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On Point

Notes from editor Tom Bucklin

Welcome to a very special issue of the Sentry. It's special in several ways.

First of all, some of you may have already noticed that this issue is dated February. No, we didn't sleep through January, but we have had to get in step with our magazine distribution. Up until now, we have dated our issues with the month in which they go on sale. This seemingly logical schedule has led to some confusion since most other periodicals pre-date their issues by a month. Since it is the new year, we decided this would be a good time to institute this practice.

We think that this is a good decision that will ultimately lead to less confusion when it comes to distribution of the magazine into your local store.

MIDI also makes this issue very special. If you are into music, or just enjoy listening to quality sounds, MIDI can help you to get the most out of your music. Those in the know are all too aware of how little has been done with the Amiga and MIDI. Atari built a MIDI port into their ST series of computers on a bet that it would create a vertical market for the machines, and it worked.

The Amiga, with all of its remarkable abilities, would surely make a powerful MIDI control device; that is, with software to support this function.

Wait no longer! A host of professional level MIDI software and hardware products for the Amiga are being released. Everything from sequencers to patch librarians are making their way to the Amiga music enthusiast. These products are not just attracting the efforts of the traditionally pro-Amiga developers either. Companies such as Dr. T's and Magnetic Music will join developers like Microillusions (Music-X) with their full line of high end MIDI products.

In this issue, we've brought you reviews on several new MIDI packages for the Amiga. We have also included reviews of the synthesizers they support. These reviews will give you solid information on the capabilities of the instruments so that, if so inclined, you can make the right decisions before purchasing a MIDI instrument to go along with your new Amiga software.

Also in this issue, we take a look at two new products from Abacus, "DataRetrieve" and "TextPro". You can also read about how Commodore recently took part in an exhibition displaying the power of the Amiga to the design industry.

If you've been waiting forever for the next release of the Cinemaware series of adventures, the wait is over! "The King of Chicago" has been released by Mindscape, and you'll find a revealing review in this issue.

We also take a look at Progressive Peripherals' new release, "IntroCad". As you will see, this "introductory" CAD package offers some very powerful capabilities.

Until next time, enjoy the issue. Feel free to let us know your comments and suggestions.

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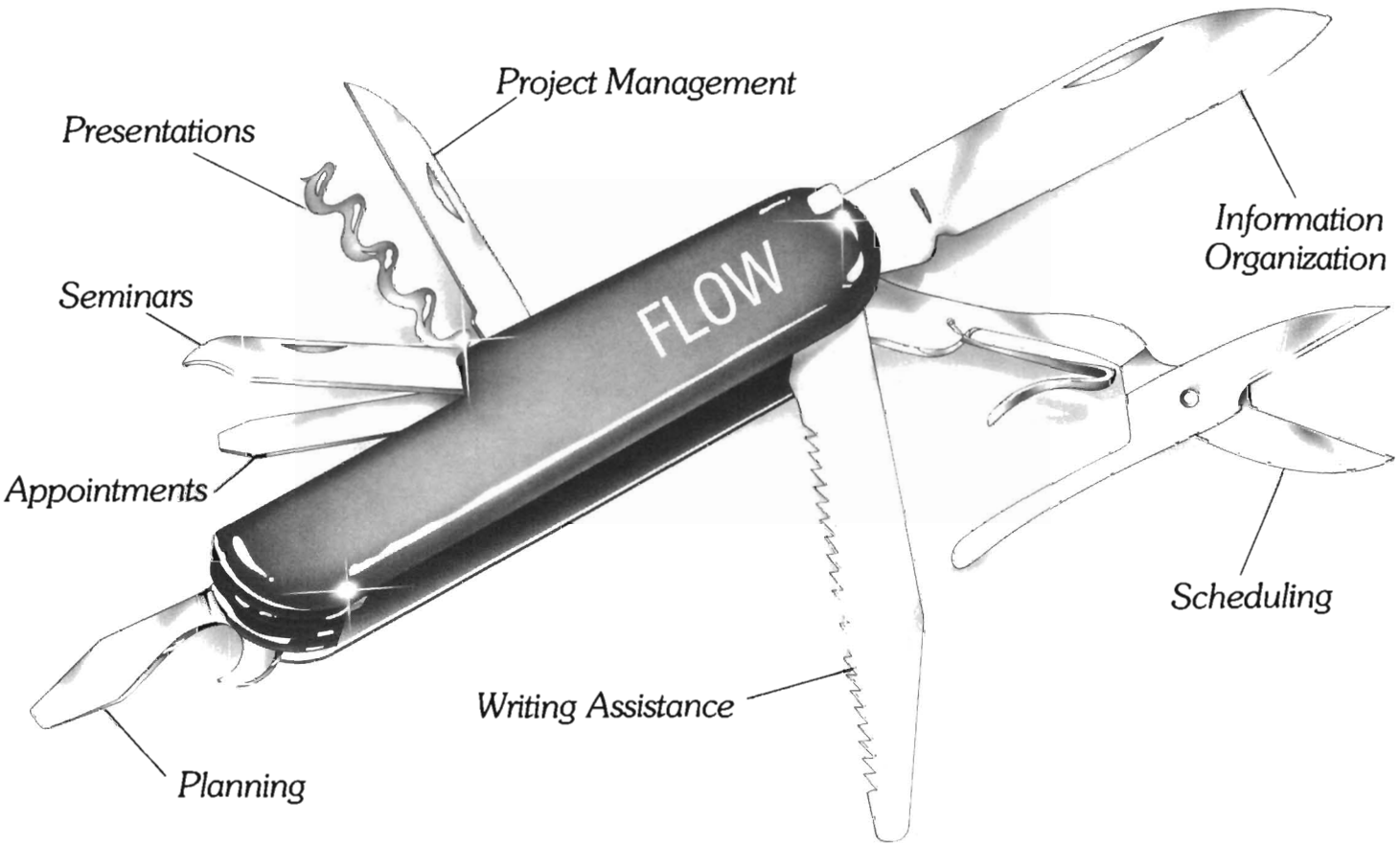

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The World of Commodore

Thousands flock to see the latest and greatest in Canada

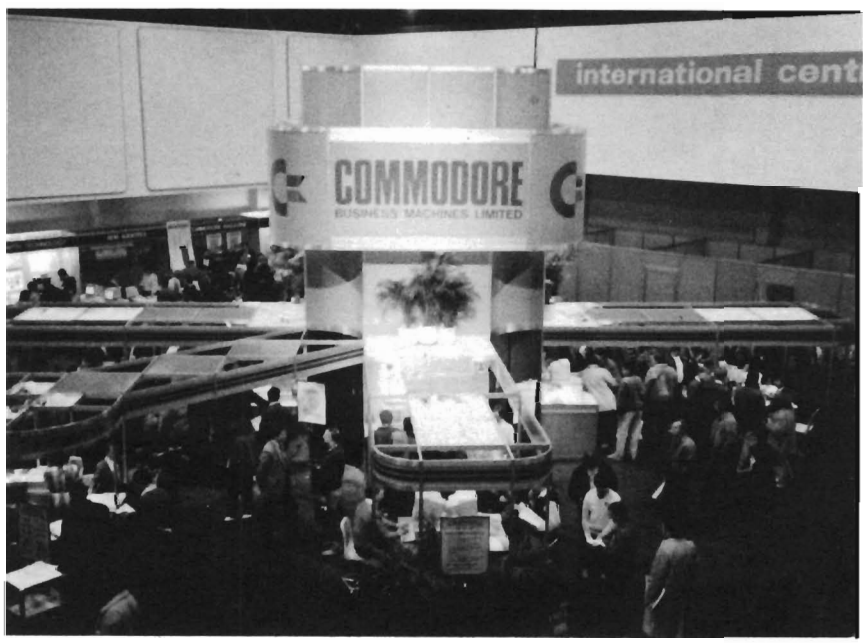
by Rod Molina

The World of Commodore Show took the floor of the International Centre in Toronto, Canada from December 3rd to 6th, and brought together developers of Commodore related products and over 40,000 attendees during a four day event. Although it was a show for all Commodore machines and products, including Amigas, C-64's, C-128's and MS-DOS based machines, the Amiga was clearly the star of the show. From the stage set-up, which included a massive 35" television monitor enclosed in a cabinet emblazoned with the new Amiga Logo and the promotional: "Only Amiga Makes It Possible" to the various Amiga-supporting developers on the floor, it was definitely an Amiga event.

Throughout the show's four days, the exhibition floor was alive with people flocking to the different booths, anxious to see what was new and available for the Amiga. Commodore's impressive, towering booth housed a few individual developer's, as well as it's own staff. A Canadian software development company, Airware Inc. was promoting the business capabilities of the Amiga through a new airline scheduling system that takes advantage of the Amiga's powerful graphics and processing capabilities. Beyond Graphics' Derek Grimes, an independent artist/animator was in the Commodore booth demonstrating the various animation and graphics software used in the development of the current Amiga TV ad campaign (which was constantly playing through several video monitors around the show's presentation stage). Sound Quest demonstrated the MIDI capabilities of the Amiga using a variety of music synthesizers and Texture, a MIDI sequencer program. Commodore showed some of their own wares in the form of a new professional, broadcast-quality genlock for the 2000, a video frame digitizer, and a new 1084 RGB monitor. This monitor is compatible with the Amiga RGB Analog, and 64/128 composite requirements.

On the show stage, many familiar developers demonstrated their latest products to the enthusiastic crowds. Electronic Arts presented Ferrari Formula One,

Looking like an earth bound space station, the main Commodore booth was an attraction in itself



an auto-racing simulation, and Chuck eager's Flight Trainer, a high-speed animated flight simulator. Gold Disk Inc. received a lot of attention with their presentation of Professional Page. An excellent demonstration showed both its power and ease of use for the serious desktop publisher. Gold Disk also showed Comic Setter, a new program which lets you create full-color comic strip layouts.

Speaking of full color, Interactive Softworks was also present with Calligrapher, the powerful font builder that goes beyond the capabilities of standard Amiga fonts. Colorfonts is already being incorporated by Aegis in their new titling program, Aegis Videotitler. Desktop Video is an area where the Amiga is quickly developing a respectable reputation.

At the World of Commodore, several companies displayed and announced products that sparked interest in many attendees. Aegis Development gave a stage presentation of desktop video, demonstrating spectacular three-dimensional animations with VideoScape 3D and playing digitized soundtracks using Audiomaster. Newtek amazed the crowds with a presentation of their "4096 Color, all at one time" paint program, DigiPaint. Newtek also announced two new products. Digi F/X is a software package for creating special effects video presentations similar to their infamous "Maxine Headroom" demo. The "Video Toaster" is Newtek's new hardware device that will give the Amiga 2000 a genlock, realtime frame grabber, and digital-effects generator all on one board.

...and a good time was had by all

Elsewhere in the exhibition center, other companies were showing their latest releases for the Amiga Community. A Canadian Software developer, Hypertek/Silicon Springs displayed three products: a Deluxe Midi Interface, a Lightpen and driver, and a very significant program for Amiga users everywhere, GOMF. GOMF (Get Outta My Face!) started as a shareware program that allowed users to recover from the familiar "Software Failure, Task Held" requestor. A stage demonstration showed that GOMF 2.0 eliminates any further visits from the Guru!

Infinity Software showed Hot Licks, a Casio keyboard emulator, along with their Shakespeare color desktop publishing program. Micro Systems Software showed The Works!, an all-in-one business package. RGB Video Creations, an Amiga-based video production company and software developer, showed DeluxeHelp for DeluxePaint II -- the first release in their new line of interactive tutorials. At home in Toronto, Very Vivid Inc. was present with their Mandala interactive video-midi system.

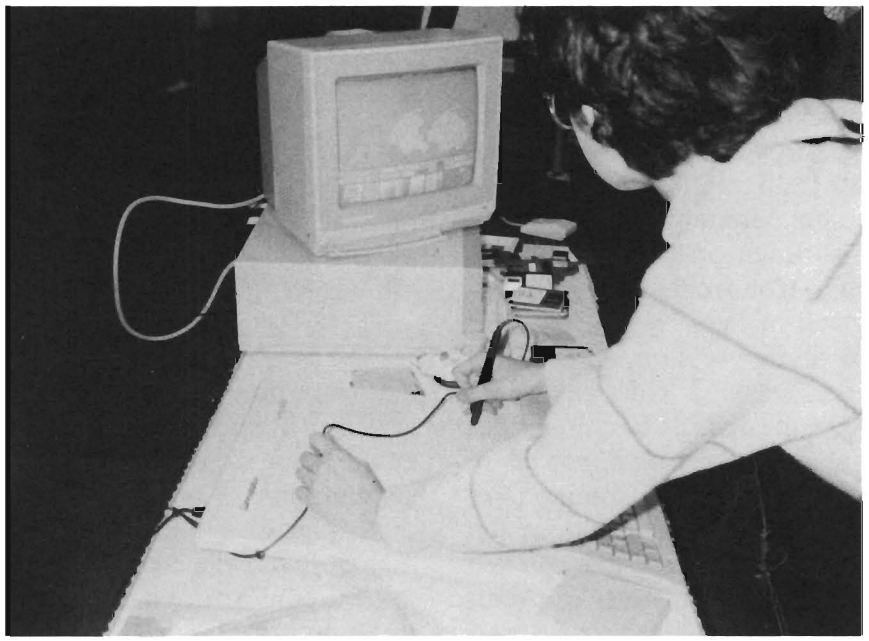
The dedication and creativity of the various developers coupled with the enthusiasm of the crowds helped bring the World of Commodore show to a very successful close. All who attended, either exhibiting or observing, shared in the same excitement, confidence and pride that was made possible by the existence of the Amiga!

The AEC show

Commodore polishes their T-square

by Steve Dock

The Jacob Javits Convention Center is a several block long glass and steel structure on Manhattan's west side. The huge building is generally empty the week prior to Christmas, but the Architects and Engineers Computer conference was held there from December 16th through the 18th. The show was aimed at architects and engineers who are interested in using computers professionally. They get to see and learn about the latest technology relevant to their work.



R & DL Productions showed the Summagraphics digitizing tablet

The exhibit floor was dominated by many of the same vendors you might see at NCGA or SIGRAPH. The big name CAD-CAM systems, including Autotrol, ComputerVision, and Intergraf were prominent. Many architectural applications were also running on IBM PC's or Sun Microsystems workstations. This market is a growing one for both high and low-end computer manufacturers. You could find applications being demonstrated that were geared toward the one person architect company as well as the large engineering and design firms. If you were persistent and wandered all the way to the rear of the exhibit hall, you would find a Computer Graphics Pavilion. Here Apple Mac II's sat across from Amiga 2000's and offered something for the more artistic technicians to explore.

Commodore was officially exhibiting at the AEC. There were three A2000 systems and one A500 on display. Interestingly, not one of these systems was using a Commodore monitor! Instead, third party monitors from Microvitech and Sony were in use. This was the first I had heard of the Definition monitors from Microvitech. These are long persistance, fine dot pitch monitors which did reduce interlace flicker somewhat. A very large Mitshubishi (37 ") TV monitor continually ran Test Flight and other promotional video tapes. This monitor dominated the area, and occasionally drew crowds.

In addition to Commodore, Mission Graphics Support, a NYC Amiga dealer was exhibiting in the pavilion. Curious engi-

neers saw a pre-release version of XCAD being demonstrated, along with Deluxe Paint II, and Sculpt 3D. Mission Graphics had Amiga Live along, and would also respond to requests for demos of almost any software from their extensive library.

As I listened in on questions and responses, it seemed that many of the conference attendees were aware of the Amiga and some of its software, but hadn't yet found justification for adding a non MSDOS machine to their business. Many asked about the Bridge Card and the expected 80286 version. The Commodore personnel were unable to give a firm date or price for this product other than "Sooner than you think". I gained a new appreciation for the importance of a true IBM coprocessor within the A2000 platform. If Autocad and Ventura Publisher could be run on the IBM side, many professionals could justify purchase of the A2000 and find useful applications for the Amiga side as well.

Now on to the news. I saw several new and future software products, and a couple of new hardware developments. In my opinion, the most significant was a DEST PCScan Plus which was connected to one of the 2000's. This device converts text and graphic documents into computer usable form at 300 dots per inch. Associated Computer Services owner, Keith Masavage, had brought this prototype along. His software worked quickly and provided for scrolling the superbitmap around on the Amiga screen with a joystick. ACS will probably not market this product themselves, but hope to sell their technology to other Amiga developers. High end desktop publishing is the primary application for Document Scanning. Using a DEST device, any company's logo, advertising copy, art, etc. can be incorporated into documents. In the MSDOS world, these devices also "read" pure text documents as ASCII text files and avoid tedious retyping. A scanner can read 16 shades of grey, or work in black and white mode. B&W is preferable for reading text documents since font recognition, not bitmaps, is the desired result.

Amiga art displayed on the show floor

This same A2000 was also blessed with an Hewlett Packard PaintJet printer. The HP Paintjet is a recently introduced color inkjet printer which sells for about $1200. The printer uses many fine nozzles to produce 200 dots per inch resolution. The output from this printer was outstanding. Very intense and faithful color representation was produced within 3 to 5 minutes. This is a quality alternative for those who require color hardcopy. I was impressed as much with the speed and color fidelity of the graphics dumps as with the printer. When I inquired about this, Keith admitted that a beta version of the Workbench 1.3 printer.device and drivers was being used. These are part of the Workbench improvements being developed by Commodore which speed up operation, and use more of each printer's capabilities. (I would hope that in the absence of a soon impending KickStart 1.3 Commodore would release the improved printer device and drivers. Those of us with color printers are tired of

(continued on next page)

The AEC show *(continued from previous page)*

purple instead of blue.)

I also saw a pre-release version of Deluxe Productions, which will be marketed by Electronics Arts. This is a text and effects scripting module for video production which evolved from ACS' E/FX product. The user interface for Deluxe Productions is a masterwork. You can switch from scenes to scripts, check integrity prior to broadcast, change colors, change the order of presentation, and much much more with sensible and consistent mouse clicks and menu selections. Deluxe Productions will sell for $195.00, and should be released in January or February 1988.

ACS is continuing to develop software for TV production. An interesting Font Editor is scheduled to be released soon. This product will include over 100 fonts and has the unique capability of "scanning" an IFF picture file of drawn text, and producing a standard Amiga font! A Map module, scheduling module, accounting software, and others will ultimately provide an integrated and automated environment for broadcast TV stations.

Anakin Research staffed the CAD display using their Easyl drawing tablets and XCAD. The Easyl version for the A500 is the first product which uses the 500's 86 pin expansion port. This required some fancy engineering to fit in with the side contour of the machine. The newest generation of Easyls are available for the entire Amiga family.

Over at the Mission Graphics display, a Summagraphics drawing tablet was working nicely with an Amiga for the first time. R&DL productions has developed the software which makes this industry standard series of bitpads available to Amiga owners. Just attach to the serial port, click on the software driver ICON and go. (See review in this issue). The user version of Very Vivid's Mandala was also displayed here. This software uses Amiga Live, a midi interface, and midi keyboard to produce live interactive video-music performances. The more adventuresome engineers were able to "play" the video instruments for themselves. Mission Graphics expects to be able to sell Mandala for $395 in the near future.

The Computer Art Exhibit in the Pavilion was coordinated by Vincent Biliotta and Bill Wright of Mission Graphics. There were works by Michael Biddle of the Fashion Institute of Technology, Glenn Rothman of Ohio State, Julia Horne, Richard Payne and others. Many of these works were produced using Amigas and printed using Xerox or Calcomp color printers. Some were photographic prints from screen shots blown up to large size.

