelling Out T-Shell, hot on the heels of the new AmigaShell CLI environment. Review by Michael Hubbartt

What Makes A Great Game Great? Some games are fun, and some are like blank disks, only not as good. Article by John Thompson

Six-legged Amiga Robot Ready for a trip to Mars? A robot run by an Amiga might be. Article by Robert Deck

= Virus Watch = If only you could haul your computer's mouth open and dump in some aspirin.

PROGRAM: Virus-X version 3.2 This latest version zaps the irksome IRQ virus and eight other new ones. Program by Steve Tibbett - On Disk #3 in the MORE! Directory.

PROGRAM: KV - for CLI This program looks for and removes the IRQ virus. USE FROM CLI ONLY. Program by Dan James. Available in MORE! of Disk #3 (AX3:).

Virus Warning A proported newer version of VirusX3.3 is really a virus. Important information

WORKING DEMO: MovieSetter ICON Load any MovieSetter animation and take it apart to see how it works. The demo does everything but save. NOTE: Demo requires 1-MEG or more.

SPREADSHEET: Template - Ohm's Law To use this, you need Analyze! or some other 123 compatible spreadsheet program. You can use this application as is, or adapt it to your own needs.

NEWS: Magellan Adds Arexx Emerald Intelligence adds Arexx port and announces other improvements. - = -

Bridging the Gap Getting the Amiga's Bridge Board to perform isn't all a bed of roses. Article by Sally Hubbard

NEWS: Amiga Accounting 102 Brown-Wagh adds to the vast array of Amiga accounting programs.

NEWS: Home Office Budgeting Gold Disk ships Desktop Budget for home entrepreneurs.

PICTURE: Budget WorkScreen This is Desktop Budget's 8-color "WorkBench" showing its icon interface.

NEWS: Graphics Wordprocessing Brown-Wagh's PenPal program mixes Amiga graphics and the PRINTER's text.

NEWS: Wordprocessing Update New update of excellence! fixes some problems.

NEWS: KindWords 2.0 The Disc Company ships KindWords wordprocessor version 2.0.

PROGRAM: Mail-Tel - Easy Database ICON Track names, addresses, or anything with this database program. Mail-Tel.BAS, program with source code and demos by George Trepal - On Disk #3

Animation for the Very Young The Talking Animator makes animation literally "child's play." Article and review by Marty McClain

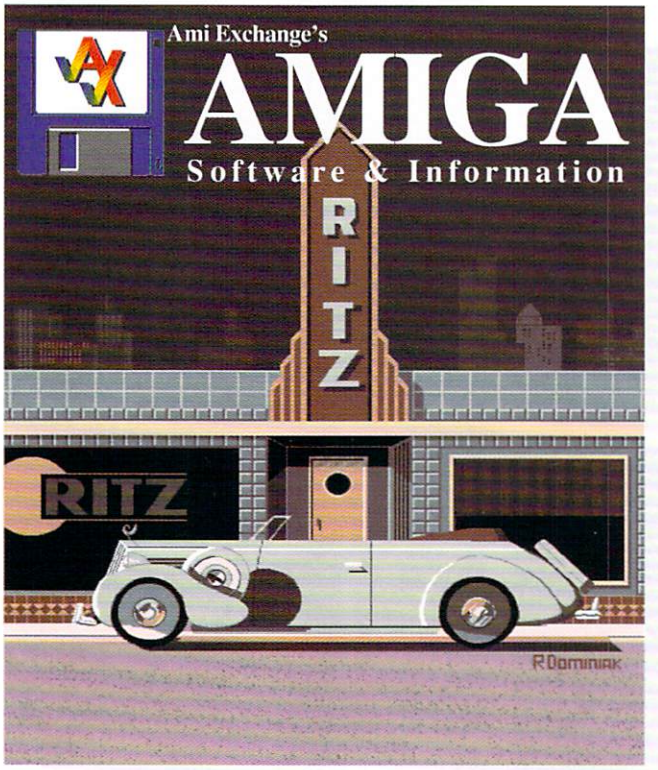
NEWS: CBM Appoints Education Council CBM's new push toward education markets starts with an Advisory Council.

NEWS: Video Training Seminar Banking on video as a door into education, CBM holds a class for educators.

