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B.A.U.G. Newsletter

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From the Editor's Terminal

Good morning! I guess I'll be seeing some of you folk tonight at the meeting. Yep, it's 1:40am night before the meeting, not too bad.

Anyway, this might be shorter than normal since I have a lot of things to do. I should start out by saying that I hope you notice the new article headers that our art director, Gene Chmielowiec, has created. They look really good, Gene. He's also created one for my series *The No Mouse Computer*, which will be returning next month.

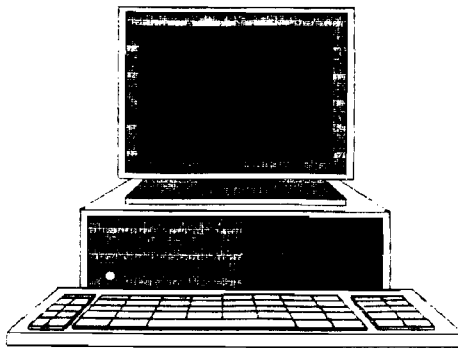
Commodore has officially announced the 1,000,000 Amigas sold now, and it's projected that they will have sold 2,000,000 by the end of 1989. Not an unreasonable expectation, as things seem to be going well. Christmas sales are indicating that the trend really is Amiga. We sold perhaps on average 6 Amigas to every 1 64 that we sold. Not too bad, considering it was the other way around last year.

Memory prices are supposedly dropping down, but I'll believe when I see it. I've heard that the Japanese are keeping the chips in their country to meet their own demand for the chips. Who knows? I'm lucky I've got my 2.5 megs.

This issue is really turning out great. It's not a JIM HASSETT issue as the last was (boy Jim you really did a lot of work!). Instead, Jim took a break and only wrote 1 article, but I'm going to hit him up for a demonstration of *Movie Setta* tonight.

Sandra Craddock has gone through the second book written by John Gilson, our local school teacher. Her thoughts on the book can be found on page 3, and she's also written a fictional story called *Time Off*, which is about yours truly! It's quite interesting.

Gene has decided that he is going to tackle the field of telecommunications in his articles, but he found that one article just wouldn't do it, so the second installment of his article



will appear next month. I love that logo Gene!

Paul Atchison is pretty FRUSTRATED this issue, as he describes a problem that you may find yourself if you pick up a 1020 at their present selling rate (they can usually be found for \$75-\$100). Whether or not they will be available at this price for much longer remains to be seen, I know that at Zoez we sold right out of them. They are great because you can convert 64 and IBM files back and forth, and it really operates well as a second or third drive. As a third drive, you only get 440K but still you can put things like fonts and other space consuming items, and keep them off your 3.5".

This month, John Bos explores the Mandelbrot set in an advanced article that is quite interesting. It's good to learn some of the theory behind all of the pretty pictures.

This month I decided to take over Jim's column (The BAUGSTER Report) (Jim Coined the BAUGSTER term, which indicates an Amiga owner that has great respect for me, I mean that attends BAUG meetings). In that section I talked all about the new Commodore Amiga 2500, an excellent new machine from the boys who delivered the Amiga. I also have my C column (2nd installment since I've changed formats) that allows you a little more usefulness than our original "WINDOW.C" program. Now we learn how to communicate with the Amiga to find out just what's going on inside that window.

Randy Linden was supposed to be

coming tonight, but that was when the meeting was scheduled for February 23. Now that it's been bumped up, he is in New York at AmiExpo (where I should be) displaying his new products. I don't want to give too much away, as I am sure Randy will come to our next meeting himself and tell you all about the new stuff.

That's all of real importance this month. The store my brother and I are running is progressing, things are happening, I've just spent a lot of money and the world is great, if not BUSY!!!

Until next month, keep your head on the ground, keep your teeth in your mouth, and your wallet in your pants.

A handwritten signature in cursive that reads "Syd L. Bolton".

Syd L. Bolton
Editor-in-Chief

A faint, illegible stamp or signature, possibly a date or a name, located in the bottom right area of the page.

REVIEWS...

MOVIESETTER

Reviewed by James Hassett

Like many people I have always loved cartoons. From the Warner Brothers shorts to Disney classics, they have provided many hours of entertainment and enjoyment. Besides the "fun" element of watching animated films, I was always fascinated by the technical aspects of producing them. Therefore, when I went shopping for a new computer the availability of *Aegis Animator* was an important feature to be considered. Later, *Fantavision* brought improved ease of use and the addition of sound effects. Both these programs used a system where the computer filled in the frames between user defined start and finish frames. This meant that the moving characters had to be simple in appearance or in motion, a far cry from the sophistication of Disney or Walt Lantz. Well fear not cartoon fans and would be artists, Gold Disk brings us **Movie Setter**.