Bob Miller from Chromeprint provided a 4 foot by 6 foot, 4000 line color print as an example of what his firm can do for computer artists. Chromeprint is committed to developing transfer techniques so Amiga IFF files can be used to produce this spectacular output. Computer art has been limited by the difficulty of producing hardcopy, and it was good to see the level of quality displayed at this show.

One of the Commodore people present was Pete Baczor, manager of customer relations. We talked about a number of ideas and programs to strengthen user group participation. Pete will be building a database of user groups including the meeting times and places. He will make this list available for publication in magazines and on bulletin boards. He plans to keep User Groups informed of new developments, promotions, etc. Indivual Amiga owners would have a valuable local resource in their user group. I agree that Amiga owners need the support of knowledgable user groups, and am encouraged by his initiative.

A new series of Amiga Brochures were distributed to attendees. These feature cover art by Richard Payne, and try to position the A2000 in vertical business markets like CAD, Desktop Video, etc. This is a good first step, but will require bundled pricing of software and peripherals to make it work.

Making the endless rounds of shows and conferences can be taxing and expensive, but Commodore must continue these appearances in order to legitimize the A2000. At least some of the architects and engineers who made it to the Pavilion went away with the image of Amiga as a unique productive system.

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DataRetrieve

Retrieving the facts with a new database from Abacus

by George Rapp

The term Database can have various meanings. The current fashion is to stress "programmable", "relational", and "unlimited macros" as key features. If you are an experienced database user who truly needs these "state of the art" features, then DataRetrieve is not for you. However if you want an easy to use database that produces good looking results with a minimum of effort read on.

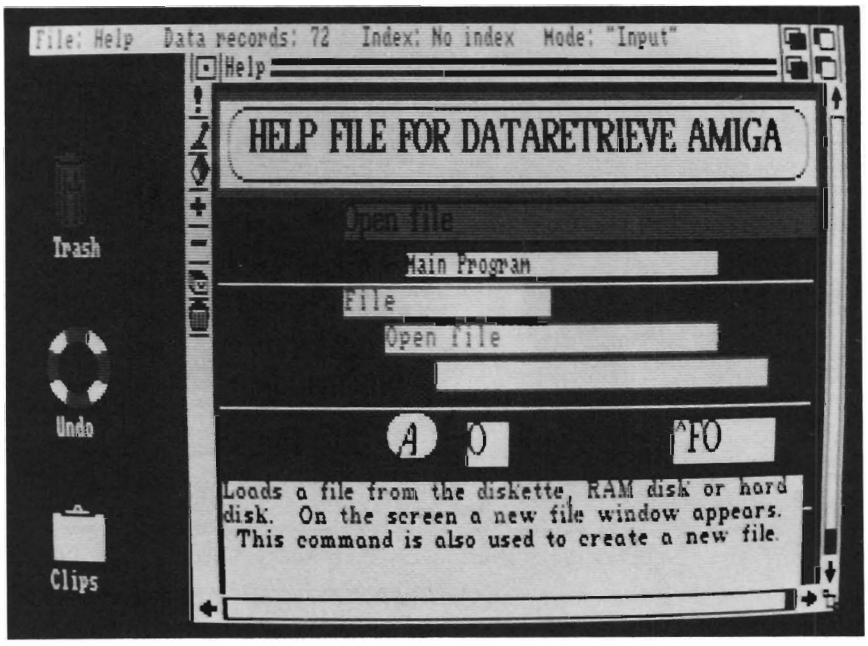
The designers of DataRetrieve concentrated on applying the Amiga's best features to the core functions of database use and design. DataRetrieve was produced by Data Becker (a well established German software firm) and is distributed by Abacus.

DataRetrieve offers its owners a wide range of options using pull-down menus to help organize the more than fifty commands. With such a wide range of commands and short names in the menus, here is one occasion where it is very important to read the manual before proceeding. The manual is a bound, 125 page book that describes all of the options, gives a tutorial, and explains the installation procedure.

DataRetrieve is not copy protected but it requires you to run an install program before use (see a description of the install program in the TextPro article in this issue). I feel that this method shows respect for both the software vendor and the owner. You get unlimited use without restrictions and hassles of copy protection. The vendor gets some reassurance that there will be only one user per copy sold.

DataRetrieve performs all of the typical database functions. Its menus allow you to create a data structure, enter or edit data, sort data records, and display the results in a manner of your choosing. These are the basic features found in all databases, but what makes DR special is the ease with which these are done. DR has six types of fields for text, numeric, date, time, IFF files, and one called choice. (The choice type can be used to restrict valid entries to one member of a predefined set). IFF pictures are not stored in the database because of size. Instead, the file name is stored and can be displayed on a separate screen or from a menu selection. This range of field

The menu bar displays specs on the current database



types is greater than either dBase III or Superbase.

Setting up the data base is well described and intuitive. The name of each field is typed in followed by a click on an icon to indicate the type of field. (The calculator icon means numeric, the calendar icon means date, etc.) After you have defined all fields, DR will prompt you for user or operator security keys. If you select the user password option, DR will require that a password be entered before any data in the file can be accessed. The operator password option provides protection against unauthorized changes to the structure of the data base. This is a nice touch and gives needed protection when you are preparing a database for someone other than yourself. Once this step is finished, you can create the display mask.

A display mask is a window that is placed over the data records and is the only way to view your data. You can create more than one mask for a record. This produces the effect of multiple pages of data from a single data record. Display masks are created within a special editing window. The window resembles a paint program and allows multiple fonts and colors. It's really quite simple to use. Click on the Field icon, and then point to the field you want to enhance. The field will be highlighted, and can then be moved by dragging with your mouse. Once you have placed the field, click on the color or style icon to make other changes. The Help system within DataRetrieve is, in fact, a DR database. The use of color, large fonts, and boxes and lines lets you create Display screens of great visual impact.

If you don't choose to design a mask, DR will provide a default mask with each field on a separate line.

Entering data into DR should be easy, but turns out to be a chore, since you must either click on a "+" sign to go to the next record or press Amiga Shift +. If you have ever tried to enter a hundred records, you quickly find one of the disadvantages of a mouse and menu system; eg. moving your hands from the keyboard to the mouse and back. This slows you down and increases the chance for error. DR tries to provide keyboard equivalents for every operation, but some of them are clumsy. It would be much more convenient if there were single key equivalents for the icon operations.

Abacus must have anticipated this complaint. A menu option provides for programming the 10 Function Keys with whatever keystrokes you desire. I programmed F1 to be the equivalent of "Amiga" "Shift" "+" and improved data entry efficiency tremendously. I'm puzzled as to why Abacus didn't provide a set of pre-programmed FKeys for the most common functions The data entry screen also inclues an undo icon in the shape of a life preserver. I made frequenct use of this to prevent entering trash records. There is also an undo gadget on the main working screen. The main screen uses pull down menus for file access, data sorting and locating, record

(continued on next page)

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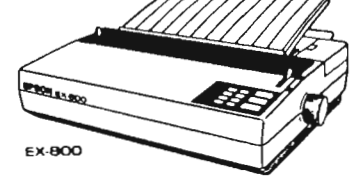

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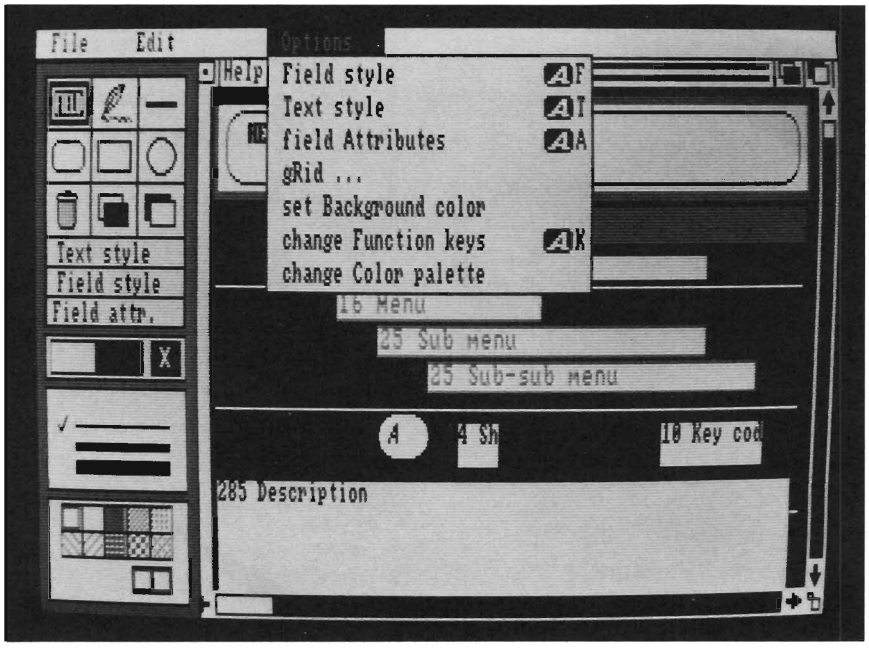
editing, and printing. A help menu is included for anyone too lazy to open the manual, or for the first time user. The clipboard functions on Workbench are supported as a separate icon and not directly from the menus. You would use the clipboard functions to cut and paste data from one DR file to another. The main screen provides keyboard shortcuts using two different methods. One method is the usual Amiga key followed by a second character. Another method uses the Escape key. Once Escape pressed, the command line reads "Command:". To perform any menu function you type the first letter of the menu name, followed by the first letter of the menu option desired; eg. ESC, P, I to display Project Info.

DR performs report writing using the same process as designing screen displays. You can design a print mask with your data fields placed anywhere on the page. You can also type as much text arround your data as you need. This makes it possible in fact easy) to produce form letters, invoices, etc. If only you could calculate the product of several fields.

In general use, DR works well for home applications. Home applications tend to be a few hundred records or less and can contain all required fields in one physical file. Of course, DR performs much better when using a hard disk, but it is still slow when compared to MSDOS databases like dBase III. You could run with your database in RAM if are willing to risk loss of data in case of visit from the GURU. As a method for improving speed during searches, DR creates index files. You can create many indexes for each file in order to retrieve in different orders. The tradeoff is disk space vs. speed.

Icon based tools and pull down menus make for a very friendly user interface



For home applications, DR has a clear advantage over other Amiga databases in ease of use and an even greater advantage in report writing. I also found it the easiest for creating fancy display masks. There are many types of fields allowed, and the choice of type is especially useful for my applications. DataRetrieve does make data easy to access and display with a minimum of work. On the down side you will find common operations require a long wait. As previously mentioned, DR makes excessive use of the intuition interface requiring frequent reaches between the mouse and keyboard, or multiple key "shortcuts".

In comparison to Superbase, DR has more features, but is tougher to learn. Both suffer from a lack of a programming language. (Superbase Professional is due "real soon now" with a promised remedy to this limitation). DR is not relational, so complex applications will be difficult. DR has better reporting capabilities than Superbase, eg. multiple lines per record. For the home user there is no clear winner. However as the new guy on the block, DataRetrieve will have to prove its reliability through use. Hopefully, Abacus will build a reputation for Amiga product service and enhancements equal to its C64 reputation.

DataRetrieve $79.95
Abacus
5370 52nd St. SE
Grand Rapids, MI 49508
1-(616) 698-0330

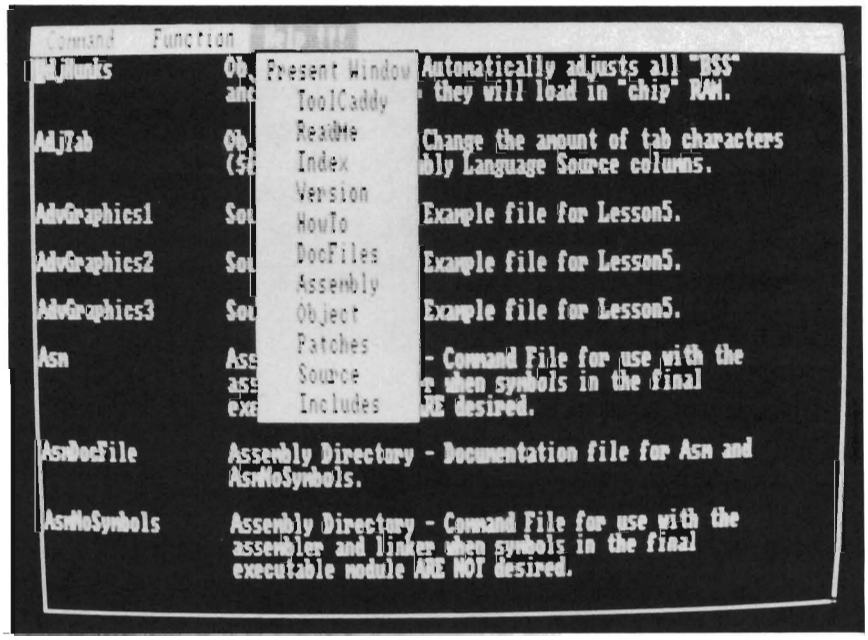
Tool Caddy

An assembly language primer program

by George Rapp

Tool Caddy is a disk full of assembly language programs and accompanying text which will help you learn Motorola 68000 based assembly language. The package consists of a single disk sealed in an envelope which has instructions printed on the outside. All the programs and documentation are set up in files that can be read from CLI or from The Tool Caddy user interface. The interface is one of the cleanest and easiest to use that I have encountered. When the disk icon is double clicked, the window opens to show three icons for a CLI window, a hard disk installation program, and Tool Caddy.

The hard disk install program modifies the Tool Caddy disk for easy transfer to a hard disk directory. The CLI icon uses the public domain program MyCLI which opens a full screen window instead of a one quarter screen one. The Tool Caddy icon (which resembles an automotive mechanics tool caddy) opens the main program.
The main program presents a series of document file icons, a read me scroll icon, and the tools as the drawers of the tool caddy. There are three pull down menus that remain constant even if the options are not completely applicable. This approach differs from most applications in that only a single click is required to open the tool drawer and read the files or lessons. You do have the option of printing out any of the text files, which consist of seven lessons and eighteen source files. These are long text files, so it is best to pick and choose which ones to print. The files are easy to read via monitor since Tool Caddy sets the screen colors to green on black. You have the option of using the Workbench colors instead of these defaults, or changing the colors as you wish. Other setups like the key definitions can be changed and saved as well by a drawer called patches.



There are numerous help files available arranged by category

While the user interface is easy to master, it does have one drawback. Even though you can run multiple tasks concurrently, the windows can not be resized. Any

(continued on next page)

task you may want to run has to be run from a CLI window opened in Tool Caddy. Otherwise, you can not see the screen output *and* Tool Caddy. This is not as big a problem as it might seem because you can still use the "N"-left Amiga key (C=) combination to move the window back. With a good user interface and multitasking, Tool Caddy is easy to work with, but does this also mean that it works well?

Assembly language is the most practical low level programming language. This makes it the ideal choice for speed and flexibility, but also one of the most difficult to learn. Tool Caddy does make it easier to learn, but this package is NOT for the first timer. For someone who has a background in assembly language on another CPU, it is a great introduction. For the novice assembly language programmer, I would suggest investing in a book on 68000 programming first (a book may provide examples, but they are often machine specific or so general that they really do not help much). Tool Caddy does give specific examples for the Amiga, like intuition or exec, and there are no errors from typing in the program. As proof of the examples worth, they make up the working parts of Tool Caddy!

The authors obviously prefer assembly language over "C". They have gone to great lengths to make using AmigaDos and Exec as easy from assembly as from C. You benefit by bypassing some of the arcane struggles the authors have endured. By lesson 2, you will be reading disk directories! The disk includes several useful, short programs that you can incorporate in your own efforts. The souce code for these is in one directory (source), the documentation in another (docs). You will find executable versions in the object directory. Diskview, fileview, and memmap are three examples of these utilities. With diskview you can browse any sector of an AmigaDos disk and learn first hand how a disk is structured. Fileview performs similar functions for a single file, while memmap displays the current utilization of chip and fast ram. Of course, there are public domain programs which perform these same functions, but these come with heavily commented assembler code already typed in to experiment with.

Another directory called Patches contains "fixes" for a variety of AmigaDos and commercial programs. This is a true expression of the assembly language temperment. Why settle for a Clock which opens on the left side of the Workbench screen? Who needs a MicroEmacs with only two bit planes? Need the source code, not us. With the patches provided you can directly change these executable files to be more to your liking.

Tool Caddy is not for everyone. Assembly language programing can be very difficult and packages like Lattice C 4.0 are close to assembler for speed and getting better. C is probably a better choice as a powerful language for a novice to learn. Once you have gained experience in C, then assembler will be a logical step to really make the Amiga perform tricks. If you have used assembler on another machine, then ToolCaddy will get you productive on the Amiga very quickly.

Try to decide what you want from a programming language before starting C or assembler. The public domain offers such a dazzling array of programs, that anything I think I would like to write is already available on the Amiga bulletin boards! If you do have a tough programming problem, use the boards to ask for help. You will find that people involved in programming are generally anxious to help one another and share tips.

If the public domain does not offer what you want, or you really want to learn assembler, then Tool Caddy is a valuable product. The only addition I would like to see in Tool Caddy is an assembler. The authors suggest a particular assembler in the text, but there are others in the public domain as well.

The ToolCaddy $49.95

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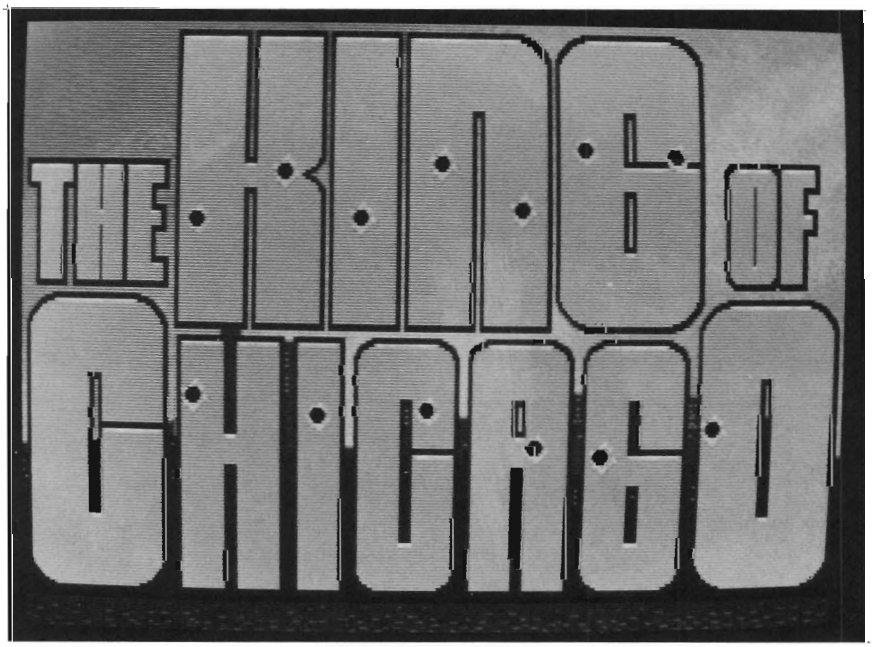
The King of Chicago

Do you have what it takes to move in on this turf?

by George Rapp

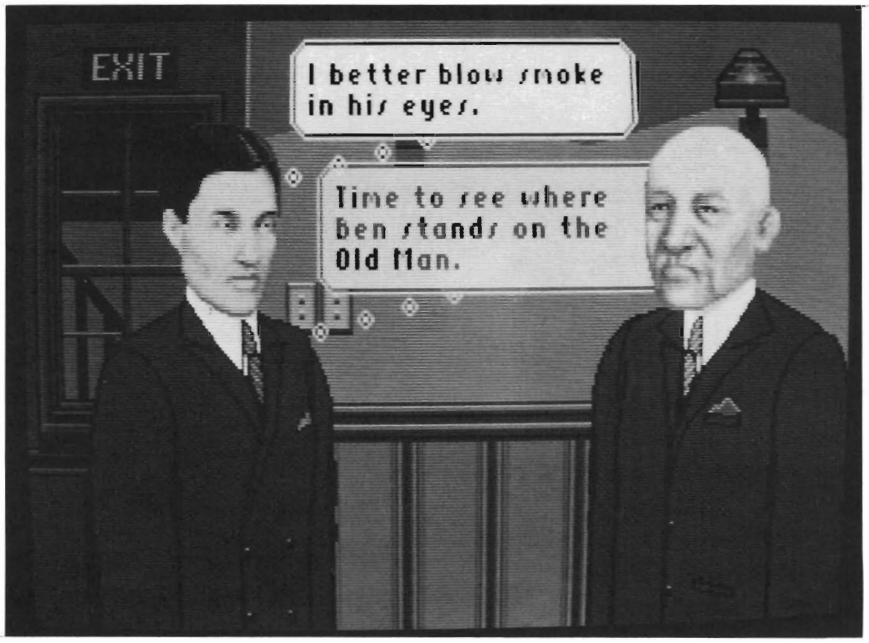
You have to fight to the top over the bodies of your enemies. It's a dirty business, full of deceit, treachery, murder, and fun. In Mindscape's latest Cinemaware adventure, you play the role of Pinky Callahan. For those of you unfamiliar with Cinemaware, it's Mindscapes special variety of graphic adventure games. The "cinema" in the name, refers to the movie-like quality of the animations and storyline. The King of Chicago takes place during the 1930's in Chicago. Al Capone is behind bars and you are part of the struggle to succeed him as master of the city's underworld.

