

PORTLAND

ATARI CLUB

\$1.50

DECEMBER 1986

IN THIS ISSUE

Board Meeting Notes, Dan Gibson.....	1
Membership Notes, Jim Miller.....	1
Special Interest Groups, Tom Brown.....	1
Explorers SIG, Tom Comerford.....	2
BBS Update, Steve Billings.....	2
COMDEX Report #1, DeWitt Robbeloth (Antic).....	4
PAC Help Hotlines.....	6
Dealers Corner.....	6
Authorized Service Centers.....	6
Review: A+ Educational Software, Bill Pike.....	7
Review: Mercenary, The 2nd City, Nabil Pike....	7
Review: Leader Board (8 & ST), C. Pritchard....	8
Review: Star Raiders II, Clyde Pritchard.....	9
Review: ST Star Raiders, Clyde Pritchard.....	11
Review: PrintMaster, Clyde Pritchard.....	12
Review: TimeKeeper, Clyde Pritchard.....	14
Review: Time - Source, Richard Barhitte.....	15
What is GDOS?, John Antoniadis (Current Notes).	16
A Computer Lover, Georgie Holtzhauer (CN).....	BC

NEXT GENERAL MEETING

Monday, December 1, 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
#2 - (503) 245-4608 - 300/1200 BPS



PORTLAND ATARI CLUB

(Not affiliated with ATARI, Inc.)

PAC Board of Directors

President:	Vern Vertrees	647-2855
Vice President:	Elanna Schlichting	285-4471
Secretary/Treasurer:	Dan Gibson	665-6912
Membership Secretary:	Jim Miller	641-6356
Program Director:	Jim Berry	223-3712
Club Librarian:	Jerry Andersen	655-3914
Special Interest Groups:	Thomas Brown	644-6674
Special Projects:	Chuck Hall	626-3717
Sergeant-At-Arms:	Tom Addis	254-9117
Newsletter Editor:	DeLoy Graham	649-6993
Advisor:	Chuck Hall	626-3717

PAC NEWSLETTER STAFF / SIG MEMBERS

DeLoy Graham, Editor	
Steve Billings	- Art Director
Debbie Billings	- Art Assistant
Lee Gassaway	- Ad Coordinator
Chuck Hall	- Columnist
Peter Hoesly	- Mailing Assistant
Clyde List	- Cartoons
Clyde Pritchard	- Final layout
Debbie Pritchard	- Production Coordinator
Kevin Roethe	- Mailing Coordinator
Michael Scott	- Typist

This newsletter is written and published by members of the Portland Atari Club (PAC), a group of people with a common interest: the Atari Computer. All articles are written and donated by members or are reprints of public domain material from other groups. Opinions expressed are those of the authors and do not necessarily represent the opinions of PAC or those of any other organization. Material appearing in this newsletter may be reproduced for non-commercial use, providing credit is given to the author and PAC or other originating group. Commercial use must be coordinated through the editor. Material for publication may be submitted in the following formats: ST text files, Atari DOS II text files, LJK text files, printed, typewritten, or legible handwritten copy. Media may be sent to the editor at the address below and will be returned to the submitter. Contact the editor for instructions on uploading submissions to the PAC BBS.

Commercial Advertising Rates: full page (7 X 9 1/2) - \$50, half page (7 X 4 1/2) - \$25, quarter page (3 1/4 X 4 1/2)- \$15. Ads must be prepaid and a 1/3 discount is given for 3 consecutive ads. The copy may vary in content, but the space must be the same in each issue. Send camera ready copy and check payable to PAC at the address below. Ad deadline is the 5th of the month prior to publication. Please contact Lee Gassaway (591-5252 or 642-2455) on all matters pertaining to advertising.

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:
Portland Atari Club, Attention: (appropriate board member), P.O. Box 1692, Beaverton, OR 97005

Printing done by Hillsboro Quick Print, 435-B S.E. Washington St., Hillsboro, OR 97123, 640-3649

BOARD MEETING NOTES

Dan Gibson

The October Board Meeting was held at 7 p.m. on October 27th at IB Computers. Attending were Dan Gibson, Tom Addis, Tom Brown, Steve Billings, Jim Berry, Jim Miller, Russel Schwartz, Jerry Andersen, Vern Vertrees, DeLoy Graham, and Dean Wagner.

NOVEMBER MEETING

The November general meeting will begin at 6:30 p.m. 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 around election of PAC Board members for 1987. There will be a question and answer period. Next, Vern Vertrees and Chuck Hall will give us their feelings on the Northwest Atari Expo. The local stores will have an opportunity to tell us what is new. Paine Webber will give us a financial review of Atari Corp. and will tell us about the public offering of Atari stock. After the break, Rosalie Neilson will demonstrate a weaving program for the 8-bit system.

TREASURER'S REPORT

As of this writing, the balance in our checking account stands at \$1,069. At the last meeting we received \$115 from software and \$460 for memberships.

SPECIAL INTEREST GROUPS

Tom Brown (646-5237)

8-BIT EXPLORERS SIG

Dates: 2nd & 3rd Tuesdays
Time/Place: 7:00 p.m. / Call
Leaders: Tom Comerford Phone: 246-4694
Wayne Winterbottom Phone: 255-8219

MODEM & COMMUNICATIONS SIG

Dates: 2nd Monday
Time/Place: 7:00 p.m. / Call
Leader: Jerry Anderson Phone: 655-3914

Membership Notes

Jim Miller

I wish to welcome the following new members and families to the PAC:

Nancy Berwick	Richard Garrick
Charles Wilcox	Ken Lawhorn
The Computer Store	JC Fuller
Keith Kinunen	Richard Cunningham
Herbert Golden	Michael Gregg
Floyd Walker	Ben Roth
Jack Benagni	Andrew Brown
George Dobson	Ken Koonce
Bob Orr	

I wish to invite all of you to the next meeting in December. It is time for the yearly elections of Board Members. The club has a real need for a Program Director -- no one is yet running for that office. Please consider the position!

If anyone is interested in the office of membership secretary, please speak up. I am running this year but I am willing to teach anyone interested in this office in 1988 about **dbman** and maybe you could help me at the meetings so you would feel comfortable running for this office.

*		*
*	IMPORTANT DATES	*
*		*
*	Newsletter Deadline	December 13
*		*
*	Board Meeting	December 29
*		*

ST SIG

Dates: 2nd & 4th Thursdays
Time/Place: 7:00 p.m. / Tektronix, Bldg 50
Leader: Pat Warnshuis Phone: 246-3724

NEWSLETTER SIG

Next meeting: Wednesday, December 10
Time/Place: 7:00 p.m. / call
Leader: R. DeLoy Graham Phone: 649-6993

EXPLORERS SIG
Tom Comerford

All of you new (and old) members that own Atari 800's, 800 XL's or 130 XE's and want to meet and talk about your computers and software or just want to listen, we invite you to join us at the next Explorers Meeting, which is held at Fulton Park Community Center at 7:00 p.m. on the second and third Tuesday of each month. Call Wayne Winterbottom at 255-8219 or myself at 246-4694.

Our meetings for October were fascinating! Bill Pike joined us both Tuesdays. The first meeting he spoke to us about **Print Shop**, **Print Shop Companion** and **P.S. Interface**, the new program from Xlent Software which allows transfer of Xlent's various graphics and fonts as **Print Shop** icons. It's neat! Bill however favors **Print Shop Companion** for its ease of use and many features.

