

PORTLAND

ATARI CLUB

\$1.50

JULY 1986

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Next General Meeting

Monday, July 7, 1986, at 6:30 p.m.
Northwest Service Center
1819 N.W. Everett St.

PAC Bulletin Board Systems
24 Hours - 7 Days a Week

#1 - (503) 245-9405 - 300/1200 BPS
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PORTLAND ATARI CLUB

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Membership is \$20 per year and includes a subscription to this newsletter and access to members-only functions. Single copy price of the newsletter is \$1.50. General meetings are open to the public and start at 6:30 p.m. on the 1st Monday of each month (2nd Monday in the case of holidays) on the date and at the location listed on the cover of this newsletter.

Exchange newsletters, articles, correspondence and ads should be sent to the following address:
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IN THIS ISSUE

R. DeLoy Graham

This month you will read articles by several new PAC authors. Melvin Waller Jr. shows 400 & 800 owners an easy way to switch between GRAPHICS modes 8 and 15. ST owners get their largest section ever. Tom Cloyd launches his regular column about ST SIG activities. Randal Schwartz begins a series on **Music Studio** and **N-Vision**. Scott Huskey, who demonstrated his public domain **PIANO** program to the ST SIG on June 12, writes a tutorial on accessing the ST sound chip from C. I recommend that you get a copy of **PIANO**.

Regular columnist Chuck Hall continues his series on ST BASIC, as well as keeps us informed of Atari news. Steve Billings updates BBS information and reviews **Typesetter ST**.

Submissions such as these are what make a newsletter possible. I would like to thank these writers. I've learned something from each of them and I know you will, too. Let them know you appreciate their efforts. Acknowledgement from you is the only reward they get for their efforts.

MEMBERSHIP NOTES

Jim Miller

Well, I was right. We received over \$700 in membership fees at the last Pac meeting. A great deal of them had to do with the computer show. I wish to welcome the following new members and families to the PAC.

Willaim Swanson	Melvin Nilsen
Greg Rudisel	Glenn Painter
Randy Kane	Dan Davis
Linton Whittles	Dianna Hasid
Ann Pfingsten	Charles Carsen
Mike Nichols	Ed Thompson
Thomas O'Neal	Chris Olsen
William Blose	Alfredo Carona
T.H. Beeman	

This makes a total of 608 members at the present time.

BOARD MEETING NOTES

Dan Gibson

The May Board Meeting was held at 7 p.m. on May 21, 1986, at IB Computers. Attending were Chuck and Jean Hall, Dan Gibson, Tom Brown, Steve and Debbie Billings, Tom Comerford, DeLoy Graham, Jim Berry, and Vern Vertrees.

JUNE MEETING

The June general meeting will begin at 6:30 in our new location at the Northwest Service Center with PAC software sales until 7:00 when the main meeting will start. First off, the Board members will give a brief update on their respective areas. Then the SIG Group leaders will tell us what each of their groups are doing and when they are meeting. The business part of the meeting will center on Chuck Hall's announcements of up coming shows, including a Northwest Region All Atari Show. This show will be sponsored by Atari with the PAC doing the leg work in arranging for a location, lining up booths, promoting, etc. Atari will front the PAC \$5,000 and provide lots of other support. The show will take place in October or November. If you would like to help please contact Chuck Hall.

In addition, Jerry Andersen will demonstrate three new PAC disks, Games #8, Games #9, and Friday Fun. The entertainment part of the June meeting will feature a free drawing for new Atari Software. T-Shirts and bags will be sold for \$2.00 apiece at the meeting.

MISCELLANEOUS

The first meeting at our new location went smoothly. Parking was a lot better than at the BPA. Back room sales appeared to be going well.

We have been approached by other groups on the possibility of renting to them the PAC projection TV. The Board was in favor of this and we are currently working out the details.

The Board is considering dues reduction or other benefits for PAC SIG group leaders and other volunteers. Tom Brown will follow up on this matter.

TREASURER'S REPORT

As of this writing, the balance in our checking account stands at \$2,279. At the last meeting software and T-Shirt sales totaled \$227 and memberships brought in \$760.

SPECIAL INTEREST GROUPS

Tom Brown

BUSINESS APPLICATIONS SIG

8 & 16 Bit Atari Computers

Dates: 1st & 3rd Wednesdays

Time/Place: 7:00 p.m. / Beaverton HS, Room 129

Leader: Tom Brown / Ron Chaffer

Phone: 646-5237 / 283-5691

PASCAL/MODULA-2 SIG

Dates: 2nd & 4th Wednesdays

Time/Place: 7:00 p.m. / Call

Leader: Tom Cloyd

Phone: 643-9192

ST EXPLORER'S SIG

Dates: 1st & 3rd Thursdays

Time/Place: 7:00 p.m. / Tektronix, Bldg 47

Leader: Richard Barhitte

Phone: 206-573-0292

ST FORTH SIG

Dates: 1st & 3rd Thursdays

Time/Place: 7:00 p.m. / Tektronix, Bldg 50

Leader: Tony Roth

Phone: 222-4999

GENERAL ST SIG

Dates: 2nd & 4th Thursdays

Time/Place: 7:00 p.m. / Tektronix, Bldg 50

Leader: Pat Warnshuis

Phone: 246-3724

MODEM & COMMUNICATIONS SIG

Dates: 2nd & 4th Mondays

Time/Place: 7:00 p.m. / Call

Leader: Jerry Anderson

Phone: 655-3914

8-BIT EXPLORER'S SIG

Dates: 2nd & 3rd Tuesdays

Time/Place: 7:00 p.m. / Call

Leaders: Tom Comerford 246-4694

Wayne Winterbottom 669-1367

NEWSLETTER SIG

Date: Wednesday following general meeting

Time/Place: 7:00 p.m. / Call

Leader: R. Deloy Graham

Phone: 649-6993

The Assembler SIG will no longer meet. For information on SIG activities, call SIG leaders or Tom Brown.

BBS UPDATE

Steve Billings

The PAC #2 board has been running well on the temporary hard disk on loan from IB Computers. The club needs to get serious and dig into their pockets and purchase a hard disk drive now that Don Adams has proven that FoReM XE can be made to work with the Supra Corporation disk drive.

Hopefully the club can soon start a fund drive of some sort to raise money for a hard disk drive. We raised money before for the projection TV and I think this is another worthwhile effort that would benefit a large number of club members. If anyone has an idea on a fun way to raise about \$800 cash let someone on the board of directors know. That would pay for one drive; hopefully we can come up with enough to supply both PAC #2 and PAC #1 boards with a new drive.

It has been a while since the club has run a raffle. Maybe we could get some interest in raffling a new 1200 bps modem! The subject will be discussed at the next board of directors meeting and maybe we can get this thing off the ground. The only problem I see is that the attendance at the meeting has been down, as is typical in the summer when there are other distractions.

The hard disk drive offers some real improvements to the FoReM board. Besides comparatively unlimited download room, it definitely speeds up the disk access time such as password validation, message retrieval and saving, directory searching and bulletin data bases.

A 10 meg hard disk drive would make a great board even better! This seems to be the next logical step in improving the club's bulletin boards. Hopefully next issue we can describe our strategy for this fund drive. If you have any questions or comments, please leave a message (or EMAIL) to Sysop on PAC BBS #1.

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Important Dates

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Newsletter Deadline July 12, 1986

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Board Meeting July 28, 1986

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SPECIAL PROJECTS

Chuck Hall

Now that we have our annual computer show behind us, it is time to start looking at other activities in which we can become involved. If you were at the last meeting, you heard me talk about four other events that we are trying to get off the ground.

This first is Best Electronic's (Brad Coda) free disk clinic. Those of you who met Brad at the computer show, or who received a mailing from him prior to the show, know that he has been trying to put on his disk clinic up here. What does this mean to you? Brad will clean, align, and repair your 810 disk drive for the cost of parts. No parts required? Then no cost to you. He will also look at 1050s, and computers as time allows. Brad does ask that we have a few volunteers to help him disassemble and re-assemble the drives. We were hoping to hold this in July, but as of this writing we have not located a place to do this, nor has any voluntary help come forward. This is a group participation event and I am not going to do it all for you. We will keep putting it off until we get the support needed.

We would also try to have some other activity going on at the same time. I'm sure that Brad will bring up some items for sale, plus we would let members set up sale tables. Maybe demonstrations of different computers and/or software could take place also.

The second item for discussion is whether we should set up our booth at some of the local county fairs. This idea came about when my wife pulled out the section on the Washington County Fair from "This Week" magazine. The response from members present at the last meeting was very positive, so I will pursue this. If we do get some dates scheduled, we will then be setting up a list of names to work the booth. The shifts will be longer than before, and we will have to determine just how many days we would want to have our booth at each fair. If you are interested in helping out please get in touch with me.