In order to achieve greater expression and detail in a given character or object **Movie Setter** uses the same "cel" animation that the masters have used for decades. The term cel comes from the clear sheets of cellulose that the artists painted the moving characters on one frame at a time. This is exactly how animation is accomplished in the "Set Editor" section of this program. You draw, for example, a bipedal figure, side view, one foot extended forward. Next you create the identical picture except that the extended foot is now on the "ground" and the rearward foot is up slightly. Continue this until a perambulation has occurred. You only need about four or five pictures to give the illusion of movement when played in order at about ten frames per second. This of course is quite time consu-

ming compared to the efficient draw-clone-move system of *Fantavision*. In fact it can be tedious if you really want to produce detailed drawings. There are short cuts available in the program that save time but do not limit the ability to include the details that add so much to the display of expression and character. If you want to make a man walk you can draw the first frame, or face as the manual calls them, then copy it to the next frame where you erase the legs in order to redraw them in the new position. If you have an object that you wish to rotate or change in size you turn it into a brush using a familiar brush tool and change it in a similar manner to most of the better paint programs. Using controls that resemble those of a VCR the animated set can be previewed as work progresses both by normal run and step through. The drawing tools are limited compared to a dedicated paint systems but provide enough utility to create satisfactory pictures. Some of the tools have a top half and a bottom half and care must be taken to click on the correct part to avoid a frustrating little surprise. You can use any low-res paint program to create sets and backgrounds but remember to use the same palette on both or the colours will not appear as you planned. Backgrounds must be drawn in full video size since the program allows you to scroll the background either vertically or horizontally and smaller pictures will produce black lines between the end of one picture and the start of the next, (the same pic looped around to start again).

The program also supports colour cycling and will cycle normally while the animation is playing. The possibilities that this feature opens up are very exciting and I can hardly wait to start experimenting. The method for setting up scrolling is complicated and not explained well in the manual. The complexity is required by the

variety of things that can be done with scrolling however it is difficult to undo a setting so great care must be taken. The sound system works with the same file format that *Fantavision* does so my current library of effects will work. Since sounds are assigned to a single frame (face) instead of a group of frames as in *Fantavision* you can accurately place the sound of a footstep as the foot in question hits the ground. Use your imagination to come up with other interesting uses. I can't think of everything for you. The sound assign window has a one octave piano keyboard to set the tone of the particular effect so accurate musical effects can be achieved. In addition the sound can be panned and the volume changed for every frame. The manual for *Movie Setter* is better than many I've struggled through. It is simple without being condensing and will get the uninitiated animator creating very quickly. It fails to explain properly some points that could be important for advanced use. The previously mentioned scrolling question for one and the proper use of the movie player segment of the package for another. I at first thought it would be similar to *Fantaplayer* but it doesn't appear to be. The program package includes a second disk that contains three background pictures several sound effects and many different animated sets to use in creating cartoons quickly without having to draw your own. Most of the sets are of some kind of creature walking but there is the famous Amiga checkered ball and what they call the "grey burst" which could be used for an explosion among other things. I really feel that most of the sets were a little self indulgent on the part of the artist since, by their nature, have limited use. I would like to have seen more generic type anim sets such as the ball and the grey burst. These sets could be used in many applications over and over combined with your

own original character. Do yourself a favour and play all the library sets through as you get to know the program. It will give you a few ideas on creative method.

One problem that can have you tearing your hair out is the fact that there is no warning when you run out of memory. The system simply crashes leaving you looking through tear filled eyes at that ugly guru box. *Aegis Animator* puts up a warning window just before the end and if you bypass that it still won't crash. The only safe thing to get around this situation is to save frequently as you go so you won't be starting from scratch if you happen to get carried away with your project. Further on the subject of memory. The *Movie Setter* package will work on only 512K, however you should read the read me file as it has some hints on how to use the smaller memory more effectively. Your projects can either be saved by "embed" command that saves script backgrounds sounds and sets together or "no embed" that saves only the script. The latter assumes that the art work is already on the disk. If you accept that cel animation takes more time and effort than *Fantavision* type animation then *Movie Setter* will prove itself to be an exciting and useful creative tool. There are one or two functions that are a little clumsy in operation but these can be avoided to a great degree. All in all I think it is worth investigating and earns a "very good" on Syd's scale of software compitance.

NAME: **MOVIE SETTER**
PUBLISHER: **GOLD DISK**
PRICE: **\$89.95**

See review opposite column.

NAME: **SWORD OF SODAN**
PUBLISHER: **DISCOVERY**
PRICE: **\$89.95**

AMIGA BASIC VOLUME 2

Reviewed by Sandra Craddock

"*Amiga Basic, A Self-Learning Course, Volume One*", was a very good beginning for me to learn a BASIC programming language. With the resulting slice of confidence, I entered Volume Two. I must say I was a bit overwhelmed by the cover's promise of understanding Sequential and Random Access files, as well as Windows, Menus and the Mouse. Once inside however, I forgot my anxiety. If you haven't used the CLI before then lesson one is an excellent way to introduce you to it. You learn the how and why of initializing a disk, listing the contents of disks (either on screen or on paper), saving programs to disk in Binary or ASCII format, merging and loading programs, and erasing a program or file. Lesson two, jumps into Sequential files. Here you learn the OPEN statement. Either you OPEN to INPUT from a file on disk, OR for OUTPUT to the disk. You also learn to CLOSE the file you've opened. From here the programs take on a useful nature. Included is an electricity file program, a utility program where you can enter your own set of names (ie-Cable TV, Telephone etc.), a very detailed inventory program where you use the mouse to select what choice you've made, and an example of a budget program which uses a Menu Title Bar. These are all Sequential files, taking use to the end of lesson eight. In lesson nine you learn the differences in Random Access files, how to use the FIELD and LENGTH statements, how to change numbers to STRINGS (ie-MK1\$, MKS\$ etc.), and how to save character strings left or right justified (ie-LSET, RSET). Lesson ten combines a Sequential file with a Random Access file to make a mai-

ling list program. With the knowledge you gain from learning how these files work, both separately and together you could quite conceivably write some excellent programs. Whether you make them for personal use or business applications. In closing I'd just like to ask "Have you thought much about Sprites and Bobs and well just... general animation, John??"