For the second meeting, Bill demonstrated the just released version of **Paper Clip**. It is the first program to make full use of the expanded memory of the 130 or an upgraded 800. It will also run (but not with the new features) on the old 48k 800's. The 37,000 word dictionary and spelling checker are loaded into 90K which is set aside for that purpose. It can then correct your spelling as you type or after your text has been completed. Any new words used can be rapidly transferred to the dictionary. Bill declared "try it, you'll like it". When Atari releases the 256K, then we should get a Thesaurus -- WOW!

**BBS UPDATE**
Steve Billings, PAC

This month I have some exciting news about the bulletin board. The club has dedicated a 520ST and a hard drive to be used as the terminal for BBS #1! As soon as I can get the hardware functioning correctly and set up the software, it will be running at the BBS 245-9405 number.

As you may know, we experimented with using a hard drive connected to the 130XE on Board #2 for a while. Don Adams was able to patch the software to get it to work, but it never seemed completely successful. The **Forem XE** software simply did not take advantage of the massive storage capacity on the hard drive in an easily useable way. There was no way to search for files without going through the whole list. It took a lot of time to list ten megabytes of files. Also there seemed to be a continuing problem with download protocol with some software and the **FoReM XE** Xmodem implementation. Anyway, hopefully these problems will be cleaned up once and for all.

Board #2 will continue to be run on the XE for the foreseeable future. Board #1 will still be dedicated to supporting both 8-bit and 16-bit public domain downloads.

The software that I am checking out is called **FoReM ST** and it offers full support of the 8-bit ATASCII translation and Amodem protocol for downloads. **FoReM ST** is quite similar to the current boards in operation. If you are able to use the current boards you should not have any problem adjusting to the new software. The setup of BBS #1 will be very similar to the current version in terms of the names and types of message bases.

If you have an idea or request for a new message base theme you would like to see, drop me a line or give me a call and I can probably include it (as long as it is family oriented.)

I am excited about this new enhancement as I am sure you will be when you see it. I will be telling you more as I am able to.

HAPPY HOLIDAYS FROM MIGRAPH!

FASTTM.....\$49.95

Here's the desktop accessory you've been waiting for! FAST contains several of the most popular programs all in one: ST DOS, ST Editor, a Card File plus a calculator, calendar, ASCII table and clock. Many of FAST's parameters can be set to meet individual needs and it operates in all three resolutions. Once installed, it is accessible from within any GEM program.

LabelMasterTM.....\$39.95

Once you try LabelMaster you'll never use plain labels again! This great program is GEM based and contains a Graphic Editor to create your own label designs and a mailing list manager. Packed with features plus over 100 ready to use label designs. The possibilities for home and business are endless.



Toall S. Towners
Attn: Happy Holidays
123 Some Ave.
Anywhere, USA 12345

Easy - Draw^R 2.00.....\$79.95

New features and a new price make Easy - Draw a great gift for Christmas. Version 2.00 contains all the powerful features in version 1.03 like object oriented graphics, pop up menu, specific area zooming, and rubberband size and stretch, PLUS:

Flip & Mirror, Single GEM file format, Edit Polyline, New Change Arc and Arrange commands, and Automatic copy between windows!

With Easy - Draw you can create anything from simple graphics to technical illustrations, and add lots of text too!

**MORE EXCITING PRODUCTS
COMING SOON!**

To Order see a Dealer near you or call MIGRAPH at:
1(800) 223-DRAW or (206) 838-4677

This ad created entirely with Easy-Draw, except for the label.

ANTIC '86 COMDEX REPORT: FIRST DAY
DeWitt Robbeloth, Antic Executive Editor

[ANTIC PUBLISHING INC., COPYRIGHT 1986.
REPRINTED BY PERMISSION.]

LAS VEGAS - NOV 10, 1986. Atari Corp. set up its crowded COMDEX exhibit near the entrance to the main hall of the Las Vegas Convention Center. Atari occupied a rectangular island measuring about 30 by 75 feet. In that area it crammed not only its own products but those of 65 selected third-party developers. Things got so crowded that some of Atari's exhibitors had to take turns using the display space at one of the 40 mini-booths.

The resulting crush drew even more attention from gawkers.

COMDEX, the international computer exposition run by The Interface Group, opened a five-day stay here today with 1,300 exhibitors and 50,000 "trade" folk attending. The event filled the huge Las Vegas Convention Center and spilled over into four major local hotels. The crowd seemed optimistic and energetic as it surged through the aisles.

Casual eavesdropping often caught the two letters "ST" floating on the COMDEX air. People are again excited about Atari, and this time it's about computers, not game machines. This report and others through the week will cover the latest Atari developments.

ATARI HARDWARE

In the hardware line Atari showed its new 1200 baud, Hayes-compatible modem, the SH212, and the new 80-column card, XEP80, for the XL/XE 8-bit computers. The long-awaited ST blitter chip was demonstrated running some sensational graphics. It is to be released early in 1987 as a \$120 upgrade, piggybacking on new ROM chips.

The SH212 modem is another price/performance breakthrough for Atari. This fully Hayes-compatible 300/1200 baud external modem retails for \$99.95. It has an industry standard RS-232 interface port, making it plug-compatible with virtually all computers. Other features include internal speaker, autodial via pulse or tone, auto-answer, and full Bell 212A compatibility.

Expect to see it in the stores around the first quarter of 1987.

According to Atari president Sam Tramiel, Atari is bringing its philosophy of "Power Without the Price" to the wider peripheral market. That punchy motto may be on its way out though -- one Atari press release says the new tag line is "Technology So Advanced It's Affordable." Perhaps those words are only for the business market, to which Atari has assigned long-time Tramiel associate Sig Hartmann.

The XEP80 is an 80-column board for the Atari XL and XE 8-bit computers. It costs \$79.95 (a dollar a column, says Atari's John Skruch, Associate Director for Computer Software). The XEP80 plugs into a joystick port and requires a monochrome monitor or black-and-white TV. Although no major word-processor programs now support 80-column format for the 8-bits, Skruch says that PaperClip, by Batteries Included, and AtariWriter Plus, by Atari, are being adapted for that purpose.

ICD 8-BIT POWER

Another 80-column board for the 8-bit XL/XE computers was introduced here by ICD, Inc. of Rockford, Illinois. This board costs \$99.95 and can only work as a piggy-back add-on to the company's Multi I/O external interface box for the XL/XEs. However, this card operates in 16 selectable colors (or monochrome) and requires no RAM from the computer.

Multi I/O itself provides five valuable functions: RAMdisk (256K or 1 megabyte), parallel printer interface that accepts standard 850 cables, a serial printer/modem interface with the 850 handler built-in, a spooler, and a hard disk interface that supports up to eight SASI or SCSI controllers simultaneously -- using either 5 1/4-inch or 3.5-inch hard drives. Multi I/O costs \$199.95 in the 256K configuration and \$349.95 for 1 meg.

Another ICD product is the R-Time 8, a battery-powered real-time clock for the Atari 8-bit. It plugs into the cartridge port and works with or without Multi I/O. R-Time 8 costs \$69.95.

Machines equipped with Multi I/O can be networked within 50 feet to share hard disks, printers and files using the company's proprietary SpartaDOS.

MICROSOFT WRITE

On the software side, Atari showed and announced its word processor for the ST called Microsoft Write. This package, to be shipped late this year, is a direct port by Microsoft of its Macintosh Word, V. 1.05. It makes full use of type fonts, including proportionally-spaced fonts, and many special features pointing towards desktop publishing with a laser printer. Insiders expect Atari to offer an affordable laser printer in 1987. Microsoft Write will retail for \$129.95 when it ships late this year.

