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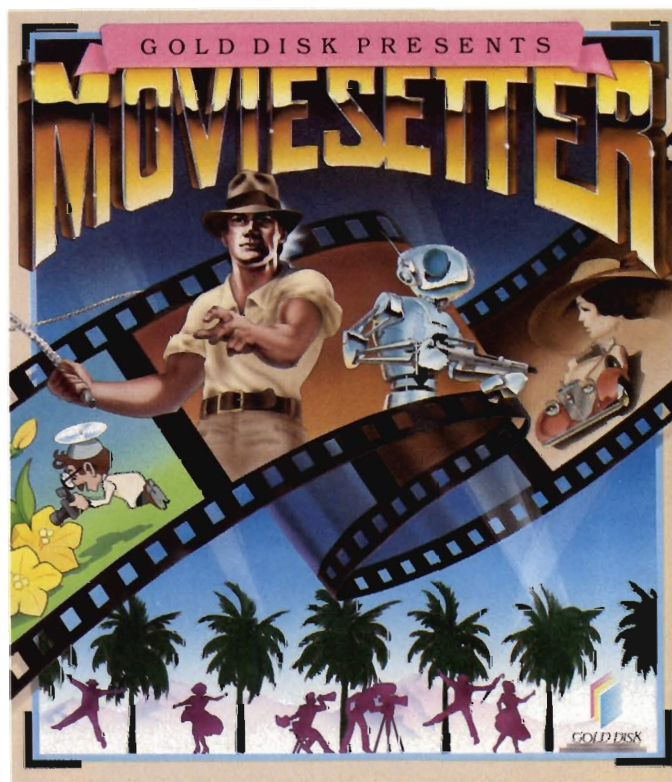
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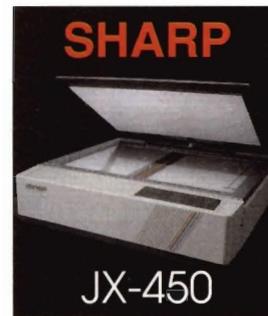
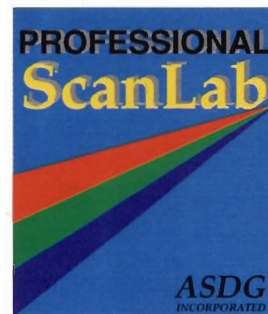
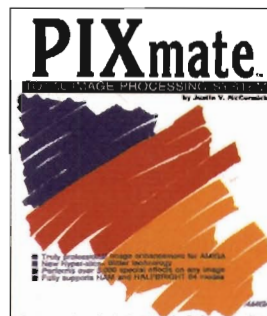
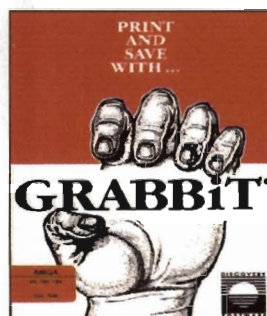
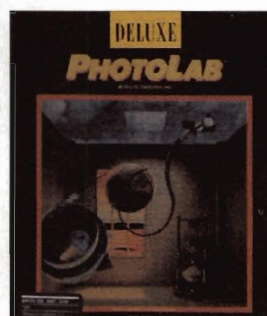
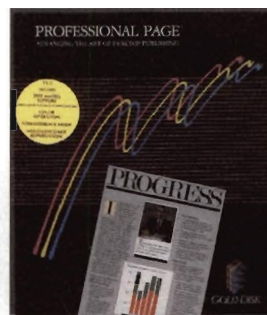
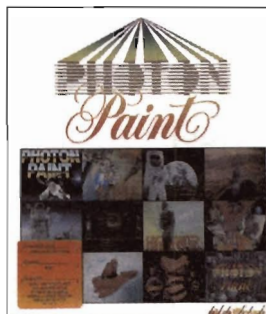
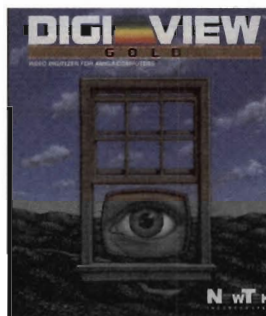
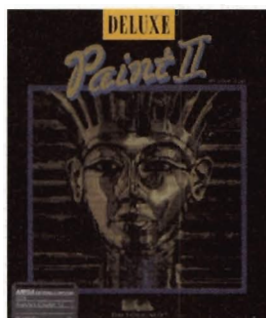
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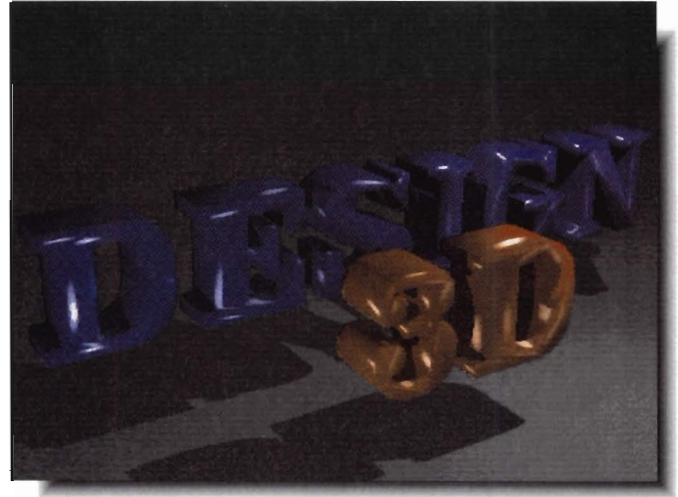
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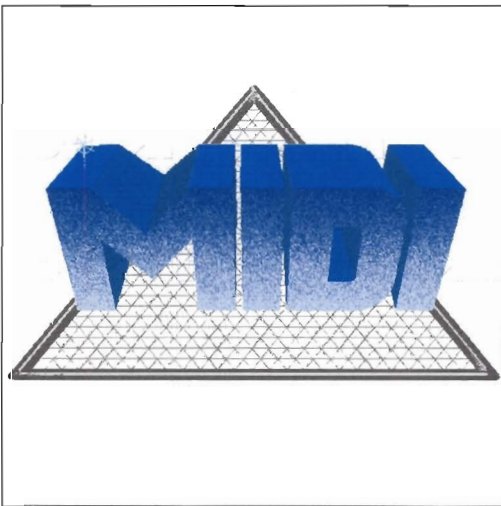
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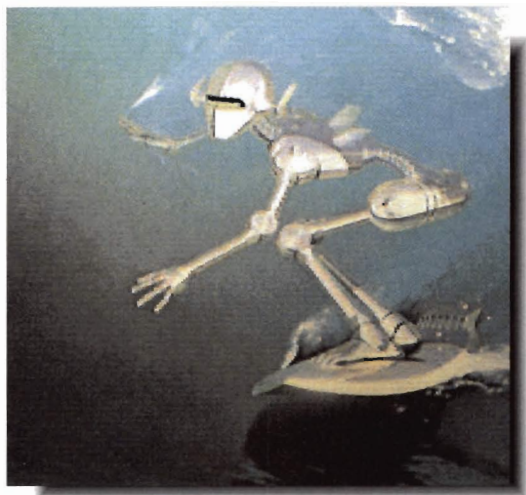
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Check page 47 for a pre-view into the long-awaited Deluxe Paint III.



The Editor's Corner

Welcome to AmigoTimes
Willkommen zu AmigoTimes
Bienvenue à AmigoTimes
Benvenuto a AmigoTimes



You are probably wondering why I am writing this month's column in four different languages. Well... even though previous issues of AmigoTimes have been sent to subscribers all around the world, this month's issue marks the debut of AmigoTimes at newsagents and dealers in Europe. I would therefore like to heartily welcome all new readers to AmigoTimes and the world of Amiga computing.

The only computers that you will find at the AmigoTimes offices are Amigas, and those are precisely the machines we use to create this magazine. Everything from graphics to typesetting is done on the Amiga with the software packages displayed on page 3 of this magazine, and of course we also use a whole bunch of games to keep us sane. The theme of this issue is Entertainment Software which is just a fancy way of saying games. The Amiga is an excellent professional tool, but we can't hide the fact that it is also it is also a great game machine.

No matter what country you are from, we are always interested in any questions, answers, advice, or news you may have on anything to do with the Amiga. We are especially interested in hearing about how you are using the Amiga to make a living (like we do). As you know, the Amiga is capable of being used in many applications, some you may not even know about; there are Amigas being used in desktop publishing, video production, graphic arts, scientific research, and plant control systems, just to mention a few, and believe it or not the Amiga has also done its bit for space exploration.

Enjoy the issue. □



Sie wundern sich wohl wieso ich in vier verschiedenen sprachen geschrieben habe. Also...die Ausgabe dieses monates markiert das Debüt von AmigoTimes bei Zeitungshändler und Händler in Europa, die vorhegehende Ausgaben von AmigoTimes wurden schon an Abonnenten rund um die Welt geschickt. Ich möchte deshalb alle neue Leser, zu AmigoTimes und die Welt der Amigas herzlich willkommen heißen.

Die einzigen Computer die sie in AmigoTimes Büros finden sind Amigas, und dies sind genau die Maschinen die wir benutzen um dieses Magazine herzustellen. Alles von Graphik bis zur Schriftsetzung wird von dem Amiga durch Software, die auf Seite drei diesem Heft da gestellt werden, und natürlich benutzen wir auch eine ganze Menge Spiele um uns geistig gesund zuhalten. Das Thema dieser Ausgabe ist Unterhaltungs Software, was nur eine Umschreibung für Spiele ist. Der Amiga ist ein tolles Professionelles Werkzeug, aber wir können nicht vergessen das es auch eine tolle Spiel Maschine ist.

Es ist egal von welchem Land sie herkommen, wir interessieren uns immer für irgendwelche Fragen, Antworten, Ratschläge, oder Neuigkeiten über den Amiga. Wir sind besonders interessiert in wie sie den Amiga zum Geld verdienen benutzen (so wie wir es tun). Wie sie wohl wissen, der Amiga wird für viele verschiedene sachen verwendet, manche von den sie noch gar nie gehört haben; man benutzt den Amiga für Desktop Publishing, Video Produktion, Graphische Kunst, Wissenschaftliche Forschung und Fabriken Kontroll Systeme. Ob sie es glauben oder nicht, der Amiga hat auch seinen Teil zur Weltraum erforschung beigetragen.

Viel Spass! □



Vous vous demandez peut-être pourquoi l'éditorial de ce mois ci est écrit en quatre langues. Eh bien même si par le passé nous avions des abonnés partout à travers le monde, ce numéro d'AmigoTimes est le premier à être distribué en Europe. Je voudrais donc souhaiter bienvenue à tous nos nouveaux lecteurs européens.

Les seuls ordinateurs que vous trouverez dans nos bureaux sont des Amiga. Et c'est précisément avec ceux-ci qu'est produite la revue. Tout est fait sur l'Amiga, l'édition des textes, le graphisme et même la mise en page. Vous trouverez en page trois la liste des logiciels que nous utilisons. Et évidemment nous avons tout un assortiment de jeux, question de maintenir notre santé! Le thème de ce numéro est justement les jeux, l'Amiga est un ordinateur tout à fait professionnel, mais nous ne pouvons cacher le fait qu'il a aussi tout ce qu'il faut pour être la meilleure machine pour jeux vidéo.

De quel pays que vous soyez, nous serions heureux de recevoir vos questions, réponses, trucs ou nouvelles concernant l'Amiga, spécialement si vous utilisez l'Amiga dans le milieu professionnel (comme nous). Comme vous le savez l'Amiga est utilisé dans tous les domaines: "Desktop Publishing", production vidéo, art graphique, recherche scientifique et contrôle de processus industriels, et croyez le ou non, même dans la recherche spatiale. □



Probabilmente si stà chiedere perchè sto scrivendo la colonna questo mese in quattro lingue differente. Benè, anche se le pientate precedente di "AmigoTimes" sono state spedite a sottoscrittori da per tutto il mondo, la puntata di "AmigoTimes" questo mese debutta agli agenti d'informazioni e commercianti in Europa. Quindi io l'invito cordialmente a tutti nuovi lettori a "AmigoTimes" ed il mondo di "Amiga Computing".

I soli calcolatori che trova degli uffici di "AmigoTimes" sono "Amigas", e quellè sono precisamente le macchine che usiamo noistessi a creare questa rivista. Tutto da grafici a composatrici è fatto sopra Amiga con il pacco di "Software" mostrato a pagina 3 di questa rivista, e certamente usiamo un mucchio di giochi per tenerci sani.

Il tema di questa puntata è il trattenimento "Software", è questo è un lussuoso modo di dire giochi. La Amiga è un eccellente professionale attrezzo, pero non possiamo nascondere u fatto che è anche una grande macchina di giocho.

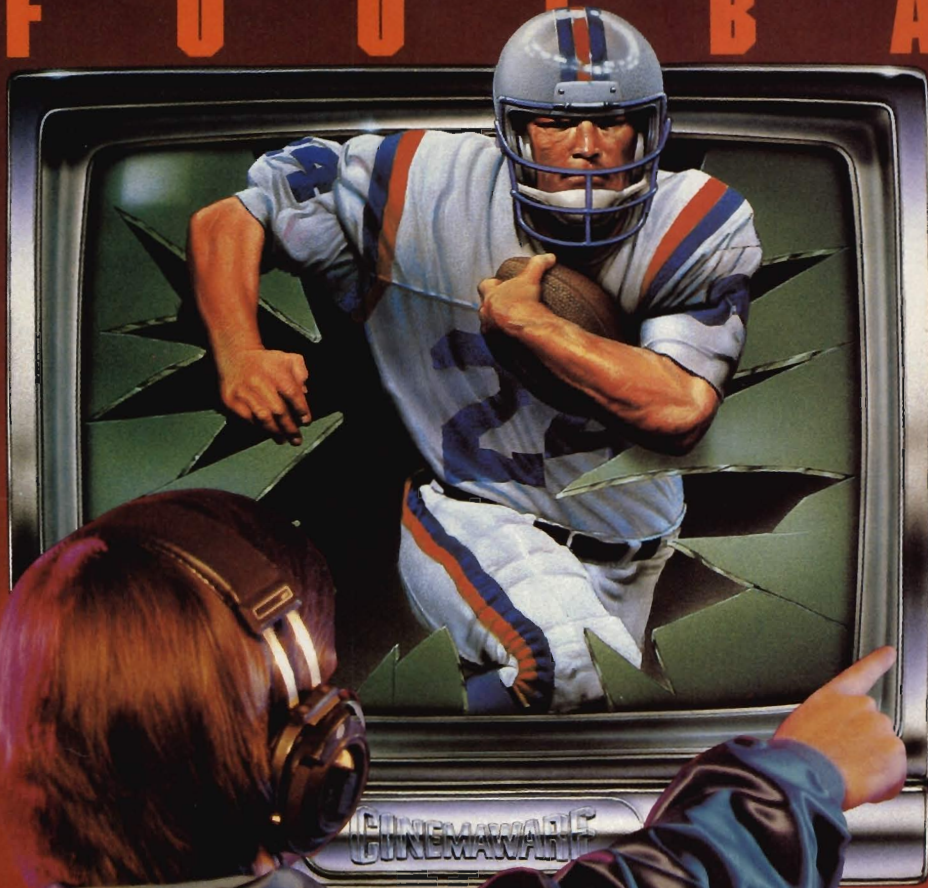
No importa di qual paese viene, sempre siamo interesati in qualsiasi domande, risposte, consigli o notizie che aurà da fare con la Amiga. Siamo specialmente interesati di sapere como utilizza la Amiga per guadagnarsi la vita (come stiamo provando noi). Come già sà, la Amiga è capace d'essere utilizzata in tanti applicazioni, di certi neanchè saprà; ci sono Amigas che sono utilizzate in "Desktop Publishing", produzionè di Video, grafici ricerca scientifica, e sistemi controllo di piante, questi sono soli per menzionare alcuni, e se ci vuole credere la Amiga è anche dato la sua offerta per l'esplorazione spaziale.

Gode la puntata! □

Eyo Sama
Editor-In-Chief

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SPORTS

F O O T B A L L

In games my personal preferences tend towards programs which include both strategy and graphic action, especially if the game gets you more personally involved by including animated segments which give it a touch of realism. Games are even better when their interfaces involve simple ease of use but still give you full control over complex actions. When I first tried TV Sports Football, from Cinemaware, I quickly discovered that this sports simulation had all of these attributes and very much more.

THE REALISM...

The whole game is flavored with several live animated scenes which make it very much like watching Sunday or Monday night football on television. There is a TV broadcast before and after the game where the broadcaster talks about the game, the teams and their previous history. Before the game starts, a TV commercial is displayed in a "Today's game is brought to you by..." format. There is also an animated sequence depicting the coin toss to select who kicks or receives the ball. At half-time there is a show which includes scenes from the locker room, marching band music, the police chasing someone across the field, and many other entertaining scenes. There is even a scene where you see the Rocket Ranger zoom across the screen. When you score a touchdown there is an animated sequence of the player on the bench waving to the camera saying "Hi Mom!", or sometimes you see the opposing team's furious coach spitting tobacco, also,

By Eyo Sama

lookout for the cheerleaders.

GAME PLAY

TV Sports Football runs through an entire NFL season which includes the play-offs and finally leads up to the SuperBowl. There is a total of 28 teams in 3 eastern and 3 western divisions, and you are free to pick any one of them, in fact you can choose more than one team if you so desire. You can have several of your friends pick teams also.

There are several offensive and defensive plays which can be selected with a tap of the joystick. If you don't make a play selection within a certain time limit the computer makes the selection for you and will therefore also control your player until you take over.

During offense you assume control of the quarterback and you have full control over passing, hand-offs, and running. As soon as you pass or hand-off the ball, you assume control of the receiver (or rusher). At this point you had better do your best "run and dodge" routine because your opponents defensive players hit hard, and you do not want to fumble that ball, do you? Because you have full control over all the aspects of the passing, it is quite difficult to master it initially but with practice you really enjoy the realism. To pass the ball you have to aim the shot with your quarterback's arm and you also have to determine how hard you will throw the ball. Sounds involved doesn't

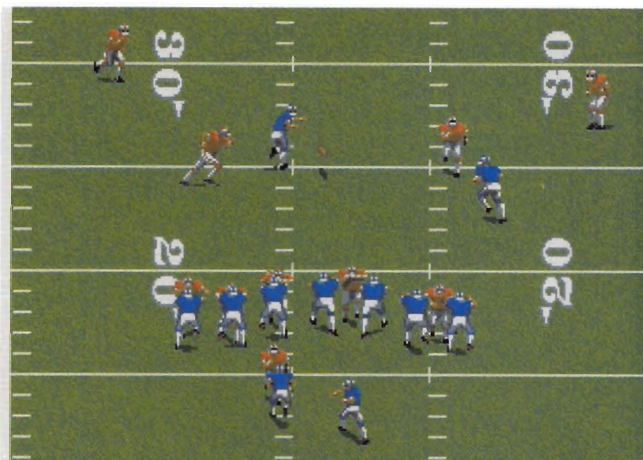
it? Well it is, like I said it is the most realistic sports simulation I have played yet. When you pass the ball, make sure your receiver can reach the point it is being thrown to before any of the opposing players because they will gladly intercept it. During defensive plays you can change the player you control by repeatedly pressing the firing button. When you are on defense you have to do everything from blocking to actually tackling your opponents. Don't worry about the rest of your team, the computer controls those and does a good job of it too.

When the opposing team is controlled by the computer don't expect any easy victories because the computer coach analyzes the way you call your plays and under what situations you call them and also how you actually play the game. The computer coach therefore plans his plays accordingly so don't expect to continuously exploit your opponents weak areas because he will wise up to your tricks (this game learns as it goes along making it very realistic and continuously variable). Of course you can play against another human opponent also.

TWO-PLAYER MODE

There are two different two-player modes: the first one has two humans playing against each other, the second mode has both players on the same team one as quarterback and the other as rusher or receiver (during offense that is).

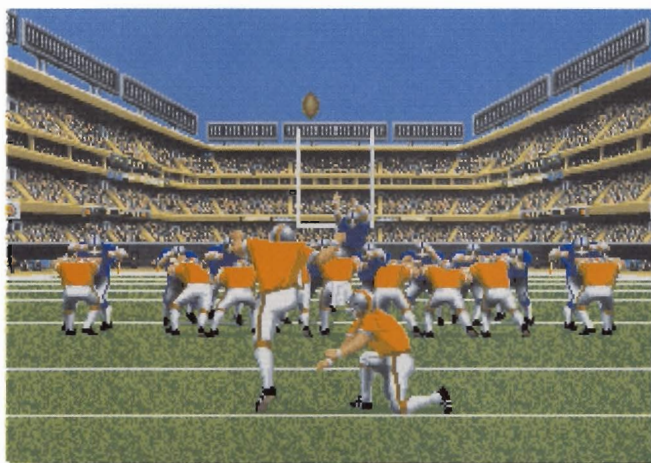
As the quarterback you control every aspect of your passing game, you aim in the direction you want the ball to travel, you determine how hard you want to throw the ball, and you can decide to hand-off instead.



"Hi Mom! Your baby just scored a great touchdown!" When you score, this is one of the several animated sequences that are shown. There are also animated scenes during the half-time show, including scenes of the broadcaster covering the game.



In the field goal sequence you have to ensure that your foot contacts the ball in the appropriate area. If for example you kick the ball low and to the left, the ball will travel high, but not very far, and it will fly to the right. The defensive team controls the player you can see jumping in the background.



CLIPBOARD

Before the game, you have access to your clipboard where you can study the statistics of each team and its players. You can display the leading rushers, receivers, kickers, etc. of the whole

league. You have all the team scheduling information available to you, the team rosters, the individual yardage of each player and much more. Through the clipboard (but only at the beginning of the season) you can totally customize

your team (or teams). Each team has the same total number of points that can be distributed between its players attributes. Each player has four attributes, namely strength, speed, hands, and agility. An attribute can have a value between 1 and 8, but the way the program is set up only one player can have a total of 24 attribute points, the next 23 points, the next 22, and so on therefore you can't have two "SuperPlayers" with the rest of the team being "Wimps". The hands attribute determines how well a player passes, catches, and holds on to the ball. A player with a hands score of 1 will therefore probably fumble the ball if there is a gust of wind. Agility determines how well the player can avoid tackles. The speed and strength attributes are obvious.

You can also change the name of each player and also that of the teams.

KICKING

I haven't said much about kicking, I don't know why because the field goal sequences are very impressive and realistic. During a field goal situation you watch from behind the kicker and down the field at the goal posts. With you controlling the kicker you have to make sure your boot contacts the ball at the right spot, you will also have to avoid some big lineman jumping to block.

CONCLUSION

All I can say in closing is that Cinemaware seems to have come up with a new form of game play that combines the best of fast graphic action with strategy and real life animation. It is a winner, buy it! □

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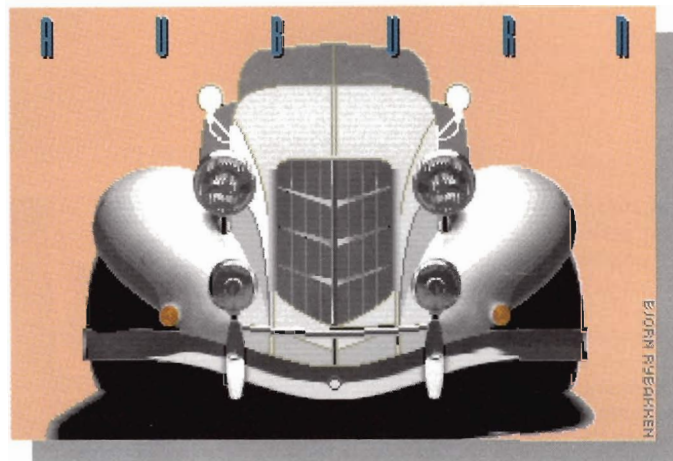
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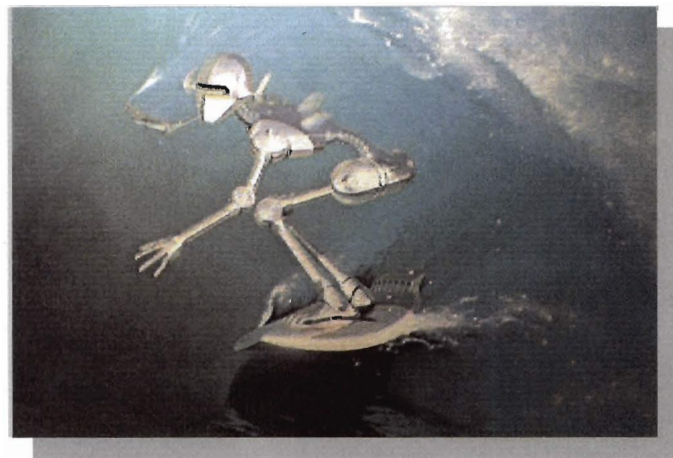
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Idem Sama

THE ETHIC OF SOFTWARE PIRACY

A LOOK AT BOTH SIDES OF THE COIN

Software piracy is a pervasive practice amongst computer users, especially at the micro and personal computer levels. Even those who engage in it agree it's a problem. However, many of the attempted solutions, such as copy-protection schemes, are regarded as more annoying than the problem they're supposed to solve. Let's explore some of the moral and legal dimensions of this controversial practice.

THE PREVALENCE OF PIRACY

I belong to a user group in upstate New York. One of our members recently released a commercial software product, and I'm happy to say that it is doing very well. It has been favorably reviewed in many of the major Amiga magazines, and he has sold nearly 1,000 copies. There are blemishes on the gloss of his budding entrepreneurial venture, however.

Our developer recently discovered that a copy of one of the first seven units of the program he sold has shown up on a pirate bulletin board. To join such a board, someone sends them two or three copies of programs they don't already have. Once admitted, you simply download any program you want. The developers and producers, never get any compensation, except for the

rare guilty conscience.

What's worse, he only discovered this because his program had been pirated by one of the members of our very own group! Not even the bond of collegial fellowship was sufficient to offset the attraction of getting something for nothing. What does this tell us about human nature, and today's self-obsessed "moral" climate?

OLD RULES DON'T ALWAYS APPLY

It is more or less a truism these days that human civilization has gone through three great transitions. There was the Agricultural Revolution at the dawn of history, the Industrial Revolution that liberated us from the limitations of muscle power, and now the Information Revolution, exemplified in the increasingly universal distribution of computational capability.

The usefulness of such grand perspectives may be debated, but at the very least they underscore the fundamental changes human society has undergone. One consequence of this change is that traditional ideas about right and wrong - what is moral and what is not - are often ill-suited for dealing with the new and novel practices that have emerged.

By Dr. Gerald Hull

This is surely the case with software piracy. One of first discussions I read on the subject was published some years ago in the IEEE SPECTRUM magazine. The author stated flatly that piracy is no more and no less than theft. You wouldn't steal a package of chocolate chip cookies from your local grocery, he argued: software piracy represents the same crime.

The invalidity of this argument is obvious to almost anyone who thinks about it. If indeed software piracy is just as wrong as stealing cookies, it surely isn't the same thing. For when you steal cookies, the store owner has one less package in his inventory. But when you make an unauthorized copy of software, the producer does not suffer the same tangible loss: his inventory is unaffected. I suspect that many people who pirate software alleviate their conscience with precisely this consideration. They see themselves as not really "taking" anything from the producer of the program. Underlying all this is uncertainty about the concept of property. Traditionally, possession of things is mutually exclusive: if one person has it, the other doesn't, and vice versa.

THE NOTION OF INTELLECTUAL PROPERTY

Things that can be copied for a trivial fraction of their "true value" (however that is determined) are not, of course, restricted to the computational realm. For example, books can be photocopied and music can be tape recorded. To a significant extent they share the moral and ethical dilemmas posed by software piracy.

Since taking a copy does not represent a tangible loss, recourse is usually made to a notion of "intellectual property." Software (like books, music, etc) isn't physical but is instead a pattern of organization that can be transferred from one physical thing to another. But it cannot be simply assumed that this new kind of property is morally equivalent to the tangible variety. Saying they are the same doesn't make them so.

So the fact that we can extend the notion of property doesn't automatically resolve questions about the related con-

cept of theft. Is taking a photograph of something "stealing" its image, as some primitive tribes are supposed to believe? Should that be wrong? Classical composers borrow at will from the themes of their contemporaries and predecessors. Is that theft? Did "My Sweet Lord" really steal from "He's So Fine," or is that simply a case of law and lawyers gone berserk?

MORALITY AND FAIRNESS

It's important to realise that moral questions of right and wrong cannot be resolved simply by reference to what is or is not legal. Law represents a society's fallible attempt to codify the important elements of correct and incorrect behavior. However, there are moral issues outside the purview of the law - for example, politeness and considerateness. The laws of any given society at any time will almost certainly fall short of the ideal in some respects. In the case of software piracy, the law may not be what it should be.

Nor can we answer moral questions simply by reference to what people in fact do, or what biology, psychology, or sociology may cause them to do. As the Scottish philosopher David Hume pointed out, we should not confuse "ought" with "is." Even were it demonstrated that people are by nature selfish, aggressive, territorial, or whatever, we may still raise the question of whether they ought to be so.

Moreover, as mentioned earlier, the problem posed by software piracy is an issue new to our age. It simply was not foreseen by any longstanding moral traditions. The Bible says "Thou shalt not steal," but is understandably vague on the difference between tangible and intellectual property, and what moral difference that might make.

In response to considerations like these, many people retreat into some form of "moral relativism," the idea that different people, or groups, or cultures have different values. What's right or wrong for one person may not be the same as what's right or wrong for another. The problem with relativism, however, is that it provides no basis for rationally resolving disputes between

competing interests. That's why moral right and wrong, by definition, is supposed to be the same for everybody. But how do we tell what's moral?

The nature of morality represents one of the most profound problems of philosophy, and we should hardly expect to resolve it here. Instead of worrying about what is "really" right or "wrong" I propose a simpler approach. Let us suppose that morality is only a question of "What is fair?" Different parties in the dispute over software piracy represent different interests. A fair solution is one that treats all those interests as equal.

The idea is to satisfy each side to the same extent, favoring none over the others. You can see that fair solutions have the unique characteristic of being equally acceptable to all sides of a dispute. Anyone who proposes a solution that treats their own interests as more important will always face an obvious objection. Why should anyone else accept it? They might be forced to accept it, of course, but that "is" does not imply "ought": it does not justify it.

A CLASS CONFLICT

Piracy is best understood as just part of a larger problem, that the rhetoric of an earlier generation would have labeled a "class" dispute. On the one hand, we have the producers of software, including developers, and marketers; and on the other the consumers, including buyers and other users. Each side has their own interests, legitimate complaints, and dubious practises.

The bottom line for the producers is to sell a lot of programs and make a lot of money. They may also be interested in providing quality software with decent support. However, if forced to choose between them, the "survivors" will always select bucks over good intentions.

The consumers' goal is just the opposite: their basic desire is for well-supported quality software. If required, they are willing to pay good money, but many of the more "acquisitive" will be attracted to less expensive routes (piracy for example), when available.

(continued on page 93)

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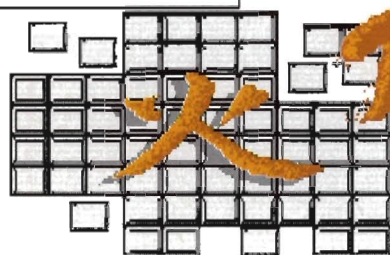
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PIONEER PLAGUETM

by
Bill Williams

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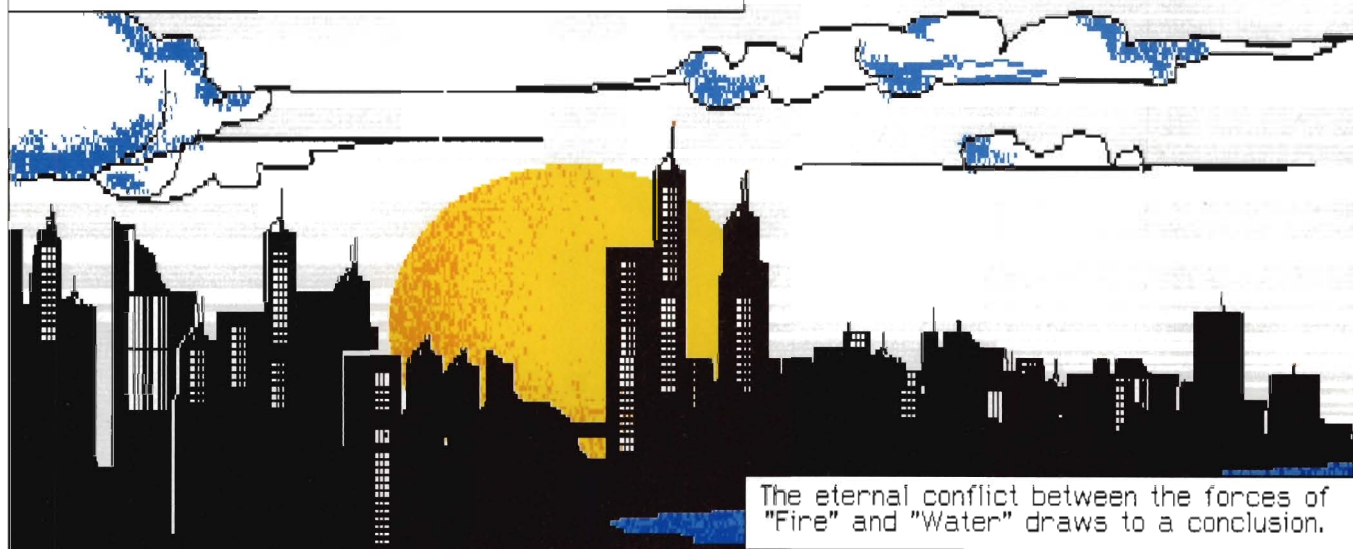
THE LEGEND OF...



Fire and Water

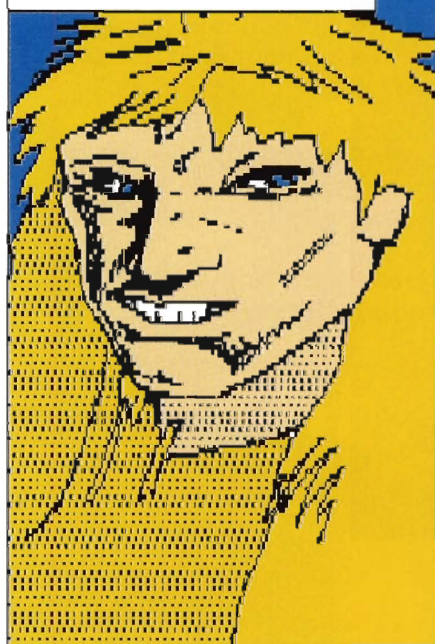
OLANIYAN 88

The city, cold, hard, unfeeling; in short business as usual. A long struggle draws to a close...



The eternal conflict between the forces of "Fire" and "Water" draws to a conclusion.

BATTLE-HONED SENSES NOW
ALERT HIM TO DANGER.



Prepare to die
Warrior.



TO BE CONTINUED...

COMICSETTER IS HERE!!!

Zowie! Comic lovers unite, for a glorious day has come to the Amiga as well as a promise of better things to come. Gold Disk, Inc. has just released ComicSetter and I couldn't wait to get my hands on it. Being a self-confessed comic book junkie, I have learned to come to terms with my addiction; this all stems back to my childhood....but enough Freudian rhetoric, let's get down to business.

ComicSetter is described as the total comic layout program by allowing the user to create comic pages or entire comic books all on your very own, you guessed it, Amiga.

THE PACKAGING...

ComicSetter's eye-catching package art is identical to the ads for the program so it should be easy to spot on the shelves. The package consists of the user manual, the ever-present registration card, the main program disk, a ClipArt disk containing sample characters in various poses, comic sound effects (just the images, not the actual sounds), and a col-

lection of different backgrounds and settings. The manual is very informative and well laid out, with an index and tutorials which allows the new ComicSetter user to be up and "comicing" (poetic license) before you can say "Spiderman, Superman, Aquaman, Hawkman, Conan the Barbarian, Cerebus the Ardvark, Teenage Mutant Ninja Turtles, and Biff the Wonder Whale from Mars." As indicated in the manual, the only way to learn to use ComicSetter is to jump right into it and use it, after all there is no substitute for hands-on experience.

A CLOSE UP LOOK...

Looking at ComicSetter for the first time, those that have worked with Professional Page are vaguely reminded of the similarities in the "set ups" of the two programs, this is not at all surprising considering they come from the same company. Many of the menu tools and functions bear a striking resemblance to those of a Desktop Publisher.

PROGRAM LAYOUT...

Upon starting up ComicSetter, you ob-



By Olusegun Olaniyan

serve that the menu strip gives the filename of the current document, if there is one. The standard ComicSetter document is called a "Page." Pages can be imported deleted, or have their order rearranged depending on the user's preference. You also have the ability to create pages that have a custom number of "panels" on them. Okay, so what are panels? The various elements on the "Page" are called "Panels." They are the workspace for each page, and on these panels the user can import bit-mapped images, draw bit-mapped images, or create structured objects such as lines, arcs, circles, ellipses, or polygons.

Objects that are laid out on a ComicSetter panel are in the form of structured objects, this means they can be layered one on top of the other, or as more commonly referred to "placed according to depth." One interesting feature of the ComicSetter panel set-up is that should objects overlap outside of a panel, they are automatically cropped or clipped to fit within the panel, giving pages a nice tidy appearance. This feature can of course be overridden.

Panels may also be moved around the page, quickly when "Fast Move" is selected in the "Preferences" menu, otherwise you will still be able to move the panels, but things will be a little slower. The panels in ComicSetter are set up as individual elements, and if you have a lot of elements in each panel, the screen update rate can be slow. To overcome this snail-like aspect of ComicSetter, you can use the command located under the "Layout" menu, "Collapse Panel"; when a panel is selected this command will combine all the elements of the panel into one bitmap. Using "Collapse Panel" on all your completed panels will also give smaller files. Now the bad news, once a panel is collapsed you cannot un-collapse it, functions like these I like to affectionately refer to as "DefCon-1" features, once done there is no going back. As a word of friendly advice try to make backups of panels before you "collapse" them.

THE VIEWS OF COMICSETTER...

As with other page layout programs, ComicSetter has different display screen

magnifications (four in all): full page, 50%, 100%, and 200%. These magnifications are accessible by either the menu or through keyboard commands.

ComicSetter normally runs in the 640x200 hi-res non-interlaced mode, but it can be switched to interlace mode "on the fly." Switching from non-interlace to interlace, does have its problems; for example, if your system is memory sensitive, and you have a relatively large document, you may not be able to switch to interlace mode at all. Another drawback with switching to interlaced mode is that the aspect ratio of the images that were created in non-interlace mode now have to be increased by a factor of two in the horizontal direction. Translated, this means that your pictures will come out squashed so you will have to double the height.

It is known that in 640 x 200/400 mode, the Amiga is capable of displaying 16 colors, now a question that might arise is how can one create all those very colorful comics with only sixteen colors? The answer is, sixteen colors is quite sufficient, and your average comic really does not have that many colors: creative shading is what does it all.

COMICSETTER GRAPHICS...

Comicsetter allows the user to create graphics in two modes, bit-mapped images, and structured objects, with the structured objects requiring less disk space to store.