NAME: **AMIGABASIC VOLUME 2**
PUBLISHER: **BRANTFORD EDUCATIONAL SERVICES**
PRICE: **\$24.95**

SWORD OF SODAN

Reviewed by Syd L. Bolton

"*Select Hero or Heroine*" the opening title booms. I'm impressed, here's a game that doesn't exclude that women might be playing video games.

That's just the first feature of this very impressive 3-disk program. This game contains over 4 megabytes of graphics and sound data to make up one of the most impressive games of the year.

In this game you must kill an evil sorcerer who is very powerful, and you must complete 11 levels to get to him. The characters on the screen are literally *huge!*, often reaching 2/3 of the screen in height. You traverse through a gate, town, the city streets, the forest, a graveyard and then several places in Castle Cragga-moore.

This is a hack'n'slash game at it's best, perhaps too gross for some, this game is most impressive graphically and sound wise, and there's great playability in there too!



The club library has a large assortment of public domain software disks. When looking at the titles of the programs on those disks there is one name that shows up several times. That is the name Mandelbrot. Benoit B. Mandelbrot is an IBM Fellow and a professor of mathematics at Harvard who has written a book: "The Fractal Geometry of Nature". In this book are many subjects and one of them is the Mandelbrot Set. In the August 1985 issue of the Scientific American, A.K. Dewdney explained what the Mandelbrot Set is and showed some stunning pictures that were generated on the computer with a very simple procedure. After this article appeared, several programs were published that can generate Mandelbrot Set pictures. For instance on the Fred Fish disks 4,20,21,31,90,111 and others. The pictures are generated as follows: Visualize on the screen a horizontal and a vertical line. The point where they cross each other is called the origin. Pick a point on the screen and stuff its location in the constant c. Starting with $z=0$ calculate its first value from $z = z^2 + c$. The first answer will be $z=c$. The second time around z will be z squared plus c . If we plotted the point z on the screen, and its distance from the origin is more than 2, then it is known that this distance will keep on increasing and the point will escape from the screen. Keep on recalculating the value of z from $z = z^2 + c$ until z escapes. If it did not escape after doing this 1000 times we will assume that it will never escape. In that case we give the original point c the color black and plot it on the screen. Repeat this calculation for its neighbour pixel, all the time keeping count until the count reaches 1000 or the dot escapes, whatever comes first. When the distance from the origin is more than 2 and the dot escapes it has taken anywhere between 1 and 1000 calculations. Colour the starting dot 'c'

with a colour that indicates the number of calculations that took place. For instance use 'blue' for the counts 1 to 99, green for counts 100 to 199, red for 200 to 399, yellow for 400 to 699 and white for 700 to 999. The pixels with a count of 1000 are coloured black and are part of the Mandelbrot Set. If you run the program on an area that is located completely within the Set you will get a black screen. If the area is well away from the Set it will be all blue. The most interesting pictures are located close to and possibly including a small part of the Set. A suggested place to look at is $-.76$ to $-.74$ on the x axis and $.01$ to $.03$ on the y axis. There are millions of beautiful spots. It can take anywhere from a quarter of an hour to a couple of hours depending on the resolution to generate a full screen. You can save the result to disk and make a slide show.

The rest of this article explains in more detail how to calculate the variable z . You may recall that I said "we stuff the location of the point into the constant c". Now that is garbage. A point on the screen is defined by two numbers: a horizontal distance and a vertical distance from the origin, and you cannot store in the one location 'c' two numbers at the same time. You have to read it symbolically such that 'c' is a shorthand form for the two numbers that define the location of the point on the screen. But if that is so then z also represents two numbers as used in $z = z^2 + c$. And what is z squared? Let's digress and look at a simple number line. At the left starting point we place a zero. Going to the right we place equally spaced the numbers 1,2,3 etc. If we now pivot around the zero point this number line anti clockwise 180 degrees until it points in the opposite direction and multiply all the numbers on the line with -1, we get an extension of the original number line with negative numbers to

the left of our original zero. With this 180 degrees rotation we have to multiply our numbers with -1 to fix them. We could call -1 the fix factor for a 180 degrees rotation, or in short: $\text{fix}180 = -1$. For locating a point in a plane we do need a horizontal and a vertical distance. We just made our horizontal numberline and still need a vertical numberline. To make this line we rotate the horizontal numberline by 90 degrees and multiply the numbers on the line with 'fix90' which is the fix factor for 90 degrees rotation. The question is, what is fix90? If we would rotate another 90 degrees anti clock, we have to multiply with another 'fix90' and we know that the final result must be the same as rotating the original line 180 degrees and using 'fix180'. From this we can summarize $\text{fix}180 = \text{fix}90 * \text{fix}90 = -1$.

So we conclude that fix90 is the root of -1. The problem is that the square root of a negative number does not exist, we cannot label the vertical axis with real numbers. We have to label it with the numbers $1*\text{fix}90$, $2*\text{fix}90$, etc. Everybody else is using the letter i or j for 'fix90' so we will do that too. The labels on the vertical axis become $1j$, $2j$, $3j$, etc. Having two crossing numberlines allows us to view the screen as a number plane on which we can plot points. If we say $c = -.75 + .02j$ it means the point is located .75 to the left of zero and .02 up. (+j is up, -j is down). This number looks rather complex, it is called a complex number. Getting back to our $z = z^2 + c$ in which c and z are complex numbers. In the following examples we will calculate 'z' and use for 'c' the value $-2 + 3j$. For the first calculation z is zero and we get $z = 0^2 + c = 0 - 2 + 3j = -2 + 3j$. For the second calculation we use the just calculated value of 'z'. This gives $z = z^2 + c = (-2 + 3j) * (-2 + 3j) + -2 + 3j$ Remembering that $j^2 = -1$, we can work this out. This gives us $z = 4 - 9 - 6j + -2 + 3j = -7 -$

Continued on page 11.