ARRAKIS EDUCATIONAL

Apparently Atari will be building up the software side of its business, according to an announcement by Sam Tramiel at Atari's party held this evening at Caesar's Palace. Among the programs offered will be a series of educational programs for junior high schoolers. These were designed by Arrakis Software of Canada and include 17 modules on algebra, trigonometry, geometry, statistics, biology and physics. Although other educational programs are available for the ST, few address the needs of this age group, who comprise about 60% of personal computer users, according to John Skrch.

CHRISTMAS SOFTWARE PROMO

Atari announced a cooperative ST software promotion to run through December. It has mailed coupons to ST dealers which will be given to the customer at time of purchase. Each company controls the discount, rebate or free merchandise offered by its coupon. The Catalog from Antic has a typical offering. Buy Flash, CAD-3D, A-Calc, Expert Opinion, or Maps and Legends and receive any of the following programs for \$5 each: Disk Doctor, COLR Object Editor, Star Struck, Red Alert, A-RAM, A-Seka, Murray and Me or Mom and Me. The offerings of the other participants are listed at the end of this article.

Commenting on the promotion, Michael Katz, Atari Executive Vice President, said, "We feel this will serve as a great incentive to the consumer to purchase ST software and will help our ST dealers generate profitable, new and continuing software sales."

1ST WORD PLUS

That free bundled software with purchase of an ST is a thing of the past was confirmed by Atari's new Director of Software Sales, Richard Frick. "Only ST BASIC will come with the computers now. 1st Word has been improved and will sell as a product called 1st Word Plus." He was demonstrating the ability of this word processor to incorporate graphics with text at the show.

Atari claims there are now more than 700 software titles available for the ST computers, but admits that many of this number are updates or enhancements of earlier versions of programs available for the ST. Antic Publishing identified more than 300 unique commercial ST programs in its winter issue of START -- the ST Quarterly, which will be on the newsstands Dec. 1. The December issue of Antic Magazine identifies more than 100 more products designed for the 8-bit Atari computers.

As one of Atari's third-party developers, Antic Publishing showed its products from The Catalog, especially CAD-3D with Tektronix's 3-D glasses. This combination enables true 3-D viewing of full-color animated onscreen images.

SOFTWARE OFFER DETAILS

ACTIVISION -- Offering a \$12 rebate on PaintWorks or Music Studio; Hacker and 14 other games, get rebate and free demo disks.

ATARI -- Buy DB Master One, get a free box of 5 double-sided disks; buy DB-Man and get GEM version for \$25 (a \$49.95 value).

BATTERIES INCLUDED -- Buy any of their ST titles and receive free TimeLink or I.S. Talk.

DAC Software -- Buy Dac Easy Accounting, get DAC Easy Personnel for 30% off.

Electronic Music Publishing -- Buy MIDI disk, get a music disk free.

FTL Games -- With any software purchase, get free game sampler disk containing demo of four games.

GENERIC -- Buy First CAD (\$49.95 value), get 30% off Electronic Symbol Libraries (\$24.95 value).

Mark Williams Co. -- Buy Mark Williams C, get \$10 rebate.

Maxthink -- Buy Maxthink and get free book on thinking, "Style of Thinking."

MichTron -- Buy Mighty Mail or Personal Money Manager and get Your Financial Future (retail \$39.95) at half price.

(COMDEX, continued from page 5)

MiGraph -- Buy Easy Draw and either Fast (\$49.95) or LabelMaster (\$39.95) and get a free poster-making program (\$29.95 value).

PCA -- Buy The Graphic Artist (\$199.95) and get a \$5 rebate on any auxiliary product priced from \$39.95 to \$79.95.

Quickview Systems -- Buy Zoomracks II, get a starter pack free (\$19.95 value).

Regent Software -- Buy Regent Word II and get a free backup disk, a \$10 value.

Royal Software -- Buy E-Z Calc (\$69.95), get Help Calc (\$24.95) at half price.

Sierra Online -- Buy two games, get a third game free (up to \$49.95 value). Offer applies to King's Quest I and II, Space Quest and Black Cauldron.

TDI -- Buy Modula II and get Example free (retails for \$24.95).

VIP Technology -- Buy Pro Gem and get templates free.

XLEnt -- Buy Typesetter Elite (\$49.95 retail) and get Typesetter Utilities, Vol. 1 "The Font Editors" for \$9.95 (19.95 retail).

PAC Help Hotlines

The following people have generously offered to take telephone queries in the areas indicated.

Adventure Games	Russell Schwartz	646-6418
	Zant Burdine	206-695-5604
Assembly Language	Leroy Baxter	653-1633
BASIC Programming	Nick Yost	981-0838
	Lee Gassaway	642-2455
BBS Usage	Steve Billings	246-1751
	Don Adams	245-7168
	Russell Schwartz	646-6418
C	Randal Schwartz	626-6907
Cassette Operation	Lee Gassaway	642-2455
DOS Operation	Wayne Winterbottom	669-1367
FORTH Programming	Ron Chaffer	283-5691
	Ricky Wooldridge	224-7163
Operating System	Nick Yost	981-0838
	Leroy Baxter	653-1633
Pascal	R. DeLoy Graham	649-6993
ST General	Chuck Hall	626-3717
ST Fundamentals	Richard Barhitte	206-573-0292
ST Logo	Randal Schwartz	626-6907

DEALERS CORNER

*Computerola

6224 SE Main (residence)
Portland, OR
239-4315

Computers, Etc.

12145 NE Halsey
Portland, OR 97230
252-0179

Computron

11705 SW Pacific Hwy
Tigard, OR 97223
639-6780

High Tech Toys

12195 SW Canyon Rd (2A)
Beaverton, OR 97005
646-3950

Toys R Us

Jantzen Beach: 289-4691
Tigard: 620-9779
Milwaukie: 659-5163

Computers, Etc.

11504 E. Mill Plain Blvd.
Vancouver, WA 98684
(206) 254-5849

*Computron

1139 SE 11th
Portland, OR 97205
224-2220

Creative Computers

3275 SW Cedar Hills Blvd
Beaverton, OR 97005
644-1160

**IB Computers

1519 SW Marlow Ave
Portland, OR 97225
297-8425

NW Telephone Systems

Residence
ST software only
282-6223

* Discount is available to PAC members.

** Monthly specials for PAC members.

Note: Some stores are ST dealers only.

Authorized Service Centers

Micro Care

2203 NE Oregon St
Portland, OR 97232
230-0770

NW Computer Support

10200 SW Nimbus, G1
Tigard, OR 97223
684-3280

Computron Business Systems

1139 SE 11th
Portland, OR 97205
224-2220

A REVIEW
of A+ EDUCATIONAL SOFTWARE
 Bill Pike, PAC

How many times have you wished for more educational software for the Atari? Well, it is here! The American Educational Computer Co. is currently publishing many titles that are geared along the lines of the currently used texts. Areas covered include Phonics, Early Reading Skills, Spelling, Increasing Reading Skills, Vocabulary, Grammar, World Geography, World History, U.S. Geography, U.S. History, U.S. Government, French, Spanish, Elementary Science, Biology, and packages for spelling and reading. The grade/age levels range from pre-school to college level. The cost of the single disk programs are \$19.95 and most are available from IB Computers.

I have only used four titles; however, the programs look pretty good. You are able to add from 8 to 15 lessons of your own to each subject (to cover problem areas). You may select to have a hardcopy printout of each lesson with questions and the student's response. However, the format of the lessons remains basically the same.

There is a vertical bar graph on the right side of the screen showing the number of questions correctly answered. There is a line along the top of the screen saying how many questions are left to answer and how many guesses you are allowed. The next line is the answer line where replies are given. Answers may be in the form of a single word, T/F, or multiple choice. When the answers are words the program evaluates each letter as it is typed in, placing it in the correct place in the answer. When you have responded to each question, you are given either a "good" or "sorry" depending on whether the answer was correct or not.