Game play is easy to follow and will even continue without you! The first time I loaded up the game, I just sat back and watched as Pinky made a series of blunders ultimately ending with his "feeding the fishes" in the lake. You control all the action on the screen through the mouse. The basic story is governed by clicking on the thought balloons that appear beside the head of Pinky. The mouse is also used for bombing, aiming the gun, examining the financial records, and choosing the next part of the city for conquest. Keep a hand on the mouse all the time. You never know when some gangster might take a shot at you!



The basic game play is fine, but it is the attention to detail that makes this one a real pleasure. All the backgrounds are historically accurate to the point of using lamps, light switches, telephones and clothing from the time period. The characters on the screen "talk" (at least move their lips) when they have their lines. The animation is smooth and the character's facial expressions reflect the action in the game. All the characters are dynamic,what you do and say changes how they react to you. Each one has a unique personality and desires.

There are plenty of interesting scenes between you and the minor characters that have little bearing on the story but add a real sense of drama to the game play. Your girlfriend, Lola, is demanding both on your time and money. She is worth both since if you jilt her, she will go over to your enemy and boss of the south side, Tony Santucci. Tony took over after Al Cappone was sentenced on tax evasion. Your



The authentic scenery and detailed graphics add to the realism of the game

objective is to take over the Chicago mob after Capone's departure (and before the New York crime bosses form "Murder Inc" and shut you out). This gives you a time limit of three years from 1931 to 1934 to take over the whole city.

Strategy is probably the most important consideration in winning the game. You'll have to maintain control over your gang, keep your friends, bribe city officials, keep out Jersey hoods, fight off Santucci, acquire territory, rig elections, and take over

(continued on page 55)

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by Peter Dunlap

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CB+ TREE

Sorting out a Record Indexing System

by George Rapp

CB+Tree (CBT) is a collection of "C" language functions which use a data index and look up scheme called binary trees. Binary trees are nothing more than a predetermined method of assigning records a place in a large file and being able to quickly retrieve them. When used properly, this can produce a very fast database system with index files to speed retrieval of selected items. CBT gives the "C" programmer most of the tools required to produce a database without reinventing the wheel.

CBT comes with a disk, an eighty page manual, and a pledge of free telephone support. The manual is written for the IBM PC and compatible computers, but the disk contains a text file for the Amiga user. The manual explains in detail the use of each of the "C" language code segments and their basic functions. Each routine is also fully commented and is readable. There is a simple example to show how these functions can be combined to produce a patient data recording system.

Even using CBT, the C programmer must develop a lot of code before he has a working database. CBT includes a large set of functions for initializing defining, and changing trees; getting the next record, getting the previous record, and finding a record based on a pattern search. However its up to you to handle changes to records, adds, deletes, and reporting functions to name a few of the basics.

The examples provided with CBT are set up for use with the Lattice C compiler. I was able to test using Lattice 4.0 and had no unusual problems. Again, the C programmer must select which of the CBT routines need to be linked with his application. I was unable to test CBT with Aztec C, but the code conforms strictly to Kernigan & Ritchie.

CBT is a competently produced package and the "C" coding is excellent. It offers a small, fast operating file system and shows good programming practices throughout. However, CBT does not give enough background for the novice in the terminology associated with record indexing systems, and is a little sparse in explaining what a binary tree does. CBT is probably better suited to the intermediate level programmer who wants to produce a database or record system without going into detail on methods but would rather work on the coding.

Based on my experience, there seems to be more advanced and beginner "C" programmers than intermediate ones. If this holds true, there could be a problem in marketing CBT to the Amiga community (the more advanced programmers may not be interested in using a licensed product within their programs).

I would suggest a more comprehensive manual for this product that addresses a larger audience of expertise with a few more examples. Better still would be some tips on using Intuition calls with CBT. These would greatly expand the market for CBT, and I would like that.

CB+Tree $99.00

Peacock Systems, Inc.
2108-C Gallows Rd.
Vienna, Va. 22180
1-(703)-356-7029

IntroCad

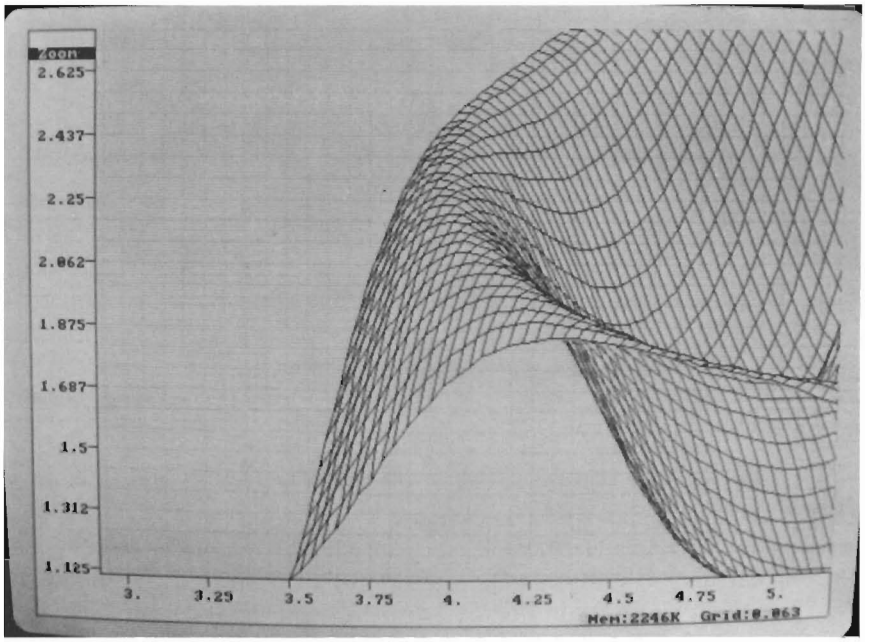
This CAD's for you ...

by Don Broussard &
Roger Kauffman

IntroCad is an object oriented CAD system that has been designed for the work-at-home draftperson on a budget. Introcad does not include every high level feature, but if you want to learn to use a cad system for personal use, this program is a very good start.

IntroCad is a single non-copy protected disk with a well written booklet of 45 pages. Tim Moody, the author, gives a down to earth introduction to CAD. One thing he states that we especially agree with is that you should jump right in and learn as you go along. However, there is a tutorial in the manual to help you along if you prefer. Although it is called an entry level CAD system, Tim Moody has packed IntroCad with plenty of powerful and fast features for your use.

IntroCad is driven from seven main menus. These consist of Project, Parts, Options, Draw, Edit, Colors and Line Type. To begin drawing you need to use tools which you find under the Draw menu. These include lines, circles, freehand, boxes, arcs, and text. Select line for example, click with the left button to begin a line, and click with the right button when you have reached the endpoint. Boxes, arcs, and circles are drawn in the same manner. We were impressed from the first with the speed of each operation. Also available as a tool in this menu is "clone". This is extremely useful for duplicating items already on the drawing. What a great time saver!



IntroCad offers much more power than you would expect from an "Intro" cad package

Dimensioning is not automatic, but dimension lines can be created. You would create the dimensioning arrow, rotate, and size it to fit. The length for the dimension can be obtained by using "measure" from the Draw menu. Then type the value as text and place it on the project.

Once the basic drawing or component is developed, the Edit menu is extremely useful. Sizing, Rotating, Move (dragging), and snap are some of the editing tools. You can create a larger version of an object using the sizing tool, or a vertical version by rotating.

On yet another menu, you will

(continued on next page)

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IntroCad *(continued from previous page)*

find seven different line types to choose from. These include Object lines, Hidden lines, Center lines and Phantom lines. Although IntroCad has line types, it doesn't provide line weights.

The Project Menu provides control of operations such as New, Open, Save, Plot, and Quit. The print option is also found on this menu. IntroCad uses its own printer device and a set of unique printer definitions. We were amazed with the number of printers defined.

When you select print, you will see a long list of printers. Click on the appropriate printer name and you will be presented with another menu with printing options. Here you can choose portrait or landscape orientation. Portrait prints the drawing as it appears on the screen, while landscape rotates the drawing 180 degrees. The print-to option controls the destination. A print to file mode is included just in case you need it. Another option is selection of a print mode. You choose from three dots per inch settings ; Quick, Draft, and Final. The program automatically changes these settings depending on the printer you have selected. As an example:

Printer	Mode	Hor. DPI	Ver. DPI
Epson	Quick	60	60
MX80	Draft	120	60
	Final	240	180
IBM	Quick	60	72
Pro.	Draft	120	72
	Final	240	216

We were very surprised at the high quality and speed of the of the printer drivers. Since the typical home user doesn't have a pen plotter, such good dot matrix output is vital.

The scale option has only two choices, 1:1 or fill page. In the 1:1 scale, IntroCad prints on paper a dimension equal to that of grid size of the full drawing. In the fill option the full drawing is sized to the paper. The Parts menu provides another very useful feature. Often the draftsperson is developing a drawing using a repeating object, such as in a schematic diagram. Once you've made a part, it can be used as much as it is needed and saved to the parts library. To develop a part, you first must con-

struct a detail. From the parts menu select "group", move the cursor to the detail to be identified as a part and click the left mouse button once. Move the mouse and the area now enclosed by the high-lighted box becomes a part just by pushing the left mouse button. (Try it, it's that easy). Now that you have a group made, you can save it by going to parts menu and sliding down to "save as". To get an object back for use in a drawing, go to parts menu, slide down to open the window, pick the part you want and click on load.

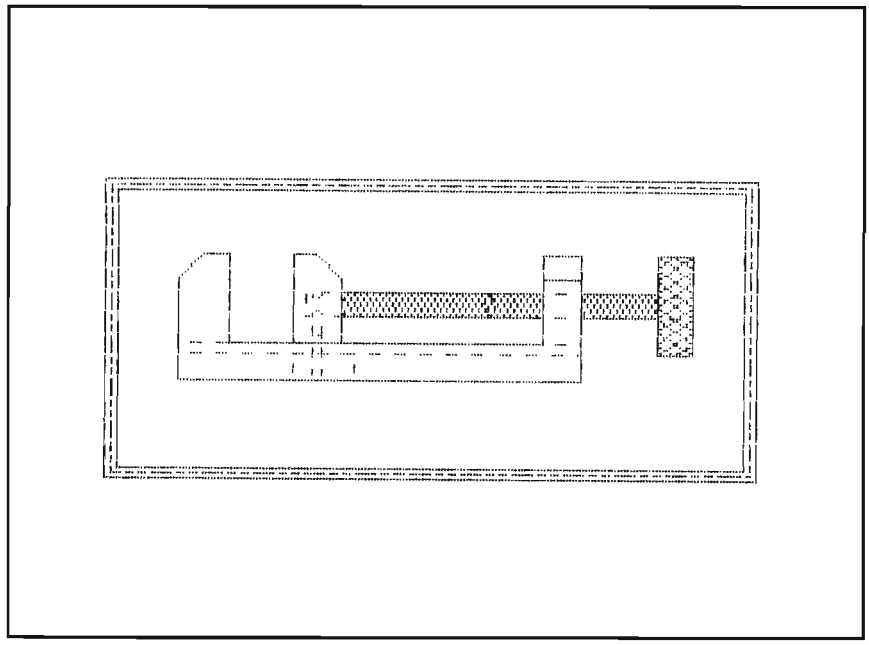
Options: here you find the items needed to create the drawing environment. By using these options a tailored drafting board is available. Some options are Ruler, Grid-type, Grid-size (scale), Crosshair, Snap to, and Redraw display. Each item is controlled individually. Also under Options, the display screen is manipulated by zooming (in or out), sliding, or full picture redraw.

Zoom-in enlarges the defined area for more detail (like a magnifier), Zoom-out enlarges the viewing screen. Slide allows the whole viewing screen to be moved left, right, up or down. "Fullpic" redraws the area that has your drawing and/or text on it to fill the screen. grid. I suddenly realized that I could not find my drawing. Fortunately, I remembered the full picture option.

Under options is an item called "Snap-To " which will help to create a professional looking drawing. Snap-to is divided into two sub items; Snap-To-drawing and Snap-To-grid. With the snap-to-grid option on, any line, object or other primitive will be pulled to the nearest grid intersection. (During the drafting operation, I found it necessary to use Snap-to-grid to place most items). Snap-to-drawing will pull any object to the nearest section of the existing drawing. A word of caution, Snap-to-drawing is difficult to control.

Some other features found under the options menu are control of the memory availability display, and control of the "show tool" display. Another important set of features are the grid selection and sizing capability of "grid" and "gridmesh". There are six different grid settings consisting of no grid lines, plain grid, projection grids and Isometric grids (Please note that the grid lines are drafting aids they do not become part of the drawing). This menu also includes an option to control the mouse pointer speed.

One thing I really like about IntroCad is the yes/no mouse pointer which appears when you have to choose something. For example, when you are editing in the erase mode and select an object with left button, it will become highlighted. the **Y/N** mouse pointer will appear and ask you if that is the one that you want to erase. Simply press the left mouse button to proceed. If that's not the correct object, hit the right mouse button to automatically highlight the next closest object. Continue this yes/no process until the correct object is indicated. This handy feature is not included in other cad programs I use. It is especially helpful when several things are drawn close together.



A sample dot matrix output from IntroCad

(continued on next page)

Every drawing operation, including rotation, resizing, and cloning happens very fast. Zoom mode is easy to use, partly because of its speed. (If you have to wait too long, you tend not to use a zoom function).

IntroCad does its job very well. Any home designer will find lots of uses for it, and enjoy the process. Of course, there are several improvements which we would like to see. IntroCad doesn't do layers, and these can be a useful addition. The wide selection of printers is not matched by a wide selection of plotters. In particular, the Sweet Pea plotter should be added. The Amiga hi-res mode strains the eyes. IntroCad should have the ability to vary the screen resolution. Finally, different line weights would make the package far more versatile.

We would recommend this program to anyone who would like to do small designs on their Amiga. It is obviously not targeted for trade use, but offers a speed and ease of use that rivals packages costing more.

IntroCad $79.95
Progressive Peripherials & Software Inc.
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CORRECTION:

In the December issue we incorrectly listed the distributor of PixMate as "Pacific Peripherals & Software". Our apologies to "Progressive Peripherals & Software, Inc." for the mistake.

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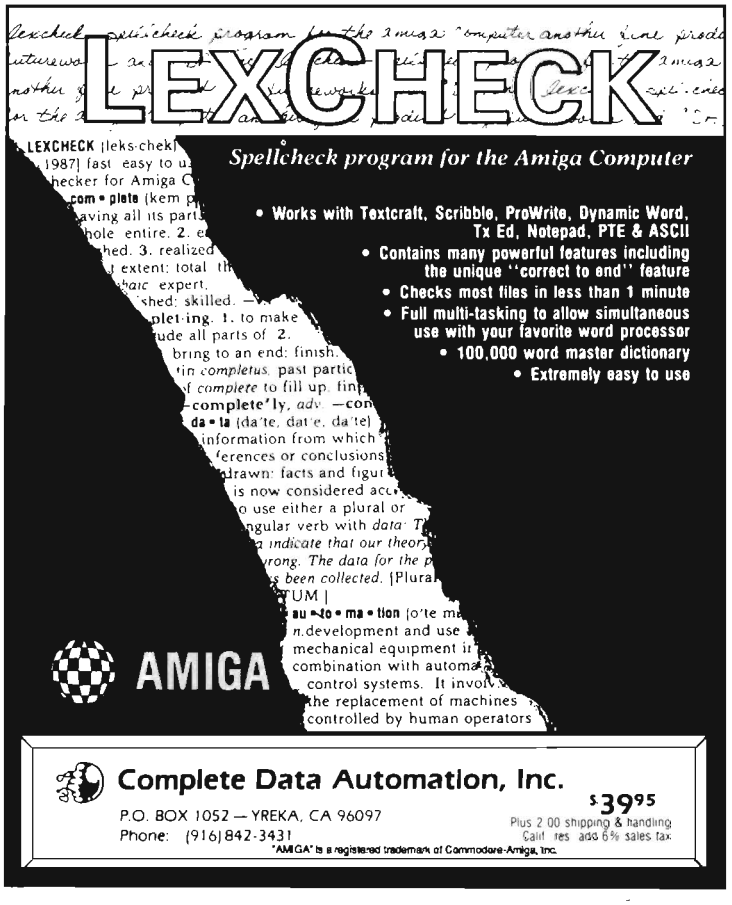
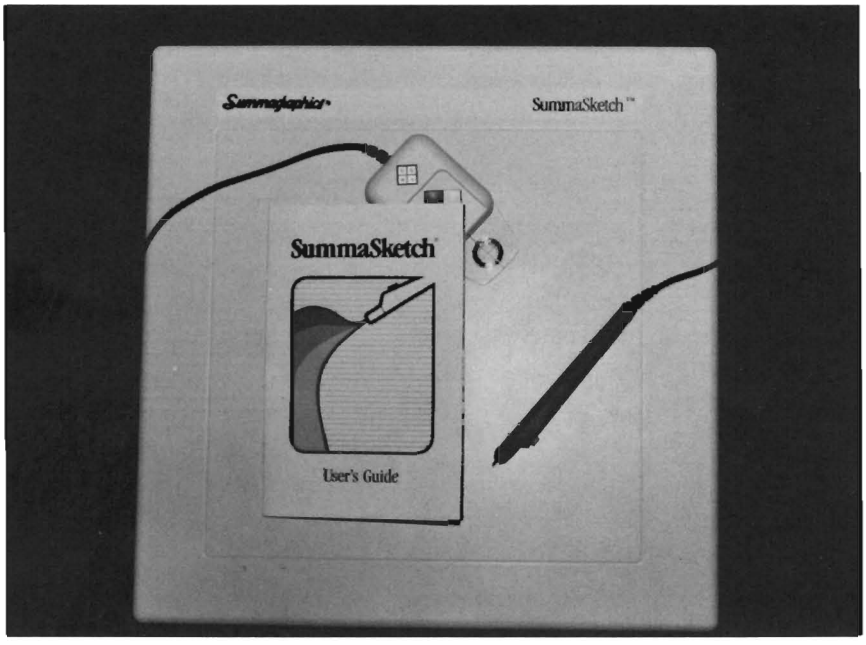


SummaSketch

R & DL brings this high quality tablet to the Amiga

by Steve Dock

The Model 1201 Summagraphics digitizing tablet



SummaGraphics is an established name in the computer graphics industry. The Summa company has been producing high quality graphic tablets for over ten years. However, it's taken the efforts of R & DL Productions to make these products available to the Amiga User. A brief discussion of just what a graphic tablet is and how it works is needed before we resume this story.