One event that is certain is the Children's Learning Fair. This is an annual event held at the Coliseum. This will be our first appearance at this show. As far as I know, we will be the only computer club in attendance. For many years,

Commodore and Apple have used this show as a big promotion and have given computers to schools for their computer classes. Atari, to the best of my knowledge, has never done this. So now we have the opportunity to display what Atari can do in the education fields. I will be looking for those of you who have experience in dealing with education and educational software in helping me out with this. The fair is being held the first weekend in October on Friday, Saturday and Sunday. I am looking forward to a lot of fun with it. If you have always thought about developing educational software, this might be a good place to go to get ideas. The show is open to the public and is usually well attended.

Now we come to the best. Atari has asked us to put on an ALL ATARI SHOW here in Portland. We will be representing the entire Pacific Northwest. Atari will be putting up \$5000 front money to help us get going, once we have made the commitment to them for the show. Whatever money we make, we keep. If we lose money, Atari will pick up the tab. To some, \$5000 may seem like a lot of money, but when you look at the advertising Atari will get out of this, plus all of the promotional work we will be doing, it is a smart, inexpensive marketing move on their part. I don't think you can run a full page in the Oregonian for that amount.

What does this really mean to us. First of all, we will be setting up our own show for Atari and related products only. We will be inviting software vendors, developers, and marketing people to participate by purchasing booth space. My first idea is to charge them a cash price, and a donation of product for the booth. Maybe \$200 + \$100 worth of product for each 10 x 10 booth. We would then auction off the products at a future meeting, benefiting not only the club, but you the members as well. We would invite certain key individuals to come up and give you the opportunity to hear them speak and to meet with them. Names which come to mind are David Small and Bill Wilkinson. I will be checking out others as I think of them. We will also be asking manufacturers or developers to set up scheduled demonstrations of their products. Other seminars could be scheduled to present specific computer applications or whatever might be of interest.

(continued on page 4)

RAMBLIN' Chuck Hall

Most of the good news this month about Atari is found in the CES articles elsewhere in this issue. Locally, there are a couple of items I thought I'd pass on to you. There is a new computer store downtown. The name of it is Software Etc., and it is located in the back part of the downtown Dalton's on 5th Ave. They do not sell computers but have two Commodores, a Macintosh, and an IBM PC on display to test out software. They do have ST software, and their stock is growing. The first day I went in they only had a few Infocom titles and a couple of others, but the last time I went in they had one full shelf section for Atari. I was disappointed in the book selection and grouping. They had specific sections for IBM, Commodore, Apple, etc., while all of the Atari books were grouped under "other." We have to do something about that.

While one opens, another closes. I was very disappointed this week to hear that Comp-U-Desk was closing its doors. I have been doing business with them since they opened and they will be missed. Right now everything is 20% off so take advantage of it, if possible. All of their remaining stock will be going to City Liquidators.

That's about all for this month. We do have a special sound treat for you at the next meeting. It will be well worth your time to attend. Due to all of the activity of putting together the All Atari Show, and lack of attendance during the summer, we are going to postpone the auction until this fall. Believe me, that will be an event.

NEW DISK PUBLICATION Chuck Hall

I was called by a firm in Texas this week that is producing a new Disk Publication. They don't want to be known as just another disk magazine, because what they are offering is beyond what we have seen so far. The publication will consist of three double-sided disks (8-bit) containing graphics, demos, articles, interactive fiction, cooking tips, and who knows what else?

They have asked to appear at our July meeting to demonstrate this new publication to you, and to offer subscriptions. It is going to be published six times a year. Each individual issue will cost \$24.95 retail, but a subscription price will be \$79.95 a year. They have also offered the club a fund raiser option on additional subscriptions following the initial offering.

I am somewhat concerned about their appearance in July for two reasons. One, they have asked for an attendance of at least 200 for the trip to be worthwhile for them, and 2) our days in July get very long, and it may be difficult to demonstrate in our new facility due to the light which comes in until quite late. I will talk to them about this, and if nothing else I will get a copy of their first issue and demonstrate it myself. Then they could come up later and make their big push. In any case, stop by at the next meeting and see what this new product is all about.

Let's show out-of-town visitors that we are an active club and that we are proud of our size and vitality.

(SPECIAL PROJECTS, continued from page 3)

As you can see, the opportunities for us as a club are endless. This will be our show, and we can do anything we want with it. The show is tentatively scheduled for the third weekend in October. I am in the process of locating a facility which will accomodate us on those dates. I am also in the process of putting together a Project Team for this show. If you have any experience in organizing something like this, or would like to help, please get in touch with me. I have a few names on the list now, and meetings

will already be underway by the time you read this, but you can still join in. I am attempting to keep you all informed about what is going on and when through messages on the PAC 1 and PAC 2 bulletin boards. Please check them often for updates on any of the above events.

We have a few other ideas on the back burner, such as putting the booth up at malls, etc., but as you can see, we have a busy summer and fall ahead of us. Please get involved and have some fun with us. See you at the meeting.

POOF!

Melvin J. Waller, Jr. - PAC

Ever wanted to be able to jump between GRAPHICS display modes 8 and 15 (or 7+) with your 400 or 800 Atari computer? Well, here is an extremely simple way to do that. Anytime you wish to change the display mode, simply call this one line routine with a GOSUB. In fact, it is so fast that you may have to put a delay loop with it to keep your screen from **FLASHING** between modes. Following is a listing in both BASIC and Assembly for those who have different programming tastes and would like to see how the routine works.

Machine language subroutines have intrigued me to the point of needing to learn some of the language. I hope they will do the same for you.

Listing 1.

```
30000 D=USR(ADR(ML$),PEEK(88)+PEEK(89)*256)
      : RETURN
```

Listing 2.**Atari BASIC data statements**

```
10 DIM ML$(52) : REM Read the numbers
20 FOR I=1 TO 52 : REM below, change them
30 READ NUM : REM to characters, and
40 ML$(I,I)=CHR$(NUM) : REM add them to
50 NEXT I : REM ML$.

60 PRINT CHR$(125)
70 PRINT 30000; " D=USR(ADR("; CHR$(34); ML$;
80 PRINT CHR$(34); " ),PEEK(88)+PEEK(89)*256)";
90 PRINT ":RETURN"
```

```
100 DATA 104, 104, 133, 204, 104, 133, 203, 160
110 DATA 3, 177, 203, 170, 201, 79, 208, 3
120 DATA 202, 208, 1, 232, 138, 145, 203, 200
130 DATA 200, 200, 177, 203, 170, 201, 15, 208
140 DATA 3, 202, 208, 1, 232, 138, 145, 203
150 DATA 200, 192, 99, 48, 237, 240, 218, 192
160 DATA 199, 48, 231, 96
```

[EDITOR'S NOTE: This program places the machine language subroutine in a string and then prints the string on the screen along with a line number and the rest of the code shown in listing 1. Move the cursor over the line and press return. Now that the line has been entered into memory, you can LIST it to disk or tape to be ENTERed into your programs. In this form it will not require any variables.]

BASIC TIP OF THE MONTH

John Hutchinson - FLAG

[Reprinted from Flagpost, the newsletter of the Fort Leavenworth Atari Group, June 1986, page 6.]

You have been sitting at your computer for over an hour putting the final touches on your BASIC neat whiz bang utility program and you are finally ready to SAVE it to your disk drive. Whoops! You suddenly realize that you don't have any formatted disks on hand. Do you turn your computer off and go to bed disgusted with your lack of foresight? Do you put your foot through the monitor screen and swear never to glance at another pretty keyboard again? Nooooo. Just whip out this newsletter, pop a blank disk in the old drive and enter the following BASIC statement in immediate mode to format a disk without DOS:

```
XIO 254,#1,0,0,"D1:"
```

Want to delete a certain file? Then try this XIO statement (FILENAME.EXT is the name of the file you want to zap):

```
XIO 33,#1,0,0,"D1:FILENAME.EXT"
```

Change the 254 above to 35 and you can lock a specified file. Make it a 36 to unlock it.

What if you don't remember the name of the disk file and you can't or don't want to go to DOS. No problem, Vern, just enter these statements:

```
OPEN #1,6,0,"D1:*. *" : DIM A$(20) :
FOR I=1 TO 60 : INPUT #1,A$ : ? A$ : NEXT I
*****
```

Listing 3.**Assembly listing**

PLA	INX	BNE 1
PLA	TXA	INX
STA 204	STA (203),Y	TXA
PLA	INX	STA (203),Y
STA 203	INX	INX
LDY #3	INX	CPY #99
LDA (203),Y	LDA (203),Y	BMI 237
TAX	TAX	BEQ 218
CMP #79	CMP #15	CPY #199
BNE 3	BNE 3	BMI 231
DEX	DEX	RTS
BNE 1		

CHICAGO CES
Atari Corp's Biggest Booth Ever
 Jack Powell - ANTIC

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CHICAGO, IL June 1, 1986 -- Atari's exhibit space at the Chicago Consumer Electronics Show is the largest seen since the Tramiels took over the company. Walls of monitors displaying Atari software, ranging from ST computers to 2600 game machines, surrounded some 35 third-party developers showing off both 8-bit and ST software.