An Introduction to Telecommunications

Having recently acquired a modem for my Amiga I now find myself delving into the realm of telecommunications. Calling up local Bulletin Board Systems (BBS's), and chatting with the various board's system operators (commonly called Sysops) and/or leaving messages with some of the other people who frequent these boards.

But before I get ahead of myself let me try to briefly explain what a modem is and what it does. A Modem is a hardware device that you connect to your Amiga through the serial port at the back of your Amiga (which is clearly labeled and has a figure of a telephone above it), which when combined with the terminal software package, which comes with your modem, allows you to directly communicate with another person's computer system in the form of electronic signals via the phone lines. To do this a modem translates (modulates) a computers digital signals into the analog signals that phone lines can transmit, and are then sent over the phone lines to the host computer (often the BBS's computer) who's modem then takes this incoming signal and retranslates (demodulates) it into a signal which it can use. It is from this MODulator/DEModulator process that the word "modem" gets it's name. The advantage that telecommunications offers you is the ability to get instant access to information and services at a speed and convenience that is not possible any other way.

With your modem you now have 24 hour access to many businesses, BBS's, and information services. You can call a local BBS, or one clear across the nation, or continent, anytime, day or night, in order to chat with other people, read or write messages (called Electronic Mail or E-Mail for short), send (upload) or

recieve (download) entire computer programs (including free of charge non-copyrighten Public Domain programs), -- large amounts of data over the phone lines. In addition to this you could view the latest stock market activities, make airline and hotel reservations, view restaurant and city guides, and in some cases even access you bank account status to allow you to transfer funds and pay bills electronically. There are even electronic and research facilities where you have access to on-line encyclopedias, news clippings, weather reports, and classified job listings. If you are a "Professional" business person you can even obtain medical, legal, demographic or chartered flight plans. Or if you wish there are on-line consultants on some of the major information service boards who, for a fee, will handle more complicated research for you.

The advantages that telecommunications offers you are quite impressive. HOWEVER, there is a downside to using many of these services. And that downside is COST!!! While many BBS's operate free of charge many other services often charge an initial or yearly membership fee, and most charge for connect time. These rates can vary depending on what time of day you are calling and at what BAUD rate (300, 1200, & 2400 Baud being the most common) you bare transmitting at to the host computer. (NOTE: Baud is a unit of measurement for the transmission of data over the phone lines. A modem that is set for 1200 Baud is transmitting at approximately 1200 signal elements(bits) per second) Also, depending on which service you're connected with some charge a higher per-hour rate for access to certain sections of their

boards than to others. My best suggestion to anyone starting out with a modem is to first only call local area BBS's while you familiarize yourself with the operation, functions, commands and protocols used by your modem and those of the various Bulletin Board Systems.

There are over a 1/2 dozen bulletin boards presently operating in the Brantford area, including the Definitive BBS (756-9407), Color 84 (753-4202), City Jail (753-3499) and Eclectic BBS (756-4875) to mention a few. Besides, while most of these boards allow you to sign up to them free of charge (no registration fee), you are also spared the added cost of having to pay the long distance phone charges which you would incur if you were to call an out of town BBS. Two boards which I like to call up happen to be the Definitive BBS run by Mark Andersen, and the Maxi BBS which is run by Syd Bolton (our clubs President) but which is currently down (out of sevice). (Come on Syd !!! I'm waiting to call you back up on your BBS!) Since Maxi is "temporarily" out of service I'll talk a little about my friend Mark Andersen's board. Mark, who is a member of our club runs the Definitive BBS on his Amiga 500 with 1 Meg of memory, A 40 Meg Hard Drive, and a 2400 Baud Modem. It is offically our clubs present BBS, which will allow members in good standing access to the BAUG SECTION which Mark has set up on his board. I know that Mark has put a great deal of time into his board trying to make it the best board in town, and one that I know we members of BAUG (whether we're modem users presently, or not) will take pride in. If you have a modem and would like to log onto Mark's board all you have to do is once your terminal program is loaded up, is to go to the

Phonebook menu found in your terminal program and load in the BBS's name, phone number and baud rate (at which you will be connecting to the BBS) into the appropriate sections of the phone menu. For Mark's board I wrote under the Boards name requester the following "Definitive BBS" 756-9407 1200 f8n1" Definitive BBS tells me the name of the BBS I'm going to be calling. The 756-9407 tells the computer what number to dial, while the 1200 f8n1 tells my modem and Mark's modem that I'm going to be connecting with his BBS at a Baud Setting if 1200 baud, Full Duplex, 8 bit, None parity. Actually, this whole method of communication is very easy and automatic since todays modems are what are referred to as "intellegent" modems. This means they contain microprocessors that oversee the telecommunication process. With the instructions that I have provided in the phonebook menu my modem will then dial the phone number I provided, detect Mark's boards remote signals and establish a connection to his BBS (known as a Handshake) with this single command. My modem, as well as Mark's will then if necessary adjust the speed of the incoming and outgoing transmissions so that the Baud rates of the two terminals are the same(auto-baud). By this I mean that if I were to log onto a board who's baud rate was only 300 baud at 1200 baud, My modem would then automatically reset itself to the 300 baud rate of the board. The same holds true for Mark's board. if someone was to log onto his board at 300, 1200 or 2400 baud then his BBS terminal program will also automatically configure itself to the baud rate of the modem of the person logging onto his board. (Note: if you have a 1200 baud modem as I do then you can connect onto a board at 300 or 1200 baud - But NOT at 2400 Baud unless your modem will support that higher rate!!) In addition, the built-in sound

