

# ABE'S LOG

JUNE 1985

## From the Editors' Desk:

We would like to thank the members of the executive committee who are not running for re-election for their many efforts on behalf of the club. Clay Wagner (librarian), Mark Bray (assistant editor) and we (the editors) hope to be with you again next year.

During the past year the club has made great strides. Membership has risen by 50%. The library is much improved with a descriptive index; disk sales have provided a major source of income. Equipment has been purchased to support the newly-formed Modem SIG and BBS. The BBS has finally become successful after a faltering start. Given our past record, I hope we can do as well this next year.

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## GEM NEWS

Digital Research has finished the first round of GEM seminars. DR is making a real effort to market GEM for the Atari and other machines. DR may have the first glimmer of compatibility among personal computers. If DR can sell other companies on GEM, all the users will benefit because software houses will be able to quickly adapt programs to run on many machines.

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## THE MODEM S.I.G.

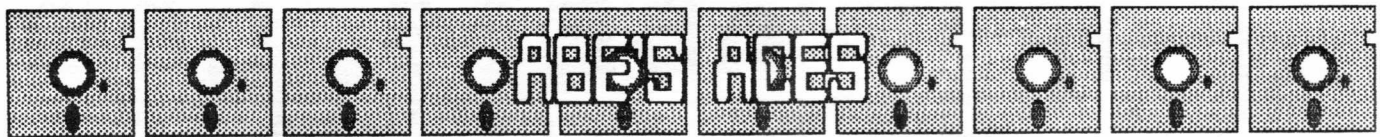
by Jim Finley

The SIG is growing in many ways, in membership and in knowledge. The attendance is averaging about twelve to fifteen members a meeting and many of these members who attended the four meetings have applied their knowledge by creating improvements to a well known modem program for the Atari 1030 direct connect modem; This program is Amodem XL 1030.

The members who have worked on this program have learned many of the problems that occur while on-line. Being aware of these problems makes computer communications much easier and more of a joy than a chore. The latest addition to Amodem 1030 is a patch that will make the program compatible with the Atari 130 XE. This patch makes the RAMdisk available for downloading and uploading, quite a time saver when on-line.

Now that the group has a better understanding of their modem program, they are eager to explore the professional services such as CompuServe. Since this article has to be forwarded to the newsletter editor before the next SIG meeting which is on May 26th, I can only guess how far we will get into CompuServe and the Atari SIG which has vast amounts of information and programs for the Atari. To cover such a large service like CompuServe will take many meetings. I will do my best to keep the newsletter posted on our progress.

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## SCREEN DUMP FOR MICRO-ILLUSTRATOR/ATARI ARTIST BY MICHAEL STOLIKER

One of the main reasons for purchasing an Atari computer has always been its superb graphics capabilities. These capabilities and what was at the time a very reasonable price made it easy to choose an Atari 400 as my first computer.

However, like most beginning computer users my programming skills left something to be desired. I found myself unable to duplicate all but the simplest graphic programs and could only stare in wonder at the colorful screens produced by more skilled programmers. I felt it would take years to understand the complicated and often unreadable programs that could produce high quality graphics.

Having come to this conclusion I began searching the commercial software for some program that would allow me to achieve my goals without first learning the secrets of programming. I looked at many of the early programs only to discard them in frustration. I found drawing with a joystick to be similar in nature to driving nails with a screwdriver. The tools just weren't right for the job.

Then came touch-tablets; eventually at affordable prices. Finally I could produce screen after screen of, in my opinion, high quality art. Still, something was missing. Short of dragging people over to my house, I had no way of inflicting my work on others. I needed a way to make my art portable.

At that time an Atari portable wasn't even a rumor so the obvious answer had to be a screen dump. (A screen dump is a program which transfers the contents of the computer display to a printer.) Once again the software chase began. I looked at many commercial and public domain programs and almost always found some discouraging fault. Some printed too small, some printed in the wrong direction and in almost all cases the print-out just didn't look as good as what was on the screen. Since this was the case the only answer was to write my own program!