Before you can do any sort of work on bit-mapped graphics, it will be necessary for you to create a bit-map to work on, this is done by selecting the bit-map creation icon from the tool strip. One unique feature of this type of setup is that you can now save each individual bit-map as an IFF image thereby allowing you to do further modifications with another bit-map paint program. Once you have created your bit-map you are now free to draw, and or import backgrounds and characters. All IFF format files can be imported into ComicSetter. The only Amiga image format that ComicSetter does not support is HAM (Hold And Modify).

In the area of bitmapped tools,

ComicSetter has a fully functional paint toolbox. Amongst the bit-mapped tools are, an air-brush, box, fill, ellipse, bezier curve, and a smear tool. When you import bit-mapped images into ComicSetter you can specify which colour in your image palette that you would like to make transparent. Any colour may be used, although it is recommended that you maintain the first two colors in the palette, black and white, as the foreground and background colors, respectively. By making a color transparent, you are now able to combine images onto a background without having to meld them with some very creative touching up. Once imported, all objects can be re-arranged freely.

One advantage of ComicSetter is you're not limited to using the bit-mapped tools available with the program. ComicSetter allows you to import bit-mapped images that have been created with other paint programs, such as DeluxePaint II, Aegis Images, or Deluxe PhotoLab. This in essence means that the fore-mentioned paint programs can be used to create the panels, and then the images can be imported to ComicSetter.

TEXT IN COMICSETTER...

ComicSetter has a selection of comic fonts that can be used for bitmaps, or as text objects. Using text on a bitmap functions along the same lines as one would use it in a bitmap paint program, but when the "Structured Graphics" mode is selected, any text that is written can be scaled to any x-y dimension. A really great feature of ComicSetter is the speech balloons - an absolute necessity for comics. To create a speech balloon, select the gadget and create the frame for the balloon with the mouse. Next, enter the desired text in the text requestor, and "tah dah" one speech balloon. You have a selection of balloons to choose from including thought balloons (clouds), or balloons that emphasize words (jagged peaks); in jagged peaks balloons, you can even select the number of peaks and choose evenly or randomly jagged peaks. Once you've created your speech balloons you can now add a tail to them. Since a

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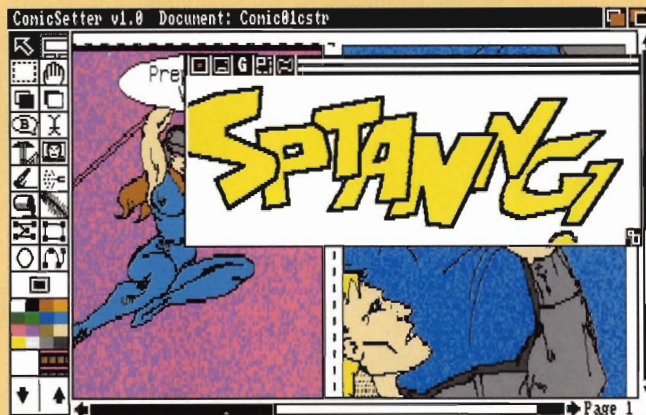
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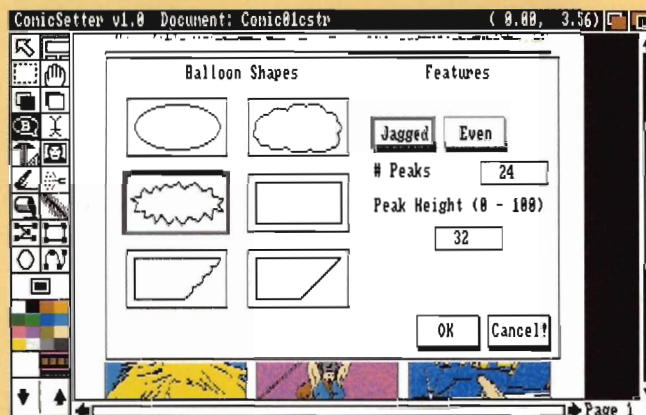
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ComicSetter's flexible requester for importing bitmapped images. From here you can crop images or return to the disk drive for another file.



In the speech balloon requester, you have various shapes to choose from, you can even specify the number of peaks you want in exclamation bubbles.



speech balloon is nothing more than a segmented structured graphic object, it can be modified. So like all the other structured tools, by clicking on and dragging a control point you can add a tail to your speech balloon.

OUTPUTTING WITH COMICSETTER...

When one talks about outputting with ComicSetter, one must first think about what you would like to do with your output. You can simply do all artwork in two color B&W, where your final results can then be re-colored with acrylic or water colors, and believe me these results can look quite amazing. This method is along the lines of the technique that was used by a comic that was first released a few years ago called "Shatter"; all art work was done with a Macintosh computer and MacPaint, the final results were hand-painted. Of course, those were primitive techniques by ComicSetter standards; ComicSetter now facilitates all the extra work that was necessary in the creation of all the text, the speech bubbles, and the arrang-

ing and aligning of panels. Another added bonus is that ComicSetter will output in color if you have access to a color printer.

Upon booting up, ComicSetter will check the preferences that you have set for your printer; all the drivers are the new Workbench 1.3 drivers. From the print requester you can specify the range of pages you wish to print, the aspect ratio, the print density, and the type of dithering. In order to assure that you get the best possible output, ensure that all your preferences are set up correctly.

COMIC TIPS...

No manual for a comic creating program would be complete without some tips on putting together a comic book. There is a section that has tips on the use of clipart, composing panels, the use of backgrounds, and some of the do's and don'ts of comicsetting.

At the back of the manual is a list of all the images that are available on the ClipArt disk included with the ComicSetter package. Other theme ClipArt

disks are also available from Gold Disk, specifically made for use with ComicSetter; the names of these disks are Super Heroes, a collection of generic heroes and villains in varying poses, Science Fiction, a collection of Sci-Fi figures and spaceships, and Funny Figures, a collection of cute adorable cartoon characters and props.

ALTERNATIVE SUGGESTIONS...

As big a step as ComicSetter has taken into the world of cartooning, I would like to have seen enhancements in the features that are presently available with it. One possible direction for Gold Disk to take ComicSetter would be in the direction of a true desktop publisher. This of course means postscript output for the objects created with the structured drawing tools as well as for all structured objects. What I am now talking about is a program that co-ordinates the setup of a comic, along the lines of Professional Page but geared towards the comic artist. This will of course include things that are already present in ComicSetter like speech balloons, panels, the structured drawing tools, and the bit-mapped paint tools.

THE VERDICT...

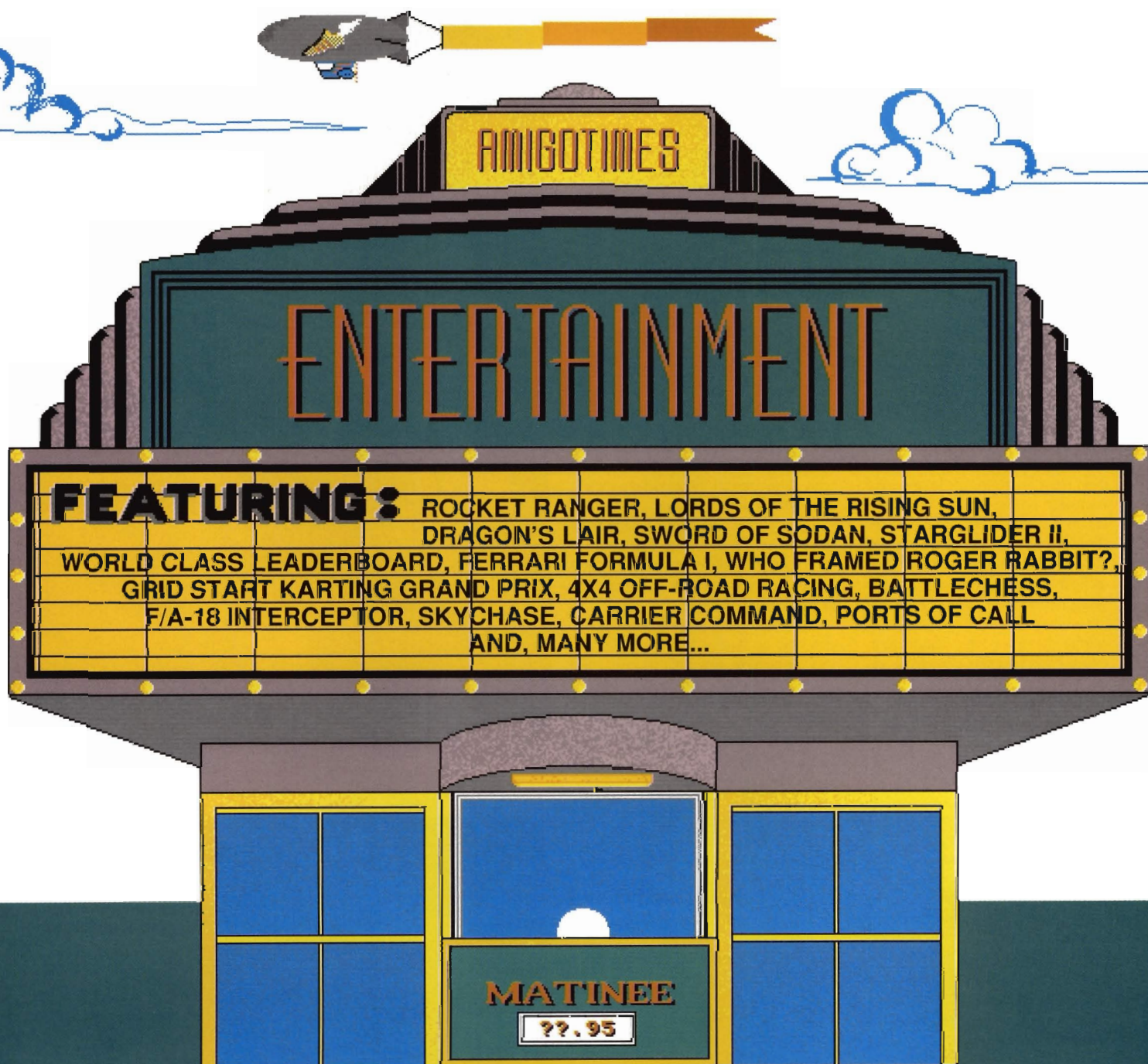
After looking at the features incorporated in ComicSetter, I can say that it's a fun program for creating comics, but I would like to see better hi-res support, this may be made possible when the new graphics chip is released. "Professional ComicSetter," now there's a thought. The creators of ComicSetter at Gold Disk have confessed that if there is sufficient demand for it, it is not inconceivable for them to release a high-powered version of ComicSetter. On your marks, get set, head for the phone and dial. ☐

ComicSetter

Gold Disk, Inc.

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 DOLBY STEREO
IN SELECTED HOMES

STARGLIDER II

As the commanders of the ICARUS (Interplanetary Combat and Reconnaissance Universal Scout) Jaysan and Katra have been given the task of saving the planet Novenia by freeing the Solice star system from the Egron occupation. The Egrons cannot attack Novenia directly due to the Sentinels which guard it, therefore they are conquering Solice, a nearby star system. At Solice the Egrons are constructing a massive Space Station with a beam weapon powerful enough to destroy Novenia. The Solice star system has five planets, some of which have one or more moons. The seven moons of the Jovian planet Millway, are the sites of the beam projectors which will be used to protect the construction of the Egron Space Station.

This is the scenario of this "MUST-BUY" game, I feel like I am insulting it by calling it a game; the three dimensional graphics are the fastest and most intricate I have ever seen on the Amiga. When you are in control of the ICARUS starship, you have an out-of-the-cockpit 3D view surrounded by your high-tech instrumentation (my favorite being the 3D beams which represent the amount of shield, fuel, and laser energy you have left). The features that set this program apart from any other flight simulators and space games is its realism, very fast and smooth 3D display, incredible sound, the plot, and the way it combines all these features into a fast-paced strategic simulation.

The program is entirely read into memory so there is no disk access during the game. When you take-off from a planet you increase your speed and point your nose upwards; you will slowly and smoothly pass through a cloud layer and then, just as smoothly, the stars will begin to appear and then you are in space. In space, you can use your Stardrive to get to other planets faster, but watch out for space pirates, Egron Starfighters, asteroids, and many other hazards. On the surface of planets and moons you will encounter various crafts and installations, there are also several tunnel networks which are home to the Solice resistance movement. You can see the sun rise and set as you zoom

across a planet's surface, you get attacked by giant mechanical walkers that do actually walk, solar collectors slowly close and retract to protect themselves when you approach.

The sound is just as good as the graphics; you can hear the different sounds of various crafts, the stomping of walkers approaching, the cry of a space whale, and more.

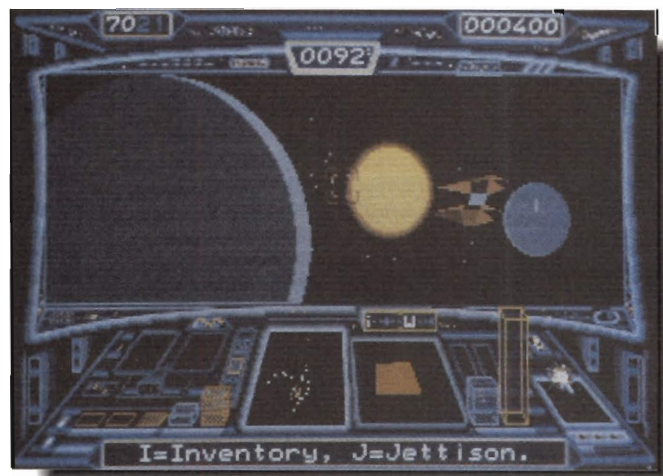
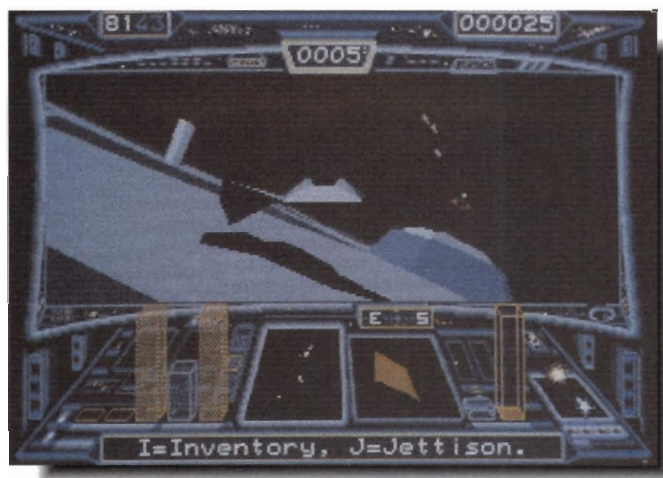
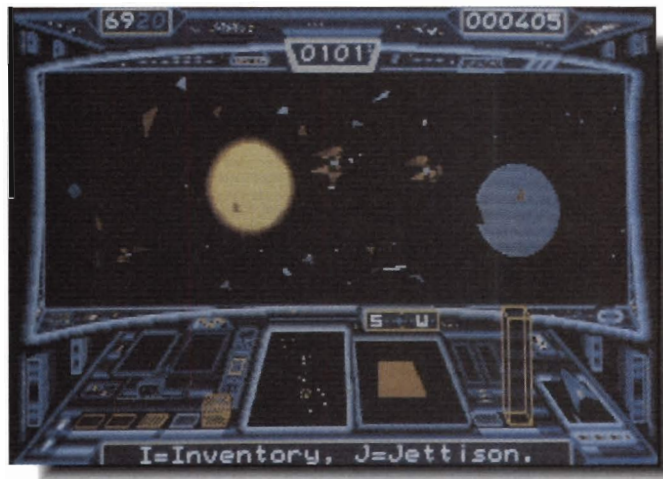
To destroy the Space Station you have to supply the resistance with enough material to build a neutron bomb, at the same time you must destroy the beam projectors on the moons of Millway to delay the construction. Objects can be captured with the aid of your ship's tractor beam. In order for the neutron bomb to be completed, you must locate Professor Halsen Taymar who is zooming around in a jet car on one of the moons causing the Egrons no end of trouble.

There are several ways to refuel your patrolcraft, the ICARUS; you can skim the sun, hover above rock and gas spewing volcanoes, trap and fragment methane from asteroids, just to name a few. Also make sure you find yourself some more powerful weapons such as Projected Time-Warp Cuboids.

The Starglider II disk will work on both an Amiga and on an Atari ST, which is my only complaint about the game. It uses its own DOS (which can often lead to difficulties), but there is no disk-drive killing copy-protection like that used on other games. The copy-protection it does use involves typing a certain word from the included Novella.

The Novella, by James Follet, is a story about the adventures surrounding the ICARUS and its crew, which was a joy to read and it made the game even more realistic. To sum it all up, if you buy any software this Christmas, make sure Starglider II is at the top of your list.

Starglider II
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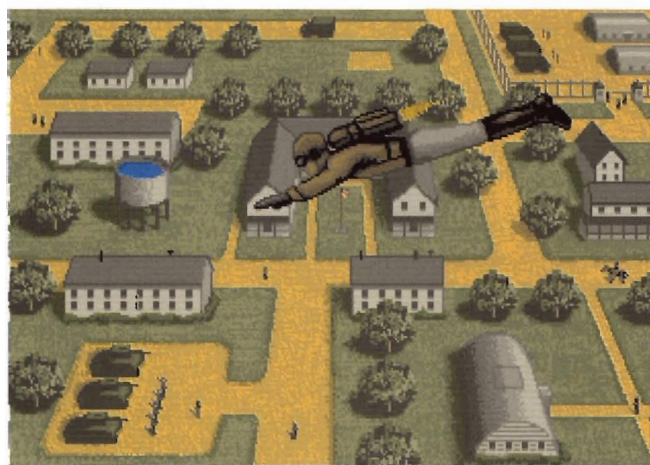
ROCKET RANGER

After the 1936 Olympic games in Munich where Jessie Owens became the fastest man alive, Hitler delivered a speech vowing German supremacy over the rest of the world. Soon thereafter Germany started conquering the world with a military equipped with technologically advanced equipment. It was in 1940 that the balance of power tragically shifted, when the Nazis discovered lunarium. This mineral, mined from the moon, was processed into bombs that the Nazis dropped from their Zeppelins onto the unconquered countries. No country could defend itself from these death ships and in the bitter end, the Nazis won the second world war.

Right after winning the war Hitler's Third Reich established a fascist world government that has lasted a century. During this reign of terror the Nazis held family members of prominent scientists in the Reich's "Lithuania permanent vacation camps" and were spared death as long as they continued developing new weapons for Nazi space conquest. This has all passed but a united group of scientists attempted to change the course of history, with the aid of an experimental time machine that could alter any molecular structure's time plane.

"We are in the same room as you here at Fort Dix, but in a different time plane, the date is December 28, 2040 and you are in May, 1940. As you can clearly see we have just teleported some very special objects to help you change history: Himmelwurfer rocket pack model M2000, rocket pack decoder wheel, Schmeisser radium pistol and a Telefunken wrist monitor. By using these objects wisely you will be able to penetrate Nazi defenses. Before embarking on a mission you must transfer the proper amounts of lunarium into your rocket pack with the aid of your decoder wheel. The automatic guidance system built into the rocket pack will allow you to navigate between major regions of the world, while providing the most direct route. Good luck!"

You have become ROCKET RANGER, a jet propelled hero battling the Nazi regime in 1940. Your



mission: stop the Nazi war machine from spreading over the entire planet and saving the damsel from certain death. You must find key Nazi bases located in 26 different regions around the planet. Some contain rocket parts, others just store lunarium, but all are enemy targets. With the aid of five agents you will be able to infiltrate and organize resistance in any of the 26 countries. From time to time you will have to penetrate Nazi defenses to steal the five randomly placed parts needed to build a rocket ship and obtain enough lunarium to fly to the source of Nazi power, the moon.

As you begin the game you will notice that the Nazi efficiency starts at 80%, but you can slow it down several months by organizing underground resistance in countries, finding and hitting important targets, as well as raiding bases for lunarium. You will have to master seven challenging arcade sequences (where Nazis assault you in aerial, ground, and hand to hand combat), while becoming involved in a strategic game of espionage. When infiltrating countries around the world looking for Nazi bases, make sure you do not remain in FT. DIX longer than 12 months in a row or you will be court martialed for cowardice. The graphics in the game are very good and game playability is great, fully involving you in strategy and shooting. While the game will work on a 512K machine and a one drive system, an external drive will make life more bearable. In a sense, Rocket Ranger pays a small tribute to Flash Gordon, Buck Rogers and Commander Cody; those heroes of the gone, but not forgotten Saturday matinee serials of the fifties. This game incorporates a bit of yesterday's memorabilia kept alive in today's hi-tech color world - two thumbs up! □

ROCKET RANGER

Cinemaware Corporation

4165 Thousand Oaks Blvd.
Westlake Village, CA 91362
USA

(805) 495-6515

\$49.95 (US) 2 disks

copy-protection: decoder wheel

LORDS OF THE

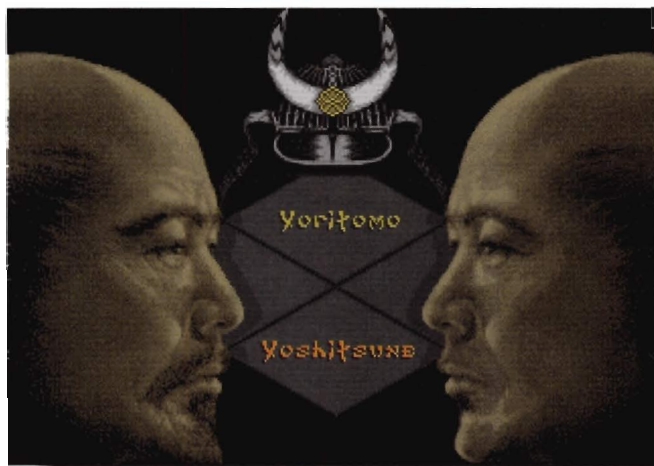
RISING SUN

"March 1180. Your father, Yoritomo, has committed seppuku after his defeat at the battle of Uji River. Now the fate of the Minamoto rebellion rests in the hands of you and your brother. The ruling Taira clan must be annihilated, the Imperial Regalia retrieved and family honor established.... Only then can Minamoto become SHOGUN!"

This is the theme to Lords of the Rising Sun and in the game you have the option of assuming the role of either Yoritomo or his brother Yoshitsune. Each brother, and all the other characters in the game, have varying skills in using a sword, a bow, skill in the siege of castles, and a leadership skill. Yoritomo is the elder of the two brothers and initially has a higher leadership skill, but Yoshitsune has greater skill in using the bow and the sword. When you first start you have one Lord (yourself) and two Generals. Your brother who is controlled by the Amiga also has two Generals. At first your brother is an ally, but once the enemy has been defeated there can only be one SHOGUN! The enemy has one Lord and six Generals, and there are also six rogue units which can sometimes be recruited. Each Lord or General has a group of warriors (Samurai and Archers) that have similar skills to those of their leaders.

The whole game is managed through a scrolling map display showing the positions and movements of the Lords, Generals, rogues, castles, monasteries etc. You can indicate where you want your units of men to move to by dragging their icons from their present position to their intended destination.

You will then see the unit's icon slowly travel towards its destination leaving you free to move any other units. When two units meet, or if a unit arrives at a castle, there is an encounter where you decide whether you want to attack the other unit or castle, talk to them, recruit them, get fed etc. If you decide to fight another unit of men you have the option of going through an arcade representation of the battle. The battle arcade sequence involves up to 30 men (Samurai and archers) on each side fighting each other in real time. You control your men with the mouse; pressing the left button attracts your men to the point where you clicked while the right button repels them. The men react to the clicking of the buttons depending on how close they are to the pointer and how long the button is depressed. This arcade sequence is very well put together and is the most realistic depiction of a mass battle that I have seen to date. If you win the battle, you have the option of going after the General or Lord of the opposing army. This scene is also depicted in an arcade fashion where you are on horseback fighting your way through enemy Samurai until you come up to the General/Lord whom you must then slay. The siege is another arcade sequence where you control your player character through the rooms and courtyards of a castle. With your sword and bow you have to fight your way through guards until



you meet and kill the General or Lord of that castle. If your lucky you will also find the Emperor's daughter in one of the castles; rescuing her will gain you much respect from parties you may come in contact with.

It is of course also possible (actually quite likely) that your enemy will try to siege your castles; in this arcade scene you have to use a bow to shot warriors who are crawling all over your castle walls. There is also a Ninja attack arcade sequence (which has been included on this months AmigoTimes disk, courtesy of Cinemaware) here you personally have to defend yourself against a number of Shaken (throwing star) throwing Ninjas. You defend yourself by blocking the Shuriken with

your Katana (sword), if you do it right you can deflect them back at the attacking Ninjas.

In addition to the arcade and strategy sequences there are also animations which flavor the game with a nice touch of reality. By the time you read this, Lords of the Rising Sun should be available at your local Amiga dealer so if you like strategy games or if you like arcade games you will really enjoy Lords because it does an incredible job of combining the best of both. □

Lords of the Rising Sun
Cinemaware Corporation
 4165 Thousand Oaks Blvd.
 Westlake Village, CA91362
 USA (805) 495-6515
 \$49.95 (US)



Dragon's Lair

Originally released as the first interactive laser-disc arcade game, ReadySoft's Dragon's Lair has been transferred to six disks for the Amiga by a very capable team from Visionary Design Technologies. As the crusading knight, Dirk the Daring, you must journey through Singe's castle and the caverns below it to find the Dragon's Lair. Your mission is to rescue the fair Princess Daphne who has been kidnapped by Singe the evil Dragon. Unfortunately, the castle is inhabited by many evil creatures who feel your presence is unsettling and they will do everything in their power to make you go away, permanently.

The creator of the original game, Don Bluth, is an ex-Walt Disney animator who broke away from Disney a number of years ago to form his own company. His film credits include Secret Of NIMH, An American Tail, and his new film, The Land Before Time. Without a doubt, the graphics are identical to the original version which are superb and resemble traditional Disney-style animations. When you press "H" on the keyboard, you can toggle the High Resolution mode on or off. The picture you get is condensed and centered in the screen, but the audio is disabled. Pressing "I" toggles the interlace mode and improves image quality.

Inside the package, there are six

games disks. If you have multiple drives, you are in luck; the program will recognize as many disk drives as are connected. If don't own six drives (who does?), you will eventually be required to switch disks. If the required disk is not in a drive, a screen (similar to the system Workbench prompt but with the Dragon's Lair logo) will appear requesting the disk.

Dragon's Lair for the Amiga, which is very challenging and a lot of fun to play, works exactly the same way as did the arcade version. You control Dirk's movements using the joystick (or numeric keypad) to move left, right, up/forward and down/back, and the button to wield his sword. In each room there are dangerous creatures and objects that Dirk must overcome if he is to save the princess. Most rooms have a complex set of motions that Dirk must follow in order to survive. The trick is to figure out what must be done. Lead on brave adventurer, your quest awaits!

Dragon's Lair
ReadySoft, Inc.
 P.O. Box 1222, Lewiston
 NY 14092, USA
 (416) 731-4175 [Orders]
 \$59.95 (US)
 1 MB required [A500/A2000]
 512K required [A1000]
 copy-protected



S♦W♦O♦R♦D O♦F S♦O♦D♦A♦N

With a great sword in your hand you, Brodan or Shardan, have to fight your way into the castle Cragganmoor. The quest is to free the lands from the evil Zoras who murdered your parents when you and your sister/brother were just children.



Zoras now lives in Cragganmoor which belonged to the King your father. The fight to the castle takes you through city streets, graveyards, and forests, where you will battle guards, zombies, giants, and other monsters. Once you make it into the castle you have to fight against even tougher opponents such as Wizards and other Warriors. Also be careful not to walk into any traps, keep watching the roof for falling blocks but don't ignore the floor which can open swiftly and swallow you down forever. To make matters worse you will have to jump over rolling and burning boulders. Some areas are only accessible if you find the secret passages that lead to them. The graphics and sounds are excellent, the

animation is smooth and detailed. The fact that the characters are about 4 inches tall on a normal monitor, gives this game an added dimension of realism (especially when you see them bleed). The life level of each character is displayed by a little meter that moves with each character you meet.

There is a cheat mode, to enter it wait for the high score screen and just type this name N [redacted]

Sword Of Sodan
Discovery Software
 163 Conduit Street
 Annapolis, MD 21401
 USA
 (301) 268-9877
 (800) 34-AMIGA
 \$49.95 (US)

WAYNE GRETZKY HOCKEY

Look, we all know how hot the Amiga is in relation to game playing, but this you've just got to see. What is this new game destined to impress the most discriminating of game buyers? The answer: Wayne Gretzky Hockey, by Bethesda Softworks. Rather fitting that the game should bear the name of a man who has dominated his sport for almost a decade.

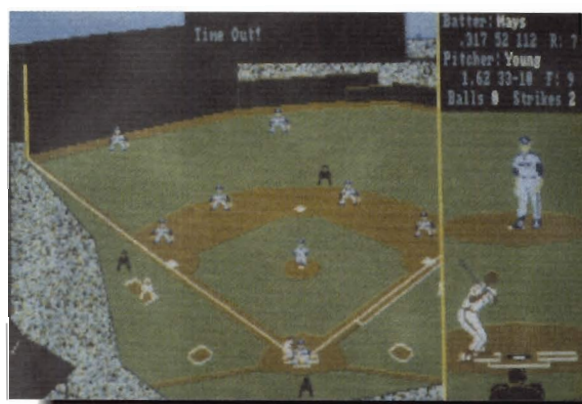
This baby is a high-powered hockey simulator that is easy to use. The players actually exhibit "Hockey Sense" and play according to their individual characteristics. You can change the line-ups and determine shift changes, just to mention a few of the options available (you can let Wayne coach if you just want to play). The game is very quick and very little time is spent waiting for new screens. Of course any decent hockey simulator should have the odd fight, depending on who the teams are, you might get more than you bargained for.

By the time you read this, the game will be released and should be available at your local Amiga dealer. Remember, this is a real simulator and every period of every game will be different. The game comes with four NHL teams, and you may also obtain 1987 and 1988 NHL team disks (1988 will be out when the team final rosters are set)*. With Wayne Gretzky Hockey, you get all the fun of one of the world's most competitive and hardest hitting sports, without the bruises. The version I reviewed was NSTC, the PAL version is schedule for release in three months. □

Wayne Gretzky Hockey
Bethesda Softworks
15235 Shady Grove Rd.
Suite 100
Rockville, MD 20850
USA
(301) 926-8300
\$49.95 (US)
512K, Additional graphics w/IMB
Joystick or mouse required
Copy-protected



Team: Boston														
No.	NAME	Position	Aggression	Quickness	Power	Fatigue	Injury	Penalty	Passing	PuckCont	Checking	Shooting	Skating	Exit
2	Joe Mynihan	D	7	6	7	9	9	9	6	6	7	6		
3	Peter Faust	D	8	8	9	9	9	8	7	6	7	7		
5	John Entenan	D	5	7	6	7	7	7	8	8	8	6	8	
6	Claus Von Etman	D	7	6	8	9	8	9	7	7	6	7	7	
8	Pierre Fautad	LW	6	5	6	6	7	7	6	5	5	5	5	
9	Mike Schaffer	C	7	7	6	9	9	7	7	6	9	7	6	
10	George Picard	LW	6	8	6	9	9	8	8	8	9	8	8	
11	Paul Gabriel	RW	7	6	7	8	9	8	5	6	6	6	6	
12	Philip Mosman	C	4	8	4	6	5	4	9	8	8	8	8	
15	Jim Jones	RW	5	7	7	7	8	8	7	8	7	5	8	
16	Jean-Paul Lebra	RW	9	7	8	9	8	9	7	8	7	6	8	
17	Claud Danielsson	C	6	8	6	9	8	5	8	7	8	9	7	
19	Mario Civella	C	8	7	7	9	8	8	7	6	7	8	6	
22	Ivan Daneyko	RW	5	6	6	7	6	4	6	7	7	8	7	
23	Bengt Sundstrom	D	6	7	6	7	8	7	8	8	8	8	8	



EARL WEAVER BASEBALL

Baseball and computer widows beware, Earl Weaver Baseball has come to the Amiga. Even if you have only a passing interest in the fine sport of professional baseball, it's a sure bet you will enjoy this baseball simulator. It's important to keep in mind that this is not just a baseball computer game, there is strategy involved. Putting it mildly, Earl Weaver Baseball is a baseball fanatic's dream game. Every aspect, from the selection of the players to the tension-filled bottom of the ninth inning, is under your full control. You can manage the entire team, going so far as to trade players between teams. If you just want to play ball don't get discouraged, you can just play computer baseball if you wish. But to get the full effect you should try managing the team once in awhile. It's not as easy as it looks, but it's fun.

Every detail, except for the taste of Yankee stadium's foot long "steamies," was put into this game. You can choose line-ups from eight super-star teams of four different eras. Create All-Star teams. Keep season-long stats on players and teams. Run the bullpen. Hold conferences on the pitching mound. Pick-off base-stealing runners. Clock the pitcher's throw with a radar gun. Play in 32 existing, historical and fictional parks. Modify your own ballpark. Instant TV replay in slo-mo and freeze-frame. And of course, ask Earl Weaver for game play strategy advice.

Also available is a data disk (\$19.95 US) containing the stats for major-league teams in 1986. Play Ball! □

Earl Weaver Baseball
Electronic Arts
1820 Gateway Drive
San Mateo, CA 94404
USA
(415) 571-7171
\$49.95 (US)

Who Framed ROGER RABBIT

It's 1947, the world has had two years to recover from WWII. Now picture yourself in Hollywood, all the glitter, the shine, the stars and public transportation in the form of "Red cars" (a network of electric streetcars); for a nickle you can ride to the end of the line and two bits buys a ham on rye at the terminal bar and grill.

Cartoons are in their heyday, Roger Rabbit is a Saturday matinee idol, and just as real as you or I. Roger goes to work every Monday at Maroon Cartoon Studios and after work goes home to Toontown. Everything was wonderful in Toontown until Marvin, the owner of Toontown, was killed. Marvin had promised to leave it to the toons in a will written in invisible ink. Judge Doom is a Toon hater and wants to administer justice in the form of Dip; a concoction that dissolves Toons on contact.

This game is obviously one of the rippling effects of the movie "Who Framed Roger Rabbit." You play the role of Roger and you are forced into a race with Judge Doom to find the will that Marvin left. You are the Toons' last and only hope for saving Toontown, before Judge Doom has the opportunity to Dip if off the planet. There are three stages to the game: 1) Benny the Cab, 2) The Ink and Paint Club, 3) The Gag Factory.

Each time you die a bucket of Dip is added to the tally and once you've accumulated five barrels, the game ends. After which you must re-boot the game if you want to play

again, which is a major annoyance and inconvenience! Then there is the loading of the game, which seems to take forever and a day, and then some! I didn't mind this too much, because the opening is pretty nice, but not when you have to re-boot after each game, and you will die over and over 'tils ya gets da hang of it!

Instructions provided with the game are clean and simple, on only one page. One side contains diagrams describing joystick use with each of the three stages. The flip side of the same page provides a brief description on the three different stages in the game.

Copy protection is in the form of the Gag factory catalog. Think of the catalog as a sort of a bonus, since it is funny reading on its own.

None the less, if you saw the movie you might think about getting the game. The graphics are impressive and so is the sound, but if you plan on getting this game make sure that you have a great deal of patience to wait for it to start. □

Who Framed Roger Rabbit?

Buena Vista Software

500 S. Buena Vista St.

Burbank, CA 91521

(818) 569-7397

\$44.95 (US)

2 disks

512K Required

1 MB recommended

copy protection: documentation

Aunt ARCTIC

If the humane society finds out about this, someone is going to be in trouble. I sent hundreds of innocent primates to their untimely demise trying to learn the intricacies of this new release belonging to Mindware. Don't let these cute little monkeys and penguins fool you, this is serious arcade action. Aunt Arctic is not for the faint of heart, it requires intense concentration and precise handling. We must not forget the crazed Eskimo Samurai, their only purpose in life - to make monkey burgers and penguin fillets. These Eskimos keep you on the edge as they move twice as fast as you! It took about two hours for me to get through to the next level, two hours of concentrated effort. Each screen presented interesting variations and required different problem solving techniques. The color was great and there was an assorted array of "goodies" for the lovely little

critters to chew on. Finding the key to get to the next level was not too difficult, getting back to the door was a little tricky. Many little monkeys were sent plunging into the abyss. Don't get me wrong this is a clean game, no blood or gore just good'ol home cookin' apple pie fun. There are fifty levels that you must endure to rescue your poor Aunt, who has been captured and is being forced to act in an Arctic circus. If you want serious arcade action, excellent playability, wrapped up in a colorful and fun graphics package Aunt Arctic is for you! □

Aunt Arctic Adventure

Mindware International

110 Dunlop Street West

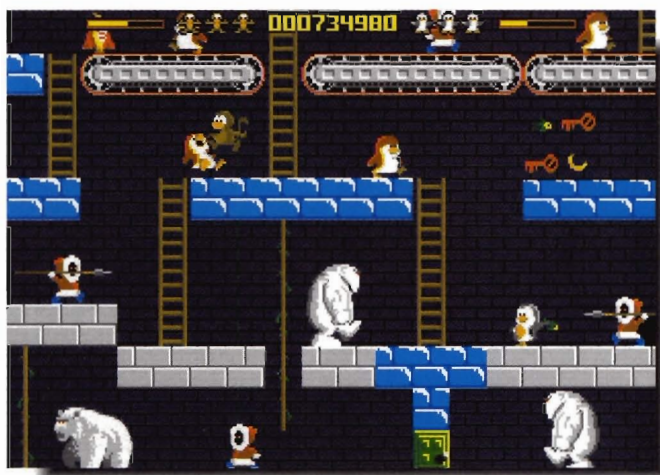
Box 22158

Barrie, Ontario L4M 5R3

CANADA

(705) 737-5998, (800) 461-5441

\$39.95 (US) \$49.95 (cdn)





Battle Chess is a not so standard game of chess, and as soon as you start it you will realize why. Even the simple act of selecting a menu becomes an experience to remember, two little angels with flapping wings unroll a scroll where the menu options are written. This is the game with the least options, but every basic option is here. This is the first game of chess to take full advantage of the Amiga's sound, graphic and animation capabilities. To move a piece, you indicate which one you want to move by clicking on the square it is on, then if the mouse pointer is on a square where the piece can move, this square will be highlighted, and clicking on it will indicate you want this piece to go there. But the piece doesn't just slide to the indicated square, each piece has it's own way of moving, and if other pieces are in the way, they will move out of the way to let it go by.

Design of the pieces takes us

back to the middleages, pawns are armor clad foot soldiers and when they move, you can hear the clanking armor, knights are real knights complete with shiny swords and ready for the fight. The bishop looks real as can be, but beware, he carries a concealed weapon! The rook looks like a stone castle tower, the way it moves is only one of the surprises you will have while playing the game. King and Queen are as royal as can be, the queen's walk has to be seen to be believed.

Along with unique piece design comes a unique way to play the game. Moving a piece is a special event, but taking one is where the fun begins. When taking an opponent's square, the opponent's piece doesn't just disappear, before it does a battle takes place. Of course the outcome of the battle is known, but these battles are so well done you just might find yourself playing or setting up the board just to provoke a battle. Each piece as one or more unique way to defend itself. I will let you check this out for yourself, I will just say that it is worth checking out and that there is a lot of diversity, there is a different battle for every piece combination. An-

imation and sounds really show what the Amiga is capable of.

The only thing missing is an option to disable the animations. This would let you play a standard game faster, the only way to do this presently, is to select 2D view. A modem option not found in the other games lets you play chess with a friend through a modem and phone line or by connecting two Amigas directly with a null modem. Battle Chess is a good game of chess and a conversation piece at the same time.