system that my modem possesses allows me to listen in on an attempted connection, so that I will know if I have reached a busy or incorrect number. One other thing to keep in mind when using your modem is that while the modem will automatically connect to the host modem at the right parameters, the software MUST be set manually, or the screen will spew out meaningless characters. Once you have connected onto the Definitive BBS you will be instructed to give your Name and Password in order to get access onto the board. If you are a NEW member you will then be instructed to give your Name, Address, Phone #, and a Password. (Don't worry about this as this information is available ONLY to you and the sysop) You will then find yourself with limited access to the board until your request for membership to the board has been approved by the sysop. Once approval to the board has been granted (which may take only a day or two) you will find yourself able to read and write messages to the board as well as being given upload and download access to the Public Domain files section found on the board. If at any time you find yourself stuck as to what to do, you can call up the HELP menu by pressing the "?"key, or by paging the sysop for a CHAT to get some help. If Mark is unavailable at the time you page him for a chat then you could leave a message to him in the Mail section of the board and he will get back to you as soon as possible. The whole process of telecommunicating through your modem is really a simple and effortless endeavour as the BBS is set up in a straight forward manner, DESIGNED TO HELP you get onto the board with as little confusion as possible. If you still feel intimidated by it just remember that there are other people around who are only too happy to help you out with any questions you may have. Next month I will continue along with

this topic and discuss uploading, downloading, arcing, unarcng, zooing, PKAX and PAKing files from a BBS to your computer.



Once upon a time there was an avid computer enthusiast who by chance had an Amiga 500. Because his employer used the BLUE machines he decided to invest in a 5.25" disk drive and a program to give him IBM compatability. No problem you say. How wrong oh wise one. Upon booting said "Transformer" he found his store boughten disk contained a nasty gremlin in it's boot sector, which if given half a chance would have delighted in mucking up all his disks. Whoa is me, but this was nothing compared to the tribulations he would suffer attempting to make the 1020 (5.25") drive work on his meager machine. Upon setting all pieces to-gether this poor bumpkin now finds that his almighty computer does not know what a "DF2:" is although their it sits with it's power light glowing brightly back at his dim brain. Check out the mountlist a friend suggests, looks okay by all counts. Try moving the 1020 to a different position even wrap the sucker with tinfoil in case some nasty R.F. rays may be causing havoc, nope, not that. Must be incorrectly wired up, or poor grounding, or polarity of house wiring, nope. Time for a visit to the good people at the computer store where said 1020 was purchased, better take whole damn system just in case. What ???? It works fine at the land of plenty, even with his own computer driving it. Must be something this slow witted charac-

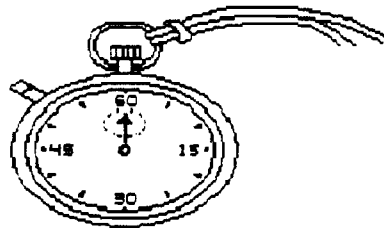
Continued on page 8...

TIME OFF!!!

By Sandra L. Craddock

Looking in the fridge for a byte, the Kernal spotted the HAM, in all it's fabulous color. Taking a hold of it, he began preparing his lunch. After all AGNUS, who had just started a very intensive exercise program, was picking him up in less then ten minutes. It was 8:35am and she was going to be there at 8:15. The Kernal could have taken the bus, but, he rather enjoyed the company of his dear friend and co-worker. Settling himself in his armchair to wait for the next few minutes to pass, the Kernal was delighted to hear the radio announcer introduce his new favorite song "If Only There's Time". This was his life's theme song. Time was the only thing he really craved for. Imagining himself with endless time made the hairs on the back of his neck stand up. Almost in a whisper he said "TIME OFF... Yeah Right... I Wish!!" Coming back to reality the Kernal stood up, and put on his winter coat. It must be getting close to nine. Where is she? Checking his watch, he was shocked to see that it had stopped! (at 8:44) It had a lifetime guarantee. Then with gripping fear he noticed the radio was no longer pumping out his rock favorite "If Only There's Time". Moving slowly around his cramped quarters, the Kernal was struck with awe. Life around him seemed to have completely stopped! He loved his tiny apartment, it had everything he needed (within reach) but all of a sudden he felt claustrophobic. Turning on the television, hoping for some kind of explanation, he fell to his knees. Sweat broke out on his forehead as the images on TV registered in his mind. Flipping channels like a mad man the Kernal could not believe his eyes. Everything had stopped! There was a pretty young lady poised with her right forefinger pointing out a window. There was a small child caught in mid diapering. There was a cartoon character in the air, just hanging. A dog had his head stuck in his food dish, not eating, not even

breathing just waiting. How could this be? Now in near hysteria, he raced out into the street, only to be faced with silence. There was a car, apparently stalled, in the middle of the road. On closer inspection, however, the Kernal found AGNUS hanging on to the wheel with her left hand, and checking in her purse with her right. She was just sitting there frozen! As if somehow, someone, or something, had turned her off. Laughing uncontrollably, the Kernal tried to regain his senses. What was going on here? This was impossible! The world does not just come to a stop for no apparent reason! How on earth did this happen? Trying desperately to