I believed that with all the public domain software available for the Atari it was unnecessary to write any new program entirely from scratch. In the case of this screen dump I did not. This program started out based on a program from an early ANTIC\* magazine. The early screen dump had the ability to produce very nice results on paper, but was annoying to use in that if the print-out didn't satisfy me, I had to list the program, alter it, re-run it and only after a long initialization period finally see the resulting changes. Also, as the program had no provision for viewing the disk directory I quickly became buried by "ERROR-170"s.

As the program grew and more changes were made I felt that I should be able to load my ATARI ARTIST(tm) screens directly without converting to other formats. This became the last hurdle as I tried various basic routines (too slow and writing my own machine language routine (not too reliable). My efforts were saved by the generous offer made by Chet Walters of NON-STANDARD MAGIC\*\* in the documentation of his PICTURE PLUS(c) program. I quickly modified his loader routine to fit my needs and finally the program was finished.

### HOW TO USE IT

The following is a description of how the program works and how to get the most out of it.

After loading and initialization the title/working screen comes up. The center gray area and the bottom gray line are the main areas of interest. The bottom line gives you your control choices and the center of the screen displays your color selection.

The program at this time is asking you for your choice of white, black and one of two shades of gray for assignment to the background of your picture. Selection is made by moving the pointer up and down with the OPTION and SELECT function keys. Your choice is made by pressing the START key. This process is repeated until all color registers have been assigned.

At this point the program will ask you if you are happy with your choices. A "no" answer will return you to the selection process. If you answered "yes", the center of the screen will have cleared and the program will be prompting you for a filename. If you don't know the exact filename, just press RETURN and the program will present you with a listing of the files on your disk. (Only files with a .PIC extender will be displayed.) If all files cannot be shown in the display area the program will pause and allow you to select a program from the ones in view; pressing RETURN will display the rest of the files. To make your selection type the filename and extension; the "D:" is not required.

After your selection is made, the picture is loaded to the screen. When the load is complete the program starts dumping to the printer, so be sure your printer is on line. When the print is done you will be returned to the title screen. At this time, if you were not satisfied with the way your picture turned out, you can reassign colors and re-dump it. Otherwise the program is ready to set up for another picture.

Color assignment is completely unrestricted. You could, if you wished, set all colors to dark gray or white although this would produce a rather bland print-out. There are ways to use this ability to good effect however. The first possibility is to set all colors to white except one. The resulting print-out would effectively strip all instances of that color from the picture and deposit them on the paper in their proper position. In the graphic arts this is known as color separation. This would allow you to print one color of your picture, feed the paper back, change ribbons and print the next color in blue, red or green instead of black. (Colored ribbons are available for the Epson printers.) In effect you would be producing a four color print-out on a non-color printer.

Another possibility would be to print on mylar film to allow your picture to be reduced or enlarged photographically before re-merging the images.

Although I haven't tried it, I have given some thought to printing one color with the black assignment (solid color), using a red ribbon, and then printing over it again with a light gray assignment (broken color), using a blue ribbon, in hopes that color blending would result in a purple. In this way many more colors than the standard four might be achieved. The possibilities have yet to be explored, but they are interesting.

If you have an interest in graphics and own an Atari with at least 48k and an Epson printer then this program is for you. I hope you enjoy it.

#### A TECHNICAL NOTE:

After loading and running, the program will initialize very quickly. This was accomplished through the extensive use of string assignments for storing machine language. The loader and print-out routines were both originally stored in data statements and were both originally written for use in page six of memory. Both are very nearly 256 bytes long and so are not easily relocated. The page six conflict was resolved by using strings for storage only while a third machine language string was used to quickly flip the routines into page six as needed.