CES breezed into the Windy City Sunday, opening to brisk crowds. While Chicago natives soaked up the first of the season's hot, humid sunshine, electronics mavens crowded inside the huge McCormick Show Halls off Lake Michigan and ogled the techno-wonders.

As an added bit of Atari nostalgia, a central room contained such coin-operated Atari arcade games as Asteroids, Dig Dug and Jungle King. Two special display areas were reserved for MIDI and digitizing software. In the MIDI booth, Hybrid Arts showed its many sophisticated products for ST and 8-bit. Activision demonstrated **The Music Studio**, also available on both ST and 8-bit. The digitizing booth displayed **Computereyes** for the 8-bit and **HippoVision** for the ST.

BATTERIES INCLUDED GOES PUBLIC

Michael Reichman, president of the successful Canadian software firm Batteries Included, announced a merger with ITM Corp. This means Batteries Included stock may be publicly traded on the Canadian Stock exchange. Reichman also said that Russ Wetmore, author of **HomePak**, has accepted a position with Apple Computers in Cupertino, CA. Whatever he is doing is evidently very hush-hush as Russ said only that he was working in "advanced research production" and would say no more. Reichman awarded Wetmore a plaque for outstanding achievement in world-wide sales for his **HomePak** software. Ian Chadwick accepted the award in Wetmore's absence.

THIRD-PARTY DEVELOPERS

Judging from this show, the Atari software business seems very active -- certainly more so than in recent shows. Several companies with Atari booths had their own booths elsewhere on the floor. Later reports will detail the software available from these companies. Meanwhile, the companies are displaying the following products within the central Atari area:

Artworx is showing its bridge programs for both 8-bit and ST, and **Hole-in-One Golf** for the ST. They also have a new 8-bit program called **Peggamon**.

Omnitrend -- **Universe II** for the ST.

Migraph -- **EasyDraw**.

Zobian Controls -- The Rat, a mouse for 8-bit Atari computers.

First Star Software -- The company that made **Spy Vs. Spy** and **Boulder Dash** for the 8-bits is coming out with **Comic Strip Maker**, a graphics program for the ST.

Activision -- **Paintworks**, which is their new name for the N-Vision graphic art program created by Audio Light, Inc.

Michtron -- A whole slew of products for the ST, including the **Time Bandits** game and the SideKick-type **CornerMan** utility.

Classic Image -- Disk Library and a game called **Diablo**.

Epyx -- **Winter Games** and **Temple of Aphshai Trilogy** on the ST.

MicroProse -- ST version of **Silent Service**.

Sierra On-Line -- Several animated adventure games. The most recent is **Black Cauldron**.

Softworks -- BASIC compiler for the ST.

Avila Associates -- **Make it Move**, an ST graphics animation program, and a gambling tutorial currently called **Casino Craps**.

Softsync -- **Personal Accountant**, an 8-bit financial program.

Blue Moon Software -- A collection of GEM Desk Accessories including **MacroDesk**, **MacroMath** and **MacroManager**.

Academy Software -- **Typing Tutor** and **Word Invaders** for both 8 and 16-bit Ataris.

Spinnaker -- Displaying an extensive line of 8 and 16-bit educational and adventure game products.

American Educational -- A series of educational software for 8-bit Ataris.

OSS -- 8-bit and 16-bit programmer's tools.

ICD -- Some exciting 8-bit hardware, including the ICD Multi I/O Board, a new multi-use I/O board which plugs into the parallel port. (More about this in the next report.)

XLent -- Displayed the entire line of products, including many printer/ graphics packages available for both 8 and 16-bit machines.

Haba Arrays -- **Get Rich**, a financial planning package for 8-bit machines.

FTL -- The creators of **Sundog** for the ST, are also showing **Micro Cookbook** and **Dungeon Master Adventure**.

Britannica Learning -- A series of educational programs for the 8-bit Ataris.

Batteries Included -- A new version of **PaperClip** for the 8-bit with **Spellpack. Thunder**, a real-time spelling checker.

Electronic Arts had two Atari booths. One to show off their long line of 8-bit game products and the other to display **Financial Cookbook** for the ST. According to an EA spokesperson, such EA hits as **Golden Oldies** will be adapted to the ST, but that EA is not currently planning to adapt **Marble Madness** to the 16-bit Atari computer.

Covox -- **Voice Master**, Atari 8-bit voice recognition software.

SSI -- Booths for both lines of Atari computers and displayed many of its very successful strategic games.

Quickview -- Software author Paul Heckel showed his **Zoomracks** ST data-base program.

NEW ST MAGAZINE GETS A START

Antic Publishing unveiled its new ST quarterly, **START**, a combination magazine and disk. Instead of type-in listings, all program listings are on the disk, which is bound into the magazine in a tear-proof envelope.

START is targeted at the experienced ST computer owner. The first issue features a MIDI Sequencer, which records and stores synthesizer song files on disk.

Tom Hudson has written a desk accessory which will store any DEGAS printer driver in RAM, then capture the [ALTERNATE]-[HELP] key combination for a successful screen dump.

Tim Oren reveals the secrets of GDOS and Metafiles. A thorough comparison of available ST Assemblers is contributed by Chris Chabris. And David Small explains why he distrusts computers in "Voodoo Computing."

THE SECOND DAY

Atari's John Skruch, Manager of XE Software Products, showed us the XEP 80 -- the long-awaited 80-column adapter for the Atari 800, XL/XE computers. The adapter is "new-Atari" gray-colored and just slightly smaller than the old Atari 850 interface. As Skruch said temptingly, "It has the same 'footprint' as the 8-bit 3.5-inch drives."

Atari Corp. is still not ready to announce the long-rumored 3.5-inch drives for the 8-bit line. But reliable sources within the company

report that the drives will have a capacity of 325K, formatted, and the Disk Operating System will be compatible with DOS 2.5.

The XEP 80 has a standard Centronics parallel printer port in the back, an RCA monitor input, an I/O cord that plugs into either joystick port and an input for its external power supply (which is about the same size as most modem power supplies).

The card was demonstrated on a standard green monochrome monitor and the letters looked as crisp and clean as an IBM PC screen display. Atari claims the adapter will also work with a color monitor, but not satisfactorily with a television set.

Built-in software supports the entire Atari internal character set, including special graphics characters, plus the Atari international set and an expanded international set contained in the ROM of the XEP 80's controller chip.

The card supports any call which works with the E: device and has such special effects as black on white or white on black, double-width or double-height characters, and blinking or solid cursor and characters.

Skruch said there was a special "burst" mode which printed text to the screen "four times faster" than normal. Although cartridges such as BASIC XE, from OSS, work with the new adapter, most software will have to be specially adapted for it. Also, programs that use bit graphics will have to try something else, since the usual bit graphics screen fills only half the 80-column screen.

The XEP-80 is expected to reach dealers in late fall with a price tag just under \$80.

ATARI PRINTERS

Ever since Atari displayed the first ST a year ago, it has been showing printers. Only now are the dot-matrix graphics peripherals being shipped, at a price of \$219.95. The XMM 804 for the ST and XMM 801 XE printer are essentially the same.

The 801 is compatible with the Epson medium-resolution graphics mode and contains a built-in interface for the 8-bit machines. The 804 supports up to 1,280 dots per inch and uses a standard centronics cable to link it with the ST.

Though both machines were designed to be as compatible as possible with Epson printers, they are also fully compatible with the earlier Atari 825 printer and are designed primarily as a new, improved printer for those who previously owned the 825.

(CHICAGO CES, continued from previous page)

THE ONE MEGABYTE XE

While many companies have jumped on the ST bandwagon, ICD has been quietly churning out important hardware items for the 8-bits, including a straight-connect modem cable for \$14.95, a low-cost printer connection for \$59.95 and The P:R: Connection, a replacement for the Atari 850 modem interface. The P:R: Connection (\$89.95) is a small box with one printer port and two modem ports. It gets its power from the computer and works on any Atari 8-bit machine.

Yes, now you can have a 1-megabyte 130XE. The ICD Multi I/O Board plugs into the parallel bus port and sells for \$199 for a 256K version and \$349 for a 1-megabyte board.

Included in the board are a parallel printer interface, a serial printer/modem interface, a printer spooler and a hard disk interface. According to ICD, a standard hard disk can be used with either a SASI or SCSI controller card. The product is also compatible with the Supra hard disk.

ICD's display system was configured with two hard disks and one floppy, with built-in software permitting segmenting of the hard disks. The screen displayed four hard disks at 260K, 10Mb, 9Mb and 3Mb, plus three RAMdisks at 192K, 256K and 512K; and finally the one floppy. Oh yes, and a 64K printer spooler.

ICD said that any DOS can be used with the Multi board. The whole thing sounds like a dream come true for 8-bit power freaks.

RATS, AN 8-BIT MOUSE

Matthew Zobian, of Zobian Software, showed us his baby "the Rat", a mouse for the 8-bit Ataris. Zobian feels the mouse is the "wave of the future" in computers and, because the Atari 8-bit is such an excellent graphics machine, it seems perfect for mice -- or rats.