According to the authors, there are eight disks worth of animation and more than 200k of digitized sounds! Quite an achievement. □

Battle Chess

Interplay Productions

1575 Corporate Dr.
Costa Mesa, CA 92626
USA

(714) 549-2411

(800) 227-6900 [Orders]

\$49.95 (US)



The ART of CHESS

The Art of Chess is also a classic game of chess. It may have less options than ChessMaster, but it has everything that is needed and also some new options never seen before. There is a very useful arrow

gadget that makes taking back and resuming a game very easy. Simply use the mouse pointer to click on the arrow that points in the direction you want the game to continue.

The graphics are not as clear as

with Chessmaster, but there is a unique option here. Using a program such as Deluxe Paint, you can design your own pieces and then import them into the game. This is great fun, the only problem is that the game disk is protected, and you must use the original disk to save your drawings to if you want the program to find them, and saving files to a protected disk can be disastrous. Also you are limited to only four colors for the pieces. Nonetheless, this is a great idea.

The Art of Chess also has the most versatile way to change the position of the chessboard. You can either select the desired view from the menu, or simply use the mouse to change the position of the board's outline anyway you want. When you release the mouse button, the board and the pieces will be redrawn in the position you selected. You can even put it in a way so you

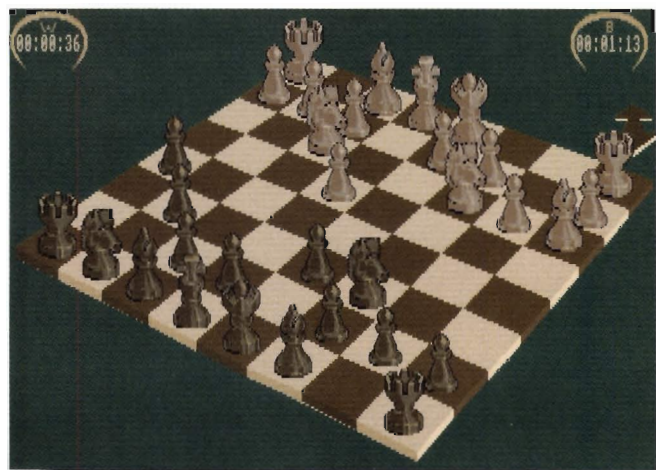
can see the underside of the chessboard. I won't tell you what is underneath, you will have to try this yourself. But the best feature is the price, at \$29.95 you just can't go wrong. □

The Art of Chess

Anco Software, Inc.

P.O.Box 292
Burgettstown, PA 15021
USA

\$29.95 (US)





CRAPS ACADEMY

GAMES SPECIAL

It's late, very late, in a casino on the strip or downtown in Las Vegas. The dice are not so hot. I started with \$500 bucks and I don't know if I have enough money left in my pockets for the cab fare back to my hotel (which is pre-paid, thank God!) You can have fun with Craps Academy if you have a bit of imagination. It helps if you have been to Las Vegas or Atlantic city and played craps before.

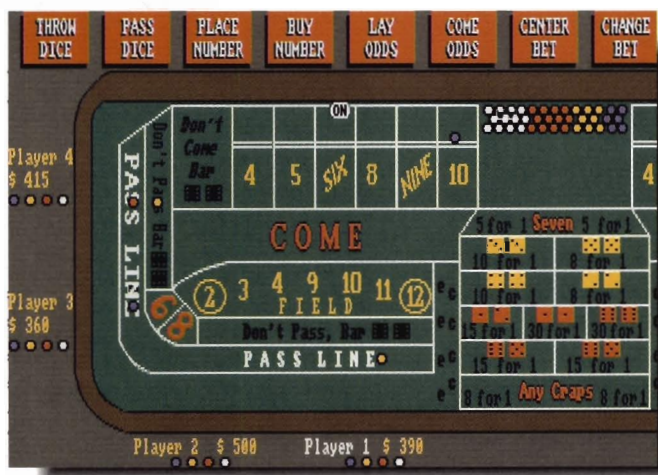
When the game starts, the screen represents a standard craps table. Along with this, on the top of the screen are gadgets to select or change the bet you want to make and for throwing the dice. Up to four players can take part in the game. When you select to throw the dice, the picture scrolls horizontally to show the right end of the table where you will see what numbers came out.

From the perspective of a person who played craps before, and loves the game, Craps Academy can be entertaining. The graphics are very pleasant and the commands easy to learn so you can place your bets and play the game efficiently in a short time. The strong point of this simulation, is that you can place all possible bets in the game of craps, and there are a lot of possibilities. You can therefore experiment all

you want with the different betting combinations in order to get a feeling of what is best. To help you in this, Craps Academy makes extensive statistical information available. After a game you can get complete statistics on how every player has done and on how many times each dice combination has come out.

From a non-player's point of view however, I am not sure the manual included with the game is enough to get you started. This of course is more because of the complexity of the game of craps itself and not due to the software. Indeed, if you have never played craps you have to read at least one book on the subject or discuss it with someone who knows the game if you don't want to lose your time nor your shirt. The manual supplied with the game is short, well written and very informative. It gives sufficient details for using the game, and presents some finer points on betting in craps and how they translate in commands for the game.

Craps Academy could, however, be significantly enhanced by improving on the sounds. For instance, the comments from the dealers could be spoken instead of simply written across the screen, this would make the simulation more realistic



and would fill in the quiet moments when the screen is scrolling. It is however possible to disable the scrolling for those interested more in the results than in a perfect simulation.

I think Craps Academy will appeal more to people who already know the game of craps and want to play the game at home in order to master it better. When I first tried the game, I was lucky to have somebody who knew the game to show me the rudiments. Craps Academy makes learning a complicated game quite easy and I was able to get hold

of the fundamentals in a few hours. It can become a lot of fun when there are two players or more. Best of all, when you go broke, more money is just a menu selection away. □

Craps Academy
MicroIllusions
 17408 Chatsworth Street
 Granada Hills, CA 91344
 USA
 \$39.95 (US)

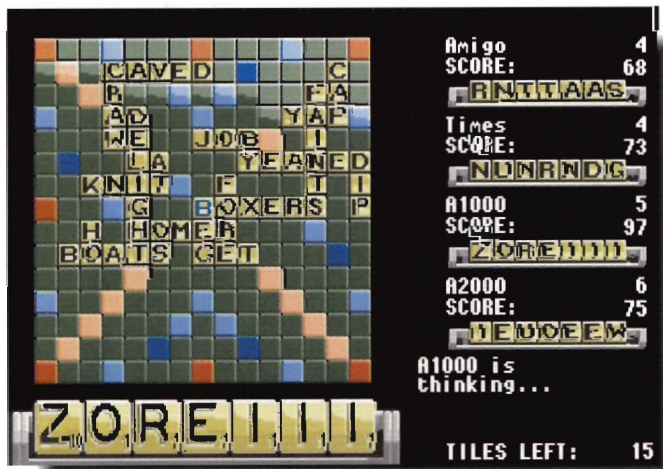
SCRABBLE

You don't have to be a genius to play Scrabble, but it does help if you read many books and can complete the New York Times crossword in under 30 seconds, if you want to win the game. The electronic version of Scrabble offers all the features and a realistic presentation of the board game, while also being able to furnish you with a computer opponent after you've soundly humiliated everyone you've ever played the game with.

In this version you are able to play against other opponents, or the computer, juggle tiles on your rack, and set duration of time for each turn. You are able to set skill levels from 1 to 8, where levels 5-8 allow all acceptable 2, 3, and 4 letter words and their extensions. This can

also translate into a lesson in humility because the computer has access to a 23,000 word dictionary (that's instantaneous access.) Sadly, the computer dictionary is not upgradeable, that is you are not allowed to add words to its dictionary. The graphics are realistic enough to almost render your board game obsolete, but then in a power failure all you need are some candles and the board to play. □

Scrabble
Electronic Arts
 1820 Gateway Drive
 San Mateo, CA 94404
 USA
 (415) 571-7171



CHARON 5

Charon 5 takes place in the year 2065. Your mission (should you accept it...) is to rescue a team of scientists held hostage in a derelict spacecraft known as Charon 5. You have been chosen to command a vehicle, known as a H.U.M.A.N. (Highly Usable Manoeuvrable AN-droid), designed specifically for this rescue mission.

Throughout Charon 5, are roaming aliens that will decrease your energy by 100 points each time they come in contact with your ship's shield. Energy for the H.U.M.A.N. is collected by passing over the tiles (10 units per tile) on the floor of each level of the Charon 5 spaceship. Once a tile has been used, it darkens and dies. As you descend to the lower levels on your way to the scientists, tiles become scarce. In order to descend to a lower level, you must first repair the interlevel airlocks and control circuitry.

Charon 5 is a game that requires skill and strategy, especially since you only have one H.U.M.A.N. to use in your mission. Charon 5 is essentially a sophisticated arcade-style game that requires more strategy than most. The graphics are colorful and dazzling examples of the Amiga's graphics and the four-way scrolling is very fast and smooth as silk. □

Charon 5

Mindware International

110 Dunlop Street West
P.O.Box 22158

Barrie, ONT L4M 5R3
CANADA

(705) 737-5998

(800) 461-5441 [Orders]

Joystick required

512K required

PIONEER PLAGUE

The story takes place several centuries in the future. It is about a probe that was sent into space to help prepare planets for human colonization. Everything went well for a while, but all of a sudden the probe started to develop bugs in its programming. Instead of creating proper environmental conditions suitable for the human race, it started doing all sorts of strange things. Your objective is to eliminate this

infection the probe is spreading.

Pioneer Plague is a one disk game. Along with the manual is a navigational chart. Part of the navigational chart is made of plastics cards, preventing any premature wear and tear.

The game Pioneer Plague was created by the people at Terrific Software (a division of Antic Publishing). It is an arcade like action packed game, but it is not an arcade game. Some of the features about Pioneer Plague are the excellent graphics, HAM graphics using the Amiga's 4096 colors. There are some programmable combat support aircraft design and drone flight patterns and strategies. The musical score is in stereo, although it can be annoying to listen to for more than twenty minutes.

Playing the actual game, it can take about ten to fifteen minutes to become familiar with the commands and maneuvering the spacecrafts around. That is about the average adapting time for a good computer game. Hats off to Terrific Software for an excellent game! □

Pioneer Plague

Antic Software

544 Second St.

San Francisco, CA 94107

USA

(415) 957-0886

\$39.95 (US)

512K

Joystick recommended

SIDEWINDER

An alien STAR KILLER space cruiser, the size of a planet, is heading for the Earth's sun. The cruiser can generate a strong force field making it impervious to all forms of attack, except for a single craft that can get through the force field. You have volunteered to destroy the space cruiser before it destroys the sun.

The X-rays that have been made of the cruiser show that you will have to fight your way through five levels of the ship. Starting with the hydroponics level followed by, residential level, flight deck command level and finally your objective the control level. Each level will challenge your skills with a different mix of defence craft and obstacles to avoid. The very detailed graphics in Sidewinder are some of the best we have seen in an arcade style game.

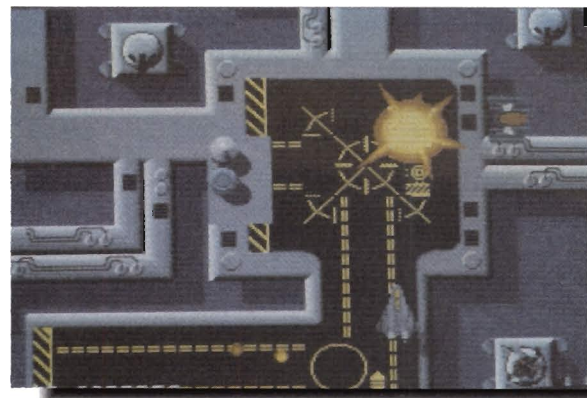
CHARON 5



PIONEER PLAGUE



SIDE WINDER



Sidewinder comes packaged with two other games (Blastaball and Xenon) all three games included in this package have digitized sound effects and music with true arcade quality graphics. For more realistic playability using a joystick is recommended. Each game can be played by one or two players. □

Awesome Arcade Action Pack

Electronic Arts

1820 Gateway Drive

San Mateo, CA 94404

USA

(415) 571-7171

\$49.95 (US) + \$3 S&H

HYBRIS

The earth colony on Planet Jurica is in trouble and the space station Hybris is now orbiting the planet. You are the fighter pilot assigned to Hybris and your immediate mission is to re-establish communications with the remote Earth colony that has been stranded on a planet seemingly overcome by alien forces.

Waves of alien invaders attack you while you cross parched desert plains, seas, and jagged mountains. As you destroy special targets using your regular fire power or alternate to other modes like smart bombs or power configuration you will acquire extra strenght giving your scout ship added dimensions, extra fire power, extra missiles, and invincible mode.

The manual describes your situation to its bare minimum, leaving you to discover the essence of the game through trial and error. Since it is a true arcade game, half the fun is in discovering how to use the game. □

Hybris

Discovery Software Internationalll
163 Conduit Stret
Annapolis, MD 21401
USA
(301) 268-9877
\$39.95 (US)

SPACECUTTER

Spacecutter is a simple and fun game to play, once you have mastered the controlling of the spaceship. That should not take longer than twenty minutes at the most. It all depends on your hand control and reflexes.

The manual is short and precise, with a good display of diagrams throughout the entire manual. On page three, there is a quick reference guide to ease the journey through space.

There is a technical appendix which provides a detailed explanation of the eigenspace network, the perfect eigenspaces and two shortcuts on how to reach the last perfspace 33550336.

Has you progress through the various eigenspaces, the level of difficulty increases. There are more spaceships that attack you, and there is a grater difficulty in destroying them as well as staying alive.

The layout of Spacecutter on the screen is pleasant. There is a

command panel that can be kept on the screen or removed, allowing greater visibility.

What is impressive about Spacecutter is the graphics. The images used to represent fuel, missile, chaff depots as well as the stargate are excellent. You can also distinguish each depot quite easily.

There are a couple of things that can be aggravating about Apacecutter. The music can become annoying to listen to, but it can be shut off. Then there is that wide green bar that follows the spaceship around. This problem with the green bar is only visible until your first spaceship is destroyed. Then all you see is a shadow that is barely visible.

Other than what has been mentioned above, Spacecutter is fun and not boring. □

Spacecutter

Rainbird

P.O.Box 2227
Menlo Park, CA 94026
USA
(800) 227-6900 [Orders]

TORCH 2081

Imagine yourself in the year 2081. After long wars which have destroyed neighboring planets, your mission as a member of the World Military Service, is to protect what is left of Earth by constructing metallic panels to cover the portions of its surface left open to falling meteorites. To accomplish this mission you will have to maneuver an old Surface Defence Glider (S.D.G.) dating from 2042, over the holes in the Earth's shield. Using the S.D.G., you will have to trace an outline of the panel that will be constructed once this outline is completed. The panels do not have to cover the hole entirely, you must however cover more than a certain percentage of it. The threshold percentage is indicated on the controls of the S.D.G., also on the control panel is an indication of how much fuel is left, the number of ships remaining and how many points you have so far.

This mission is a dangerous one. You will have to beware of falling meteorites that will destroy your ship when they either touch it or the outline it is tracing. Also be careful of the perimeter controllers travelling along the edges of the shield that will cause the S.D.G. to explode at the slightest touch. When

you have covered more than the threshold percentage of the hole, you will be awarded points and more fuel, and will be allowed to go to the next hole.

If you have been a video game player for a few years the above description may sound familiar to you. Torch 2081 is a revised version of a classic game which first appeared in arcades under the name QIX. The graphics were much simpler, but the object of the game was the same. Torch 2081 works with the same rules but adds the Amiga capabilities, good colorful graphics and sound effects that make the game

more enjoyable. With each wave comes a background and metallic panels with a different color and texture. Although some of these can be quite a strain on the eyes, this adds a bit of diversity to the game. Simple rules and fast action makes for an addictive and fun arcade game. □

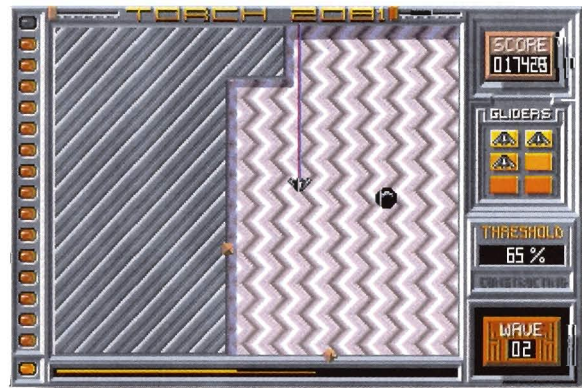
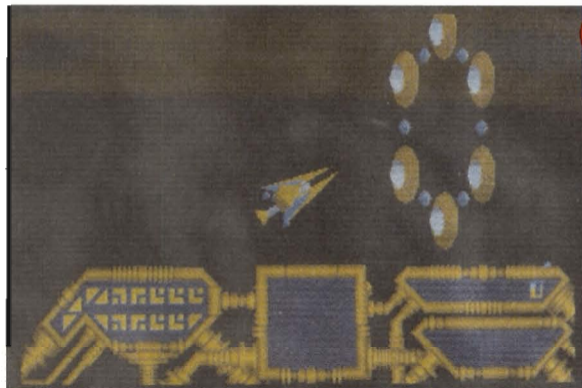
Torch 2081

Digital Concepts
28800 Gratiot Ave.
Suite 162
Roseville, MI 48066
USA

HYBRIS

SPACECUTTER

TORCH 2081



GAMES SPECIAL

F/A-18 INTERCEPTOR

Undoubtedly one of the most popular simulators available for the Amiga computer is F/A-18 Interceptor from Electronic Arts. Sales of the game attest to its success, also, the demo runs in many Amiga computer dealer store windows.

There is a free flight mode where you can safely (no enemies) practice flying either the F-18 or the F-16 Falcon. The only other time you use the F-16 is in the first mission. Once the player has gone through both training and qualification, six missions await the would-be Top Gun pilot. Each mission is quite different from the previous mission, and each level requires the player to increase their level of skill and alter their tactics to meet the new challenge.

The action takes place over the San Francisco Bay area and the terrain, bridges and landmark buildings are all accurate. The out-the-window, 3-D graphics are excellent and very fast and the digitized sound (1 MB machines) is superb. Very few games come close to the level of excellence found in this jet fighter simulator, which was written exclusively for the Amiga by Bob Dinnerman. □

F/A-18 Interceptor

Electronic Arts

1820 Gateway Drive
San Mateo, CA 94404, USA
(415) 571-7171
\$49.95 (US)
Joystick required

SKYCHASE

SkyChase is a 3-D wire-frame jet "simulator" played over an adjustable ground grid, with no other scenery. Overall, SkyChase's graphics and sound are very good but unfortunately the graphics are in wire-frame format. Oddly enough, the missiles each jet is equipped with are in the shape of Amiga boing balls. The main screen has aircraft and weapons "instrumentation" for both jets in the lower half and two cockpit window screens.

Seven planes, both friendly and enemy, are available to choose from for either player. The planes are the F/A-18, F-14, F-15, F-16, Mig-31, Mig-27, and of course, the Maxis Paper Airplane. Each jet has flight characteristics unique to that jet,

such as top speed, roll rate, and upward and downward pitch change.

By setting individual preferences, either of the two players can be handicapped to make the game more fair. Despite what Maxis claims as an accurate jet simulator, what SkyChase really offers is fast, sweaty-palmed action. The major attraction of SkyChase is the head-to-head combat feature. When playing against the computer or a friend, the action can become very intense and it's always fast. □

SkyChase

Maxis

953 Mountain View Dr. Suite 113
Lafayette, CA 94549, USA
(415) 376-6434
\$39.95 (US)
Joystick required

JET

In Jet all of the enemy aircraft and ships are detailed and three-dimensional. You slide into your cockpit, taxi to the runway, check your weapons and radar systems, ram that throttle to the top and take off in either a land-based F-16 or a carrier-based F-18. Each plane has its own scenario for dogfighting, a target strike scenario (enemy factories or Soviet Kynda-class missile cruisers), and a free flight scenario for the pure joy of supersonic flight. Another scenario accepts any SubLOGIC Scenery Disk or the Flight Simulator II disk itself, however, there's no combat mode available while using these disks.

The multi-player scenario is a one-on-one dogfight against another player over the modem lines or by a direct cable hook-up between two computers. But the scenery is plain land and only the F-16 fighters can be used. The game lacks some features that would qualify it as a true "computer simulator" of the standard Flight Simulator II has set. It comes close, but more work needs to be done, especially with the cockpit display. Despite its weaknesses, Jet is strong when it comes to all-around fun. The action is fast and the graphics are good. □

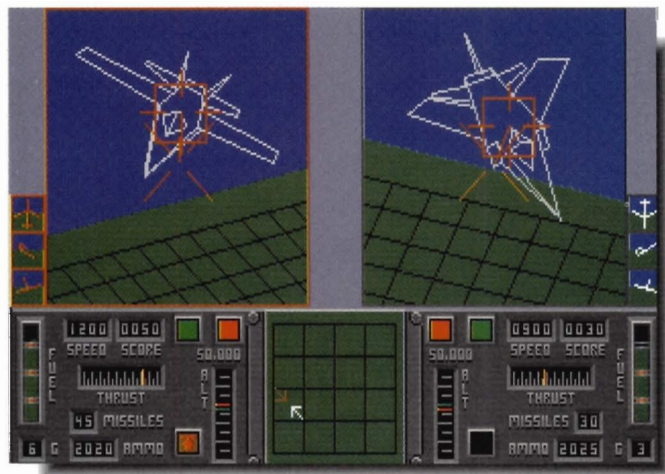
JET

SubLOGIC Corp.

501 Kenyon Rd.
Champaign, IL 61820, USA
(217) 359-8482
\$49.95 (US)
Joystick optional



F/A-18 INTERCEPTOR
from Electronic Arts

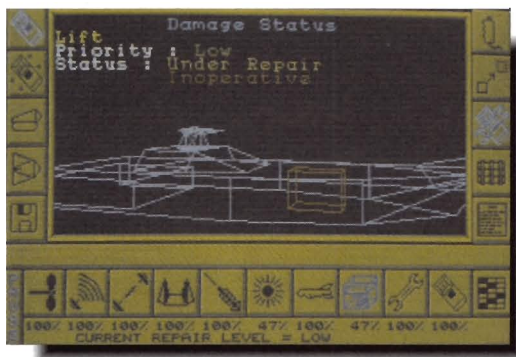


SKYCHASE
from Maxis



JET
from SubLOGIC

CARRIER COMMAND



The action takes place in the 22nd century on Earth. Due to a massive energy crisis, two large vessels were developed in order to travel from volcanic isle to isle where energy could be tapped and transported back home. Both of these aircraft carriers were equipped with defensive systems, including Mantas (Aircraft) and Walruses (Amphibious Tanks). Walruses were also designed to transport Control Centre Builders (highly advanced self-constructing devices, designed to build the Control Centres and their accompanying buildings).

Unfortunately, one of the programmers working on ACC Omega at the Technical Division of Draziv Industries, took control of that carrier and demanded 15 billion dollars or he would use that carrier to occupy and destroy all the islands. The only way to halt this fiendish plot would be to use the ACC Epsilon to recapture islands, including the Omega's heavily defended base island. With 64 islands in the region, a well thought out plan of invasion is required. The manual recommends the player begin by securing the islands that surround his base island, then branch out and extend his network until he is capable of attacking either the ACC Omega or its base island. Carrier Command is no simple shoot 'em up arcade game. Operating and maintaining the carrier, its aircraft, tanks, defense systems, damage control, and supply systems requires intelligent and careful planning. But action fans don't despair, an invasion of an enemy island requires skilled attack runs with missile and laser carrying Mantas and Walruses. Also, when you begin the game you have the option of starting a strategy game (starting from scratch) or an action game (you're put right in the middle of a war).

The 3-D out-the-window graphics are exceptional, and similar to Rainbird's other spectacular game, Starglider II. And just like Starglider II, Carrier Command use its own DOS format, however, if you hold the mouse button down when you boot the game, it will make a backup copy for you. The cover of the Carrier Command box reads, "High speed action in an intelligent game of tactical warfare." A sentence which accurately sums up Carrier Command - definitely one of the best games available for the Amiga. □

Carrier Command
Rainbird
 P.O.Box 2227
 Menlo Park, CA 94026
 USA
 (800) 227-6900 [Orders]
 \$44.95 (US)

PORTS OF CALL

Ports of Call is a combination strategy and maritime simulator. Before you start playing Ports of Call, a word of warning, this game can be extremely addictive.

After going through the annoying documentation based copy-protection ritual, you are well on your way to many hours of gruelling fun. This is not just a game of strategy, a fair amount of manual dexterity is involved; it is often necessary to pilot your ships into and out of ports. You have the option of having your ships towed into ports with tugboats, but the harbor crews might be on strike. Another factor that affects your overall rank in the game are your "status" points. These points increase or decrease depending on, how many stranded sailors you have successfully picked up, your skill at navigating around shoals, reefs, or icebergs. If you are eager to try your hands at some these obstacles, don't be because picking up a stranded sailor is not all that it is cracked up to be.

This game offers great sound with excellent graphics by Jim Sachs. A definite winner, requiring just the right combination of skill and strategic planning, a little closing tip, previously owned ships run a lot better than they look, and they look like 10 miles of bad road. □

Ports Of Call
Aegis Development, Inc.
 2210 Wilshire Blvd.
 Suite 277
 Santa Monica, CA 90403
 USA
 (213) 392-9972
 \$49.95 (US)



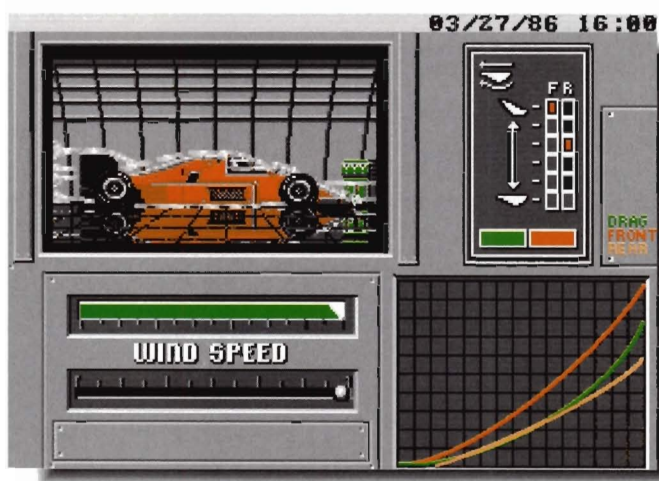
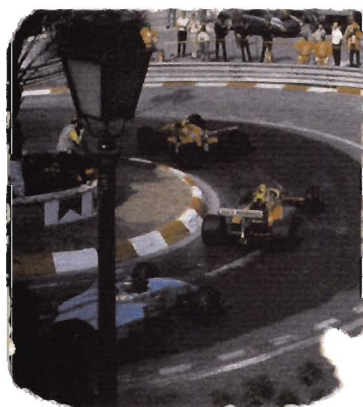


FORMULA 1

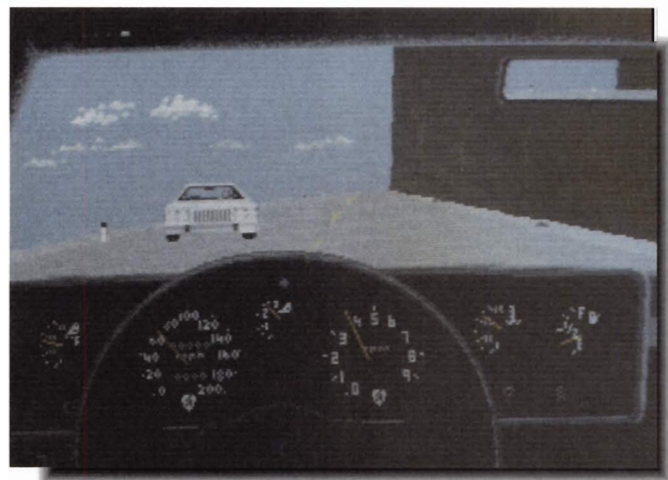
Definitely the king of the Amiga auto-racing simulators. The realism in this game is stunning, and the overall game is guaranteed to keep any hard core racing fan enthralled for hours on end.

The object of the game is to become the 1986 Season Formula One Racing Champion. In order to win, you must race through the formula racing season against world class drivers, on world famous tracks while amounting the most points. The unique feature of the game is that the drivers that you are racing against will finish in the order that they did in the actual 1986 Season, unless of course you can upset the results. Note this is for hard-core racing fans and is not merely a game. Electronic Arts is supposed to release a data disk for the next Formula One Season, we're waiting people. □

Ferrari Formula One
Electronic Arts
 1820 Gateway Drive
 San Mateo, CA 94404
 USA
 (415) 571-7171
 \$49.95 (US)
 copy-protected
 512K Required



TEST DRIVE



What program stars four exotic European beauties and one American stud? The answer is not "Charlie's Angels '89"; the program I am referring to is Test Drive from Accolade. This program will allow you to experience the feel of an exotic sports car without having to sell your family or your soul. You can choose from the Porsche 911 Turbo, the Chevrolet Corvette, the Ferrari Testarossa, the Lotus Turbo Esprit, and of course the ultimate scream machine, the Lamborghini Countach.

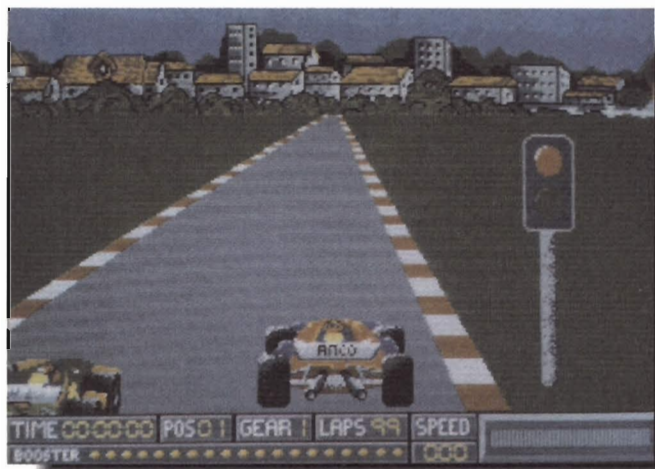
Here the object of the game is to "dust the fuzz" and arrive at roadside gas stations with the highest average speed. The engine roars were digitized from the real cars, along with the handling characteristics. Crash'em, trash'em, the only thing that may get wounded is your pride. Great interior detailing of the individual vehicles and the graphics describing each individual vehicle are impressive, but the game can get dull after a while because of the unchanging scenery and unrealistic crashes; a crash in a Ferrari going 130 mph seldom leaves more than a cracked windshield. All in all, Test-Drive does offer some honest to god, seat of the pants action, and at times a fair amount of skill is required to prevent a pileup into oncoming vehicles that also share the road. □

Test Drive
Accolade

20813 S. Winchester Blvd. Suite 201
 San Jose, CA 95014
 USA
 (408) 296-8400



GRID START



One thing that can be said about Anco is the fact that they have amongst the most colorful package illustrations in the industry. The packages are simple, and the manuals are brief (usually one leaflet). With all these cost cutting measures and a average price of \$24.95 (US), dollar for dollar Anco offers excellent game value; sort of a high fun for your money quotient.

As close as this game sometimes comes to a racing simulator, this is more an arcade style game. There are three skill levels, Novice, Amateur, and Professional. The vehicle used is a six gear Formula Class racing car, with more than enough horsepower to make your job of winning a race both perilous and all out fun. Grid Start offers good sound, and fast graphics, although some of the still image

screens could do with pictures that are a little more spectacular. You have to be extremely nimble with your joystick to survive bends and turns in the road. Here shifting is critical, one missed shift can spell disaster and herein lies the truly annoying feature of this game unrealistic crashes. A car simply does not blow up after colliding with a haystack, or a guard rail.

You have a series of six world-famous race tracks to upshift, downshift and turbo-boost your way through. □

Grid Start

Anco Software, Inc.

P.O.Box 292

Burgettstown, PA 15021

USA



Do you like trucks? I mean 4x4 with enough get up and go, to tackle tough terrains like Baja, the mud bogs of Georgia, the winter snow fields of Michigan, and everyone's favourite little hide-away, Death Valley.

In this off-road racing game you select the level you wish to play, select and outfit your own "rig" with all the amenities that every 4x4 racer requires. You should try to justify every item that you get, try to get a winch and at least one spare tire, then you're ready to roll. Now you get a chance to put your custom truck through its baptism of blood and fire on any one of the four grueling courses. Oh I forgot to mention that each of the courses is literally riddled with obstacles, and if you're on the Michigan snow-fields don't run into the snowman, you'll regret it. This game offers great arcade style fun with sound and good graphics, a good buy. □

4x4 Off-Road Racing

EPYX

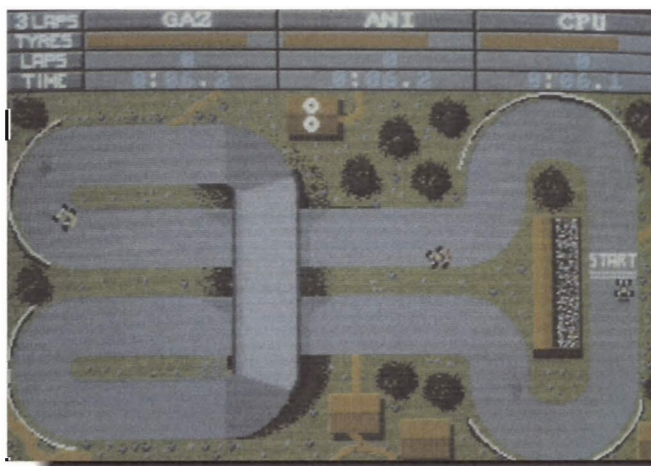
P.O.Box 8020

600 Galveston Drive

Redwood City, CA 94063

USA

(415) 366-0606



KARTING GRAND PRIX

This game is extremely simplistic and can therefore be very frustrating to a beginner, or someone that is not very familiar with arcade games. For 1 or 2 players, Karting Grand Prix has all the essentials for arcade style racing action. The "Grand Prix" takes place over a series of 8 tracks and if you've ever gone Go-Karting, this is a pretty close approximation. The graphics are good, but those crash sounds don't sound like crashes, more like a cross between a hive of bees and a pregnant rabid veg-o-matic.

The major drawback of this game I feel, is the vantage point of the players, you only have a top view of the karts; this can be anywhere from, quite disorienting to a downright nuisance. □

Karting Grand Prix

Anco Software, Inc.

P.O.Box 292

Burgettstown, PA 15021

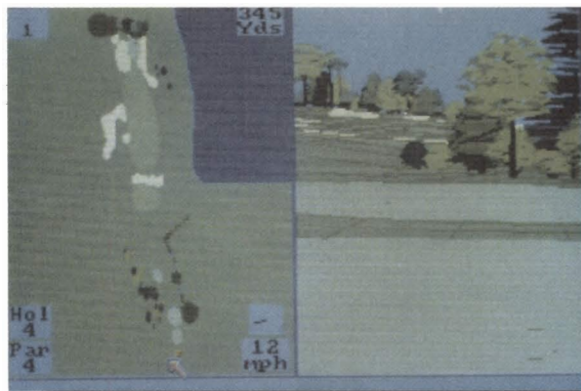
USA

CHAMPIONSHIP GOLF

Despite the length of time it takes to re-draw the screen, this game probably has the best graphics out of all the golf games that were reviewed. The landscape is made very realistic by including hills and valleys. This is an old game in relation to the others, but as far as I'm concerned it has stood the test of time. To control the golfer you must "IBM-it" in other words strictly keyboard commands here, which can be annoying. Another drawback is the fact that you are limited to one course, Pebble Beach, other courses were expect-

ed but still no-show. But don't get cocky and think you'll get bored quickly by this one course because every new game has the potential of humbling any old pro. □

Championship Golf
Mediagenic
 3885 Bohannon Dr.
 Menlo Park, CA 94025
 USA
 (415) 329-0800
 \$39.95 (US)



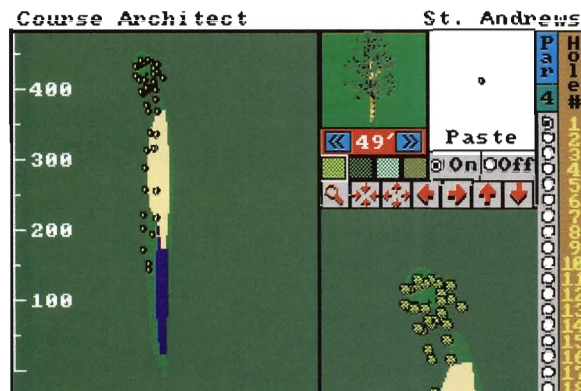
WORLD CLASS LEADER BOARD

World Class is an improvement over the original Leader Board. One welcome change is the removal of that oh so annoying "dongle" that was present with earlier releases. What is seen is improved graphics, and a truly impressive course architect. You have a choice of 4 courses to choose from, Gauntlet Country Club, St. Andrews, Doral Country Club, and the "monstrous" Champions Cypress Creek. Should these four courses prove somewhat unchallenging, there's always the course architect. This course architect warrants mention simply because it is one of the best that we have seen. With the architect, you can set your own par for the

course, zoom-in or out on individual courses, and cut and paste green space or trees, all with a great deal of precision.

World Class Leader Board also gets top marks for its two manuals, one for the game, the other for the course architect; this, for the record, is one of the most professionally laid out golf simulators yet seen on the market. □

World Class Leader Board
Access Software, Inc.
 545 West 500 South
 Bountiful, UT 84010, USA
 (800) 824-2549
 \$44.95 (US)



WORLD TOUR GOLF

When Electronic Arts releases a golf simulator, you can expect it to be fun. Well you won't be disappointed with this game, it offers the seriousness of a golf simulator, along with the chance to create fairly off the wall courses with the course architect; we are talking about dinosaurs, and deers right on the 16th hole if you want it. One flaw with this package is the set up of the manual, it was written for the 64/128, the Apple IIGS, the IBM PC, and the Amiga; this of course makes for a fairly confusing setup, luckily the program is fairly intuitive. There are some

great quotes on the inner jacket of the program package as well as a rather interesting picture of the creators, all this further adds to the light-heartedness that went into the writing of this game. □

World Tour Golf
Electronic Arts
 1820 Gateway Drive
 San Mateo, CA 94404
 USA
 (415) 571-7171
 \$39.95 (US)

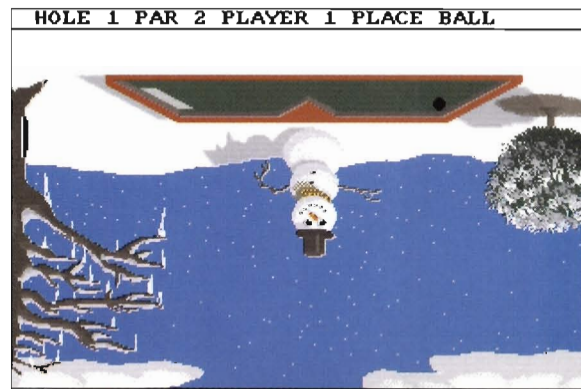


HOLE-IN-ONE MINIATURE GOLF

On the lighter side of golf, this can only be described as the most frustrating and probably the wildest of all the golf games. First of all this is not golf, this is mini golf, an odd-ball bastardization of the original game (...yes we can use that B word). This game might appear to be simplistic, but don't you believe it. You are given a choice of 5 courses ranging from the tutorial at "Golf School" to 18 holes of living hell in the expert level "Menagerie." Just to give you an idea of what one of the holes in the Menagerie looks like, imagine a snow covered course with Frosty the Snowman upside

down, needless to say these programmers should also be making the couch trip. This is as close as you'll ever get to the realities of miniature golf, and for some this may very well be the closest they'll ever want to get. □

Hole-In-One Miniature Golf
DigiTek
 10415 N. Florida Ave.
 Suite 410
 Tampa, FL 33612, USA
 \$39.95 (US)
 (813) 933-8023
Joystick not required



The Missing Link...