calm himself, he forced his mind to concentrate. Try and think! The last thing that the Kernal could remember, before this EVENT took place, was stating how impossible it would be to get any time off. Could that be it? Was it possible? Did he just stop time on request? No, that was utterly ridiculous! But how could this scene be explained? A dog balanced on all three's beside the old oak tree. Returning to his porch, the Kernal sat on his front step. Babbling non-stop to himself about everything he had just witnessed, speculating causes, trying to fathom what it would be like if this was his new life. Where he had endless time, but nothing to do, or no one to do it with. Looking up wide-eyed he said "O.K. So time off isn't all it's cracked up to be. If I only could reverse this somehow and turn TIME ON" noise cut him off in mid sentence. AGNUS drove into the dri-

veway rolling down her window to say "Wow! You're fast I didn't see you there, I only turned away for a second to get this bag of chips. I wanted to give them to you, I won't be needing them anymore." Speechless the Kernal stood up, walked over to AGNUS and gave her the biggest and brightest smile he had ever possessed. She just giggled and said "What?... Am I early or something?" Reaching out, ignoring the chips, the Kernal rested his hand on AGNUS'S shoulder. Searching for the words to describe the last twenty minutes of his life, without sounding mentally ill, he decided to just dump the graphic details on her lap. "No... you're on time. AGNUS I'm not crazy...but... you're never going to believe what I've done. I made time stop! I mean everything and everyone stopped what they were doing. Even YOU! You stopped in the middle of the road...frozen! I turned on the television for some kind of explanation but... everything had stopped! People were frozen! Dogs stopped breathing! I'm still in shock! ... All I said was that I wished I had some TIME OFF... and bingo..." A high pitched shriek tore into his sentence! Cutting his eyes to AGNUS as she waved her arms frantically pointing to the neighbors dog, stopped dead in his tracks! He had obviously intended to run up the street, only now his front paws were held in the air as, he balanced on the back ones! An enormous amount of relief and joy filled the Kernal's heart as he realized the magnitude of his new found power! Not only could he own all the time he wanted, he could also spend it with anyone he so desired!

THE AMIGA BAUGSTERS
Report
by Jim Hasset



Well, unfortunately, Jim worked himself out last month and doesn't have his regular monthly general contribution (but see his review of *Movie Setter* elsewhere in this issue) but that's OK because he really deserves the break.

So, this is your friendly editor, Syd Bolton, filling in for this month. I thought I would let you in on some of the new hardware that Commodore has brought out.

Just recently, our store received an Amiga 2500. 2500 you say? So what's different? Well, first of all let me say that existing Amiga 2000 owners can upgrade to the Amiga 2500 with the addition of various plug-in boards, because that's really all a 2500 is: a 2000 with some slots filled (but OH how those slots are filled!).

Let's compare some differences. First of all, the Amiga 500, 1000, and 2000 all run off of a main central processing unit (CPU) called the Motorola 68000. The 68000 is used in other computers such as the Atari ST and the earlier Apple Macintosh's. The Amiga 2500 comes with a 68020 processor in it, which runs at 14.32 MHz (Megahertz, a measure of speed). This is roughly twice as fast as the normal Amiga (7.16 MHz), PLUS it has the 68881- a math co-processor that handles things like floating-point arithmetic and so on automatically, freeing up the processor to do other things. This makes ray-tracing programs and even paint programs (especially HAM ones) run much faster. The Amiga 2500 also has a 68551, a MMU (Memory Management Unit) that controls all memory and it's dispersement throughout the system, and because it's hardware it's QUICK.

I'm not done yet. The Amiga 2500 also comes standard with (get this)

3 MEGABYTES of RAM. That's enough to choke a CoCo User (then again, 512K is enough to choke a CoCo user). Of this 3 megabytes of RAM, 2 megabytes are 32-BIT FAST RAM, which means that the memory is faster than the normal fast ram we associate with the Amiga.

To top this amazing system off, it includes a 42 Megabyte 28 millisecond hard-drive. A hard-disk for those who don't know is a non-removable disk that contains A LOT of storage and that runs several times quicker than normal floppy disks. This particular drive is 42 megabytes, or can store roughly 50 Amiga disks that are full to capacity. That's quite a few programs! The 28 ms or milliseconds is a measure of speed. 28 ms is the average access time, or time it takes for the drive to find a file and start reading it. By most standards, 28ms is quite fast. The system comes with WorkBench 1.3 already formatted and installed on the hard-disk. The computer also has the 2090A SCSI (Small Computer System Interface) hard-disk controller, which can autoboot from KickStart 1.3 (which is on ROMS in the Amiga 2500). Autobooting means that if there is no floppy in the disk drive when the machine is first turned on, or rebooted, then the hard-disk will automatically take over and load up WorkBench or whatever program you want automatically. This is a great feature that AmigaDOS 1.3 finally addresses.

I should also mention that there is now something called FFS (Fast File System) which is present in AmigaDOS 1.3. It makes hard-disks run up to 12 times faster than they used to. This is great, but you must be careful when using an autoboot hard-disk with FFS. You have to keep in mind that KickStart 1.3 is different only in that it recognizes the presence of

third-disks. Therefore, you must have a partition (a section) of your hard-drive that is still formatted in OFS (Old File System).

So who needs an Amiga 2500? I DO, I DO! But seriously, the 2500 will be great for engineering departments and those power users requiring great speed and performance. I want one just because it's new (and boy is it fast, even the GURU boxes flash faster!!!!).