The Rat comes with its own software, including a graphics program and a cursor control routine. But Zobian realizes he must court other software developers to make a success of his interface. Accordingly, he told us that MTS is developing mouse-compatible Big Picture and Artist Unleashed -- both graphics packages. RAMbrandt, another paint program, and a business management package by Reeves Software are also being adapted to The Rat.

The single-button Rat is an analog mouse which plugs into the joystick. Zobian claims that it is very easy to program. Without accompanying software, the Rat sells for \$89.95.

ANIMATED GRAPHICS FOR ST

Avila Associates, a new company, displayed two new products for the ST at the Atari exhibit area: **Make it Move**, a graphics presentation utility featuring animation, and **Casino Craps**, a gambling tutorial. Both are expected in July.

Make it Move lets you grab portions of your **DEGAS** or **NEOchrome** pictures and program them into an animated presentation. When we saw it, the program was in the alpha state. Essentially, you can perform functions similar to movie editing techniques, such as wipes, dissolves, fades, cuts and zooms. A single object, grabbed from a screen picture, may be programmed to move along a given path. The same object may also be animated while moving on that path.

Rene De La Brandeis, designer of the program, grabbed a section of a **NEOchrome** picture and saved it in a special compressed format. He then pulled it up with the **Zoom** utility, set its beginning and ending coordinates and ran it. The object appeared from the beginning coordinates and smoothly grew to full size while following a curved path to the end coordinates. It looked good!

Casino Craps displays a very detailed, and accurate, craps board designed to teach the user to play craps at Harrah's casino in Las Vegas. De La Brandeis is currently trying to get Harrah's name on the product. He hopes they'll want to use it to encourage people to learn the game. These days, the only craps players are World War II vets, according to Harrah's. Harrah's naturally wants to change this, and De La Brandeis hopes they'll use his game to this end. "It's a lot cheaper way to learn craps," he said.

THE THIRD DAY

The 800XL and 130XE are back. If the product displays at the Spring Consumer Electronics Show here in Chicago are any indication, more companies are beginning to support these powerful 6502-based graphics computers, partly due to the enthusiasm their 68000-based sibling is receiving.

The Pawn, the successful -- and difficult -- 520 ST graphics/text adventure, is currently being adapted for the 800 XL and 130 XE and will be released in this country through Firebird Licencees.

The Atari 8-bit version of the game will have all the complexity of its ST cousin and the same incredible parser and graphics, but half the graphic resolution. Programmers at Magnetic

Scrolls, the technically sophisticated software development group from Great Britain, are playing with the display list to imitate the ST full color spectrum on 8-bit screens.

The new **Pawn** will also have a postage stamp-size graphic image sitting in the upper-left corner of the screen to give you an idea of where you are. And for hard-core text adventurers who feel graphics are sissy (and rightfully so) a non-graphics mode ignores the 30 pictures stored in the game.

DATASOFT SUPPORTS THE 8-BITS

Datasoft displayed strong 8-bit Atari commitment with a new line of software. **Yie Ar Kung-Fu**, a Kung Fu game from Japanese firm, Kjonami priced -- like most of Datasoft's 8-bit products -- at \$29.95 will be available by Christmas. Fight a succession of increasingly skillful warriors until you finally reach a warrior as good as yourself. Datasoft didn't say what happens if you beat yourself.

221B Baker Street, a Sherlock Holmes graphics/text adventure, can handle up to four players. The game includes 30 different cases on one disk and add-on disks are planned for \$14.95 each.

In the underground labyrinth of **Mercenary**, map and wander the dimensional rooms in this complex 3-D maze game featuring vector graphics. On the planet surface, the game turns into more of a flight simulation arcade game.

Gunslinger is another graphics/text adventure -- this time with a western theme. **Never Ending Story**, available now, is a graphics/text adventure based on the fantasy movie of the same name.

The **Dungeon Module of Alternate Realities** is expected to ship in the third quarter. Datasoft also demonstrated a preliminary version of **Alternate Realities** for the ST which basically scrolled continually around the street maze. No control and no sound, but the graphics were very clean and detailed. They hope to have it out by September. But with **Alternate Realities**, you never know.

WHAT ABOUT THOSE LEATHER GODDESSES?

Infocom threw a party after yesterday's show, Sunday night at the Field Museum of Natural History, a Victorian architectural wonder whose interior looks remarkably like several scenes from the movie *Dune*.

After standing around, drinks in hand, hobnobbing with dinosaur skeletons and stuffed elephants, the crowd was instructed to proceed downstairs to the "presentation" room.

Leaving this wonderful ambience, we found ourselves in what looked like a small, corporate briefing room, complete with podium and folding chairs. There the programmers responsible for Infocom's newest games described their products.

Steve Meretzky, co-author of the **Hitchhiker's Guide to the Galaxy** game and author of **Planetfall**, has come up with **The Leather Goddesses of Phobos**, a racy spoof of the pulp sci-fi novels of the 1930s. According to Meretzky, it's "the first Infocom game with sex."

There are three levels of play: Tame, Suggestive, and Lewd. Continuing Infocom's policy of highly entertaining -- and piracy-proof -- packaging, **Goddesses** will include a 3-D comic book (complete with glasses), and an "enticing" scratch & sniff card, which is essential to completing the game.

ANTI-NUCLEAR ADVENTURE IS "ONLY A GAME"

You're an American tourist in London when you suddenly learn that a hydrogen bomb is about to destroy the city.

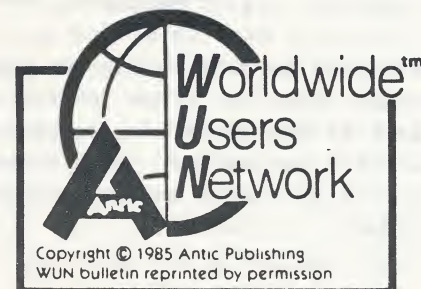
This is **Trinity**, a chilling anti-nuclear text adventure. Written by Brian Moriarty, originally a staff programmer for *Analog Magazine* and author of Infocom's highly successful **Wishbringer**, the game places you in historically recreated simulations where nuclear bombs have exploded in the past.

You are given a chance to prevent each one and, if you succeed, eventually work your way back to the first: New Mexico, July 16, 1945. Prevent that and you prevent the whole chain of nuclear history.

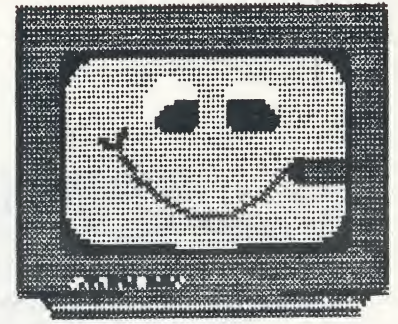
This is the first Infocom game to faithfully recreate actual events and locations. It's a bold concept, but Moriarty emphasises it is "only a game."

FEMININE MYSTIQUE

Jim Lawrence, who used to write the Nancy Drew series, and "Witness" programmer Stewart Galley joined forces to create **Moonmist**. This beginner-level "romantic haunted castle mystery" game is designed to appeal to feminine sensibilities but will, they hope, appeal to both sexes.



ST WORLD



ST SIG NOTES Tom Cloyd - PAC

As usual, the ST SIG's monthly meetings were awash with new rumors, reports on new products, and discussions of problems and their resolutions. The focus of the group is clearly on applications and systems programming, with continuing interest in understanding the hardware of the ST, and the various add-ons and peripherals which are available or coming. So much information is typically exchanged that only a cursory report is possible.

Hardware developments: A thermal color printer (the Ultimate 20?) is being adapted to the ST. Reports are that the output is exceptional, but cost is about 85 cents a page.

The 20-meg Supra hard disk has been performing well for Dale Thomas. The group's interest in hard disks remains high.

We will soon (around September) have an add-on IBM PC emulator for the ST. It'll have its own processor and RAM and will use the ST's 68000 chip for I/O. Estimated price: \$300-400. Related to this: IB Computers will soon have on the market 5 1/4" disk drives for the ST (40-tracks will go for about \$239). An additional source of IBM software will be its new laptop computer, which uses a disk format identical to that of the ST!

Want to upgrade your ST drive to a double-sided format? IB Computers will soon put on sale a double-sided drive, minus the case, for about \$100.

A solid rumor from Seattle user groups: In June, Atari will market a 100% Hayes-compatible 1200 baud modem, useable by both the ST and the XE for about \$100. They are seriously considering marketing a 2400 baud for \$50-60 more.

On-board real-time clocks: two approaches are currently available, and have been used successfully by local folks. One plugs into the cartridge port; the other installs internally, and just allows current to the keyboard to stay on, so that the internal clock already there is never shut off. With battery backups, both are around \$50.

Software developments: In general, while it initially seems awesome to have a full 512K available on the 520ST, it is clear to us now that one meg offers considerable advantage. Applications programs increasingly are demanding a lot of RAM. Interesting new RAM-resident utility programs are becoming available, which diminish available memory. Anyone doing much programming will really appreciate the advantages of being able to create a large RAM-disk and doing most compiling and linking out of that. It faster than a hard disk by quite a margin.