At the end of each lesson a total number right and total number of answers is given as well as a percentage correct score. Depending on the lesson, when you achieve 85%-100% correct you can go on to the next lesson; 70%-85% gives you the option of going on to another lesson but you can't play the game; below 70% you have to repeat the lesson. But before you do that you have the option of a maze type game to play if you wish. There is also a scoreboard for hi-scores on the maze game.

Now to get to the goodies. The software isn't graphically oriented and it appears that it probably was designed for the Apple. The maze games get harder as play continues. You are given a goal score and as long as you make the goal you

MERCENARY
THE SECOND CITY
 Nabil Pike, PAC

Mercenary, The Second City is the second in the series by Datasoft. In this expert version of **Mercenary**, you are still a mercenary trapped on Targ, but this time you are in a new city. You must have **Mercenary** to play this but may not use the saved games from **Mercenary** in this scenario. The object of this is still the same as its predecessor -- escape from Targ, hopefully obtaining as much loot as possible before going.

Now onto the game. You have just crashed on Targ, but this time you are in a different city and this time you have no maps, as all the city's documents have been destroyed (a result of the state of war between Mechanoids and Palyars). You buy your ship and you receive a message from the Palyars. Included in the message are coordinates to help you find the Palyar's elevator. You speed towards your destination in your Dominion Dart as the landscape shoots by below you. Later on in the game, as in the original **Mercenary**, the Mechanoids offer you a similar job.

You then must proceed through the game with no documentation whatsoever. It is a good idea to make a rough grid map as you go along to help you find your way around.

Overall, this game is geared towards those who have either completed **Mercenary** and are looking for a greater challenge, or those who want to add a greater challenge to the game's completion. **Mercenary, the Second City** presents a challenge for even the most experienced of players.

continue to play. The questions do relate directly to the text books that my children use in school, but you shouldn't depend on the disk exclusively as many of the questions rely heavily on material the child is to have studied. There is also a problem with questions being too hard for lower level students. In all fairness, it is difficult to avoid this when you are trying to put together a program that ranges from grade 5 to college.

In summary, I feel that the program's graphics and sound aren't as good as they could be. However, both of our children have used various of the programs and have learned from them at a pretty good speed. The programs appear to be very good for review purposes and supplementary instruction, but the programs shouldn't be used instead of homework or study.

**A REVIEW OF LEADER BOARD - ST and 8-Bit
from ACCESS Software Incorporated
Clyde Pritchard, PAC**

Leader Board is a professional golf simulator from Access Software Incorporated. It is available for both series of Atari Computers. I bought it a couple of months ago for my 520ST, and IB Computers loaned me a copy of the 800/XL/XE version to do this review and comparison of the two versions. The prices of the two are comparable, the ST version at \$34.95, and the 800/XL/XE version at \$31.95. These are IB's prices, but they are probably close to list price. Each version also has a companion Tournament disk for \$19.95, which has more courses to test your skill.

Both versions are basically the same. Each has an 8-page manual that does a good job of explaining how to use the program to play the game. **Leader Board** supports 1-4 players, each at one of three levels: novice, amateur or pro. There are four 18-hole courses to choose from; the manual has layouts for each one. You can play one game of 18 holes, or a tournament of up to 72 holes. Each round of a tournament can be on a single course or on a combination of any of the 4 courses available.

The difference in the 3 play levels is that at the novice level you just pick your club based on the distance, then aim and hit the ball. At the amateur level, you must also control hook and slice when you hit the ball. This can be tricky, especially on the 800/XL/XE version, which seems to run faster than the ST version. At the pro level the wind speed and direction become a factor.

Club selection is easy for those of us who really don't know how to play golf -- just look up the distance to the hole displayed by the program in the club selection chart in the manual. You may not pick the "right" club, but you sure can get the job done. If you are a golfer and know what the "right" club is for a particular shot, you have a complete set of clubs to choose from: 3 woods, 9 irons and a pitching wedge. The program automatically selects the putter for you when you are on the green and within 64 feet of the hole.

After you pick your club, you aim your shot by moving a cross-hair cursor left-right with the mouse on the ST, and a joystick on the 800/XL/XE. Then you press and hold down the button until a power display reaches the point you feel is right. If you are at the novice level, that's all it takes. At the other two levels, you need to

concentrate while another bar on the power display comes down toward a center point that allows you to use hook or slice to help (or hinder) your shot. As I said earlier, this seems to be harder to do on the 800/XL/XE version because power bar display is a little smaller and seems to move faster than the one on the ST. It's a matter of practice.

This indicates that speed is not the major difference between the two versions of the program; in fact, there's almost no difference at all. The ST draws its display a little quicker, but it also has to load each new hole into memory from disk. The 800/XL/XE version stores all information on the courses in memory; the disk is accessed only when you boot the program.

You may be surprised by the lack of difference in program speed, but I'm sure that you won't be surprised that the major difference in the two versions is the level of detail and color in the graphics. The ST version is very good (not excellent), colors are used very well, and there is more detail in the displays. The ST version has trees and traps that don't appear in the 800/XL/XE version. This also affects the way you play the game, because both of these things get in your way on the ST version.

Both versions have water surrounding every hole, and if your ball goes in the water you get a visual and audible splash. This is probably the best use of sound on both versions. About the only other sounds are the swish of the club and the rap of the ball when it hits the pin.

The Tournament disk contains 4 more courses to choose from. On the ST you boot from this disk, then put the program disk in. On the 800/XL/XE you boot the program disk, then switch to the Tournament disk. You can switch between the two disks without rebooting on the 800/XL/XE, but not on the ST.

None of the disks on either version is copy protected; however, the program is protected by a hardware key that must be in the second joystick port to play the game. I feel that this is an acceptable method of copy protection. It allows me to make a working copy (not a backup) of the program, that can be recreated if it dies. The only problem with the **Leader Board** key is that it is very short, which makes it hard to remove from the joystick port.

All in all, **Leader Board** is fun to play, and is a good game for any Atari Computer.

A REVIEW OF STAR RAIDERS II

(from Atari)

Clyde Pritchard, PAC

Star Raiders II -- "The Great Galactic Adventure Continues." So reads the title on the box and manual for this recent new release from Atari for the 8-bit line. Those of you who have been around Atari Computers for several years should be familiar with the original **Star Raiders** game, one of the first and still rated as one of the best games of all time for the Atari computer. Most people expressed amazement at the excellent graphics, sound and complexity of the original **Star Raiders**. They were surprised to see so much, done so well, on a "mere" 6502 microprocessor (in less than 8K of RAM). They hadn't seen anything close on the mighty Apple II. This was 1980 - just six years ago - less than a year after the introduction of the Atari 400 and 800 computers.

Star Raiders players are generally fanatics -- it takes hours of dedicated effort to become a successful player. The odds are stacked against you, even as a novice player. At the highest level you can be quickly overwhelmed, unless you really qualify to be a **Star Raiders** Commander.

Ok, what about **Star Raiders II**? Well, the name may be the same, but the game isn't. It is a shoot'em up space game and the enemy has the same name, but this new version is to the original what **Lode Runner's Rescue** is to the original **Lode Runner**. This new game could (and should) have been called anything but **Star Raiders II**. In fact, I have seen a pirated, pre-release version of **Star Raiders II** called "The Last Starfighter". This was taken from the movie of the same name that came out a few years ago and has played on cable in this area recently. It's a fairly interesting SF adventure movie, and its claim to fame is its super computer-generated graphics and special effects. As I recall, no models were used in the production as they were for **Star Wars** and most other movies of the past few years.