The All New

Centaur Software Inc.

14040 Tahiti Way, suite 528

Marina Del Rey

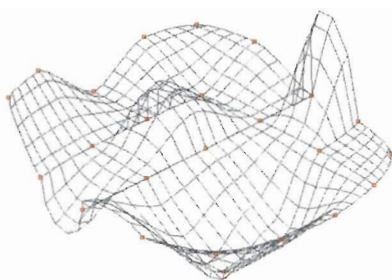
CA 90292

FORMS IN FLIGHT II

The new Forms in Flight II is the missing link for your Amiga three dimensional graphics design and animation. Create fast, high quality images with fancy curves and curved surfaces. Then use the complex objects you design to create smooth animations. You can also import objects from other animation programs using Interchange by Syndesis.



+



=



- ✓ Surface Patches
- ✓ Phong (Smooth) Shading
- ✓ Texture Mapping
- ✓ Extrusions along curved paths
- ✓ Hierarchical animations using paths
- ✓ Supports overscan and PAL systems
- ✓ Low price: only \$119
- ✓ Many more features

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Centaur Software Inc.

14040 Tahiti Way, suite 528

Marina Del Rey

CA 90292

B.A.D.

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- 100% AmigaDOS Compatible

B.A.D. analyzes, restructures, and processes ANY AmigaDOS disk such that permanent speed increases will be realized. This is NOT a RAM cache based system!



In the world of Amiga 3D modelling, good programs are few and far between. Utility programs for creating 3D objects that come with the various 3D animation software packages tend to be lacking in necessary features, and are usually cumbersome to use.

Dedicated modelling software, doesn't fare much better. 3Demon from Mimetics, is a major disappointment. Although it has many nice features, it proves to be an awkward and slow program in the use and execution of those features, and doesn't allow for effortless creation of complex objects.

Caligari from Octree has a beautiful interface, but limits you to graphic primitives in the composition of 3D objects. Add to that the hefty price (in the \$2000 range), which keeps the software out-of-reach for most Amiga owners, and you have a nice program to play with in the store...

In the arena of Amiga 3D modelling software, the master of the ring has to be Aegis' Modeler 3D. This program has been a while in coming, but does live up to its hype, giving everything that's promised in an easy-to-use and efficient interface. Now, Gold Disk Inc. has introduced the first true contender, Design 3D.

DESIGN 3D

Design 3D is a feature-laden program. There are very few things that this package lacks, and what it does lack, it makes up for in fast and clean performance. Above all, Design 3D delivers the goods!

The interface is well thought out, with all the major functions accessible through icons arranged in vertical bars along the left and right of the screen, with further options available in a bottom bar, and yet more through menu selections. You need not ever leave your mouse!

The center of the screen is divided into four windows. This is your work area, with each window representing a view of your object from the front, left, top and in perspective. The perspective window also allows you to view your object as a solid model, shaded and in colour. Any of the windows may be resized to a full screen for detailed work.

THE TOOLBOX

The tools you are provided with are what you would expect from any good 3D modelling program: Polygon, Rectangle, Ellipse, and Arc creation, Cloning, a powerful Spin tool that spins any object you can create around a vertical axis, point merging, extrude, rota-

tions around user-defined axis, and manipulation tools for moving, scaling, deleting or copying points, polygons and objects.

DESIGN 3D doesn't stop there. Along with those 3D tools are a couple of 2D drawing tools: Fill and Freehand Draw. These allow you to enhance your 3D images without going into a paint program, and make for great "what if?" experiments.

Best of all, is the inclusion of automatic 3D text generation. This is a powerful feature of this package. All you have to do is select the text icon, type your words (upper and lower-case) in the pop-up requestor and pull out a couple of boxes on your work screen to define your type size and bingo - you're done! Design 3D also includes a fully-featured 3D font editor that allows you to alter the 3D font included or to create your own.

THE MENUS

Menu selections give you a choice of working in hi-res at 640 x 400 or medium-res at 640 x 200, a palette of any 16 colours out of 4096, with the ability to create your own colour gradations, total definition of Design 3D's working parameters, including the unit of measurement (inches, centimeters, kilometers,

By Nick Poliwko

etc.), scale, grid size, and placement of up to four light sources.

Other menu choices offer scaling ratios for print-outs to any preference-supported printer, including HPGL plotters, as well as options to display your objects as wireframes, or solid models with colour or dot-patterned shading.

ANIMATION

Over and beyond object creation, I should mention that Design 3D also allows you to animate your creations. While not extensively featured in this respect, the inclusion of an animation facility should prove valuable to those Amiga-owners who can't afford, or don't need software as sophisticated in 3D animation as VideoScape or Sculpt-Animate 3D.

Also provided are utilities for converting objects to VideoScape format and back, although this may be a menu option by release, as well as a disk of ready-made objects, parts, and animations.

CONCLUSIONS

While Design 3D is not the ultimate answer for 3D object creation, it is good and very easy to use. The interface is solid and workable, and beginners should have no problem creating complex objects within minutes. I would like to see more keyboard equivalents, as well as more precise control over object rotation, but these are minor quips.

Overall, Gold Disk has provided an economical and practical way for Amiga-owners to get involved in the exciting world of 3D object modelling and animation. □

Design 3D

Gold Disk, Inc.

P.O. Box 789

Streetsville, Mississauga

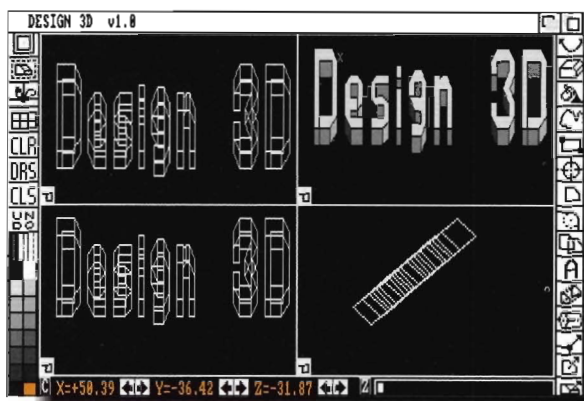
Ontario, Canada,

L5M 2C2

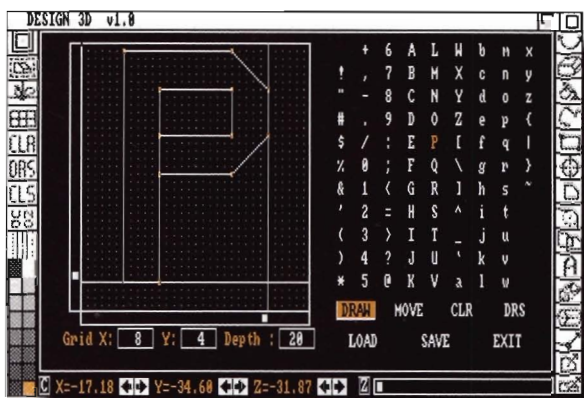
(416) 828-0913

Price not set at this writing

1 MB required



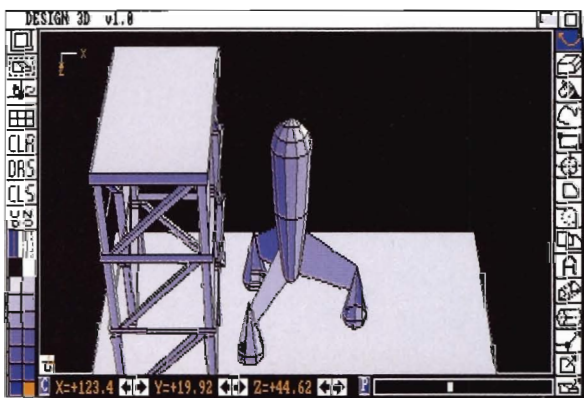
This is an example of text generation on Gold Disk's Design 3D. As you can see there are tool strips down both sides of the screen.



The font editor allows you to design customized polygon fonts for your use in Design 3D or in other rendering software.



The display is split into four windows giving you different views of the objects you are designing.



You can also takeover the entire screen area, as is shown by this solid modelled rocket. You can view your objects in wire-frame or with the faces rendered.

Baseball



Baseball




Baseball



Baseball



The Creation Of An Animated Opener



In This episode of our ongoing column on DeskTop Video Production, we take a look at the tricks and tools used to create an opener to a corporate report video.

As an industrial animator, I often work on jobs that involve some sort of equipment usage (which must be technically correct), as well as various types of animated charts. Now don't get me wrong, industrial animation on the Amiga can be a lot of fun, and since my clients tend to be demanding, a challenge as well. The days of trying to sell animations produced with Deluxe Video are long gone! (I should note though, that DVideo is an excellent training ground for beginners in Amiga animation.) But it's not often that you get a job that allows you some creative freedom.

Two types of assignment that do allow some degree of personal expression are animated openers and logo manipulations. There are still some restrictions to work under, but you have a lot of leeway in the presentation and look of the end result. In this article, we're going to take a look at the creation of an animated opener for a section in a corporate video.

The video itself was a corporate quarterly report video that accompanied the print material that was sent to shareholders. In an effort to show the shareholders that company employees were happy and fulfilled in their jobs, the

client thought that the inclusion of an employee relations section in the video was important. Part of that employee relations section involved the company baseball game.

The job involved the creation of a 5 second animation dealing with baseball. The client wanted something that looked like the computer animations he was familiar with seeing on television sports events. We figured we could capture the feel and come close to the same quality with Amy, so off we went to begin the job.

Pulling out Deluxe Paint II and Microfiche Filer Plus (see the storyboard article in the last month's AmigoTimes on the use of these programs), we got to work producing storyboards for the animation. In the creation of the boards, there was one thing to keep in mind, my company produces all its animation output in real-time. We don't use a frame controller, and we don't want one! We feel that real-time output is the most cost effective way to produce industrial animations, and the Amiga is one of the few machines that will allow you to do that. In the event of longer animations, we string together several real-time sequences. Since we wanted smooth real-time animation, we had to make sure that we didn't have too many giant ob-

By Nick Poliwko

jects flying all over the screen. Amy can usually animate one large object smoothly, but begins to slow down as more are added.

We decided the animation would have only four components: a digitized sky background, the word "Baseball," a baseball player at bat, and a ball. To get that feel of high-quality television sports computer animation, the only way we could go was to produce the opener in the Amiga Hold And Modify (HAM) mode. This would allow us 4096 colors and would insure that the digitized sky background would retain a photographic quality. Beyond that, we could also do a chrome baseball player, which we thought would look dynamic! The client was sold on the first and only storyboard we did (this is one of the advantages of animated openers), so, it was on with the job.

We used Digi-View 3.0 to digitize an appropriate photograph of a cloudy sky in HAM interlace. We still consider Digi-View to be the best image-digitizer available for the Amiga, and version 3.0 now allows for overscan images which makes it a boon for video work. For those who don't know, overscan settings remove the borders from around an image, allowing the picture to go right to the edges of the screen - a must have for video work.

We moved on to Photon Paint, which is a HAM paint program, and did some minor touch-ups on the digitized image. A big advantage of Photon Paint is that it is the only paint program we know of that allows you to work directly in the overscan area without having to scroll your image around.

We then loaded the digitized image into PIXmate and resized it from 352x480 pixels to 352x440 pixels. One of the problems with Amiga paint/animation/video software is that they virtually all support a different overscan image area! Anyway, we were finally done with our sky background and could go about creating the 3D objects we would animate.

Modeler 3D was used to render the various objects. The text was entered point-by-point on the Modeler work screen, then polygons were created for

the letter faces, which were finally extruded to give them volume. After each letter was finished, they were brought together on a single screen and made into one object spelling the word "Baseball." The baseball player was redrawn in Modeler from a template we made from a public domain ball player (created by Al Piazza with Sculpt 3D, which we converted to Modeler format with Interchange). The flat ball player image was then extruded and given chrome-like colour qualities. Finally, the baseball was created using Modeler's graphic primitives. All the objects were then scaled so they would be the proper size in relation to each other. We now had all the pieces we needed for the animation.

To put the pieces together, we used VideoScape 2.0. This program has a HAM mode that renders objects fairly quickly in a pseudo-ray-trace, allowing for smoothly-shaded images, chrome effects, etc. This would give us the quality of images we wanted. With VideoScape, you have to create text files that control the movement of your 3D objects and camera. We used ED to generate these files (ED comes with every Amiga Workbench and is accessible through the CLI), and we previewed the movements in VideoScape's wireframe mode. In the animation, the camera was stationary, so only the objects had to be moved in and out of frame. After we were satisfied with the object movement, we saved the settings for VideoScape: HAM mode, Z buffer on (the Z buffer causes VideoScape to render the objects pixel by pixel, according to the pixel's distance from the camera. This fixes a problem that VideoScape 1.0 had with overlapping polygons), medium overscan at 352x440 resolution, load background (with the directory that our digitized background image would be found), and finally, save as IFF image. We use a 40 MB Comspec Harddrive, so it was no problem storing the 150 HAM interlace IFF images (which came to a total of nearly 18-megabytes!)

The reason we saved each frame as an IFF image, and did not have VideoScape compile the animation into

its Anim format is simply that we use PAGEflipper Plus F/X to animate the images. Of all the pageflipping software we've tried, nothing compares to PAGEflipper Plus' ability to move large masses of pixels quickly, therefore allowing you to animate large objects SMOOTHLY in real-time. Another advantage that PAGEflipper gives you over the Anim format is timing control. This package makes it ridiculously easy to time out animations! In under an hour, PAGEflipper Plus had automatically generated a script for the 150 frames and compiled them into a single file. We could now play back the animation and see how it looked in full HAM mode.

The animation started off with the cloudy sky background, which was held on-screen for 15 seconds, then the chrome silhouette of the baseball player flew in from the upper right-hand corner of the screen to the center, and, as this occurred, the word "Baseball" floated down from top center screen to end up above the baseball player. Then, as the player began a 360 degree rotation the baseball flew on-screen from the middle left, flying towards the player who hit the ball as he rotates, causing it to exit at the top left-hand corner of the screen. The player finishes his rotation, and the "Baseball" text comes to a full stop. This end frame is held on-screen for 15 seconds, and the animation is complete! Everything had worked out perfectly!

We were happy, the client was ecstatic, all the software had performed their tasks flawlessly, and the entire job, start to finish, took only 32 hours (two work days, and one night of rendering time) to complete. □

PROGRAMS MENTIONED:

Deluxe Paint II, *Electronic Arts*

Digi-View 3.0, *NewTek*

Microfiche Filer Plus,

SoftwareVisions

Modeler 3D, VideoScape 3D, *Aegis*

PAGEflipper Plus F/X,

Mindware International

Photon Paint, *MicroIllusions*

PIXmate,

Progressive Peripherals & Software

Why include a disk with a magazine? It allows AmigoTimes to provide the reader with some of the latest and best commercial demos, shareware, and public domain software available. Making demos of commercial programs available on the disk allows you to have hands on experience with the program before actually going out and buying the original package. How about public domain software and shareware? You now have access to a vast, continuously changing library.

As a programmer you will have available to you pretested source code that does not have to be typed into the computer; all source code and running programs that are referred to in AmigoTimes articles can be found on the disk.



Included on this disk is the Ninja attack sequence from the upcoming Lords of the Rising Sun from Cinemaware.

NOTE: THIS IS NOT A BOOT DISK
Instead, boot with your workbench disk.
READ THE DISK LABEL INSTRUCTIONS

V 1.4



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LORDS OF THE RISING SUN DEMO GAMES

ButtonLogic (Mastermind)
DAD (Slide puzzle)
Flipper (Othello)
KING (Solitaire)
StarTrek Trivia

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midi.library
MIDIIO
MT32Reverb
reverb.c

TeleCOMM
Netiquette
Nixpub.June
UUDecode
UUEncode
uencode.1

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AmigoTimes
P.O.B. 1158
Champlain, NY 12919-1158
USA

AmigoTimes
5124 St. Laurent, suite 100
P.O.B. 1228
Ville Ste. Catherine
Quebec, J0L 1E0
CANADA

All material on the enclosed disk has been made available by third party individuals releasing them as public domain software or shareware. Some of the programs were specifically written for AmigoTimes. All DEMOS provided on the disk are made available both with the consent of the Companies, and agreement to their distribution as PUBLIC DOMAIN material. The AmigoTimes Disk is freely distributable and belongs in the PUBLIC DOMAIN. We fully support the shareware concept and suggest you contribute the amounts requested by shareware authors if you find their programs useful.

AmigoTimes Designer Disk Sets



WHERE DO YOU FIND AMIGOTIMES DESIGNER DISK SETS...?

Certainly not at the top of the highest mountain in the world, Mount Everest. What are AmigoTimes designer disks? The AmigoTimes DESIGNER DISK SET was due to the large volume of interesting Public Domain programs that we have collected, but due to size constraints, are unable to place on the AmigoTimes issue disk accompanying the magazine.

Each DESIGNER DISK SET deals with a specific theme, and is packaged as a three (3) disk set, packed with close to 2.6 megabytes of information relating to a specific theme. This gives you the freedom to choose only those Public Domain programs that you would like to have. To order for any of the Designer Disk Sets, use the subscription order form located on page 91 of this Issue.

ANIMATIONS

DESIGNER DISK SET

This was the first *DESIGNER DISK SET*, with the theme being animations. Many of these animations are must haves (check issue v1.2 for a description of some of them) and would never have appeared on the disk accompanying the magazine. All the necessary tools needed to run the animations are on the three disks, all you have to do is double click on their icons and away they go.

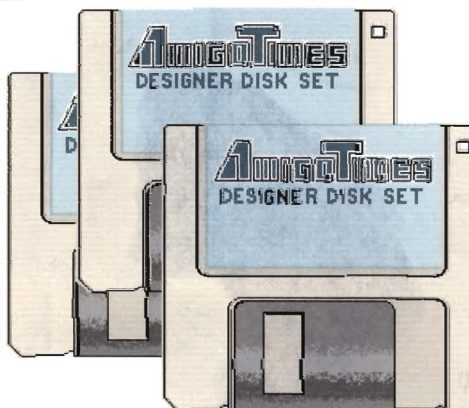
INCLUDED ON THE SET

BOING THROWS (WITH SOUND)
FROG_MOVIE
TELLSTAR-ONE
GHOSTPOOL (WITH SOUND)
KHANANKAS (WITH SOUND)
MOTION_MACHINE
BUBBLES
CAR
TOWER

UTILITIES

DESIGNER DISK SET

Here is the next *DESIGNER DISK SET* following in the footsteps of its predecessor. The idea is exactly the same, just the topic is different. Its three disks full of handy utilities, including icon tools, dir tools, accelerators and many more important utilities (check next issue for a description of some) that will help you function much more effortlessly and faster. Some of the programs will be new, some old, but all will be great stuff. Available one week after this issue goes out for general sale.



PLANNED FUTURE DESIGNER DISK SETS

FONTS

MIDI & Sound Samples (including popular Star Trek sounds)
Pictures Extravaganza

The above disk sets are currently in production and will be announced in AmigoTimes magazine as soon as they are available. All DESIGNER DISK SETS are sold separately.

The Amiga Monitor

Vol. IV

MACINTOSH® EMULATOR FROM READYSOFT

AMAX The Emulator

We were overjoyed to see AMAX, a Macintosh emulator from ReadySoft Inc., at the November World of Commodore show in Philadelphia. Now those die-hard Mac users that have been looking down at the Amiga can no longer do so. AMAX emulates the Mac via software and a ROM cartridge, and will allow you to run most Macintosh programs on your Amiga. The ROM cartridge plugs into the external disk drive port (or at the end of a daisy-chain of drives) of an Amiga 500, 1000, or 2000, and requires you to purchase and insert 64K or 128K Macintosh ROMs.

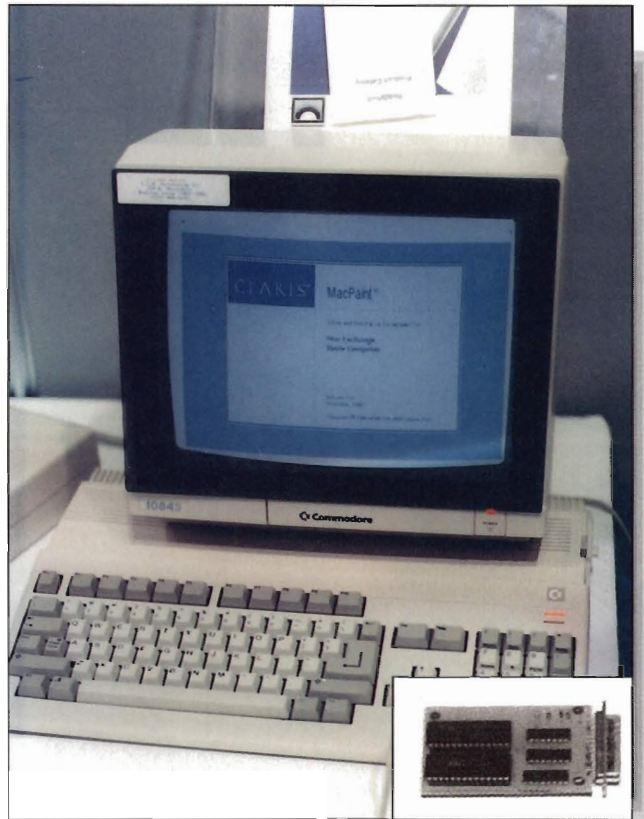
AMAX works in two screen resolutions: in hi-res 640x400 (which is higher than the base Mac's 568x352), or, if you don't have a flicker fixer and can't stand the interlace, there is a 640x200 mode which lets you scroll to see other parts of the screen. Unlike a real Mac, you can change the color of the display; you can pick black and one other color from the Amiga's palette of 4096 colors.

Because Mac drives vary their speed as different tracks

are read or written, the constant speed Amiga drives are only able to read/write 272K of a Macintosh format disk. By using an included utility program on a Mac, you can transfer a full Mac disk to a AMAX format disk by doing three 272K transfers. ReadySoft Inc. is working on adapting a Mac drive to run from the Amiga, so possibly, when AMAX is released in January '89, you will be able to read and write Macintosh disks directly. It also seems that Central Coast Software (publishers of DOS-2-DOS is working on a package called MAC-2-DOS) that will let you attach and use a Macintosh disk-drive.

As far as compatibility is concerned, I saw MacPaint, Word, Excel, and PageMaker running without difficulties, in fact MacPaint runs faster than it does on a real Macintosh, thanks to our custom chip set.

AMAX
ReadySoft Inc.
PO Box 1222
Lewiston, NY 14092
USA
(416) 731-4175 [Orders]
\$149.95 (US)
available end of February '89



Here we see an Amiga 500 with AMAX installed running MacPaint® by Claris. The hardware attachment that will contain the Macintosh ROMs. (INSET)

MEMORY UPGRADE FROM RONIN

RONIN MEMORY BOARD UPGRADE

Owners of Ronin Research & Development's M2000 32 bit memory board can have their board changed from a 1 wait state to a 0 wait state, which Ronin claims makes the Hurricane the fastest package available. Existing users will be able to modify their M2000 or have them sent to Ronin for the 0 wait state mode at nominal

cost. Please contact Ronin for further details.

M2000 upgrade
Ronin Research and
Development
P.O. Box 1093
Alameda, CA 94501
USA
(415) 865-9852

PUTTING I.C.E. ON YOUR AMIGA

INTEGRATED CALCULATION ENGINE

KING PUBLISHING has announced the release of I.C.E. (Integrated Calculation Engine). With I.C.E. users can create calculators and calculation engines which are customized to the specific needs of the user. Fully programmable trig engines, financial analysis programs, acquired data analysis, or simple four

banger calculators, no problem.

Your I.C.E. creation hides in the background, waiting for a hot key request. Once invoked, I.C.E. will aid you in your number crunching tasks. Financial, statistical, scientific, engineering, and math functions are integral.

I.C.E.
King Publishing
921-32nd Street
Sioux City, IA 51104
USA
\$89.95 (US)

WEATHER GRAPHICS WORK STATION

WeatherConnect, Inc. has just introduced the first truly affordable turnkey weather graphics workstation. This workstation has state of the art features that are designed to boost TV audience ratings. The user-friendly software is mouse driven with pull-down menus and quick-read icons. At the heart of the WC-1000 is the Motorola 68020 microprocessor, able to access 32-bit data at the speed of 14 MHz, for lightning fast animation. Because of its multi-tasking capabilities, the user of the Weather Connection is able to edit graphics and animation while simultaneously receiving weather data from a real-time meteorological data base.

With the Weather Connection you can generate maps for any global area, emphasize states or regions and perform flip, spin, rotate, tumble, ascend

and descend functions. Autoplot frontal boundaries and animate air mass analysis morphologically with true transparency. The paint package that is standard with the Weather Connection includes color palette mixing and editing, color cycling animation, cut and paste, and freehand and gridded drawing.

THE WEATHER CONNECTION
Weather Connection, Inc.
405 North Wabash,
Suite 1509
Chicago, IL 60611
USA
(312) 527-0411

IN CANADA:
COMPU ART
P.O. Box 712
Victoria Stn.
Mtl., QC. H3Z 2V8
(514) 483-2080



The WeatherConnect weather graphics workstation

EVEN MORE FONTS

FREE SPIRIT FONTS DISK

Free Spirit Software Inc., has released *Amiga Font Disk #1*, which is the first in the *Media Line* series of Amiga art disks. This new fonts disk contains nine different bitmap fonts designed for professional use in video presentation, graphics, animation and desktop publishing. Free Spirit claims these fonts are well-suited for professional video work, such as titling and

design. All international characters are included.

Media Line Fonts were created by the award-winning Danish designer, Tore Bahnson. The first disk of the series is available from Free Spirit for \$34.95 (US).

MEDIA LINE FONT DISK 1
Free Spirit Software, Inc.
58 Noble St.
Kutztown, PA 19530
USA
(215) 683-5609
\$34.95 (US)

SEX VIXENS GET BUSTED BY BRITS!

BIG TROUBLES IN THE BRITISH EMPIRE

It would seem that things have changed in the country that gave us Benny Hill. British authorities have impounded the latest shipments of the adult Amiga computer game, *Sex Vixens from Space*, on the grounds that they are "protecting the youth of today."

The president of *Free Spirit Software*, Joe Hubbard, issued the following statement with regard to the incident:

"While *Sex Vixens from Space* may be a bit racy, it is not

pornographic. Apparently, the British authorities are either quite prudish or completely lacking in a sense of humor. Regardless, freedom of artistic expression and the freedom to disseminate such are cornerstones of democracy. The act of seizing these games is the act of a fascist government."

Sex Vixens From Space
Free Spirit Software, Inc.
P.O. Box 128
58 Noble St.
Kutztown, PA 19530
(215) 683-5609
(800) 552-6777

GALAXY TREK

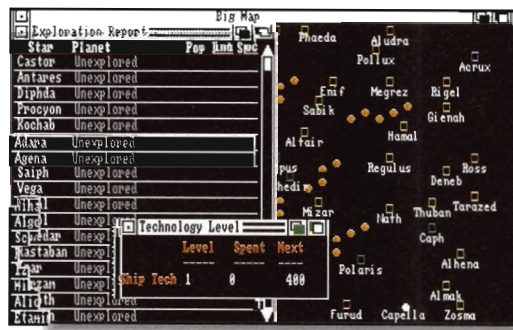
THIRD EDITION OF REACH FOR THE STARS: The Conquest of the Galaxy

Electronic Arts is distributing a new game for the Amiga, released by *Strategic Studies Group*, called *Reach For The Stars: The Conquest of the Galaxy*. It is the third edition in the *Reach for the Stars* series; the previous two editions are only available for the Apple II, Macintosh, and Commodore 64/128.

This new edition is a four player strategic/adventure game of space colonization and conquest. The object of the game is to build your own interstellar

empire. To do this, you must manage your own economy as well as pursue correct military strategy. There are four levels of increasingly difficult computer opponents. This edition of *Reach for the Stars* features *Advanced Rules* which emphasize long-term military and economic planning. The computer plays any position that is not played by a human.

REACH FOR THE STARS: The Conquest of the Galaxy
Electronic Arts
1820 Gateway Drive
San Mateo, CA 94404
USA
(415) 571-7171
(800) 245-4525 [Orders]
\$39.95 (US)
not copy-protected



REACH FOR THE STARS: The Conquest of the Galaxy

ELECTRONIC ARTS RELEASES SPECIFICATIONS FOR DELUXE PAINT III

DELUXE PAINT III

The time has come, it's not just a rumour anymore, *Electronic Arts* has announced the release of *Deluxe Paint III*. When Dan Silva wrote *Deluxe Paint*, he effectively started a revolution by creating a painting package that had the same features as packages running on \$20,000 dollar machines. *Deluxe Paint II* was the next step up and is the standard to which other paint programs are measured. Now we have a new yardstick, *Deluxe Paint III*.

This new paint program is a combination paint and animation package. All the paint features of *DPaint II* have been retained while many features have been added or improved. There is now support for the Extra Half-Bright mode and you can paint directly in full overscan; in *DPaint II*, you were required to scroll when painting an overscan image. There are also several new brush modes: you can wrap

brushes onto any shaped objects, a special tint mode allows you to apply the hue and saturation of the foreground color to any colors on the screen (this makes it easy to colorize black&white images). The airbrush function has been greatly improved, you can use the airbrush in conjunction with any of the other drawing tools (eg. line, circle, etc.), making shading much easier and more effective.

Text handling has also been enhanced, you now have access to fonts on any disk and the fonts are displayed in a requestor (not in a menu as with *DPaint II*). When you select a font and its attributes (Bold, Italic, etc.), the actual font is displayed with those attributes before you actually use it. *DPaint III* supports color fonts and will be shipped with one of the KARA fonts. There are several more new functions and enhancements that will be fully reviewed in an upcoming issue of *AmigaTimes*.

Some of Dan Silva's friends in Hollywood needed a software package which would allow them to easily create and edit conventional animations. They were *DPaint II* users earlier and had many ideas which have been implemented into *DPaint III*. These Hollywood animators are currently testing out *DPaint III* before its release.

So what are the new animation tools? To best demonstrate this incredible approach to animation, here is a scenario for creating an animation. If you want a 30 frame animation of an F-16 jet strafing a tank moving across the screen, you could paint your background which would automatically be drawn onto each frame, and you could paint the tank and the jet separately. To move the tank across the screen you need only cut out its image as a brush (called an animated brush) and draw the image across the screen by pressing down both the left mouse button and an Amiga key while dragging the brush across the screen. The tank will automatically be drawn onto each frame with you having full control over the speed. To have the jet fly in from the distance, you can use the perspective tools (similar to the ones in *DPaint II*) and cut out the jet as an animated brush. You can control the size, positioning, and speed of the brush as it comes flying in from the distance and zooms through your screen. As you can see this method is revolutionary and very easy to use.

An animated brush can also

have several images associated with it; for example, if you want to show your jet from different angles and with flaming afterburners, you can draw each image of the jet with the special tools and combine them as one animated brush which you then draw onto your scene in the aforementioned way.

DPaint III uses a special compression technique which allows for very large animations. Another exciting feature of *DPaint III* is its ability to load and edit/enhance any ANIM format file created with other animation packages. For example, you could load an anim created with *VideoScape* and "SUPE" it up with *DPaint III*'s paint, animation, and text handling tools.

DPaint III will be available in the middle of the first quarter of '89, and will cost \$129.95 (US), the same price as *DPaint II*. Owners of *DPaint I* or *II*, can upgrade to *DPaint III*, by sending \$50 (US), plus \$7 S&H, and the cover of their manual. If you purchase *DPaint II* after December 1st '88, an upgrade will only cost \$7.

DELUXE PAINT III Electronic Arts

1820 Gateway Drive
San Mateo, CA 94404
USA

(415) 571-7171

\$129.95 (US)

\$57.00 (US) owners of

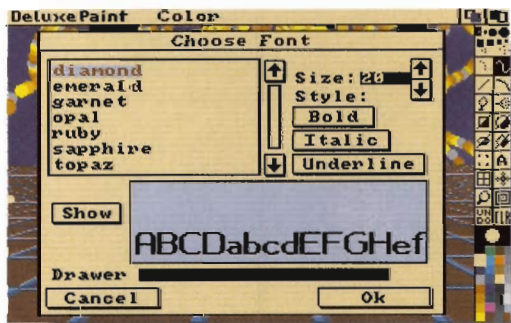
DPaint I or *II*

\$7.00 (US) purchase

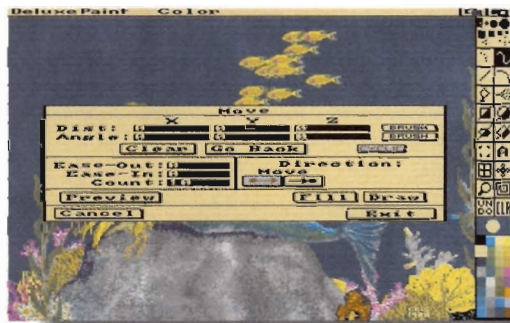
DPaint II after Dec. 1st, 1988.



Screen demonstrating 64 color EHB (Extra Half-brite) mode.



The new and very welcomed text requestor.



A new requestor, the animation requestor that allows the user to control frames.

VIKING 1 HI-RES 19" MONITOR

VIKING 1 WITH A RESOLUTION OF 1008 X 800

The *Viking 1* is a non-interlaced, high-resolution, 19-inch monochrome monitor for the Amiga 2000. The screen provides four intensity levels for gray-scale use, combined with 1008x800 pixels for high resolution. *Moniterm* attributes the elimination of display problems such as smearing, edge distortion, defocusing and flicker, to the Viking's "ergonomically correct" design.

The screen refresh rate is 63 Hz, non-interlaced. Due to its dimensions of 17.8"W x 14.5"H x 15"D, the Viking can rest perfectly flush on top of the Amiga

2000 computer.

The Viking's flicker-free display can show two full facing pages of text and graphics for desktop publishing and word processing, a B-size engineering drawing for architectural and CAD/CAM applications, and a 13-month spreadsheet with 68 rows and 138 columns.

Commodore and Moniterm have targeted the marketing of this monitor primarily towards both the business and desktop publishing markets.

VIKING 1 Moniterm

5740 Green Circle Drive
Minnetonka,
MN 55343-9074
USA
(612) 935-4151



The Viking 1 hi-res monitor from Moniterm.

HARD DISK INTERFACE FOR A1000 AND A500

NEW PRODUCTS FROM SPIRIT TECHNOLOGY

Spirit Technology Corporation has announced the release of a new line of peripherals for the Amiga series of computers. The *S500-2 Internal Memory Expansion* for the A500 is a user expandable board with 0K to 1/2, 1 & 2 MB of fast RAM, requiring only 4 chips per half meg; the memory is fully autoconfiguring. Because of its low power consumption, the S500-2 can safely use the Amiga's power, but an optional external power configuration is included. The memory is quickly and easily installed with no jumpers to attach and no soldering required.

The *HDA-506 Hard Disk Adaptor* allows the user to connect inexpensive IBM compatible hard drives and ST-506 controllers to an A500 or A1000 Amiga. The HDA-506 is enclosed in an Amiga-matching metal chassis with pass through, and draws its power from the hard drive power supply. Optional complete Amiga compatible 20 or 40 MB hard drive package systems are available from Spirit Technology.

MIDI STAR is one of the

most versatile and complete MIDI interface available. It give the user control of up to 2 INs, 6 OUTs/THRUs and an RS-232 interface, all switch selectable. *MIDI STAR* provides valuable time and trouble saving "patch panel" distribution and "star" configuration to eliminate or reduce instrument daisy chains, signal delays and cable changes. For quick and easy status confirmation all ports have 2-color LED indicators. Red or Green LEDs tells the user if your port is OUT, THRU, or OFF, and blinks when passing MIDI data. The RS-232 serial port includes a pass through and is switchable on/off. *MIDI STAR* is complete with an internal power supply and a universal cable that interfaces to the A500, A1000, and A2000 Amigas. *MIDI STAR* is available with either 1 or 2 INs, 4 or 6 OUT/THRUs and with or without the RS-232 interface.

S500-2

HDA-506

MIDI STAR

Spirit Technology
Corporation
220 West 2950 South
Salt Lake City, UT 84115
USA
(800) 433-7572
(801) 485-4233

BACKUP HARD DISK ON VIDEO TAPE

HARD DISK TAPE BACKUP

Get more out of your VCR with *FlashBack* from *ReadySoft Inc.* You may soon be able to forget about having to use hundreds of floppy disks to archive your data. With *FlashBack* you can transfer your data from your hard drive or floppy disk drive to a standard VHS or Beta videotape with a home VCR.

FlashBack is a hardware and software combination that con-

nects both the Amiga composite video port and serial port to your VCR. You can convert up to 100 MB of data to video images which can then be stored onto a videotape. To retrieve the data, simply playback your tape and *FlashBack* will transfer the data back to disk.

FLASH BACK

ReadySoft Inc.

P.O. Box 1222
Lewiston, NY 14092
USA
(416) 731-4175

AMIGA BOOKS FROM ABACUS

TWO NEW ABACUS AMIGA BOOKS

Abacus has added two more book titles to their Amiga library. *Amiga Disk Drives Inside & Out*, is an in-depth look at the internal workings of the Amiga disk drives. The book covers topics such as how to speed up data loading using Workbench and CLI, DOS functions, how to copy-protect, computer viruses, and more. The optional program disk is still only \$14.95.

The second book is titled *AmigaDOS Inside & Out*, and covers Workbench 1.2 & 1.3, and the internal design and practical applications of AmigaDOS. Both beginners and intermediate

users will appreciate the section that provides detailed explanations of all the CLI commands and their functions, how to write script (batch files), and an explanation of Amiga multitasking. The optional program disk for this book is also \$14.95.

AMIGA DISK DRIVES INSIDE & OUT AMIGADOS INSIDE & OUT *Abacus*

5370 52nd St. SE
Grand Rapids, MI 49510
USA
(616) 698-0330
[Amiga Disk Drives]
\$29.95 (US)
[AmigaDOS]
\$19.95 (US)

PLAY THE MARKET WITH YOUR AMIGA

SECURITIES ANALYST FOR THE AMIGA

A stock charting and analysis program has been released for the Amiga. *The Securities Analyst* from *Free Spirit Software, Inc.* is designed with the individual investor in mind. The investor can chart any number of stocks over an extended period of time. Using *The Securities Analyst*, the investor is able to make intelligent buy or sell decisions based on market trends.

Forms of analysis include: Moving Average, Accumulation/Distribution, Relative Strength, Performance, Point & Figure, Trailing Stops, Stock Chart, Momentum, Price / Earn-

ings Analysis and Performance Analysis. Results can be displayed on the screen or outputted to a printer.

A Technical Analysis of Stock Market Trends is included in the package. This manual provides a comprehensive background in trend analysis for investors.

The Securities Analyst
Free Spirit Software, Inc.
58 Noble St.
Kutztown, PA 19530
USA
(215) 683-5609
\$79.95 (US)

DESKTOP PUBLISHER FROM SOFTLOGIK

A NEW ENTRY IN AMIGA DESKTOP PUBLISHING

Soft Logik Publishing Corporation will be releasing *PageStream* (formerly named *Publishing Partner Professional*) for the Commodore Amiga. The set-up, as with all desktop publishers, is a WYSIWYG environment. Page views are variable from 15% to 99%.