\* \* \* \* \*

\* SCREEN DUMP (SDUMP your graphics screen to a printer) ANTIC MAGAZINE JAN. 1984 by Jerry White and Fernando Herrera

\*\* PICTURE PLUS by NON-STANDARD MAGIC P.O. Box 45, Girard, Ohio 44420

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## SYNFILE+ and Double-Density By Jack Holtzhauer

Some of you may have been having difficulty using SYNFILE's double-density capability because of the program glitch affecting INDUS and some PERCOM drives.

If you're like me, you've easily been able to switch double-density mode to format your data disk and then load the "CREATE" module to design your database. But once you've completed your form, you've been unable to SAVE it to your data disk -- consistent "device done" errors. In other words, the program successfully switches to double-density for formatting purposes, and back to single density to load the "CREATE" module, but fails to switch back to double-density to save your form.

I initially solved this problem by manually switching drive density through manipulation of the "DRIVE TYPE" and "TRACK" buttons on my INDUS at the appropriate time. But this was hardly satisfactory, so I called SYNAPSE and was put in touch with David Duberman. Dave suggested using the following procedure. Try it! It works!

- (1) Boot up in the usual manner.
- (2) Switch to double-density from the LOAD/SAVE menu.
- (3) Format your data disk.
- (4) Without removing your data disk from the drive, select the OPEN command from the LOAD/SAVE menu and then select the CREATE function.
- (5) When prompted, remove the data disk and insert the program disk. The CREATE module will load.
- (6) Create your form and save it in the usual manner.

The key step in the above procedure is the requirement to leave your data disk in the drive until after you have selected the OPEN/CREATE functions and not to switch to your program disk until prompted to do so. This will cause the program to switch to single-density to load "CREATE" and back to double-density for saving purposes.

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## SOUND PROGRAMMING BY J. D. CRAIG

As promised, here's a four part tune that plays and plays "Grace". Feel free to put your own message in lines 30 and 40. The text I used is an old hymn.

Author's note: The brace in line 20 is the ASCII equivalent ATASCII CHR\$(125)-the bent arrow.

```
10 REM from DOXOLOGY SOUND DEMO
   jc
20 GRAPHICS 0:?" }↓↓↓↓"
30 ? "Praise God from whom all":?" ,,"
   blessings flow.":?" Praise Him all cre
   atures":?" ,,"here below."
40 ? :?" Praise Him above ye heavenly
   host.":?" :?" Praise Father,Son, and Ho
   y Ghost.":?" :?" Amen.↓↓↓↓"
50 DATA 61,82,96,123,1,61,72,96,145,1
   64,82,96,193,1,72,91,109,184,1,82,123
   123,193,1
60 DATA 61,91,123,145,1,54,82,91,129,
   ,48,61,82,123,3
70 DATA 48,61,82,123,1,48,61,82,123,1
   48,64,82,162,1,54,64,96,154,1,61,72,9
   ,145,1
80 DATA 45,61,72,184,1,48,61,86,145,1
   54,65,82,164,3
90 DATA 61,72,96,145,1,54,65,82,164,1
   48,61,82,123,1,54,65,82,164,1,61,123,
   23,193,1
100 DATA 72,91,123,184,1,64,82,109,184
   1,61,82,123,193,3
110 DATA 40,64,109,162,1,48,61,82,123,
   ,61,72,96,123,1,54,82,82,129,1,45,61,
   91,145,1
120 DATA 48,61,82,162,1,54,64,82,162,1
   ,61,82,96,123,3,0,0,0,0,1
130 DATA 61,72,91,184,8,61,82,98,247,8
   ,0,0,0,0,16
140 V=6:TT=20
150 POKE 764,255:FOR Y=1 TO 36:READ S0
   ,S1,S2,S3,D
160 FOR X=V TO 0 STEP -1
170 SOUND 0,S0,10,X:SOUND 1,S1,10,X:S0
   UND 2,S2,10,X:SOUND 3,S3,10,X
180 FOR T=1 TO TT*D:NEXT T
190 NEXT X
200 NEXT Y
210 IF PEEK(764)<>255 THEN RESTORE :GO
   TO 140
220 GOTO 800
```

The only points of interest before line 200 might be the ESC-CTRL characters used above and below the text. Things like multiple "ESCape, CONtROL arrow down"s are useful in PRINT commands, but novices should beware being too near the screen edges, which can produce unexpected results.