In any case, it seems to me that Atari has helped prove that it is hard to have a good sequel to a computer game (or anything else) unless you leave the framework the same and add new features, improvements, excitement, and challenges. This is why **Championship Lode Runner** is a great sequel to **Lode Runner** while **Lode Runners Rescue** isn't. **Lode Runners Rescue** is an interesting and challenging game, but it just isn't **Lode Runner**. **Star Raiders II** isn't a bad game either, but it doesn't deserve the **Star Raiders** name.

In **Star Raiders II**, you are the pilot of a single fighter whose mission is to defend your star system against multiple squadrons of enemy fighters, destroyers and command ships, as well as to destroy enemy cities and bases in their star system. You have four space stations, three planets and a moon to defend. The enemy has three planets that you must destroy. New enemy squadrons are launched from these planets, so you need to destroy the enemy bases as soon as possible while protecting your own cities.

Sounds interesting? I think so. It definitely keeps you busy warping from star system to star system, planet to planet, to your space stations for refitting, and into deep space to search and destroy the enemy, especially at the highest of three difficulty levels. The overall game play is pretty good, the graphics are quite detailed and sound is used effectively. It can be a fun game to play.

However, it can be frustrating and difficult to play when you are trying to destroy the enemy destroyers and command ships because they just bounce and dodge about in front of you -- hitting them seems to require patience and luck rather than concentration and skill. It can also be too easy to play when the enemy fighters just pass in front of your sights like a duck coming in for a landing - a couple of laser zaps and they're gone. You can't get to the destroyers and command ships until you get all of the fighters protecting them, so it's quick and easy kills on the fighters, and slow and lucky kills on the destroyers. This is especially noticeable at level 1 where you don't have to work so hard, but it can almost be boring compared to the real **Star Raiders**, which seemed to keep to on your toes all of the time.

I don't think that **Star Raiders II** will make the Atari Gamers Hall of Fame, but it shouldn't fall into the Hall of Shame either. I think it would have been better if Atari hadn't "forced" a comparison with the original **Star Raiders**, but that's the way the bits flip.

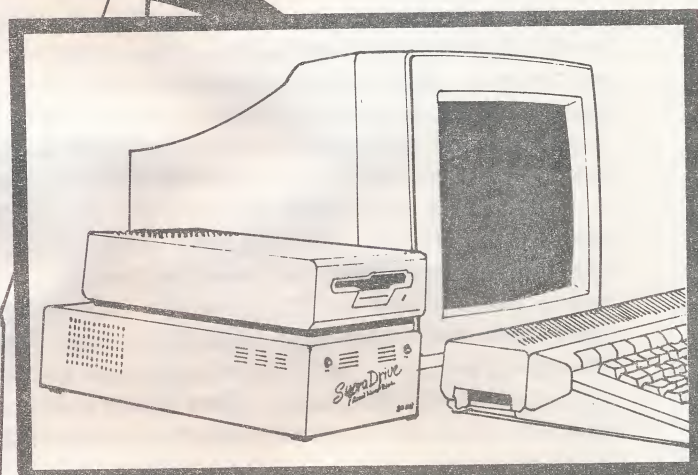
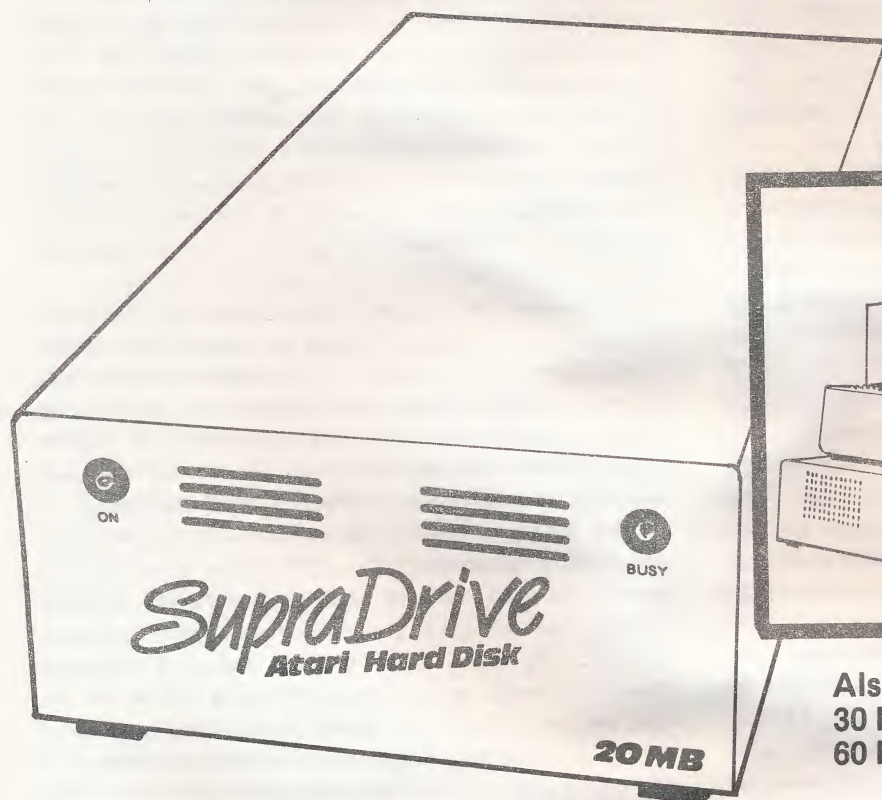
Star Raiders II requires a 400/800 with 48K, or an XL/XE system. It comes on a copy protected diskette. The manual is 12 pages long, and does a good job explaining how to play the game. The list price is \$29.95. Review copy loaned by IB Computers.

SupraDrive


Atari ST Hard Disk

- 20 MegaByte formatted capacity
- Improves the ST's overall performance (3-20X improvement on disk transfers)
- Atari™ compatible with software and other DMA Buss Devices
- Includes Hard Disk Utilities

Only \$799



Also Available:
30 MB Supra Drive \$ 995.
60 MB Supra Drive \$1995.

 **Supra Corporation**

1133 Commercial Way / Albany, OR 97321 USA
Phone: (503) 967-9075 / Telex: 5106005236 (Supra Corp.)

A REVIEW OF ST Star Raiders
(from Atari)
Clyde Pritchard

Star Raiders on the ST - I love it. The original 8-bit **Star Raiders** is a classic, and if you liked it you'll love the ST version too. If you loved it, you'll be playing it instead of reading this.

ST Star Raiders has it all, or at least most of it -- action, challenge and enough excitement to keep you up all night, or most of it. The graphics are excellent, the colors are bright, the sound is effective. I guess I should can the superlatives, but too many may not be enough.

ST Star Raiders is the true sequel to the original **Star Raiders**, just as the ST machines are the sequel to the 8-bit Atari computers. I bought my copy before Jim could get the price sticker on the box. I almost ripped open the shipping box myself. After the partial disappointment of the 8-bit **Star Raiders II**, I couldn't wait to bend my joystick playing **ST Star Raiders** -- "The Great Galactic Adventure."

For those of you without the experience of the original **Star Raiders**, here's the story. You are the pilot of a lone Starcruiser whose mission is to defend your galaxy against the invasion of savage robots from deep space. This means that you must defend your Star Bases and protect your ship by destroying the enemy before they destroy your Star Bases and your ship.

Depending upon which of the four difficulty levels you are playing, you have more Star Bases to defend (and refit at) and more enemies to destroy. The higher levels also have more dangerous enemies, and you have less time to save a surrounded Star Base. Here are the odds:

Novice - 2 types of enemies, 31 enemies, 3 bases, 2 minutes to rescue a base.