New Compiler on the Block M2Sprint Modula-II takes on the pack, offers TDI owners a changeover path. Article and preview by Chris Bailey

NEWS: Hardware Development Tool Prototyping a hardware product for the Amiga 2000, made easy.

Draw Routines in Modula-II The adventure continues. Adding some neat features to the program. Article, program, and Modula-II source by Rich Bielak



SOURCE CODE: Modula-II Draw The source .MOD and .DEF files for the demonstration program Draw can be found on disk #2 in the DRAW directory.

PROGRAM: Draw This is the compiled, working program so far. Program by Rich Bielak

NEWS: C-ompiler War Escalates Lattice has been getting the headlines, but Manx's turn is coming. Article by Michael Hubbartt

NEWS: Lattice Updates C 5.0 This is detailed technical information on the bugfixes in Lattice C 5.02.

Help! AmigaBASIC TOOLKIT Help is here for all you AmigaBASIC programmers out there. See disk #3. AmigaBASIC Toolkit by George Trepal

PROGRAM: Mix Your Colors ICON AmigaBASIC TOOLKIT: Mix a color palette for use in your programs. Colors.BAS, program with source code by George Trepal. On Disk #3.

DOCUMENTATION: Mixing BASIC Colors AmigaBASIC TOOLKIT: Color palette utility. The documentation. Article by George Trepal.

PROGRAM: Cycle Colors ICON AmigaBASIC TOOLKIT: Here's a program to make color cycling easy. CYCLE.BAS, program with source code by George Trepal. On Disk #3.

PROGRAM: Disk Directory Utility ICON AmigaBASIC TOOLKIT: Mergeable code for getting and sorting a directory. DIRS.BAS, program with source code by George Trepal. On Disk #3.

PROGRAM: BASIC Text Printing ICON AmigaBASIC TOOLKIT: Spare some drudgery in formatting PRINT statements. MakePrint.BAS program with source code by George Trepal. On Disk #3.

PROGRAM: Requester Maker ICON AmigaBASIC TOOLKIT: Here's a simple way to get requesters in your programs. Requester.BAS, program with source code by George Trepal. On Disk #3.

PROGRAM: Plotting the Chaos Function ICON Here's a new math oddity, Chaos, and a plotting program. Chaos.BAS, program with source code by George Trepal. On Disk #3.

Music Sampler Library Here's how you can get disks of A.X.'s music columnist's creations. PD and shareware disk library by Sally Ann Hubbard

MIDI Timing and Counting Step timing isn't all that bad. Here are some things you need to know. Article by George Glines

Is There A Doctor in the House? Dr. T's Keyboard Controlled Sequencer: a program in search of support. Article and review by George Glines

Introduction to MIDI Music Everybody has to start somewhere. This is MIDI for beginners. Article by George Glines

Coping with Deluxe Music Finishing up the series on the how-to of Deluxe Music Construction Set. Article by Sally Hubbard

Special Drumbeats Font If you want to score for drums, you need those funny drumbeats characters. Amiga Drumbeats font by Sally Hubbard

MUSIC: A.X. Theme Song The music you hear is the A.X. Theme Song. Original Sonix music composition by John Thompson

MUSIC: New Age Music from Down Under This is music of a "New Age" nature by A.X. reader Vincent Chu of Australia.

MUSIC: More New Age Music Original music by Vincent Chu of Tasmania, Australia.

The Missing Chart Here's the chart that was omitted from Sally Hubbard's article in A.X. 2.1 - = -

FIRST LOOK: Pro Draw Professional Draw: a new structured graphics art program from Gold Disk. Article by Jay Gross

REVIEW: MovieSetter An animation program that's not just easy, but FUN! Article by Chris Bailey

The Army Tank Color Printer "Built like a tank," only BETTER. Check out the Fujitsu color printers. Hardware review by Jay Gross

PICTURE: ScanLab Shows Off The owl's eye is a HAM output from ASDG's ScanLab line of color scanners.

ScanLab: High Class Scanning Add ScanLab to your Amiga and scan up to 300 dpi up to 16 million colors. Article by Jay Gross

About the Hack-CBS Animation A little background on WHY Leo Schwab takes his axe to CBS.