Due to the small size of the program, it doesn't slow down too much to use a triple loop. The outer loop, Y, chomps through data in gulps of 5 values: One for each of the four oscillators' pitches, and one timing value. The X loop creates an "envelope" of decreasing volume values, from 6 to 0. The T loop is a simple delay, controlling how fast Y can decrement, and itself controlled by the value D read from data. At the end, pressing almost any key will make the tune repeat, pressing BREAK will exit the program.

Music is homophonic if all the notes move at the same time, as in this example. Hymn tunes are very often homophonic, and consequently can be very easy to structure. If you only want one or two notes to sound for a certain effect, just use pitch 0 as the input to the oscillators you wish to be quiet. Now, assuming the program itself is understood, where did I get the pitch and timing values from in the first place? As a trained musician, I was able to just pull these out of my head. In other cases, I might copy the notes from a written score. How should you do it?

Method 1: Experiment! Set up a program structure to play the notes, and just try different values in the DATA lines. Refer to a pitch table (see last LOG issue) and plug in different values. To create a percussive sound, use decreasing volume loops as above. For a more organ-like tone, replace the contents of lines 605 through 710 with this structure:

```
605 V=6:TT=160
610 POKE 764,255:FOR Y=1 TO 36:READ S0
   ,S1,S2,S3,D
620 SOUND 0,S0,10,5:SOUND 1,S1,10,5:S0
   UND 2,S2,10,5:SOUND 3,S3,10,5:FOR X=1
   TO TT*D:NEXT X
630 NEXT Y
```

Each succeeding group of sounds will replace the last one. To pause or end, supply all oscillators with pitch value 0.

Method 2: Copy the pitches and time values from a written piece of music. Reading music is really rather simple, and many books are in print to show you how. Pitch is represented by note heads and accidentals on a staff

system while durations are indicated by the types of notes used. Silences are indicated by rests.

The only serious difficulty you might encounter is pitches going too high or too low for the Atari to handle well. In the four oscillator configuration we have been using, the lowest available note is about about one octave below middle C, and the highest tones tend to not be well tuned. What do you do when the note you want just doesn't exist on the Atari? Sometimes substituting the same pitch name from another octave will work. Other times, the entire song should be "transposed" to another "key", where more of the needed notes are available. Still have problems? Consult any music teacher. As long as one of you understands the limitations of the Atari, it should take only a few sessions to learn to program homophonic music.

No one got this month's award for identifying last issue's missing mystery pitch in the Atari tones, so the jackpot has doubled. (It was decimal 193 for the pitch "e" below middle C.)

Starting this month, all programs appearing in this column will be donated to the library. If you hate typing, buy the program on disk. Next issue: Criticisms of the programs shown in this column so far, and some general considerations.

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## RESCUE ON FRACTALUS!

by Thom Geller and Mark Bray

Break out your Spacesuit! You are about to embark on a rescue mission on the planet Fractalus. At long last the two Lucasfilms games which were created over a year ago have been officially released, not by Atari, but by EPYX software. Your mission is to rescue your fellow pilots who were shot down by the enemy Jaggi forces on the planet of Fractalus. In this spectacular game you have to circumnavigate a randomly generated landscape which is different each time you play. You have an intricate control panel which will help you locate your downed pilots, enemy spacecraft, and monitor your energy and altitude.

Once you have spotted a pilot on your long range scanner you have to land your craft, turn off your systems, and open up the airlock. Don't be in too much of a hurry, because you may be in for a surprise. You may let in one of the unfriendly aliens! Once you have rescued the amount of pilots, your mother ship will return, allowing you to return the pilots, refuel, and proceed to a higher level of play. The whole game is played in an 'out of your front window' perspective, but it's much more natural and easy to get used to than some of the earlier games such as Star Raiders.