Pilot - 4 types of enemies, 40 enemies, 4 bases, 90 seconds to rescue a base.

Warrior - 7 types of enemies, 52 enemies, 5 bases, 60 seconds to rescue a base.

Commander - 7 types of enemies, 67 enemies, 6 bases, 30 seconds to rescue a base.

At each higher level the enemies become harder to destroy, and inflict greater damage. There is no time to rest, unless you use the pause function. The fight is to the death. Your mission is over when either you or your enemies are destroyed. In either case you receive a rating from Garbage Scow Captain Class 4 to Star Commander Class 1. There are ten ratings, each with four classes. The rating is based on how

many Star Bases you have left, how much energy you used, and how long it took you to destroy the enemy (or how long you lasted). The program saves the 12 highest scores by name, level and rating.

I am working to get a decent rating at the Commander level now, and it's not easy. I was able to get Star Commander Class 1 on the Warrior level in not too many hours, but I put in quite a bit of practice at the Pilot level first. I didn't spend much time at the Novice level due to my experience with the original **Star Raiders**, but a true novice probably would.

ST Star Raiders is a bargain at the list price of \$29.95. It comes on a copyable disk so you can make your own working copy and store the master disk until you wear out the copy. You must have TOS in ROM or a 1 megabyte system. You must also set the screen to low resolution mode before running the program (give me a break). It seems like some programmers can figure out how to change the resolution for us and some can't (or are some of them just lazy?).

You can't have many desk accessories loaded on a 512K system or you won't have enough memory to run the program. The program disables the desk accessories anyway, so all you need is the CONTROL accessory to configure your printer for screen dumps if you want to print the high score list or other displays. Speaking of the high score list, I can't figure out where it is stored on the disk (I haven't tried too hard yet), unless it is written into the program file itself. There isn't a separate high score file on the disk unless it is hidden somewhere /somehow.

Anyway, **ST Star Raiders** is great, and belongs in the Atari Gamers Hall of Fame right next to the original 8K, 8-bit version of **Star Raiders**. Now all we need is the arcade version of **Asteroids** or **Super Asteroids** with joystick control. Sorry, **Megarooids**.

Thank you, Atari! Keep 'em coming.

P.S. Guess what I managed to do? I made Star Commander Class 1 on the Commander Level. I don't know how soon I can repeat that score, because I think part of it was an easy to defend distribution of Star Bases and a hint for conserving energy by destroying meteors or asteroids with the lasers rather than protecting the ship with the shields that I got from the original **Star Raiders** manual.

A REVIEW OF PRINTMASTER
(from Unison World, Inc.)
Clyde Pritchard, PAC

PrintMaster is a graphics program that allows you to create greeting cards, signs, stationary, calendars and banners with your ST and a dot-matrix printer. It is similar in function to **The Print Shop** from Broderbund that is available for the 800/XL/XE Atari's. **PrintMaster** (PM) is a program that was developed for other machines and converted to run on the ST.

I don't have **The Print Shop** (PS) on my 800, so I can't compare the two programs. I have heard some people that have used both programs say that they like **PM** better. A comparison may not be useful unless Broderbund decides to convert **PS** to the ST.

Anyway, **PM** does allow you to create cards, etc., in a fairly easy manner. It is totally menu driven, and allows you to move backward to redo an option if you change your mind. To create a card, first select a border for the front of the card. You have 12 choices, including none. Then select the first of up to two graphics for the front of the card. If you choose a graphic, you get to choose the size (small, medium or large) of the graphic; then the layout, either staggered, tiled or "custom".

The "custom" layout allows you to position one or more copies of each graphic in different locations. The number and position of the graphic locations depend upon the size you choose for the graphic(s). There are 122 graphics from which to choose. The manual shows all of them, and the graphic selection screen displays each one as you move the cursor through a list of their names.

After you select a graphic for the front, you can choose one of eight character fonts for printing text on the card. The number of characters per line and lines per card varies based upon the size of the font selected. You can use different fonts for each line of text. You can also left justify, center or right justify the text on each line. The size of the text can vary between normal and large from line to line, and you can choose one of the following "appearances" for the text on each line: solid, outline, 3-D, rain* or checker* (*=ST and CP/M only).

Those same steps are then repeated for the inside of the card, after which you can print the card. The print function has a screen preview feature, so you can decide if you really want to print your creation, or go back and make some

changes. You can make changes to a card (or other item) in two ways -- back up to the place where you want to make the change, make the change, then go forward through the following steps until you get back to the print menu; or save the design, then choose the edit existing design option and go through all the steps from top to bottom. If you want to back up very far, it is easier and faster to save and edit.

Speed is a problem with **PM**. It is constantly accessing the disk as you move from step to step, and when you select the print option, it has to load each component back into memory to build the actual print image. This seems to indicate that it only stores a table of data that tells it which graphics, etc., you selected, their size and location. This is supported by the small file sizes of the designs. You should be all set if you have a hard disk, but I don't, so I can't say for sure.

PM does allow for installation on a hard disk, and does support two floppy systems. The B drive is used for design file storage and alternate graphic libraries. A configuration function allows you to specify the data drive and to do printer setup.

Alternate graphic libraries are either the optional graphic libraries called Art Gallery I and II from Unison World, or the Custom Library that is created if you use **PM**'s Graphic Editor function to create your own graphics. You can also use the editor to modify graphics in the standard libraries, but they will be saved in the custom library. The editor seems to have all of the functions needed to make or modify graphics, except a delete graphic function. Another source of graphics may be **Print Shop** conversions. I downloaded a small library of graphics that had been converted from **PS** from CompuServ. The program to do the conversion didn't seem to be there at the time, but I'm still looking for it. MegaSoft sells a library of X-rated graphics converted from **PS**.

Unison World talks about development of additional border and font libraries, but I haven't seen or heard anything concrete on this to date. Wait and see, I guess.

PM is \$39.95 and the Art Gallery disks are \$29.95 each. The manual is in tutorial format and is fairly well written.

I enjoy **PM** and think that it does a good job.

COMPUTEROLA

239-4315

PRINTERS & RIBBONS

SILVER REED---CITIZEN---STAR---PANASONIC---TOSHIBA---OKIDATA

FOR THE ST

ACTIVION...ARTWORK...BATTERIES INCLUDED...COSMI...ELECTRONIC ARTS

EPYX...HABA...HIPPO...INFOCOM...MICRO PROSE...MINDSCAPE

POLARWARE/PENGUIN...SIERRA ON-LINE...SPINNAKER

STRATEGIC SIMULATIONS...SYNAPSE...TELARIUM ...UNISON...AND MORE

OTHER STUFF

ST Printer Cables	25.00
Universal Printer Stand	25.00
Microbit Interface	50.00
Monitors	CALL
Wishbringer (one only)	15.00
Atari Modems 301	45.00
Atari Disk Drives	CALL

"CALL US LAST"

239-4315

As this add has a 45 day lead time I do not list many prices and product names. By the time you read this, we will have additional products available. **CALL FOR ADDITIONAL INFORMATION**

A REVIEW OF TIMEKEEPER
(from Navarone Industries)
Clyde Pritchard, PAC

So you would like to have the right date and time in the directory entries of the files on your ST disks, but you don't like to manually set the date and time every time you boot your system, and you aren't ready to pull your ST apart to add a battery powered clock/calendar card. Well, now you have an alternative - the **TimeKeeper**.

The **TimeKeeper** from Navarone Industries, Inc. of Sonoma, CA is a battery powered clock/calendar card in cartridge form that simply plugs into the cartridge port on your ST. No need to tear apart your machine to install it. Now, when you boot your system, its clock and calendar will be set to the proper time and date from the **TimeKeeper** cartridge.