Available now on the ST BBS: a working, home-grown version of AR68, so full archiving functions are now available.

A CPM emulator, for about \$50, will be out VERY soon. The trick to using it is to run it from a RAM-disk. A working Macintosh emulator exists, but Apple is not eager to license use of its ROM-based operating system, which is a necessity. Discussion continues on this.

DRI's C versus Megamax's C: It seems that the two are roughly comparable in speed of generated code, depending on application.

COPY II ST, an ST version of the most popular IBM software copying program, is on sale. A must for hard-disk folks. Copies all ST software now out. Central Point Software will do SIDETRACK upgrades for \$20. Apparently, the Amiga is the ultimate ST software copier - it'll copy absolutely anything. Now if we could just get the price under \$50!

An ATARI show in Portland? It could well happen. Atari and the P.A.C. are apparently negotiating, at ATARI'S request, to do one, with ATARI footing the bill. Why Portland? One reason is that the Northwest sales area is reportedly the national sales leader for ST's.

The ST-SIG is giving birth to a project-oriented sub-group, led by Tony Roth. It's considering several possible foci, one notable one being a 68000 disassembler. We think that is time we have something to show for all the discussion, hacking, and thought this group has produced in recent months. More to come....

TYPESETTER ST
A Review
Steve Billings - PAC

Since I select and often compose the artwork in the newsletter, I was interested to test out the **Typesetter ST** program from XLEnt Software. I have used their previous 8-bit program occasionally on the 800XL to add lettering to pictures or make other enhancements to the pictures and was happy with the results. Oh, boy! I thought. Just think what the possibilities are with the ST!

I will have to keep dreaming for a while though. The **Typesetter ST** is not nearly a finished product, is very poorly documented and is difficult to use. Originally the program was available for the monochrome equiped computer only, but there is now a color version available. Both versions come on the same disk. I only have a color monitor, so I cannot relate how well the mono version works, but would assume that it is very similar to the color version except that the monochrome program operates in the high resolution mode instead of medium resolution.

The only things very promising about the software are the promises by the authors of new improved versions to come, and other modules like **Rubber Stamp** and **Megafont ST** that will expand the versatility of **Typesetter ST**. With a price tag of \$39.95, they need to offer more than promises of better things to come.

Basically, **Typesetter** allows you to enter text and graphics onto an entire piece of 8.5 x 11" paper. If you have done anything with programs like **NEOchrome** or **DEGAS**, you know that the picture you end up with is roughly proportional to the shape of your monitor screen. If you print out a screen dump you are left with a big margin at the bottom of the piece of paper. **Typesetter** allows you to scroll the area on the screen and compose graphics and text that will completely fill the paper. It allows you to combine text and borders with graphics.

The documentation claims that **Typesetter** can load a **DEGAS** picture file in high resolution. I assumed that the medium resolution version would allow you to load a medium resolution **DEGAS** picture file, but I could not get it to work. The disk spun around, but the picture file that loaded in was distorted and scattered. I had the same results trying to load a **NEOchrome** file. These are the two most common drawing programs for the ST, so at this time I think graphic utilities would be wise to accomodate them or have a means to convert them to a compatible format. The documentation did not give any other

hints on what other picture file formats are compatible with **Typesetter ST**, except possibly a mapping program to be distributed by **ANTIC** magazine.

Typesetter is also supposed to be able to load lettering fonts from other sources. The only other source I have at hand is **Graphic Shop** fonts, but when I attempted to load them the results were distorted non-letters. Again, the documentation was of no assistance. I may have been doing something wrong, but I simply do not want to spend the time to try and figure out a program that has incomplete and confusing documentation.

Other problems with **Typesetter ST** are some very basic things like not being able to read a disk directory from the program and not being able to format a new floppy disk. I consider these fatal flaws. It is very irritating to be working on a project and trying to load a picture file only to realize that you forgot the exact name of the picture file. With **Typesetter** you would have to save the **Typesetter** file, quit the program, check the directory on the picture disk, reload **Typesetter**, reload the **Typesetter** file, then reposition the screen and load the picture. What a pain. A worse problem is working on a screen for an hour and trying to save it, only to find that the disk is full. **Typesetter** does not allow you to clear off space on a disk or format a new disk without losing the entire screen that you are working on.

I did not get much farther than this point in using the program because I became too frustrated. The drawing features worked fine, but were rather limited. You can draw freehand, make arcs, circles, boxes and fill areas, but most drawing programs will out perform **Typesetter** in these aspects. **Typesetter** does not take advantage of the GEM desktop interface. All commands are entered using the function keys and keyboard. I had to keep the documentaion handy to recall the commands to get back to the menu screens. The commands are not consistent. Different modes require a different command to get the menus back on screen.

Typesetter is not a complete or professional programming effort. XLEnt software obviously rushed this piggy to market to get the jump on the ST software boom. The program is not worth the price they are asking. I would maybe pay \$15 for it if they improved the documentation to the point where I could use all its claimed features.

Bit	7	6	5	4	3	2	1	0
Value	128	64	32	16	8	4	2	1
	displays	sorted	sorted	confirm	confirm	double click rate		
	TEXT	by	by	deletes	copies	All three bits		
	(if not set	size	date			may be from 0-4.		
	displays	\	/			5-7 will turn off		
	icons)	both bits				the mouse buttons.		
		sort by						
		type						

The second window def will display the contents of the folder TEST.C, while the third def will open a window, and only display the .INF files on drive A. If you close and open the window, the files will display as defined in the file and program defs below. (NOTE: this only applies to icon images. Every file will display in text -- except if the file bits are marked to be hidden, system, volume, read/write and whatever other bits there are, in which case it won't display at all, but if it is read only, it will display -- strange, huh?) The bottom-most open window in the list will be the active window.

```
#M 00 02 00 FF D FLOPPY DISK@ @ (#M=iMage (?))
```

```
#M 00 00 00 FF A DRIVE A@ @
```

```
#M 00 01 00 FF B FLOPPY DISK@ @
```

These describe the icon attributes. The first two numbers are the column and row position of the icon. The column can be from 0-7, the row 0-3. The third number determines the icon image which will be displayed. The image number is the same for this and the remaining defs in desktop.inf, as follows:

0= disk drive (drawer)

1= folder (sub-directory)

2= trash can

3= executable file (.PRG, .TOS, or .TTP)

4= text (stack of papers)

The fourth value doesn't seem to do anything, but must be a place holder for an unimplemented function. The single letter is the drive identifier, and the text is the drive name. The first @ indicates the end of the drive name. The second @ does nothing, but we can speculate as described below for the file identifiers. The order in the list determines the visual heirarchy of the icons, ie. which will display on top when moved over another icon.

```
#T 00 03 02 FF BLACK HOLE@ @ (#T=Trash)
```

This is the same as the disk drive. If you move a disk drive identifier below this in the list, it will display on top of the trash if moved to the same location. The trash has no identifier letter, but you can put one in.

```
#F 03 04 @ *.INF@ (#F=Files)
```

```
#D FF 01 @ *.C@ (#D=Directories)
```

These two determine which type of file or directory will be displayed, when displayed as icons. The first line will make GEM display only .INF files for use with the SHOW, PRINT, CANCEL alert box. If you delete this line, no icons will be shown for any file, except as defined below for programs. The second line does the same for sub-directories -- only .C folder icons will show. When files are displayed as text, all files will be there, but if you single click on an 'undefined' file type, the sytem will reboot. If you double click, the name will be highlighted, but you can't do anything.

```
#G 03 FF *.APP@ @ (#G=Gem)
```

```
#G 03 FF *.PRG@ @
```

```
#F 02 04 *.TOS@ @ (#F=File)
```

```
#P 03 04 *.TTP@ @ (#P=Parameters)
```

The above four determine the types of files defined as executable images. Notice that the #F, #D, #G and #P all have two @ symbols. This is defined as: the text before the first @ tells GEM this is a def for an executable file, while text after the first @ and before the second @ tells GEM that this is a def for a SHOWable file (ASCII or object). Note that if both are specified, like **#G 03 04 1ST WORD.PRG@ *.TXT@** then when you double click on any .TXT file, the 1ST WORD.PRG file will run, and the .TXT file will be taken as a parameter. The first number indicates the icon image for the file before the first @, and the second number indicates the icon image for the file between the @'s.

Note that the disk drive def also has two @, which would indicate that the FF is a def for the text in between the @'s, but I couldn't get anything to happen.

Try playing around with your desktop.inf by placing different values for the icon images (can be kinda fun). Be forewarned, though, you can thoroughly confuse GEM, although no harm will result.

This concludes the desktop.inf tutorial (for disk based desktop.inf, there are a couple of desktop.inf's in memory which can do things, too). There may be more to it, but I haven't figured it out yet.