Animation: Hacker's Revenge ICON Leo Schwab expresses his ANIMosity at CBS TV's unkind remarks about hackers. Run this animation from its icone (V2) on disk #3, in the MORE! directory.

CBS TV's Coverage Here is a transcript of the material that made Leo unhappy.

Printer of Many Colors Star's NX-1000 Rainbow, another way to get the Amiga's colors onto paper. Hardware review by Don Henry

Printing So Fine Save those used-up ribbons, if you want to use Fine Print. Review by Chris Bailey

PICTURE: FinePrint's Work Screen Here's what the work screen for the FinePrint program looks like.

NEWS: Enter Interfont Syndesis has shipped Interfont for making structured fonts and text objects Article by Jay Gross

And the Winner Is... This year's Badge Killer Demo Contest Winners list.

VIDEO: Color Shifts A simple explanation of the complicated Mired filter value system. Article by Jay Gross

Video That Doesn't Move There's probably coming a time when you can take "snapshots" in video, too. Article by Mark Power

NEWS: Video Application Software Visions shows off a video application of Microfiche Filer Plus.

TeleColumn News, views and a teensy bit of gossip from BBS-land. Column by Chris Bailey

HINT: Practical Modem vs BBS-PCI5 The Practical Peripherals PP2400SA modem needs help to work with BBS-PCI Article by Jay Gross

BBS Spotlight Taking a closer look at a couple of Amiga BBS's around the country. Column by Chris Bailey

Protocols Continued Everything you never even wanted to know about the Ymodem specification.

Fresh Fish. . . Listings of the latest Fred Fish Amiga Freely Distributable disk library. This listing is for FF Disk # 173 through FF Disk # 178.

Two Games Square Off Torch and Tracers 2081. Similarities, differences. Comparison and reviews. Article by John Thompson

Zooming Around It's the plot that makes it. Honest. Another view of Zoom! Review by John Thompson

FUN: Micro Double Microdeal's double trouble for (electronic) sports fans. Review of Zero Gravity and Amiga International Soccer by John E. Ramspott

FUN: Broderbund's SpaceRacer Screaming around corners, worrying about running out of fuel. What fun! Review by John E. Ramspott

Bored? What you need might be a little Enlightenment. Game review by Joe Wegrzynowski

Stand Back, Sports Fans TV Sports Football, another new Cinemaware title. Channel A (for Amiga). Article and review by John E. Ramspott

A Game of Vast Proportions Empire shows you only what you've explored, and there are OTHERS exploring! Review by Kevin Rohrer

DON'T PLAY THIS GAME! ICON You've been warned. WordHai! a word game you WON'T want to stop playing. Program by Michael Crick

About WordHai Some information about WordHai, its author, and C sourcecode availability.

Dungeon Master Hints That Cost Money If Dungeon Master gets TOO confusing, you can check out a pay hint disk. Article and review (of the hint disk) by Chris Bailey

PICTURE: Hint Disk Example An example screen from Tony Sevéra's Hint Disk for Dungeon Master

Grab Your Codewheel Dungeon Master, the long-awaited king of the regions of darkness. Review and game tips by Chris Bailey

Cheating Dragon's Lair Don't read this unless you're desperate. Or unless you want to cheat.

Talk About Fancy Animation! Sword of Sodan is like watching a Saturday cartoon on your Amiga. Game review by Tom Zelinski

Queen Takes Knight. Check? Chess isn't new, but you wouldn't know it from seeing Battle Chess. Article and review by Kevin Rohrer

PICTURE: Battle Chess InterPlay's Battle Chess has a setup menu that - well, see for yourself.

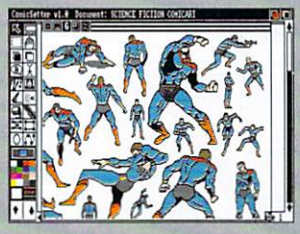
DEMO: DungeonQuest ICON A working demo to show off the look and feel and sound of DungeonQuest. Game demo by Image Tech.

About DungeonQuest Some information about the DungeonQuest Demo and the Image Tech game.

The Just-For-Fun Department Did you get ahold of the newest game fad yet? Scum Sucking Space Slugs. Pure hilarity by John Thompson

See something you like? Take advantage of our Half Price Sale! Details can be found on your order form.

Sunday Funnies.



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