The cartridge itself is about 3 & 1/4" wide and 5 & 1/2" deep, excluding the section that plugs into the cartridge port. It has a case made of plastic, and its grey color matches the ST very well. The case is held together with four screws that are easily removed for access to the card itself and the 3 volt, coin type, lithium battery. I had to take mine apart in order to trim about 1/4" of the case off so that the card would seat properly, and so the case would be flush against the side of my 520ST. I don't know if this is a problem on the 1040ST and haven't checked with Navarone to get their comments on the apparent case size error, but it was a minor problem that was easy to fix with an Xacto knife (I only cut my thumb once, and it's almost healed now). Anyway, once you have it plugged in, the cartridge is fairly unobtrusive, physically and visually. It also features a "feed through" cartridge slot that allows you to plug another cartridge into the **TimeKeeper** itself rather than having to make pull it out to use another cartridge.

Your ST's system clock and calendar are set from the cartridge via a program in an AUTO folder or a desk accessory. Both of these programs are supplied with the **TimeKeeper** on a distribution disk that also has a utility program for initializing the **TimeKeeper** clock and calendar, and the User's Guide. If you use the AUTO folder method, you don't need any desk accessories or other programs to set the system clock/calendar. This means that you won't lose any RAM space to a desk accessory that you may not need.

The desk accessory supplied with the **TimeKeeper** will display the time and date, and also has an alarm clock function. You can change the system time and date from this accessory, but such changes do not affect the **TimeKeeper** cartridge, which is accessed only at boot time. To set the alarm you just click on a box at the bottom of the accessory's display, which is then replaced a new display that allows you to set the alarm on/off as well as set the time display format (12 or 24 hour) and the "overprint" feature on/off. The overprint feature configures the accessory so that the time and date will be displayed through (or over) another window (i.e. directory) and updated in real time. Only a small portion of the accessory's display that shows the time and date is overprinted when this feature is on, not its entire window. I'm not sure that I would ever use this feature, but some people may like it and you can turn it off if you don't. The alarm feature works quite well, and will definitely wake you up if you fall asleep at the keyboard. When it goes off it strobes and makes a sound like a small klaxon.

The documentation file is a seven page **1st Word** document that is pretty well written and seems to cover everything you need to know about using the **TimeKeeper**. There is also an abbreviated version of the documentation in a regular text format file that can be printed from the desk top.

I am quite happy with the **TimeKeeper** after about two weeks of use. I had purchased one of the internal clock/calendar cards for my machine, but I kept putting off installing it. I saw an ad for the **TimeKeeper** in Analog and got Jim Berry at IB Computers to order one and exchange the internal card for it.

The **TimeKeeper** has a 90 day warranty and lists at \$69.95. The Navarone ad showed a sale price of \$39.95 (I think that this price is/was for direct mail orders from them). I think that IB Computers has it for \$49.95, but give them a call or stop by to check.

Navarone seems to be new to the world of Atari, and lists only two other ST products -- an Astrology Horoscope program and a Speed Reading program. Most of their other products are for the TI, two for the C-64 and one for the IBM PC.

A REVIEW OF TIME - SOURCE **(from GIODATA COMPUTER SYSTEMS)**

Richard Barhitte, PAC

I have read in the PAC newsletter reviews of two internal clocks for the ST. However, the **TIME - SOURCE** is better. Why is it better? The **TIME - SOURCE** not only provides a battery backup to the keyboard clock as **MICRO-TIME** and **TIME - SAVER** do, but it also provides an LED which indicates the state of the caps lock key. That is, the LED is on when the caps lock is on and off when the caps lock is off. The price is about the same as **MICRO-TIME**.

The installation procedure is about the same as the other two products. First, unscrew the case and remove the top. Second, turn the keyboard over. (Note: you do not have to unplug the keyboard unless you are short of work space.) Third, unplug the IC chip. Fourth, plug the IC chip into the **TIME - SOURCE** board as the instructions show. Fifth, plug the **TIME - SOURCE** board into the keyboard where the IC chip came from. Sixth, using the supplied double sided tape place the batteries where they do not block the air vents. Seventh, tape the LED in place and replace the cover.

The LED can go in three places. It can go in the caps lock key which requires you to pry off the caps lock key, drill a hole in it, and then glue the LED in the hole. Second it can go in the crack between the keys and the computer top. This simply requires that you tape the LED in place. The third option is to drill a hole in the computer top and tape the LED to the keyboard directly below the hole. I chose the last method.

Once I had my computer back together I was shocked to find the time was always set to the default time when I booted the computer. I at first thought that the **TIME - SOURCE** was defective. The problem is that the November 15, 1986, control panel only checks the GEMDOS clock and if it is not set the control panel will set both the GEMDOS clock and the keyboard clock to the default time. Note that there are two clocks in the ST, one maintained by GEMDOS and one in the keyboard IC. Therefore it is necessary to have a program in your auto folder which will set the GEMDOS time before the control panel is loaded. There are several public domain programs which will do this.

After this problem was solved, I discovered that the LED did not always indicate the correct state of the caps lock key. When I called Giodata I was informed that there were 30 units which had this problem and that I was to send him the board and he would fix the problem free of charge. About one week after I sent him the **TIME - SOURCE**, I received the modified board back and it has worked correctly ever since. It is very pleasant to work with a responsive company. If it happens to be a Washington company so much the better. Why shop out of state unless you have to?

GREAT COVER-UPS



Protect your investment with opaque vinyl covers.

8 BIT COVERS

65XE/130XE/800XL.....	4.95
1050 SINGLE DISK DRIVE.....	2.95
1050 DUAL STACKED DISK DRIVE.....	3.95
1027 LETTER QUALITY PRINTER.....	3.95

ST COVERS

520ST/1040ST.....	5.95
MONO OR COLOR MONITOR.....	6.95
3 1/2" DISK DRIVE.....	1.95
3 1/2" DISK DRIVE - DUAL STACKED.....	2.95

PRINTER COVERS

CHOOSE FROM PANASONIC, OKIDATA, EPSON, TOSHIBA,
SILVER REED, CANON, FUJITSU, STAR, LEGEND OR
CITIZEN..... 4.95

10% DISCOUNT TO ATARI CLUB MEMBERS

GREAT COVER-UPS

6805 SW 8th Avenue
Portland, Oregon 97219

Phone: (503) 246-8977

9am - 1pm weekdays

WHAT IS THIS GDOS?

John Antoniadis

Reprinted from the October 1986 **Current Notes**

One of the heavily used words in the Atari ST jargon is GDOS! Quite a thing! Developers keep trying to get it, programs are not released because they are waiting for GDOS, and current programs are modified to use it.

No, it is not GEMDOS's little brother or even another name for it. It is the missing part of the Virtual Device Interface (VDI) of the ST, which is responsible for the device independent functions of the computer. Actually GDOS stands for Graphics Device Operating System, and here are some of the services it provides:

1. Multiple fonts can be displayed simultaneously on any display device. Programmers frustrated with the `vst_load_fonts` routine will be finally satisfied. So will everybody else who likes the Macintosh's pretty screens.

2. Normalized Device Coordinates (NDC) can be used to draw pictures, which will automatically be converted by the GDOS device drivers into drawings which use the maximum resolution of the specific output device. So pictures can be displayed in any output device regardless of resolution and without any need for modification. NDC's provide the user with a (virtual) drawing screen with a resolution of 32767 X 32767 pixels. This should be enough for most applications.