Features include word wrap, an in-built spell checker, text

flow around irregular shaped graphics, auto-hyphenation, chaining of text between columns and pages. Fonts can be bold, italic, backslanted, underlined, double underlined, light, mirrored, outlined, reversed, shadowed, tall, wide, and upside-down. Six fonts are included with the program, and extra fonts are available from *Soft-Logik Corporation* for \$29.95 (US) for a set of three. Fonts are scalable offering a point size range from 1/50th of a point to 1310 points (18.2 inches, but lim-

ited by available memory) in 1/50th of a point increments. If you need to make your own fonts or special characters, *Soft-Logik Corporation* has a public domain font editor.

Graphics can be imported and rotated in one degree increments or they can be slanted or twisted. Colors are limited only by the screen mode that you are in, and you can define up to 40 colors using the RGB values.

PageStream offers PostScript output, thereby driving postscript output devices such

as laser printers to their maximum resolution. You are able to print to disk, print color, and color separations.

PAGESTREAM
SoftLogik Publishing Corporation
11131 South Towne Sq.
Suite F
St. Louis, MO 63123
(314) 894-3280
\$199.95 (US)
512K Required

EMERALD OFFERS USER GROUP DISCOUNTS

EMERALD NEWSLETTER AND NEWS ON MAGELLAN

Emerald Intelligence, makers of the new expert systems software package *MAGELLAN*, are offering that package at a special price to user groups. In order to be eligible for the special discounted price of \$135 (US) including shipping, group members must supply some proof of

membership such as a photocopy of a membership card or of a current dues receipt.

Emerald Intelligence has announced a new monthly newsletter for *MAGELLAN* users. The newsletter will contain articles and information on both artificial intelligence and on *MAGELLAN* itself. *Emerald* will use the *MAGELLAN Update* to announce new products, special offers, productivity tips, and highlights from the BBSs (*Emerald's* own and national boards). Registered owners of *MAGEL-*

LAN receive a one year complimentary subscription to the newsletter. Subscriptions to *MAGELLAN Update* are \$10 (12 monthly issues) for U.S., \$15 (US) for Canada, and \$20 (US) for all other foreign addresses.

MAGELLAN
User Group Offer
c/o *Emerald Intelligence Inc.*

MAGELLAN Update:
contact: *Dean Corbitt*
Emerald Intelligence Inc.
334 S. State St.
Ann Arbor, MI 48104
USA
(313) 663-8757

ENTERTAINMENT RELEASES FROM EPYX

NEW GAMES FROM EPYX

SPACE STATION OBLIVION

Earth has been destroyed and generations of innerspace immigrants have migrated to the planet Evath and its companion moon Mitral. Mitral is mined for its precious metals by Ketars (name given to criminals), and their dredging has created poisonous vapors that accumulate beneath the moon's surface. The gas pressure is building up to its boiling point, threatening to annihilate the moon, with the resulting explosion throwing Evath out of its orbit, destroying all life forms on the planet.

You are a member of the elite driller federation of Evath, and are on your way to Mitral in a race against the clock. Your task is to place a drill in each of Mitral's 18 different sectors to help release the vapor pressure. There is only one problem, Mitral will explode in four hours and the moon is uncharted. You must journey through some deadly surprises while charting the moon's geography in order to pinpoint the exact location of each drilling site.

You can rove across Mitral in the excavation probe, a highly protective and maneuverable tank. Once a sector is found the probe will transmit the coordinates to Evath so that a drilling

rig can be teleported to the area. If you are lucky you might find the reconnaissance jet and soar above the surface in order to survey it. Both the jet and probe possess sophisticated dual-action laser systems capable of disabling lethal security devices. The unfortunate thing is that they are powered by Rubicon crystals, the prime energy source on Mitral, and as you run out of energy you will have to find Rubicon crystals. Time is running out! Cost: \$49.95 (US)

BATTLESHIP

This is the computer version of the classic strategic board game. You can go up against the computer, friend or compete in a multi-player tournament.

The rules are the same as in the board game, whereby you have to secretly position aircraft carriers, submarines, destroyers, torpedo boats and battleships on the grid map. Each player is caught up in a deadly game of hide and seek, as they mark off on the map where they want their bombs to land. Your prime objective is to destroy your opponents fleet without having your own blown out of the water. As your opponent scores a hit on any of your ships they inevitably lose some of their firepower. Cost: \$29.95

DIVE BOMBER

In the midst of World War

II, Allied control of the north Atlantic is threatened by the world's most powerful and sophisticated weapon, the German battleship Bismarck. Under a shroud of secrecy, British forces send their torpedo bomber Avenger to the waiting aircraft carrier Ark Royal. Your mission: destroy the Bismarck before dawn.

Avenger has four different screen views. THE ENGINEERING SCREEN assists in preparing the plane for take-off and landing. THE PILOTS SCREEN is the actual cockpit from where you can shoot down airborne enemies or drop torpedoes. THE TAIL GUNNERS SCREEN allows you to shoot down enemy aircraft or minefield targets from the back. THE NAVIGATORS SCREEN consists of four views, allowing pilots to create flight plans and monitor reports of enemy locations.

Before you embark on your mission you better practice take-offs, landings and torpedo runs. Destroying the Bismarck will be a formidable task since it is defended by aircraft, mines, E-boats and U-boats and can only be destroyed by a torpedo dropped from low altitudes.

To survive the mission you must return to the Ark Royal and be prepared to defend her at all costs. She is the only source to refuel, restock ammunition and repair your damaged air-

craft. Good luck.

If you buy the game you could enter the dive bomber sweepstakes, which is run as a co-promotion with Avirex USA. US Gold will be giving away Avirex WWII leather flight jackets and classic silk aviator scarves as prizes. To enter the contest mail the entry form packaged in each specially marked dive bomber box. All entries must be received no later than March 31, 1989. Cost: \$49.95

Epyx On-Line Service Center

Epyx now provides free (paying only for long distance toll fees) online access products and services day or night to anybody with a modem. The BBS offers a wide variety of features with easy to follow menus.

Once online you can access information on Epyx's catalog, new products releases, product release dates, beta testing, game hints, technical support, warranties, update information, market research studies and upcoming contests. Just set your modem parameters to 300 or 1200 baud, 8 bits, no parity, 1 stop bit and then call (415) 364-0281.

EPYX, Inc

600 Galveston Dr.
P.O. Box 8020
Redwood City, CA 94063
USA
(415) 366-0606

NO FRILLS ECONOMY CLASS HARD DRIVE

TINY TIGER

Tiny Tiger is a self-contained SCSI system, that works with all current Amiga models. It plugs into the Amiga's parallel port while sporting two more ports on its back panel. By plugging into the parallel port of your Amiga, the expansion bus on the A500 and A1000 are left free.

To compensate for the loss of your Amiga's parallel port, one is provided on the back of *Tiny Tiger* and it can still work while the hard drive is active; achieved by the use of transparent transfer circuits. The second port provided is a 25 way SCSI socket. This port will allow you to daisy chain up to seven other

SCSI devices; which might include bar code scanners, universal relay cards and IEEE 488 interface adapters.

The footprint of *Tiny Tiger* is only 6.5"(W) x 8"(L) x 2.5"(H); if you have an external 3.5" Commodore drive it's about the same size, but a little thinner. This size is achieved through the use of 3.5" hard drives and because the power supply is external to the unit, thereby eliminating the need for a cooling system.

You should also know that the SCSI port is not DMA bus based, but an upgrade to a DMA based SCSI interface is available at a conversion cost of \$25. Also, the unit can be purchased with or without a hard drive.

Should you choose to purchase *Tiny Tiger* with a hard drive, you can choose from a variety of low power 3.5" drives. Listed below are some of the hard drives provided, note that the acquisition of these each has an extra cost added to the base cost of *Tiny Tiger* (prices may vary contact MAST for current prices). The advantage of purchasing *Tiny Tiger* with a hard drive is that it comes installed and formatted.

Miniscribe	20MB	68msec
\$430 (US)		
Seagate	50MB	40msec
\$579 (US)		
Miniscribe	40MB	28msec
\$639 (US)		

Quantum 40MB 19msec
\$729 (US)

An option that's available for the *Tiny Tiger* is a proprietary device. This device comes on one chip and provides a display of the addresses of all your SCSI drives and enables you to program the access address with a pushbutton on the back of *Tiny Tiger*.

Tiny Tiger Memory and Storage Technology, Inc

7631 E. Greenway
Scottsdale, AZ 85260
USA
(602) 483-6359
Tiny Tiger: \$269 (US)
Proprietary
device: \$39.95 (US)

SOFTWARE FOLLOWUP

SAMPLING SOFTWARE SEQUEL

Aegis Development has announced the release of a new and improved version of their sampling program *AudioMaster*. *AudioMaster II* offers features not thought possible before. Sampling rate can be as much as 56,000 samples per second in mono or 52,600 in stereo when using a 68020 CPU and high speed sampling hardware. A standard Amiga will still give improved stereo sampling and real-time digital effects like echo and delay. Sampling rate on a stock Amiga is 44,000 samples per second in mono, and 28,000 in stereo. *Audiomaster II* can be used with any hardware sampler connecting to the parallel or joystick ports. The program also features a full range of editing

features like cutting, pasting and copying of sample data using the mouse and the copy buffer.

Zooming capabilities let you precisely edit portions of the sampled sound. Once the sound is to your liking, it can be saved to disk in any standard format including IFF or Sonix format. Other features include waveform display printing, control of the Amiga lowpass filter, special HI-FI playback mode, automatic loop point seek function, oscilloscope display in mono or stereo. You can also convert from stereo to mono or mono to stereo, and save the software configuration to disk.

AudioMaster II
Aegis Development
2115 Pico Blvd.
Santa Monica, CA 90405
USA
(800) 345-9871
(213) 392-9972

"M" FOR THE AMIGA

HI I.Q. SOFTWARE.

Intelligent Music, well known for their music software, has joined the growing list of Amiga music software developers. Their "M" composing and performing software will soon be available for the Amiga, released date is early december. M, the favorite program of well known professional musicians lets you modify a music sequence in real-time. This lets you discover new song patterns while replaying a sequence entered with the pattern editor or MIDI keyboard. While the sequence is being replayed through MIDI or with Amiga sounds, M lets you try one of six alternate settings for the different variables. Using the mouse to edit and select settings, you will be able to discover variations you might not have thought of otherwise. Features include:

- Full Midi implementation.
- Uses Amiga internal sounds.
- Input via the pattern editor or any MIDI controller.
- Create variations with a composing function.
- A Conducting Grid using the mouse synchronizes change between variables.
- Control on MIDI velocities, note densities, rhythms, articulation or accents.
- Record and insert modes.
- Perform the program's functions from a MIDI keyboard.
- MIDI file compatibility.
- Supports Amiga multi-tasking environment.

Amiga M v1.0
Intelligent Computer Music Systems Inc.
116 North Lake Ave.
Albany, NY 12206
USA
(518) 434-4110
\$200.00 (US)

EASYL™ THE HUMAN TOUCH

The EASYL graphics tablet, a natural extension of your pen or pencil, is the simplest and most intuitive way to put your ideas into the Amiga. Whether you are an artist, animator, designer or engineer, EASYL quickly draws your attention to its' power, precision, ruggedness and ease of use.

Once installed in your Amiga 500, 1000, or 2000, EASYL is ready to work with Deluxe Paint, Draw Plus, Photon Paint, Express Paint, Professional Draw, plus many other popular graphics programs. No matter what the job, EASYL is just a pen stroke away. EASYL also leaves your mouse active and the mouse/joystick, serial, and parallel ports free for other uses. For a powerful way to express yourself on your Amiga, pick up the EASYL pressure sensitive graphics tablet. Chances are you won't put it down. Contact your Amiga dealer for a free demonstration, or contact one of the addresses below. EASYL is also available for Commodore PC/XT/AT and compatible computers. EASYL technical support is available



In Canada:
Anakin Research Inc.
100 Westmore Drive, Unit 11C Rexdale,
Ontario, Canada M9V 5C3
(416) 744-4246

In the U.S.:
Inforite Corporation
1670 S. Amphlett Blvd., #201
San Mateo, Ca 94402
(415) 571-8766

G.Davis

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CHARMS TO SOOTH THE SAVAGE BREAST

NEW FROM DIEMER DEVELOPMENT

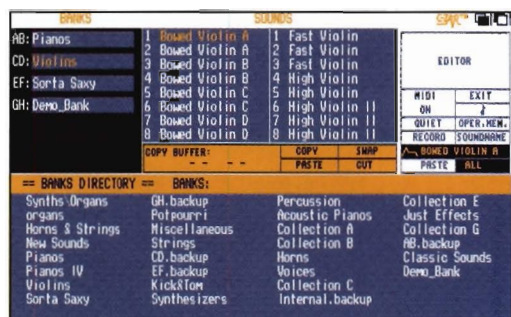
Diemer Development, a company specializing in MIDI software for the Amiga has announced the release of *MidiVu* and an update to their editor for the CZ series of Casio synths.

MidiVu is a multi-tasking desktop recorder for the Amiga. Designed for portability and compactness, it records one track in real time from any MIDI controller. A file utility saves tracks to disk for later recall. Because of its small size, the program can be placed on any of your bootable disks to be recalled anytime inspiration strikes you. *MidiVu* simply displays four buttons, Record, Stop, Play and Loop. It is always ready to go. For learning or MIDI debugging, it also includes a pop-up monitor window to display messages as they pass through the MIDI port. Help screens list the full MIDI 1.0 message definitions. Priced at only \$29.00, it is the perfect MIDI scratch pad and learning tool.

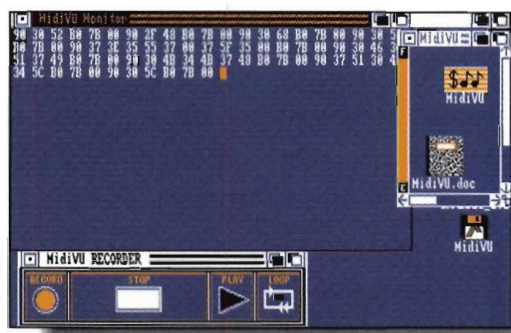
C-ZAR-1

C-Zar-1 is an extended version of the C-Zar Editor/Librarian. It supports all of the Casio CZ-1 features. The CZ-1 is the top model of the CZ line and has numerous features not found on the CZ-101 and CZ-1000 portables. The Librarian includes 200 professional sounds and also features automatic loading and saving of sounds. Automatic cataloging will help you keep track of sounds available on your disks. Cut, Copy, Paste and Swap sounds into custom banks with the mouse. The Editor also makes use of the mouse to control every aspects of the sounds displayed graphically in full color. There is also a 200 notes sequencer to test out the new sounds. It also supports the Amiga's multi-tasking environment.

**MidiVu
C-ZAR-1
Diemer Development**
12814 Landale Street
Studio City, CA 91604-1351
USA
(818) 762-0804
MidiVu \$ 29.00 (US)
C-Zar \$195.00 (US)



C-ZAR-1 Editor/Librarian that supports the CASIO CZ-1. MIDI-VU (below) is a desktop recorder for the Amiga



MUSIC MAGICIAN

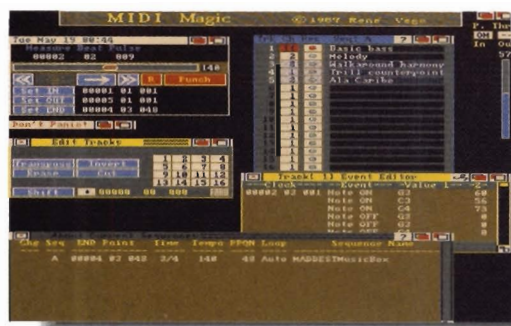
MIDI Magic is a full-featured 16 tracks sequencer written specifically for the Amiga by the good people at *Circum Design, Inc.* But for me, what makes this software release really magic, is the fact it was announced, released and ready to ship all at once. *Brown-Wagh Publishing* did a good job keeping the lid on the project and it was the happy surprise of every music enthusiast attending the Los Angeles Ami-Expo last October.

MIDI Magic uses the standard Amiga Intuition user interface. Menus, windows and mouse selection are all present to make this a truly Amiga package. Even the not often used Help key gives access to, you've guessed it, a help function. Music is given top priority so timing is rock steady. Clock precision can set up to 480 PPQN (parts per quarter note). It also adheres

to the complete MIDI 1.0 standard. Recording can be done on more than one channel at a time using tape recorder style controls including play, pause, fast forward and rewind. Track status is indicated by what looks like flashing LEDs to show if the track is in play or record mode.

A complete set of editing functions gives you complete control on your creation. Copying and pasting is done using the mouse in special editing windows which also include a quantizing feature among others. A special song editing mode lets you build songs from the tracks you recorded. Look for a full review in a future issue of *AmigoTimes*.

**MIDI Magic
Brown-Wagh Publishing**
16795 Lark Ave., #210
Los Gatos, CA 95030
USA
\$149.95



MIDI-Magic from Brown-Wagh Publishing.

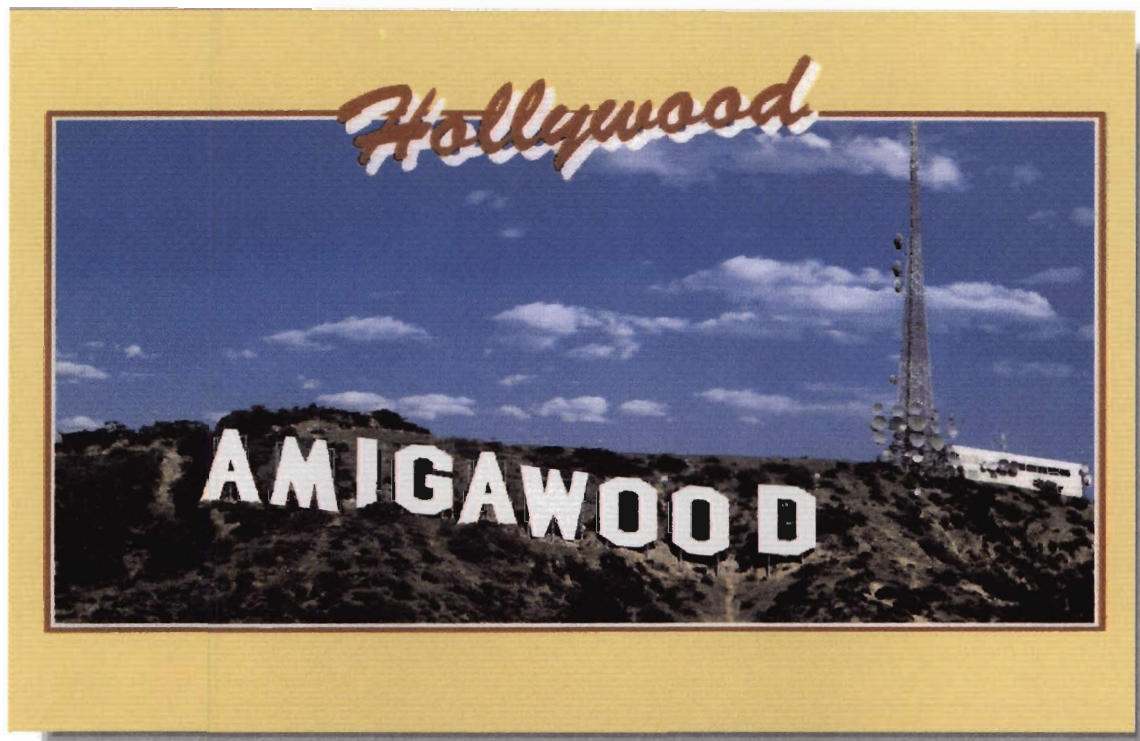
YAMAHA TX81Z EDITOR AND LIBRARIAN

Users of the popular *Yamaha TX81Z* Midi sound module now have a full featured editor/librarian designed for the Amiga. *TX8-EdLib* is a reasonably priced new program designed to give complete control over all of the TX81Z features including editing of Performance, Effects, Microtune octave, System setup, Voice and more. Almost all editing is done using the mouse and you can hear the changes made while editing Voice parameters. The program comes on a bootable disk which

also includes all support files so users with only one drive will be able to use the program with a minimal number of disk swaps.

Voices can be loaded and saved to and from disk or the TX81Z's memory. Loading from the module's memory will give you a chance to modify and save built in voices, a good place to start experimenting. The program is not copy protected so there is no need to work with the original copy.

**Yamaha TX81Z
editor/librarian
MidiTalk**
P.O. Box 69
Albany, NY 12260 USA
\$79.00 (US)



REPORTS FROM THE L. A. AMI-EXPO

AMI-EXPO L.A. 1988.

by Stephen Robitaille

This particular exposition was this Amiga devotee's first baptism in a computer show completely dedicated to our venerable machine. As I milled about the throngs of passionate Amiga disciples, I felt at times like a preteen staring wondrously at the Sear's Wishbook. There were other times however where I identified with the now defunct actress of that now defunct fast-food commercial: "Where's the beef!" Of course, this latter sensation was mainly due to my belated discovery of the host hotel's exciting weekend rates of \$85 a day, after having spent \$125 a day for the show special rate. Notwithstanding, it is with much alacrity that the dubious honour of "BEST DISPLAY OF CAPITALISM" must go to the Western Bonaventure (don't worry I'll know better next time). I must admit that the hotel did a fine job in every other respect - courteous and helpful staff not to

mention the luxurious and complete facilities. I would also like to commend the staff of Ami-Expo who, under duress, pulled off an excellent show worthy of participation and visitation.

The crowd pleaser of the show, in my humble estimation, was *Newtek's* exhibition of Allen Hasting's video animation "Traffic Jam." It had all the elements: a flying Lamborghini; a gunship helicopter; the Golden Gate bridge; and a happy ending. Aegis also presented an exciting video animation that complemented very nicely their friendly and interactive booth.

The Technological Revelation award went to ASDG and their impressive *SpectraScan*. This just happens to be another one of those Mac-eat-your-heart-out issues, where the Amiga was chosen because of its inherent superiority over any other PC that has graced this planet (please note that the author is slightly biased and is known to sometimes colour the facts ever so lightly). *SpectraScan* provides the A2000 desktop publisher with "high resolution full colour image capture and manipulation

capabilities." The entire system is built around the avant-garde *Sharp JX-450 Color Scanner* (needless to say, you can guess what our editor wants for Christmas!). Honorable mention must be made concerning *Haitex Resources' X-Specs*. Never does this piece of affordable hardware cease to impress me, for a complete review of this marvel see the last issue of *AmigoTimes*.

Other highlights of the show was *Micro-Systems Software (Excellence!)* use of a "Who's that girl"-Madonna look a like, to try to promote a word processor. I'm not sure how effective it was but it sure broke the monotony of the show. They even had her hand out balloons, can you believe it! The worst part of the whole thing was that mine popped while she was autographing it. The show was, all things considered a success and has already proven inspirational for many. See you there next time! (I'll be in the *AmigoTimes* booth doing my own Madonna impression; we have a limited budget and it is all that the boss could come up with.)

BEST BOOTH

NEWTEK starring Allen Hasting's video "Traffic Jam."

TECHNOLOGICAL REVELATION

ASDG for their RELEASE OF SPECTRASCAN.

BEST MADONNA IMPERSONATION EXCELLENCE.

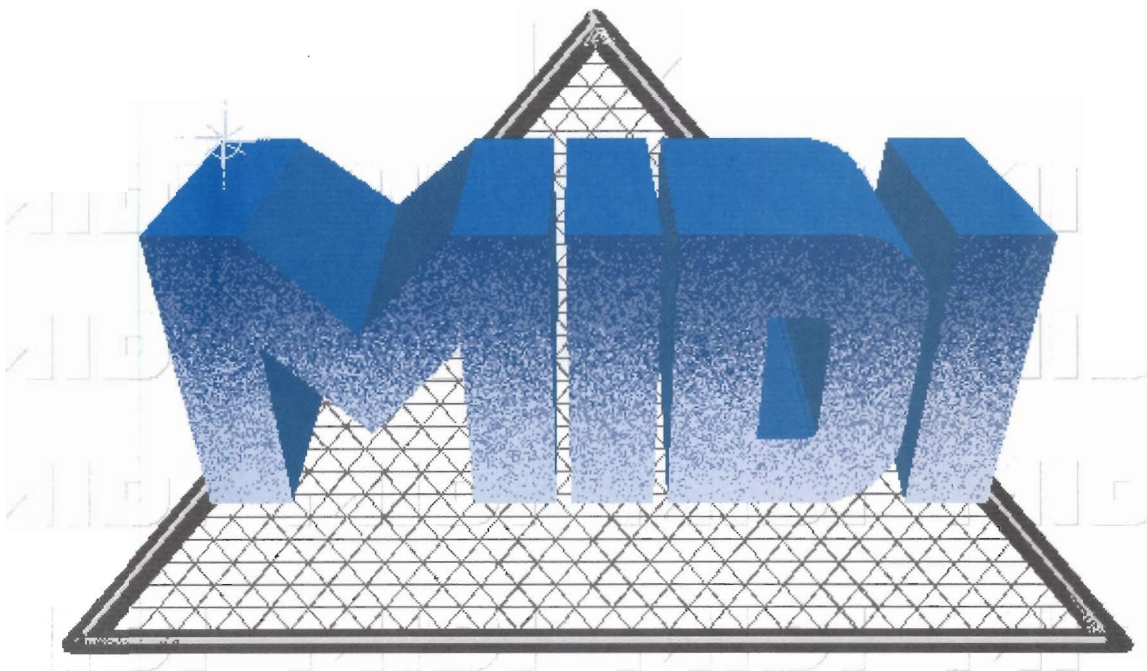
BEST DRESSED

WORD PERFECT (as was their hair).

THE MOST, INFORMATIVE,
STIMULATING, ERUDITE,
WITTY, POIGNANT, INSIGHT-
FUL, FUN, AND IN GENERAL
NOT TO BE MISSED KEY
NOTE SPEECH
GUY WRIGHT (what cracks).

BEST DISPLAY OF CAPITALISM

WESTIN-BONAVENTURE. (see article for enlightenment).



In the first two articles of this series on MIDI programming, we looked at the structure of the MIDI code, then at the MIDI library. This gave us the basic knowledge and tools to start programming for MIDI applications. Now for the final instalment, we will look at a special part of the MIDI code.

This special type of MIDI communication is intended so manufacturers can have a place inside the standardized format to implement specific types of communications for their products. With system exclusive communications, each company can have its own special communications protocol, and still adhere to the MIDI standard. Some people think that SysEx is a nightmare. I admit that it can become quite complicated, and we have to start from scratch every time we look at a different company's SysEx. But I think SysEx is a big part of the MIDI standard's

success, it leaves every synth manufacturer a place to grow inside the standard.

Because each maker of synth has its own type of SysEx, we can't look at all of them in the short space we have here. We will therefore take an example, the Roland MT-32 sound module. For those

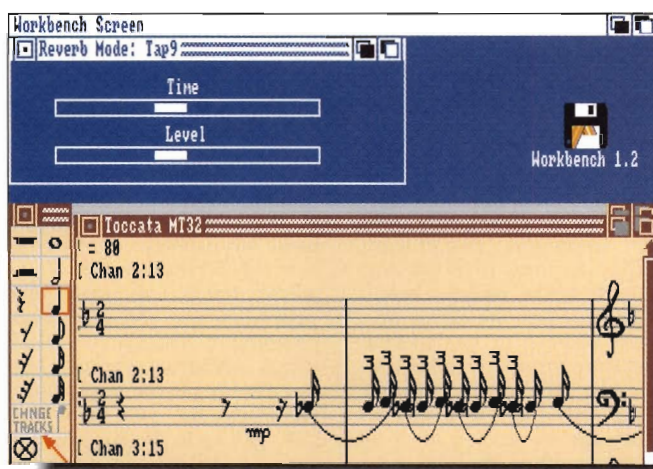
not familiar with this instrument, there will be an introduction on its features. There is also an example program included on the AmigoTimes disk.

WHAT IS SysEx?

As stated before, SysEx is a part of MIDI left blank by its creators. They

knew that if MIDI was to be accepted by all the manufacturers, there had to be a place left inside the code to accommodate the particular needs of each of them. So from the manufacturers point of view, MIDI is made of two parts, standard code which makes it possible for synths of different makes to talk to each other, and a non-standard part where the messages will be understood by a particular brand of equipment only.

Even though SysEx is non-standard, there has to be a standardized way to indicate the presence of a SysEx message



Here you see the MT-32 sound module reverb controller multi-tasking with EA's Deluxe Music Construction Set. The sample programs (on AmigoTimes disk) let you control features of the MT-32 that can't be controlled directly from the unit.

By Serge Boucher

System Exclusive Communications

Case Study: The Roland MT-32 Sound Module.



inside the data stream. This special code will tell every synth in a MIDI setup that the incoming message is addressed to a special make and model of synth, and the equipment from other makes will know that the message is not for them. The start of the SysEx message is indicated by a "SysEx" status byte (\$F0 in hex) in the message, the next byte has to be the manufacturers ID byte. Take a look at Fig.1 for a list of the manufacturers' IDs. Then follows the message as specified by the manufacturer. The "EOX" (\$F7) status byte is sent last to end the SysEx transmission. It is important to remember that in MIDI communications, status bytes have their MSB (Most Significant Bit) always set to 1, and data bytes must have their MSB cleared to 0. This means that every byte between the "SysEx" byte and the "EOX" byte must have their MSB cleared, this is also true for the manufacturer ID byte which is considered a data byte. This is the only limitation set on the data, and the manufacturer is free to implement any type of communications protocol he needs for their equipment. As you can see, this is a very versatile approach, except for a few limitations, it leaves complete freedom to the manufacturer.

THE MT-32 SOUND MODULE

Recently, in the past few years, we have seen the emergence of a new type of synthesizer, the sound module. This is a

synth without the keyboard, and it is intended as a way to add new sounds to a MIDI setup without the bulk of the keyboard or to complete a computer musician's setup. These sound modules are in most cases, very versatile and quite inexpensive. But often, many of the features provided by the module are not programmable straight from the module's controls, there is simply not enough space on the front panel to put all the knobs and buttons that would be needed. The most popular examples of this type of equipment are the Yamaha FB-01 and the Roland MT-32 sound modules. These two use the same type of synthesis used by their bigger brothers, FM (Frequency Modulation) for the FB-01, similar to the DX-7 and other Yamaha synths, and LA (linear arithmetic) for the MT-32, also found in the D-50 and other D series synths and modules.

The MT-32 is a polyphonic and multitimbral synth, meaning it can play more than one note and more than one sound at a time. In fact, it can play up to a maximum of 32 notes and with up to 8 different sounds addressed on 8 different MIDI channels. This is of course a maximum, and it depends on the type of sound that is generated, minimum polyphony is 8 notes if all of the sounds produced are of the most complex kind (using four partials). You can add to these features a ninth channel for digitized drum sounds, and a programmable

reverb. Straight from the box, the MT-32 comes with 128 preprogrammed synth sounds, and 30 drum sounds. If you want to program new sounds, or change the drum sounds keyboard mapping (what keyboard note will play what sound), or change on what MIDI channel you will play a certain part, or change the reverb mode, level or time settings, or any one of the many features: you need a computer with the right software, this is where System Exclusive communications comes into play. Indeed the MT-32 is a great sound module, but the only way to get past the factory settings is with a computer using SysEx communications.

ROLAND AND MT-32 SysEx PROTOCOLS

Every manufacturer has its own way of using SysEx, and the following description is only valid for Roland synths and the MT-32. Other manufacturers use similar schemes, but they are not compatible with Roland. The structure of Roland SysEx messages is as follows:

\$F0	SysEx
\$41	Roland ID
DEV	Device ID
MDL	Model ID
CMD	Command ID
Data	
.	
.	
.	
sum	Checksum
\$F7	End of Exclusive

The first two bytes and the last byte are defined by the MIDI standard as seen above (a dollar sign precedes hexadecimal numbers), all other bytes are specific to Roland SysEx messages structure and apply to the MT-32. Similar message structures exist for other Roland synths, and sometimes only the Model ID will change. The first byte after the manufacturers ID is the Device ID (DEV), if you have more than one MT-32 in your MIDI setup, by giving each

one a different device ID, SysEx messages can be sent to each one individually. Device IDs can be between 1 and 32 when selected from the front panel of the MT-32, but the DEV byte is from 0 to 31 (\$0 to \$1F in hex). So if the device ID is indicated as being 17 (default value) on the MT-32 read out, the DEV must be 16 (\$10) in the message to be sent, it seems that people start counting at one and computers start at zero! Model ID is specific to each type of Roland synth, for the MT-32, the MDL byte is 22 (\$16). You can see that the message is very selective, it is meant for a particular model that has a particular device ID.

The command ID will determine the type of message and transfer procedure that is used. There are two procedures, one way and handshake. One way procedure is when no acknowledge is expected from the device receiving the message, and the only error checking is done with the checksum byte. The computer simply sends a message and the synth will simply disregard it if there is

a checksum error. The MT-32 will also display a message to indicate this condition. Handshake procedure is more complex, the computer sends the message by blocks, and after each block the synth tells the computer if the block was received without any errors, if an error occurred, the synth asks the computer to send the same block again. Here is a list of the command IDs:

One way procedure commands:

RQ1 (\$11) Request Data

DT1 (\$12) Data set

Handshake procedure commands:

WSD (\$40) Want to send data

RQD (\$41) Request data

DAT (\$42) Data set

ACK (\$43) Acknowledge

EOD (\$45) End of data

ERR (\$4E) Communication error

RJC (\$4F) Rejection

Handshake procedure is quite complex and I won't try to explain it in the short space available here, let's just say that it

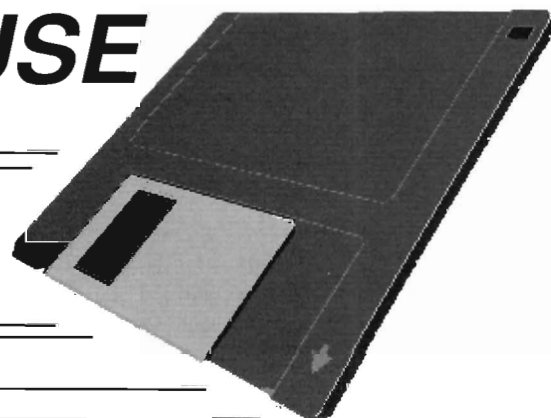
is similar to protocols in the telecommunication world. But let's take a closer look at one way procedure by examining the example program on this issue's AmigoTimes disk.

THE REVERB PROGRAM

When I first received my MT-32 module I was impressed that such a small box could contain so many features, and I was content to use these features available from the front panel of the MT-32. But I soon discovered that there were even more possibilities hidden inside, and the only way to get to these was to write programs using SysEx (commercial programs are now available to access all of the MT-32 features). There is a digital reverb included in the MT-32, but the only thing that can be adjusted from the front panel is the reverb time. From the manual I deduced that there was more to it than that, along with the default reverb mode, there are three other modes, and for each of these you can vary the reverb time and level. The MIDI imple-

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mentation manual that comes with the module is, to say the least, minimal. A lot of trial and error took place before I could understand how to send SysEx messages successfully. Luckily, I had the MIDI Library (see AmigoTimes V1.3 for a discussion on the MIDI Library) to make the programming task easier. The resulting program that is simply called MT32Reverb was written in C language using the Manx Aztec compiler. There are three files needed to obtain the final program: reverb.c, event.c and reverb.h. Reverb.c contains the main function along with definitions and other functions. Event.c contains the Intuition message handler along with other related functions. In the reverb.h header file, you will find all the definitions for the Intuition-related objects like the window, menu and gadgets. This can also serve as an example for those not used to programming for the Intuition environment. A makefile is provided so all these files can be compiled and linked at once using the make utility that comes with the Manx com-

piler.

INNER WORKINGS

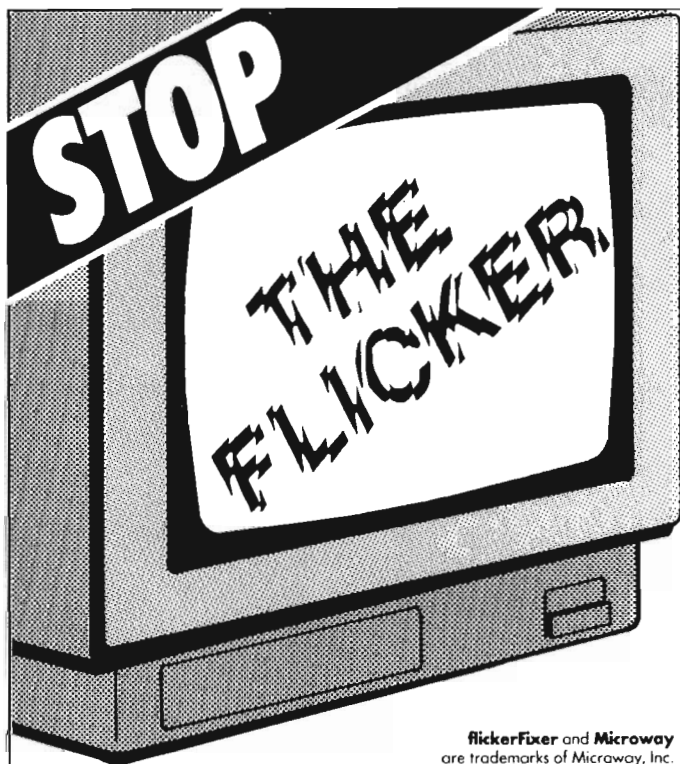
The information inside the MT-32 module is stored in RAM (Random Access Memory) and there is a section of memory reserved for every type of information. This is called memory mapping, and the address of the data that we need to modify must be sent along with the message. In the MT-32 there is a section of memory called System Area. This section contains the parameters for the system setup, it is in this section that are the parameters for reverb mode, reverb time and reverb level. Available modes are: Room (the default mode), Hall, Plate and Tap9 delay(echo). These are represented in memory as values 0 to 3. Time and level vary from 0 to 7.

To select reverb mode, or vary the time or level, we have to send a SysEx message that conforms to the Roland message format and that will contain the address and value of the parameter we want to change. To simplify programming, the program uses predefined

arrays that will be modified to fit our needs before they are sent out to the MT-32. To conform to the needs of the MIDI Library, data for MIDI messages must be defined as UBYTE. Some of the elements are set to zero and will be redefined later, their only purpose here is to reserve space so the array will be of the required length. Here is the array definition as it appears in the source code:

```
UBYTE data [] = {
MS_SYSEX, MID_ROLAND,
0x10, 0x16, /* device id, model id */
0x12, /* dt1 command */
0x10, 0x00, 0x01,
/* addmsb, addmid, addlab=1 mode, =2 time, =3 level */
0x00, /* reverb mode or time or level value */
0, /* reserved for checksum */
MS_EOX
};
```

The array definition uses predefined symbols found in the MIDI.h header file that comes with the MIDI Library. MS_SYSEX is the standard SysEx byte, MID_ROLAND is Roland's ID number and MS_EOX is the End of Exclusive byte. Follows the device ID and the model ID, these were explained before. Then DT1 command, this command in-



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icates that the data following the command is a data set, in this case the three following bytes must be the memory address where the data that we want to send resides. The address is divided in three bytes, msb (most significant byte), mid (middle byte) and lsb (least significant byte). In this case, only the lsb will change and its value will be 1 if we want to send data to modify the reverb mode, 2 for the time and 3 for the level. The next byte is the data itself, in this case the data is only one byte long, but it could be longer if we wanted to change more than one parameter at a time. The next byte is the checksum, this byte is used for error checking. The MT-32 will display the "Checksum Error" message if it receives a message with a bad checksum, in this case it disregards the message completely. The value of the checksum must be such that the sum of the data bytes, including the address bytes, and the checksum is zero. It is important to remember that the MIDI standard states that data bytes must have their most significant bit cleared to zero, so we have to make sure that this bit remains to 0 when calculations are done. Here is the routine that calculates the checksum:

```
calccheck (checkpos,msgadd)
LONG checkpos;
/*checksum's position in the message array.*/
UBYTE *msgadd;
/* base address of the message. */

{
    UBYTE checksum;
    UBYTE total=0;
    LONG i = 5L;
    /* start adding at the address msb. */

    while (i<checkpos) {
        total=total+*(msgadd+i);
        i++;
    }
    checksum = 0x7f & (256-total);
    /*makes sure that msb is 0 */
    *(msgadd+checkpos) = checksum;
    /*sets new checksum value */
}
```

This routine calculates the checksum for a message where its address and the position of the checksum inside the message are passed to the routine. When this is done the value of the checksum is changed inside the message array. This way of predefining a message and then changing values has needed before sending it may not be the most efficient way to go, but it works well for simple

programs like this one. One of the limitations of this approach is that the message is of fixed length, so we must predefine an array for each message that has a different length. This is what I have done in the Reverb program, there is an array definition for each of the messages that are sent, the "data []" array as seen above, the "rs []" array used to reset the values when the program starts and the "display []" array to display a message in the MT-32's LCD display.