Start with a flat plastic surface, then imbed a fine mesh of wire or solid state devices under the surface. This is the basis of the graphic tablet. Next choose your sensing technology. There are two main technologies in use today, pressure sensitive and inductive. The pressure sensitive method requires physical contact between a pen (stylus) and the pad. The inductive approach works by creating a magnetic field in the pad and moving a charged object around in the field. Either method will result in a stream of electronic signals indicating the position of the pen on the tablet. In order to be of use for a particular computer, these signals must be transmitted into the computer and translated (via software) into something which the operating system can use.

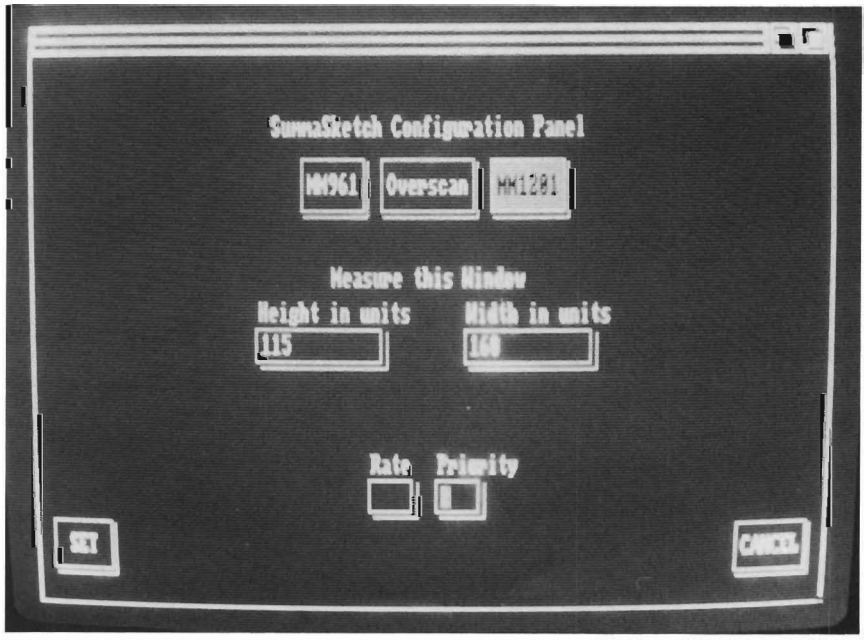
The SummaSketch graphic tablets uses a standard 25 pin serial connector and a separate power supply, so there's no hardware problem to solve. The only piece missing was a software driver. Why then hasn't Summa Corp. developed the needed driver and entered the Amiga market? If you know a little about well established companies, you'll understand. An Amiga version would require a product manager, software team, support staff, additional marketing budget, and quality assurance. Enter R & DL Productions.

This small New York City team of animators was aware of the SummaSketch products through use on other computers, and decided to develop the software driver on their own. The project was so successful that R & DL is now the officially authorized source of SummaSketch Amiga products. This arrangement benefits the Amiga user by making a high quality "name brand" graph-

(continued on next page)

ic tablet available. The Summa Sketch tablets come in three sizes, 6" by 9", 12" by 12", 12" by 18. This review was based on the 12" by 12" unit (model #1201). Installation is simple. Unpack the box, attach the black plastic adaptor to your serial port, plug the power transformer into a grounded outlet, and attach the telephone type connector between the pen and the tablet. Since the A1000 requires a male serial port connector, and the A500 and A2000 require a female connector, R & DL include both. The stylus is about six inches long and tapers from a narrow top to about a half inch in diameter at the bottom. The stylus has two pressure sensitive switches. The SummaSketch tablet uses only the 8 pins most commonly required for serial communication, so the power signals from the A1000 serial port are not a problem.

We're now ready for software installation. R & DL provides their SummaSketch driver on a nonbootable 3.5" diskette and includes a brief two and half pages of instructions. Start with Workbench and insert the Summasketch disk. You'll see four Icons, SummaSketch, SummaLoRes, SummaHiRes, and SummaConfig. Click on the SummaSketch Icon (It looks like a graphic tablet) and in a few seconds you're ready. A small "console window" is opened by the driver software. It will remain in the background as long as the driver is active. Slide your stylus around and the mouse pointer follows. Installation is complete. The R & DL software driver maps the active surface of the tablet into the Amiga's screen resolution. This means that even though the tablet is capable of achieving up to 1000 dots per inch resolution, you get 640 horizontal by 400 vertical dots total. If you're used to drawing within the Amiga screen limits this is standard practice. But if you've used a graphic tablet on other systems, you know that the high resolution of the tablet is often used to scale an area of the tablet to the screen, or to a multiscreen bitmap. The first release of R & DL's driver doesn't offer this capability. The technically minded among you might ask how many coordinate pairs per second are sent from the tablet to the Amiga. Since the SummaSketch communicates at 9600 Baud, over 100 coordinates per second are sent to the driver software, however if the Amiga is very busy it may not respond to every coordinate. The driver will process as many data points as the Amiga IDCMP program can handle.



The configuration window allows you to adjust various parameters

When the pen meets the pad, the driver and Summasketch perform their jobs well. Load up Deluxe Paint and you'll soon see why graphic tablets are standard equipment in high-end graphic workstations and CAD systems. Its so much more natural and productive to draw and design using a pen. Graphic tablets are also commonly used for entering existing art by tracing printed materials. Simply lay the picture, logo, or drawing down on the pad and move the stylus around to transfer from hard copy to computer image.

An editor is not necessarily an

(continued on page 26)

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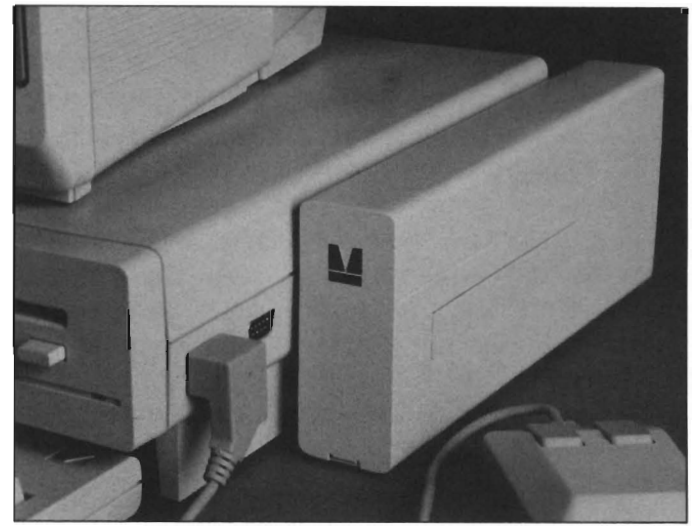

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This card has decks!

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StarBoard2: functions five!

If we count Fast Memory as one function, the addition of the **MultiFunction Module** brings the total up to five!

THE CLOCK FUNCTION:

Whenever you boot your Amiga you have to tell it what time it is! Add a MultiFunction Module to your **StarBoard2** and you can hand that tedious task to the battery-backed, real-time clock/calendar. A small piece of MicroBotics software in your WorkBench Startup-Sequence reads the clock and automatically sets the time and date in your Amiga. And the battery *is* included (we designed it to use an inexpensive, standard AAA battery which will last at least two years before needing replacement).

THE FLOATING POINT FUNCTION:

If any one aspect most characterizes the Amiga it's *fast* graphics! Most graphic routines make heavy use of the Amiga Floating Point Library. Replacing this library with the one we give you with your MultiFunction Module and installing a separately purchased Motorola 68881 FPU chip in the socket provided by the Module will speed up these math operations from 5 to 40 times! And if you write your own software, you can directly address this chip for increased speed in integer arithmetic operations in addition to floating point math.

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If you install an additional ninth RAM chip for every eight in your **StarBoard2**, then you can enable *parity checking*. Parity checking will alert you (with a bus-error message) in the event of any data corruption in **StarBoard2**'s memory space. So what good is it to know that your data's messed up if the hardware can't fix it for you? It will warn you against saving that data to disk and possibly destroying your database or your massive spreadsheet. The more memory you have in your system the more likely it is, statistically, that random errors will occur. Parity checking gives you some protection from this threat to your data residing in Fast RAM. Note that the Amiga's "chip" RAM cannot be parity checked.

THE IMMORTAL MEMORY DISK FUNCTION (STICKY-DISK):

When you've got a lot of RAM, you can make nice big RAM-Disks and speed up your Amiga's operations a lot! But there's one bad thing about RAM-Disks: they go away when you re-boot your machine. Sticky-Disk solves that problem for you. It turns all of the memory space inside a single **StarBoard2** into a Memory Disk that will survive a warm-reboot! When your Amiga attempts to grab a **StarBoard2** in Sticky-Disk mode, a hardware signal prevents the system from acquiring the **StarBoard2** as FastRAM (and thereby erasing your files) –instead it is re-recognized as a Memory Disk and its contents are preserved intact. If you want to work rapidly with large files of data that are being constantly updated (such as when developing software) you can appreciate the Sticky-Disk!

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The sum of the parts...

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SummaSketch (continued from page 24)

artist (especially this one), but as a former computer graphics consultant, I have used graphic tablets on many computer systems. The better ones have a smooth consistent feel without requiring special holding or pressure. My basic test of an Amiga graphic input device; mouse, lightpen, or tablet is to sign my name in low and high resolution. The result should be consistent and recognizable. Several hours of use with Dpaint confirmed my signature test. Freehand lines are smooth and accurate. The pen switches act almost like the mouse switches. You always know where the pen is and whether the switches are active or not. I prefer to use the stylus for graphic actions, and return to the mouse for menu selections (Did I mention that the mouse remains active along with the tablet?).

The next logical application for a graphic tablet is CAD. The R & DL driver works well with Aegis Draw +, Dynamic Cad, and IntroCad. CAD lends itself even more than drawing programs to the pen and tablet since there are less freehand lines and greater precision is required. Pick a drawing tool, set grid snap on, and you can quickly draw a complex object. Pointing to CAD objects is also faster and more sure than with a mouse. For even greater precision, Summa Corp. offers an alternative to the stylus known as a "drafting puck". The puck is a flat bottomed mouse-like object which has a transparent lens with a crosshair sight at the top. For tracing an electrical schematic or existing building plan, the puck is superior to the stylus for two reasons. First of all, the puck stays on the tablet surface. Secondly, the crosshair can be lined up to end points with great accuracy

This is a good time to discuss the SummaHires driver and the SummaConfig program. When using a hi-res Amiga program with the standard mouse, you will notice that you can easily outrun the software when drawing a series of rapid freehand lines. This same effect happens with the SummaSketch driver. Fortunately, you can minimize the problem by setting "Priority" to a low value using the SummaConfig program. In fact, you don't even have to do this yourself, since the SummaHires program is just a copy of SummaSketch with the priority set to 0.

The SummaConfig program is executed prior to invoking SummaSketch. You have control over five options; length, height, priority,overscan, and rate. Simply type new values in the requestors and select "exit" to save the new settings. The length and height refer to the physical dimensions of your monitor and can be entered in millimeters or inches. You only need change these if you do not have an Amiga monitor. The priority setting determines how much of its CPU resource the Amiga will give to the driver program. The higher the number, the more of the CPU is devoted to the driver task. You can toggle overscan on or off to use more of the screen border area. Finally the rate setting can be set from 1 to 32. This setting controls the rate at which the driver looks for coordinates.

I feel that the configuration program definitely needs additional features to get the most from the Summa hardware. As previously mentioned, the user should have the ability to map a part of the pad to the screen. In addition, you should be able to determine the active area of the tablet. I spoke to Doug Lovell of R & DL about this, and he agrees that these features could be incorporated in some future update of the driver. Until that time, you'll have to draw a line or place a strip of tape to indicate the upper and lower bounds of the active area, since the entire pad surface is not mapped into the screen. This is necessary in order to start all of your tracings or drawings with the same origin.

Should you buy the SummaSketch since Kurta offers a competitive product and the Easyl products have proven themselves productive tools? Although not using its full potential with the current driver,the SummaSketch works very well with a broad range of software, is smooth and consistent, and offers the option of a "puck". If you are looking for a name brand graphic tablet that should last for many years then include the SummaSketch on your shopping list.

SummaSketch
R & DL Productions
New York, NY 100
1-(718)-392-4090

6" by 9" model #961 **$389** (introductory price)
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TextPro

A new word processor with custom printer drivers

by George Rapp

Abacus describes TextPro Amiga as a full-function word processor which offers many features not previously available. TextPro is a German import from Data Becker and it does use a somewhat different approach. Most word processors for the Amiga are ports from other machines or "Amigatized" versions of programs like MacWrite. Data Becker took a new path and tried to create a program from scratch that uses the Amiga's strengths, and compensates for some weaker areas as well.

The pull down menus in TextPro provide close to sixty choices, or about double what most other word processors offer. The choices range from selection of fonts and print styles, to complex commands or programming function keys. There is such a large selection that it is impossible to get full use out of the package without reading the manual. Fortunately, Abacus includes a complete manual, over 100 pages in length. The manual lists all of the menu options, the graphics import utility, the printer options, and the installation program.

TextPro is not copy protected, but instead relys on an installation program that must be run before you can use it. This program asks for the disk serial number, your name and address, and then stores these to the info file. Once installation is complete, TextPro can be copied to a hard disk, floppy disk, or ram disk. From this point on, your personal information is displayed under the Info option of the File menu. This is not a bad idea since it personalizes the disk for you and discourages copying since your name goes with the disk. There are also complete instructions for installing TextPro on a hard disk.

There are some menu highlights worthy of special attention. The file menu is typical with the exception of Mode, Function Keys, and Data Path. The Mode command allows for standard text editing features or a special "C" language mode. If you are a "C" programmer, TextPro offers you the ability to automatically track the brackets used in "C" so you can be sure that they occur in

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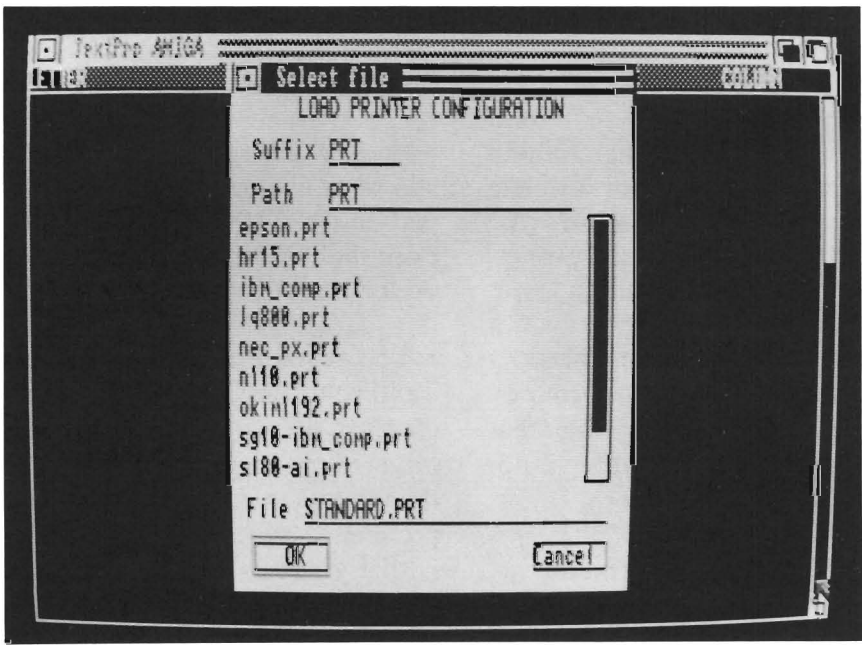
TextPro has custom printer drivers for increased throughput

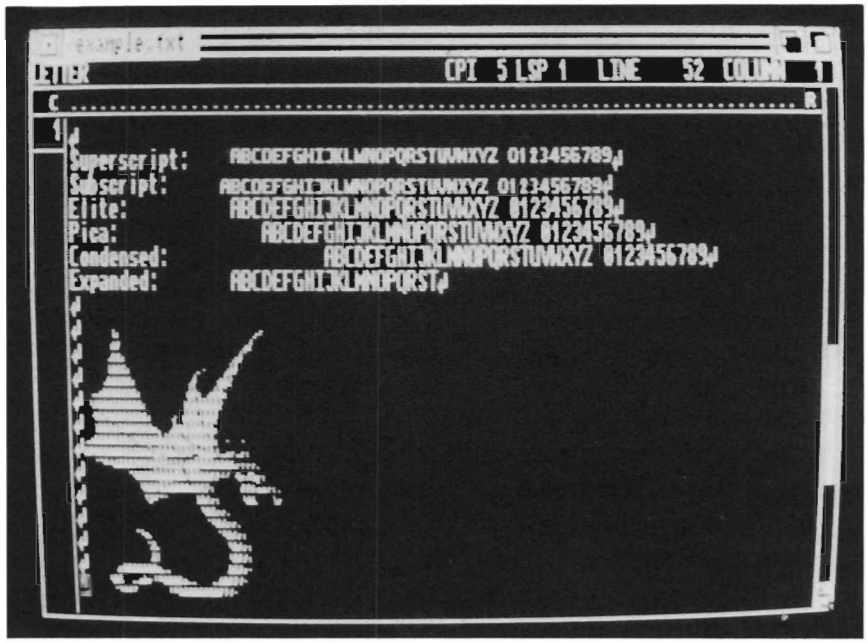


pairs as they should. This is a dream come true for "C" programmers who can not type well or use many routines.

The Function Key option allows you to redefine any function key for 160 keystrokes. You can use this option to store phrases that are often repeated and cut down on keystrokes. The mode option is one for real "hackers". This allows you to hook up an ASCII terminal to the serial port of the Amiga and use TextPro from the terminal. If the terminal is set up to display what is typed, it is possible for two people to use the Amiga at once. The terminal will not have access to the menus directly, but can do text editing since there are keyboard shortcuts for all the menus.

Keyboard shortcuts involve typing the escape key followed by the first letter of the menu and then the first letter of the desired option. As an example, to get the Info option from the File menu, you would type "Esc", "F", and "I". The edit menu is a little more traditional in its list of options. You will find selections for locating text, marking blocks, and moving text or blocks of text.

There are a few nice additions as well. A graphics import function allows you to map a 32 color IFF image to monochrome, grey scale, or a pattern based on the original colors. The manual states that you can only import images which were saved using the BTSnap Utility which comes with TextPro. I have found that



Integration of text and graphics, and a variety of type modes add to the flexibility of the program

any IFF brush file can be used. The BTSnap program works well, and will save almost any screen as an IFF file. However it is inconvenient to be limited to brushes, or be required to save your image using BTSnap.

The Style menu allows you to select print size, styles, and line spacing. There is also an option that I like more for programming than standard letter (or article) writing. This option allows you to shift to upper or lower case or switch between upper and lower cases in a file. There is even a color option that will change to a red ribbon on some printers. Since I did not have a printer that could support this, it was not tested.

The Formatting menu includes many features. There are commands for setting up headers, footers, margins, spacing, justification, tabs, and page length. One option which is more for the Amiga 500 and 2000 is the NumLocks option. In the standard mode, the cursor key marks on the front of the numeric key pad can control cursor movement. When the NumLocks option is turned on, the keypad functions again as a numeric key pad. The separate cursor keys still work as expected and the key pad on the A1000 works as well even though there are no arrows on the front of its keys.