Frustration from page 6.

ter is doing wrong. Try again, no go. Well... eliminate all those nice extras like the printer, monitor, joystick, RF modulator (poor sap can't afford a real RGB monitor), still no action. Finally he gets a brain wave (a rare commodity), eliminate the 1010 (3.5") and hook directly to computer with the 1020, just a second, you have to modify the "Mountlist", so the Amiga knows that the 1020 is drive "DF1:" now. This sucker really does work! There must be something wrong with his 1010 drive. Sure enough the newer versions of the 1010 drives do not have pass-through on some pins, so that two 1010's cannot be hooked in series and fry the power supply. A call to Commodore's product support gets a good guy, (Thomas Christoff) who says not to worry, you don't have to modify the 1010 drive (a \$40.00 user cost), just don't pay any mind to the Commodore wiring setups and install the 1020 first at the computer then the 1010 second, nothing bad will happen. This makes the 1020 "DF1:" and the 1010 "DF2:". Sure enough it works, old bonehead now feels much better now, and can learn the MS-DOS system at speed. The moral to the story is don't believe anything you read and only half of what you see.

What I Mean?

By Syd L. Bolton

Last time we wrote a little program that opened a window on the screen. Big deal, huh? Well, at least you've examined some of the ways C is set up on the Amiga and how things work. This time around, we will further examine what each of the fields in the **NewWindow** structure contains, and how to do some simple communication with a window. Refer to last month's issue for a look at a **NewWindow** structure. We'll now examine each setting individually.

LeftEdge, TopEdge, Width, Height- these describe where and how big your window will be when it opens. Coordinates are relative to (0,0) as the top left corner of the screen.

DetailPen, BlockPen-these are the numbers of "pens" or the color registers used for various rendering in a window. The DetailPen will determine the color of system gadgets and the text in the title bar, Block Pen is for fills such as filling in the title bar, etc.

Flags-these are various bits which get turned on. You can use any combination of these by using the vertical bar (|) to separate them. An example is given in the following program. The following fields are system gadgets, if you set them, the gadgets will appear in the window you open. They are:

WINDOWIZING-This flag lets the user change the size of the window.

WINDOWDEPTH-This flag will put the two FRONT TO BACK gadgets in the upper right-hand corner of the window.

WINDOWCLOSE-This will attach a close-window gadget to the upper left hand corner. It is up to your program to call CloseWindow() when this gadget is hit, Intuition will not automatically close a window.

WINDOWDRAG-this flag will allow the user to move the window around.

GIMMEZEROZERO-set this for a Gimmezero zero window, something I'll explain later.

The following Flags indicate how Intuition should handle the preserving of the display.

SIMPLE_REFRESH-every time a portion of a window is destroyed, your program must re-draw or fix it.

SMART-REFRESH-when this flag is set, the only time you have to redraw a display is if the sizing gadget is used.

SUPER_BITMAP-when this flag is set, you are allocating and maintaining your own bit-map. For advanced users only. (someday I'll explain it).

BACKDROP-set this flag if the window is to be the furthest back window on any given screen.

REPORTMOUSE-the window will receive mouse movements in x,y coordinates. Not usually needed for most applications.

BORDERLESS-the window will have no border. Usually only used with BACKDROP windows.

ACTIVATE-the window will automatically become activated when opened. Very commonly used.

NOCAREREFRESH-set this flag if you do not wish to receive messages that your window needs to be redrawn. Most times, you will set this so that Intuition doesn't get confused.

AMBTRAP-set this is you wish to disable using the right-mouse button for a menu button.

IDCMPFlags-these are the Intuition Direct Communications Message Port flags. They indicate what type of messages your window will receive. There are a lot of them, so bear with me, I'll only list the common ones.

GADGETDOWN-you will receive this message if a user hits a GADGIMMEDIATE gadget (explained later).

GADGETUP-you will get this message if most gadgets are hit.

CLOSEWINDOW-you will receive this message if the user tried to close the window.

MENUPICK-you will receive this if the user has chosen a menu item. The menu number and item number are contained in the CODE value, and

we'll also talk about that later.

That's a lot to take in, but let's put it to practical use. If you are having a hard time understanding the multiple flag fields like the **FLAGS** and **IDCMPFLAGS**, I'll give you an example:

```
WINDOWCLOSE|SMART_REFRESH
for the flags field, and for IDCMP:
CLOSEWINDOW
```

Would create a window that had a CloseWindow gadget, and our program would be able to know when the window was closed (because the CLOSEWINDOW is in the IDCMP). Think of the IDCMP as a filter, or control over what your program reads. If you don't tell the IDCMP that you want to know when a user hits the CLOSE gadget, then your program will never know to close the window and clean up shop. The best way to understand how to get information from the IDCMP is to write a program. I'll be building on last month's program, and for those who missed it, and for clarity, the lines that are new or different will be in bold, and the others are the same as last month's program.

```
#include "stdio.h"
#include "intuition/intuition.h"

long *IntuitionBase=0;

struct NewWindow MyWin = {
    169, 71, /* x and y coords */
    308, 43, /* width and height */
    0, 1, /* detail and block pens */
    CLOSEWINDOW, /* IDCMP */
    WINDOWCLOSE|ACTIVATE,
    NULL,
    NULL,
    "MyWindow!!!",
    NULL,
    NULL,
    5,5,640,200,
    WBENCHSCREEN
};

struct Window *MyWindow;
```

```

main()
{
struct IntuiMessage *message;
ULONG class;
int exitflag=0;
/* No long need i */

IntuitionBase=OpenLibrary("intui-
tion.library",0); /* don't use hyphen */

if (IntuitionBase==0) {
    puts("\nCouldn't open intuition!!!!");
    exit(1);
}

MyWindow=OpenWindow(&MyWin);
if (MyWindow==NULL) {
    puts("\nCan't open the window!!!");
    exit(1);
}