When you boot up the disk you will see a graphic depiction of the mothership, which is similar to the robot demo that was shown at the January Consumer Electronics Show. You are placed on level 4, which is the basic starting level. You have the ability to select another starting level depending on your playing skill, also your high scores are saved to the disk.

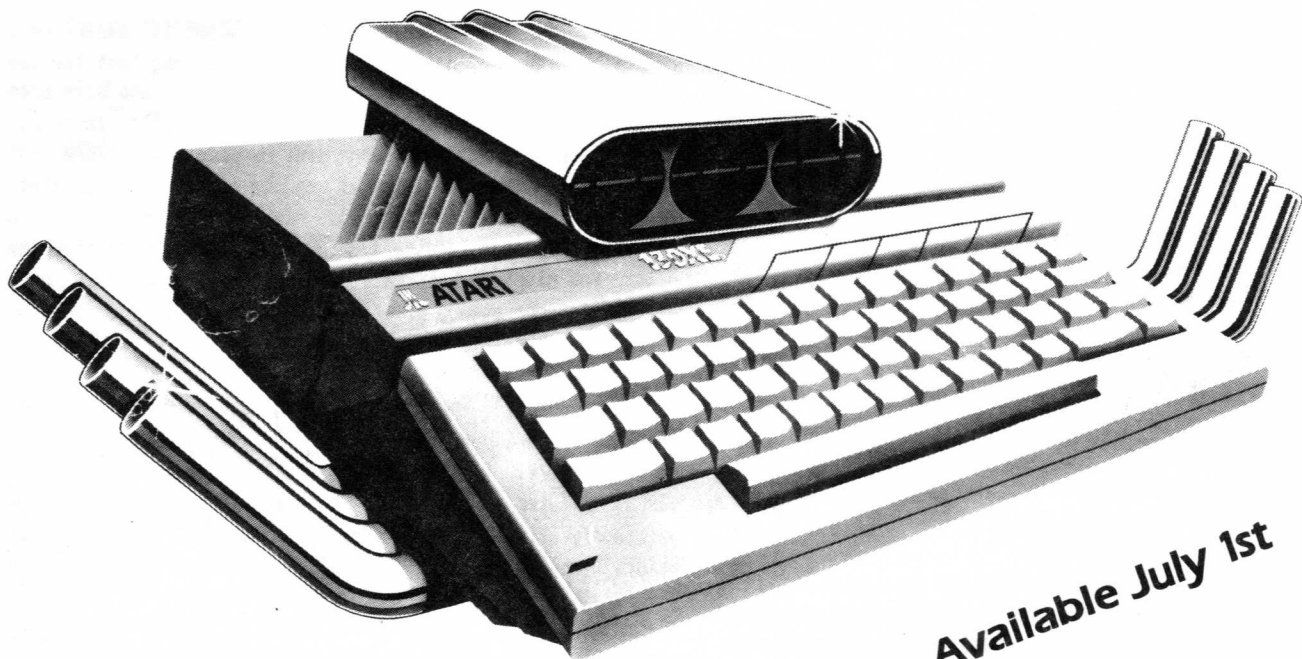
Mark

I am very impressed with Rescue. After a winter of ho-hum games like Ghost Busters, Spy Vs. Spy and Tapper, it's nice to see something that is original and pushes the Atari's sound and graphics capabilities to the limit. Everything about this game is very polished and professional -- even the documentation is worthwhile. I highly recommend it.

Thom

This game has got to be one of the most impressive I've ever seen. The color is superb and the graphics are top notch. You actually get the illusion of flying because of the way that the mountains scroll around on the screen. This game is so good that I played it for 5 straight hours, and I never even finished it. My only complaint is that it doesn't have a SAVE game function, if played to the fullest extent this game could go on for at least 10 hours. My suggestion is "BUY IT".