I've saved the best feature of TextPro for last. TextPro uses its own set of printer drivers. The drivers I tried had a faster output- than the ones in the WorkBench preferences. What impressed me is that you can create your own driver by creating or modifying an ASCII file. The directions

supplied are clear and the system makes sense. This system seems like it should work, except that my Epson compatible printer did not work with the Epson driver supplied when printing graphics. Creating a driver is slightly more difficult than modifying an existing one. Especially when it comes to producing graphics (printer manuals are not known for being readable).

Overall, TextPro functions adequately as a word processor, but a better description of it would be a very powerful text editor. I feel strongly that to be worthy of the name, a word processor should include a spell checker. I also miss mouse controlled page formatting. The graphics import function works well, and seems to do a better job of combining text and graphics than Vizawrite. However, the overall feel is closer to that of an MSDOS rather than an Amiga program. Something about the menu responses bothers me. When running the mouse quickly, TextPro sometimes misses a selection or responds after a delay.

Certainly the high point of TextPro has to be the custom printer drivers. The programmer obviously spent some time developing these drivers so that they would maximize the features of the given printer (it's also obvious that he found the Workbench drivers inadequate).

If you are a confirmed mouse user, I would try to get a hands on demo of TextPro before you buy to see if it will fill your word processing needs.

TextPro Amiga $79.95

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PageFlipper

Bring your IFF pictures to life

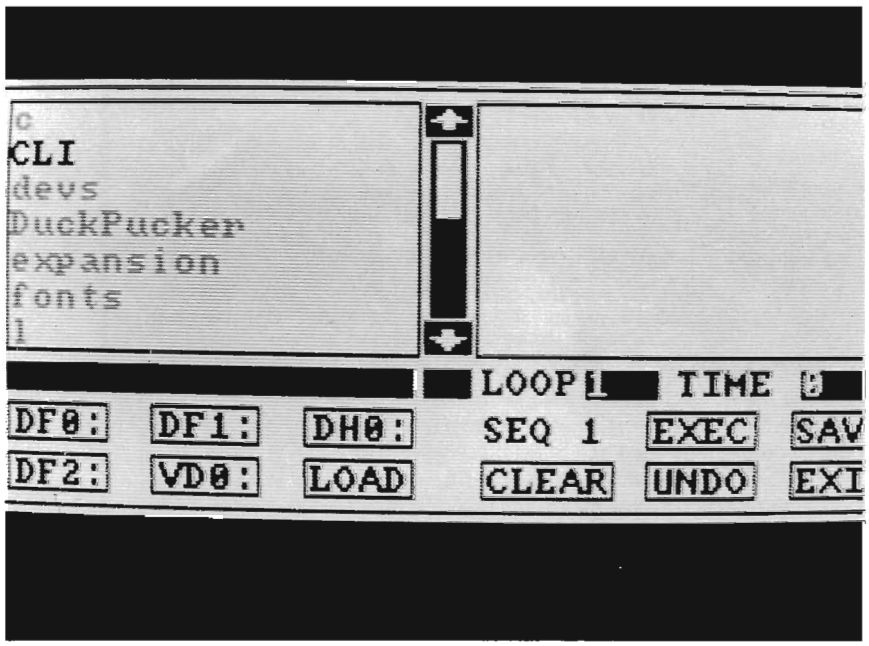
by Carl Bennett

If you've mastered Dpaint and are looking for a new challenge you might have considered computer animation. During the past six months a series of Amiga animation products have been introduced which create 3D images and then simulate motion. The results of these programs are impressive in their own right, but they're not meant to be extensions of drawing into motion.

What you may have been looking for is something like the child's toy where drawings moved when you thumbed the pages. (The drawings will be produced by you, using whatever paint program(s) you desire.)

PageFlipper from Mindware International was written with just this scenario in mind. It will not create a ray-traced image, or construct objects for you. However, it will simulate cell animation with a minimum of fuss. The program requires at least 512K and Workbench 1.2 to operate. It will multitask nicely and even let you play music along with your animation. A thirty-three page manual accompanies PageFlipper, but you should not need to refer to it often.

The file screen controls the loading of the designated sequence of pictures, as well as loop and timing functions



Start the program from Workbench or CLI and you will soon see a blank black screen. Pressing the right mouse button reveals only two short menus. Select the "files" option from the Script menu. The window that appears is the heart of the program. Here you load individual IFF pictures, specify what order they will be shown in, the duration of each sequence, and the overall speed of the animation. Several samples have been included on the disk and are refered to in the manual.

Pageflipper works using script files. These can be recognized by the .pf at the end of the file name. They are simple ASCII text files and can be edited using your favorite text editor. Don't get the idea that you have to create a file of obscure commands to use PageFlipper. This is one program that builds the script file for you!

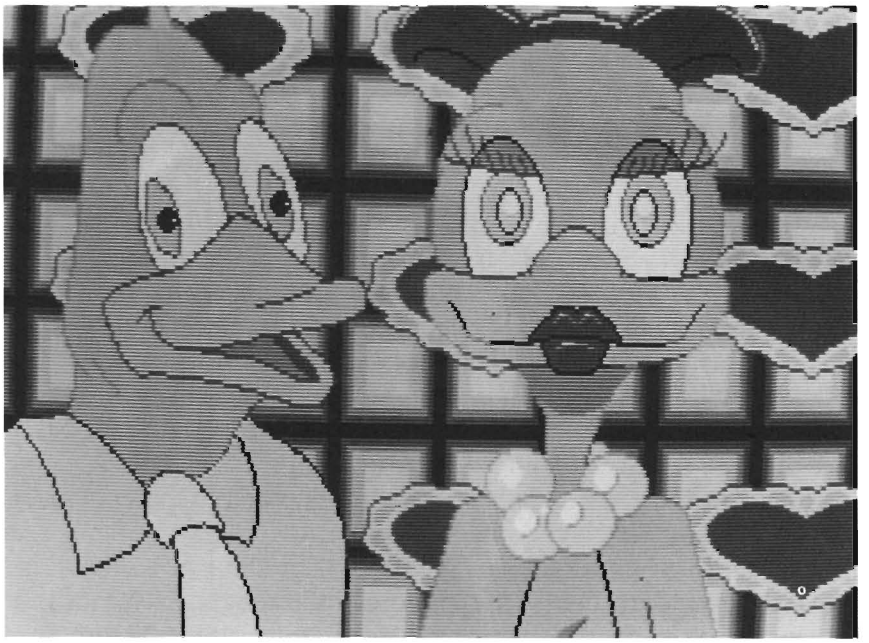
To view the the "DuckPucker" animation on the program disk, simply click on the Duckpucker.pf file name and then click on the EXEC icon. Each image will be loaded into memory according to the script's instructions. An

onscreen counter will show you how many frames have been loaded. When the loading process is completed, click on exit. The blank black screen will be waiting. Now its time to use the other menu.

Choose Animate from the Project menu (or press Amiga A), and a "Saturday Morning" quality animation of two ducks kissing will appear. These drawings sere produced by Derek Grimes of Beyond Graphics, and will give you something to aspire to. The animation will repeat endlessly unless you press the left mouse button or Amiga C. The left button acts like a single frame switch and gives you manual control when recording

(continued on page 55)

The "Duckpucker" animation included on the disk



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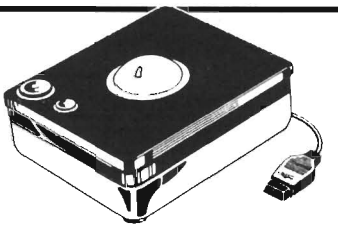

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Q-Ball

Pool just got tougher!

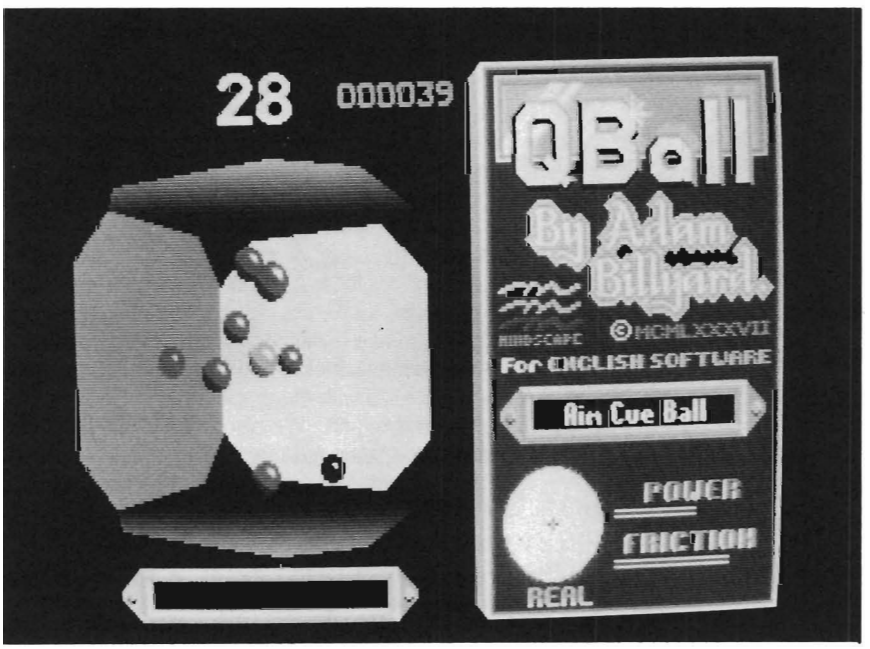
by George Rapp

As the name and the cover implies, the object of the game is to use the cue ball to sink the other balls into the pockets, all eight of them. Any of you familiar with pocket billiards and its variations know that a standard table has six pockets, two on the side and four in the corners. Q-BALL, has eight pockets, all of them in the corners. Thats not the only difference. The game takes place *inside* a cube with the vertices of the cube being the pockets.

Now playing a game on the inside of a cube and seeing this on a two dimensional screen poses a few problems. The solution used is easy to understand, but a little tough to visualize. You look in one end of the cube, and use the arrow keys to spin the cube or flip the side of the cube you look through. Each face is a different color which helps.

The object of the game is to sink the red balls, followed by the yellow ball for bonus points, and the yellow ball last. The yellow ball automatically reappears after being sunk but the red balls show up "below" the cube when sunk. To make the shots easier to control, you have detailed control over the cue and cue ball interaction. You can vary the position the cue strikes the ball, the friction between the two and the force. These functions use the numeric keypad and the return key starts the shot. You also have the additional constraint of 60 seconds to finish any shot or the cue ball goes off in a random direction.

The entire playfield rotates 360 degrees for true 3D pool



Scoring is based on the balls sunk, the balls missed (scratches), or sinking the cue ball. Only sinking the red or yellow ball scores points. Missing or sinking the cue subtracts from the score. Don't expect to score much above zero for the first few times as this is a difficult game. It took many tries to get the hang of the game, but once I got it worked out. it was a great game.

The game is completely played from the keyboard and does not use the mouse at all. This doesn't cause problems, but I'd like the mouse option. I would like to see this game really work in three dimensions by using red - blue glasses instead of this visualizing system. This is probably a programming nightmare, but I like the thought. The documentation included is sparse at best, con-

sisting of a two page "manual" and a two sided quick reference card. The game is small and will run on a 512k Amiga with only one drive. It does require Kickstart 1.2. So if you don't have it, what are you waiting for? I did have a problem using Q-BALL on my 2000 but it worked on my expanded 1000. The 2000 would not complete the boot screen and ignored the keyboard.

This is not going to be a game for everyone. You need the ability to visualize well in three dimensions and some patience for learning the key strokes. As far as games go, this one has the redeeming quality of teaching you to visualize in three dimensions. It a unique experience trying to sink seven balls in eight pockets using 262,144 different view angles. I like the creativity of the game and the almost infinite variety of play.

One the down side, I do not like the disk based copy protection or the complete lack of multitasking. The keyboard interface can be clumsy because it uses the numeric keypad and the four cursor keys to control all functions. The quick reference card does not adequately explain the use of the keys either. This is a game requiring some patience and imagination. However, it can be very entertaining once you get the hang of it.

Q-BALL

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Northbrook, Ill. 60062

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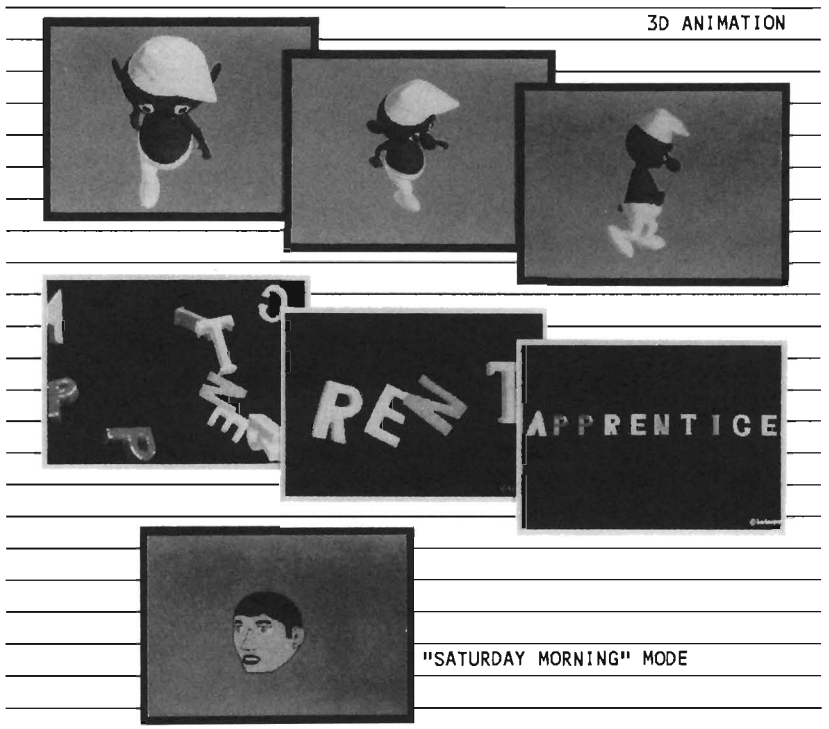

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Intro To Midi

by Tom Bucklin

Even if you are unititiated into the world of MIDI, the term is probably not new to you. Early on, programs such as Mimetics' Soundscape and Deluxe Music Contruction Set (DMCS) utilized MIDI on the Amiga. "MIDI" is an acronym which stands for "Musical Instrument Digital Interface". It is a standard of digital communication between instruments that was developed as a result of major manufacturers of electronic keyboards coming to a meeting of the minds. They recognized the need for a standardization of communication so that the technology could benefit as a whole. With MIDI, one musical instrument can be "linked" to another to achieve perfect SYNCronization.

MIDI is a relatively new standard, having come on the scene in the early 1980's. Since then it has gained such popularity that even lower end consumer keyboards and MIDI guitars support the standard. I think this story told to me by a friend describes MIDI best:

"I had always enjoyed listening to the songs included on Deluxe Music Construction Set. One day, after deciding to probe deeper into the pull down menus, I found a number of options devoted to the implementation of MIDI. I borrowed a friends synthesizer, secured the necessary interface and cables, and set out to find out what MIDI was all about.

After figuring out some basic MIDI rules (like setting the MIDI components to the same MIDI channel), I finally clicked the mouse next to "MIDI ACTIVE". When I requested the program to play the current song, I had gained my first insight into the world of MIDI. No longer was I limited to listening to Bach's little Fugue in G minor through the comparatively limited instrumentation of DMCS. By hooking up my MIDI connections, the Amiga would now play the piece on the synthesizer. I could just sit back and enjoy a very real sounding harpsichord playing a very well written piece. I went on to explore different music, which I integrated with a variety of synthesizer produced instrument sounds with just a push of a button.

Soon after, I found that I could make up simple melodies on the keyboard. By choosing the right options, my actions would be notated on the screen for me through MIDI. Then the notes could either be played back on the synth by the computer, or I could print them out on a staff to give to someone else who did read music. I did all this without the slightest bit of knowledge concerning music, but I was making sounds like a virtuoso."

When used in conjunction with your Amiga, MIDI can offer a variety of entertaining possibilities for both the musician, as well as the non-musician. As you begin to get into professional type synthesizers however, the real power of MIDI becomes evident. In these fine tuned machines, note on/note off messages are just the beginning of information transmitted via the MIDI cable. Other MIDI messages such as pitch bend, key velocity (the speed with which you strike a key), and aftertouch are communicated as well, giving the user an entire spectrum of control. As a matter of fact, after examination of a sophisticated MIDI instrument, one may wonder why the need for computers at all? To find the computer's value in this picture, you need to understand a little bit about the operation of the modern day MIDI instrument.

Todays high end synthesizers can choose from a variety of available sounds. However, many synthesizers have a maxi-

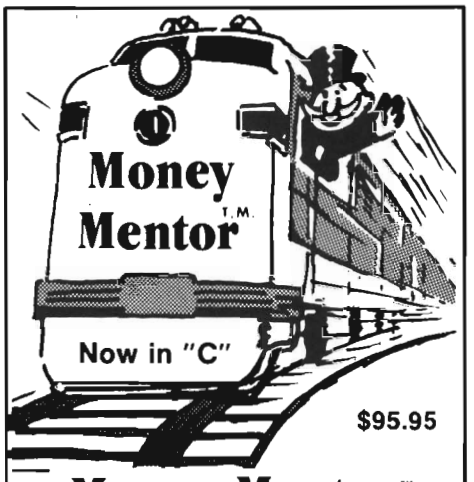
mum of 64 sounds resident at any given time. By using a plug in Rom or Ram cartridge, you have access to an additional bank of sounds. However, musicians have found these well meaning mediums to be inconvenient. With a cartridge, you don't have the ability to rename or alter the sounds. You also must make sure not to misplace a given card that has that particular sound you need on it. With a software Librarian, you can store the data from your Roms or Rams on disk. You may rename them, re-categorize them into separate directories, re-arrange them, as well as edit them. Although several synthesizers are now have 3 1/2" disk drives for storage of sounds, they still lack the editing and sound generation capabilities of a computer. (they also cost more due to the inclusion of the disk drive).

By using a computer sound editor, you can create new sounds (or alter old sounds) to your liking. These programs provide an environment superior to the tedious entering of algorithmic formulas for the creation of sounds.

One of the other useful pieces of MIDI software is called a sequencer. With sequencers, you can record your music as you play a MIDI instrument. However, this "recording" will be a far different entity than that which you would get with an audio tape. That's because MIDI sequencers do not record sounds. Instead, they record MIDI messages. The microprocessor in the MIDI instrument sends messages to the computer that conveys the full range of supported MIDI functions of the instrument. It is this kind of information that is transferred to and from components of a MIDI system. In this way, there is an editing capability not possible with an audio based recording system. With a sequencer recording you could, for instance, speed up the tempo of a song AFTER you recorded it WITHOUT causing the pitch to go higher. Try that on an audio deck! Did you hit a wrong note at the very end of the most complicated piece you have ever recorded? No problem Just locate the wrong note in the sequence editor, and change it to the right one!

This is all possible because the sequencer has no "voice" of its own. Instead, it relys on a MIDI instrument's ability to generate sound as its playback device. This fact opens up a host of possibilities which would be far too extensive to cover in this introduction, but suffice it to say that you can make a sequencer recording using any MIDI capable instrument (a very inexpensive one for instance), and play it back at another time through a different MIDI instrument.

Certainly, the Amiga is not short on ability to support the best MIDI software products available today. It has, however, been short on MIDI developer support...until now. With the introduction of products like the SoundQuest line, as well as Dr. T's and Microillusions forthcoming offerings, MIDI and the Amiga have arrived!