```

/* No longer need delay loop */

```

do {
WaitPort(MyWindow->User-
Port); /* no hyphen or space */
/* That waits for a message to
come in through the port. It
allows the Amiga to continue
other multitasking things, without
slowing the system down. It's very
important to use that command.
*/

```

```

while ((message=(struct *Intui-
Message *) /* again no hyphen */
GetMsg(MyWindow->User-
Port)) != NULL) /* no hyphen */
/* This waits until a message that
is NOT NOTHING (!= NULL). It
puts the message in the variable
"message", which is an IntuiMes-
sage structure */

```

```

{
class=message->Class;
/* This will extract the CLASS
type from the message, and place
it in class. */

```

```

ReplyMsg(message); /* always let
Intuition know we got message */

```

```

if (class==CLOSEWINDOW)
exitflag=1;
/* if user hit close window, then
set our flag equal to 1. */
    }
while (exitflag==0);

```

/* Our program will loop until
exitflag is 1, which is only when
the CLOSEWINDOW message
comes through.*/

```

CloseWindow(MyWindow);
CloseLibrary(IntuitionBase);
}

```

And there you have it. I hope you didn't have too much trouble following the code. You will now be able to close that window whenever you want by clicking the close gadget. That's just an introduction to going through the IDCMP. Get used to the somewhat strange syntax (the main loop where you get the message and wait on the port) because you will use it time and time again in your programs. Through the IDCMP, you will learn when gadgets are clicked (BASIC users: no more checking x and y mouse locations to see if a "gadget" was hit), you can even tell when the user inserts a new disk or when the user changes the Preferences settings. These could all be very important things to consider, but mostly the three things programs are interested in are: CLOSEWINDOW, GADGETUP (any gadget that was hit) and MENU PICK. If you examine the line that says: `class=message->Class;`, you may be wondering what that does. The `->` means extract from a structure. So, the CLASS field is taken from the message structure and put in the class variable. You can also take out the message CODE which will allow you to determine other things, such as which gadget was hit and which menu was chosen. But we will cover more of that in later

editions. For now, you should try experimenting with the Flags field, and try different things. Try adding a sizing gadget, the depth gadgets and so on. See what happens to the title bar when you add a drag gadget (WINDOWDRAG) and remember to separate each field in the Flag parameter, use the slash bar (/).

That's about all for this month, next time we will examine placing some text in the window the dirty way and the "clean" way. Until next time, this has been Syd Bolton, your roving Amiga C programmer.

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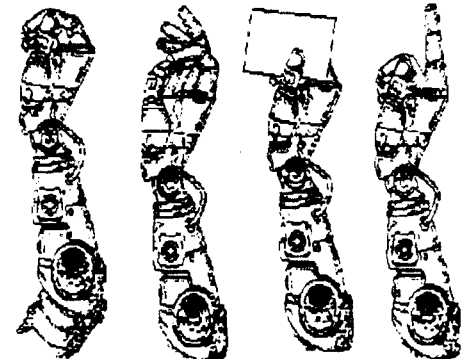
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Amiga from page 4...

3j. However the distance to the origin is the root of $7*7 + 3*3 = \text{root of } 58$, which is more than 7. As we know that it will get larger and larger if the distance to the origin gets larger than 2, we can stop and decide that this point is not part of the Mandelbrot Set and is to be coloured blue. Actually any complex number outside a two inch radius of the origin is not

in the set and coloured blue. I realize that the last paragraph is a bit harder to follow. However if you have any difficulty with it then don't read it.



BAUG SURVEY

Please complete the following survey and return it to Syd Bolton or one of his slaves as soon as is possible. Your name is not required on this survey, it is just a general interest survey. The results will be published next month or whenever I compile them (and not some program!). Thank you for taking the time to do this.

Which Amiga(s) do you own?

- Amiga 500**
- Amiga 1000**
- Amiga 2000**
- Amiga 2500**

What do you use your Amiga primarily for?

- Business**
- Graphics/Video**
- Games**
- Hobby**
- Other** _____

Which peripherals do you own?

- Digitizer (Audio & or Video)**
- Printer**
- Modem**
- Extra Disk Drive(s)**
- Memory Expansion**
- Other** _____

What is likely to be your next Amiga purchase?

Have you ever attended a trade show, such as *World of Commodore* or *Computer Expo*?

- Yes**
- No**

What is your favourite piece of commercial (purchased) software for the Amiga?

What is your favourite public domain program?

Are you the only user of the Amiga in your home, and if not, who else uses it?

Which Amiga-related magazines do you read?

- Amazing Computing**
- Amiga World**
- INFO**
- Commodore Magazine**
- Computer Shopper**
- Transactor**
- Amiga User**
- AmigoTimes**
- AMNews**
- ALL OF THE ABOVE**

If you could run a BAUG meeting, what topic or topics would you run?

Overall, how would you rate your Amiga's performance?

- Poor**
- Fair**
- Good**
- AWESOME**

If you could own (or possibly do) another computer along with your Amiga, what would it be?

Describe the most memorable moment you and your Amiga have shared.

Are you sick of filling this survey out yet?

- Yes**
- No**

If you answered NO to the above question, would you be willing to write me a real survey?

- Yes**
- No**

Have you seen Jimmy Haffa?

- Yes**
- No**

Do you believe that Elvis is dead?

- Yes**
- No**
- Undecided**