MUSIC STUDIO AND N-VISION (Part One)

Randal L. Schwartz - PAC

At first glance, "Audio Light" sounds like a low-calorie version of a Sony Walkman, or that little bulb that lets you know what station your stereo receiver is tuned to. In fact, it is neither of these. Audio Light, Inc. makes nifty software. What follows is a review of two of their creations, **Music Studio** (marketed through Activision) and **N-Vision**.

First, hats off to these guys for coming up with some decent user interfaces for these programs. I spent many useful hours with them without even touching the manuals for the first time. The programs are primarily menu and icon driven (meaning that they don't need lots of text commands to be controlled), and they do what you expect them to -- no surprises. As a designer of user interfaces, I know that this is no easy task.

As a disclaimer, in case you are the proud owner of an 8-bit machine, I reviewed the ST versions of these programs. I know **Music Studio** is available for the Atari 8-bitters, but I didn't test it. I am not sure about **N-Vision**.

Now, some words about **Music Studio**. **Music Studio** is a general-purpose sound creation program that allows you to enter music via standard musical notation, and have it played by either the T's internal sound system or a MIDI-compatible synthesizer.

The music editing facility is fairly easy to use, if you understand a little about how music is recorded for sheet music. When you start the program, you are presented with the staff, with an empty bass and treble clef. Our mouse cursor becomes a musical quarter note as long as it is near the staff. The moment you press the left button, the note gets pasted onto the staff wherever the mouse put it. So, to do a Do-Re-Mi deal in the key of C-major (the default), you just move the note to the right vertical staff lines and horizontal positions and press the mouse button a few times. Simple. Once you've keyed in your music, you click the mouse cursor on the "ear" (to hear the notes), or the "running notes" (to hear the notes as they are scrolled by on the screen -- my favorite).

To change the length of the note (including support for triplets and dotted notes), you slide the mouse cursor up to the top of the screen and "drag down" a menu of different note lengths and

modifiers. Notes between whole notes and thirty-second notes can be selected this way. Rests of the same lengths are available via another drop-down menu at the top of the screen.

While you are entering your song, you can select various editing operations via another drop-down menu. You can copy blocks, insert room between notes, transpose, change timing, and add simple musical repeats. (Alternate-ending repeats are NOT supported, and I found this to be hindrance for most of the popular songs I keyed in. You can work around it by linearizing the music, but it is a bit cumbersome and consumes more memory that way.)

Music Studio supports 15 different "voices" or instruments simultaneously. A drop-down menu selects the current voice. Each voice is represented by a different color note on the screen. (Some of the colors are very close together and hard to distinguish, but a song typically has only three to six voices, and you can select easy-to-distinguish colors to keep from getting them confused.) Each voice can have a different sound when played in the ST's internal sound system, and a different MIDI synthesizer voice when played through the MIDI. The internal voice editor is neat; it comes up with a graph of the attack, decay, sustain, and release (ADSR) of the voice that change as you move little slider controls back and forth. You can trigger a test mode that plays the notes while you are musing with the values, so you can hear the results of your adjustments. MIDI assignments are controlled with a similar adjustment. Instrument settings can be stored independently of the song, so you can develop libraries of good "patches".

Music Studio supports most of standard music notation, although I had to know some musical conventions to key in some of the sheet music I had lying around. For example, a note that gets sharped or flatted at the beginning of the measure stays that way until the end of the measure, but **Music Studio** had to be told each time to "play this note sharp," rather than following the musical convention. Also, on multi-voice parts, I had to get a little creative to get a second half-note for a different voice to start a quarter-beat later than the first half-note. (It requires placing a quarter rest on

the same vertical column as the first half-note, but this wasn't obvious until after some experimentation.)

Music Studio provides an option to print the music on a standard Epson-compatible printer, but with the fudges that I had to do, a normal musician would need a little explanation to override his training.

If you don't know a quarter-note from a bank-note, you can still "draw" music using the "paintbox". With one click of the right button, the notes disappear and are replaced with bars of various lengths representing the relative lengths of the notes. You can enter music this way, but the representation is pretty limited.

Music Studio, although MIDI compatible, is not a record/play-type program like other MIDI sequencers available for the ST. You cannot capture the real-time performance of someone on a synthesizer and have it show up as notes on the screen. You can use the keyboard of the synthesizer to enter the notes, but the length of the note is determined by the current menu setting, not the length of the time the player holds the keyboard key down.

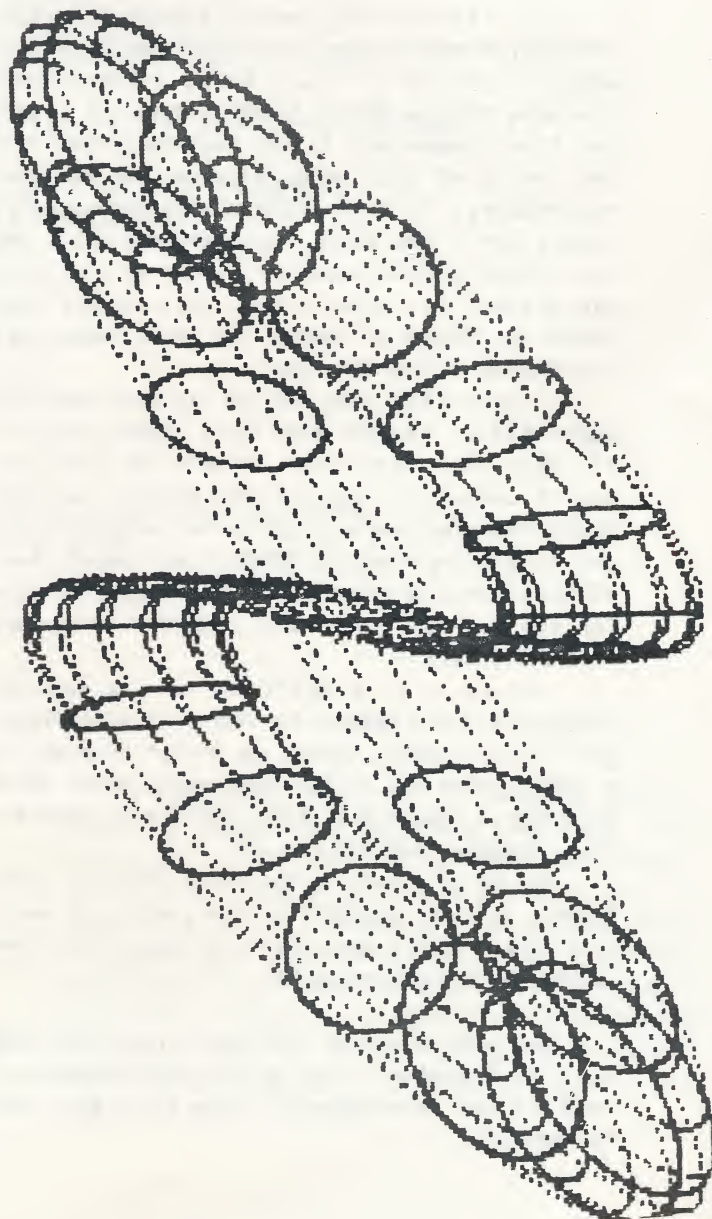
To take this program out for a test drive, I keyed in Bach's "Little" Fugue (also known as the Fugue in G Minor for Organ). This monstrous piece uses four voices, and a hunk of notes (**Music Studio** tells me I entered about 1200 column positions, and most of those had two or three notes each). It took about two rainy weekends of on-and-off work, and I made a couple of mistakes. I used a Casio CZ-101 to test the MIDI aspects.

After tiring my relatives of hearing the opening "daaa-daaa-daaa-de-da-da-da-da-dum" a zillion times, I finished. I was pleased with the result, and promptly uploaded it to IB BBS (check there for some other stuff I did, too). I found a couple of hitches besides the ones I already mentioned. Tie marks from one measure to the next only work for three ties, and one part of the song needed four. Also, tie marks "glue together" parts of the music, making it impossible to insert space or play just a portion of that part of the song. Trills aren't directly supported; I had to insert my own run of thirty-second notes, making it fun to watch the scrolling music leap along during the trills. Every once in a while, the CZ-101 didn't receive the proper voice-change information, and I got the Fugue played with one part Pipe Organ and three parts Synth-a-drums, or something like that. I don't know if that was pilot error or not, but I am still suspicious of the program.

Music Studio can be used to create music for slide-show presentations, together with **N-Vision**. If you saw the Christmas slide show at the December PAC meeting, you saw an example of a slide show made with **N-Vision** and **Music Studio**.

All in all, **Music Studio** is a super program if you are into using your ST to create and play music. Expect that there will be a large library of popular songs available, just as there have been for the AMS on the 8-bitters. The program retails for under \$50 at most Atari dealers in the area (it's on the shelf at IB, at least). By the way, I'd like to thank the folks at IB for an early release of the **Music Studio** so I could get cracking on this review article.

Next month: a review of **N-Vision**, and how you can use **Music Studio** and **N-Vision** together to create your own slides.