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C-ZAR

A Patch EditorLibrarian for the CZ Series of Synthesizers.

by Jay Levan

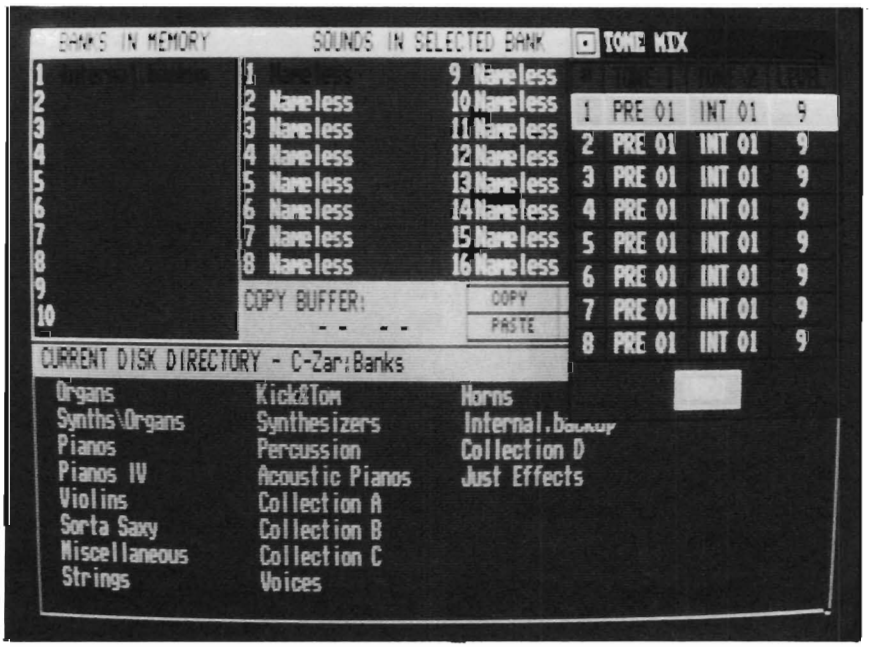
Many people who bought Amigas to play around with computer sound capabilities also bought Casio CZ 101 synthesizers. Many of these same people were face to face with a synthesizer for the first time in their lives. However, I suspect that many would-be synthesists who bought the CZ/Amiga combination for some musical fun, have never touched the parameter editing buttons on the right side of the keyboard. I further suspect that this editing phobia was one of Richard Diemers' motivations for designing CZAR for the Amiga.

For $ 195 (list) you can breakthrough your fear of envelopes and zap your sound storage problems with ease. With CZAR you can be editing sounds and entering new data within 30 minutes of sitting down with your CZ, MIDI interface, and the 67 page (double spaced) easy to follow manual.

Once you boot the program, you'll see the very intuitive main control panel. Well chosen colors and straight forward layout allow easy loading, listening and storage of banks of sounds. A bank consists of 16 sounds, voices, or instruments sent via MIDI cables to or from the Amiga or CZ. You can just as easily send these banks to disk or an "EZ CZ", which is a plug in memory cartridge that holds 64 CZ sounds. This transmission is fast too! It takes about 16 seconds to load 9 banks (144 sounds) from disk to the "Banks in Memory" section of the display. You just click on the name of the bank you want from the "current disk directory" which is always visible. This process is slowed down a little when the software has MIDI toggled on, but only because the bank of 16 sounds is then additionally thrown to your CZ's internal bank storage space.

If you are worried that this might write over those internal voices, don't. When you first boot the program, this bank of sounds is saved in Amiga RAM as the first of 10 possible "Banks in Memory", and is automatically labeled "Internal.backup". When MIDI is on and you send this bank of sounds down the line you hear the Middle C of each

The librarian section of C-Zar offers the user an easy way to store and access sounds



sound in a quick sequence of beeps and boops (unless you select "Quiet"). This function "auditions" the sounds as they are loaded.

Now you are ready to shuffle the sounds around and make custom banks of, let's say, your favorite "piano" or "brass" voices. All this is done using Amiga memory as buffers. These newly arranged banks are easy to name and store to disk or cartridge. The docs will tell you CZAR holds 10 banks in memory at once. Banks can also be kept as files on disk. Up to 32 banks can be stored in a disk directory, and there can be as many directories on a disk as space permits. A freshly formatted disk will hold about 12 full directories, for a total of 384 banks, or 6,114 sounds! Our next handy feature is a little sequencer which records about 128 notes so you don't have to lean over to the CZ and play each time you want to hear a selected or edited sound. This "Record and Auto Play" tool will even switch from one sound to another in mid sequence if that is what you did when you recorded it. This "recorded" passage stays in memory until you record another one, and can be recalled from the "Editor" screen too. Before we move to the editor, however, I will sum up the other features on the "Main Control Panel". Tone Mix on the CZ allows 2 existing voices to be layered or mixed and their relative volume (to each other) to be controlled. Let's say you want a Piano with a little harpsichord edge. You may call up a piano sound and mix it with a harpsichord at a lower volume. Up to 8 Tone Mix settings can be saved per bank. (On the CZ Tone Mix sacrifices polyphony).

Earlier, I mentioned that you can copy individual sounds to a buffer to create customized banks. Almost as easily, you can apply envelopes from one sound to another with a few clicks of the mouse. This "Main screen" edit begins by calling up the 2 sounds and choosing which envelope will be pasted from the "model" sound to the edited sound. Another option is

(continued on page 54)

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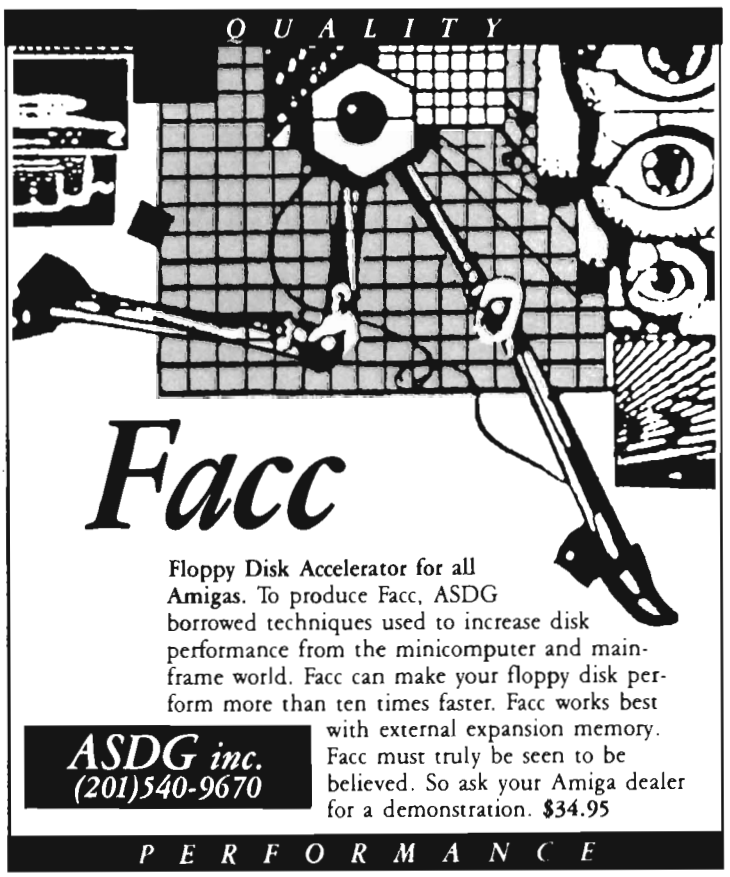

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D-50 Master

SoundQuest's editor/librarian for this top shelf synthesizer

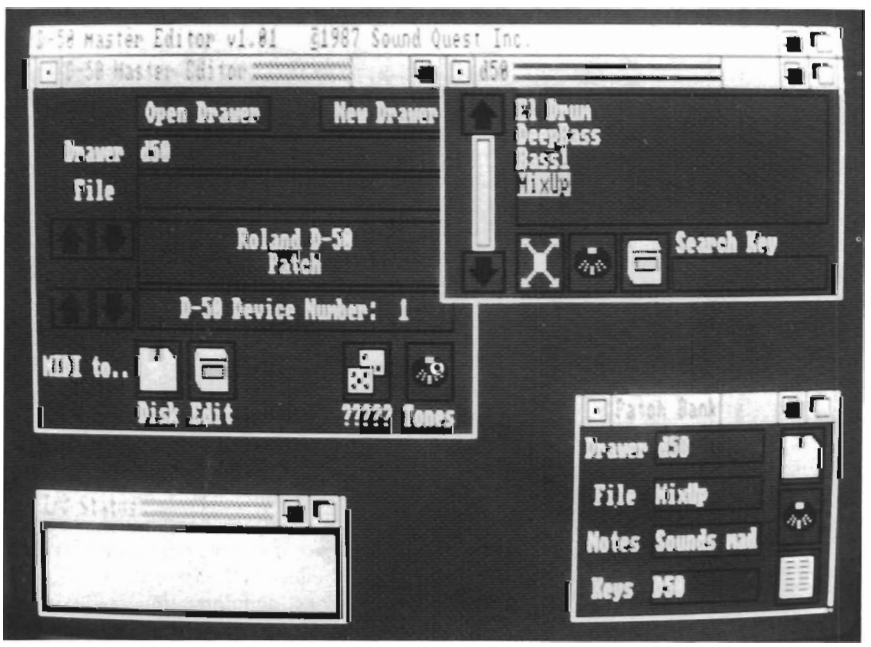
by Tom Bucklin

The D-50 Master by SoundQuest is a full featured editor/librarian package for the Roland D-50 Synthesizer. The manual explains that the Roland D-50 uses up to 350 different parameters to create it's sounds. It goes without saying that even a seasoned synthesizer programmer can use all the help he could get to make the creation of new sounds less painless. Roland even offers a separate programmer module (PG-1000) in order to aid in programming this incredible machine (see report on the D-50 at the end of this section). However, when approaching a task of this complexity, one thing becomes immediately apparent; the more graphic the environment, the better. The D-50 Master creates just such an environment.

As with all MIDI related programs, it is important to hook up the appropriate MIDI cables and interfaces before booting your program, and preferably, before turning on your machine.

Soundquest recommends that you make a backup copy of the program disk to work from. However, the program IS copy protected by a key disk system (you are required to insert your original disk at some point during the loading process with your duplicate copy). Although I recognize an author's right to protect his investment from piracy, the key disk system is one of the least desirable for this type of program. This is because there is no REAL advantage to your backup copy. The fact STILL remains, if anything happens to your original you are out of business. A password system of protection would have been a better choice of protection for this program.

The icon based window system makes for easy access to most functions

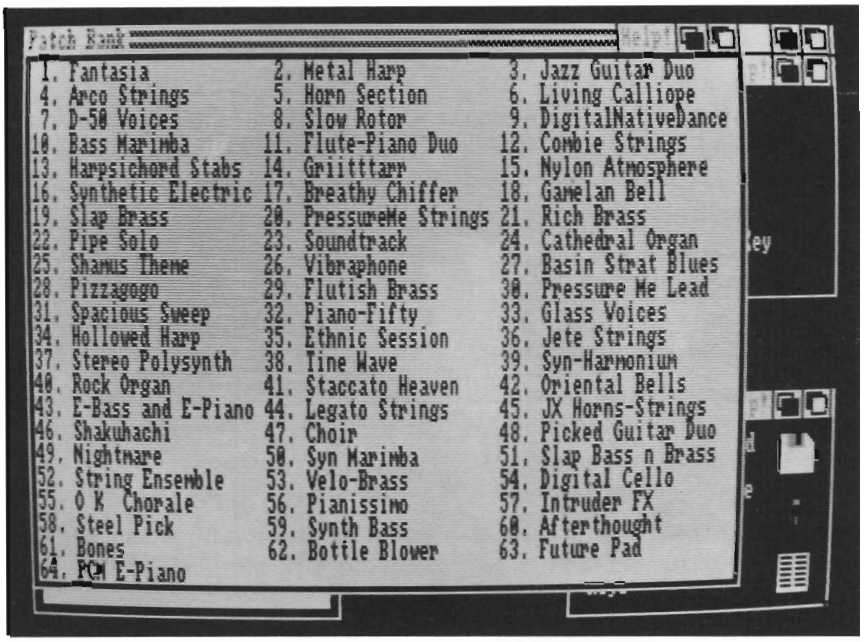


The reason why I touch on this issue of copy protection is relative to the type of program being reviewed. This is a highly specialized kind of program, which in all likelihood will be used by a serious musician (or a home user that is serious about their music). These users can not afford to have problems with their disk without a readily available backup. Requiring a minimum of 512K/Kickstart 1.2, the program

autoboots to your Workbench screen. Clicking on the D-50 Master icon will bring you into the main window of the program. This window is the workhorse of the program. It is from here that you will perform such functions as opening new or pre-existing sounds.

The first thing you need to do is to open a drawer. Initially, the window protocols used to perform this function can be confusing. There are two icons titled "Open Drawer" and "New Drawer". Clicking on "Open Drawer" will open a second window which displays the contents of the program disk. Since you probably want to open a new drawer on a separate disk, you will need to type the drawer name (proceeded by a path name if necessary), as well as the file name for your particular sound file in the drawer/file requesters. Now click "New Drawer" in the main window to create your drawer. Seemingly awkward at first, this proves to be a simple and effective way of creating the numerous drawers that can accumulate as you learn to use the program.

After creating a place where you will store your sound(s), you now need to get them. With a program of this type, there is certainly a variety of ways to get your sounds...anything from creating your own, to downloading sounds from outside sources. To proceed any further, you need to locate the Patch/Bank requester in the main window. By using the up/down adjacent arrows, you chose whether you wish to



With a bank of patches and audition on, you need only to click on the name of a patch to send it to the D-50

work with a single sound (called a "patch"), or a standard D-50 bank of 64 sounds. From this point, collecting these sounds for storage/editing is elementary. To save a patch from your D-50 to disk, you simply select the patch you wish to transfer on your D-50, then click on the disk icon in the main window. The patch will automatically be saved to disk under the pre-specified file name. To perform the same function with a bank of sounds, you invoke a bulk dump from your D-50. The D-50's LCD screen will display a "waiting"message. By once again clicking on the main window disk icon (and choosing the bank option in the requester), an entire bank of 64 sound files will be saved to disk.

The simple storage and retrieval of sound data represents the most basic and valuable function of this type of program for the average user. But the real power of the program is understood once you use the editing capabilities. By choosing the editing rather than the disk icon in the main window, your sound(s) will be loaded into memory. A small editor window will appear with three associated icons and four text entry boxes. The icons allow you to save this particular sound(s) to disk, send via the MIDI cable, or edit the data. There is also a set of pull down menu options associated with the edit window (not immediately apparent without reading the manual). These pull down menus invoke useful functions such as sending the data to a printer and selecting a new device number for the data. When used in conjunction with a bank of sounds, the print function will output a

(continued on next page)

list of the patch names stored in the selected bank. Printing an individual patch will result in a complete display of all the values used to create the patch. This could be very useful for comparing various sounds and determining their differences.

When working with an individual patch, selecting the edit icon from the edit window will bring up a full screen graphic editing environment. For the uninitiated, this display will seem beyond comprehension. Suffice it to say, before one would attempt to edit a sound, one needs an understanding of how the synthesizer produces a sound (see our article on the Roland D-50 which follows for a more complete description of operation). The editing screen is broken up into three vertical sections. The left side is used to edit the variables used by the four partials in the patch. The middle section is used to edit the data associated with the tones (two partials make up a tone) Finally, the right hand side contains variables that affect the overall patch, such as reverb and pitch bend settings. There are three "help" areas in the menu bar that correspond to the three sections of the edit screen. Clicking on these will bring up an online text file that provides an overview of the functions for that segment. Although not very extensive, these help files can act as a handy reminder of the operation of the controls for the selected area.

There are some unique and powerful implementations of editing tools embedded in this screen. Some of the more powerful functions are: the ability to edit more than one partial at the same time by "locking" the two; the ability to edit a waveform by simply clicking on a graphic representation waveform at a point, and dragging the wave into the desired shape; the ability to preview your sound as you edit "on the fly" by clicking the right mouse button (the latter function will give you an audition of any given note along the keyboards

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range by clicking the mouse in different lateral locations across the editing screen.)

The editor incorporates what is known as a "Patch Buffer". With this useful feature, you can create and store up to four different versions of your edited patch in memory. The different versions can then be compared by clicking on an associated buffer number at the "Save/Load" gadget in the lower right of the screen.

Now if all this partial and parameter talk has left you confused, there is hope. So far, we have still depended on the operator to edit a sound, which has in turn presumed a fair amount of knowledge on his part. However, there are also functions within the program that actually create new sound variations for you. I said variations because new sounds are not actually created by the computer. Rather, a patch (or combination of patches) is selected by the user ("marked" from within the edit menu) with which the computer can create variations of the original patch. This has turned out to be one of my favorite functions of the program. There are a couple different ways to accomplish this, each yielding different results.

The Variations function will create an individual patch or a bank of patches based on pre-existing sounds. You initiate the Variations window by clicking on the dice icon in the main window. From within the Variations window you can adjust thirteen sliders affecting the major components of the sounds. Adjustment of the sliders will determine how much a particular component will be affected during the creation process. Creation of a new variation on a bank of 64 sounds takes about 25 seconds, so don't feel like something's hung up when selecting the "create bank" option.

Another useful way to produce computer generated variations can be accomplished from within the bank editor screen. This

(continued on next page)

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screen appears when you load a bank of sounds into memory and select the edit icon from its associated edit window. With this method of sound creation, you choose two different patches from the bank editor window. You may now choose one of two processes to create your new sounds from the pull down menu. The "Patch Slide" option creates a new bank of 62 patches, plus the original two. This function creates these sounds by merging qualities of the two original sounds in a variety of combinations. In the second option, "Patch Mix", a new bank of 64 patches is created. This sound creation process differs from the previous in that it randomly selects parameters from the two original sounds to create new ones. Selecting dissimilar sounds can result in some interesting new instruments with this mode.

An unrelated but never the less useful function has been incorporated into the bank edit screen which deserves mentioning. The "audition" option from the main menu will load the patch you click on into the D-50 on the fly. The selected patch does not over write the patch you had on your synthesizer, it merely temporarily replaces it as the current sound. Certainly, this is a useful function after a creation process to "audition" some of these new sounds that you've created. But it also can serve a very practical purpose as well. By bringing up your desired bank into the bank editor window and choosing the audition option, you can have 192 readily accessible patches available to your D-50 at any given time; 64 patches in the D-50's internal memory, 64 on a plug in Rom or Ram card, and 64 in the bank editor window! After accumulating a variety of sound banks on your disk, you will probably find yourself wanting a quick way to access them. For this purpose, SoundQuest has created the "Quicksend" utility. Once activated, this utility will send your data file to your synthesizer without having to boot the D-50 Master program. It can also send data files that have been created in the Soundquest series for other synthesizers as well. From the WorkBench, you open the drawer that contains the bank(s) that you want to download to your synth'. A second window will open on the WorkBench screen containing icons in the shape of Ram cartridges. Each of these will have the name of a different sound bank file underneath. Call up a Bulk Load on your D-50, and double click on the sound bank icon of your choice. Your data file will be loaded into your D-50's internal memory. By choosing data files that were created for a variety of synthesizers, you can be sending data to any number of SoundQuest supported machines from the same WorkBench screen (the program may also be used from CLI).