3. Multiple workstations can be opened simultaneously with the `v_opnwrk` subroutine, which means that several physical devices (the screen, a plotter, a printer, etc.) can be used by a single program during its execution.

4. The GEM metafiles described in the VDI manuals will also be available. A metafile is like the captain's log on the starship Enterprise. Any command that generates an object on an output device can be stored in a metafile, which is the same as videotaping the output device while the display is generated. So the picture can be played back at any time. To replay a videotape you need a VCR which reads the tape and generates a TV picture. The device driver program is the VCR that replays metafiles. Device drivers convert metafile commands into pictures displayed on the device they were intended for. So to display the same picture onto a printer, a plotter, a camera, etc., all you need is the same metafile and several drivers. In addition, if all programs produced metafile output, the user needs one set of device drivers, one for each output device. (No more 1st Word drivers, Degas drivers,

etc.) Some output devices are not capable of producing the output of certain commands, so the device drivers normally ignore them.

This is maybe the most important part of the GEM since it supplies device independence and excellent quality output (as long as the output device can do it).

Note: The concept of a metafile, more commonly known as a device independent (DVI) file is not a new idea. Programs like TEX, a professional phototypesetting system developed by Donald Knuth, GEMDRAW on IBM's, etc., use metafile-type output. So you can produce the file on a PC and print it on any printer connected to any computer as long as the appropriate metafile driver exists.

The absence of the GDOS from the ST ROMs is the reason that programs like **Easy-Draw** and **Degas Elite** ask you to reboot the computer before you use them. Actually, inside the AUTO folder of Easy-Draw there is a little program named (surprisingly enough) GDOS.PRG. Actually, GDOS has a companion program called OUTPUT.PRG. This program uses the file ASSIGN.SYS to find the list of the existing device drivers and font files for each output device. (The **Easy-Draw** versions of GDOS and OUTPUT are not the final releases.)

You have heard this before, but by the time you read this the GDOS should be available. So all of these long-awaited programs, like the next generation word-processors, painting and drawing programs should be rushing to market before long, armed with their multiple fonts and high quality printed output. Initially, finding device drivers for most output devices will not be trivial, but like everything else associated with the ST, not for long. The appearance of the GDOS should have another side-effect: maybe Atari or DRI should produce a decent desktop program (multiple fonts, large icon library ala IBM-PC GEM, etc.) as a favor to their poor users.

The material for this short description is derived from two main sources: Tim Oren's excellent article on the premiere issue of Start magazine and the VDI manual which is part of the developer's kit. Tim's article is an excellent introduction to the GDOS, and should be required reading for anybody planning to use it. The VDI manual is a reference manual and not a tutorial, and seems to be written for the IBM-PC and you have to be careful with the documentation inside it.

UNDERCURRENT NOTES:

Review of a Husband Who is a Computer Lover By a Wife Who is Not!

Georgie Holtzhauer

Reprinted from October 1986 Current Notes

Though I understand only about 1/100 of what I read in Current Notes (when I do read it), I still feel compelled to write you from the distaff point of view of a computer lover. Please understand, I am not mechanically inclined. When we get a new appliance, I hand the instruction book to my husband, Jack, ask him to read it and tell me what it says.

The first time Jack mentioned "computer," I didn't even know what he was talking about! But he spent two hours extolling the virtues of this computer and how invaluable it would be to us. I remember nodding, obviously brainwashed, and before I could turn around, I found myself in a very foreign-looking store filled with men and boys all playing games with funny-looking contraptions that resembled flat typewriters with TV sets on top of them. We spent about 2 1/2 hours there, with me wandering around this dumb store, positively bored to death, and trying to smile everytime Jack glanced at me while he spoke earnestly with the salesman.

Finally, there we were out in the sunlight, getting into our car, backing it to the store, and watching while all the boxes were loaded into our trunk. Jack smiled at me -- so happy -- I smiled back -- so confused. He whistled on the ride home and told me how easy it was going to be to balance the checkbook, do taxes, ect. (Understand he kept saying "we" in all the many activities with the computer.) He read the instructions the entire afternoon and didn't stop until 2 o'clock in the morning. Then he sat down to put to work all he had absorbed. He spent two solid days facing this machine -- never speaking, not eating, not even acknowledging the presence of his family.

On the afternoon of the third day, he came up for air. He rushed into the family room where I was sitting (feeling lonely, bored, and forgotten), grabbed my hand and told me he had something to show me. I went along and there I was, looking at this TV screen while he pushed the buttons in front of him. All these figures suddenly appeared, and Jack looked so proud I thought he was going to explode.

"What is all that?" I stupidly asked.

Jack said, "That's what you've spent at Garfinckel's in the past three years."

I looked at him as though he had lost his mind. Is this what we spent \$400 on?

From that moment on, the computer and I were enemies. I never went near it. I didn't want to have anything to do with it. I gave it a wide berth, and made sure never to come within three feet of it -- afraid of what other secrets would be exposed on the screen by this all-seeing, all-knowing eye.

The past five years have not been easy. The children all wanted to play games on the computer, but though they tried hard, they just couldn't outstay their Dad, and were always asleep by the time he would finally leave the seat in front of the computer. Jack and I became strangers -- we only saw each other a few minutes a day. He also developed a pallor from never being out of doors. The children grew up -- dated, married -- grandchildren came. I don't think Jack even noticed. I finally gave up and went to work. I don't think Jack noticed that either.

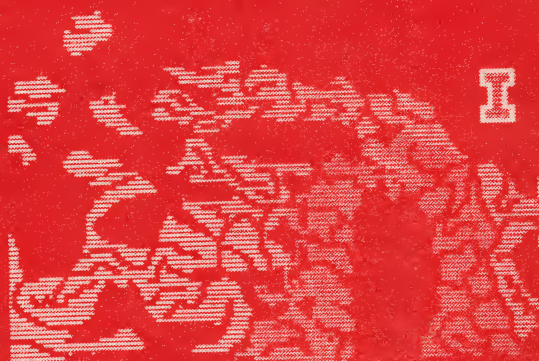
Wait -- there is a happy ending. I went to work for a builder selling new homes. When you sell homes, you do lots of written figures for confused, prospective buyers to look over. Jack wrote mortgage programs for me that are the most time-saving, fabulous programs I have ever seen. Yes, even I now "use" a computer (but only while wearing gloves). Buyers see all the individual figures on the screen, and if the computer says they're qualified to buy, well by golly, the computer can't be wrong! Understand though, it took me a year before I'd use the programs. I was still very distrustful of this computer. However, I must admit, it has been a terrific asset in my job and God Bless Jack for all the hard work he's done to make me a success in my job.

Jack's been retired for the past seven years, and I see less of him now than when he worked as an agent for the Secret Service and travelled six months out of the year.

I guess what I'm really trying to say is -- all kidding aside -- thanks dear for your hard work, your expertise, and your ingenious ideas and support in my job!

You will find a new adventure in
COMPUTING at

I B COMPUTERS



WE HAVE THE LARGEST SUPPLY
OF **ATARI** HARDWARE AND
SOFTWARE IN THE NORTHWEST

FOR PHONE ORDERS CALL 503
297-8425 (VOICE) OR BY
MODEM 24 HOURS A DAY CALL
IBBS 503 292-1321

WE WELCOME VISA MASTERCARD OR
COD ORDERS. CATALOG ON REQUEST
I B COMPUTERS 1519 S.W. MARLOW
AVE. PORTLAND, OR. 97113

PORTLAND ATARI CLUB
P.O. BOX 1692
BEAVERTON, OR 97005

BULK RATE
U.S. POSTAGE PAID
BEAVERTON, OREGON
PERMIT NO. 242