To display messages on the MT-32's panel, you must send a MIDI message where the address specified is for the Display area and the data is the ASCII of the message you want printed. The message cannot be more than 20 characters long however, and the MT-32 must be displaying the system info (display at power up) when you send this message. The Reverb program contains an example of this, it sends a "REVERB RESET" message after the synth's reverb has been reset to all zeros.

Even though there is no need to provide a function for MIDI message reception because we are using one way procedure, the source code includes all the structure definitions needed for MIDI reception. These will be needed if you want to try your hand at two way communications. The functions used for transmission and reception are provided in the MIDI Library, the PutMIDIMsg function is for transmission, it is the one used in the Reverb program. For reception you would use the GetMIDIMsg function. It is therefore necessary for the system to load this library when the program is started. For this reason, the library must be in the LIBS directory of the disk you booted with. For your convenience, we have included the MIDI Library in the LIBS directory of the AmigoTimes V1.4 disk. Also included on the disk is a program called MIDIIO that will provide a MIDI Echo so the data coming from your music keyboard is sent out to the MT-32. This program is provided in the MIDITools program set and is in the public domain.

To use the Reverb and MIDIIO programs, simply double click on their respective icons, doc files are included if

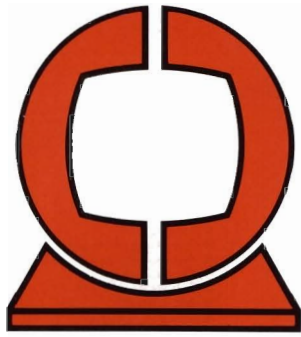
you need more information. These programs can multitask, so you can run a music program and vary the reverb settings while the music is playing. I have tried this with Deluxe Music Construction Set and it works fine as long as you remember to put the MIDI Library in the LIBS directory of the disk you booted with. Multitasking is one of the things that separates the Amiga from the rest, in a future instalment of the MIDI column we will take a closer look at how multitasking can be of help in music applications.

CONCLUSION

I hope this series on MIDI programming has been helpful. Even though it is not possible to cover every aspect in such a short space, I think it contains the minimum information necessary to get you started in programming for MIDI applications. I will continue to cover the different aspects of MIDI on the Amiga in the months to come, and I would appreciate your feedback. Tell me what you like or dislike about this column, I would also like to know what your needs are, what type of MIDI setup you are using and what you are using it for. The Amiga is a newcomer to the field of MIDI music, but I think it has all it takes to succeed as a great music computer.

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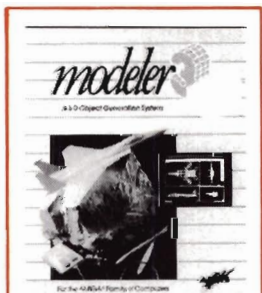
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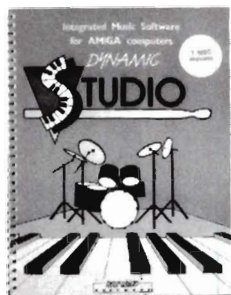


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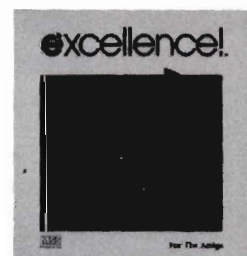
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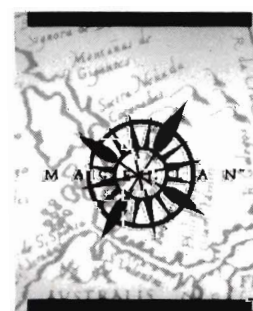


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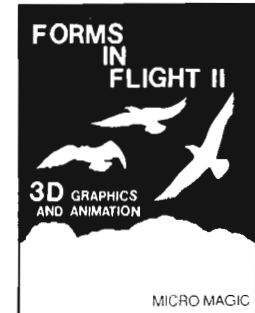
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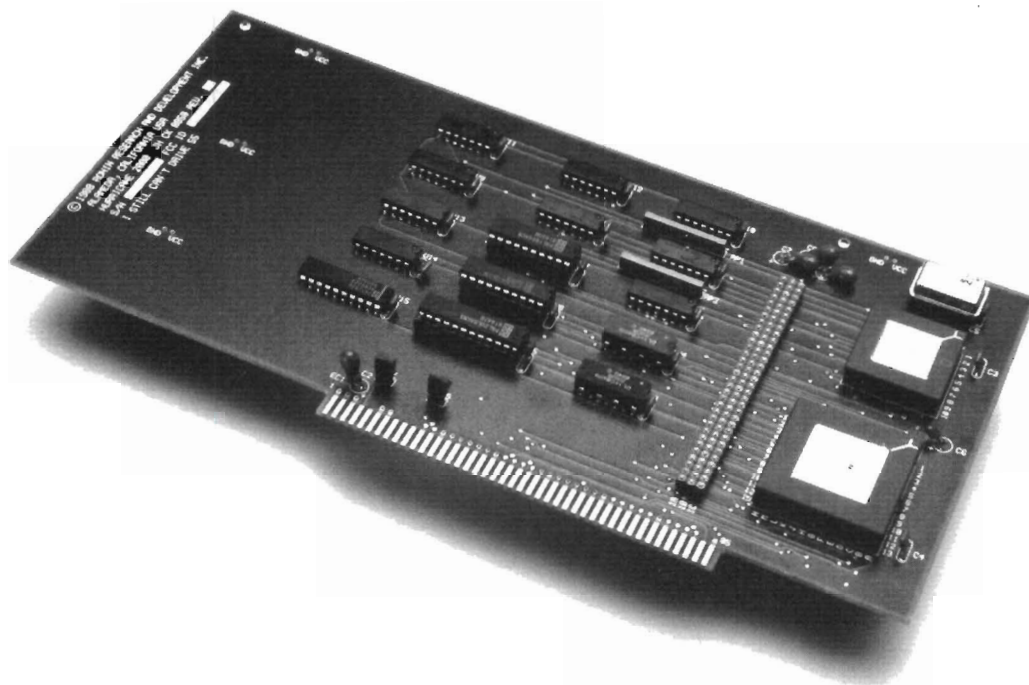
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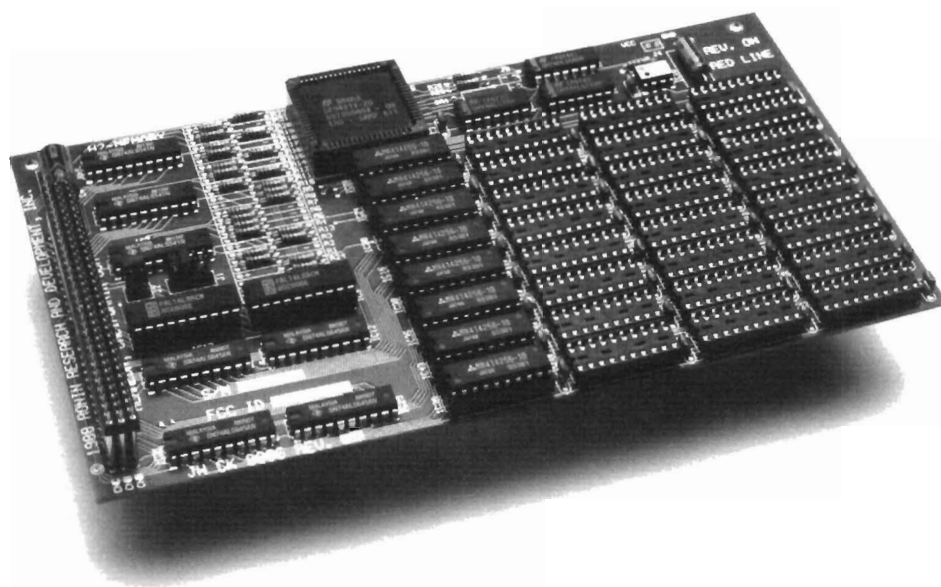
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ACCELERATOR BOARD WITH THE
68020/68881 COMBINATION**



**THE M2000 RONIN MEMORY
BOARD POPULATED WITH 1MB
DRAM AND NO WAIT STATES**



THE HURRICANE ACCELERATOR BOARD

The Hurricane - Family of Accelerator Products for the Commodore-Amiga. Fast. Tough. Cheap... Well, maybe.

The Hurricane is an accelerator board available for both the Amiga 1000 and 2000. The standard model available comes with a 68020 clocked at 14.32 MHz. You can get a 68881 math co-processor at either 16 or 20 MHz and the 68882 at 24 MHz. Both of these parts are available at 12, 16, 20 and 24 MHz from Motorola and can be supplied by Ronin at various prices. Also available is an adapter board that allows a 68030 running at either 16 or 20 MHz to be attached and 32-bit RAM expansion which attaches directly to the main accelerator motherboard.

The Hurricane either directly replaces the 68000 CPU in the 1000 or inserts into the CPU expansion slot in the 2000. In either case the 68000 must be removed for it to work properly. You can wrap up the 68000 in non-static plastic, put it in a box, etc. Just be careful not to bend the terminals. Do not glue it onto a brick to make a decorative bookend for holding your software manuals. You may need it later as I did.

The Hurricane's function is to turn the Amiga into a true 32-bit computer. This means faster management of the information passed throughout the machine. The standard Amiga, whether it be a 1000, 2000, or 500, is a 16/32-bit machine. When changed to a true 32-bit

machine there is a basic increase of four times the speed of processing of data. This increase applies mostly to calculations, but I discovered that it also helps overcome the decrease in performance caused by expanding the basic Amiga system.

For example, on the Ronin utilities disk which comes with the accelerator is a program to test the current performance speed of the system. Sometimes when I have my 2000 loaded down with multi-tasking I test it with this program. With the 2000 stripped down (no expansion at all except df1:) it performs as a 1 on a scale of 10. All Amiga models perform the same that I've tested. When I hook up the hard drive the performance drops to .94! This doesn't seem like much, but under some conditions it is noticeable. After installing the Hurricane with the entire system expanded and running ProWrite, the best it will do is 4.14 - I am impressed.

You may well ask, so what? Will a few seconds cut off the time it takes to balance your checking account really matter? It depends greatly on what task you put it to. If you are doing a hi-res ray-traced 3-D drawing, you can run your Amiga for a weekend, buy another Amiga, or get an accelerator board. In applications of math-intensive scientific data processing I am certain the Hurricane would save a great deal of computer time. If you want to balance your

By Joseph P. Laleman

checkbook in record time, it would be cheaper to hire an accountant. The key here is to carefully evaluate your needs and calculate how much your time is worth. If the Hurricane looks like a deal to you, buy it! If your needs are not time intensive, you might be better off saving your money. As you will see later, it is not cheap in more ways than one! I genuinely felt I needed one and sold my motorcycle to buy it. That's the bottom line for me. I felt it was a good gamble and it paid off.

Here are a few examples of how you would see increases with the Hurricane. To load and display a lo-res HAM picture in Photon Paint from RAM would normally take 6 seconds. With the Hurricane it took 1.5 seconds. Digi-View draws the screen at least twice as fast after it has finished scanning the picture. Merging the three colors with Display in Digi-View is extremely quick. To access ProWrite on my hard drive it would normally take 1 minute and 34 seconds. Using the Hurricane board it took 1 minute 25 seconds. This was a good test because I have a lot of fonts on my hard drive and ProWrite loads with all the fonts. Since I got my hard drive, I have learned that I could format two disks at once. Before the accelerator, formatting was slowed by the greater demand on the 68000 CPU. Now the system formats two disks faster than it used to format one. Typically the speed of the disk drives is limited to as fast as AmigaDOS can drive them and the mechanics of the drives.

One of the greatest demands that can be put on the Amiga is 3-D drawing using a rendering technique called ray-tracing. There is a simple test for evaluating the speed increase with the accelerators. This test uses the coffee cup from Sculpt-Animate 3-D. The settings are tiny, photo, anti-aliasing on best, and interlace. Just the basic Amiga with the 68000 and a normal version of Sculpt 3-D took 19 minutes 20 seconds. With the Hurricane 68020 14 MHz processor, it drew the cup in 7 minutes 38 seconds. Utilizing the 68881 20 MHz co-processor in combination with the 68020 and Sculpt-Animate 3-D (68020-68881 version), it took 2 minutes 30

seconds. Just think of the time saved on a large hi-res picture. I ran this test on two systems with identical hard drive setups. The comparison is as close as possible.

Tough. It comes after Fast. Ronin claims an in-the-field failure rate of 0.5%. I don't know why I had to be among the 0.5%, but I was. This only seems to happen to me with machines. I'm never in that percentage with lotteries. As I said earlier, don't throw that 68000 CPU away. After about four hours of running time, my screen froze and I had to take the computer apart again. It was not fun putting the 68000 chip back in. This was on a Friday night. On Saturday I contacted one of the Ronin technicians and explained my problem to him. He offered some suggestions and then he gave me his home phone number to call after I tried them.

Again there was more removal and assembly with no result. I returned the Hurricane, received it after a burn in period to guarantee no more trouble, and it's worked great ever since. One of the most important aspects of owning and operating a machine is customer support. I realize that Ronin (or any other electronics manufacturer) can't guarantee 100% performance, but what makes the difference is how they back up their product and improve it when a flaw comes to light. Ronin responded better than any company I've dealt with.

The last part is Cheap. As I said earlier, it really depends on what you are going to use an accelerator board for and how much you value your time. I want to do math-intensive work and I don't have time to stare at my monitor for two days, so I found a way to get a Hurricane.

My setup with the accelerator is a 2000 board with a 68020 14 MHz processor, a 68881 20 MHz math chip, and 2 MB of 32-bit FAST RAM. The 32-bit RAM is critical to speed performance. Without it, the Hurricane ran at 1.85 on the scale of 10. With the RAM it was 4.15. It is better to buy the RAM for the 68020 than to go the faster 68030 without RAM. The 16-bit (regular) RAM just doesn't allow the processor to run at full speed. It really is like a bottle-

neck on an expressway.

A problem with the 32-bit RAM is that it doesn't auto-configure, but Ronin supplies a configure program to put in the startup-sequence. The board will support up to 16 MB of 32-bit RAM. With the configure program are other useful and illustrative programs, one program fixes a bug in AmigaBASIC and one program that fixes the Transformer. If you had over four grand to spend for a 68030 20 MHz board with a 68882 25 MHz math chip and 4 MB of 32-bit RAM, the speed of the Amiga would be pushed past 6 on the scale. I saw one just like that at the July Ami-EXPO in Chicago.

One of the advantages of the 68030 system is the PMMU. This means Paged Memory Management Unit. The 68030's internal PMMU does not incur a wait state as does the 68020's external PMMU, the 68851. Hurricane Config detects the presence of the PMMU and uses some of the fast 32 memory to re-map Kickstart into RAM. This further increases the speed of the system.

I plan to follow this up with a list of the software that is and is not compatible with The Hurricane accelerator. Ronin states that there are only a few games that won't work (because of the MoveSR command), but I've had difficulty with other software and a lot of public domain programs. □

Hurricane Accelerator Board Ronin Research and Development, Inc.

P.O.Box 1093
Alameda, CA 94501
USA
(415) 769-9325

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\$600 H2000	Accelerator board
\$600 M2000	Memory board
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\$570 68030	Processor, (16/20 MHz)
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\$300 68881-20	Co-processor, 20 MHz
\$620 68882-25	Co-processor, 25 MHz
\$525 DR1M	DRAM,
	1 MB (8 chip set 256X4)

LETTERS

Letters to AmigoTimes can be sent on paper or as a text file on disk. Please include your name, address, and telephone number. Letters may be edited for reasons of space and clarity.

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CANADA, J0L 1E0

Or, if you live in the U.S. and want to save a few pennies:

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P.O. Box 1158
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USA

EPSON GQ3500 COMPATIBILITY

When I purchased my Amiga 2000 I also purchased an Epson GQ3500 Laser Printer which I like very much except for two problems which I've related to both Epson and Commodore as well as my dealer, with no satisfaction. I've not been able to locate an Amiga driver and Workbench 1.3 still doesn't have one. The HP Laserjet + emulator is OK but not able to take full advantage of this great printer. Most of the time I use the PC side of my 2000 when printing such as this letter. Also, Epson indicates they have no plans for supporting PostScript.

Are you aware of a way to make my printer compatible such as with a piece of hardware?

R. C. Bauer
Liverpool, NY
USA

After contacting service technicians at EPSON Canada, they have informed us that the GQ3500 is fully HP Laserjet+ compatible and the printer driver that is on the current release of Workbench 1.3 should allow the printer to function properly. This driver can be obtained from your nearest Amiga dealer.

Now if you are seeking to make your printer PostScript compatible, you have a slight problem. Your printer, the GQ3500 uses a Ricoh print engine which is in fact not a HP compatible engine. HP Laserjet and Laserjet+ printers use Canon print engines. Had your printer worked with a Canon engine, then we would have suggested the PS Jet: PostScript Laser Conversion Kit from the Laser Connection. This is a PostScript interpreter that takes the place of the lid of your printer. As your print engine is a Ricoh, we are afraid you are out of luck.

AMIGA 3000

I am a German Exchange Student for one year in the USA. I am a proud owner of an Amiga 2000 with 3 MB. I really like this magazine. It is not so general as German Amiga magazines, it is very good.

The only issue I have is the AT 1.3 and was really surprised about the feature on the Amiga 3000.

Gunnar Klanberg
West Columbia, SC
USA

As to the article in V1.3 about the Amiga 3000. I just have to tell you that a machine using the 68030 does not need the 68851 Memory Management Unit as the 68030 already has a

Memory Management Unit built-in. Although the 68851 does have more functions, I believe the built-in MMU of the 68030 has adequate functionality to deal with the Amiga architecture. I also believe you should have mentioned that just by increasing the data path and the speed of the custom chips would likewise increase the necessary bandwidth needed for your required colors and resolution. An inclusion of a math coprocessor front end for the AGNES chip would be of great benefit as well as dual-ported video RAM. Personally, I would just like for now to see Commodore release the 68020 and 80286 boards and a middle level Amiga.

Anyways, thanks for your cooperation in exchanging my corrupt V1.3 disk. You have an excellent magazine and had the best technical description of how the Transputer board works I've seen.

Donald E. Rash, Jr.
Rome, NY
USA

Thank you for your comments on the A3000 article (AmigoTimes, v1.3). We think you made a slight mistake though, the article did mention that the 68030 has an in-built 68851 MMU.

As for the middle level Amiga, we don't think that is enough at this point. Apple and IBM are quickly catching up to the Amiga and we really want to see the Amiga regain the lead it held over these machines. For the Amiga to successfully compete in the market place in a year from now, it has to be faster, have a larger palette, higher resolutions, faster floppy access, and many of the other features described in the A3000 article.

(continued)

VIRUS KILLER

When attempting to use the virus killer on a SCA-Infected disk, it wiped out the "original" disk (both Mousetrap and One on One). The icon still comes up, but double-clicking the icon only gets me a blank window. Did I do something wrong? Lastly, will Kickstart & Workbench 1.3 work with AmigoTimes disks?

Thanks in advance. You've got a great magazine concept. I would love to see a utility program that allows hackers like me to redesign the disk icons and the Kickstart/Workbench screen. You guessed it, I'm an amateur artist!

Michael Langieri
Longmeadow, MA
USA

The reason that you rendered your games inoperative was because some commercial software packages (mainly games) have custom boot blocks that are very specific to the program. When VirusX (or Viewboot) spots a nasty little virus like the SCA! virus, at the user's request it will overwrite the infected boot-block with an AmigaDOS boot block, this is all well and good, but in the case of the forementioned programs this more often than not destroys not only the virus, but the bootup procedure for the program. In such a case, the best thing to do is to return the disk directly to the manufacturer informing them of the problem. One other alternative if you are determined to kill the virus yourself is a commercial program called V.I.P. (Virus Infection Protection, from Discovery Software). This program is designed for games with custom boot blocks.

In answer to your next question, AmigoTimes disks will work with Kickstart and Workbench 1.3. Finally, in order to edit or create your own icons, there is a utility called IconEd, that's available in the System drawer of the Workbench 1.2 or Workbench 1.3 disk. If you wish to be really creative, the PD utility Brush2Icon (Utilities Designer Disk Set) converts standard IFF brushes into icons.

WHEEL OF FORTUNE

Just a note to tell you I have just picked up my first copy of your magazine (v1.3) and find it very interesting.

On the disk enclosed in the magazine, on the program Wheel Of Fortune, by Michel Giroux, the program locks-up when a choice of CLUE or a guess is picked. There seems to be no freeing this of the lock-up.

Steven Stringfellow
Chicago, IL
USA

We have received no other complaints regarding a problem with the AmigaBASIC program, Wheel Of Fortune (AmigoTimes Disk, v1.3). We retried the program and did not experience the lock-up you mentioned. The only similar occurrence was when Clue is selected, the player must press the Return key in order to resume game play. Then it's Big Money! Big Money!

PROGRAMS FOR AMIGOTIMES

I recently bought a copy of AmigoTimes issue 1.2 and found it to be one of the best Amiga magazines out. The Public Domain programs on the disk were very helpful. The article for the File Requester was good. I program in Benchmark Modula-2, and really appreciated the listing. I hope more Modula-2 programs will be published.

I am in the middle of making a program for the Amiga, and would like to have it published on your disk. How would I go about this?

Robbie Williams
Barstow, CA
USA

Any programs that you would like considered for publication on the AmigoTimes disk are to be submitted care of our Data Manager, Ernest Nagy. All submitted programs must have appropriate documentation, and be able to function in the Workbench environment via icons. Please keep in mind that all software that is received by Amigo-

Times is considered to be public domain, unless otherwise specified. If this program is exclusively released through AmigoTimes, the author will be presented with a special laminated plaque of the issue that it was released in. The back of the plaque will be autographed by the AmigoTimes Staff. Note that a self-addressed stamped envelope must accompany all disks if they are to be returned.

YOU'RE VERY WELCOME

I must thank you for your publication. I've read all of the newsstand publications on the Amiga and find yours the most informative. I have alot of questions about the Amiga and the two issues of AmigoTimes I've read have answered more of these questions than a dozen other publications combined. Keep up the good work.

John McLean
Scarborough, ONT
CANADA

CORRECTIONS

In v1.3 of AmigoTimes, in the Amiga Monitor section, we mistakenly printed the list price for RawCopy V1.3 as \$49.95 (US). The actual price is \$59.95 (plus \$2 S&H).

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DTP

THE AMIGOTIMES DESKTOP PUBLISHING COLUMN

By Eyo Sama

As you may or may not know, AmigoTimes is created using the Amiga computer system. All the typesetting is done with Gold Disk's Professional Page while the artwork is produced on EA's Deluxe Paint II, Deluxe Photolab, and MicroIllusions Photon Paint (check page 3 for a complete list of products we use). In this on-going column discussing Amiga desktop publishing, we will be talking about all of the new software and hardware releases, how you can make the best use of these products, and what tricks we employ to create each issue. There are almost always ways to work around limitations you may find in certain software packages, this is in reference to publishing of course. Naturally, getting a certain effect to look right on a page takes time and usually ends up giving me a headache - hopefully this column will help you avoid getting one, too.

Before I typeset the pages of AmigoTimes I usually try to visualize and then sketch (on paper) each page before I actually run Professional Page. This way I find I spend less time aimlessly moving boxes around the screen trying to achieve a certain effect. Also, it gives me the chance to figure out what artwork I want drawn for a particular page.

This month I will go over how I created the article heading for the review of TV Sports Football on page 8 of this magazine. To create the whole page I used InterFont and InterChange, from Syndesis, Aegis Draw 2000, and of course Professional Page to put it all together.

Unfortunately, Professional Page does not allow you to easily rotate text (I have been assured that an upcoming



This page was created using the best features available on Gold Disk's Professional Page, InterFont and InterChange by Syndesis, and Draw 2000 from Aegis. The beauty of Amiga DTP is the fact that several of the software packages are compatible with each other.

version will). I needed to rotate the word TV and have it float above the word SPORTS, also I wanted the shadow of the word TV to be behind SPORTS. Therefore I was not able to achieve that effect by superimposing pages within Professional Page. Enter InterFont!

InterFont

The InterFont designer allows you to load any Amiga bitmapped font and then trace around each character with its structured drawing tools. Once you have traced around the entire font, or whichever characters you need, you can then use the InterFont converter to write lines of text (which may have different attributes such as bold, italic, etc.) that will use the your polygon font. InterChange will then let you convert these lines of text, written in your font, into either a VideoScape, Sculpt, Turbo Sil-

ver, or Forms in Flight object, or what we are interested in, an Aegis Draw drawing. InterFont comes packaged with several ready made polygon fonts which you can use.

Professional Page will load an Aegis Draw structured drawing into a box which you can then re-size and scale as you please. If you load the InterFont created object directly into Professional Page it will be black and obviously still not rotated. To change the color and rotation of your text you will have to first use either Aegis Draw Plus or Aegis Draw 2000.

Aegis Draw 2000

Once you load your text into Draw 2000 it can be rotated by using the Edit->Modify->Rotate menu selection. To alter the color of the text you first select the new color you want and then you select the Edit->Modify->Paint

menu item. You have to also remember that the colors in the Draw 2000 palette are not the same ones that you have in Professional Page; the first eight color registers in the Draw 2000 palette are equivalent to the first eight colors in the Professional Page palette i.e. if you use color zero in Draw 2000 it will be black in Professional Page no matter what you change the RGB values to within Draw 2000. The last eight colors, except white, will be dependant on the colors you define and select within Professional Page. Best thing to do is to define all the colors you want in Professional Page, write down the RGB values of each color, and then change the colors of your Draw 2000 palette to be the same as those of the Professional Page palette.

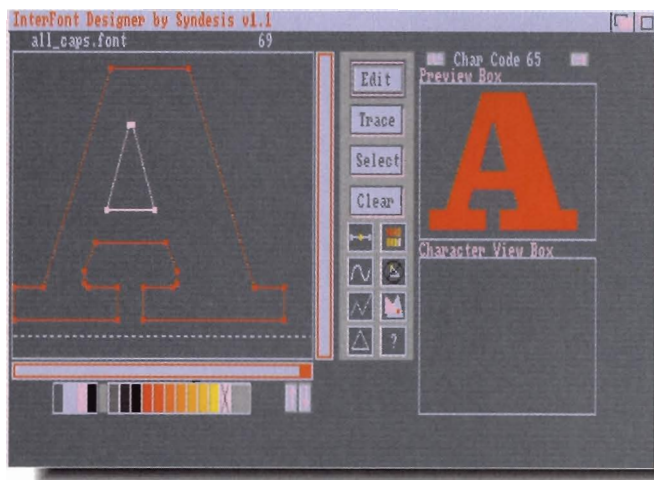
PUTTING IT ALL TOGETHER

All you have to do now is load the structured drawings into boxes in Professional Page and place them the way you want them. To get a grey and a red TV, I had to save the same drawing twice each time with the color modified. As you can see, you are not limited to the fonts available on the Professional Page disk, all it takes is either designing your own font with InterFont or using one of the fonts that come with the package.

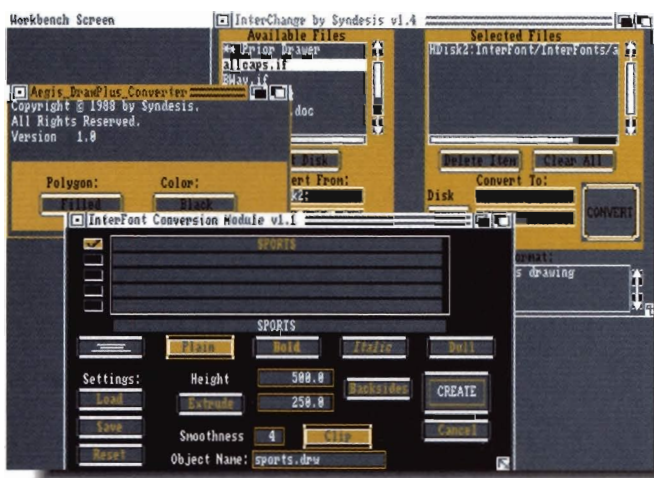
Next month we will take another look at how you can customize the pages you create with Professional Page. If you have any desktop publishing questions (or tricks, tips, and answers) don't hesitate to drop us a line at: □

AMIGOTIMES

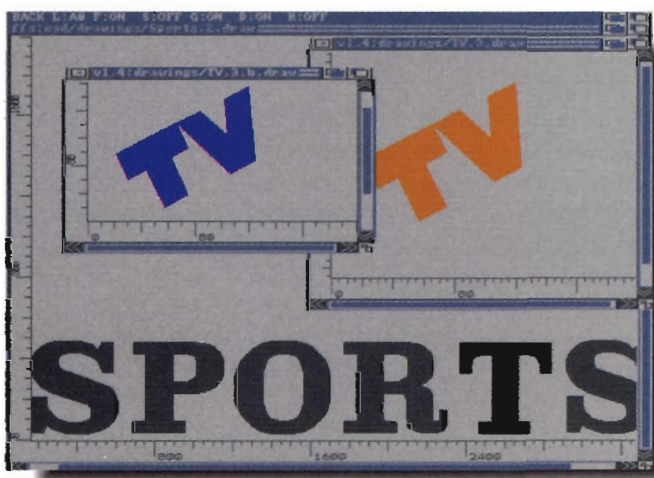
DTP Questions/Answers
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CANADA



InterFont (from Synthesis) allows you to design polygon fonts by tracing Amiga bitmapped fonts. You can also design the font from scratch without actually having to trace a bitmapped font.



Using InterChange (from Synthesis), the InterFont converter, and the Aegis Draw converter, you can convert up to five lines of text, drawn in the font you designed, into an Aegis Draw drawing.



From within Aegis Draw 2000 or Draw Plus you can then modify your lines of text. You can rotate the text, change its color, and add to it with the extensive structured drawing tools available in this software package.



Welcome again to our continuing series of articles on Telecommunications for the novice. If you've just discovered AmigoTimes, the article you're now reading is the fourth installment in a series in which I try to de-mystify the often confusing world of telecomm, with emphasis placed on how it all relates to your Amiga.

I began the series at the beginning: assuming the reader knew virtually nothing about telecomm but had the desire to learn - what telecomm has to offer - how to buy and connect a modem to your Amiga - getting good and easy to use terminal software and guidance in using it. I then followed with a possible first-timer's scenario of logging on to a local Amiga-oriented Bulletin Board System (BBS) and what might happen there. Last issue I took a look at downloading and file compression, and the use of such programs as ARC, PAK, and ZOO.

With each column I make sure that you're well-equipped to venture out on to the bitstream by providing you with relevant programs and files on your AmigoTimes disk to accompany what I have discussed in the magazine. I think this makes learning about telecomm wonderfully simple and I'd love to hear from you about how useful you have

found this column and the related files on the disks.

This time I'm going to take a little side trip into one of the more esoteric areas of telecommunications: USENET. After deciding to describe USENET to you, I sat and stared at my empty word processor screen for a long time... it's difficult to know exactly where to begin when talking about USENET. It's a diverse and complicated topic.

Unlike learning to navigate a commercial network or a private BBS, learning how to get around USENET can be an exercise in sheer frustration. Simply finding a way to get INTO USENET to begin with, once you know what it is, can be difficult. My thanks go out to my friends and UNIX wizards Stephen Pietrowicz (Plink: CBM*STEVE) and Greg Laskin, system administrator of PNET02 for their invaluable help in putting this article together.

WHAT IS USENET?

When you ask most Amiga owners if they know what the term "USENET" refers to, you might get a blank stare, or an answer like "Yeah, I've heard of it." Unfortunately, most people don't really know what it is, and they're missing a lot of good information about the

By Harv Laser

Amiga because of it! USENET is a vast network of computers that spans the world. This network is made up of mostly UNIX-based computer systems located at universities and businesses. In fact, if you work or go to school at a place that has a UNIX system, chances are you might already be connected to the USENET! The person who takes care of maintaining computers at such places is known as the "system administrator" and it is that person who you should contact for details and USENET access instructions.

Those of you without an avenue to such facilities can still get into the world of USENET via a group of over five dozen "Public Access UNIX Systems" - bulletin boards much like any other which you can dial up from work or home and which carry USENET news feeds.

The USENET supports a "bulletin board" system which most people call the "USENET news" or just "the news." There are actually hundreds of different newsgroups, and there are topics on just about anything you can think of from politics and religion to books, movies, singles, cooking, tropical fish care, auto repair, hi-fi and video, and a couple hundred groups dealing with all aspects of computing and all makes and models of computers. A few of these newsgroups deal specifically with the Amiga and it is probably those in which you'll be most interested.

COMP.SYS.AMIGA

The two main Amiga-oriented USENET newsgroups are called "comp.sys.amiga" and "comp.sys.amiga.tech," the latter created recently and geared more towards highly technical topics, programming techniques, and the like. Every week hundreds of articles are posted to both groups.

Participants in the Amiga newsgroups range from "just plain folks" who have questions about their hardware and software to famous-name developers of Amiga products. Many of the employees of Commodore-Amiga also read and post messages (also known as "articles") although they do

not offer official technical support on USENET - they speak only as individuals. You'll see notices posted by Commodore and Amiga employees such as Dale Luck, Dave Haynie, Carolyn Scheppner, "Kodiak" Burns, Bryce Nesbitt, and many others.

Each day thousands of people post messages to the news system from various "sites" all over the world. When a message is posted, it is copied to the local host system, and to all the systems that the local computer is connected to by modem. Those systems take messages and pass them along to all the systems they connect with, and so on. Messages are passed from one system to another by automatically making a phone call and passing along the news that needs to be sent.

Soon, the message which you wrote is posted to every system on the USENET!

MAIL PATHS AND HEADERS

Messages are routed from one site to another via a series of mail "paths." When you post a notice to your local USENET site it's given a header of information. Here's a typical example:

```
Message-ID:
#15130.pnet02.amiga/usenet 1107
chars. (14 more)
From: dzenc@hermes.ai.mit.edu
(Daniel Zenchelsky)
Newsgroups: comp.sys.amiga
Subject: The "0" on my numeric keypad
doesn't work
Date: 11 Sep 88 03:29:50 GMT
Reply-To: dzenc@hermes.UUCP
(Daniel Zenchelsky)
Organization: The MIT AI Lab,
Cambridge, MA
```

This header shows that my local USENET site, which is a BBS known as "Pnet02" received this posting at the date and time shown. That it originated at the AI Lab at MIT in Cambridge, Massachusetts and he posted it only to the "comp.sys.amiga" newsgroup (an article may be posted to many newsgroups simultaneously, a practice known as "cross posting" which is generally frowned upon unless there is very

good reason for it). The USENET "address" of the person who posted the notice is "dzenc@hermes.UUCP" so if I wanted to send a reply to his question I could do it either publically into the same newsgroup, or privately through USENET mail.

Normally Pnet02, which runs very sophisticated software, can figure out how to get a letter back through any return path. Sometimes it might have problems with a USENET address and so I could ask Pnet's system administrator to help me find the correct path.

Unlike a commercial computer network, such as People/Link, GENie or Compuserve, USENET has no central authority. There is no "customer service" department you can call if you need help but each site or system's administrator knows all the rules and is the person to contact for help.

Uncoded BINARIES

Since USENET does not exist as a centralized network and all material posted to it is in the form of ASCII text you cannot log into a USENET site and "download" binary files and programs to your computer as you could from a regular BBS or network (although some of the BBSs with USENET news might also have binary file library areas). However there are utilities that can take a binary file, such as an Amiga program, and convert it into ASCII text so it can be transmitted over USENET, either to an open group which anyone can read, or through "net mail" to one other individual of your choosing.

The most common form of this binary to ASCII converting is known as "UUENCODING." To give you an idea of what a uuencoded file might look like, (they can appear terribly alien the first time you see them) in fig. 1 you can see my hard drive's Workbench icon after being passed through the uuencode program. Bizarre looking, isn't it! If I wanted to send my custom disk icon, or any other binary file or program, to another person via USENET, I would use the uuencode program to make the conversion and save that encoded text to my disk. I'd then send my friend a letter and include

spend huge amounts on telecommunications, but often net traffic moves over dedicated connections that would be in place and idle under any circumstances, so much of the total telecommunications cost distributed over the net, is in "funny money."

One joins (becomes a site) USENET by having appropriate hardware, appropriate software which is available free for a large number of machines, and by finding a network neighbor "upstream" who is willing to exchange news and mail. There are also "commercial" USENET distribution sources who will feed the news to anybody for a fee.

Some large corporations have a formal commitment to USENET. At others USENET exists on a more clandestine level, in other words, a company employee might kill some time reading USENET when he's supposed to be working. There are over 10,000 nodes on the net.

GETTING THERE AND ETIQUETTE

If you decide you'd like to explore

USENET you're going to need to find a way into it. As one solution, your AmigoTimes disk contains a text file known as the "NIXPUB" list - this is a compendium of public bulletin boards, most of them free, some of them charging a small access fee, through which you can gain USENET access. This was the most recent version of this list available at the time I submitted this article and, as with any list of BBSs, you dial these numbers at your own risk. A voice call ahead of time to make sure that a modem answers might be a good idea. Remember, BBSs go "off the air" all the time as their sysop's interest, time or money wane.

USENET has its own self-imposed school of etiquette. You can read USENET articles in total anonymity and never have to worry about this, but before you try posting your own notices you should be intimately familiar with these rules of behavior. To this end I've also provided a text file called "How to use USENET effectively" on your disk. Please read it to understand what "neti-

quette" is all about. It also goes into greater depth about many of the intricacies of USENET which I've lightly covered here. Even if you never elect to post an article to USENET, you'll find this text informative.

Lastly, your AmigoTimes disk contains Amiga versions of the Uuencode and decode programs for you to use if you encounter those converted binary files which you wish to convert back into usable Amiga software.

That's it for this time. Good luck and if you gain USENET access try to spend at least a little time each day eating, sleeping, and doing your work! ☐

Next time:

REACHING OUT THROUGH PC PURSUIT

ABOUT THE AUTHOR:

People/Link: CBM*HARV

USENET: <anybackbone>!pnet02!hrlaser
Harv Laser, is the Founder and Senior Chairman of the AmigaZone Club, and an Amiga owner since October, 1985. He lives in the Los Angeles area.