Conclusions:

The SoundQuest D-50 Editor/ Librarian certainly represents a quantum leap in serious MIDI software for the Amiga. It is a powerful program packed with useful features for the music enthusiast and the professional alike. The implementation of the program on the Amiga seems to have been made without compromising the Amiga's abilities (full multi-tasking supported). The program, for the most part, executes its commands very quickly and without trouble. However, the copy we worked from could sometimes become troublesome if you didn't do things in the right order, resulting in a visit from the guru. Also the manual left something to be desired. With a program of this complexity, I really would have liked to see some screen shots in the manual to guide the user through the numerous windows you will encounter. Also, the plastic binding on the manual insisted on coming undone, allowing pages to slip out.

With a touch of fine tuning, the SoundQuest D-50 editor/librarian will be a welcome sight to all users of this fine instrument.

D-50 Master Editor/ Librarian

SOUND QUEST, Inc.
5 Glenaden Ave. East
Toronto, Canada M8Y 2L2

1-(416)-234-0347

MT MASTER

Sound Quest's Master Editor/Librarian for the Roland Mt-32 synthesizer

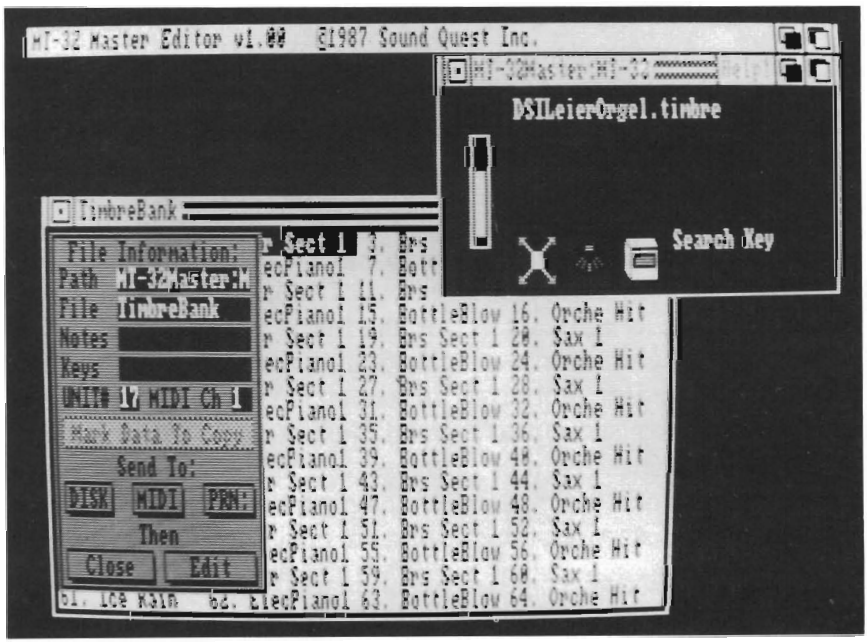
by Darius Taghavy

Soundquest's MT Master is a sound editor and librarian for the Roland MT-32 synthesizer.

For Amiga owners this program is the first and ONLY means of storing/editing banks of sounds with an MT-32. Secondly, it is the only way the MT 32's voices and other parameters can be edited at all. This device greatly benefits from computer editors. I cannot put in words my reaction, when I heard for the first time the three other reverb algorithms (plate, hall and delay) that the MT boasts of besides the excellent sounding default "room" characteristic. MtMaster makes me feel better than ever about owning an MT 32!

MTmaster boots from Kickstart 1.2 and takes you to Workbench. Opening the disk icon brings up the "MT 32Master" program icon and the "QuickSend" icon, besides three drawers, Preferences and the obligatory Trashcan icon (who, I'd like to know ever uses them ???). Quicksend allows you to auto inject patches into your synthesizer without having to go into the main program! This is a nice touch, since it saves time (Quicksend is only 14 Kbytes long as opposed to the 180 Kb of MT 32Master) and de facto turns the Amiga into a bunch of RAM cartridges. While this is a great idea, this feature did not work on my copy. SoundQuest, when contacted, promised to immediately look into and fix the bug and put the updated Quicksend on Bulletin boards across the country for us to download.

A pop up window system guides you through the process



Double clicking on the MT 32 Master icon will load in the multi -tasking program. As opposed to the general librarian from Soundquest, MTmaster makes some use of the menu structure of Intuition, and still is entirely window oriented. I did not like this idea at first, but this time it works the way windows were meant to be: FAST ! Musicians need uncompromising programs like this one, because they'd rather make music than stare at a screen waiting for things to happen.

(continued on next page)

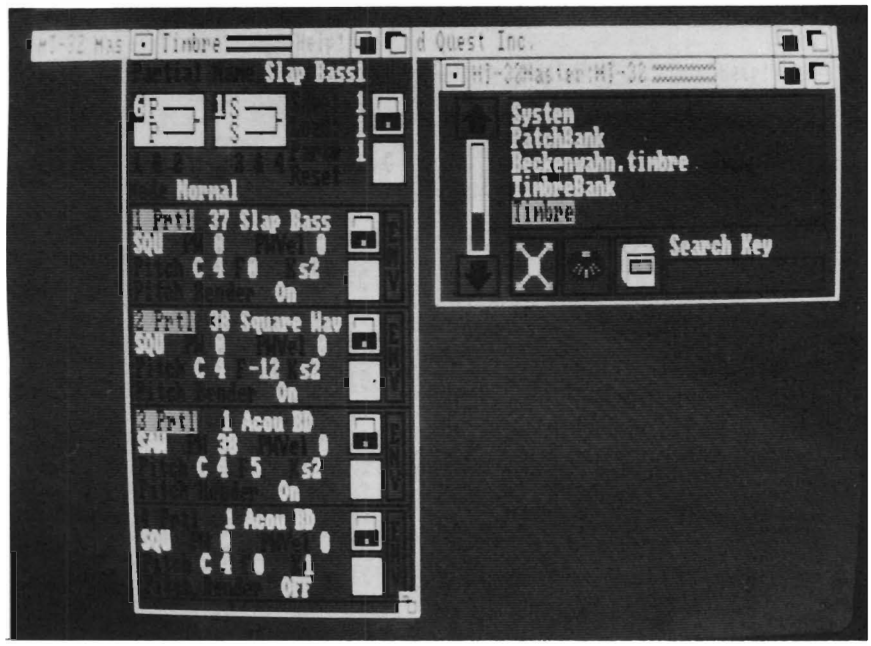
MT-Master (continued from previous page)

Another way to make musicians happy is the "Help" gadget which is on nearly every window and located just left of the front/back gadgets. Clicking on help will bring up a screen containing helpful information about the particular window. I wish all complex programs had well thought out online help like this. Before I opened the manual, I learned my way around MTmaster fairly quickly thanks to these help screens.

One of the drawbacks of the MT 32 is that its preset sounds cannot be edited without the aid of a computer. Not only can you not edit anything but the most basic parameters (Master volume and pitch, say), but there are some goodies locked into the MT which can only be accessed by means of external software. There are a couple of different RAM areas in the MT. One of them is called "system", and I was thrilled to learn that here the four different reverberation hall rooms are available to choose from.

Without a computer, you are stuck to one default setting on the MT, and this is true for many other parameters as well.

Drum sounds, for instance, are contained on the "rhythm" track on the MT (there are 8 tracks for synthesizer sounds and one track for drum samples, each track receives on a different MIDI channel). The MT defaults to a setting where different samples are assigned to certain MIDI note numbers, and thus, spread out on the keyboard. MTmaster allows you to change the sample for each key, allowing you to lay out the keyboard according to your taste and needs. This technique, called "key mapping", is a great way to customize your own "drum set". Moreover, you can change the panning and volume for each key as well! A surprising bonbon is the ability to turn the reverb on/off for each instrument which almost makes up for the lack of individual outputs on the MT.



The editor works within the same graphic environment as in other Sound Quest programs

I was also amazed to learn, that the MT even has a 62 voice memory area for the drum track, allowing you to import timbres from the synthesizer section to use as one shot samples and mix them with your drums (try timpani, orchestra hit and slap bass for starters!). All these functions are accessible from a window that shows each key with all its associated information on one line. Since there are a lot more keys than lines, there is a scroll bar to the right. All in all, the "rhythm" track editing is powerful and intuitive.

Keeping track of the synthesizer voices on the MT is a little harder. There are timbres and timbre banks, as well as patches and patch banks. At first I was a little confused about the organization and naming conventions, since I also have a Roland D-50 keyboard. Unlike the D-50 however, the MT uses up to 4 partials to make up a timbre, which in turn makes up a patch. So patches are really just timbres with some additional parameters such as bender range, tuning, and even panning. It is simply amazing how powerful the combination of the Amiga, the MT-32, and MTmaster is. It makes you feel like you

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own a $100,000 Fairlight at times. A poor man's Fairlight, I admit, but a powerful one indeed! Another example is the fact that you can "import" drum samples into the timbre editor of the program and apply all the synthesizer tone shaping controls to it; a system known as "resynthesis". This is incredible power!

The editing itself is straight forward, following the program's comprehensive data entry system, which is totally mouse oriented. You simply click on the value which needs changing and drag the pointer left to decrease or right to increase the value. It takes a little getting used to, but it's worth it, because once you are accustomed to it, you can just fly through your editing. Most people would rather play keyboards than spend all their creative time editing. That's why enhancements to the editing interface like this will always be appreciated by those who use the program.

The disk is copy protected, but you can still back it up as long as you keep your original as a key disk (the copy will ask for it when you boot up). While this is better than no backup capability at all, it still slows you down and forces you to keep yet another disk on your already crowded desk space. By now all Amiga productivity software should be installable on a hard disk. Also worth mentioning is the program's ability to change parameters in a system setup file. Most noticeably, you can power up in interlaced (640x400) or non interlaced (640x200) resolution. This program cries for higher resolution, but even after a lot of fiddling with the colors in Preferences I could not attain a bearable color combination. Commodore really has to address the problem of a stable 640x400 resolution mode on the Amiga. SoundQuest did a good job of coding (the program works very well in hi-res with no noticeable slowing down).

I do have some minor points of critique. The problem with Quicksend, confusing timbre/patch bank naming and occasional, but rare visits from our

(continued on next page)

MT-Master *(continued from previous page)*

Indian teacher! This is version 1.0 and I am sure they'll be ironed out by our friends from Canada, eh?!

Other problems are inherent to the MT-32 rather than the editor. For instance, your edits from the computer screen get sent to the MT-32 in real time. However, the MT's LCD screen does not automatically update it's output, forcing you to lean over to the panel. Also, the program comes with absolutely no new sounds, so you'll have to spend some time writing your own. This will soon change as people will commercially write and market sounds for it. (I'm contemplating it myself with an editor like this one)! I understand that some companies have work in progress on sound libraries for the MT-32.

MT-Master is noteworthy for the single fact that it is the *only* MT-32 Editor/Librarian for the Amiga. But it also happens to be an extremely nice one. The software makes full use of the standard Amiga Intuition interface and is very user friendly despite the overwhelming number of functions it performs. It is really amazing how much you can do with an MT-32 in conjunction with this program. SoundQuest is the first company to deliver professional quality MIDI productivity software for the Amiga, and I'll say, with products like this, they are here to stay!

MT Master

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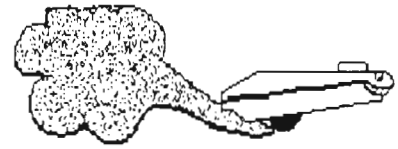

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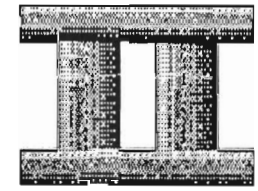


AMIGA tm COMMODORE–AMIGA INC.
IBM tm INTERNATIONAL BUSINESS MACHINES

In conjunction with reviews of the new MIDI software packages for the Amiga, we will be keeping you up to date on the machines they support as well. Since a high percentage of readers surveyed state that they currently have, or plan to acquire a MIDI instrument, this information will prove to be invaluable when deciding which software/hardware combination is right for you.

The Casio CZ 101 synthesizer

The CZ 101, despite its small size and price is not merely a keyboard with preset sounds, as in the Casiotone family. It is a respectable sound tool. Thousands of musicians who have extensive MIDI setups, also have a CZ 101 or CZ 1000 (virtually the same as a 101 with a full sized keyboard.) tucked away amid the cables and black boxes. And they use them!

The CZ series is polyphonic, which means you can play more than one note at a time (in this case 8). It is also multi timbral, allowing you to hear more than one voice at the same time (in this case 4). Multi timbral devices can produce fatter, richer more complex sounds by layering sounds one on top of the other. With the CZ you can also create new sounds from scratch (or with data sheets that give you all the parameters) and extensively edit existing ones.

There are 3 parts to a CZ sound: DCO (digitally controlled oscillator) for Pitch, DCW (digitally controlled wave) for Timbre, and DCA (digitally controlled amplifier) for Loudness. Each of these has its own Rate, Level and set of Envelopes. The envelopes determine the changes that occur to the 3 main building blocks of a sound over its period (length in time).

These features, along with the built in MIDI in/MIDI out ports (which allows your CZ to talk to other synths and computers), put the CZ synths in the realm of "real" synthesizers. The main drawback for most users will be the "mini" keys. If you have large hands, you may find it impossible to press one key without hitting another. Although these units are readily available at discount rates ($499.00 list) through mail order houses, you should try before you buy for this reason.

The CZ101 offers a low priced, programmable synthesizer

For more information contact:

Casio, Inc.
15 Gardner Road
Fairfield, NJ. 07006
(201)-575-7400

The Roland MT-32 synthesizer module

The Roland MT 32 is a multi-timbral synthesizer module. There are capabilities for up to 8 independent, simultaneous voices. In addition, the unit incorporates a rhythm section with a drum sample library of 30 sampled drum sounds. These sounds are available concurrently with the the 8 voices.

As such, the MT-32 is ideally suited as a tone generator for MIDI sequencer programs. Since it also has built in digital reverb, it might well be all you'll ever need in addition to a MIDI keyboard and your Amiga. This is the cheapest way I can think of to get a budget MIDI studio up and going without having to compromise on sound quality.

The MT-32 is a compact, multi-timbral synthesizer module

At approximately $550 the "Roland MT 32 Multi Timbre Sound Module" is an excellant value. The variety of sounds available add up to an astounding sonic arsenal which, when processed by the built in digital reverb, makes you wonder how much further technology can evolve in terms of miniaturizing equipment.

The sound quality of the MT-32 posesses the characteristic "LA sound" as pioneered by Roland. However, it has a "thinner" sound than Roland's D-50, largely do to the different implementation of the technology used in the engineering of the MT. There is certainly more to the MT-32 when you control it from software, since, on power up, the unit always defaults to a certain number of set parameters (which can be changed with the proper software).

The Roland D-50 synthesizer

The Roland D-50 Synthesizer is a state of the art, professional quality musical instrument. The look and feel is indicative of the type that you only get with a high end synthesizer. The D-50 incorporates a technique for sound creation known as "LA", or "Linear Arithmetic". It has the ability to produce the "warm" sounds associated with analog synthesizers, as well as the cutting sounds of digital synthesis. employing the same technology. This ability to produce either, along with its exceptional sound quality, puts the D-50 in a class by itself. It is a true 16 note polyphonic synthesizer. This means that you can depress up to 16 keys simultaneously. Many of the other synthesizers use an 8 note polyphony. When you attempt to exceed this number of notes, preceding note sounds are stopped in favor of the new key

The D-50 is a full featured professional level synth

depressed. This can get very disturbing, especially when one chord is attempting to sustain while a new one is struck. The D-50 produces what musicians would call a "fat" sound. This term could be roughly translated as a "full" sound. Much of this "fat" sound is made possible by the fact that the D-50 utilizes an unprecedented 20 bit A/D converter. This high bit rate yields some of the most exciting musical sounds in use today. As if this wasn't enough of a technological edge, the designers have built into the D-50 a two band graphic equalizer, stereo chorus effects, and a digital reverb unit.

The keyboard consists of 61 weighted keys, a typical number for high end synths. The keys are weighted to provide a substantial feeling when playing. This is a plus for people making the transition from an acoustic piano to a synthesizer. There are also many abilities built into the keyboard itself. The keys are velocity sensitive. With this feature, the instrument behaves much in the same manner as you would find in the acoustic equivalent, i.e. strike the key faster, the sound gets louder. The "aftertouch" feature allows you to take advantage of special dynamics by reacting to varying degrees of pressure on a given key or keys. Other controls included that affect the keyboard are "chase" (creates secondary chase notes which follow the original key depression) and portamento (this creates a sliding effect between notes played).

Some of the other notable specifications of the D-50 are: The unit holds 64 patches in its internal memory. A port for Rom or Ram cards is built into the unit, allowing you to access or store additional patches. The control display is an 80 character backlit LCD, where information is displayed for everything from the current selected patch, to sound editing functions. The unit incorporates a joystick control to vary parameters. Amongst other functions, this is a super method of varying output control processes such as the built in digital reverb. By simply moving the joystick, you can adjust the type and amount of reverb applied to an individual patch to vary from the sound of a small room to a cave, and all while hearing the results of your changes in real time. The MIDI functions are quite extensive. You can adjust settings to control the basic MIDI channel. You also have options to select a separate MIDI receive channel for a given patch, giving you even greater versatility when used with a sequencer or other external controlling device. The rear panel contains a MIDI IN, MIDI OUT, AND MIDI THROUGH connection for maximum flexibility.

All in all, the Roland D-50 represents a well made, well thought out, generously featured top shelf synthesizer. At a list price of $1895.00, it incorporates some features not found in instruments costing twice as much. Although one could talk endlessly about the features of a given synthesizer, what really counts is the sound. Interestingly enough, this is where the D-50 sells itself. If you're serious about your sound, I'd take a listen to the D-50 before choosing a high end synth for your MIDI system. For more information on the D-50, Mt-32, or the name of a dealer in your area, contact:
Roland Corp, USA, 7200 Dominion Circle, Los Angeles, Ca. 90040-3647 (213)-685-5141

Dynamic Drums

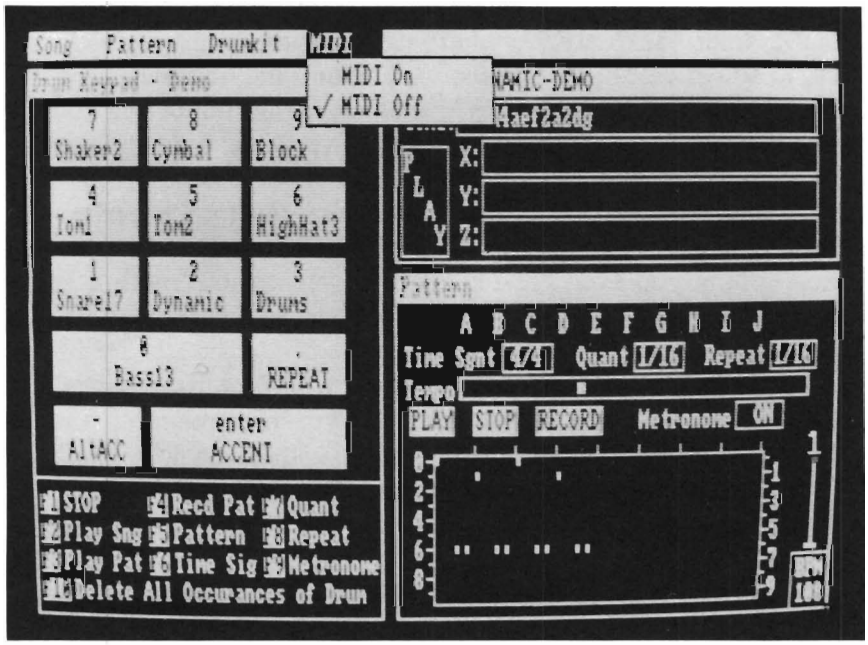
Add an Amiga driven drum machine to your MIDI setup

by Geoffery Mendelson

DYNAMIC DRUMS is a program from Newwave Software which turns your Amiga into a Programmable Drum Machine (PDM). A PDM is an electronic sound device which repeats a pattern of sounds forever (or as long as desired). In short, a PDM is a *very* consistant drummer. We now have software for composition, for creating and editing sounds, and for performing with MIDI instruments. Now we have Dynamic Drums (DD). DD can be used as a stand alone program or, through a MIDI interface, can synchronize your AMIGA to other drum machines or a MIDI sequencer.