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# TENTH ANNUAL TRENTON COMPUTER FESTIVAL

by Julia Piatt

Finding Trenton State College was not easy, we had to ask directions twice. We arrived early enough on Saturday to find a parking space in the main lot; there were cars parked in fields around the college campus.

## COMMERCIAL EXHIBITS

After paying \$7 per person (for both days), we headed for the commercial exhibits first. Apple, Epson, Franklin, IBM, and Zenith computers were well represented in the recreation center. Radio Shack was present with the "TRASH 80" (It looked remarkably like the TRS-80). We also had a chance to examine the new HP Integral in action; its demo featured a three-dimensional representation of the Space Shuttle.

The highlight of the commercial exhibits was at the Micromint booth, where we met Steve Ciarcia of Byte Magazine. Ciarcia was there promoting his "Home Run Control System", which is being manufactured and marketed by Micromint, Inc. If you are an electronics hobbyist, you can make it yourself by following Ciarcia's three-part series in Byte Magazine.

There was very little for the Atari computer -- mostly old software being sold at closeout prices. There were a few new programs available (PrintShop by Broderbund); but the "discount" prices weren't much lower than local discount prices. There were plenty of "mystery disks" available -- these disks had no name and no jackets. The name brands available were Wabash, Maxell and Datalife; all of these brands are available locally at lower prices than the discount prices offered at the festival.

## USER GROUP EXHIBITS

Next we visited the User Group exhibits in the Student Center; again, IBM and Apple were well represented. Big Blue had plenty of room to handle crowds which never materialized, while the Jersey Atari Computer Group was placed at a table with next to no space. Because the JAGC had managed to convince Atari to bring a 520ST to the festival, there was a constant crowd around their table. People were standing on the lounge furniture to catch a glimpse of the ST's graphics.

It easily out-performed the Macintosh by displaying color graphics and readily accessible pull-down menus. The 3 1/2 inch 500K drive appeared to be running quietly, but it was impossible to tell because of the noise in the student center. There were no hi-res demos being run because the 520ST was hooked up to the new 14-inch composite color monitor instead of either the hi-res 12-inch RGB analog color

monitor or the super hi-res 12-inch monochrome monitor specifically designed for the ST computers. The demos which were being run were still impressive despite being lo-res.

## FLEA MARKET

After lunch, we went outside to the Flea Market, hoping to find some bargains. A lot of what we saw was obsolete and should have either been deposited in a landfill or been on display in a computer museum. There were some items available for the Atari, including a few rare items -- a numerical keypad for the 400/800 and paddles. We found more Atari hardware at the flea market than we did in the commercial exhibits, but there was less software. There were twice as many "mystery disks" and storage boxes and a wide selection of questionable electronic parts ("mystery chips").

## CORRINE'S PERSONAL DISKS

(Fiction - Conclusion)

by J.D. Craig

It's morning; the family is off to work and school, and I consider the new twists added to the game by the inclusion of my latest conquest. The game also includes the human routines necessary to create a clean break with the latest guy once data has been gleaned. For Damon, one has already been implemented, and the personal relationship is history. Off to work, and since no meetings are scheduled for this evening, straight home to the family afterwards.

The kids have been studying computer programming in school, and seem to be sharing a mutual project on our machine. Then, as I change into more comfortable clothing, something goes awry.

"Corinne!" calls my husband in a tone I'd never heard before. I enter the living room to see William standing in an accusatory pose while the boys roll around on the floor, trying in vain to choke their laughter. On our tv screen, stick figures designed by mischievous schoolboys were acting out the details of my game. The audio was a symphony of squeals, groans, and heavy breathing.

One screen after another flashed by while names appeared, scoreboard fashion, in each upper corner. Statistics flowed along the bottom while the figures engaged in every sort of intimate activity, and the score on the right, "Corinne", kept racking up points. In one terrible instant, I realized three things: (1) my game could be reinterpreted and played in ways I had never imagined, (2) the boys were much better programmers than I had realized, and (3) from the expression on William's face, the data had hit the fan.

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