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That's nice, but what do real
AMIGA programmers eat?

by Bob W. Quail

GOBBLEDYGOOK

GOBBLEDYGOOK

GOBBLEDYGOOK

**THE MATERIAL PRESENTED
HEREIN IS NOT INTENDED TO
OFFEND READERS OR SPECIFIC
GROUPS. ITS SOLE PURPOSE IS
TO BE LUDICROUS, INSANE,
AND HUMOROUS. HA, HA!**

Preface:

This article (conceived while downloading a 507 block file from CompuServe) is the author's attempt at humor (and I can hear you all thinking "if I need to be told that, I think I'm in trouble"); no offense is intended toward any group of persons or sub-primates (you know who you are).

Actually, it's the author's attempt at writing as many pages as possible (can you believe they pay me for this stuff?), so he can come up with enough dough for a hard drive. This is just a feeble try at a non-technical solution. I mean really, how many "How to do double buffered animation in AREXX" (just wait - sooner or later some poor bozo will think of that as a kind of intellectual challenge) articles can you stand without some form of a break (inane as it may be)?

More has been written about "Real Men" than you can shake a REALLY BIG stick at, and quite a bit has been written about the subclass of "Real Programmers" (you know, "Real Programmers don't eat quiche - you can't get quiche out of a vending machine). But the sub-subclass of "Real Amiga Programmers" hasn't been touched yet (and who am I to leave any question, no matter how tasteless, unanswered?). This is an attempt to address that inequity (?).

Ardent feminists need not be offended by my findings; preliminary research indicates that the majority of "Real Amiga Programmers" (RAPs) are male; perhaps this is conclusive evidence that women are superior after all. In any case, although I will use the male pronoun throughout the article, if you're a female RAP (and aren't afraid to admit it) feel free to change the pronouns in your mind (kind of a mental Query-Search-Replace operation, for you word-processor freaks).

I will attempt to answer the most often asked questions about RAPs (or at least all I could come up with). The questions will be asked in no particular order, and answered to the best of my ability, based upon my research (and no, I won't release the details of my research).

Q: What does a Real Amiga Programmer wear?

A: *Whatever clothes he had when his mother stopped buying clothes for him, plus a few things picked up during his infrequent trips out into a real world mall. Most RAPs have only one color of socks (20 pairs), because that way they don't have to sort them.*

Q: What does a Real Amiga Programmer drive?

A: *If a RAP has a car at all (many don't; if it's a choice between a car and a laser printer, the car loses every time), it falls into one of two classes:*

1) A 1979 or earlier family battle wagon, with a sunburnt vinyl roof and a hood so large you could land an F-16 on it. These rolling continents get around 8 miles to the gallon, and so they mostly sit.

2) A 1979 or earlier Japanese beer can on wheels, with four cylinder engine (rated at 85 guinea pig power) and no floorboards (they rusted out about 1981).

Q: Where does a typical Real Amiga Programmer live?

A: *In an apartment. You can't buy all the other necessities of life (real time video editing tape decks, MIDI keyboards, and 200 gigabyte hard disks) and make a house payment too.*

Q: When do Real Amiga Programmers sleep?

A: *If they have "Real Jobs," at work. If they don't, they don't.*

Q: What do Real Amiga Programmers talk about?

A: *Amigas. What else is there?*

Q: What do Real Amiga Programmers watch on TV?

A: *The only reason a RAP has a TV is so he can edit his desktop videos and focus his Digi-View camera. He didn't get into computers so he could have other people thinking for him.*

Q: What do Real Amiga Programmers dream about?

A: *Ray tracing algorithms that don't take 20 minutes per pixel to calculate; 1080 by 1080 resolution (and enough money to afford the monitor); actually making it to the last level of Arkanoid without resorting to the "cheat" mode.*

Q: What do Real Amiga Programmers have nightmares about?

A: *COBOL compilers for the Amiga; DRAM shortages.*

Q: What kind of people do Real Amiga Programmers marry?

A: *Most RAPs can't form that kind of a stable relationship. Those who can seem to be most compatible with a "family-centered" mate. Perhaps this is because most RAPs need as much mothering as possible.*

Q: How many Real Amiga Programmes does it take to change a light bulb?

A: *None. It's a hardware problem.*

Q: Where do Real Amiga Programmers get their jokes?

A: *That's not a very nice question.*

Q: What do Real Amiga Programmers read?

A: *Manuals, Amiga magazines (although they prefer AmigaTimes over all other magazines blatant plug), and comic books.*

Q: What kind of movies do Amiga Programmers go to?

A: *They're waiting until the ROM Kernal Manual comes out (I hear the RAW: device scenes are really something).*

Q: And finally, What do Real Amiga Programmers eat?

A: *Not quiche. Not for the reason you may think, but because most RAPs can't even SPELL quiche, let alone prepare it. Real Amiga Programmers eat things with chemicals (lots of chemicals) in them; it helps them concentrate, and will alleviate the need to be embalmed when they die (RAPs appreciate dual purpose foods). Pizza (until 2am, when they stop delivering), "oven-fried chicken" (yum yum), and tuna sandwiches (for the cost-conscious (broke) RAP) are favorites.*

Well, that about wraps it up. I hope I haven't offended anyone, and if I did, I hope you don't know where I live.

ABOUT THE AUTHOR

Bob W. Quail lives in a dank, smelly basement apartment with his dog and several other organisms that it's best we not discuss. He works on big I'M machines during the day, and programs his Amiga whenever he has the chance. His current ambition is "to become a really important magazine writer, so that people will send all kinds of free stuff for me to review." ☐

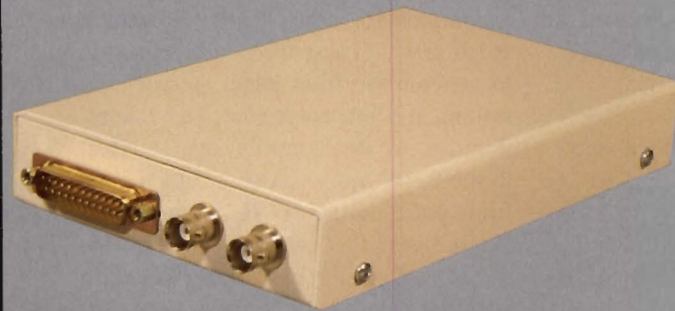
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Photography M.T. Morrissey

FRAMEGRABBER
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ProGEN is a must for Amiga desktop video! Editing studios, artists, television studios, in-house production departments can all use ProGEN with their Amiga 500, 1000 and 2000

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FrameGrabber Real-time Video Image Digitizer for the Amiga 500, 1000 and 2000

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 - Captures color images in 1/30 of a second (1/60 of a second for black & white)
 - Supports screen resolutions from 320 x 200 to 640 x 400
- Also supports overscan (352 x 240)



software-Selectable foreground, Background, Amiga Out and Video In select one of 2 colors as transparent for video effects
Now available from Progressive Peripherals & Software, Inc. or your local dealer
Meets RS-170A standards



- Includes image processing software from the creator of PIXmate!
- Automatic Time Lapse Animation feature
- Multiple exposure mode
- Stores images in IFF format or as raw RGB images
- Allows you full control of Hue, Color and Saturation with conveniently placed control knobs

FRAMEGRABBER

"Congratulations, you have purchased the Progressive Peripherals & Software FrameGrabber." These are the opening words in the "Overview" section of the FrameGrabber manual. The FrameGrabber has been a long-awaited Amiga peripheral and its promises have been many, but is it "the" video capture hardware to have? I have been given the opportunity to determine first hand whether it delivers everything that was promised.

Initially, there was a bit of a problem with the power supply that came with the FrameGrabber. The problem was such that it had to be replaced. It is during times like these that one gets a chance to test out the product support services of a company, the most objective results are obtained when one is incognito (don't tell them you work for a computer magazine). Regarding the power supply, Progressive was very apologetic about the entire situation, and explained that our particular problem was one that they had with some of the first FrameGrabbers that were shipped. If you were one of the first to receive a Framegrabber, you may have had a similar problem. Progressive dispatched a replacement power supply the same day. Upon receiving this new power supply, I was dismayed to discover that this power supply did not

function. At this point one could understand my frustration with the overall product. Another call and another power supply later, I have since received a power supply which functions perfectly.

THE FRAMEGRABBER

The FrameGrabber is essentially a video digitizer, but with an interesting twist: it is capable of capturing images in real-time. The FrameGrabber will "grab" video images at a rate of 1/30th or 1/60th of a second. Accepting input from a video source such as a VCR or a video camera, the Framegrabber will capture individual frames of the continuously moving image without you having to pause the frame. This real-time capture feature is what will no doubt sell the FrameGrabber in the Amiga community.

The FrameGrabber also functions as a standard still image digitizer that will capture images from either a color video camera (or camcorder), or a black and white camera such as the Panasonic WV-1410; images captured from a black and white camera must use the Red-Green-Blue filter system like the Digi-View digitizer (reviewed in issue VI.2).

GENERAL DESCRIPTION...

The FrameGrabber hardware measures

9.5" x 6.25" x 1.5", dimensions that are easy enough to find a place for. Externally, the FrameGrabber has three control knobs for adjusting the incoming video signal. These three knobs that are located on the front panel are for controlling the Intensity, Hue, and Saturation; the last two controls have no effect in the B&W modes. Also located on the front panel is the NTSC input for the video signal that is to be captured. On the rear of the FrameGrabber there's a standard parallel port, a 5-pin power input, the 9-pin input from the Amiga, and the 9-pin output that goes to the monitor.

INSTALLATION

Installation of the FrameGrabber is very straight-forward, with all connections being external, this makes it accessible to all Amiga users, regardless of which model they own. All essential connectors are supplied with the FrameGrabber, and the only cable that is required to be supplied by the user is a parallel port cable; for this you can use the same cable as your printer cable if you have one. Appropriate cables and adaptors for the various monitors that are presently available from Commodore are also included.

To hook up the FrameGrabber, a connection is first made between your

By Olusegun Olaniyan

monitor and the port marked "Monitor" on the back of the FrameGrabber; another one then comes from the video port of the Amiga to the port marked "Amiga" on the FrameGrabber. Always remember that any connections that are made between the Amiga and any peripheral should be done with the Amiga "powered down" and unplugged, this is to prevent any unwanted accidents.

Now the last remaining connection to make before you can start "FrameGrabbing" is the connection of a video input device, this is done via an "RCA" jack that is located on the front panel of the FrameGrabber.

HOW TO USE IT...

The FrameGrabber is extremely easy to use, the software is virtually self-explanatory with keyboard equivalences. At present, the FrameGrabber software is capable of supporting the following Amiga Screen modes:

320x200 - 16 Shades of gray (B&W)
 384x240 - 16 Shades of gray (B&W)
 320x400 - 16 Shades of gray (B&W)
 640x200 - 16 Shades of gray (B&W)
 640x400 - 16 Shades of gray (B&W)
 320x200 - (2,4,8,16,32,64, HAM) Color
 384x240 - (2,4,8,16,32,64, HAM) Color
 320x400 - (2,4,8,16,32,64, HAM) Color
 640x400 - (2,4,8,16) Color

With all these resolutions to choose from, you would be hard pressed not to be able to find a mode to digitize in. Although the FrameGrabber will function very well when it digitizes in the aforementioned modes, what would really be nice is the ability to digitize onto a bitmap that is larger than any of the overscan modes, this might be asking for a lot, but then it doesn't hurt to ask. The reason I keep asking for this feature is so that the images when outputted would have a higher resolution. The FrameGrabber by and large is not a memory hog (for optimum performance, 1 MB or greater) is strongly recommended) and will run quite happily

(continued on page 95)



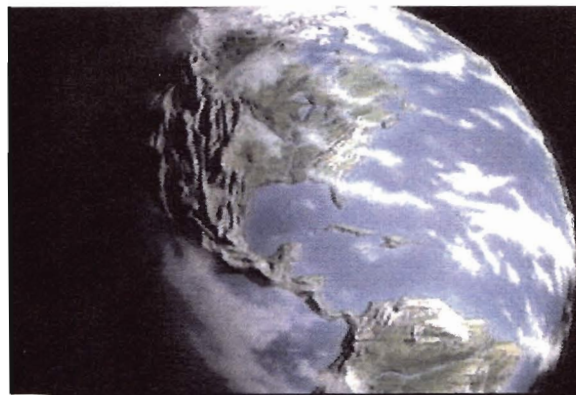
The format selection panel; from here the user is able to pick the screen mode he wants to use with the Framegrabber. As you can see there is a wide selection of resolutions and colors.



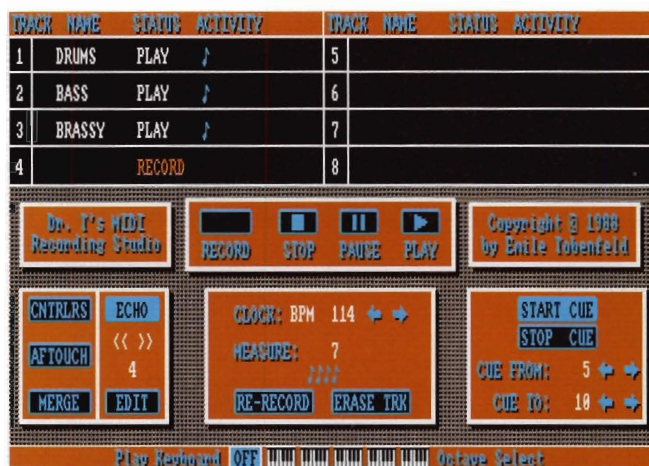
An image captured from a videotape on the fly, this is real-time digitizing.



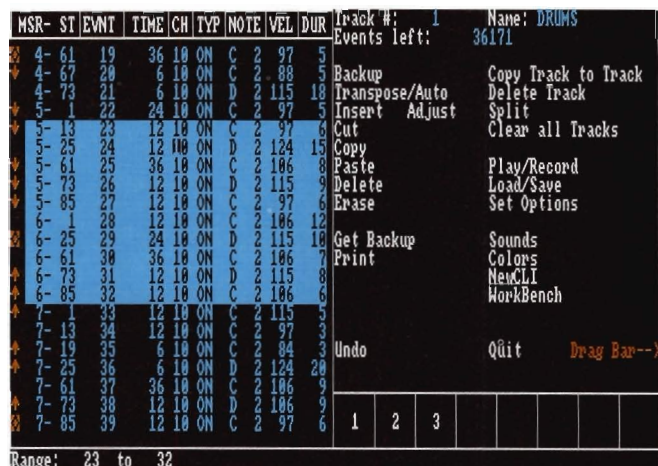
Killer Clowns from Outer Space; grabbed in the interlace HAM mode.



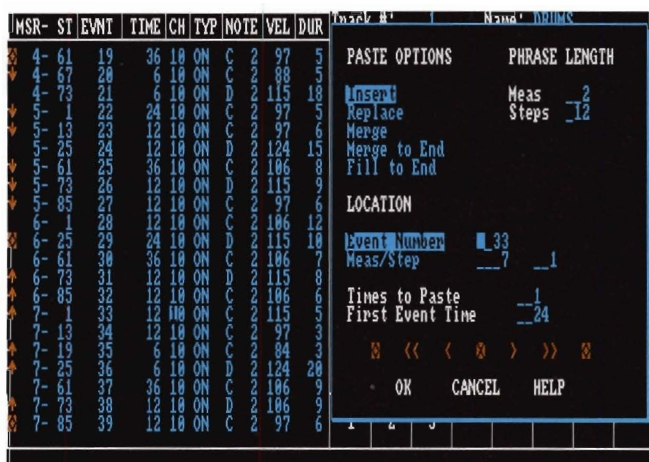
A screen grab from a videotape that was recorded at the extended play speed.



Recording is done using tape recorder like buttons. Features needed to help the recording process are here in the Play/Record screen.



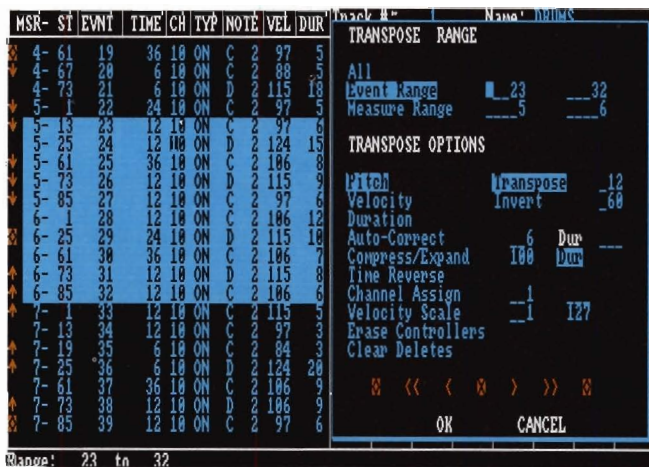
The MRS has a complete set of editing features including Copy and Paste. From this screen you can also access all other functions like re-opening the Workbench or changing the colors.



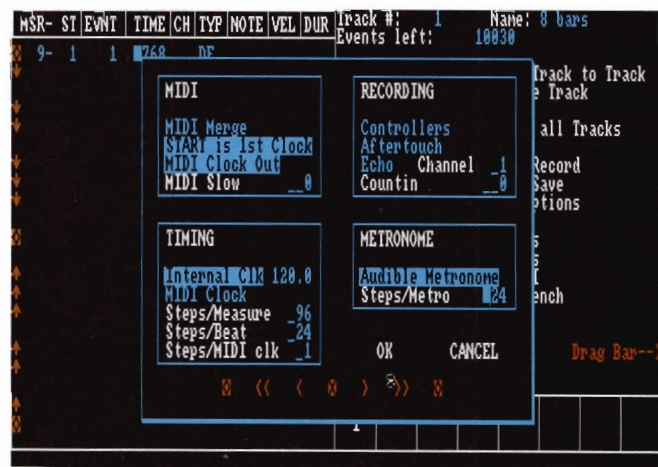
Pasting, unlike in a word processor, can be done in a number of ways. Although it may look complicated at first, this is where a lot of the MRS's power resides.



MRS can also take advantage of the Amiga's sound producing capabilities. Sounds can be loaded individually or as sound banks. Some parameters can be set to aid you while sequencing.



The Transpose window contains a lot of hidden power. Once you are more familiar with all its features, it will fill most of your modifying and correcting needs.



The program's settings can be set in the Options window. They are saved in a .MRS extension file which is automatically loaded along with the corresponding .ALL sequence file. The file DEFAULT.MRS is loaded when the program first boots up. You can customize the program by modifying this file.



Dr. T's MIDI Recording Studio

Now that the Amiga is starting to make a name for itself in the different computing fields, especially graphics and video, a lot of companies producing software for other computers in all areas of computing are starting to take notice. This has been the incentive for these companies to bring out their products for the Amiga. Dr T's is well known for their music programs, and they are now porting these programs to the Amiga. They already have a complete line MIDI software available, sequencers, editor librarians, prerecorded sequence disks among others. And their notation printing and editing program, the Copyist, should now be out.

The MIDI Recording Studio (MRS) is one of these products already available for other computers that was ported to the Amiga. It is a trimmed down version of their acclaimed Keyboard Controlled Sequencer (KCS), also available for the Amiga. KCS V1.6a is now shipping, and this newer version supports internal Amiga sound capabilities as does the MRS.

Ever since synth companies have agreed on a standard way to communicate between their products, new software has been appearing to make use of this new digital language. One of the more frequent use of MIDI data in com-

puters is the sequencer. A sequencer is a bit like a word processor, but instead of working on text data, they work on musical data in the form of MIDI messages. MIDI messages contain performance data, instead of recording the sound of a music instrument, it records the musician's actions as he plays a MIDI keyboard or other MIDI controlling device. Once you have entered the MIDI data, you can edit it in a manner similar to word processing. But a sequencer has a dimension not needed for text, time.

Sequencers must take into account not only the type of event generated by playing the MIDI controller, but also when this event took place. Early on, timing precision was thought to be impossible to obtain on a multi-tasking system like the Amiga, but I can assure you that the MRS and other Dr T's products are very precise in their timing and they do support multi-tasking. I tried one of Dr T's librarians while running the MRS at the same time and it works fine (it's also very useful). Timing adds some complexity to the editing and it's the job of the sequencer to make this as easy as possible.

The MIDI Recording Studio, written by the doctor himself, Emile Tobenfeld with the help of David Silver for the

Amiga version, is divided in a number of screens and windows which give access to the different features of the program. Main screens are play/record and edit. You can move from one to the other by using the mouse or the F1 key. The edit screen is the most complex, it gives access to a great number of other windows such as pasting modes, sequencer option setting, Amiga internal sound loading and a lot more. Although the program doesn't use the Amiga WIMP (Window, Icon, Menus and Pointer) system, it does make use of the mouse, you will have to get used to the way the MRS does things before you can get the most out of it. The program does not use the standard menus usually selected with the right mouse button, the mouse button is used as a play button, so you might find yourself starting the sequence when trying to select a menu that doesn't exist.

MRS PLAY/RECORD SCREEN

When the MRS is first started, the play/record screen appears ready record a new track once you have selected the maximum number of events that can be recorded. In order for the program to start properly however, the original disk must be in one of the disk drives while the program is loading. If you are load-

By Serge Boucher

ing the program from a backup copy, and the key disk is not inserted, the program will crash. No requester will appear asking for it. I understand the need for copy protection, but I hope Dr T's would add such a requester so it is possible to load the program from a backup copy on a one drive system, using the original disk as a work disk can be dangerous. However Dr T's will send a backup copy to registered users for a reasonable fee if you ask for one.

MRS is built around a tape recorder analogy. Data is divided into eight tracks that are recorded separately. The length of track one determines the length of the whole song. When recording the other tracks, the sequencer will loop when it reaches the end of the first track. For this reason the first track is well suited for recording the drum part, this is the one that is usually recorded first and serves as a guide for recording the others. This might seem limiting, but it is possible to lengthen the first track with the editing features if you want to add to the song. The play/record screen has the necessary gadgets to help in the recording task. Recording can be done from a MIDI keyboard or the computer keyboard, an Echo feature will send the data back to the MIDI out of the interface. Output can be redirected to any one of the 16 MIDI channels. Although only one octave is available on the computer keyboard at one time, there is an octave selection gadget to change what octave is played. Dr T's states that you don't need a MIDI setup to use the MRS, input can be done from the computer keyboard and the MRS does use the Amiga sound producing capabilities. But I must admit the MRS is not the best program to create music if you only have the Amiga and no MIDI instruments, a notation type program is more suited for this.

Along with the tape controls, there are also a start and stop cue function, and a start and stop point selection gadgets. These are used to set the beginning and end points of a loop inside the song. This is extremely useful if you want to record a track that only has data in a part of the song, or if you want to rerecord a part of a track. But you will have

to record the new part on an empty track and copy it back to the track to be changed, there are no punch in or punch out functions. You can also mute a track by simply clicking on the track's name, this makes it possible to record alternative takes of one track and to listen to them separately. Other gadgets include filtering of certain types of MIDI messages like controller data and aftertouch. A Merge function is also provided, this is like the Echo function explained above except that all data received is retransmitted unchanged, you can't send it to a different channel.

EDIT SCREEN

From the play/record screen, clicking on the Edit gadget will bring up the edit screen. This is where the MRS really shines, editing functions are quite extensive and well done for an "entry level" sequencer. First you will select the track to edit with the track number gadgets at the bottom of the screen. Data for a track is divided into eight columns. The MSRST indicates in what measure and at what step the event occurs, then the next column, EVNT, gives the event number. These two parameters are set by the sequencer and cannot be changed. The number of steps in a measure can be changed by opening the Set Options window, more on this later.

The remainder of the data can be edited or corrected by using the available functions or by typing directly in the data window. The parameters that can be changed are, TIME, the number of steps after the previous event when the event will occur. CH is the MIDI channel number for that event. TYP is the type of event, NOTE is either the note or the data depending on the event type, VEL is the note velocity or the data, this also depends on the type of event. DUR is the event's duration, it is the number of steps the event will be on. This is why you won't see note off messages in the data, the sequencer automatically sends a note off message at the end of a note's duration. Note off messages will only appear if your keyboard sends note off velocity or if the note's duration is more than 999 steps long, the longest duration that can be in-

dictated by the MRS. The note duration will then be indicated as zero, and a separate note off message will appear where needed in the track. Having only note on messages makes the data easier to read and to understand.

Going back to the word processor analogy, editing with a sequencer is a bit like if text editing would be done on the ASCII data instead of the text itself, so it is a good idea to make the data as easy to read as possible by getting rid of data that can be replaced by something more simple.

Along with the standard MIDI event that can be recorded, the MRS adds a few new ones for its own use. DE events will add a time delay to round off the end of a track or to silence the track for a moment, TM events will let set the tempo from inside a track. The MRS as the usual lot of editing functions, Cut, Copy and Paste make their appearance. But as mentioned before, a sequencer as to deal with time, this makes editing more complex. For example, if you want to cut a section from the track being edited, you must make sure that this won't mess up the timing of the following events. MRS does the necessary corrections when needed, but the user still has the option of correcting the timing or not. This makes the pasting much more complex than in a word processor, when selecting the paste function in MRS, a special window appears. A section from the track can be pasted back in a number of ways depending on the desired effect. It can be inserted at a selected point of the track, or it can be merged. Merging is like adding a layer on top of the one that already exists, the added notes will play at the same time as the notes already there. Like I have said before, this is the MRS's strong point, there are a lot of options covering about every editing need. The manual is helpful, but only gives the basic operations, you will have to use your imagination to discover all the possibilities. A lot of things that might seem impossible at first can be done, like rerecording a section of a track like explained above.

Along with editing functions, the edit screen has functions for correcting and modifying the MIDI data. All the

data that can be changed by the user can also be modified using one of these options. Quantizing is done using a function called Transpose. When selecting this function, a window appears which lets you not only correct the timing with the AutoCorrect function, but you can also transpose the note value, its velocity or duration by a specified amount, compress or expand the timing so a part can be replayed faster or slower, even reverse the timing completely. A velocity scale option will let you create fade-in or fade-out effects (crescendo or diminuendo). All these modifications are done on the whole track or only part of the track. The part of the track to be modified is selected either by using the mouse to highlight a section, or with the gadgets in the different windows. A very important undo function is also provided.

The Backup option will copy the current track in a buffer, this backup can be retrieved with the Get Backup function is used if the change made to the track does not give the expected results. This is quite useful especially when you are starting out, some functions take getting use to, and you will have to try them a few times before you get the desired result. The paste function is especially complex, setting all the parameters is not a simple task as everything as to be entered by the user. The program will set some of the parameters when you use the mouse to select the section to work on, but you will still have some figuring out to do when pasting the section so the timing is as desired.

The MRS uses the Amiga internal sounds and it does this in a flexible way. The Sounds option in the edit screen brings up a window where you can load the needed sound files. Up to 16 samples can be present at one time, sounds are loaded individually or as sound banks. Along with the sound names, the window lets you set parameters for each of them. You can set a channel number which will simulate a MIDI channel, for example, if the channel is set to 10, MIDI data in the sequence that is sent to channel 10 will also use the sample set to this channel. The data will also be sent to the MIDI

interface, this opens up some interesting possibilities like sound layering, but it also makes any sequence compatible for use with internal sounds. You can also set the note range, transposition number and volume for each sample. Setting a note range lets you map sounds across the keyboard, this can be used to do keyboard splitting or to emulate a drum machine's sound mapping.

The MRS works with three basic file types each with a special three letter extension tagged to the end of the file name, .ALL files contains data for all tracks, .SND files contain Amiga sound bank information and the .MRS files, all options that are set while the program is running can be saved in this special file format. Saved options include timing data like clock precision in ppqn (parts per quarter note) and number of clock ticks per measure, metronome settings, options affecting MIDI data handling and MIDI message filtering. Screen colors can also be modified and are saved in the option file. When loading an .ALL file, a .MRS file is automatically loaded if one exist with the same name. So if you saved a song as SONG.ALL, when loading it, the SONG.MRS file will be loaded as well. This is a must because of the great number of options that can affect the performance of the song itself. Files for the MRS are compatible with Dr T's main sequencer, the KCS. So if you decide to upgrade to it in the future, the work done on the MRS will not be lost, the good Dr even has an upgrade policy available.

CONCLUSION

I must say I am very impressed with this program, for an entry level sequencer it is quite complete and a very good buy. Although having only eight tracks to work with can be limiting, it will be sufficient for most beginning computer musician. And because editing features are so complete and files are compatible with the KCS, it is also a good choice for semi-pros and pros also. The only negative point aside from the way copy protection is implemented, is the same one as with any software not designed especially for the Amiga, the user interface is not standard and

each time you use the program you have to forget your Amiga working habits. Also there is no graphic representation of the MIDI data; although text data is a great way to learn the inner workings of MIDI, a graphic layout is much more easy to work with. Text only data makes for a much steeper learning curve. Also the manual could give more examples to show some not so obvious ways to accomplish more complex operations, but it does a good job of telling you everything that is directly available. Since I received the program I have worked with it a great deal and have found it to be a great tool once I got the hang of it - compared to other sequencers, it is a great value. □

MIDI Recording Studio

Dr T's Music Software

220 Boylston St., Suite 206

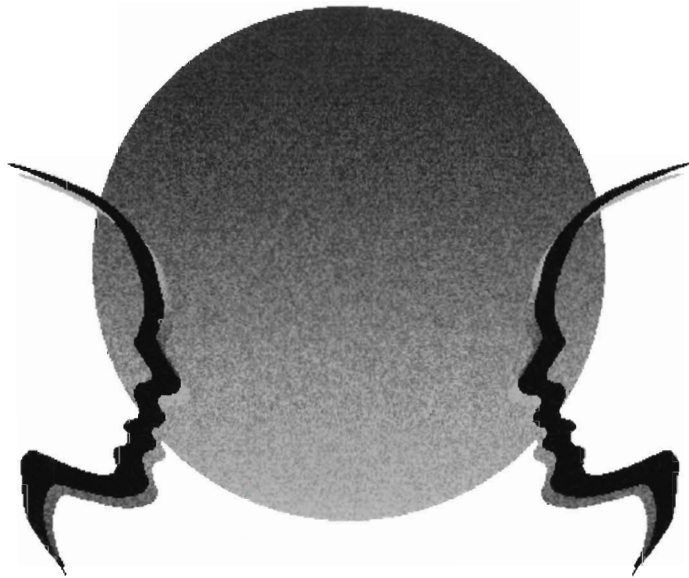
Chestnut Hill, MA 02167

USA

(617) 244-6954

\$69.95 (US)





WOMAN BY WOMAN

THAT OLD BLACK MAGIC

In late 1983 I had just completed a studio space in our attic and was returning to the serious pursuit of painting in oils when I paid a visit to my son and his wife in Los Angeles. I showed so much delight in toying with their Commodore Vic 20, that they gifted me with a Commodore 64 for Christmas. Without any peripherals I hooked it to a spare TV and went through the manual typing in all the programs. I found something strange and magical happened when I went upstairs to work. Time stood still. Not since I was a child or when I painted had I ever been so totally absorbed that hours became minutes. I soon acquired a disk drive, monitor, and a word processor.

The word processor proved equally stimulating. What an incredible and inspiring tool for sculpting words! Exhausting friends and relatives with long tributes to the machine, I attempted to explain this very curious addiction to myself by writing short essays about my experiences. Eventually, I submitted the collection to my users group who printed a few and encouraged me to do reviews. This is how I "accidentally" became a software reviewer and how the attic reverted to spider webs and storage space.

But we haven't unraveled the mystery of the "magic!" In one of those first writings I referred to the computer as a Cuisinart for the brain, a mental extension such as a hammer or screwdriver is for the hand. That still didn't explain the enchantment. I never got romantic and silly over the sewing machine or the typewriter. I have only just become aware that it was "connectivity" that lassoed me in. I could always sense the creators within the computer. The commands in Basic seemed like poetic shorthand, and the humor sometimes hidden in programs, plus the sheer ingenuity of it all was so ...well...human.

The developers and programmers with their choices of logic leave imprints as indelible as those fossils and footprints discovered by Leaky in Olduvai Gorge. The computer is not a cold and isolating machine. Only some applications of it reflect that other, darker, side of the human spirit. The prime directive built into this machine is....share!

SO WHAT'S WRONG WITH THIS PICTURE?

Early in 1984 I attended my first meeting of the San Francisco Commodore Users Group. There were well over a hundred men and boys present and

By Sue Albert

A column about women using Amigas

about three or four women. One was a spouse and one was a girlfriend. Only recently are women really coming on strong with the Commodore 64 and 128 and populating the user groups more realistically with participating women members.

A few months ago as a new Amiga owner I drove down the peninsula to Santa Clara to attend the legendary and exciting First Amiga Users Group to find the same situation replicated and multiplied by three...three hundred men and about ten women. This unnatural sexual balance disturbed and intrigued me. It's evident not everyone is receiving that message to share.

WHERE THE GIRLS AREN'T

Thinking back I realized that of all the computer meetings I have attended, I have never seen a teenage or younger girl attending out of interest. I have yet to meet an Amiga programmer or hardware developer that is female. This does not mean women and girls are not using the machines, but that they seem not to be as actively involved or visible. Why is this, and what does it reveal in this post-liberation era? I have a few ideas, theories and as many more questions I would like to explore with you.

ON THE JOB DRAINING

How do many women experience the computer? Too often it is in the down and frustrating ATM or billing machine or in dead-end, low paying, jobs like data entry. Try to talk to one of these working women about how computers can be fun and creative.

Certainly the mathematics and mechanical skills involved in creative work on computers are not beyond the mental capabilities of the female. Just as we've seen young girls perform brilliantly in

mathematics then lag behind during junior high school, we see girls losing interest in computers at the same age. I do not believe this is caused by a natural limitation or a male plot, but very subtle and insidious cultural conditioning reinforced by both sexes.

While boys are encouraged to fearlessly play and explore the world of new machines and ideas, leading to discovery and invention, girls are still channeled toward objectifying themselves and pushed toward a limiting, practical, and domesticated productivity. I find myself, as well as women I know, sometimes searching guiltily for practical applications to excuse our pleasure in using the machine.

SEE MOMMY PROGRAM!

Women and girls need to see other women and girls using and enjoying computers in more than the traditional secretarial positions shown constantly in ads. Over the next few months I will introduce you via interviews to some women who are doing creative and non-traditional things with the Amiga.

I hope to inspire more female participation in the Amiga community, more programs slanted toward female needs and interests, and more programs authored by women. I'm curious to find out how the Amiga has affected their lives, how they have made it pay its way or have been inspired to start a new career. I'd like to share with you ideas on how other women cope with CLI, negotiate the time to explore, and perhaps how they deal with the "Boys Club" atmosphere.

WHAT WE ALL CAN DO

For starters male Amiga users can show their wives, daughters, sisters, and mothers, who are not involved already, that the Amiga does not have to be intimidating. Prove that computing can be fun as well as useful. Try letting them sit at the desk with a program like Fantavision or Deluxe Print where they can be instantly successful and productive

with minimal technical skills. Try talking to them without overwhelming jargon. Don't try to explain bytes, multitasking, or CLI commands. Let them produce a card or an animation or chat on the BBS and, if you listen, they will ask you the right questions. You may soon find you have a built-in users group.

P. T. A-MIGA

Parents can take an interest in how computers are being used in the schoolroom. Are girls getting equal keyboard time? How about starting an afterschool computer group for girls so they won't have to fight for time or feel that computer people are all geniuses or nerds. How about inviting girls to a user group meeting and asking them what kind of programs they would like to have or take a few girls to visit a woman using an Amiga on the job. Give your daughter an Amiga for birthday, graduation, or Christmas.

COMING ATTRACTIONS

In the coming months I will be interviewing some talented women for this column. I have compiled a list of close to a dozen women using the Amiga in a variety of occupations. They are mostly in California and mainly in the Bay Area. I would welcome direct contact or suggestions of involved women Amiga users I can contact in Canada and other parts of the U.S. and Europe as well as your comments. Write to: □

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MODULA-2

Part One: Fundamental Concepts

PREFACE TO THE SERIES

This is the first installment in a six installment series on programming in the Modula-2 language. Although this article is for beginners and advanced users alike, I do assume that you, the reader, are familiar with how to operate your computer, and that you may have some knowledge of programming. Differences exist between the different Modula-2 compilers that are available for the Amiga; the compiler I use is the Benchmark Modula-2 Software Construction Set, and all examples are debugged and tested using the Benchmark system.

Modula-2 vs BASIC or C

The two most popular programming languages for the Amiga are undoubtedly AmigaBASIC and C. AmigaBASIC is included with every Amiga (on the Extras disk), and is a fairly powerful implementation of the BASIC language. Though widely used, AmigaBASIC is not suitable for developing large programs, for several reasons. First, AmigaBASIC is an interpreted language - every time a statement is executed, it must be translated from BASIC source code to 68000 machine code. AmigaBASIC has a limited number of variable types, and is unable to handle complex data structures. Traditional BASIC interpreters lack any kind of subprogram or local variable handling, AmigaBASIC offers only limited support of these constructs.

The C language is a powerful language, suitable for large programming projects; in fact, much of Intuition, the Amiga User Interface, was written in C. Unlike AmigaBASIC, C is a compiled language; the entire C program is trans-

lated into machine code before it is executed. This translation, called compilation, is done only once for each finished C program. Because the translation phase is done ahead of time, C programs execute much faster than AmigaBASIC programs. C also has some features that help the programmer keep track of the code in many source files. C is also a good choice for large applications like operating systems, because C produces compact, fast code.

Despite its distinct advantages over languages like AmigaBASIC, some programmers (myself included) dislike programming in C. The biggest problem with the C language is its arcane syntax; it is quite easy to write a C program that no one but the original programmer will understand; sometimes even that is questionable. In addition, C compilers do very little diagnostic checking when generating code; this allows many errors to slip by during the development phase of a program, which leads to long, frustrating debugging sessions.

Modula-2

Modula-2 answers the problems of C's arcane syntax, with little or no loss of machine efficiency. Modula-2 programs are easier to read, and thus easier to debug, test, and maintain. Modula-2 compilers also perform more diagnostic checking than C compilers. This means that once a Modula-2 program compiles successfully, the resulting code has far fewer bugs than a comparable C program.

Modula-2 also has superior facilities for managing large programming projects. Modula-2 allows greater control over what external objects are included

in a program, and has built-in controls that keep all the different modules of a program up to date. These types of facilities are not a part of either C or AmigaBASIC.

For these reasons, I believe Modula-2 will become the third "language of choice" for the Amiga. Now let's get into some real Modula-2 programming.

Modula-2 Program Structure

All Modula-2 programs share the same general structure. Here is a simple Modula-2 Program:

```
MODULE HelloWorld;

FROM InOut IMPORT WriteString, WriteLn;

BEGIN
  WriteString('Hello World!');
  WriteLn
END HelloWorld.
```

This program (called HelloWorld and included on this issue's AmigoTimes disk) illustrates most of the pertinent Modula-2 rules and conventions. Let's look at it, line by line.

MODULE HelloWorld;

identifies the program's name. Note that the word MODULE is in all capital letters. All key words in Modula-2 are capitalized. Note also that this is called a MODULE, not a program (as it would be called in Pascal). There is no such thing as Modula-2 program; only MODULES. There are three types of MODULES: DEFINITION MODULES, IMPLEMENTATION MODULES, and just plain MODULES. Plain MODULES are the rough equivalent of a Pascal program; they contain the main program

By Jim Shields

code for a given program. We will discuss the DEFINITION MODULE and IMPLEMENTATION MODULE later.