DYNAMIC DRUMS is provided on two Amiga diskettes, and includes a manual and cassette tape. The tape and manual make DD very easy to use. Once the program is loaded, use the menu and file requestor to select a drumkit. When the drumkit has been loaded, press any key on the numeric keypad. You now have ten realistic sampled sounds at your finger tips!!

The graphic representation of the keypad shows the instrument names for a given "drum kit"



Dynamic Drums works with Drum Kits of ten sampled sounds. This is an advantage over most drum machines, which allow a maximum of four samples. Some expensive drum machines only have one set of "canned" drum sounds which are electronic simulations. DD comes with over one hundred sound samples. You can add any sound sample you have, as long as it is in IFF format. This flexibility is one of the advantages of using a computer for music composition and performance. The samples include many drum sounds; eg. cymbal, block, bongo, highhat, and snare. For the Spike Jones hiding in all of us, such off the wall sounds as Beep, Burp, Glass (breaking), Pop, Reverb, and Hey are included. However, you are not limited to percussion sound samples. The sound disk also includes xylophone, bell, guitar, piano and string sounds. Speech samples can also be used. The words DYNAMIC and DRUMS are provided as examples.

On a pure fun level, once you have loaded a drumkit, DD is a

very exciting experience. Using the keypad is easy and responsive. Play the cassette tape to develop your sense of rhythm and you'll soon be hooked.

Once you have chosen a DRUM KIT, you can compose PATTERNS. You can use up to ten PATTERNS at one time. The PATTERNS consist of one measure of BEATS. i.e. One....Two...Three...Four. There are several tempos to choose from. Most often you will use 4/4 in constructing your patterns (8/4 is included to allow you to have two measures, or eight notes, in one pattern).

Afterwards, patterns are combined into *songs*. For example, you if you have PATTERNS A, B, and C, you can have a song 2C3ABAC. DYNAMIC DRUMS will play PATTERN C twice, A three times, B once, A once, C once and repeat the song over again. Three SONGS can be used as SUBSONGS X, Y, and Z. A song could then be X2AZ3BY etc. This is much easier than it reads. Just remember that if you can put your sounds together in something that even remotely resembles rhythm, DYNAMIC DRUMS will figure out how to play them for you.

PATTERNS are entered in two ways: The first is by recording. You use the numeric keypad as any entry device. As the metronome clicks, you press the keys as if you were hitting a drum. The pattern can be entered in a very slow tempo and then played back at any speed you wish. A quantizing function puts the beats in the right spots. That is, if you hit a key too quickly or too slowly, DYNAMIC DRUMS fixes the timing for you.

Lets say you want to alternate a bongo and snare drum sound on every quarter note. Load the appropriate drum kit and select the 4/4 tempo. The on screen display will show which keys to press for bongo and snare. Use the pull down pattern menu to clear pattern 1, and get ready. With the mouse pointer, click on the record gadget, and the metronome will begin keeping time. Now press the bongo key on the even beats. Once you have recorded this part of your pattern, start recording odd beats using the snare drum. In this way, rich and complex rhythms can be built up one sound at a time.

The second method of pattern entry is by using the mouse. You place the mouse where you want a beat and press the button. You can erase by a beat by mousing to it and pushing the button. Patterns previously entered by recording can be edited this way as well.

I recently saw Kitaro, a master of electronic music, in concert. He used a drum machine loaded with samples. The drum machine played a very simple four note pattern. He then added drum (hollow bamboo) sounds using a keyboard driven synthesizer. The result was a unique and satisfying sound. The experience brought home the power of a drum machine, as well as MIDI in general.

Speaking of MIDI, DD has a built in MIDI support which is activated from the pull down menu. When selected, DD will "sync" to external MIDI devices such as sequencers, and even other drum machines. In this mode, the host device starts and stops DD, as well as supplying its timing information (This will make the Tempo control inactive).

DYNAMIC DRUMS can bring out the drummer in us all. All you need is an AMIGA, an audio amplifier, and DYNAMIC DRUMS. Talent is helpful, but not required. With headphones on, you can play to your heart's content and not disturb your neighbors. On the other hand, if you add a high power amp and Cerwin-Vega speakers, you can make the earth move. Fun, but not good for your hearing.

DYNAMIC DRUMS
$79.95

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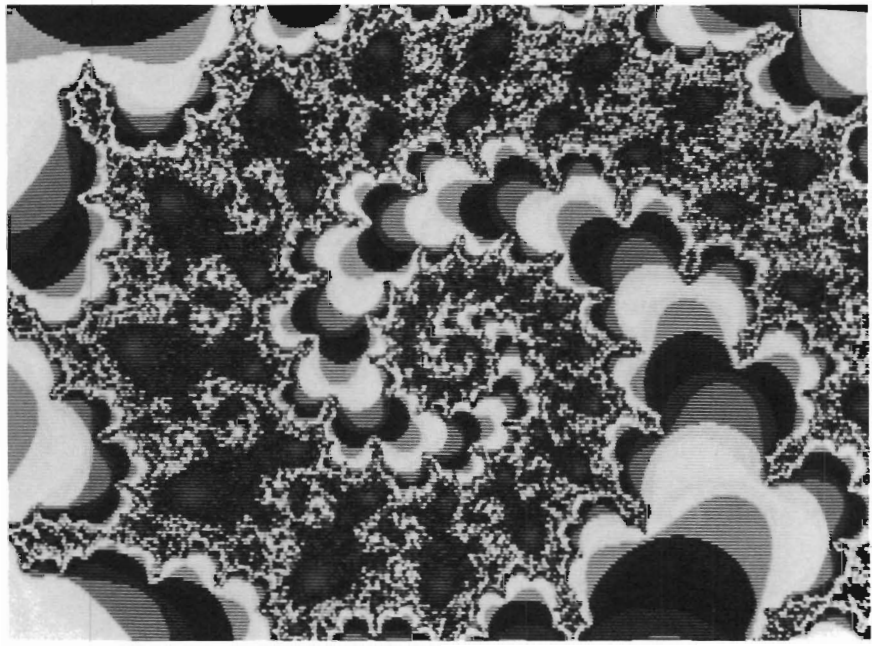
Analytic Art V1.1

A fractal masterpiece maker

by Walter Steuber

Shapes often have a special beauty when their contours follow mathematical rules. Analytic Art capitalizes upon this quirk of nature by supplying tools to generate an enormous variety of strange splashes of color in convoluted shapes that conform to specific mathematical formulas. The user can ask for a Mandelbrot generator, a Julia set, a Sierpinski gasket, or a Henon Orbit plot and the program will produce a screenful of color that results directly from the mathematical actions of the specified procedure. The routines introduce many randomly selected parameters, so that no two images ever turn out alike, and their generating functions are so complex that the results are totally unpredictable.

Everything works fast, so a product is very quickly ready for examination. (This "product" might be called a picture, an image or a graphic, but those words don't seem quite right to describe the strange, multicolored abstraction that appears on the screen.) The generating routines mysteriously produce totally novel, and imaginative screen ima- ges. It is so easy to make a product that the user will probably glance at one for a moment, and then proceed to make another. Anything that looks especially appealing can be saved as an IFF image and later processed by DPaint or manipulated with some interesting post-processing routines that are included with Analytic Art.



Mandelbrot objects, although virtually impossible to understand or predict, have at least become familiar through public domain programs. (A good one by Olaf Seibert is on Fred Fish disk No. 111.) Since Mandelbrots are typically quite slow because of the enormous amount of calculation they plow through, it was a pleasure to see how quickly Analytic Art generates a rough-and-ready preliminary version. The user can then take time to expand, refine and polish the tentative image or he can move on and try another.

The post-processing routines that come with Analytic Art are quite separate from the main programs and they will work just as well with IFF images that come from Digi-View, DPaint or any other source. One of these will wrap the image around a sphere. Another will transform a flat image into a 3-dimensional

shape(!). There is one that will generate stereo pairs for 3-d viewing. (A further post-processing routine is promised as a free upgrade when it is ready, but it was not operative on our review copy.) Being able to convert an image into spherical perspective or into 3-d perspective is a notable addition to the toolkit of graphic tricks that are currently available. The processing routines that come with Analytic Art work hand-in-glove with DPaint. A brush, for instance, might be prepared in DPaint, then modified in Analytic Art, then returned to DPaint for some more manipulation.

The 3-d routine in Analytic Art enables the user to start with a regular IFF image, convert it to a perspective view, and then to make selected colors grow upward from the surface! (A requester asks the user to specify which color registers are to be raised and how far above the surface they are to go.) The specified pixels then proceed to grow to the height specified. This startling operation totally destroys most images, but it greatly enhances an image that is suited to such drastic modification. You can imagine how much practice is needed to use this powerful tool effectively.

A slide show player also comes with Analytic Art. After you accumulate a collection of your favorite crazy images, you can write a script that will automatically show them in any chosen order, and at almost any chosen time between frames. Another use for the player is to set up a flip-page animation of a flat image growing into 3-d.

Incidentally, Analytic Art's requestor for changing a color palette is different from the others I've seen, and is by far the quickest, easiest and most satisfying to use of all those I'm familiar with. It uses the mouse to specify the RGB components of each color register in a layout that is much better designed than the familiar sliders in DPaint. I wish this procedure could be transferred to the many other programs that use sliders for individual color registers.

The 32-page lie-flat manual takes the nervous user carefully and skillfully through the mechanics of using the many options presented on pull-down menus. Its well-written text was composed with City Desk and was printed on a series II LaserJet; all-in-all, the manual is a very nice example of Desk Top Publishing, with lots of illustrations and reference tables sprinkled through the text.

Of course if you understand the exciting new mathematics behind the images, they are not so abstract. This brings me to my major complaint with Analytic Art. Although the manual and the screen menus throw around a lot of mathematical terms, they seldom define or explain them; Julia sets, attractors, Henon orbits, Mandelbrot, Fractal generators, Sierpinski gaskets. I would enjoy the product much more if I had some feeling for the algorithms that created it. I press a button that says it will generate a Julia set.

This is obviously a matter of taste and personal preferences. I have seen people look at the same image and say "Gee whiz" with pleasure and excitement. Of course I could go to the library to fill in these informational gaps, but Crystal Rose obviously understands the relationships between these mathematical disciplines and computer displays very well. An additional chapter or two in the manual would be very appropriate. For those people who do understand the mathematics behind the pictures, there is a menu item called REPORT. Selecting it produces a page listing the parameters and other data that were used by the program to generate the image. This information conveys what happened and gives more meaning to the image.

Should you add Analytic Art to your software library? If you've outgrown the public domain fractal programs and you admire the intricate, almost real but obviously computer generated images that fall in the Fractal family, the answer may be yes.

Analytic Art 1.1 $59.95

Crystal Rose Software
109 Los Robles
Pasadena, CA 91101-2417

(818) 795-6664

to paste ALL the envelopes from one sound to another. It's very fast and you can hear the results right after you click in the changes. Just as on the CZ, you can always "Compare" the edited sound with the original. "Undo" is also available at any point.

There are various windows within the "Editor". By using these, all the parameters of a sound can be manipulated just as with the CZ "Parameter editing buttons".

"Why ?", you may ask would I want to use CZAR to edit voices when I can do it all on the synth itself? The reason is because it's easier, more intuitive, and more graphic. Seeing the shape of your sounds on the screen will help you learn what it all means much more quickly than editing mere numbers on an LCD panel. The CZAR interface allows you to grab and manipulate a line within an envelope (those zig zag lines that are conventionally used to depict sounds graphically) or use the "DATA" window to increase and decrease values. Each of these methods has its merits and the controls work in tandem. As you change a parameter in one window the other is simultaneously updated. This section of the documentation is very extensive and presented in a step by step format. The 4th section of the docs is a 7 page CZ guide. Even if you read your CZ manual or know your way around this keyboard its nice to get another coaches' perspective on how to play the game.

The program comes with over 200 sounds to get your library expanding quickly. No copy protection is used and it operates well from Workbench or CLI. I was also able to multitask with CZAR. I did have two minor problems with CZAR. However, author Richard Diemer was aware of the first one, and told me it has already been fixed. This was an intermittent lockup (no guru) when playing back a "recorded" sequence. The other is the lack of Amiga keyboard commands. When I mentioned to him that it would be nice to see the pull down menu functions duplicated on the Amiga keyboard he said "That's a good idea and I'll probably put that in an update".

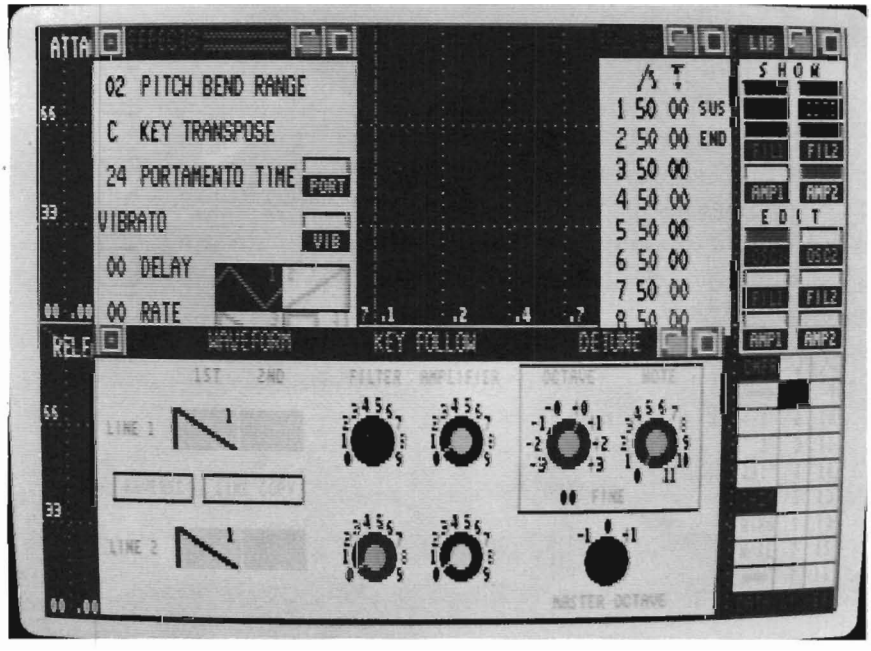
I am pleased with the way CZAR works and will use it often as a sound librarian. The entire program was written in 68000 assembly language to improve speed and responsiveness. I like the constant updating of the screens, and the real-time interaction with the synth. You'll never have to wait for CZAR to try out your latest edit. The addition of CZAR to the Amiga and CZ 101 make a good combination even better.

The only real drawback of this program could be the price. At $195.00 (list), you are only about $100.00 away from the $299.00 figure that many music dealers charge for the CZ101. It could be that in the face of these kind of mathematics, some may opt to hold out and put the money into a "new synth" fund instead. But if you are one of those who has decided that the CZ101 is the only one for you, than I would suggest you check this package out.

C-ZAR $195

Diemer Development
12814 Landale St.
Studio City, Ca. 91604-1351
1-(816)-762-0804

Using a highly graphic environment, the sound editor offers a host of powerful tools for sound creation



King of Chicago (continued from page 17)

Chicago on the limited budget that racketeering brings in. This turns out to be even tougher than it sounds. The basic tools for accomplishing all of this are money, quick reactions, and your planning. Important decisions must be made quickly or the game will pick an option for you.

This brings up one of my few gripes with the game. There is no save option, so if you are going to win, you have to do it all in one sitting. I have played one session for over an hour without capturing the south side, and would much prefer to save my place in the story and return later.

The packaging and manual give an excellent history of the time period and a basic feel for the cast. The reference card provides some useful hints and explains basic proceedures. Before I read the card, it took me a few minutes to figure out that I could click on the ledger to check my finances.

I am almost disappointed with King, because there is so much in here well done, I find myself wanting even more. I would like more animation in the background, and a few more motions from the main characters. The King of Chicago is a two disk package and requires 512K and two disk drives or expansion memory with 1 drive. You cannot play this game with one drive and 512K. Only the first disk is copy protected, so if you have 1 Meg or more, you can copy the second disk to ram and assign: King2: .

My overall impression of King of Chicago is very favorable. I enjoyed playing and found the level of difficulty good. Getting started is easy but the going gets harder as you move up the ladder of organized crime. The play varies each time you start the game, but there are definite steps that must be taken each time. The graphics are up to the Cinemaware standard. This is a game worthy of the Amiga and I hope to see more of this variety from Mindscape and others as well.

The King of Chicago $49.95
MINDSCAPE
3444 Dundee Road
Northbrook, Ill. 60062

Pageflipper (continued from page 31)

to a VCR or during a presentation.

The controls menu (Amiga C) provides several options for use when an animation is flipping. A "delay" slider is the first option. This can be moved from the default position to speed up or slow down the entire animation. Next you can click a gadget to show or hide your mouse pointer. You will want to hide it if you are recording. You can have the left mouse button act as a single step advance or switch to reverse motion. You can play the film once or continuously. Finally you can select raw or double buffered animation When you choose the double buffer option, two separate memory locations will be used for screen display. This will decrease the maximum number of frames per second, but will prevent color flashing.

PageFlipper can accept any Amiga IFF format if it is a full image; eg. no brushes. This includes overscan and HAM modes images. The only constraint is that every image in a script must be the same format. PageFlipper loads the entire series of IFF pictures into memory, so that is the only constraint on the length of your animation. You can use the full 8.5 or 9 megabytes of Amiga memory, so large animations are possible. The rate at which frames are shown depends on the resolution of the images, number of colors (bit planes), and buffering. A low-res 32 color sequence can perform 12 to 15 frames per second, high res 4 color drops to 8.5 frames per second.

PageFlipper performs up to its claims. I'm not sure how many of us can benefit from this product, but all the artists of the world surely can. The performance of PageFlipper is good, but not blazing. Since each IFF image is a full screen and not compressed in any way, it takes a long time to load the series.

I hope that these features are included in PageFlipper Plus, a forthcoming higher end product in the same vein from Mindware.

PageFlipper $49.95
Mindware International
110 Dunlop St. W.
Box 22158
Barie Ontario, Canada L4M 5R3

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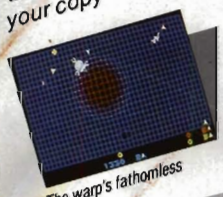
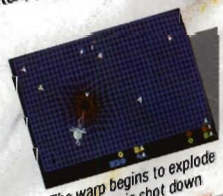

The warp's fathomless depths


The warp begins to explode as opponent is shot down

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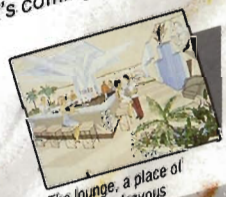
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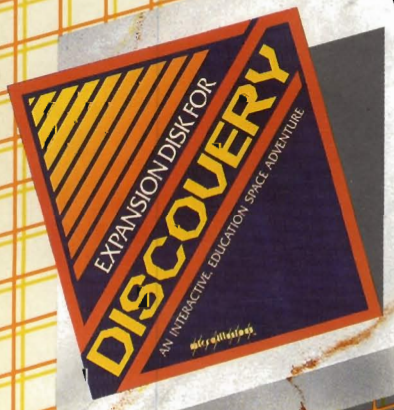

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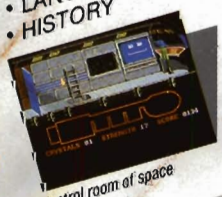
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