BASIC PROGRAMMING

Chuck Hall - PAC

Several months ago I wrote a first Basic column for the ST in this newsletter. The response from that column was so underwhelming that I thought that either 1) nobody cared, 2) nobody cared about BASIC, or 3) nobody cared about ST BASIC. Let me address these in reverse order.

ST BASIC can be very cumbersome to work with, is full of bugs, and comes with documentation that leaves a lot to be desired (stinks). Because of these weaknesses, we now have at least three other BASICs on the store shelves from which to choose. When have you ever seen that before -- especially for a new machine? If the BASIC from Atari was any good, there wouldn't be that level of competition.

Following that same argument a little further, somebody must care about BASIC, or why would there be so many BASIC Interpreters developed for the Atari? Besides, those of us who had Atari computers in the beginning never had the luxury of high level languages and extended mega-memory. We used BASIC almost exclusively, except for a few brave, adventuresome souls who went in and tackled Assembler. Later of course we saw Action, C, Pascal, etc., but to use them before the advent of ramdisk and extra memory was painstaking to say the least.

I know that many of you learned something about BASIC, and for many Atari owners, that is all they have ever used. So with the advent of the ST computers, one of the easiest ways to begin learning how to program the computer is to get in and see what its BASIC is all about. Now, with all of the high level languages available for the ST, one might ask, "What does anybody need BASIC for?"

First, it is still one of the easiest languages for someone to learn. It also allows you to write small, "quick and dirty" programs in a hurry. With all of the controversy about which high-level language is best, BASIC will remain a base language that all can use.

As far as nobody caring about BASIC, I still hear a lot of complaints from people who never got their BASIC manuals from Atari. So some people are trying to use it.

And even if nobody does care, tough! As long as I am a member I can write about anything I want in the Newsletter (as long as it gets past the editor).

So here I am, back again. This time I have written a program using ST BASIC, hoping to show some of the instructions that are new to BASIC users. The following program calculates the day of the week for any date input. The date must be in MM/DD/YYYY format. (For example, 06/07/1986 for June 7, 1986).

A brief description follows: Line 1060 calls a subroutine which clears the screen, and eliminates all but the output screen.

Lines 1070-1100 display a title on the screen, and accept the date for which you want to find the day of the week. It stores your answer in the variable DATE\$. I use caps for all Variables and Labels.

Lines 1110-1140 use two STRING commands to separate the numeric part of the date from the slashes. The numeric strings are stored in DAY\$, MONTH\$, and YEAR\$. TEMP\$ is just a temporary work field used to isolate the day.

Lines 1150-1170 convert the numeric strings into REAL numbers.

Lines 1180-1210 are a sample of some simple editing. ST BASIC allows you to be quite flexible with compound IF statements. If an edit test fails, subroutine BADDATE at lines 1460-1530 is called, and control is passed to Line 1330.

Lines 1210-1230 contain the actual algorithm used to determine the day of the week. These three lines are what the program is all about -- all of the rest is just window dressing.

Lines 1240-1310 set the value of the day of the week into the variable WEEKDAY\$. The value of N returned in line 1230 is the number of the actual day of the week. 0 is Saturday, and 1-6 are Sunday through Friday, respectively.

Line 1320 prints the day of the week on the screen. Lines 1330-1350 offer you the opportunity to repeat the operation. Line 1360 is the END of the program.

Lines 1370-1430 are the clear screen subroutine called from lines 1060 and 1470. Lines 1460-1530 are the bad date subroutine called from lines 1180-1200.

For those used to standard 8-bit BASIC, several new concepts have been introduced here with the RIGHT\$, LEFT\$, and GOTOXY commands. You should also pay particular attention to the FULLW2, CLEARW2, and VDISYS commands in the clear screen routine. If anyone has found a better way to clear the screen and eliminate the bottom and right side bars, please let me know.

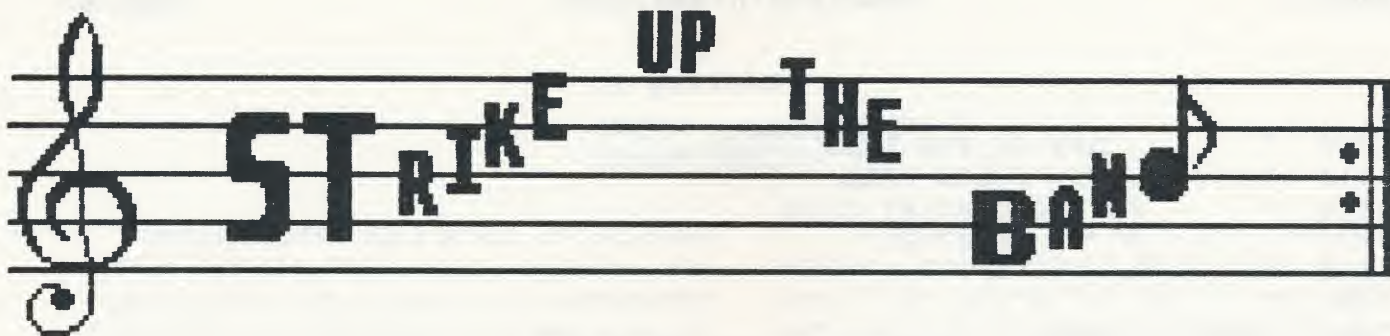
Listing 1.

```

1000 '          DAY OF THE WEEK
1010 '          by CHUCK HALL
1020 '          PORTLAND ATARI CLUB
1030 '          06/07/86
1040 '
1050 '
1060 gosub CLRSCRN
1070 gotoxy 5,1
1080 ? "DAY OF THE WEEK "
1090 gotoxy 5,3
1100 input "Enter date (MM/DD/YYYY): ", DATE$
1110 YEARS$ = right$(DATE$,4)
1120 MONTH$ = left$(DATE$,2)
1130 TEMP$ = left$(DATE$,5)
1140 DAY$ = right$(TEMP$,2)
1150 D = val(DAY$)
1160 M = val(MONTH$)
1170 Y = val(YEAR$)
1180 if M < 1 or M > 12 then gosub BADDATE: goto 1330
1190 if D < 1 or D > 31 then gosub BADDATE: goto 1330
1200 if M = 2 and D > 29 then gosub BADDATE: goto 1330
1210 if M < 3 then M = M + 12: Y = Y - 1
1220 N=D+2*M+int(0.6*(M+1))+Y+int(Y/4)-int(Y/100)+int(Y/400)+2
1230 N=int((N/7-int(n/7))*7+0.5)
1240 if N = 0 then WEEKDAY$ = "Saturday": goto 1320
1250 on N goto 1260,1270,1280,1290,1300,1310
1260 WEEKDAY$ = "Sunday": goto 1320
1270 WEEKDAY$ = "Monday": goto 1320
1280 WEEKDAY$ = "Tuesday": goto 1320
1290 WEEKDAY$ = "Wednesday": goto 1320
1300 WEEKDAY$ = "Thursday": goto 1320
1310 WEEKDAY$ = "Friday": goto 1320
1320 gotoxy 5,5: ? WEEKDAY$
1330 gotoxy 5,15
1340 input "Do you wish to try another? (y/n) : ", ANS$
1350 if left$(ANS$,1) = "y" then goto 1060
1360 END
1370 CLRSCRN: ' Clear Screen Routine
1380 fullw 2
1390 clearw 2
1400 poke contrl,3
1410 vdisys(1)
1420 '
1430 RETURN
1440 '
1450 '
1460 BADDATE: ' Bad date routine
1470 gosub CLRSCRN
1480 gotoxy 5,2
1490 ? DATE$
1500 gotoxy 5,4
1510 ? "Invalid date was input. "
1520 '
1530 RETURN

```

I challenge those of you using C, Pascal, Modula 2, Forth, Fortran, or any other high level language to duplicate this program. We can then print your program in the Newsletter and let others see some of the differences between these languages, and also give them a simple introduction to some of the better languages available. Unless my literary license is revoked by public demand, I will try and have another BASIC program here next month showing some of the other ST BASIC commands.



ST SOUND CHIP TUTORIAL

Scott Huskey - PAC

One of the most neglected resources for the ST seems to be the sound chip (AY-3-8910/11/12). Yet sound has the potential to bring a program or game to life. Recently, I played a BREAKOUT game on the ST that had no sound! The game just wasn't the same without it. I soon grew bored with this mute game. What's a game without "bells and whistles"?

One of the major reasons that the sound chip is not taken advantage of in more programs is because of the lack of documentation on it. Furthermore, what documentation there is leaves you thinking "Golly Gee, that's too technical for me."

The sound chip can make some amazing music and noises. With a little knowledge about the chip and some practice, you can be striking up the band on your ST. This article should provide you with the knowledge. For the practice, I have written a program called PIANO, which can be found in the Portland Atari Club library and is free to any Atari user group member.

Atari has provided a routine to allow you to talk to the sound chip. This is the extended BIOS 32 call, also known as Dosound. This routine allows you to load the sound chip's registers, thereby causing sound or music.