After every line there is a semicolon. With the exception of the last statement in a MODULE, all complete Modula-2 statements end in a semicolon, unless they come immediately before an END keyword. If the statement comes before an END keyword, the semicolon is optional. If the statement is not complete, no semicolon is allowed.

```
FROM InOut IMPORT WriteString, WriteLn;
```

This tells the Modula-2 compiler that the program will be using the procedures WriteString and WriteLn, which are in the module InOut. The Modula-2 compiler will then search the definition of the module InOut for the procedures WriteString and WriteLn. Once the compiler finds the definitions of those procedures, it can use the definition to make sure the procedure is used correctly. Every external object, be it a variable, procedure, RECORD definition, or anything else, needs to be declared in an IMPORT statement. A new IMPORT statement is required for each external module that is referenced, but multiple objects may be declared within that IMPORT statement. All IMPORT statements must come immediately after the MODULE statement, and most Modula-2 programs have several IMPORT lines.

```
BEGIN
```

Indicates that the program code is starting. Note that there is no semicolon after the BEGIN. This is because, by itself, BEGIN does not form a complete statement. All programs, and some blocks of code within a program, start with BEGIN.

```
WriteString('Hello World!');
```

Will print the phrase, "Hello World!", to the screen. This statement uses an external procedure - procedure that is not a part of the Modula-2 language. The ability to use external procedures (something you really can't do in Ami-

gaBASIC) is one of the features that make Modula-2 suitable for large programming projects.

Modula-2 is a case-sensitive language; this means that whether a symbol (variable, procedure name, etc.) is capitalized does make a difference. The Modula-2 compiler would consider the symbols write, Write, and WRITE to be three different symbols.

```
WriteLn
```

Sends the line terminator character to the screen. This is the rough equivalent of pressing the <Return> key on a typewriter. Without this line terminator, the next thing that would be displayed on the screen would immediately follow the exclamation point in 'Hello World!'.

This line of code does not have a semicolon after it because the next line,

```
END HelloWorld.
```

This END statement is the last statement in the program, and as such it contains the name of the program, as the initial MODULE statement did. This END statement ends in a period; this tells the compiler that this is the end of the program.

If you pay attention to these rules, you will avoid making many of the syntax errors that beginning Modula-2 programmers often make. If you do make these errors, your programs will not compile, and the error will be rather obvious. The Benchmark compiler has a good system to flag this kind of error.

"STANDARD" Mod-2 MODULES

In addition to the set of key words (Table 1), Wirth's definition of Modula-2 describes a set of support routines that, while not a part of the Modula-2 language per se, are a part of the general definition of a "standard" Modula-2. The Benchmark system includes a set of external support modules that contain many of the features needed to complete a language. For more information on the definition of Modula-2, read the book Programming in Modula-2 (third, corrected edition) by Niklaus Wirth.

Table 1: Key Words

Arithmetic operators: + - * / DIV MOD		
Logical operators: OR AND NOT & ~		
Relational operators: = # <> < <= >= > IN		
Delimiters: { } () [] (* *)		
Other miscellaneous punctuation: := : ; . , ^		
Reserved words:		
AND	FOR	QUALIFIED
ARRAY	FROM	RECORD
BEGIN	IF	REPEAT
BY	IMPLEMENTATION	RETURN
CASE	IMPORT	SET
CONST	IN	THEN
DEFINITION	LOOP	TO
DIV	MOD	TYPE
DO	MODULE	UNTIL
ELSE	NOT	VAR
ELSIF	OF	WHILE
END	OR	WITH
EXIT	POINTER	
EXPORT	PROCEDURE	

The standard features provide the "bare bones" facilities needed to solve problems; most compilers include many more external modules that address specific problems, or make things easier on the programmer. The Benchmark system, in addition to including the "standard" external modules, contains dozens of external modules that address Amiga-specific topics like graphics and sound.

Here is a list of some of the "standard" Modula-2 modules, with a brief explanation of the variables or procedures they contain. It is not necessary that you memorize each and every variable and procedure; you should merely read through the explanations to get a feel for the kinds of operations that Modula-2 supports.

I've only included the modules that are useful on the Amiga; Wirth's definition of Modula-2 includes support modules for windows and mice and such things (which most computers don't have), but the Amiga has special requirements for such things, and so I have left them out of the discussion.

TERMINAL

The module Terminal contains simple routines for the input and output of text. The procedures in Terminal (Table 2) work with the files StdInput and StdOutput, which are defined in the module System. Usually, StdInput is defined as

the keyboard, and StdOutput is defined as the Amiga screen.

FileSystem

The module FileSystem contains routines for working with files, usually disk files. Many of the procedures in FileSystem work with variables of type File, which is a Modula-2 RECORD containing, for the most part, fields that are not available to your user programs. Three fields are available, however: eof (end of file), err (error), and res (response).

Let's say you want to open file, which is to be referenced by the variable F; F is of type File. At any time, you can get the following information, by accessing these variables:

F.eof would return either TRUE or FALSE, depending on whether or not the End Of File was reached on the last read operation.

F.res would return the status of the last action; either done, notdone, or nomemory. The response nomemory will only be returned by the Loopup procedure.

If F.res returned notdone, you could check F.err for the AmigaDOS IoErr error code (see the AmigaDOS user's manual for the explanation of the IoErr function).

Table 3 lists procedures also in the module FileSystem.

InOut

The module InOut provides input/output operations that are more flexible than those provided by the module Terminal, and more powerful than the operations provided by the module FileSystem.

The procedures in InOut can work with either disk files or terminal-type devices, but the procedures work with only one file or device at a time. The procedures use StdInput and StdOutput (the keyboard and screen) by default.

When you call a procedure defined in InOut, the variable Done is set to either TRUE or FALSE, depending on whether the operation was successful or not.

The constant EOL is defined in InOut. EOL is a character, that can be

used to determine if the end of an input line has been reached. Table 4 lists procedures found in the module InOut.

RealInOut

The module RealInOut contains procedures for reading and writing REAL variables, in the same manner as the module InOut. These procedures are not part of the module InOut because procedures dealing with REAL variables tie up considerable more machine resources, and thus they should only be included if they are being used.

If you have redirected the standard input or output sources using OpenInput, OpenInputFile, OpenOutput, or OpenOutputFile, all the procedures in RealInOut (Table 5) will use the redirected input or output file.

STORAGE

The module Storage contains procedures that allocate and deallocate memory. If Storage wasn't part of the "standard" definition of Modula-2, I wouldn't discuss it; since it is, I feel I must. Be warned, however: because the Amiga has a nonstandard memory configuration, the procedures in Storage may not work as expected on the Amiga. I DO NOT RECOMMEND USING THESE PROCEDURES!

On the Amiga, I recommend that you use the procedures in the support modules Memory or Intuition. These modules allow you to use the procedures that are described in the Amiga ROM Kernal Manual and the Intuition manual.

The procedure ALLOCATE allocates a block of memory. You give ALLOCATE a variable of type ADDRESS, and the length of the block of memory you want. ALLOCATE will return a block of memory (pointed to by your variable), or NIL if there is insufficient memory.

On the Amiga, ALLOCATE will try to allocate FAST memory first, and then allocate CHIP memory if there is insufficient FAST memory. You will get into big trouble if you try to allocate memory for graphics objects or sound samples, or any other type of object that requires CHIP memory. If you are wor-

ried about portability problems with your programs, you may want to use the ALLOCATE procedure; however, don't blame me if your program Gurus. Be smart: use AllocMem, and worry about portability later.

The procedure DEALLOCATE deallocates memory that was allocated using ALLOCATE. You must give DEALLOCATE the pointer to your memory block and the length of the block. The length of the block you deallocate must be the same as the length when ALLOCATE was called. If it is not, unexpected results (i.e. that pesky Guru) may occur.

The procedure Available is used to check if a block of memory of a specified size is available. Be warned: due to the different way memory is handled on the Amiga, Available may not work as expected - it may return FALSE (no memory available) even if the total system memory exceeds the size of the block requested.

MathLib0

The module MathLib0 contains commonly used mathematical functions and it requires that the library mathtrans.library be in the LIBS: directory.

The following procedures take a REAL argument, and return a REAL result:

NAME	FUNCTION
arccos	arccosine
arcsin	arcsine
arctan	arctangent
cos	cosine
sin	sine
tan	tangent
cosh	hyperbolic cosine
sinh	hyperbolic sine
tanh	hyperbolic tangent
exp	exponential function ex
ln	natural logarithm (base e)
log	common logarithm (base 10)
power	takes x and y, returns xy
sqr	square root
DegToRad	converts degrees to radians
RadToDeg	converts radians to degrees

The procedure real takes a LONGINT argument and returns the REAL equivalent.

The procedure entier takes a REAL argument and returns the LONGINT equivalent.

Next issue, we'll discuss variables, math, counting and looping. □

Table 2: TERMINAL**Read**

reads a single character from the current input source.

BusyRead

also reads a single character from the current input source. It is valid only for terminal type devices; it does not work when reading from files.

ReadAgain

returns the last character read by the previous call to Read or BusyRead.

Write

writes a single character to the current output source.

WriteLn

writes the line terminator sequence (usually Carriage Return/Line Feed) to the current output device.

WriteString

writes a string of characters to the current output device. The string must be either a literal string, or a variable of type ARRAY OF CHAR (arrays will be explained in a later installment of this series). Literal strings must be enclosed in either single quotes (') or double quotes (").

Table 3: FileSys**Close**

closes an open file, identified by a File RECORD.

Delete

deletes a file. You must specify the file name.

Lookup

opens a file. To open a file, you must provide a variable of type File, specify the name of the file, and specify whether the file is old or new.

SetPos

sets an open file's pointer to a new position.

GetPos

gets the position of a file's current file pointer.

Length

returns the size, in bytes, of a file.

ReadWord

reads a word (2 bytes) from a file.

WriteWord

writes a word (2 bytes) to a file.

ReadChar

reads a character (1 byte) from a file.

WriteChar

writes a character (1 byte) to a file.

Table 4: InOut**OpenInput**

allows a program's user to specify which file is to be used for input. When called, this procedure prompts the user for a filename. You can specify an optional extension field, which will be added to the name the user specifies, if the last character is a period.

OpenOutput

prompts the user for the name of the file that is to be used for output. This procedure prompts the user for a filename, in the same manner as OpenInput. As with OpenInput, an optional extension may be specified with OpenOutput. The procedure OpenInputFile opens the file you specify, in your program, as the input file. This procedure does not prompt the user for a file name.

OpenOutputFile

Opens a file for output, in the same manner as the OpenInput procedure.

CloseInput

closes a file that was opened with either the OpenInput or OpenInputFile procedures. If you use OpenInput or OpenInputFile, you should call CloseInput before your program exits. Failure to do so may lock up your computer.

CloseOutput

closes a file that was opened with either the OpenOutput or OpenOutputFile procedures. If you use OpenOutput or OpenOutputFile, you should call CloseOutput before your program exits. Failure to do so may lock up your computer.

Read

reads a single character from the input stream.

ReadString

reads a string of characters from the input stream. The string may not contain blanks or control characters; a blank or <carriage return> character is considered to be a terminator.

ReadInt

reads an INTEGER from the input stream. If an invalid integer is entered, the variable Done will be set to FALSE.

ReadCard

reads a CARDINAL from the input stream.

ReadWrd

reads a word (2 bytes) from the input stream.

Write

writes a single character to the output stream.

WriteLn

writes the line terminator to the output stream.

WriteString

writes a character string to the output stream. The character string may contain any characters, and is to be terminated by a null (character code 0).

WriteInt

writes an INTEGER number to the output stream. This procedure accepts a variable or expression of type INTEGER, and a variable or expression that tells the minimum number of characters to write. If the number you write is shorter than the minimum number of characters, the number will be padded with spaces.

WriteCard

writes a CARDINAL number to the output stream. This procedure accepts the number to be output, and the minimum number of characters to write.

WriteOct

writes an INTEGER or CARDINAL number to the output stream, in octal representation.

WriteHex

writes an INTEGER or CARDINAL number to the output stream, in hexadecimal representation.

Table 5: ReaInOut**ReadReal**

reads a REAL variable from the current input stream.

WriteReal

will write a REAL variable to the current output stream. WriteReal allows you to specify the minimum number of characters that will be written.

Table 6: STORAGE**ALLOCATE**

allocates a block of memory. You give ALLOCATE a variable of type ADDRESS, and the length of the block of memory you want. ALLOCATE will return a block of memory (pointed to by your variable), or NIL if there is insufficient memory.

DEALLOCATE

deallocates memory that was allocated using ALLOCATE. You must give DEALLOCATE the pointer to your memory block and the length of the block. The length of the block you deallocate must be the same as the length when ALLOCATE was called. If it is not, unexpected results (i.e. that pesky Guru) may occur.

Available

is used to check if a block of memory of a specified size is available. Be warned: due to the different way memory is handled on the Amiga, Available may not work as expected - it may return FALSE (no memory available) even if the total system memory exceeds the size of the block requested.



AmigaBASIC

Programmer's Toolkit

Pop-up Help screens

Pop-up Help screens

Pop-up Help screens

Pop-up Help screens

INTRODUCTION

Most professionally written computer programs have features that enhance the program's general usability; indeed it is these features that often separate the mediocre programs from the truly outstanding ones. In this article, I will describe both the concept and the implementation of a powerful tool that will increase your programs' usability: context sensitive help text.

Many larger computer systems support some kind of Help Text facility. The benefits of Help Text are obvious - all the computer user has to do is press the <Help> key, and a display comes up and explains the program's operation in more detail. Context sensitive help text takes this idea one step further; the help display that comes up is tailored specifically for the operation the user is trying to perform.

The routines I will explain implement a general-purpose kind of help text, which can be integrated into your programs. As the title of the article suggests, the routines are written in AmigaBASIC, but the concepts can be extended to any language.

THE COMPONENTS OF HELP TEXT: FILES, UNITS, AND PARAMETER LINES

For each program that uses help text routines, you'll have to create a Help Text file. This file will contain the help text, as well as some information that the help text routine needs to display the help text. This extra information comes in the form of statements that come before and after the bulk of your help information. All statements in a help text file begin with "\$\$HS," followed by a single character that identifies the line type. Blank lines within a help text file are ignored, and may be used to separate different screens and parts of screens. Comment lines are also supported, and ignored, by the help text routines.

Help information in a help text file is organized into Help

screen units, each of which contains all the information for a single help screen display. You may have many help screen units in a single help text file.

In addition to the text that is to be displayed in the help window, the help screen unit also contains information that tells the help routine where the help window is to be displayed, and how big the help window is to be. If the help screen is one screen in a series of screens, information as to which screen is next can also be specified. Each line in a Help Text File is called parameter line, and begins with the characters '\$\$'. Table 1 shows a list of valid parameter lines, in the order they usually appear in a Help Text File.

At first, this may seem more complicated than it really is. Put simply, what the parameter lines do is describe the position (HSX and HSY lines), size (HSW and HSL lines), and allowed options (HSO line) for a single help screen. The HSI and HSE parameter lines signal the beginning and end of the help screen unit, and the HS* line allows you to enter comments. The actual help text is specified by HST lines.

Here is an example of a help screen unit:

```

$$HSI Screen1
$$HSX 2
$$HSY 2
$$HSW 40
$$HSL 6

$$HS* 1234567890123456789012345678901234567890
$$HST      Entering Names
$$HST
$$HST      Please enter all names in a last-
$$HST first manner, i.e.
$$HST
$$HST      Jones, Matthew

$$HSE Screen1

```

Let's look at this a little more closely. The first five lines in the:

By James Shields


```

$$HSI Screen1      : Identifies this screen as Screen1.
$$HSX 2            : Indicates that the help window should open two
                    : characters from the left side of the screen.
$$HSY 2            : Indicates that the help window should open two
                    : lines from the top of the screen.
$$HSW 40           : Indicates that the text in the help screen is at
                    : most 40 characters wide.
$$HSL 6            : Indicates that there is at most six lines of text
                    : in this help screen.

```

The next line is a comment line, that is used to line up the text lines. The six text lines follow:

```

$$HS* 1234567890123456789012345678901234567890
$$HST      Entering Names
$$HST
$$HST      Please enter all names in a last-
$$HST first manner, i.e.
$$HST
$$HST      Jones, Matthew

```

The final line in this help screen unit,

```

$$HSE Screen1

```

signals the end of the help screen.

BRANCHING BETWEEN HELP SCREENS

The one parameter line that is missing in this example is the HSO (Help Screen Option) parameter line. This line is used to allow the user to navigate through a series of related help screens, each of which gives more detailed information about a specific subject. This nesting of help screens allows a novice user to read all the detail information, while allowing the more experienced user to go directly to the specific help screen he or she needs. The help routines I have written allow you to nest help screens up to ten levels deep; I do not suggest nesting help screens more than three levels deep, so ten levels should be more than enough for any project.

Each help screen unit can have as many HSO parameter lines as is needed, as long as there is a unique character for each optional help screen. Usually, however, there will only be a few optional screens (less than five), and the characters associated with them will be either digits (1,2,3...) or letters (A,B,C...).

For example, let's say you were writing a program used to catalog recipes. The initial help screen might give a general overview of the program, and other related screens would give information on standard abbreviations, temperature conversions, and high altitude cooking practices. Here is a (not quite complete) sample help text file that would allow the user to use these nested help text screens:

```

$$HSI Main
$$HSX 2
$$HSY 2
$$HSW 60
$$HSL 12
$$HSO A Abbreviations
$$HSO B Temperature Conversions
$$HSO C High Altitude Cooking
$$HS*      +   +   +   +   +   +   +   +   +   +   +
$$HST      On this screen, you will enter all the ingredients and

```

```

$$HST instructions contained in your recipes. They will then be
$$HST stored in a file for your later retrieval.

```

```

$$HST
$$HST      If you need help on any one of the following subjects,
$$HST please press the key corresponding to your selection.
$$HST
$$HST      A -> Common cooking abbreviations
$$HST      B -> Fahrenheit - Centigrade conversions
$$HST      C -> High altitude cooking procedures
$$HST
$$HST (Press <Return> to return to the main program)

```

```

$$HSE Main

```

```

$$HSI Abbreviations

```

```

.
.
<Body of help screen unit>
.

```

```

$$HSE Abbreviations

```

```

$$HSI Temperature Conversions

```

```

.
.
<Body of help screen unit>
.

```

```

$$HSE Temperature Conversions

```

```

$$HSI High Altitude Cooking

```

```

.
.
<Body of help screen unit>
.

```

```

$$HSE High Altitude Cooking

```

The first help screen unit, "Main", has three HSO statements, which point to the "Abbreviations," "Temperature Conversions," and "High Altitude Cooking" help screen units. If the user were to press the <Help> key, the help routine would display the "Main" screen. If the user then pressed the letter A, the help routine would go to the "Abbreviations" screen. If the user pressed <Return> at any time, the help routine would terminate, and the user would be put back into the main program.

CHECKING THE FORMAT OF HELP TEXT FILES

For the sake of code size, the general help text routines do not check for errors while processing your Help Text Files. To help you out, the program FormatCheck has been provided to help you check the format of your help text files. Once you think you are finished writing your help text file, run FormatCheck. Give the program the name of your help text file and if you like, you can opt to send an error list to a file, which you can use as a reference or print off. FormatCheck will read through each help screen unit in the help text file, flagging any errors it finds. If the help screen unit passes the validity check, FormatCheck will display the help screen as it would appear in the program. Once you have viewed the help screen, press any key, and FormatCheck will continue.

ADDING HELP SCREENS TO BASIC PROGRAMS

The AmigaBASIC program file HelpScreens contains the general help text routines. To include the routines in your programs, you can either copy the statements into your program when you write it, or you can use a CHAIN MERGE statement. I recommend copying in the routines when you write it; every time I try to use the CHAIN MERGE statement, the results have always been rather unpredictable.

Here are two variables that will need values before you can

begin using the help routines in your programs:

HelpFile\$: This variable contains the name of your Help Text File. You can set the value of HelpFile\$ in subroutine InitHelpScreens, near the end of the help routines.

HelpScreen\$: This variable contains the name of the current Help Text Unit. You can set the value of this variable anywhere in your program; if it has no value or an invalid value (i.e. the Help Text Unit specified is not in the Help Text File) no help window will be displayed.

Your input routines will have to trap for the help key; examples of routines that do that are in the example program HelpScreenExample (explained later). Then, when the user presses the <Help> key, the input routines will call the subroutine DisplayHelp.

MAKING YOUR HELP TEXT CONTEXT SENSITIVE

Help text is of greatest benefit in programs that are either data entry oriented, or in programs that take the user through a pre-set series of actions. The example program HelpScreenExample is the data entry portion of a larger database program; an example of a program that would take the user through a pre-set series of steps would be a strategy game, where only certain options would be available at some time during a player's turn.

In both of these types of applications, the help text should change as the operations change. This kind of help text is called context sensitive. To make help text context sensitive, change the value of the variable HelpScreen\$ in your program code. The help routines check this variable every time the <Help> key is pressed; if the value of HelpScreen\$ is correct, the correct help screen will be displayed at all times.

The program HelpScreenExample shows a simple data entry screen that has context sensitive help text. The screen in HelpScreenExample is a part of a system that would be used to create and edit magic spells for a Dungeons & Dragons type adventure game. The actual Help Text File is called MagicSpellHelp. As you read the source code for this program, you'll notice that each field on the screen is entered via a separate subroutine; each subroutine sets up the size and range of allowable values, sets the value of HelpScreen\$, and then calls a general purpose input routine. If the user presses the <Help> key, the input routine calls the subroutine that displays the Help Text.

CONCLUSION

Context Sensitive Help Text is a powerful tool, often seen on sophisticated computer systems costing hundreds of thousands of dollars. Now you can take advantage of this tool, and include it in your own AmigaBASIC programs. □

Table 1: AmigaBASIC

\$\$HSI <ID> : The Help Screen ID, or HSI, parameter line begins a new help screen unit. The ID is a character string, which can be up to 30 characters long. The help screen ID is displayed in the title bar of the help window.

\$\$HSX <Number> : HSX specifies the X position, in characters, of the left edge of the help window. This parameter is an integer, in the range of 1 to 75. The total of the HSX and HSW (below) parameters cannot exceed 79.

\$\$HSY <Number> : HSY specifies the Y position, in lines, of the top edge of the help window. This parameter is an integer, in the range of 1 to 22. The total of the HSY and HSL (below) parameters cannot exceed 24.

\$\$HSW <Number> : HSW specifies the width, in characters, of the help window. This parameter is an integer, in the range of 1 to 75. The total of the HSX (above) and HSW parameters cannot exceed 79.

\$\$HSL <Number> : HSL specifies the length, in lines, of the help window. This parameter is an integer, in the range of 1 to 23. The total of the HSY (above) and HSL parameters cannot exceed 24.

\$\$HSO <Char> <ID> : The HSO parameter is used in help screens that allow the user to take options to view other help screens. This parameter line has two parameters: the first parameter is a single character, and the second is the ID of a help screen. When the user presses the specified character's key on the keyboard, the screen specified in the ID parameter will be displayed. A maximum of 25 HSO parameter lines may be specified for a single Help Screen Unit.

\$\$HS* <Text> : The HS* parameter allows you to enter a comment into the help text file. All HS* lines are ignored.

\$\$HST <Text> : The actual text that will be displayed in the help window is specified using HST lines.

\$\$HSE <ID> : The HSE parameter line signals the end of the current help screen unit. The ID parameter must match the ID specified in the screen's HSI parameter line.

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☐ Expansion Memory
☐ Sidecar
☐ Genlock or Digitizer
☐ Musical Equipment
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(continued from page 14)

THE ETHIC OF SOFTWARE PIRACY

So despite their apparent differences, we see that both producer and consumer confront the same moral question: How important is money?

ABUSES BY SOFTWARE PRODUCERS

Producers wrong consumers when they maximize their income at the expense of the quality provided. This is clearly unfair: they are treating their interest in making money as more important than the users' interest in receiving decent software. Producers can do this in many different ways.

The software itself may be buggy, ill-designed, or incomplete. That is, it may fail for one reason or another to perform its assigned task. Documentation is often inadequate. This can be exacerbated by the failure to provide adequate customer support, leaving the user without convenient recourse for the program's shortcomings.

Producers can overcharge for a program, either initially, or through extortionate updates and upgrades. This offense is admittedly "subjective" insofar as there is no consensual standard for "how much" program quality equals X amount of dollars. Nonetheless, almost everybody has their favorite examples of software swindle and exploitation.

Software producers have almost complete control over the terms of the licensing agreement, whether or not they add the insult of "shrinkwrap." They exploit this by imposing arbitrary restrictions on the use of their software: for example, that a given copy of a program can be used by only one person (the buyer) and on just one machine.

Finally, they frequently pile on top of this a "nugatory warrantee": clauses which disclaim almost any obligation to satisfy any requirement. Abuse of this kind is so pervasive that the computer magazine ABACUS (now sadly defunct) once ran a "software disclaimer" competition. The winning entry ran, in part, like this:

"Cosmotronic Software Unlimited Inc. warrants the diskette(s) on which the program is furnished to be of black color and square shape under normal use for a period of ninety (90) days from date of purchase."

There are those that argue that if you don't agree with the license, don't buy the software. But first, it is often impossible to discover the terms without first buying the software, as in "shrinkwrap" agreements. Second, anyone who followed this course on principle would end up with very little software. It is clearly unfair to guarantee nothing and give consumers no voice in determining how they can use the software they have paid for.

Finally, producers often resort to inconvenient if not harmful copy protection schemes. These may restrict the users' ability to back their software up, or impose awkward restrictions on its use. The self-serving nature of copy protection is most evident in the hypocrisy of software companies which market backup software that doesn't backup their own products. If users have a right to backups, it is a universal right.

ABUSE BY SOFTWARE CONSUMERS

Consumers, on the other hand, wrong producers largely through software piracy. There may be occasions in which harm is caused by false or malicious rumors about a company or product. However, by and large consumer abuse takes the form of piracy. This is why, of course, producers resort to copy protection. Unfortunately, this ends up unfairly hurting the legitimate owner as much or more than the illegitimate.

But we don't need to solve any metaphysical puzzles about the nature of property to understand that it is unfair for one party to take benefit from another without just compensation. Equality of interests implies that people should benefit equally from their transactions with each other. If you claim to deserve greater benefit, I can always ask why you think your interests are more important. It is clearly unfair for pirates

to benefit from software without reciprocating just compensation.

Of course, we cannot infer, because producers harm consumers in many ways, and the latter hurt the former in only one, that producers are therefore "more guilty." You cannot determine the amount of unfairness simply by counting varieties of wrongdoing. It is the extent of the damage that you do someone, not the number of ways you do it.

A PLAGUE ON BOTH THEIR HOUSES

It is my estimate that overall producers and consumers of software are about equal in the ill they do each other. To be sure, one of the problems with the fairness approach is that it is often difficult, and sometimes impossible, to gauge precisely the respective harm or benefit done to competing interests. Nonetheless, a single consumer can injure many producers by pirating their software, and a single producer can harm many consumers with deficient software or support. In this respect, the extent of their respective wrongdoing seems roughly equivalent.

An important distinction between the two sides, however, is that producers' wrongs are almost always legal. Depending on where you live, there may be laws regarding "implicit" warranties. Unfortunately, few users know of them, and fewer still have the time, money, or influence to pursue such matters through the courts. Whereas, of course, software piracy is illegal. This is why I emphasized earlier that morality and legality can be separate things.

However, while producers have the law on their side, it is law that is almost impossible to enforce. Unauthorized duplication of software is generally undetectable and unpreventable: almost all copy protection schemes are broken as soon as the software is released.

On their side, consumers have the "invisible hand" of the marketplace. That is, in the long run the producers that give less quality for the dollar should sell less, and gradually give way to more competitive offerings. Unfortunately, self-correction by the market is a

lengthy and often uncertain process. And it is little compensation, to buyers of today's worthless software, that someday in the future economic forces will wreak their revenge.

THE VERDICT IS GUILTY

No doubt, just like producer abuses, software piracy is due in large part to acquisitive tendencies innate in the human animal. But in addition, it can hardly be doubted that the "anomy" or lawlessness of piracy is also a reaction to the fact that the legal deck is stacked against the software consumer.

Neither of these considerations should be thought to excuse piracy. We earlier noted the importance of distinguishing between "is" and "ought." One consequence is the need to distinguish between "explanation" and "justification." A psychological or biological explanation may show why someone does something (why it is), without thereby justifying that action (showing why it ought to be).

To be sure, the wrongdoing of each side may balance out in a crude manner. But equal and opposite unfairness is not the same as fairness. Or in more familiar terms: two wrongs don't make a right. This is one reason why "class" analysis has fallen into such ill repute. We have to look at people as individuals as well as members of certain classes. And in individual terms, we can see that the blameworthy producer harms pirate and non-pirate alike, just as piracy exploits both decent and dastardly producers.

A BENIGN FORM OF PIRACY

After all this careful analysis, the reader may expect at this point a bold and sweeping solution for software piracy, and the allied issues dividing producers and consumers. I sincerely wish I had something of the sort to offer. Alas, the reader will have to settle for something more modest: a temporary, stopgap remedy for producer abuse, and a possible longterm approach to improving the underlying legal imbalance.

To date, most of the effort has been focused on the software pirate. One copy-protection scheme after another

has been tried, only to be defeated by hackers. Licensing agreements have become evermore strict, only to be ignored; lawsuits are extremely rare. Stern lectures fill the editorial pages of computer magazines, but piracy thrives unabated. So I propose focusing on the other side of the problem, by taking the perspective of the consumer.

The first thing users can do is research as carefully as possible any contemplated software purchases. While I do not agree with the ethic behind the slogan "Let the buyer beware," you have only yourself to blame if you rush into buying something without trying to find out what it is you are getting. The Amiga community is blessed with a large number of excellent, user-oriented magazines, filled with informative software reviews and commentary.

As important element of their research, the potential buyers will want to "test drive" the software. In favorable circumstances, either a nearby dealer or friend will already have the program, so that you can examine it first hand. This is the best way to see if it meets your requirements, if the documentation is any good, if copy protection is being used, and so forth.

As a means of test driving software, I personally tolerate the non-authorized transmission of software, that is, getting a copy from someone for sampling purposes. If I find myself making significant use of the software, I go ahead and buy it. This is fair, I think, because the producers who benefit me get proper payment, but not those whose programs are worthless.

But whenever I have advocated this type of "benign piracy" on the networks it's invariably the subject of great controversy. So let's take an honest look at some drawbacks and disadvantages.

First, anyone who takes this approach must realize that it is no more legal than the more irresponsible forms of software piracy. I have contended that the law tends to favor the producer, but this may not be accepted as an adequate defense in court, should one end up there.

Second, this way of sampling software places a strong reliance on the per-

sonal integrity of the user. There is nothing so easy as saying to yourself, "Well, I don't really like that program, even though I use it now and then." From my point of view, self-deception like this is original sin. Once you succeed at lying to yourself, deceiving others (to acquire an unfair advantage) is second-nature.

And third, practicing benign piracy requires that you only transfer software to those who abide by the selfsame ethic. I would never join a pirate board, for instance, even though that might greatly expand my ability to sample software. By sending them software they didn't have, I would acquiesce in their unrestrained kind of piracy, which would violate the principle of fairness. I am responsible for what others do, when I help them do it.

LONGTERM SOLUTIONS

It should be obvious that I regard so-called "benign piracy" as a problematic policy: at best a stopgap measure. By tolerating transgressions of this particular law, one cannot avoid encouraging some disrespect for law in general, however good one's intentions. So while legality will invariably diverge from morality, there remains good reason to obey the law regardless.

John Foust of Syndesis, aka AMICUS on PeopleLink, referred to benign piracy as a "vigilante" policy, in one of many acerbic interchanges on the subject. But his analogy is too extreme. Vigilantism has a deservedly bad reputation as the practice of taking the law violently into your own hands. Woodie Guthrie sang

*Tell me why does a Vigilante Man
Carry that sawed-off shotgun in his hand?
Will he shoot his brothers and his sisters down?
That no good Vigilante Man.*

Piracy, even in its extreme form, is more akin to breaking a contract than breaking and entering.

Since the benign form recognizes the obligation to compensate producers for useful software, it is more like selective anarchy than commercial terrorism. This does not make it innocent, of

course. Anarchists tend to make increasingly selfish interpretations of which laws should be obeyed, and which not. This inexorably gravitates toward the chaos of relativism. Many versions of the law is no better than no law at all: there is no way to consensually resolve disputes.

A more longterm solution to software piracy would take the form of legislation that more fully recognizes consumers' rights. Producers should not be allowed to arbitrarily restrict users' rights, and to guarantee nothing in return. Consumers have a right to bug-free software, to upgrades and updates at reasonable cost, to proper documentation, and responsible support. Buying software should not be like gambling.

But even without the enactment of legislation, producers themselves can take important steps to reduce the practice of software piracy. Not with more repressive licensing and more stringent copy protection. That's part of the reason people pirate in the first place. By taking every advantage of the law, producers have encouraged the perception that the law is against consumers. The inevitable result is anomy, lawlessness,

piracy.

Instead, producers should put on their software packaging, truthfully in bold letters, THIS PROGRAM IS NOT COPY PROTECTED, REASONABLE UPGRADES, YOU CAN'T BEAT OUR SUPPORT, LIBERAL LICENSE PROVISIONS, and SATISFACTION GUARANTEED. In short, they should make it clear that they don't intend to hide behind the law, and disclaim every responsibility to the user.

The worst that can happen is nothing: piracy goes on like before. But at the very least, pirates will no longer have the same excuse for irresponsible copying. And sales should increase: all other things being equal, buyers will prefer software that recognizes the validity of their interests. And at best, consumers will begin to reciprocate the respect they have been given, and regard producers' interests as important as their own. Piracy will no longer seem a chic or tolerable ethic.

ACKNOWLEDGEMENTS AND REFERENCES

I would like to express my gratitude to the people who have troubled to debate

these issues with me on the electronic networks. With few exceptions, I have learned from their opinions regardless of whether they agreed with mine. Special thanks go to John Foust, who can always be counted on to disagree with more cogency than I would like to believe possible.

If you are interested in the legal aspects of the software business, I cannot recommend too highly Thomas J. Smedinghoff's THE LEGAL GUIDE TO DEVELOPING, PROTECTING, AND MARKETING SOFTWARE (John Wiley, 1986). And finally, you can find a great rendition of Woody Guthrie's "Vigilante Man" by Bruce Springsteen on the recent Folkways album, A VISION SHARED. Better yet, check out Woody's own version on THE ORIGINAL VISION and other Folkways albums. □

ABOUT THE AUTHOR

Dr. Gerald Hull is the president of Creative Focus, a software consulting firm located in Binghamton, New York. He has a Ph.D. in Philosophy in addition to a M.S. in Computer Science, and is working on a book on ethics entitled TELLING RIGHT FROM WRONG.

(continued from page 77)

THE FRAMEGRABBER

on a 512K Amiga, although the following modes will not be accessible:

B&W: 640x400 - 16 colors

Color: Any resolution greater than 320x200 in HAM. (384x240 is only available in 2 color mode)

The FrameGrabber software comes complete with a few image processing functions and animation capabilities besides its standard image capturing functions. The software is capable of accepting any IFF or HAM format image. Once loaded, these images can be manipulated with some of the features that are available in the software. You can reduce images to a quarter of their size, lock a palette when you're digitizing,

and you can also skip the first two registers (0 and 1). This is handy if you want to use the images with a genlock or any application where you might require the foreground and or background colors free. FrameGrabber will also save images in three formats other than the IFF standard. The first file format is called an "IMG8 File," this a compressed format where 12 bits per pixel are preserved. "IP File" stores images in a format compatible with Digi-View - a nice touch because you can then import the image into said program to use its enhancement features. The "Raw File" contains all the information (12 bits per pixel) used by the FrameGrabber. After you have grabbed, or loaded images, you may save parts of that image as brushes. You can also load and save, or lock palettes for images.

UP AND RUNNING... AND VERY WELL TOO

The FrameGrabber in action is something to see, after all those years that we "Live!"-ed through without a real real-time digitizer, it outdoes all expectations. When the FrameGrabber is running, you are able to toggle between the video images that you are watching and the FrameGrabber screen, this is all done with the "Tab" key or by the appropriate menu-selection. For loading or saving files, the program uses the incredible Pathmaster requestor by Justin McCormick which many will agree should become a standard for programs; this requestor is quickly becoming well known in the Amiga community. Digitizing from a VCR or a video camera was no problem at all; the fastest mode for digitizing was lo-res black and white, and the slowest was hi-res, 16 colors. The FrameGrabber will also create standard and time-lapse animations

with the images that are captured. For animations, the best results are obtained when you are in lo-res black and white mode.

When using the FrameGrabber as a still image digitizer, there's only one word for it, "fast." The fact that this piece of hardware is designed to capture moving images gives it an edge with still images; "sort of like chasing a parked car", "no contest." Even in hi-res 16-color mode, the time loss occurs when you have to change the filters. As in standard 3-filter capture, you have to grab the RGB aspect of the image. Note that with a color camera or camcorder, you don't need the filters.

While running the FrameGrabber through its paces, I ran across an interesting little problem; the FrameGrabber is incapable of capturing images directly from the Amiga. I first attempted to grab images from an Amiga screen by using the NTSC output from another Amiga, to no avail. The next step was to try to record the Amiga output with a VCR and then play it back and grab the image with the FrameGrabber; strangely enough, this didn't work either. I tried again with a professional broadcast quality genlock. I tried that because a genlock is capable of combining two video images and outputting the combined signal as an NTSC signal. The FrameGrabber is supposed to be capable of grabbing an NTSC signal. Sure enough this did not work any better than previous attempts. At this point it was postulated that the Amiga was probably outputting a signal with a positive or negative sync which the FrameGrabber simply was not able to lock onto. This of course does not explain why the little trick with the genlock did not work.

I finally broke down, and had a flash of brilliance, why not call Progressive, they might be able to help considering they designed and built it. The response from one of the design engineers at Progressive was that the FrameGrabber was not able to lock onto the Amiga's sync signal, but if it was used with their Pro-Gen genlock, it would work. The next step would be to get my hands on a Pro-Gen and put this bit of information to

the test. As of yet, I have been unable to acquire a Pro-Gen in order to do this experiment with the FrameGrabber.

ATTENTION DEVELOPERS...

As the FrameGrabber is a new product, Progressive Peripherals and Software makes technical data available to developers that wish to write software for this product. This is a very good move on the part of Progressive Peripherals because it affords other software developers the chance to come up with as yet inconceived applications for the FrameGrabber.

THE OUTCOME

Despite the initial setbacks encountered with the FrameGrabber power supply, it is an honest to God, dyed in the wool real-time digitizer, and it works very well. The images captured from a videotape were quite clean, even those that were recorded in extended play mode; for best results with a videotape, make sure all recordings are made in the normal play mode. Similar results are obtained with color images outputted from a camcorder. As a still image digitizer (RGB filter mode), the FrameGrabber functions equally well, although the image enhancement features of the software are not at the level of Digi-View 3.0 from New-Tek (I suppose this is a good reason to create files that are compatible with Digi-View). It's safe to say that if you can afford the FrameGrabber and were also considering purchasing a still image digitizer, you should seriously consider this product. The FrameGrabber offers the capabilities of a still image digitizer as well as a versatile real-time digitizer. □

FrameGrabber

Progressive Peripherals & Software Inc.

464 Kalamath Street

Denver, CO 80204

USA

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(303) 629-6746 (BBS)

\$699.95 (US)

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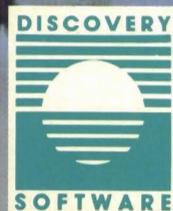
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