The Dosound routine needs to be passed a pointer to an array of bytes. The first byte in the array contains a register number. The next byte contains a value that will be loaded into that register. The third byte holds another register number, followed by its value to be loaded. With this array, you can continue to load as many registers as you want. You can even reload registers for special effects. This array should be terminated with the register number FF hex.

The sound chip registers are numbered 00 - 0D hex. Dosound also provides some special function registers numbered 80 - 82 hex.

Here is an example Dosound call in 'C':

```
static char boomsound[] = {
/* REG # VALUE */
/* ----- */
0x06, 0x1f, /* Noise Frequency */
0x07, 0x2f, /* mixer */
0x09, 0x10, /* Decay/volume */
0x0c, 0x20, /* duration Course tune */
0x0d, 0x00, /* envelope type */
0x82, 0x00, /* time till next update */
0xff, 0x00 }; /* end */

/* do simple sound */
Dosound(boomsound);
```

Now that you know how to load the sound chip registers with values, here is a description of what the values in those registers actually do to produce a sound.

First a short description (good for referencing to later):

Register 00	Channel A: fine tune frequency
Register 01	Channel A: course tune frequency
Register 02	Channel B: fine tune frequency
Register 03	Channel B: course tune frequency
Register 04	Channel C: fine tune frequency
Register 05	Channel C: course tune frequency
Register 06	Noise frequency
Register 07	C B A C B A Mixer
Register 08	Channel A: Decay bit/Amplitude
Register 09	Channel B: Decay bit/Amplitude
Register 0A	Channel C: Decay bit/Amplitude
Register 0B	Envelope: fine tune frequency
Register 0C	Envelope: course tune frequency
Register 0D	Envelope: CONT ATTCK ALTRN HOLD
Register 80	Temporary Register
Register 81	Register # to load with Temp
Register 81	Add this to Temp
Register 81	Until Temp equals this
Register 82	Time (.02 sec) until next update
Register FF	SOUND TERMINATOR

LONG DESCRIPTION

WARNING: If the words "most significant bit" or "2's complement" frighten you in any way, proceed with caution!

Each register can contain either no value, in the case that it is not included in the array of bytes, or it can contain a byte value. Special Dosound register 81 (hex) contains three byte values.

Each register number is followed by the format of its contents written out in bits. These bits are represented with a capital letter, followed by a bit number:

A7 A6 A5 A4 A3 A2 A1 A0

A0 is the least significant bit, it has a place value of 1. A7 is the most significant bit, it has a place value of 128.

-REGISTER 00 --- A7 A6 A5 A4 A3 A2 A1 A0
-REGISTER 01 --- 0 0 0 0 A11 A10 A9 A8

The byte values in registers 00 and 01 together make a word whose value represents the frequency to be played through channel A. Register 01 (course tune) is the high byte of the word, and register 00 (fine tune) is the low byte of the word. This frequency value is a twelve-bit number; the high nibble of register 01 is unused.

The true frequency (Hz) played in channel A can be calculated this way:

(frequency) =

$(62,500) / (\text{twelve-bit register value})$

A value can be calculated from a frequency this way:

$(\text{twelve-bit register value}) = (62,500) / (\text{frequency})$

-REGISTER 02 --- B7 B6 B5 B4 B3 B2 B1 B0
-REGISTER 03 --- 0 0 0 0 B11 B10 B9 B8

The byte values in registers 02 and 03 together make a word whose value represents the frequency to be played through channel B.

-REGISTER 04 --- C7 C6 C5 C4 C3 C2 C1 C0
-REGISTER 05 --- 0 0 0 0 C11 C10 C9 C8

The byte values in registers 04 and 05 together make a word whose value represents the frequency to be played through channel C.

-REGISTER 06 --- N7 N6 N5 N4 N3 N2 N1 N0

The byte value in register 06 represents the frequency to be played through the noise channel.

-REGISTER 07 --- 0 0 Cn Bn An Ct Bt At
(n=noise, t=tone)

The byte value in register 07 determines which noise/tone channels are allowed (mixed) to be heard. A zero in one of the 3 least significant bits (bit order: C,B,A) allows that channel's tone to be heard. A zero in the next 3 most significant bits (bit order: C,B,A) allows that channel to carry the noise frequency.

-REGISTER 08 --- 0 0 0 D L3 L2 L1 L0

The four least significant bits of register 08 (L3 - L0) control the amplitude or loudness of channel A. If the next most significant bit (D) is 1 then that channel's loudness will decay (go from loud to silent, or from silent to loud). The length and direction of this decay depend on the value of registers 0B, 0C and 0D.

-REGISTER 09 --- 0 0 0 D L3 L2 L1 L0

The five least significant bits of register 09 control the loudness and decay of channel B just like register 08 does for channel A.

-REGISTER 0A --- 0 0 0 D L3 L2 L1 L0

The five least significant bits of register 0A control the loudness and decay of channel C just like register 08 does for channel A.

-REGISTER 0B --- D7 D6 D5 D4 D3 D2 D1 D0
-REGISTER 0C --- D15 D14 D13 D12 D11 D10 D9 D8

Registers 0B and 0C together make up the envelope frequency (how long the decay will last). This effects only channels with the decay bits on in registers 08, 09 or 0A.

-REGISTER 0D --- 0 0 0 0 Co At A1 Ho

Register 0D effects the shape of the envelope for the channels with the DECAY bits on in registers 08, 09 or 0A. The four least significant bits are CONTINUE(Co), ATTACK(At), ALTERNATE(A1) and HOLD(Ho).

A zero in the ATTACK bit will make a decay start loud and then go silent. A one there will make a decay start silent and then get louder. If the CONTINUE bit is on then the decay will repeat itself over and over again, until stopped by another sound.

Only if the CONTINUE bit is on will the ALTERNATE or HOLD bits have an effect on the sound. If the ALTERNATE bit is on with the CONTINUE bit, the decay will alternate directions while being repeated. If the HOLD bit is on with the CONTINUE bit, then the sound at the end of one decay will be held at its loudness at that point.

SPECIAL DOSOUND REGISTER 80
I7 I6 I5 I4 I3 I2 I1 I0

SPECIAL DOSOUND REGISTER 81
R7 R6 R5 R4 R3 R2 R1 R0
A7 A6 A5 A4 A3 A2 A1 A0
L7 L6 L5 L4 L3 L2 L1 L0

Register 80 and the three values in register 81 work together. They allow you to load a register with a range of values over time. The register number, as specified in the first value in register 81 (R7-R0), is loaded with the value in register 80 (I7-I0). The middle value in register 81 (A7-A0) is added to the value in the specified register until it reaches the last number in register 81 (L7-L0). The middle value (A7-A0) can be a negative (2's complement) number. This allows you to count backwards. One use for these registers is to make the pitch of a sound change over time.

EXAMPLE

```
static char newsound[] = {
/* REG # VALUE */
/* ----- */
0x06, 0x00,
0x07, 0x2f,
0x09, 0x10,
0x0c, 0x20,
0x0d, 0x00,
0x80, 0x06, /* Register 06 modified over */
0x81, 0x00, /* time. Start with the value */
0x02, 0x1f, /* 00. Continually add 02 */
/* to the value in register 06 */
/* until it reaches the value 1F */
0x82, 0x00,
0xff, 0x00 };
```

SPECIAL DOSOUND REGISTER 82
T7 T6 T5 T4 T3 T2 T1 T0

If register 82 is loaded, then after its contents times .02 seconds time, (if the register is loaded, otherwise instantaneous) the next register in the array is loaded. This allows timing delays while the sound chip registers are being loaded from the array of bytes.

CONCLUSION

You may be thinking "Golly Gee, that's too technical for me," but if you can get your hands on my PIANO program and experiment with the sound chip registers you will find it easier to learn. The program will give you practice and help you learn just how powerful the sound chip can be. Now, get out there and STRIKE UP THE BAND!

520ST TO THE RESCUE

[Reprinted from JACG Newsletter, the official newsletter of the Jersey Atari Computer Group, April 1986, page 7.]

Newton, NJ -- The Newton Fire Patrol is the first in New Jersey to have a computer installed in an emergency vehicle. They have an Atari 520ST computer up and running inside their truck. Bill Ferer of the Fire Patrol had spent months looking into the possibility of having a computer on the road. Everyone he spoke to said it could not be done. Bill is not one to take no for an answer. After talking with Tom Kaceniak of Softec in Newton, they agreed on giving it a try. The Atari 520ST was their choice. It has the power without the price and was easy to use for someone with no knowledge of computers.

With the help of Softec, a database was setup and all agreed it was a go. They currently have a file on hazardous material and a guide number to look up the proper treatment of the chemical. Critical information is available at the press of a key. Also on file is a list of equipment that is available county-wide in an emergency or fire. Future plans include adding a database of diagrams of all buildings showing the interior design and exterior locations for fire trucks.

The Newton Fire Patrol, along with Softec, will be happy to help all other fire fighters in joining them to become automated and to answer whatever questions they may have. Contact Softec at 171 Spring Street, Newton, NJ 07860.

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